

Best **PENTIUM 4** Yet-But **ATHLON XP** Rules Blazing **WIRELESS NETS**

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# PC WORLD

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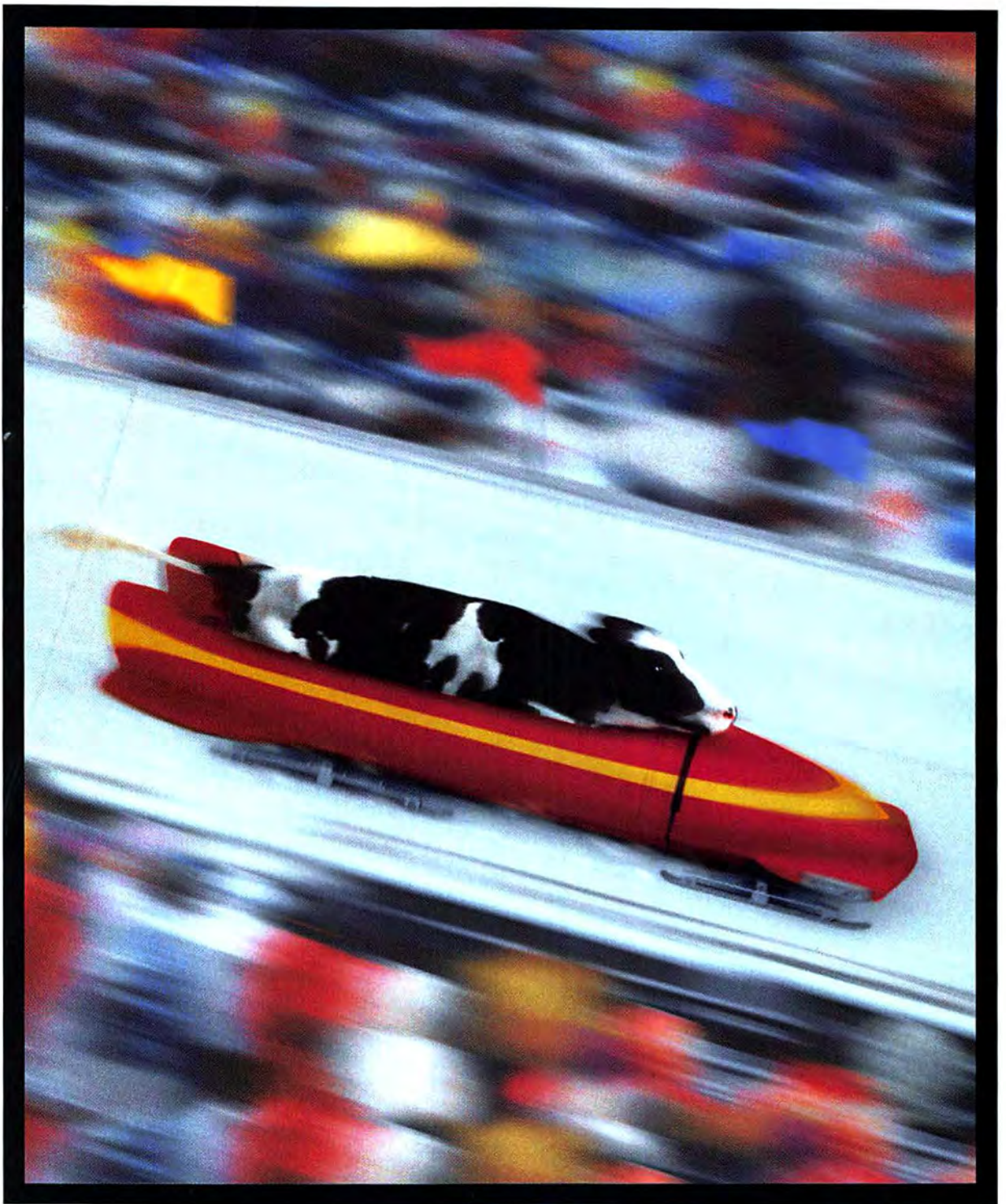


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notebook (November 2001) to *Time*

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of Tech" award for  
the Gateway 700XL  
desktop (November 19, 2001)

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\$1999\* Thin is definitely in. *Case in point, the Gateway Solo 3450. Weighing in at a scant 3 pounds\* and less than an inch thin, this is the sleekest notebook Gateway has ever made.*

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## FEATURES

### BROWSING AND BEYOND

#### 80 Must-Have Web Tools

To do the job online, you have to use the right Internet tools. We select 13 applications—the best in browsers, e-mail clients, instant messaging, file sharing, privacy protection, and much more—that will help you make the most of your work (and play) on the Net.

### WORD PROCESSING TIPS

#### 93 The Write Stuff

A PC's most essential application may be its word processing program. Here are 15 great tips for getting the most out of your version of Word or WordPerfect. Save time, perform an interface makeover, customize your formatting, and pep up your graphics. It's easy.

### MULTIFUNCTION DEVICES

#### 103 All-in-Wonders

Trying to fit a copier, a printer, a scanner, and a fax machine into your small office can leave you with little space in which to work. With an MFD, you get all the office functions you need in one box. We evaluate six new models to determine the pros and cons of each.



### PC BUYING

#### 113 Superb PC Service Still Lives

Looking for good service? According to our most recent PC Reliability and Service survey, a local store is likely to be your best bet. We help you decide whether a mom-and-pop shop is right for you, and identify which places to buy from and which to avoid.



## COVER STORY

#### 68 Superfast Web Access

Broadband has had its share of troubles—just ask anyone who's suffered through a month-long installation process to get a high-speed connection up and running. But when we surveyed almost 5000 broadband users, we found that most of them are quite satisfied. Is now the time to hop on the broadband bandwagon? See what the respondents to our survey said about their cable, DSL, satellite, and fixed-wireless providers, and check out our tips for getting good service, lowering your bill, and more.



Cover photography by Marc Simon



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### DOWNLOADS

#### Utilities for Burning CDs

Archive files, extract songs from CDs, and burn them onto discs.

[find.pcworld.com/19401](http://find.pcworld.com/19401)

### REVIEWS

#### Top 10 Scanners

Mustek's \$100 scanner grabs the top spot with 48-bit color depth.

[find.pcworld.com/19421](http://find.pcworld.com/19421)

## COMING UP IN MARCH

**Best Free Stuff Online:** We scour the Web for useful sites and services you can get for the asking.

**Free vs. Fee:** Our experts look at the best free software available, and see whether the commercial alternatives are worth the money.

**Fast Internet Access Tips:** Get

the most out of your connection—no matter what type you have.

**Making Movies:** Discover the best camcorders and apps for creating your digital video masterpiece.

**Fabulous Flat Panels:** We review 15 large LCD monitors and name 17-inch and 18-inch Best Buys.

## NEWS & TRENDS

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Speedy 2-GHz and 2.2-GHz CPUs match up well against the Athlon XP—but they don't surpass it.
- 17 Cheap LCDs: Going, Going, Gone?**  
You'd better grab that affordable flat-panel soon. Growing demand for LCDs is nudging costs up.
- 18 Hard Drives Hit 160GB**  
Technological improvements give rise to massive new drives and to lower prices on smaller models.
- 20 Blazing Wireless Networks**  
With wireless 802.11a networks, businesses can transfer videos, databases, and other large files.
- 22 Do-It-Yourself Tax Software**  
Intimidated by the many federal tax code revisions this year? These updated programs can help.
- 24 You Can Take It With You**  
New migration packages let you relocate your existing applications and data to a new PC.

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- 156 Answer Line**  
Back up data to CD-RW discs; open attachments Outlook won't let you see; trim your system tray.



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|                     | 171B                 | 151B                 | 171S                 | 151S                 |
|---------------------|----------------------|----------------------|----------------------|----------------------|
| SIZE                | 17"                  | 15"                  | 17"                  | 15"                  |
| RESOLUTION          | 1280x1024            | 1024x768             | 1280x1024            | 1024x768             |
| BRIGHTNESS          | 250cd/m <sup>2</sup> | 230cd/m <sup>2</sup> | 220cd/m <sup>2</sup> | 230cd/m <sup>2</sup> |
| CONTRAST            | 400:1                | 300:1                | 350:1                | 300:1                |
| VIEWING ANGLE (H/V) | 170°/170°            | 140°/120°            | 160°/120°            | 140°/120°            |
| PITCH               | 0.264mm              | 0.297mm              | 0.264mm              | 0.297mm              |
| WARRANTY*           | 3 yr Limited         | 3 yr Limited         | 3 yr Limited         | 3 yr Limited         |

\* includes backlight

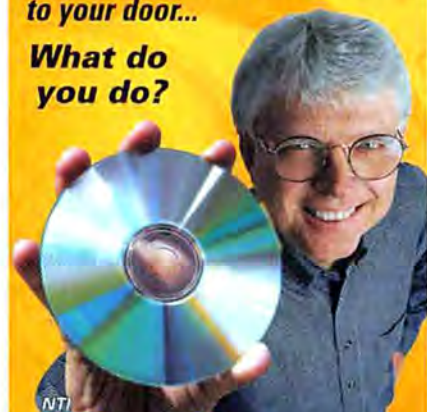
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# UP FRONT

KEVIN MCKEAN

## Help Others by Rating Products You Use

Plus: PC World joins America Online with new Top 10s and Buying Guides.

NOW THAT ALL THE YEAR-END capital equipment purchases have been booked and all the holiday gifts opened, why not take a few minutes to share what you've learned about that new desktop, notebook, camera, wireless hub, or other gear that you bought or received?

That's the idea behind the latest feature at PCWorld.com. In cooperation with our friends at PriceGrabber.com, we've added a feature that lets you rate products and see how others rate them (for a sample, see [find.pcworld.com/18622](http://find.pcworld.com/18622)).

The new user ratings supplement the test reports and expert opinion that PC

World has long provided. And they complement the vendor ratings that were introduced last year to help you see—when you scan our comparative price listings—which merchants deliver good service. (Surprise, surprise: The ones with the lowest prices don't always score best.)

User product ratings add a new dimension, however. For example, Executive Producer Andrew Eisner was about to pounce on a motherboard and processor combo for just \$200 recently until he checked the reviews. "Fortunately, one person alerted me to some potential problems," says Eisner. "I may still buy it, but at least I'll be going in forewarned."

To rate a product, start from the home page at [www.pcworld.com](http://www.pcworld.com), click the **Product Finder** tab, locate your product in the listings, and then click on **Rate this Product** (see the sample input page at upper right). You'll need to register if you haven't already done so. But once registered, you can also use the product-tracking feature to get an alert if an item drops below a specified price.

In another development, those of you who use America Online may be pleased to know that you can now reach PC World directly on AOL, and you'll soon find it on AOL.com (the service's Web site), CompuServe, and ICQ.com. Since November, PC World has provided news, reviews, and how-to articles for AOL's Computer Center, including streamlined versions of

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**CASIO 2.11MP DIGITAL CAMERA W/ 8X ZOOM AND BEST SHOT**

Manufacturer: Casio  
Model: EX100  
Image Format: AVI/MPJ/STIF

**PC World Rating: ★★★★★**

How do you rate this product?  
On a scale of 1 to 5 stars, 5 stars being the best, rate this product:

☐ One of the best - highly recommended  
☐ Very good - would purchase again  
☐ Satisfactory  
☐ It works, but would not purchase again  
☐ Completely unsatisfactory

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Kevin McKean is editorial director.

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**PC World's Top Rated Products**  
**Top 15 Notebooks**

In the power section of the notebook PCs chart, you'll often find models that compete with desktops in terms of performance and features; on the value chart, slower processors prevail, but so does price.

| Rank | Product                     | Comments   |
|------|-----------------------------|--|
| 1    | Dell Inspiron 8100          | This sleek, dark-gray desktop replacement is on the front is a well-rounded laptop for consumers. ★★★★★ (Oct 01) <a href="#">Full Specs</a>                        |
| 2    | Toshiba Satellite 2005-S402 | Midsize, black-and-silver unit with one master key on the front is a well-rounded laptop for consumers. ★★★★★ (Oct 01) <a href="#">Full Specs</a>                  |
| 3    | IBM ThinkPad T23            | Equipped with a whopping 4GB hard drive and Intel's speedstep mobile processor, this is the fastest laptop we've tested. ★★★★★ (Oct 01) <a href="#">Full Specs</a> |

THE NEW PCWORLD section of America Online presents streamlined ratings (above).



# NEWS & TRENDS

EDITED BY THE NEWS STAFF

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# P4'S POWER PUSH

**INTEL'S MUCH-ANTICIPATED REVAMP OF THE PENTIUM 4 DELIVERS A BIG L2 CACHE AND A NICE BOOST. BUT IN OUR FIRST SYSTEM TESTS, ATHLON XP PCs HOLD THEIR OWN.**

**BY LAURIANNE MCLAUGHLIN**

**TEST Center** GOOD NEWS, Intel fans: In our tests the latest version of the Pentium 4 CPU (formerly code-named Northwood) generally offers better performance than the old P4s, and in some cases delivers a significant boost. But our first system tests of machines using the new 2-GHz and 2.2-GHz Pentium 4 chips showed that an AMD Athlon XP 1900+ comparison system ran business applications faster and held its own on many multimedia apps.

And given the price premiums typical of PCs using the latest Intel chips, the values available in Athlon XP units will be tough to beat.

We looked at new P4 systems from Compaq, Dell, and

Hewlett-Packard, as well as a shipping unit from MicronPC equipped with AMD's latest chip (for a review of this PC, see *New Products*, page 46).

## TEST SURPRISES

JUST WHAT can a system with the new Pentium 4 processor do for you? That varies widely by application.

The results turned in by the HP Pavilion 9905, configured with 256MB of DDR SDRAM and Windows XP Home, are especially instructive. We tested it with three different chips: a new Pentium 4 2.2 GHz, a new 2-GHz Pentium 4 2A GHz (Intel uses the "A" to distinguish the new CPU from earlier 2-GHz P4 chips), and an older Pentium 4 2 GHz. On

PC WorldBench 4, which emphasizes productivity apps, the three systems earned very similar scores, so you probably wouldn't notice a difference while using Microsoft Office.

You would, however, detect a difference in Adobe Photoshop 6.0.1 and in AutoCAD. With a P4 2.2 GHz, the HP system finished our Photoshop tests 25 percent faster than it did using the older P4 2 GHz chip. We also saw a gain (of 16 percent) by the new P4 2A GHz CPU over the original 2-GHz chip on these tests. The boost was just as dramatic on the AutoCAD test: The HP with the P4 2.2 GHz shaved 92 seconds off the time of the unit with the P4 2 GHz chip.

The P4 2A-based HP saved over a minute over the older P4 2 GHz-based PC. This pattern held true across our multimedia tests with the HP, too.

Results were less consistent when we compared the P4 2.2 GHz-based Dell and Compaq PCs with the MicronPC Millennium XP+ Professional. (All of these PCs ran Windows XP Professional.)

The MicronPC, equipped with AMD's Athlon XP 1900+ chip (which runs at 1.6 GHz) and 256MB of DDR SDRAM, posted a score of 119 on our PC WorldBench 4 test suite—that's 9 points higher than the Dell Dimension 8200, with a Pentium 4 2.2 GHz chip and 256MB of RDRAM. Though

## Intel Pentium 4 2A GHz and Pentium 4 2.2 GHz

★★★★☆

Great boost for tasks such as graphics editing and video encoding, but not office apps.  
[find.pcworld.com/19104](http://find.pcworld.com/19104)

## Compaq Evo D300

(Preproduction unit, not yet rated)

Nice price for a no-frills, Pentium 4 2.2 GHz corporate system.  
Street: \$1656  
[find.pcworld.com/19101](http://find.pcworld.com/19101)





POWERED BY Intel's latest Pentium 4 (left to right): Dell Dimension 8200, HP Pavilion 9905, and Compaq Evo D300.

the difference in speed isn't huge (the MicronPC system performed 8 percent faster), you may notice it.

The Compaq Evo D300 had a score of 105; its use of fairly inexpensive SDRAM instead of faster but pricier RDRAM may have contributed to its marginally lower mark.

But with standard business apps, none of these systems performed much better than machines with slightly slower CPUs. The Dell unit scored 2 points above the average mark of three previously tested PCs with older P4 2 GHz chips, while MicronPC's Athlon XP machine earned only 4 more points on PC WorldBench 4 than an Athlon 1.4 GHz PC.

The results on our graphics apps and multimedia tests were mixed. The MicronPC unit did best on our AutoCAD and Photoshop tests. It shaved 25 seconds off the Dell's time in AutoCAD, and it was about 10 seconds faster than the Dell on each Photoshop test. But the Dell took top honors on the multimedia tests, albeit by smaller margins: Its strongest score, on the Windows Media video test, was about 8 percent (5 seconds) faster than the MicronPC system's.

Software patches designed to exploit features in specific hardware may net you better performance. Adobe's patch for Photoshop is geared for P4 PCs, but in our tests it pro-

duced improvements on the Athlon XP unit too. We saw virtually identical results on our multiple filters test, which stresses integer functions, but on our floating-point-intensive lighting effects test, the scores for the P4-based PCs improved by about 8 percent.

#### P4 DESIGN TWEAKS

INTEL HAS NOT radically altered the new P4 CPUs. The most significant change is the new chip's .13-micron manufacturing process. This process produces chips that are both cooler and more power-efficient than the original P4s (built with a .18 micron process), allowing the new chips to run at 1.5 volts instead of 1.8 volts. The revised process also lets Intel pack more transistors into the chip—enabling a 512KB Level 2 cache, twice the cache of the original Pentium 4 CPUs—and delivers a cost savings because Intel obtains higher chip yields from the

## IN BRIEF

### Product Pipeline

**ZOOM:** Whether you're a fan of Chrysler's cult-favorite car or just tired of your ordinary mouse, check out the PT Cruiser Computer Mouse. Made by NKOK, a longtime maker of collectible radio-controlled cars, this hot-rod mouse

(\$20) has buttons on the left and right sides of its rear window. NKOK, [find.pcworld.com/19241](http://find.pcworld.com/19241)



**MICRONPC SERVES:** MicronPC has a new line of servers aimed at small and medium-size businesses, as well as at government offices. The first of the new NetFrames, the 3500, is a workgroup server. A sample configuration carrying dual Pentium III CPUs, 512MB of RAM, and 72GB of storage is priced at \$4899. MicronPC, [find.pcworld.com/19261](http://find.pcworld.com/19261)

**STINGER STRIKES:** Microsoft's much anticipated cell-phone/PDA combo should premiere in the first half of 2002. Based on the Windows CE 3.0 operating system and tuned for longer battery life, the new phones will debut in Europe and then make their way to the United States.

### Did You Know?

ONLINE retail and travel sales for the 2001 holiday

**\$11.9** BILLION  
season will be about \$11.9 billion, up 11 percent from last year's \$10.8 billion, say Jupiter Media Metrix analysts.

SOURCE: JUPITER MEDIA METRIX

#### Dell Dimension 8200

(Preproduction unit, not yet rated)

A good but costly performer with a generous feature set.

Street: \$3179

[find.pcworld.com/19102](http://find.pcworld.com/19102)

#### HP Pavilion 9905

(Preproduction unit, not yet rated)

Great graphics, but a \$2379 P4 2A GHz unit performs similarly.

Street: \$2499 (P4 2.2 GHz)

[find.pcworld.com/19103](http://find.pcworld.com/19103)



## TEST REPORT

## ATHLON XP PC BEST ON BUSINESS APPS...

| SYSTEM                              | Processor                  | Level 2 cache | Memory          | PC WorldBench 4  |
|-------------------------------------|----------------------------|---------------|-----------------|--|
| <b>Windows XP Professional</b>      |                            |               |                 |  |
| Compaq Evo D300                     | Pentium 4 2.2 GHz          | 512KB         | 256MB SDRAM     | 105  |
| Dell Dimension 8200                 | Pentium 4 2.2 GHz          | 512KB         | 256MB RDRAM     | 110  |
| MicronPC Millennia XP+ Professional | Athlon XP 1900+ (1.6 GHz)  | 256KB         | 256MB DDR SDRAM | 119  |
| Average of three systems            | Pentium 4 2 GHz            | 256KB         | 256MB RDRAM     | 108  |
| One system                          | Athlon 1.4 GHz             | 256KB         | 256MB DDR SDRAM | 115  |
| <b>Windows XP Home</b>              |                            |               |                 |  |
| HP Pavilion 9905 <sup>1</sup>       | Pentium 4 2.2 GHz          | 512KB         | 256MB DDR SDRAM | 108  |
| HP Pavilion 9905 <sup>1</sup>       | Pentium 4 2A GHz (2 GHz)   | 512KB         | 256MB DDR SDRAM | 106  |
| HP Pavilion 9905 <sup>1</sup>       | Pentium 4 2 GHz            | 256KB         | 256MB DDR SDRAM | 102  |
| One system                          | Pentium 4 2 GHz            | 256KB         | 256MB RDRAM     | 106  |
| Average of two systems              | Athlon XP 1800+ (1.53 GHz) | 256KB         | 256MB DDR SDRAM | 118  |



**HOW WE TEST:** We tested all systems with PC WorldBench 4, PC World's applications-based benchmark. For more details on PC WorldBench 4, go online to [www.pcworld.com/benchmark](http://www.pcworld.com/benchmark). A higher score is better. All rights reserved. <sup>1</sup>The same system was tested using three different processors.

silicon than it did previously.

A new version of the 845 motherboard chip set debuts with the new P4 CPUs. The updated 845 lets P4 system makers use either SDRAM or faster DDR SDRAM (as in the HP Pavilion 9905) for main memory—a very welcome improvement. Released in August 2001, the original 845 chip set, which isn't upgrad-

able to the new version, let vendors use SDRAM with the P4. Before that, vendors could pair P4s only with fast but expensive RDRAM. (Via Technologies released a controversial chip set for P4 PCs and DDR memory in late 2001.)

"DDR is going to be the best mainstream memory for the next two years," says Kevin Krewell, a senior analyst at

MicroDesign Resources. Our testing backs that up, showing that DDR provides the best balance of price and power for most desktop PC buyers.

## THE VALUE QUESTION

AS ANY PC veteran knows, if you want a system carrying Intel's best-of-breed chip when it first arrives, you must pay a premium. The P4 2.2 GHz

chips will cost PC makers about \$300 more than Athlon XP chips and \$200 to \$300 more than older P4 2 GHz chips. That difference will appear in PC prices. The new P4 2A GHz chip should cost only about \$20 more than the P4 2 GHz, though, so the price difference between old and new 2-GHz PCs should be small.

The PCs we tested represent a good sample of what you'll find at various prices. All have ethernet, and only the Compaq Evo D300 lacks a modem. The Compaq is also the least expensive unit here, providing the top-of-line Intel CPU in a no-frills, corporate configuration with a 40GB hard drive, a CD-ROM drive, and a 15-inch monitor, all for \$1656.

Aimed at home PC enthusiasts, the HP Pavilion 9905 offers an attractive package with both a DVD+RW and a DVD-ROM drive, an 80GB hard drive, an NVidia GeForce3-based graphics card, and a 17-inch monitor. It costs \$2349 configured with the P4 2 GHz CPU, \$2379 with the P4 2A GHz, and \$2499 with the P4 2.2 GHz. The 2A model is the

## TEST REPORT

## ...BUT PENTIUM 4 SYSTEMS HAVE EDGE IN MULTIMEDIA APPS

| SYSTEM                              | Processor                 | Level 2 cache | Memory          | Musicmatch Jukebox 7 (seconds) | Windows Media Encoder 7.1 Audio file (seconds) | Windows Media Encoder 7.1 Video file (seconds) | AutoCAD (seconds) | Adobe Photoshop 6.0.1 Lighting effects (seconds) | Adobe Photoshop 6.0.1 Multiple filters (seconds) | Unreal Tournament 4.36 (fps; higher is better) |
|-------------------------------------|---------------------------|---------------|-----------------|--------------------------------|--|--|-------------------|--|--|--|
| <b>Windows XP Professional</b>      |                           |               |                 |                                |  |  |                   |  |  |  |
| Compaq Evo D300                     | Pentium 4 2.2 GHz         | 512KB         | 256MB SDRAM     | 21                             | 66   | 68   | 389               | 65   | 80   | 63   |
| Dell Dimension 8200                 | Pentium 4 2.2 GHz         | 512KB         | 256MB RDRAM     | 21                             | 63   | 62   | 360               | 61   | 78   | 74   |
| MicronPC Millennia XP+ Professional | Athlon XP 1900+ (1.6 GHz) | 256KB         | 256MB DDR SDRAM | 23                             | 64   | 67   | 335               | 52   | 67   | 65   |
| <b>Windows XP Home</b>              |                           |               |                 |                                |  |  |                   |  |  |  |
| HP Pavilion 9905 <sup>1</sup>       | Pentium 4 2.2 GHz         | 512KB         | 256MB DDR SDRAM | 21                             | 64   | 65   | 363               | 62   | 78   | 73   |
| HP Pavilion 9905 <sup>1</sup>       | Pentium 4 2A GHz (2 GHz)  | 512KB         | 256MB DDR SDRAM | 23                             | 68   | 69   | 391               | 67   | 86   | 72   |
| HP Pavilion 9905 <sup>1</sup>       | Pentium 4 2 GHz           | 256KB         | 256MB DDR SDRAM | 23                             | 72   | 73   | 455               | 78   | 94   | 69   |



**HOW WE TEST:** In the Photoshop 6.0.1 lighting effects test, we time the running of a macro that applies a series of lighting effects to a 1.6MB image file; in the multiple filters test, we time the running of a macro that applies a series of filters to the same image. In the AutoCAD test, we time AutoDesk Group International's AUGI Gauge benchmark, which runs CAD tasks. In the Musicmatch encoding test, we time the conversion of a 14.3MB .wav file into an .mp3 file using Jukebox 7. Using Windows Media Encoder 7.1 (using Windows Media 8 format), we time the conversion of an 8.9MB .mp3 audio file to .wma format; in a separate test, we time the conversion of an 11.2MB .avi file to .wmv format. In the Unreal Tournament test, we run our own demo of the game. A higher score on Unreal Tournament is better; elsewhere, lower is better. All rights reserved. <sup>1</sup>Same unit tested with three different CPUs.



best deal: You get the extra L2 cache for less than top dollar.

The \$3179 Dell Dimension 8200 is a bit pricey, but it delivers 256MB of RDRAM, an 80GB hard drive, both a CD-RW and a DVD-ROM drive, an NVIDIA GeForce3-based graphics card, Turtle Beach audio, and a 19-inch monitor.

The MicronPC unit offers a sweet deal at \$1707. Though it does use NVIDIA GeForce2 MX

400-based graphics instead of the newer GeForce3, it has a CD-RW drive, a 19-inch monitor, and a 40GB hard drive.

#### WISE BUYS

LOOKING ahead, AMD plans to move to a .13-micron manufacturing process by mid-year. This will let it add more L2 cache to its Athlon XPs, though it may elect not to do so because of cost pressures.

Later this year, Intel should release a new high-end system chip set, in RDRAM and DDR SDRAM versions, that supports a 133-MHz system bus "quad-pumped" to 533 MHz; this should provide a major speed boost for data flowing to and from the CPU. Today, the system bus runs at 100 MHz, quad-pumped to 400 MHz.

We can give power-PC buyers this advice: The new Pen-

tium 4 systems are certainly powerful and can handle your toughest jobs. But they fail to deal a finishing blow to Athlon XP-based PCs, and—for now—they offer less value for your money. If you work with video or must have an Intel-based system, consider a P4 2A GHz PC instead of a P4 2.2 GHz unit. You'll get similar performance, and you may save a couple hundred dollars.

#### MONITORS

## CHEAP LCDs: GOING, GOING, GONE?

### THE \$300 15-INCH FLAT-PANEL DISPLAY MAY DISAPPEAR AS DEMAND OUTSTRIPS SUPPLY.

HEY, BUDDY, want to buy a cheap LCD? As we went to press, you could easily purchase a 15-inch model from an established vendor for less than \$400, or as little as \$300 for a lesser-known brand—as opposed to \$2600 just three years ago. If you think those prices sound tempting, then you should buy soon, because prices for 15-inch LCDs may be creeping upward. Growing demand is erasing the surplus of raw LCD panels that was spawned in 2001 by sluggish notebook sales and improved manufacturing techniques.

#### PRICES GOING UP

THE LOWER-TIER vendors that were selling 15-inch LCD monitors for as little as \$300 already are beginning to raise prices to cover increased costs, says Rhoda Alexander, director of monitor research at Stanford Resources-ISuppli. Top-tier vendors selling displays in the \$400 range should be able to absorb the extra costs for the short term, she

says. NEC/Mitsubishi, for example, hopes to continue to offer a sub-\$400 model. In fact, it optimistically introduced the thin-frame 15-inch LCD1550X in November 2001 at \$399. But Chris Connery, director of product line management for the company, admits that price may not last.

#### FAREWELL, REBATES

INSTEAD OF raising prices outright, Samsung will likely cut its rebates first, says Rey Roque, vice president of marketing. For example, the SyncMaster 570vTFT should stay at \$399, but the \$50 rebate Samsung offered on the unit in October was slated to drop to \$20 or less by January.

Prices for many 17-inch LCD monitors may increase as well, although not as much as prices for the cost-sensitive 15-inch models, according to Ross Young, president of the research firm DisplaySearch. The average price of a 17-inch model dropped from \$1562 in November 2000 to \$804 in

November 2001, he says. Look for prices to move upward from \$800 early in the year.

Even at a slightly higher price, a 15-inch LCD remains a solid option for anyone seeking a better computing experience without buying a new PC, says Alexander. An LCD

also allows you to reclaim desk space and offers some power savings over a CRT, she says.

Says Herb Berkwitz, ViewSonic senior product manager, "When it comes to the end of the day, what is it you're staring at? It's not your PC."

—Tom Mainelli ▶

## BUYING TIPS

WITH SO MANY established and no-name brands of LCD monitors vying for your dollars, it pays to do a little research. Rhoda Alexander of Stanford Resources-ISuppli offers some tips:

- ◆ Inspect the LCD in person. Low-end units often lack some features.
- ◆ Check the field of vision. On low-cost LCDs, the display can be difficult to read if you're not directly in front of the screen.
- ◆ Check for dead pixels. Most displays have a few, but don't buy a unit with clusters of them.
- ◆ Check the technical support and warranty. Top brands offer up to a three-year warranty.





## STORAGE

## HARD DRIVES REACH 160GB

LATEST TECHNOLOGY IMPROVEMENTS DRIVE STORAGE CAPACITIES UPWARD WHILE PUSHING DOWN THE PRICE PER GIGABYTE.



FROM TOP: Maxtor DiamondMax D540X, IBM Deskstar 120GXP, Western Digital WD1200BB WD Caviar.

IF YOUR collection of databases, e-mail messages, backup files, digital photos, and videos is threatening to make your hard drive pop at the seams, you might want to add a second one. Would, say, an extra 160 gigabytes fit the bill?

Less than a year ago, a \$300, 80GB desktop drive was considered huge; today you can find a 160GB drive for the same price. Even if that much storage sounds like overkill in your PC, you'll still benefit

from the improved drive technologies that are helping to push prices down on smaller-capacity hard drives, too.

## BIG SPINNERS

WE TESTED IBM's 120GB, 7200-revolutions-per-minute Deskstar 120GXP; Western Digital's 120GB, 7200-rpm WD1200BB WD Caviar; and Maxtor's 160GB, 5400-rpm DiamondMax D540X.

Because of its slower rotational speed, the Maxtor hard drive often lagged behind the others in our tests. Of our two 7200-rpm models, the IBM Deskstar 120GXP excelled when copying files and folders; executing tasks in Photoshop; and running our file find test. The Western Digital Caviar, on the other hand, finished copying our large file 40 percent faster.

At a suggested retail price of \$300—less than \$2 per gigabyte—the Maxtor is the best bargain, despite its slightly slower execution.

The suggested retail prices

for the Western Digital and the IBM are \$300 and \$350, respectively, which break down to about \$2.50 and \$3 per gigabyte. Users hungry for speed will find paying the premium worthwhile.

## NEED THAT MUCH?

NOT EVERYONE needs a massive hard drive, though digital video editors can attest to video files' storage-gobbling potential. Even in a compressed format, digital video consumes about 3.6MB per second, or 13GB per hour.

If your interests lean toward photo editing, a 40GB drive may be adequate, says John Monroe, an analyst with Gartner Dataquest. And thanks to technology developed for their larger brethren, smaller drives are dropping in price.

Areal density is the amount of data that can be squeezed onto one hard-drive platter. Since August 1998, areal density has grown 1000 percent—from 4GB to 40GB per platter. It should reach 80GB per plat-

## IN BRIEF

## TidBytes

**EARTH TO SKY:** EarthLink plans to buy the installed subscriber base and some assets of troubled wireless provider OmniSky. If approved, the move should allow OmniSky's roughly 32,000 customers to retain service as the company tries to reorganize while under Chapter 11 bankruptcy protection from creditors. The acquisition would certainly expand the reach of EarthLink's wireless offerings.

## Did You Know?

A RECENT survey shows that **64 PERCENT** nearly 64 percent of Net-savvy browsers skip Web sites' privacy policies altogether or only glance at them. Seventy percent of respondents would like to see shortened, check-list-style policies.

SOURCE: IMPACT INTERACTIVE

ter by mid-2002, Monroe says.

Because the platters are expensive, using fewer of them decreases the manufacturing costs. Thus, for example, if a two-platter 40GB drive sold for \$150 in 2001, a single-platter 40GB drive will sell for less than \$100 in 2002, he says.

Before you forgo a larger drive, however, Monroe suggests considering your future usage. A 40GB drive may sound big, but more-pervasive broadband and multimedia options could fill it fast.

And with 80GB platters looming, before long a 40GB drive will seem quaint.

—Sean Captain and Tom Mainelli ▶

## TEST REPORT STORAGE

## SPEED VERSUS SIZE

| HARD DRIVE                         | Size (GB) | Rotational speed (rpm) | Suggested retail price | Copy files and folders | Copy large file | Adobe Photoshop 6.0.1 | File find |
|------------------------------------|-----------|------------------------|------------------------|------------------------|-----------------|-----------------------|-----------|
| IBM Deskstar 120GXP                | 120       | 7200                   | \$350                  | 66                     | 63              | 167                   | 294       |
| Maxtor DiamondMax D540X            | 160       | 5400                   | \$300                  | 78                     | 54              | 194                   | 328       |
| Western Digital WD1200BB WD Caviar | 120       | 7200                   | \$300                  | 79                     | 45              | 189                   | 302       |



**HOW WE TEST:** We ran tests on a 2-GHz Pentium 4 PC with Windows XP Professional. For the file copy test, we copied 650MB of files (983 folders holding 26,495 files). For the large file copy test, we then combined the files into a single uncompressed 650MB Zip file and copied it. During the Adobe Photoshop test, the PC completed a series of tasks using a 130MB image that caused considerable disk swapping. Finally, we performed a file search for a specific text string that required searching the entire drive. For all tests, shorter times are better. Data based on tests designed and conducted by the PC World Test Center. All times are in seconds.



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## NETWORKING

## WIRELESS NETS HIT 54 MBPS

NEED FAST NETWORK TRANSFERS WITHOUT REWIRING? NEW 802.11A, OR WI-FI5, WIRELESS PRODUCTS COULD BE THE ANSWER.



INTEL'S Pro/Wireless 5000 products promise 54 mbps.

IMAGINE streaming a video file or moving huge database files from an office desktop to a notebook in a conference room in a matter of seconds—without running a single foot of cable. A new generation of wireless networking technology lets you do just that.

Wireless networks based on the IEEE 802.11a (or Wi-Fi5) specification—a sibling to today's 802.11b (or Wi-Fi) spec—promise throughput of up to 54 megabits per second. That's not as speedy as mod-

ern-day 100-mbps ethernet, but it's fast enough to manage such tasks as streaming DVD-quality video, something you can't accomplish within the 11-mbps limit of 802.11b.

## FAST MOVER

WE LOOKED at the first Wi-Fi5 products for small and medium-size businesses from Intel (Actiontec, SCM, and Proxim products will be available in January), and found they deliver substantially better performance than 802.11b products can manage. In my tests, two notebooks equipped with shipping \$179 Intel Pro/Wireless 5000 CardBus Adapter PC Cards took less than 15 seconds to transfer a 31.7MB (or 253.6mb; 8 megabits equal 1 megabyte) file; when I substituted two 802.11b PC Cards, the file transfer took about 80 seconds.

## Pro/Wireless 5000

Intel

★★★★☆

Fastest wireless access yet for business users; home users should stick with 802.11b for the time being.

List: LAN Access Point, \$449; CardBus Adapter PC Card, \$179. [find.pcworld.com/18921](http://find.pcworld.com/18921)

The transfer time differential narrowed when I moved the same file from a server to a notebook after hooking up an access point to a network hub several rooms away from the laptop. That's because distance and obstacles slow down 802.11a networks more than they do 802.11b networks. It took 50 seconds to transfer the 31.7MB file with a \$449 Intel Pro/Wireless 5000 LAN Access Point and the CardBus Adapter, compared with 90 seconds for the same transfer on 802.11b equipment.

Because the first 802.11a products are designed specifically for use with an existing corporate or small-business network, they have drawbacks for home-network use. They cost almost twice as much as their 802.11b counterparts, and access points don't include a router, which you must have to enable multiple PCs to share a single Internet connection (no gateway-type products that incorporate routers have been announced yet). Wi-Fi5 wouldn't speed up Internet access anyway, since most home broadband connections top out at 1.5 mbps.

## LESS INTERFERENCE

WI-FI5 USES the 5-GHz band (hence the spec's nickname), so it's not subject to interference from microwaves, cordless phones, Bluetooth, or other devices which transmit on the 2.4-GHz band. But 802.11a is completely incom-

## IN BRIEF

## TidBytes

**HIGHER ORBITZ:** Cheap airline tickets just jumped \$5 at online travel vendor Orbitz. You now pay a fee for each ticket purchased online, with a cap of \$10 for up to four tickets. Airfare searches, as well as hotel and rental car reservations, remain free.

## Site to See

**OLYMPICS.COM** is one cool site, and the official source of info on the 2002 Winter Olympics (which start February 8). Visit now to track pre-Olympics competitions, or follow the Olympic Torch across America, complete with 360°-angle photos. Read some 771 bios of prospective Olympians, or watch



animated clips showing the twists and turns of complex figure skating moves. Get ticket info and more, too.

patible with 802.11b, which also uses the 2.4-GHz band.

Wi-Fi5 products won't be worthwhile for most home users who want to share Internet access wirelessly. But for businesses that routinely transfer large data files—for example, graphics, videos, or databases—or that need to accommodate more users per access point, 802.11a's speed and bandwidth may well justify the price premium.

—Yardena Arar ►





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## TAX SOFTWARE

## 1040 WITH A GOOD BUDDY

HUMAN BACKUP AVAILABLE FOR SOME DO-IT-YOURSELF PACKAGES.

TAX TIME is almost here, and the same 2001 law that mandated the largest tax cuts in two decades also introduced some 400-plus revisions into the federal tax code. If you ever needed personal tax software, this is the year.

And you don't have to go it

alone, even while doing it yourself. Two major makers, Intuit and H&R Block, now offer hand-holding on specific questions or sections of your return. Use H&R Block's TaxCut program, and one of its tax preparers can provide assistance by phone or e-mail

for \$20 per solution. If you're nervous about your work, you can pay H&R Block \$30 or more to review your completed return electronically. Intuit operates a similar program with its Quicken TurboTax software, but it relies on a team of independent accountants who charge per minute.

tants who charge per minute.

In their various offerings (see chart), Intuit and H&R Block—as well as 2nd Story Software with TaxAct 2001—have worked to address the tax code changes and accommodate their implications. The newest features of each focus on the changes, and the number of new tools and guides in each is directly proportional to the software's price.

In my tests of beta software, none of the three programs was difficult to use. All lead you through intelligently designed—though slightly different—tax interviews with access to individual tax forms. Of the three, 2nd Story's TaxAct probably does this best.

Intuit's TurboTax is the perennial best-seller and the most expensive. The largest number of new features is vested in the new TurboTax Premier edition and its online counterpart, TurboTax Premium for the Web. H&R Block's TaxCut provides similar but less-elegant renditions of the new TurboTax features.

This year's complex tax-law changes make the assorted Deluxe editions definitely worth the extra money. Intuit's TurboTax has the most useful tools for exploiting the new tax laws. If your return is simple, 2nd Story's TaxAct is probably the easiest to use. And TaxCut is a good option if you plan to use the H&R Block consulting services or need a money manager.

—Mike Hogan ▶



## AT A GLANCE

## TAX SOFTWARE ITEMIZED

|  | PRODUCT                                       | Federal/state software (list price) | E-filing fees, federal/state (list price) | Mail-in rebate  | What's new <sup>1</sup>  |
|--|---|-------------------------------------|---|---|--|
| 2nd Story Software<br>(find.pcworld.com/18923) | TaxAct 2001 Standard                          | Free download (\$6 CD-ROM)/\$13     | \$8/\$5                                   | None  | No new features  |
|  | TaxAct 2001 Deluxe                            | \$10/\$10                           | Free/\$5                                  | None  | Tax planning under new laws; e-filing available for more states  |
|  | TaxAct 2001 Online                            | Free/\$8                            | \$8/\$8                                   | None  | Tax planning under new laws; federal program is free   |
| H&R Block<br>(find.pcworld.com/18922)          | TaxCut Basic                                  | \$15/\$20                           | \$15/\$9                                  | \$35 toward purchase of Money 2002                                  | Wizards to maximize retirement and tax savings under new laws  |
|  | TaxCut Deluxe                                 | \$25/free                           | Free/\$9                                  | \$35 toward purchase of Money 2002                                  | All new Basic features; video help and tax publications on CD-ROM  |
|  | TaxCut Platinum for Your Home & Business      | \$50/\$20                           | \$15/\$9                                  | None  | All new Deluxe features; three-year tax/earnings planner; corporate forms                                  |
|  | Online Tax Program <sup>2</sup>               | \$20 (\$30 after 3/31/02)/\$10      | Free/free                                 | None  | All new Basic features; up to a \$5000 advance on your refund, for a fee                                   |
| Intuit<br>(find.pcworld.com/18921)             | Microsoft Money 2002 Suite with TaxCut Deluxe | \$90/free                           | \$0/\$9                                   | \$20  | Easy importing between TaxCut and Money  |
|  | Quicken TurboTax                              | \$20/\$30                           | \$13/\$7                                  | \$13 off one federal e-filing                                       | Expanded W-2, 1098, and 1099 instant data entry (no Tax Law Advisor)                                       |
|  | Quicken TurboTax Deluxe                       | \$40/\$30                           | \$13/\$7                                  | \$10 off federal, \$30 off state, and \$13 off one federal e-filing | Tax Law Advisor; video help and tax publications on CD-ROM   |
|  | Quicken TurboTax Premier                      | \$50/\$30                           | \$13/\$7                                  | \$10 off federal, \$30 off state, and \$13 off one federal e-filing | All new Deluxe features; 401(k) Maximizer, year-to-year deduction comparisons, and ten-year tax forecaster |
|  | Quicken TurboTax Home & Business              | \$70/\$30                           | \$13/\$7                                  | \$20 off federal, \$30 off state, and \$13 off one federal e-filing | All new Premier features; depreciation and small-business deduction wizards                                |
|  | Quicken TurboTax for the Web                  | \$30 (\$35 after 3/31/02)/\$11      | Free/free                                 | None  | Expanded W-2, 1098, and 1099 instant data entry (no Tax Law Advisor)                                       |
|  | Quicken TurboTax Premium for the Web          | \$20 (\$25 after 3/31/02)/\$11      | Free/free                                 | None  | All new Premier features; depreciation and small-business deduction wizards                                |

<sup>1</sup> New tax laws incorporated in all products. <sup>2</sup> URL for this product is [www.hrblock.com](http://www.hrblock.com).



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## FIRST LOOK

# XP MOVING DAY: EASING THE PAIN

**MIGRATION TOOLS TRANSFER SETTINGS, DATA, APPS FROM YOUR OLD PC TO THE NEW.**

REPLACING AN old PC with a speedy new Windows XP system can make your computing life easier, but transferring all your data, settings, and applications can be a hassle. A bevy of programs (some of which are free) promise to help re-create your Windows 95/98/Me/2000 machine on your new computer.

Both the Professional and Home Edition versions of Windows XP include a Files and Settings Transfer Wizard for migrating settings (albeit for Microsoft products, mostly). For more-complex transfers, other choices let you



transfer entire applications or park your data on the Internet while you're between PCs.

## BRING IN THE CLONES

WINDOWS XP's Files and Settings Transfer Wizard (select *Start•All Programs•Accessories•System Tools*) works best with large-capacity removable disks,

such as Zip. (For optical media such as CD-RW, you must use the wizard to save the old settings and data to a file, which you can then write to disc.) Iomega's version of the XP program, a free download called Iomega XP Moving Kit Software, is a bit easier to use.

But these free programs do not easily migrate settings and data from unsupported apps. For more software support, you'll have to pay for services or software like SkyDesk's SmartClone 2.0 (\$50) or LapLink's PCSync 3.0 (\$80).

SmartClone's price includes free online storage of as much as 250MB of data for up to 30 days. You can migrate over a network or with removable media, but you must have your license checked online.

Eisenworld's \$50 AlohaBob PC Relocator 3.0 and PC-First's \$50 PC2PC transfer entire applications—great if

## IN BRIEF

## Downloads

GO TO [find.pcworld.com/19201](http://find.pcworld.com/19201) to find these files.

### TOP 5

- 1 Star Trek Voyager 3D Screen Saver** 91KB  
Traverse the heavens with the spaceship from the TV show.
- 2 WinRam Turbo Free** 368KB  
Regain the memory lost to closed applications.
- 3 PC Accelerator 6000** 201KB  
Improve your PC's speed, whether you're on or off the Internet.
- 4 Super Mario: Final** 588KB  
Jump your way through Mario's whimsical world in this version of the arcade classic.
- 5 Weather Watcher** 216KB  
Find the current and future weather conditions for any location in the world.

you can't find installation disks or if you must deal with an oddball program.

If you're in a hurry, PC2PC's optional USB-to-USB cable is a better choice than the slower parallel or serial cables included with other packages (see chart). As with SmartClone, you must go online first to initiate the process and have your license checked.

With both these programs, you may end up with a lot of unwanted or misplaced files. For example, PC2PC replaced AOL 7.0 on our new PC with the 6.0 version from the old PC. PC Relocator moved Outlook Express e-mail and addresses into the wrong Windows folder on the new PC.

Still, depending on your needs, these apps can simplify PC moving day. For the price and for its ease of use, my pick is PC Relocator.

—Tom Spring ■

## AT A GLANCE

## YOU CAN TAKE IT WITH YOU: MIGRATION APPS

| PROGRAM   | Street price                         | Cable   | Supports removable media | Supports Internet/LAN | Migrates entire application | Number of apps supported |
|---|--------------------------------------|---|--------------------------|-----------------------|-----------------------------|--------------------------|
| Eisenworld AlohaBob PC Relocator 3.0<br>★★★★★: <a href="http://find.pcworld.com/18621">find.pcworld.com/18621</a>         | \$50 <sup>1</sup>                    | Parallel (included), USB supported              | No                       | LAN only              | Yes                         | All <sup>2</sup>         |
| Iomega XP Moving Kit Software<br>★★★★☆: <a href="http://find.pcworld.com/18603">find.pcworld.com/18603</a>                | Free                                 | None  | Yes <sup>3</sup>         | Yes                   | No                          | 46                       |
| LapLink PCSync 3.0<br>★★★★☆: <a href="http://find.pcworld.com/18604">find.pcworld.com/18604</a>                           | \$80                                 | Serial (included)                               | No                       | Yes                   | No                          | 46                       |
| Microsoft Files and Settings Transfer Wizard<br>★★★★☆: <a href="http://find.pcworld.com/18601">find.pcworld.com/18601</a> | Free with Windows XP                 | Serial supported (not included)                 | Yes <sup>3</sup>         | Yes                   | No                          | 46                       |
| PCFirst PC2PC<br>★★★★★: <a href="http://find.pcworld.com/18641">find.pcworld.com/18641</a>                                | \$50 <sup>1</sup>                    | Parallel (optional, \$20), USB (optional, \$40) | No                       | Yes                   | Yes                         | All <sup>2</sup>         |
| SkyDesk SmartClone 2.0<br>★★★★★: <a href="http://find.pcworld.com/18602">find.pcworld.com/18602</a>                       | \$50 for 250MB of data stored online | None  | Yes <sup>4</sup>         | Yes                   | No                          | 71                       |

<sup>1</sup> Online license validation required, which limits you to a single migration.

<sup>2</sup> Migrates all apps on the source PC.

<sup>3</sup> Optical media (CD, DVD) not supported directly.

<sup>4</sup> Supports all media that you can copy files to via Explorer.



# Some VoIP conversations should be interrupted, but never by power problems

APC provides all the components necessary for an end-to-end power protection solution for the VoIP environment.

## The 7 pieces of the VoIP availability puzzle

- **Clean, continuous power** as well as "ride-through" power during brownouts, surges and spikes.
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- Ability to **ensure optimal temperature and humidity** within remote closets.
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APC provides all the components necessary for end-to-end power protection solutions for the VoIP environment – visit [apcc.com/buy/](http://apcc.com/buy/) and see what **Legendary Reliability™** can do for your business.

### Symmetra® RM

The new Symmetra RM puts the high availability of the proven and patented Symmetra® Power Array™ technology in a rack-mountable form. Through the included Web/SNMP Management Card, you can monitor and configure your APC Symmetra RM to shut down and reboot your systems, receive e-mail alerts and view the event log.

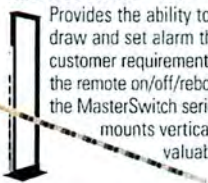


### Remote Monitoring

APC monitors all UPS parameters, tailored to your desired response. Regular UPS parameter and event reports are issued with event frequency, duration, and resolution, offering immediate enhancements to your investment.

### MasterSwitch™ VM

Provides the ability to monitor the current draw and set alarm thresholds, based on customer requirements, while still providing the remote on/off/reboot capabilities found in the MasterSwitch series. In addition, it mounts vertically, requiring zero U of valuable rack space.



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Works with your APC Smart-UPS®, Matrix-UPS® or Symmetra to monitor ambient temperature, humidity and other environmental conditions.



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An invaluable software tool for anyone with a large number of APC UPSs spread across a wide geographic area. Enables you to capture, organize, and assess vital information concerning your entire APC Power Infrastructure.

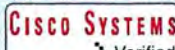
### Other APC products for the VoIP/Rack environment:

- **KVM Switches** provide one centralized control point for up to 64 servers.
- **ProtectNet** rack-mounted data-line protection.
- **PowerNet Manager** collects UPS/power status information for fast problem diagnosis.
- **Cable Interface Kits** provide direct communication between UPSs/desktops and workstations/servers.
- **2-Post Racks / 4-Post Open Frame Racks**



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# LETTERS

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**MORE GOOD  
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**DEBATING AUDIO/  
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**WINDOWS XP:  
DRIVERS WANTED**

## HEADACHES WITH HOME PCs

I COULDN'T BELIEVE one result in your December feature "Home PCs: All This and XP Too": You rated the NuTrend Athlon Mega 3 as a Best Buy even though it couldn't run your test games. The article dismisses this drawback by saying, "Updating the driver for the [NVIDIA] graphics card might improve the situation."



Sure, Windows XP is new and drivers may need to be updated, but if I purchase a machine with XP and a 3D graphics card, shouldn't I expect to be able to play games without having to call tech support or upgrade the drivers myself?

*Greg Jones, via the Internet*

AFTER READING your December home PCs review, I called Dell and tried to buy a Dimension 8200, which received the Best Buy in your power category.

I told the salesperson I wanted the machine exactly as described on pages 108 and 110. This configuration includes a Pentium 4-2000 CPU. The price you list is \$2299. The rep told me that the configuration was available only for well over \$3000. He attempted to call managers who would sign off on matching your price; he also searched for every Dell special. Finally, we decided on a configuration matching the one identified in your

magazine, but with a 1900-MHz CPU.

Where did *PC World* come up with the listed price? I spent 98 minutes on the telephone to order my computer.

*Diana V. Morgan, Chevy Chase, Maryland*

**Editor's response:** To give our readers a look at Windows XP systems as soon as possible, we requested that PC vendors send us units to review just days after Microsoft released the XP operating system. Many vendors did

not start selling the PCs until several weeks later, however—after they had spent additional time thoroughly testing the systems. After the story went to press, we learned that updating the test game, *Quake III*, to version 1.06 will resolve problems it had with certain drivers for NVIDIA graphics cards under Win-

dows XP (see [find.pcworld.com/18841](http://find.pcworld.com/18841)).

Regarding the Dimension 8200: Dell twice quoted us a price of \$2299 while we were working on the story. After we went to press, Dell listed the system for several hundred dollars more on its Web site, and then temporarily pulled the system altogether. The closest configuration now available sells for \$2999. Dell declined our request to honor the price it first quoted to us. —Sean Captain

## XP COMPATIBILITY WOES

I HAVE THREE computers linked in a home network. When I installed Windows XP, I lost my network connection, my network printer, my WinFax connection, and my Internet connection—all on a PC with few special programs.

This never happened to me with other Windows OSs. What's Microsoft thinking when it builds a program not backward-compatible with past Windows versions?

*A. Hickey, via the Internet*

REGARDING Steve Bass's article ["A Windows XP Upgrade in Your Future?" *Home Office*, December] and Scott Spanbauer's cover story on XP in November: The XP interface is great. My problem is with some of my expensive hardware. I had grown accustomed to printing at 600 by 600 dpi with my NEC laser printer, purchased a few years ago. The Windows XP driver seems to allow a maximum resolution of only 300 dpi for my printer. When I contacted NEC, the company indicated it was no longer marketing printers in this country and would not create XP drivers for "older" models such as the 1260.

*Brent Lawrence, Skokie, Illinois*

**Author's response:** Microsoft can't write drivers for every device out there—it relies on manufacturers to do so. For Windows XP at this point, some haven't. Your options: Stay with your previous version of Windows, try drivers for Windows 2000 (works for some products), or find other stranded users and lobby the manufacturer. See last month's "XP's Gotchas" ([find.pcworld.com/19001](http://find.pcworld.com/19001)), which lists some resources that may help.

—Scott Spanbauer

## THAT'S NOT ENTERTAINMENT

THE DECEMBER article "Home Entertainment Face-Off" (PCs versus audio/video equipment) makes some of the worst comparisons I have read recently.

You claim that UltimateTV has the advantage in digital video recorders, even though it requires you to have DirecTV. There is nothing convenient about that.

In digital audio, you give the advantage to the Philips FW-i1000 even though it performs the same function as the Turtle Beach Audiotron: playing music from a connected PC. In addition, the Philips system ties you down to a particular model of stereo, instead of allowing you to upgrade the stereo. ▶



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#### LETTERS

As for the DVD players, you skipped the most important factor in the feature comparison: the size of the screen! The 14-inch screen on my laptop is far more comfortable to watch than the small screens on the portable players.

*Matthew Czarnowski*

*Highland Park, New Jersey*

#### ANOTHER WORTHWHILE FREE UTILITY

YOU MIGHT HAVE added one more entry to "Darn Good Software, Doggone Cheap" [December]: Download Accelerator Plus ([www.speedbit.com](http://www.speedbit.com)) is a phenomenal download manager. Its small file size (1MB) makes it easily downloadable, and its advanced features include download scheduling, password management, an integrated search bar, and an amazing feature called AlwaysResume that allows you to resume broken downloads from servers that do not offer a resume function of their own. Best of all, this neat utility is free.

*PaSaihou Sey*

*Gaithersburg, Maryland ■*

PC World welcomes your letters to the editor. Send e-mail to [letters@pcworld.com](mailto:letters@pcworld.com).

#### CORRECTIONS

IN JANUARY'S *New Products*, Pioneer's DVD video recorder should have been listed as the PRV-9000.

In November's *Step-By-Step*, we should have said that it is best to ground antistatic wrist straps to the ground of the equipment being worked on—typically, in PC upgrades, to the PC's chassis. (As we noted, the PC should be unplugged.) If you choose to use an electrical outlet as ground, you should clip the wrist strap's connector to the loosened center screw of the faceplate and not to the faceplate itself, which is often made of plastic and thus may not provide a ground. And of course you shouldn't touch the wrist strap's connector to any part of the outlet other than the faceplate screw, as serious electrical shock could result.

PC World regrets the errors.



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# CONSUMER WATCH

ANNE KANDRA

**FORGING A NEW WEB CONNECTION**

**PRIVACY WATCH: FIREWALL FEARS**

**ON YOUR SIDE: AN UPDATE RUNAROUND**

## Surviving the ISP Shuffle

What to do when your Internet service provider goes bankrupt or is bought.



WHO'S YOUR Internet service provider this week? Chances are good that it's not the same one you originally signed on with. If you were a customer who used the Excite@Home network, you know all about ISP hell. Thousands of customers were left with no service at all last fall, and many were forced to change their e-mail addresses and ISPs while Excite@Home and the companies it contracted with sniped at each other ad nauseam.

Excite@Home is only the most prominent example. Lots of users lost their DSL connections when providers such as

NorthPoint and Flashcom went belly-up.

But even if your provider isn't mired in a financial or legal morass, you could be affected by ISP business changes. With hundreds of Internet service providers struggling to stay afloat these days, company acquisitions and mergers are as unavoidable as AOL trial discs.

When an ISP fails, a new provider is usually ready and willing to take over the old company's accounts. Hapless customers, like children in a custody settlement, are inevitably pelted with cheerful reassurances: The transition will be seam-

less! You don't need to do a thing! Your service will be better than ever! One former ISP even suggested that my e-mail address, which included my original ISP's domain name, could become a "status symbol." (In the interest of staying humble, I won't drop names.)

But the transitions aren't always so smooth. At best, having a new provider foisted upon you is unsettling. At worst, it can leave you feeling helpless and wishing you'd never heard of either company.

Jay Atkinson, a government program analyst from Sacramento, California, knows that feeling all too well. His local DSL provider was taken over by a company called OneMain.com, which in turn was promptly swallowed up by EarthLink.

After sending a number of e-mail messages about technical changes, EarthLink sent Atkinson a puzzling e-mail telling him that his service would cost \$19.95 a month—\$30 a month less than he'd been paying OneMain for DSL service. It went on to explain that payment by check would cost \$2 a month, and referred to several alternative payment options.

Perplexed, Atkinson decided to call EarthLink directly. After placing several phone calls and waiting 35 minutes on hold, his suspicions were confirmed: The \$19.95 rate was for dial-up service, not DSL. EarthLink had sent him the e-mail by mistake. And those other payment options? There turned out to be only one: using a credit or debit card.

"Charging a fee for writing checks was not in the contract I signed with OneMain.com," Atkinson says. He was also worried that customer service might decline. "With my previous providers, ►



I never had to wait more than a minute to get someone on the phone," he recalls.

Two weeks later, EarthLink sent another e-mail telling Atkinson there would be a four- to six-week interruption in his DSL service during the transfer. (The company offered him free dial-up service in the interim.) Atkinson decided to find a new ISP. "I found the entire EarthLink acquisition process frustrating," he says.

Service provider representatives are quick to point out that most mergers happen smoothly. Michael Jalone, EarthLink's director of integrations, says "Our goal is always to make the acquisition as seamless as possible for the customer. But the success of any integration is only as good as the information we get from the acquired company. If we don't have complete or accurate customer informa-

tion—for example, in a case where the acquired company is going out of business, or for some other reason doesn't provide accurate records—that could result in [customer service] problems."

Of course, if your ISP is acquired, you typically have no obligation to stick with the new company. Even if your long-term contract with your previous provider has not expired, in most cases that agreement becomes null and void if the provider goes out of business or is purchased. Sometimes, though, companies that purchase failing ISPs also purchase the company's customer contracts. If so, your obligation to the new company can be unclear. (If you decide to look for a new ISP, be sure to read "Ditch Your Dial-Up" on page 68.) But leaving the ISP that snapped up your original provider to

switch to a completely new one can be a major hassle—especially if you have DSL.

For most people, it probably makes sense to give the company that acquired their ISP a chance. Review the terms and conditions of your current provider's plan—including such details as limits on hours or connection speeds—so that you can easily compare them with those of the acquiring company.

The acquisition process generally requires the customer to agree to the terms and conditions of the acquiring company at some point. This agreement—usually accepted with just a mouse click—nullifies whatever agreement you had with your former service provider. (Prepaid service plans are an exception; the acquiring company should honor the full term of the contract.) ►

## PRIVACY WATCH

### Intruders at the Modem? Don't Panic

WANDERING THE INTERNET over a cable modem or DSL connection may seem like a joyride, but it could turn into a car wreck if you don't take steps to protect your PC. To prevent outsiders from accessing their computers, most users turn to firewalls.

Firewalls like ZoneAlarm ([find.pcworld.com/17822](http://find.pcworld.com/17822)) and BlackICE PC Protection ([find.pcworld.com/17821](http://find.pcworld.com/17821)) are valuable tools that can protect your data even if you haven't installed all the latest security patches for your applications. They can also stop some kinds of attacks that Windows wasn't designed to withstand. A properly configured firewall will withhold all information about your PC from any potential intruder—the snoop won't even know you exist.

#### SO MANY WARNINGS

A FIREWALL IS supposed to make you feel safe, but it can make you feel more paranoid than you were before you installed the software. Many firewalls don't just block outsiders—they tell you every time someone scans your computer. The frequent notices can make it seem as if dozens of hackers and cybercriminals are clamoring to get into your hard drive daily.

But don't yank the broadband connection from your wall. The scans that firewalls block are always happening. Even if you only occasionally surf the Web and check e-mail, your PC is bombarded by queries constantly—some benign, others more threatening. Some people call these scans the white noise of the Net.

Here is one type of false alarm that's common: More software companies are taking advantage of users' always-on connectivity to automatically update their products. To some firewalls, such updates—which are initiated by the software without any user intervention—look as bad as a malicious Trojan horse program.

#### TEARING DOWN WALLS

THESE ALERTS MAY cause people to be fearful when they go online, or even induce users to disable their firewalls. That would be a mistake, because firewalls are critical to protecting your privacy, and they will only become more so as time goes on.

How do you know when to worry? First, carefully read the warnings. If your firewall is warning you about a trustworthy program you're running, you probably need not be too concerned. Beyond that, some education is in order. One good place to start is at SecurityFocus's site, which publishes an online primer for novice firewall users ([find.pcworld.com/17744](http://find.pcworld.com/17744)), introducing the key concepts you need to know about the software's function and its warnings.

But in the end, we need smarter firewalls that are easier to set up and that bring only truly urgent news to our attention. What we have now are firewalls crying out like Chicken Little every time their users connect to the Internet—and such constant false alarms don't help anyone.

—Andrew Brandt







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HUGHES

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How do you know if your ISP is headed for bankruptcy court or for a takeover? Think like an investor: Put the ISP's stock on your watch list. If the stock price takes a precipitous dive, there's a good chance some sort of change is on its way. Here are some tips for dealing with the possible upheaval that may follow:

#### ON YOUR SIDE

## Catch-22 in Norton AntiVirus Upgrade

WHEN MY SUBSCRIPTION to Norton AntiVirus's LiveUpdate feature expired, I followed instructions in a dialog box and called a toll-free number to renew. A message directed me to the company's Web site—which sent me back to the same phone number. I tried again and got the same runaround. Frustrated, I finally ordered Norton SystemWorks 2002 for \$50—that's five times more expensive than just renewing LiveUpdate.

- Consider getting backup services—a free Web-based e-mail account and a cheap, limited-hour dial-up account to use if you lose your primary connection.
- If you don't check your ISP e-mail account regularly, have all mail from your ISP sent to your primary account. Read carefully any mail it sends to you.

This smells like a bait and switch.

*J. B. Copley, Scott Depot, West Virginia*

**On Your Side responds:** After I contacted Symantec, spokesperson Phil Weiler gave Copley a refund. Weiler couldn't pinpoint the trouble, but said Copley's version of the program may not have contained a feature permitting renewal over the Internet. A manual—not automatic—LiveUpdate will ensure you have it.

—Grace Aquino

- Keep complete and easily accessible records of your communications to and from both providers.
- If you must change your e-mail address, a registry service like the one at [www.returnpath.net](http://www.returnpath.net) can help you keep in touch with family and business contacts.
- Are things looking bleak for your provider? You may want to jump to a new ISP now, rather than waiting for a bankruptcy or merger. Look for a larger company or one that's been around for at least three years to help avoid another switch.

Let's face it: Service providers just aren't willing to commit to a stable, long-term relationship these days. But when you know the rules of the ISP shuffle, you'll probably be able to find a provider that will treat you right—even if it is not the one you started with. ■

*Anne Kandra is a contributing editor, Andrew Brandt a senior associate editor, and Grace Aquino an associate editor for PC World.*

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# WEB SAVVY

BRAD GRIMES

## The Web's Department of Missing Persons

What's it worth to find old friends via the Web?

LAST FALL, I ATTENDED my tenth-anniversary college reunion at Northwestern University in Illinois. Flash-flood warnings forced many attendees—including me—to stay inside for some events. I saw the football team splash to victory, but avoided the soggy tailgate parties.

I missed catching up with old friends. So at home, I logged on to Classmates ([www.classmates.com](http://www.classmates.com)) in hopes of tracking them down. Classmates can put you in touch with people from your college, your high school, or even your grade school. The site also helps military personnel stay in touch. You can swap notes, chat, and post photos. And it will be adding a service—which should be available in March—that will allow former work colleagues to find each other. This could serve as a nifty networking tool.

### FINDING CLASSMATES...

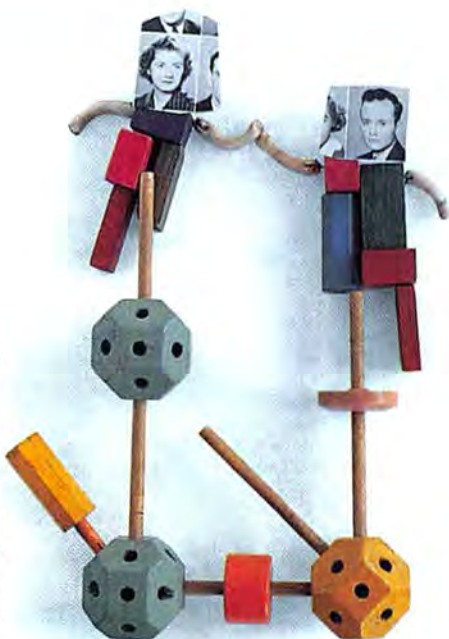
BUT LIKE SO MANY other Web sites, Classmates is only as good as its content—and in this case, that content depends on people signing up and adding their names to its directories. I found only

13 people listed from my Northwestern graduating class, none of whom I knew. Exploring listings for my high school class in Connecticut instead, I found 58 people from a class of around 300.

Classmates lets you post a biography and a photo, but no one from my high school class chose to do so. Regardless, I was intrigued enough to want to send greetings to my old tennis partner and to the first girl I kissed, among others.

But to send a note to them, I'd have to shell out \$30 a year. That seems a hefty fee for finding e-mail addresses that may or may not be current, for old acquaintances who may or may not want to hear from you. Still, Classmates says that 1.7 million of its 25 million members do pay the fee, so I decided to give it a try. I sent out several e-mail notes, most of which garnered a nice response. (A few bounced back because the e-mail address was bad or simply went unanswered.) My tennis buddy, I learned, is now an architect in Kentucky, and my First Kiss works for a tech company in New Hampshire.

Was it worth 30 bucks? I did get e-mail



addresses, though not for the college friends I'd sought, and I revived some connections. But we can swap greetings from our own e-mail clients, chat via an instant messaging program, or share photos on a cool site like Snapfish ([www.snapfish.com](http://www.snapfish.com))—without paying a cent.

### ...AND CONTACTS, TOO

I COULD CHECK IN with Classmates to see if other former classmates sign up. But will I? One of my newfound old friends said that she rarely learns anything new there. In fact, I get the feeling I'm the only one from my class who actually ventured to contact anyone.

But I do think Classmates might be good for one other purpose. In these uncertain times, a directory of old work colleagues (provided they sign up) sounds like it could be a useful resource.

I'm pleased with the contacts I renewed via Classmates, but I'm not sure I needed the help. It turns out that I could have found both my tennis mate and my First Kiss at Switchboard.com, a mundane white pages site—for free. ■

Contact PC World Contributing Editor Brad Grimes at [websavvy@pcworld.com](mailto:websavvy@pcworld.com).

### GIMME FIVE

## Great Health Information Sites

1. **MayoClinic.com:** Expert, accessible information from a trusted name in health care. [www.mayoclinic.com](http://www.mayoclinic.com)
2. **WebMD:** Solid advice and secure storage of your health records. [my.webmd.com](http://my.webmd.com)
3. **InteliHealth:** Comprehensive, with excellent commentary from Harvard Medical School. [www.intelihealth.com](http://www.intelihealth.com)

4. **iVillageHealth:** This site for women absorbed AllHealth, a former *PC World* favorite. Features include tips, quizzes, and chats. [www.ivillagehealth.com](http://www.ivillagehealth.com)
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# HOME OFFICE

STEVE BASS

## Five Tools That Make Windows Shine

These utilities help cure what ails everybody's favorite (gulp) OS.

THE NEXT TIME I register my car with the DMV, I'm going to request a vanity license plate: "I ♥ UTILITIES." Call me a propeller head (you probably will anyway), but when I find a tool that does one job exceptionally well—without bells or whistles—I'm in love. Over the years I've collected many gems for my toolbox. These are the indispensable five, the ones I use regularly—even daily—and would hate to live without. Did I mention that four of them are free, and the other has a 30-day free trial? Tough to beat those prices.

**Better dialog boxes:** Dialog Helper is a utility hidden inside Ontrack's PowerDesk, the free, powerful substitute for Windows Explorer that I've mentioned in the past, most recently in my November 2001 column, "Your Second Line of PC Defense" (read it at [find.pcworld.com/18201](http://find.pcworld.com/18201)). The program puts two icons in the upper-right corner of your applications' Open File dialog boxes: One contains a list of 20 recently used files; the other has 20 recently used folders. Use Dialog Helper once and you'll wonder how you ever did without it. One caveat: Dialog Helper doesn't work with some applications, but turning the utility off in those programs is easy.

**Files side-by-side:** I must have a million and a half files on my hard drive, a bunch of which are duplicates, or at least kissing cousins. There are lots of utilities that ferret out the dupes automatically, but I like doing some file comparisons manually. SoftByte Labs' free Comparator utility shows a side-by-side list of the contents of

any two files so I can see what's missing and what's new. With it I can easily sync the files to ensure a perfect match.

**A well-read PC:** I've had some eerie PC experiences, but listening to a disembodied voice read my e-mail is one of the eeriest



est. Don't get me wrong—my screen-reader utility comes in handy. MoneyTree Software's ReadPlease 2002, a freebie, reads text that you copy from anywhere on your screen and paste into the program's window. While I'm doing some mindless chores—say, paying bills—ReadPlease lets me listen to white papers and press releases. And the utility is a terrific tool for proofing important documents. Its natural-sounding voice handles difficult words and punctuation with ease.

**The AxMan cometh:** Some of my video files are huge—20MB isn't uncommon—and I often encounter problems when I send them to family and friends. Attach-

ing them to e-mail isn't the answer—my ISP has a hearty laugh and then rejects any attachment larger than 5MB. I use Mosaic Software Solutions' AxMan utility to slice and dice large files of all sorts into manageable pieces (it can even compress the pieces if necessary). AxMan can divvy up a file to fit on several floppies, or let you set the file's maximum size to ensure that it will fit on a CD-ROM, for example. The program's great for moving large files between hard drives, bypassing Windows' 4GB limit. And unlike Humpty Dumpty, the files are easy to put back together. If you're on the receiving end of "axed" files, use the free AxManRestore program to restore them. For the great things AxMan does, its \$15 price is a pittance. It even offers a 30-day free trial.

**Icon beautification:** Give Windows' bland, lifeless folder icons some sizzle with Max Maischein's free Folder Icons for Win32 program. The colorful icons it adds make finding the folders you use most often much easier. For instance, I changed my Quicken folder to a dollar sign, and My Documents now looks like a document. The icons are really useful for spotting folders quicker in Windows Explorer.

Download these nifty utilities at [find.pcworld.com/12281](http://find.pcworld.com/12281), and visit my newsletter archives at [find.pcworld.com/17001](http://find.pcworld.com/17001) to read about more of my favorites. ■

*Contributing Editor Steve Bass is president of the Pasadena IBM Users Group. He can be reached at [steve\\_bass@pcworld.com](mailto:steve_bass@pcworld.com).*

### AxMan

★★★★☆

\$15

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### Comparator

★★★★☆

Free

SoftByte Laboratories

[www.softbytelabs.com](http://www.softbytelabs.com)

### Dialog Helper

★★★★★

Free (part of PowerDesk)

Ontrack

[www.ontrack.com](http://www.ontrack.com)

### Folder Icons for Win32

★★★★☆

Free

Max Maischein

[find.pcworld.com/17002](http://find.pcworld.com/17002)

### ReadPlease 2002

★★★★☆

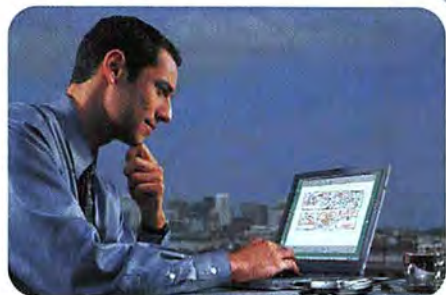
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[www.readplease.com](http://www.readplease.com)



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# BUGS & FIXES

STUART J. JOHNSTON

## Don't Share Cookies With Strangers

Grab fixes for the latest flaws in Internet Explorer and Windows Media Player.

WANT TO KEEP thieves out of your PC's cookie jar? If you use Internet Explorer 5.5 or 6.0, you'll want to close the latest security hole—one that lets outsiders swipe cookies from your browser. Cookies are the little chunks of data that Web sites stick on your hard drive so they can recognize you the next time you visit their sites. IE's flaw: A nefarious attacker could steal your computer's cookies.

Most cookies do not carry important information, but some slow-witted shopping sites may record sensitive data (such as credit card numbers) in their cookies. By tricking you into clicking a specially crafted link on the attacker's Web site or in an HTML e-mail message, a hacker could gain access to all your cookies.

Microsoft has posted both a workaround and a patch for the problem. I recommend that you download the patch. Though the workaround will protect your PC from cookie grabbers, it does so by disabling Active Scripting—a type of code that Web sites depend on to carry out various functions. (Note: Any URL ending in the extension .asp



uses Active Scripting; the abbreviation stands for "active server pages.") If you use Microsoft's patch instead of its workaround, Active Scripting will continue to operate.

Jump to [find.pcworld.com/18244](http://find.pcworld.com/18244) for a link to the patch, or to [find.pcworld.com/18243](http://find.pcworld.com/18243) for Microsoft's workaround.

### MEDIA PLAYER FIX

IF YOU ARE a major fan of streaming media and you use Windows Media Player, you need to know about four security problems. You can take care of all four holes in one download with Microsoft's latest patch. Three of the problems relate to Windows Media Player versions 6.4, 7.0, and 7.1, as well as to Windows Media Player for XP; one of the flaws affects version 6.4 only.

The vulnerabilities could let an interloper take charge of your computer. The attacker would send you an Advanced

Streaming Format (ASF) file containing hidden code. If you subsequently played the file—or clicked a link on a Web site that played it—a slick intruder could crash your computer.

But it could be much worse: An attacker who figured out what operating system was running on your PC could do anything you could do on your computer—even reformat your hard drive, for instance.

Microsoft says that the patch removes the vulnerabilities by setting up a process to validate .asf files that come its way. At [find.pcworld.com/18248](http://find.pcworld.com/18248), get Microsoft's bulletin and a link to the download for your version of the player. If you use the XP version, you'll also find the fix included in Microsoft's Critical Updates (via Windows Update). Go to [find.pcworld.com/19081](http://find.pcworld.com/19081) for the details. ■

*Stuart J. Johnston is a contributing editor for PC World.*

### IN BRIEF

#### 911 Virus Alert

HAS YOUR PC dialed 911 on its own lately? If so, you've been snared by an annoying worm. Known as W32.Funsoul@mm, the worm orders your modem to dial 911 automatically when your system starts up. Visit [find.pcworld.com/18249](http://find.pcworld.com/18249) to get Symantec's Funsoul removal tool.

#### Nimda's Revenge

THE NIMDA VIRUS is back—with a twist. The updated virus, named W32.Nimda.E@mm, avoids detection by antivirus programs that were designed to catch its previous incarnations. Norton AntiVirus definition files dated October 29, 2001, or later will protect you. Go to [find.pcworld.com/18281](http://find.pcworld.com/18281) for Symantec's disinfection info.

#### Roxio Remedy

WOULD-BE USERS of Roxio's Easy CD Creator 5.0x Platinum who either upgraded to Windows XP or had the OS preinstalled ran into one big snag: They couldn't burn CDs. Roxio has released separate patches to fix the problem, depending on the OS you had before upgrading to XP. Go to [find.pcworld.com/18282](http://find.pcworld.com/18282) to get your patch.

### BUGGED?

FOUND A hardware or software bug? Tell us about it via e-mail at [bugs@pcworld.com](mailto:bugs@pcworld.com).



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Technology Business Research

Corporate IT Buying Behavior and Customer Satisfaction Study

2nd Quarter

— August 2001

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10808-290107

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- Dual Processor Capable
- 256MB 133MHz ECC SDRAM
- 2x18GB\* (10K RPM) Ultra3 SCSI HD
- Embedded Gigabit NIC
- Embedded Dual-Channel Ultra3 SCSI Controller
- 1-Yr Next Business Day On-Site Service;<sup>2</sup> 1-Yr Parts Warranty<sup>2</sup>
- Redundant Power Supplies
- 24x7 Phone Tech Support

**\$1899** QuickLoan: **\$50/mo.**, 48 mos.<sup>11</sup>  
E-VALUE Code:  
10808-290118

##### Recommended upgrades:

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# NEW PRODUCTS

EDITED BY THE NEWS DEPARTMENT

## Fast, Wallet-Friendly Athlon XP PC



**THE MILLENNIA XP+ Professional**  
has power to spare.

perience a similarly significant boost compared with a previously tested 1.4-GHz Athlon system from ABS: The Millennia's score topped the ABS's by only about 3 percent.

### GOOD GRAPHICS

THANKS TO THE integrated graphics (based on the NVidia GeForce2 chip), operating in tandem with the rest of the NForce motherboard chip set—which supplies various performance enhancements—we noted smooth action and outstanding detail on an Unreal Tour-

namment demo. For even better 3D graphics to handle the most demanding games, however, you may want to upgrade to a GeForce3-based graphics card (for \$318 more).

Our Millennia XP+ Professional came with a 16X/10X/40X CD-RW drive, a roomy, 40GB 7200-rpm hard drive, and a decent (but not spectacular) 19-inch MicronPC 910-EX monitor. You also get a built-in ethernet port, a 56-kbps modem, and two reasonably good Altec Lansing 200W speakers (but no subwoofer).

The Millennia XP+ Professional has plenty of room for

### DESKTOP

**TEST CENTER** YOU WANT SPEED? With MicronPC's **Millennia XP+ Professional**, you get it—at the attractive price of \$1707 (the number may drop lower by the time you read

#### Millennia XP+ Professional

MicronPC

★★★★☆

A top performer, with graphics muscle to run your games.

Street: \$1707

[find.pcworld.com/18863](http://find.pcworld.com/18863)

this). This PC has NVidia GeForce graphics and an NVidia NForce motherboard chip set (NVidia's first), in addition to AMD's latest processor, the Athlon XP 1900+. Along with the unit's 256MB of 266-MHz DDR SDRAM, these components helped the system earn top marks on our tests.

Although the Micron XP+ Professional's processor runs at 1.6 GHz, it adopts AMD's new naming scheme, which AMD says more accurately re-

flects the chip's performance in direct comparison to the Intel competition. Our tests support AMD's claim.

The Millennia XP+ Professional earned a score of 119 on PC WorldBench 4, handily beating the average mark of 108 for three similarly configured 2-GHz Pentium 4-based PCs (all running Windows XP Professional)—a difference you should notice when running general business applications. You won't, however, ex-



**46 DESKTOP SYSTEM**

MicronPC Millennia XP+ Professional

**47 PERSONAL DIGITAL ASSISTANT**

NEC MobilePro P300

**48 DIGITAL PROJECTOR**

InFocus LS110

**LCD MONITOR**

Solarism Display Technology LM1503

**50 SMALL BUSINESS ACCOUNTING**

Intuit QuickBooks 2002, NetLedger  
Oracle Small Business Suite 7

**52 FLASH MEDIA READERS**

Addonics Pocket DigiDrive, SCM  
Microsystems Dazzle 6 in 1 Reader

**WATCHCAM**

Casio QVQ3-1

**56 NOTEBOOK**

Toshiba Satellite 5005-S504

**GRAPHICS UTILITY**

TechSmith SnagIt 6

**58 VIDEO CARD/RECORDER**

Compro Personal Cinema With  
GeForce2 MX 400

**OPERATING SYSTEM**

Mandrake Linux Gaming Edition

expansion, with several unused drive bays and four free PCI slots. Most of the drive bays are accessible from the front of the system; a hinged cover hides them from view. Two of the unit's four USB ports are conveniently located on the front of the case.

The Millennia comes with a Microsoft optical mouse plus an Internet keyboard that has buttons for common browser functions (such as back or forward), and quick-launch buttons for bringing up e-mail, beginning a search, and accessing My Computer, among other functions. MicronPC makes setup easier with color-coded ports and a setup guide, and provides a recovery CD in case you run into trouble.

Highlights of the software bundle include Microsoft Office XP for Small Business, Pinnacle Studio 7 SE to handle digital video, and Ahead Nero Burning ROM 5.5 for making your own CDs.

**SOLID DESKTOP PC,  
GREAT PRICE**

MICRONPC provides a one-year warranty for parts and labor, which includes on-site service. All in all, the Millennia XP+ Professional is a very capable system, with plenty of power to perform your most demanding computing tasks, at a very attractive price.

—Anush Yeghazarian

## NEC's Pocket PC for Corporate Users

**P D A**

NEC'S FIRST personal digital assistant, the **MobilePro P300** Pocket PC, has a distinctly corporate slant.

Based on Microsoft's powerful Pocket PC 2002 operating system, our preproduction MobilePro 300 came with a custom utility that lets users synchronize e-mail, swap data, and back up files to corporate servers. Using a wireless card and service (which you must obtain on your own), you can update your P300 almost anywhere. NEC offers a one-day rapid exchange service, in case your P300 has an untimely accident. You also get Westek's robust Clear Vue file viewer and ArcSoft's PhotoBase, a handy, simple application for viewing and managing digital images.

A conservatively stylish silver metal case complements the corporate theme. Unfortunately, I often accidentally pressed the small, dedicated dictation button, generating a series of short audio files.

The P300 includes both CompactFlash and Secure Digital sockets; in fact, half of its 64MB of RAM resides on an included Secure Digital media card. Meanwhile, at center stage, surrounded

NEC'S POCKET PC  
2002-based Mobile-  
Pro P300 trains  
its sights on the  
corporate user.



by the four standard task buttons under the display, a simple four-way cursor ring frames a tiny speaker. You can also scroll by rolling a dial located on the PDA's edge, firmly pressing it to make selections. The P300's sync cradle has both USB and serial ports (the unit comes with a USB cable); a serial converter is optional.

Though the P300's color screen can display up to 65,000 colors, sample images looked disappointingly dull. The unit's combination of active-screen lighting and a reflective backing makes its display easy to see either indoors or in bright sunlight, but it fades quite a bit in day-

light shadows. Music played through the speaker sounded weak and tinny.

Overall, the \$599 P300 will serve most needs of a corporate user, but you might also want to check out competitors such as HP's Jornada 565, Compaq's H3850 IPaq, and Toshiba's E570.

—Tracey Capen ►

**MobilePro P300**

NEC  
(Preproduction unit, unrated)  
Sturdy and stylish Pocket PC has expansion options and a software bundle suited to corporate use, but the screen disappoints.  
List: \$599  
[find.pcworld.com/18864](http://find.pcworld.com/18864)



## Stunning Movies, Scary Price

### PROJECTOR

RIGHT UP FRONT: \$5000 is a lot of money to spend on a home-theater digital projector. But once you've seen a movie played through the **LS110** from InFocus, that little "I want one" voice inside your head is going to grow very persistent.

InFocus is a major manufacturer of business projectors, but the LS110 is its first product aimed specifically at the home market. This sleek, solid 6.7-pound projector offers superior color saturation,

great contrast, and extremely quiet operation. Best of all, DVD movies played through my preproduction unit were free of jagged white edges around objects—an annoying and visually fatiguing characteristic of less-capable projectors. When you're done with the show, you can reclaim your living room by putting the thing away. All of this may not justify the LS110's stiff price tag, but it helps.

The projector uses Texas Instruments' Digital Light



THE LS110 projects stunning movies, but costs \$5000.

Processing dual mode technology, which helps it produce brighter and crisper images than competing LCDs can offer. Perhaps more important, the LS110 incorpo-

rates Faroudja's Directional Correctional Deinterlacing technology, which keeps contrast high and colors stable.

One of the projector's best features is its variable screen aspect—the ratio of image width to height. For television viewing, the ratio can be set at 4:3; the 16:9 setting is ideal for DVD films shown in wide-screen (or letterbox) format. You can connect VCRs, DVD players, HDTV receivers, TV tuners, and computers to the projector. The lamp is rated at 1000 ANSI lumens—plenty for living-room projection—and its excellent life expectancy of 2000 hours gives Methuselah a run for the money. A replacement lamp costs \$379 (not excessive for these items).

While not for buyers on a budget, the LS110 is a strong candidate for well-heeled film buffs who refuse to compromise on quality. The rest of us will have to wait for price cuts.

—Ramon G. McLeod ▶

### LS110

InFocus

★★★★★

Excellent video quality coupled with quiet operation and plenty of viewing options make this a great home theater choice—if you can afford it.

List: \$5000

[find.pcworld.com/18865](http://find.pcworld.com/18865)

## An LCD to Really Brighten Up Your Office

### MONITOR

"WOW, THAT'S BRIGHT!" I heard that comment many times while testing Solarism Display Technology's **LM1503** 15-inch LCD monitor.

Solarism Display, less than one year old, is betting its business on the notion that

people will pay more for an extra-bright flat-panel display. The company claims that its monitors are four times brighter than typical LCDs. They're certainly more expensive: The LM1503 costs \$650, a couple hundred dollars above most flat screens of the same size (see "Cheap LCDs: Going, Going, Gone?" on page 17). But if your budget lets you splurge, it's worth the extra cash.

The screen on my shipping unit remained easy to view in my office despite sunlight streaming in my window. The LM1503 has other virtues as well: Text on it was clear and sharp, and bright colors—which can look washed out on many LCDs—were rich and intense. That makes the Solarism LM1503, unlike many LCDs, a reasonable choice for a serious gamer, even though it did exhibit the jagged lines that are endemic

### LM1503

Solarism Display Technology

★★★★★

The bright screen and sharp text make this LCD monitor worth its higher price.

List: \$650

[find.pcworld.com/18881](http://find.pcworld.com/18881)

to all flat-screen displays.

In addition to having a standard 15-pin D-shape connector for your PC's monitor cable, the LM1503 includes two RCA terminals and an S-Video input port. With the extra jacks, you can plug a digital camera, a gaming console, or a DVD player directly into the unit to view digital images, games, or movies. On-screen commands allow you to switch among the different inputs.

But the biggest reasons to pop for the LM1503 are its bright screen and its sharp text. If you squint all day long at your current monitor, your eyes will thank you.

—Edward N. Albro



SCREEN STAR: The LM1503 outshines the LCD competition.



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# QuickBooks, NetLedger Go Upscale

## ACCOUNTING

SMALL-BUSINESS accounting programs are thinking big. Both Intuit's **QuickBooks 2002** and NetLedger's **Oracle Small Business Suite 7** target larger, more complex businesses.

High-end versions of QuickBooks 2002 now support two-way data exchange with applications developed by others—for example, with legal time-tracking applications. These add-ons could extend QuickBooks' appeal to relatively specialized businesses.

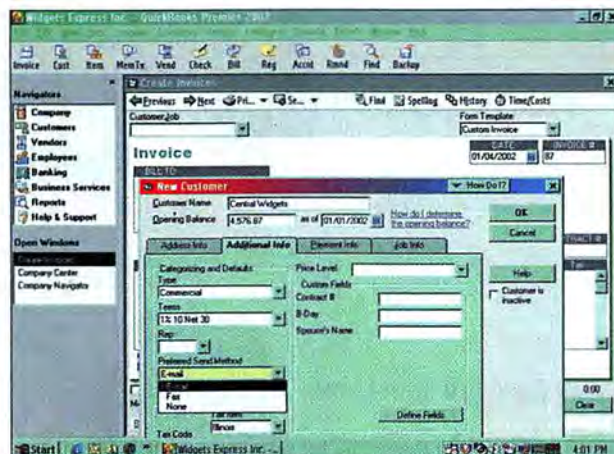
The enhanced QuickFind makes tracking down transactions easier, letting you use additional filters, such as vendor type, to search the database. In addition, you can fax or e-mail logo-enhanced invoices, customer statements, and estimates, which should help businesses speed up cash-flow and purchase decisions.

QuickBooks 2002 comes in

a record number of flavors. The new Premier version, designed for businesses with 20 or so employees, delivers the most features, including esti-

the upgrade well worthwhile for current users.

For its part, NetLedger has popularized Web-based small-business accounting. You ac-



**FOR BIGGER SMALL BUSINESSES:** QuickBooks 2002 Introduces a Premier edition that targets businesses with 20 or more employees.

mating and job costing. Premier also has a new electronic guidebook, improved account-reconciliation options, and special analytic tools.

The Pro version lacks some of Premier's remote-access and analytic tools. Basic, for businesses with up to 10 employees, handles only basic accounting and one user at a time (the other editions support up to five simultaneous users—with the purchase of additional software licenses). Financial professionals who support businesses that use QuickBooks should consider the Premier Accountant Edition and the new Remote Access Service, which lets you view and update records on a distant PC over the Internet.

Judging from my tests with a preproduction copy, I think QuickBooks' new add-on capability and its improved electronic communications make

the company's online financial service via your Web browser, while the service's secure server maintains the programs and your data.

## NAME GAME

LAST SUMMER the company changed the name of its NetLedger service to Oracle Small Business Suite, to emphasize

its links with the popular high-end database. Along with the new name come more capabilities and a heftier starting price. Rates for signing up with OSBS start at \$99 per month for two users, a dramatic increase from the starting price of \$5 per month NetLedger charged for its much simpler initial service.

In addition to offering improved accounting capabilities, such as time billing, OSBS includes customer relationship management capabilities. You can link the inventory of your products to a Web store, too, which simplifies e-commerce.

OSBS is particularly suitable for businesses that have a sales-and-marketing orientation and a number of widely scattered employees who can use the service to file purchase requests and expense reports while they're on the road.

OSBS still allows you to import QuickBooks data, but no longer plays in the same ballpark as Intuit's program. It targets larger businesses that have outgrown QuickBooks and are looking for a robust online alternative.

—Richard Morochov

## Oracle Small Business Suite 7

NetLedger

★★★★☆

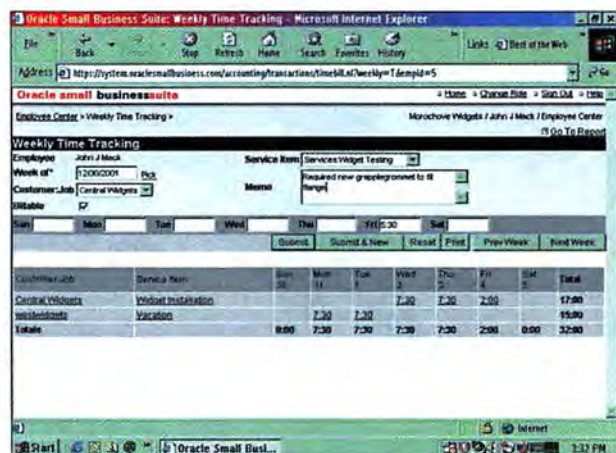
Full-featured Web-based business management system; best for virtual organizations with 25 or more employees. List: \$99/month for two full-function users and 10 employee users; free accountant access. [www.oraclesmallbusiness.com](http://www.oraclesmallbusiness.com)

## QuickBooks 2002

Intuit

★★★★☆

Despite a price hike, QuickBooks delivers good value for most small businesses. List: \$500 (Premier), \$280 (Pro), \$180 (Basic) [find.pcworld.com/18421](http://find.pcworld.com/18421)



**ACCOUNTING EVERYWHERE:** Oracle Small Business Suite 7 targets larger companies that want powerful, Web-based management tools.





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# Pick a Card Reader—For Any Card



THE POCKET DIGIDRIVE (left) and Dazzle 6 in 1 Reader accept all popular flash media formats.

## STORAGE

DIGITAL CAMERAS, video camcorders, voice recorders, PDAs, and MP3 players all use one of several types of tiny flash memory cards for storage. USB-connected card readers ease the process of transferring data from these memory cards to your computer—but until recently, none of these devices worked with more than one or two card types. Now, however, two new readers, from Addonics and SCM Microsystems, deal out slots that work with several types of cards.

Both Addonics' **Pocket DigiDrive** (\$89) and SCM's **Dazzle 6 in 1 Reader** (\$70) are designed to read CompactFlash, Memory Stick, MicroDrive, Multi-MediaCard, Secure Digital, and SmartMedia media. Both

cost more than card readers that accept only one or two types; SanDisk's single-media ImageMate reader, for example, costs \$30.

The Pocket DigiDrive provides four separate slots in a case that's slightly smaller than two stacked CD jewel boxes; the Dazzle 6 in 1, with only two slots, comes in a sleeker case about half that size: It's more portable, but a bit less stable when resting on top of a desktop PC. Neither requires external power.

## DRIVERS AND ICONS

IF YOU RUN Windows Me or XP, you won't need a driver for either device. That's because those operating systems already have USB Mass Storage support; on Win Me and Win XP, each slot shows up in

My Computer as a generic removable media drive. Windows 98 SE and 2000 users, however, must install drivers. When you install Addonics' driver, the My Computer icons for the DigiDrive's four slots identify the media type—such as Memory Stick. The Dazzle's slots show up as two generic drives (so you can have only two types of media mounted at one time).

My shipping DigiDrive and preproduction Dazzle transferred data dependably and quickly. Though the DigiDrive is USB 2.0-compliant, according to Addonics, it's still a USB 1.1 device; you can plug it in to a USB 2.0 port, but you won't get any increase in transfer speed by using a USB 2.0-enabled system.

Call this showdown a draw. The Dazzle 6 in 1 is more portable and less expensive than the Pocket DigiDrive, but I appreciated the latter's drive identification and its separate slots. Those attributes may sway people who don't plan on schlepping their card reader everywhere.

—Alan Stafford ►

## QUICK TAKES

### A Camera Close at Hand

WHEN A MAGIC moment comes along, do you find yourself scrambling for the nearest camera so you can capture the scene for posterity? With Casio's new line of wristwatches, you won't have to do that anymore: Each watch has a built-in color digital camera. I looked at the **WQV3-1**, equipped with a sporty black resin band (\$200); the **WQV3D-8**, with a sterling silver band (\$230), should be available by the time you read this.

Both come with an infrared link adapter that plugs into a USB port, and software (your PC must have at least 64MB of RAM and run Windows 98, 98 SE, 2000, or Me). You transfer the images via the infrared link; on the watch they appear in muddy black-and-white, but on the PC, they show up in 256 colors. The photo quality is poor, and transferring images can be tricky—I succeeded only after a fairly lengthy call to tech support. Still, the WQV3-1 might find appeal as a novelty timepiece for personal use. Casio, [find.pcworld.com/18461](http://find.pcworld.com/18461).

—Felicia Williams



### Dazzle 6 in 1 Reader

SCM Microsystems

★★★★☆

This compact, affordable device accepts all popular flash media, but has only two slots and is relatively easy to knock over.

Street: \$70

[find.pcworld.com/18441](http://find.pcworld.com/18441)

### Pocket DigiDrive

Addonics

★★★★☆

Accepts all popular flash media; has a stable case design and helpful drive identifications, but is somewhat pricey.

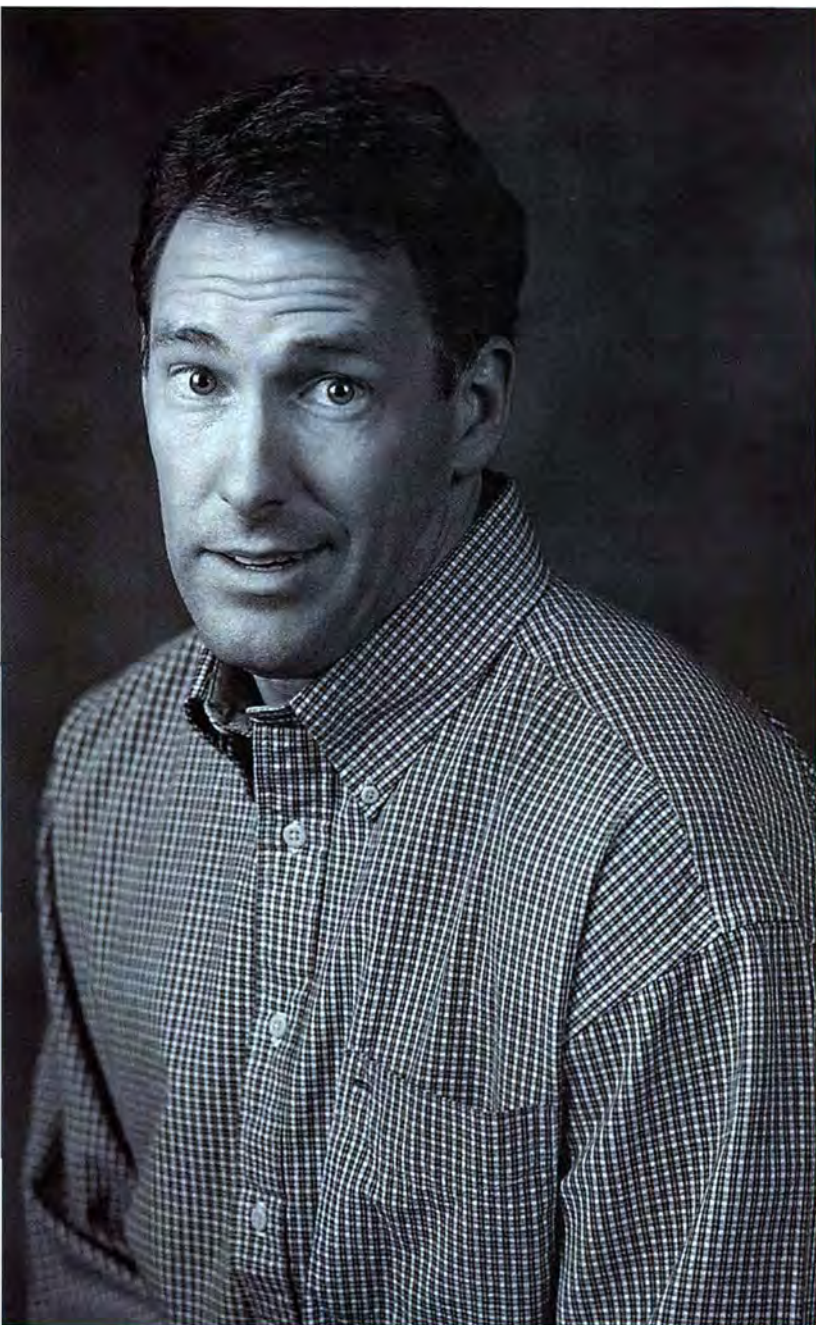
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## Bargain Laptop for Multimedia Mavens

### NOTEBOOK

**TEST Center** WOULD YOU sacrifice a little notebook battery life and portability for a lot of multimedia muscle? Try Toshiba's **Satellite 5005-S504**. Packed with 512MB of SDRAM, a 30GB hard drive, GeForce2 Go graphics with 16MB of RAM, and built-in slots for Secure Digital and SmartMedia cards, it's an excellent value at \$1999.

#### Satellite 5005-S504

Toshiba

★★★★☆

Snazzy-looking multimedia desktop replacement at a good price, but too heavy and short on battery life for travelers.

List: \$1999

[find.pcworld.com/18081](http://find.pcworld.com/18081)

The Satellite's slate-blue metallic case features a tiny LCD on the front edge that provides status information and other data even when the lid is shut. The 15-inch active-matrix display and the audio (from built-in Harman/Kardon speakers and subwoofer) are terrific for a notebook.

Longtime Toshiba fans may bemoan the lack of an eraser-head pointing stick. In place of it, there's a rather small touchpad. And Toshiba used a 1.1-GHz desktop Pentium III CPU, which costs far less than a mobile PIII of comparable clock speed. The notebook's PC WorldBench 4 score of 95, though among the fastest we have seen for a portable, was identical to that of a Compaq

**TOSHIBA'S Satellite 5005-S504** has SD and SmartMedia slots, plus a subwoofer.



Presario 1720 equipped with a 1-GHz Pentium III-M CPU and only 256MB of RAM. Like most notebooks that use desktop chips, the Satellite turned in mediocre battery life—1 hour, 47 minutes in our tests.

Though desktop chips usually run hotter than mobile CPUs, my shipping unit was

not any warmer during testing than other recent notebooks I've tried. The battery life and 7.1-pound weight make the Satellite less suitable for frequent travelers. But if you're looking for an affordable multimedia desktop replacement, the unit may be just right.

—Yardena Arar

## Screen-Grab Stalwart

### GRAPHICS UTILITY

FOR MORE THAN a decade, TechSmith's SnagIt has enabled PC users to grab screen images for software manuals, how-to guides, or reviews like this one. Nevertheless, **SnagIt 6** (\$40) improves on an already feature-packed program. Version 6 can capture frames from video games and DVD movies that employ Microsoft's DirectX overlay technology, and its Web Capture Tool can harvest all of the images from a particular Web page—or even from an entire site.

Previous versions already included my favorite features, however, so I didn't find any compelling reason to upgrade.



**NEW AND SLIGHTLY IMPROVED:** SnagIt 6 adds new video, DVD, and Web tools to its already useful kit.

SnagIt lets you capture an entire screen, a menu, a single window, or even a free-form shape. You can print your

screens; e-mail them; or save them as BMP, GIF, JPEG, PCX, PNG, TGA, or TIF files. A catalog browser lets you use thumbnail images to organize screen shots, and version 6 adds an image preview window. Want to tinker with your screens? SnagIt Studio permits you to crop or rotate images, apply filters, add annotations, and do other editing tasks.

SnagIt's video capture function records AVI files of movements on a screen, so that you can create instructional videos explaining how to use applications or configure programs. (You can't copy video from DVD movies, however.) The

video capture in SnagIt 6 is a lite version of TechSmith's Camtasia utility (read about it at [find.pcworld.com/18101](http://find.pcworld.com/18101)).

I found TechSmith's SnagIt 6 to be more intuitive and full-featured than its competitors (notably Application Techniques' CaptureEze, Hyperionics' HyperSnap, and Powware's Print Screen). But you can judge for yourself: All four companies offer free trial downloads of their products.

—Sean Captain ▶

#### SnagIt 6

TechSmith

★★★★☆

Powerful utility captures and edits nearly any image that appears on your screen—but is not a must-have upgrade from earlier versions.

List: \$40

[find.pcworld.com/18481](http://find.pcworld.com/18481)





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## PC, TV, and Video Recorder

### DIGITAL VIDEO

IF YOU'RE TIRED of having to choose between your PC and your TV, check out Compro's \$199 **Personal Cinema With GeForce2 MX 400**.

Personal Cinema unites a dual-output GeForce graphics board with an external TV tuner and a remote control. When productivity is your

priority, NVidia's TwinView technology permits you to spread your working desktop across two displays. But when it's time for *Buffy the Vampire Slayer*, you can use one of the displays as a television, while working on your spreadsheet in the other one.

The TV tuner resides in a bright green breakout box with a built-in infrared sensor; an included remote control allows you to change channels, adjust the volume, play a DVD movie (if your PC has a DVD-ROM drive), or even digitally record shows onto your hard drive using included software (you will need at least 4GB of

hard drive space to record 3 or 4 hours at low quality). You can play the recordings back on your monitor or through the breakout box into any audio-video or home-theater setup. Best of all, you can use the included on-screen channel guide software to plan your TV watching and recording up to a week in advance. In my tests of a shipping unit with a GeForce2 chip (GeForce3 models are available, too), the only



**BOX SET:**  
Personal Cinema  
remote (top) and tuner.

### Personal Cinema With GeForce2 MX 400

Compro

★★★★★

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Street: \$199

[find.pcworld.com/18561](http://find.pcworld.com/18561)

problems were with a few 3D games that are incompatible with dual monitors—and I was able to fix them by temporarily disabling TwinView via a desktop icon. Compro offers two other versions of Personal Cinema, but only the MX units offer TwinView.

—Andrew Brandt

## Play Windows Games on Linux PCs

### OPERATING SYSTEM

LINUX USERS enjoy the configurability and reliability of this open-source operating system, but for cool games, Windows has long been the hands-down winner. MandrakeSoft's **Mandrake Linux Gaming Edition** seeks to address

this inequity. Like other Linux distributions, the \$69 (plus \$20 for shipping and handling) boxed set includes the OS (Mandrake's 8.1 distribution) and productivity tools such as StarOffice; Netscape and Mozilla browsers; and KDE and GNOME graphical

desktop environments, which resemble the one in Windows. But the bundle also includes TransGaming Technologies' WineX, a new implementation of the Microsoft DirectX APIs that enables Windows games to run under Linux. You also get Electronic Arts' popular game *The Sims*.

Installing a shipping copy was a single-click, 45-minute operation that also put a Sims icon on my PC's desktop; when launched, the game looked and felt the way you'd expect it to under Windows.

If you want to try other games, though, you'll need to subscribe to TransGaming's update service to get the latest version of WineX (you also get to vote on what games the company should support next). Mandrake's 8.1 Gaming Edition includes a free 90-

day subscription; thereafter, the service costs \$5 a month.

According to TransGaming, WineX already works with dozens of Windows games, including Accolade's *Redline Racer* and Blizzard Entertainment's *StarCraft*. But I was able to play games other than *The Sims* only after a Linux expert helped me tweak my PC—and even then some of them wouldn't run full-screen.

TransGaming may eventually get Windows games running out of the box. But for now, novices should stick to Windows for games.

—Alexandra Krasne ■



**LOOKS LIKE WINDOWS:** Mandrake Linux Gaming Edition bundles *The Sims* with software that lets popular Windows games run on Linux.

### Mandrake Linux Gaming Edition

MandrakeSoft

★★★★★

Mandrake's distribution and *The Sims* worked well, but stick to Windows for 3D gaming.

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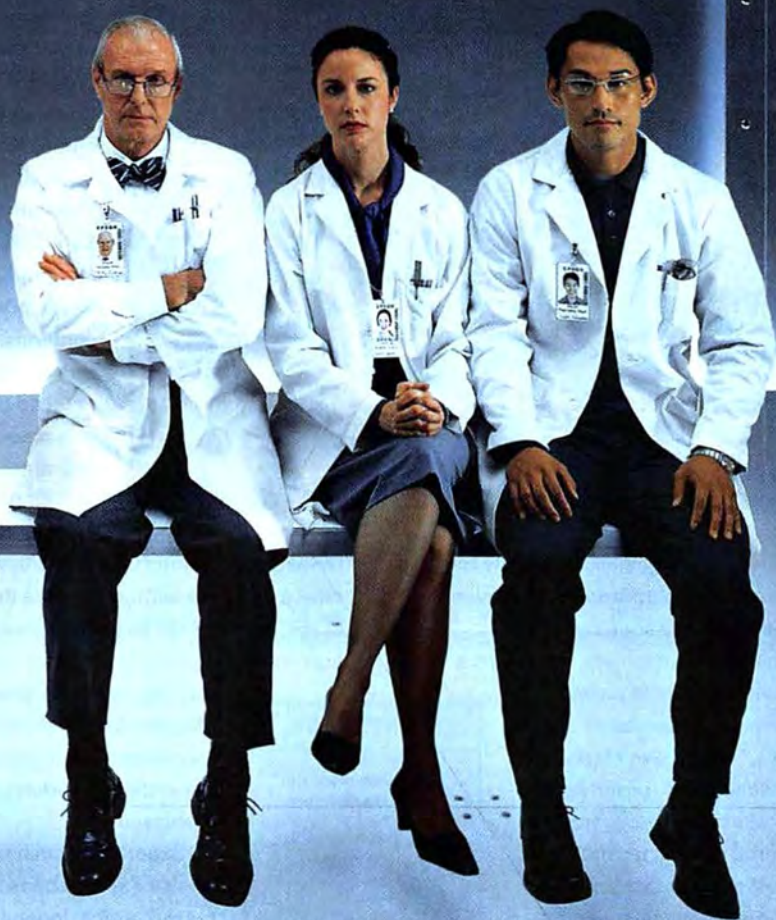
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# It's Showtime! Presenting Like A Pro



**P**resentation technology has apparently become so advanced, and so affordable, that even the dearly departed may soon benefit.

"Recently one of our customers, who owns a funeral home, said he plans to present multimedia shows of the deceased during visitations," says Steve Marks, president of Midland, Mich.-based Alternative View ([www.alternativeview.com](http://www.alternativeview.com)), an online seller of presentation technologies, and a publisher of expert buying advice.

"It's just another place where someone wants to present something to a group of people on a big screen," Marks says. "And projectors are now so affordable, portable, and easy to use — they're showing up wherever people have a need."

In fact, presentation technologies, from projectors and Microsoft PowerPoint to plasma displays and Web conferencing, have become indispensable to those who want to boost their organizations' images.

## Presenting Tools for the Rest of Us

"Maybe if you're one of the great presenters, like Zig Ziglar or Tom Hopkins, you can wing it without tech-

nology," says presentation-technology guru Art Feierman. "But most of us do not present for a living. And that's where the technology comes in."

Feierman is the CEO and founding partner of San Clemente, Calif.-based Presenting Solutions ([www.presentingsolutions.com](http://www.presentingsolutions.com)), a Web retailer that provides detailed buying advice to salespeople and corporate presenters.

Feierman is also the founder of PowerPointers ([www.powerpointers.com](http://www.powerpointers.com)), a site with over 700 advice columns written by more than 100 members of the Tempe, Ariz.-based National Speakers Association. In "Add Pizzazz to Presentations with Multime-

dia," for example, presentations expert Marjorie Brody encourages the use of "sophisticated visual aids [that] help the audience understand what is being discussed."

Experts say such visual — and audio — aids are indispensable to most presentations. Indeed, notes Feierman, slides, LCD and DLP projectors, laptops, LCD panels, laser pointers, and lapel

microphones can all be used to great effect. But a presenter must first choose the technology that is right for the audience.

"You want to be sure you're using enough of the right technology that you don't look obsolete," Feierman says. "But the technology also has to do its job, to convey the points you're trying to make."

Speakers and presenters should consider the size and makeup of their audiences, as well as the actual spaces — boardrooms, ballrooms, and offices —

*Continued on page 3*

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Or, for meeting rooms, lecture halls and larger venues, take a look at the new PJ1065 with an incredible 2700 lumens that present rich color even with the room lights on. This top-of-the-line XGA resolution projector accepts DVI-D and HDTV signals, can be wall or ceiling mounted, and includes a full function laser pointer remote control for zoom, picture-in-picture, and keystone correction.

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*Continued from page 1*

they will be using. Many salespeople, for example, may find that it is safer to run their presentations from a notebook PC's hard drive than to depend on clients' conference-room Internet connections.

And any audience greater than one or two people demands a projector. "Whether you're reselling \$50,000 worth of software, or a \$1 million service contract, it doesn't really matter," says Feierman. "If you use a 15-inch laptop screen for your presentation, and the competition walks in a day later with a digital projector, you're not going to look too good."

### The Cream of the Crop

Leading technology companies like Walnut, Calif.-based ViewSonic Corp., Park Ridge, NJ-based Sony Electronics Inc., and Long Beach, Calif.-based Epson America Inc., are leaving presenters with few excuses for not looking their best at the office and on the road — even at home.

ViewSonic's ultra-portable PJ500 projector, for example, delivers crisp, clear SVGA (800 x 600 pixels) images, at a stellar brightness of 1,200 ANSI lumens, and with a high 300:1 contrast ratio. The PJ500 also supports numerous HDTV signals (psst: this projector can double as part of a kick-butt home entertainment system) and features one-touch setup for fast, easy synchronization and sharp focusing.



■ Sony's VPL-CS4 SuperLite™ projector sports a retractable flip-top cover that protects key components from the rigors of business travel. With a built-in scan converter, it can accept composite video, component video, and RGB video input signals.

Sony's roadworthy VPL-CS4 SuperLite™ projector uses three-panel LCD technology for 1000-lumen brightness and sharp images at distances between 5 and 23 feet, from projector to screen. It is the first LCD projector with a retractable flip-top cover with push-button controls, back-pitch speakers, a front-



■ ViewSonic Corporation's PJ500: the perfect lightweight, go-anywhere, ultra-portable projector. Weighing in at just 5.3 lb, it offers 1,200 lumens and a 300:1 contrast ratio. This SVGA projector delivers clear, crisp images.

end exhaust fan, and a power-supply slot.

With the push of a button, users of the VPL-CS4 can open the projector's lid and connect it to a laptop and power supply. Closed, the lid safeguards the projector's key components against the spills, bumps, and bounces of business travel.

Epson's PowerLite family of projectors also uses a three-panel LCD system to deliver high brightness (the PowerLite 810p projector puts out 2,000 lumens) and a 400:1 contrast ratio for blacker blacks and whiter whites. The PowerLite 600p, 800p, and 810p all use Epson's new ColorReality color processing technology, which helps presenters choose the best video for their materials and environment (sRGB, normal, meeting, presentation, theater, and amusement).

The PowerLite projectors also include digital keystone correction, including 10-percent horizontal correction.

### Lessons in Lighting

Alternative View's Steve Marks says the brightness of a projector affects its cost significantly. "1,000- to 2,000-lumen projectors are bright enough for many applications," he says, "and much less expensive than brighter models."

Lamp life also impacts the long-term cost of ownership for a projector. Nearly all lamps fall into the 1,000-to-2,000-hour range, and a replacement bulb often costs between \$400 and \$600. Lamps in Epson's PowerLite projectors (at 1,500 hours) can last up to five years, when used an average of six hours per week, 50 weeks per year.

Presenters should buy projectors flexible enough to handle less-than-ideal lighting situations. Many ballrooms, for example, have lighting not originally designed for multimedia viewing and note-taking.

ViewSonic's PJ500 combines its 1,200 lumens —

*Continued on page 5*





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That's not a typo; they're only **\$1,999.** And, they're not just stripped down, no-frills models either. They're fully loaded with a 4X digital zoom, digital keystone correction, remote control, custom carrying case, and an ingenious flip-top control panel. What's the catch? Getting one before they're all sold out.

\*ANSI lumen is a measuring method of the American National Standards Institute (72.228). \*\* Estimated U.S. retail selling price. Actual retail selling price may vary. ©2001 Sony Electronics Inc. All rights reserved. Reproduction in whole or in part without written permission is prohibited. Features and specifications subject to change without notice. Sony and SuperLite are trademarks of Sony.

Call **1-800-472-SONY ext. CS4** today to get the Sony projector  
you've always wanted at a price you never imagined.  
Or visit **[www.sony.com/projectors](http://www.sony.com/projectors)**



Continued from page 3  
bright enough for a room with significant ambient lighting — with zoom functions, a short focal length for meeting spaces of any size, and digital keystone correction for a square image at any angle. And the PJ500's component and S-video inputs provide superior video output, while its eco-mode setting works to extend the projector's lamp life beyond its 2,000-hour rating.

Sony's VPL-CS4 SuperLite™ projector is also bright enough for almost any environment, and it projects high-contrast images on a diagonal viewing area from 40 to 150 inches. But the machine, which weighs just 5.5 lbs. and ships with a sleek, credit-card-sized remote control and a carrying case, is as portable as it is powerful.

## Projectors That Work Anywhere

Even when Web-based conferencing is available, salespeople and presenters still need to consider the size, weight, and durability — as well as the appearance — of their projectors.

"A lot of the action with Web conferencing software takes place inside organizations," Feerman notes. But for sales and other outside presentations, there are often too many variables at play, from incompatible output devices to Internet firewall restrictions. "That's why you need to carry the technology that will be most reliable and make the best first impression."

Epson's PowerLite projectors incorporate user-friendly features that make costly expansion modules unnecessary. They feature multiple inputs and outputs, including component and DVI inputs, which are compatible with digital and analog signals. PowerLite users will also find that the projectors' lamps are conveniently located, even in ceiling-mounted units.

The PowerLite projectors also ensure peace of mind for the most nervous and least experienced presenters, with a full-featured remote that offers



■ **Epson's PowerLite family of projectors uses a three-panel LCD system to deliver high brightness. The PowerLite 810p projector shown above puts out 2,000 lumens.**

easy-to-use page-up and page-down controls. A starter kit gets presentations up and running within minutes, and Epson's PrivateLine provides toll-free technical support Monday through Friday, 6 a.m. to 6 p.m. PST.

ViewSonic's PJ500 is among the most worry-free projectors in its class. The 5.5-lb. device boasts an easy, one-touch set-up but-

ton, flexible connectivity (users can connect two PCs or two Macs to the PJ500, simultaneously) and native SVGA and compressed XGA (1024 x 768) resolutions. And ViewSonic's free 24 x 7 technical support service will make the PJ500 a no-brainer for a wide range of mobile presenters. (An optional 48-hour "Express Exchange" service is also available for presenters who can spare no downtime while their units are being fixed.)

Sony's VPL-CS4 SuperLite™ projector also makes presentations go more smoothly: with its built-in scan converter, the projector can accept composite video, component video, and RGB video input signals. (The VPL-CS4 accepts signals up to XGA resolution.) The projector's remote control unit controls various functions, and its four-times Digital Zoom and Freeze functions highlight important points and help to reinforce important messages.

The VPL-CS4 SuperLite's Auto Pixel Alignment operation, meanwhile, makes sure the display is correctly sized for optimum picture performance.



**"Projectors are now so affordable, portable, and easy to use — they're showing up wherever people have a need."**

STEVE MARKS, PRESIDENT  
ALTERNATIVE VIEW

## The Perfect Projector

Plasma screens, laser pointers, and other gizmos aside, digital projectors still form the centerpiece of most high-tech presentations. And projectors that meet Feerman's and Marks' criteria, like those from Sony, ViewSonic, and Epson, are the best foundation for presentations that embrace multimedia.

Finding the right projector for any niche should be easy, Marks says. "With all of these choices, just focus on getting exactly the features that you need, instead of what a salesman is trying to push on you."



See the new SleekLine™ 1400 at [pcpowercooling.com](http://pcpowercooling.com)

# Cool Computer Upgrades.

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"If you're building a machine you need to trust, go with PC Power & Cooling products. Get its case, power supply (the best, period), and CPU fan."

John Dvorak

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TURBO-COOL 300 SLIM  
TURBO-COOL 300 ATX  
TURBO-COOL 350 ATX  
TURBO-COOL 450 ATX  
TURBO-COOL 450 A4 (Tyan 2462, 2468)  
TURBO-COOL 450 XE (SuperMicro P4DC6, DCE)  
TURBO-COOL 475 (ATX, A4, XE)  
TURBO-COOL 600 (Tower, ATX, or Sun)

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The innovative SleekLine™ 1400 Mini 1U Computer features Intel's high-performance Micro-ATX Server Board and the amazing Intel Tualatin processor with 512K cache (that's double the cache of a Pentium 4)!

### PERFORMANCE COMPARISON

| COMPUTER          | SIZE (cu. in.) | PERFORMANCE <sup>1</sup> |
|-------------------|----------------|--------------------------|
| SleekLine™ 1400   | 525            | 115 (w/XP)               |
| Dell™ 8200 (2GHz) | 2087           | 106 (w/XP)               |

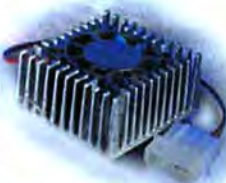
<sup>1</sup> As measured by PC WorldBench 4 (higher no. is better).

SleekLine comes with 256MB SDRAM, 40/100GB hard drive, built-in 10/100 Ethernet, high-resolution 3D graphics, and a versatile, space-saving, USA-made enclosure that can be mounted, stacked, or carried!  
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CPU-COOL Z1-HF (Pentium III, FC-PGA)  
CPU-COOL 1U (Pentium III, FC-PGA, 1U)  
DUAL CPU-COOL X2 (Xeon, redundant)  
DUAL CPU-COOL P4 (Pentium 4, redundant)



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CPU-COOL Z1-H (K6-2, K6-3)  
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# Ditch Your

We survey nearly 5000 cable and DSL users for the lowdown on broadband now, from the best (and worst) providers to new service options and tips for saving money.

**BY BRAD GRIMES**

BROADBAND ISPs HAVE gotten a bad rap lately, but our research into the current state of broadband reveals a surprisingly positive picture. Almost any U.S. Internet user who wants it can get it, with fewer service and installation hassles than in the past. But above all, we found that once people get service, they're hooked.

Cynthia Basinet, a Los Angeles-based vocalist who publishes her recordings on the Web, is one user who won't go back to dial-up. Basinet relies on her broadband



"With my broadband connection, I can compete with other artists who have more resources."

**Cynthia Basinet, vocalist,  
Los Angeles**

service to collaborate with a Canadian multimedia production firm and to keep in touch with music fans worldwide.

But even as Basinet praises broadband, she admits it isn't perfect. In fact, her EarthLink DSL service was down for a few weeks due to a bad modem.

"Going back to [dial-up] temporarily [was] a bit of a hassle," she says, "but I'm a loyalist, and DSL is the only way to fly."

Basinet's story isn't unusual. In our survey of Internet users who either already

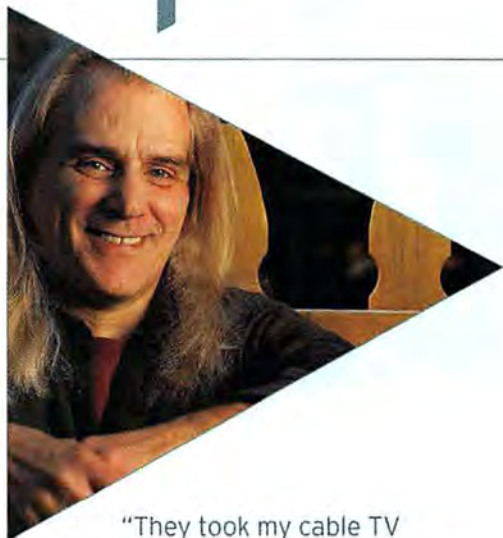


# Dial-Up



"After a while, they said there were no other carriers that could provide service to my home and that my account was being canceled."

**David Worenklein, computer programmer,  
Greenwich, Connecticut**



"They took my cable TV information at the store and had my service up and running before I even got home."

**Bruce Reichert, cable modem user,  
Huntington, New York**

have broadband service or want to get it, most indicated that they are willing to endure installation and support headaches in exchange for fast downloads, streaming media, and freedom from busy signals.

The vast majority of Internet users still dial up, but the number who use broadband is growing rapidly. Broadband accounts are expected to climb from 11.5 million in 2001 to 43.4 million in 2005, according to Amy Harris, program manager for IDC's Broadband Markets and

Technologies group. That's a dramatic rise for a service category that was notorious in the past for installation headaches, spotty availability, and subpar customer support.

If you're still holding out on broadband because you've heard too many horror stories about interruptions in service and disappearing providers, no one could blame you. This article will let you know what you can expect when you're ready to take the plunge, based on the recent experiences of real broadband users. ►





Cynthia Basinet

## COMPARING BROADBAND PROVIDERS

TO GAUGE USER satisfaction with currently available broadband technologies and ISPs, we conducted a survey from August through September 2001 on PCWorld.com. We asked site visitors to describe their overall satisfaction (on a seven-point scale ranging from Extremely dissatisfied to Extremely satisfied) with their broadband ISP service, and to rate the service's installation, performance, features, and value. Though we would have liked to compare ISPs on connection speed, too many uncontrollable variables affect performance to allow us to measure and judge it accurately.

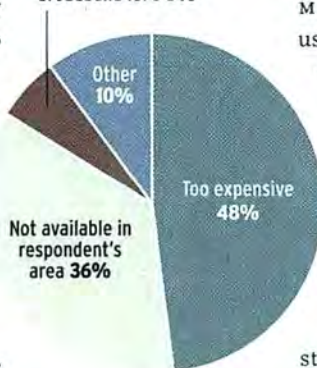
There are many more ISPs in the United States than we could cover in this story, and they have varying service areas and offerings, so we can't make direct comparisons or rank providers. Instead, we provide examples of good pricing, features, and service so that you'll know what to look for when you evaluate the broadband options in your area.

So what did our survey show? For one thing, cable ISPs have had the happiest customers. Slightly more than 76 percent of surveyed cable Internet subscribers said they were Extremely satisfied or Very satisfied with their service. (We conducted our survey before Excite@Home's financial woes caused service interruptions to hundreds of thou-

Over  
**70%**  
of surveyed  
broadband  
users said  
they were  
Extremely  
satisfied  
or Very  
satisfied  
with their  
service.

## DIAL-UP DIEHARDS SAY PRICE IS THE PROBLEM<sup>1</sup>

Lack confidence in  
broadband ISPs 6%



<sup>1</sup>Reasons for not adopting broadband cited by 2138 respondents to PC World's Broadband ISP survey. IDC counted about 37.5 million U.S. dial-up users in 2001. Their reasons for keeping dial-up illustrate broadband's lingering weaknesses.

sands of users.) In contrast, 58 percent of respondents who use DSL and just 36 percent who use satellite were similarly satisfied. Meanwhile, users of less-common fixed wireless rated their service as highly as cable users did theirs.

## CABLE SHAPES UP

IN RECENT YEARS it seemed as if cable Internet would relinquish its market lead to DSL because, as PC World has previously reported, cable providers were known for their terrible customer service.

But lately cable companies have cleaned up their act. Through the National Cable and Telecommunications Association, cable companies have come to an agreement on what good customer service is. They've improved the time it takes to resolve problems, and they're starting to reap the benefits of this change, says IDC's Harris. And significantly, cable is still more widely available than DSL and usually costs less per month, especially when providers offer package deals for TV and Internet.

In addition, most cable systems in the United States can now deliver two-way high-speed access (in the early days of cable-based Internet service, many cable connections delivered data downstream only, so you had to use a dial-up modem to send e-mail, for example). And slowdowns caused by too many users on a cable node at once (exaggerated for comic effect in some DSL ads) haven't materialized, largely because cable providers now monitor bandwidth usage and can quickly allocate new resources to keep performance high.

## CABLE'S HAPPY CAMPERS

MORE THAN TWICE as many cable users as DSL users completed our survey, which mirrors the national ratio of cable to DSL subscribers.

Bruce Reichert, who uses Cablevision's Optimum Online Internet service in Huntington, New York, is quick to rate the company's service as second to none.

Two years ago, Reichert bought the \$130 Optimum Online self-installation package. It contained everything he needed to set himself up. "They took my cable TV information at the store and had my service up before I even got home," says Reichert. Now customers can buy the modem in a store and sign up for the service online.

Our survey confirms that tech-savvy users who have the option to install the hardware themselves like the convenience and the setup-cost savings. In fact, 39 percent of cable users and 76 percent of



## How to Take the High Cost Out of High Speed

**THOUGH THE PRICE OF broadband** can be a barrier for many people, there are some ways to reduce its cost.

**Bargain-hunt for a modem.** Buying your modem outright is cheaper than renting it over the long term. As long as you stick with a modem that your ISP supports, you can buy it anywhere you want.

**Wait for deals.** ISPs frequently run specials to attract new customers. Use the prices listed in our chart on page 73 as a starting point, and look for ISPs to advertise waived start-up fees, free use of a modem, or reduced installation charges.

**Make a commitment, save some money.** ISPs sometimes offer short-term promotional rates, or discounts for long-term contracts. If you already have an ISP, don't be afraid to ask for a lower rate, especially if you've found a better deal elsewhere.

**Do your own home networking.** ISPs now offer home networking packages, but in many instances they're not a great deal. EarthLink, for example, will sell you a router for \$150—not a bad price. But you'll also pay \$10 a month for service and support. You can buy a four-port Ethernet router yourself for less than \$100 and skip

the monthly service charge. See January's *Step-By-Step*, "Set Up a Network in a Snap" ([find.pcworld.com/19061](http://find.pcworld.com/19061)) to find out how to create your own LAN.

**Get reimbursed for downtime.** When your broadband goes out, keep track of how long it's down, but also call the ISP's tech support and have it log your outage as well. When long outages occur, your ISP should credit you for the time you were without service. ISPs' downtime policies vary, so ask whether you'll be credited before you sign that 12-month contract.

—Michael Gowan

DSL subscribers in our survey did so. Broadband service started up much more quickly for cable users than for DSL subscribers, however. Self-installation should mean that your service kicks in sooner, but our survey bore that out only for cable users: 75 percent of cable respondents (and 85 percent of Cablevision users) said their service was installed within two weeks, whereas just 23 percent of national DSL users and 32 percent of regional DSL users said the same. Phone companies must verify that potential DSL subscribers' phone lines are suitable for service, which adds to the wait.

If you can choose between cable and DSL, take a good look at cable first. If you already pay for cable TV, ask about a package discount. Nearly all cable providers allow self-installation, which can reduce installation fees by more than half. And make sure you can buy your cable modem. (Typically, these cost around \$200.) AT&T subscribers, for example, can buy a modem for \$199 or rent one for \$10 per month—which adds up to \$240 over two years and pushes the service fee as high as \$56 per month.

### NO ONE @HOME

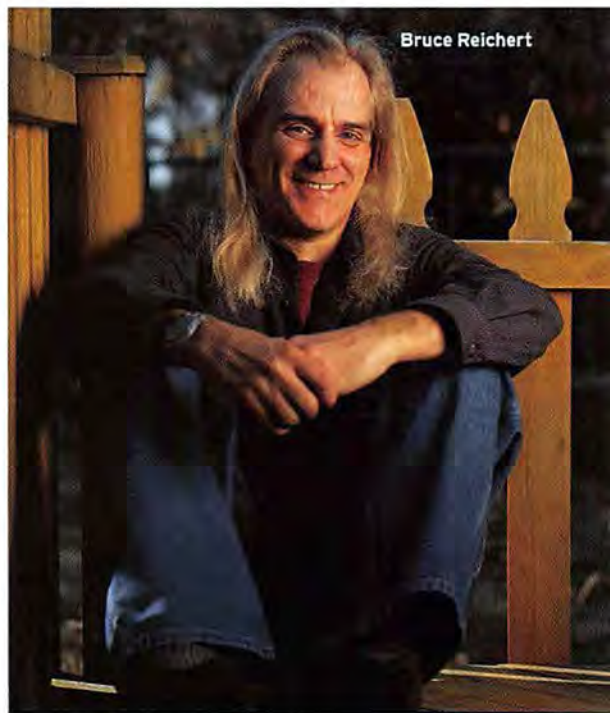
CABLEVISION WASN'T the only high-scoring cable ISP in our survey. Cox Communications and Road Runner also earned high marks, and users praised both ISPs for their connection speed and reliability, as well as for their service and technical support.

Cox is one of several cable companies (Adelphia, AT&T, Charter Communications, and Comcast are among the others) whose customers were served by Excite@Home, the owner and operator of a

89%  
of people  
surveyed  
pay \$50 a  
month or  
less for their  
broadband  
service.

large physical cable Internet network. But in October 2001, Excite@Home filed for Chapter 11 bankruptcy protection, and at press time the company was scheduled to shut down in February 2002. Cox, Comcast, and other resellers of Excite@Home were left scrambling to build out their own networks or find other infrastructure providers.

During its bankruptcy proceedings in early December 2001, Excite@Home terminated service to about 850,000 AT&T Broadband subscribers. ▶



Bruce Reichert



The AT&T customers lost their service for anywhere from one day to one week, and many complained of having difficulty eliciting information from AT&T about when service would be restored.

Regardless of who owns the infrastructure, each ISP has its own installation, billing, and tech support policies, all of which directly affect consumers. Ordinarily you can't choose among cable ISPs because of cable companies' local monopolies, but you can check out your local cable provider's service policies before you opt in.

### DSL'S UPHILL BATTLE

DSL PROVIDERS have struggled lately. Although many DSL users still love their ISPs, only 58 percent of surveyed DSL users said they were Very satisfied or Extremely satisfied with their service. Part of the problem, says Cahners In-Stat Group senior analyst Ernie Bergstrom, is that many DSL users were stranded when NorthPoint Communications and Rhythms NetConnections, which provided lines to retail ISPs, went out of business (see "What to Do When Broadband Providers Close Down," on page 76). Having been burned, many abandoned customers are understandably wary of DSL; other DSL users have run into other service issues.

In 2001 major DSL providers raised prices, making an already expensive service even costlier. Today, consumer DSL costs about \$50 per month on average. You shouldn't have to pay more than that (unless you're ordering a special service).

Two of the biggest problems plaguing DSL are faulty and slow installations, Bergstrom says. Our survey confirms that assessment. For example, 22 percent of Verizon customers surveyed said it took between one and two months to get connected.

Joe Potts, a Lockheed Martin software engineer from Rockville, Maryland, knows how hard it can be to get DSL. Potts signed up for Verizon DSL back when the company was called Bell Atlantic.

"Ordering was simple and done completely online," Potts explains. But getting the service to work took several attempts and multiple calls to customer service, with typical waiting times on hold of 40 to 75 minutes. "They finally told me I had a broken modem and promised to send out a new one," says Potts. "In the meantime, I asked a Windows-savvy friend for help and he got my so-called broken modem working. Finally, I was online."

Despite the rough installation, subsequent service outages, and a required \$99 modem upgrade, Potts is now happy with Verizon DSL. ▶

## FEATURES COMPARISON

# Broadband Packages Vary Widely

| VENDOR   | U.S. coverage area (by state) *  | Contract type(s) |
|--|--|------------------|
| <b>DSL</b>   |  |                  |
| America Online<br><a href="http://www.aol.com">www.aol.com</a>   | All states except AK and ME  | Monthly          |
| BellSouth<br><a href="http://www.fastaccess.com">www.fastaccess.com</a>  | AL FL GA KY LA MS NC SC TN   | Monthly          |
| EarthLink<br><a href="http://www.earthlink.net/broadband">www.earthlink.net/broadband</a>                        | All states except AK   | Annual           |
| Hughes DirectTV<br><a href="http://www.directvdsi.com">www.directvdsi.com</a>                                    | AL CA CO DC DE FL GA IL IN KS KY LA MA MD MI MN MO MS NC NH NJ NY OH OK OR PA SC TN TX UT VA WA WI | Monthly/annual   |
| Qwest/MSN<br><a href="http://www.qwest.com/dsl">www.qwest.com/dsl</a>  | AZ CO IA ID MN MT NE ND NM OR SD UT WA WY  | Monthly          |
| SBC Ameritech<br><a href="http://www.ameritech.com/dsl">www.ameritech.com/dsl</a>                                | IL IN MI OH WI   | Monthly/annual   |
| SBC Pacific Bell<br><a href="http://www.pacbell.com">www.pacbell.com</a>   | CA   | Monthly/annual   |
| SBC Southwestern Bell<br><a href="http://www.swbell.com">www.swbell.com</a>                                      | AR KS OK MO TX   | Monthly/annual   |
| Verizon<br><a href="http://www.verizon.com">www.verizon.com</a>  | CA CT DC DE FL HI IL IN KY MA MD MN MO NC NH NJ NY OR PA RI TX VA VT WA WI WV                      | Monthly          |
| <b>CABLE</b>   |  |                  |
| Adelphia<br><a href="http://www.adelphia.com/internet">www.adelphia.com/internet</a>                             | CA CO GA ID IN KS KY ME MT NC TN WA  | Monthly          |
| AT&T<br><a href="http://www.attbi.com">www.attbi.com</a>   | CA CO CT FL GA IL MA MN OR PA TX UT VA WA  | Monthly          |
| Cablevision Optimum Online<br><a href="http://www.cablevision.com">www.cablevision.com</a>                       | CT NJ NY   | Monthly/annual   |
| Charter Communications<br><a href="http://www.chartercom.com">www.chartercom.com</a>                             | All states except: AK AZ HI IA ME MT ND NJ RI SD WY  | Monthly          |
| Comcast<br><a href="http://www.comcastonline.com">www.comcastonline.com</a>                                      | AL AR AZ CT DC DE FL GA IL IN KS KY MD MI MO MS NJ NM PA SC TN VA                                  | Monthly          |
| Cox Communications<br><a href="http://www.coxcable.com/highspeedinternet">www.coxcable.com/highspeedinternet</a> | AR CA CT FL GA ID KS LA MO MS NC NE NM NV OH OK RI TX VA   | Monthly          |
| Road Runner<br><a href="http://www.roadrunner.com">www.roadrunner.com</a>  | AL CA FL HI IN KS LA ME MI MN MO MS NC NE NJ NY OH OK SC TN TX VA WI                               | Monthly          |
| <b>SATELLITE</b>   |  |                  |
| Hughes Network Systems DirecWay<br><a href="http://www.direcway.com">www.direcway.com</a>                        | National (50 states)   | Monthly          |
| Echostar Starband<br><a href="http://www.starband.com">www.starband.com</a>                                      | National (50 states)   | Annual           |

n/a = Not available.

\* Line conditions and distance to central offices limit availability of broadband coverage in each state. \*\* Start-up fees may be waived with packages or special offers. \*\*\* Monthly pricing varies.



|  | Number of e-mail accounts | Installation, equipment, activation <sup>2</sup> | Cost of self-installation kit | Monthly fee <sup>3</sup> | Data transmission speeds (upstream/downstream) <sup>4</sup> | Web site storage <sup>5</sup> | Dial-up access (cost/hours per month)  | Additional features/comments  |
|--|---------------------------|--|-------------------------------|--------------------------|---|-------------------------------|--|---|
|  | 7                         | \$0, \$0, \$0                                    | \$0 <sup>6</sup>              | \$55                     | 128 kbps-256 kbps/640 kbps-1.5 mbps                         | 12MB per account              | Free/unlimited                         | Monthly fee includes required AOL membership.   |
|  | 5                         | \$200, \$75-\$125, \$50                          | \$0                           | \$40-\$50                | 256 kbps/1.5 mbps   | 10MB                          | Free/20                                | BellSouth subscribers are eligible to receive a free electronic copy of Norton Personal Firewall.   |
|  | 8                         | Varies, <sup>7</sup> \$0, \$0                    | \$0                           | \$50                     | 128 kbps/1.5 mbps   | 10MB                          | Free/20                                | EarthLink offers a static IP address for an additional \$15 per month, and home networking for \$10 more per month. Service includes a free ZoneAlarm firewall. |
|  | 5                         | \$0, \$0, \$50                                   | \$0 <sup>6</sup>              | \$50                     | 128 kbps/1.5 mbps   | 10MB                          | Free/1                                 | DirectTV DSL connects via a gateway. Connect and Protect program (\$10 per month) includes home networking, virus screening, a firewall, and spam filtering.    |
|  | 8                         | \$150, \$150, \$99                               | \$0                           | \$50                     | 256 kbps/640 kbps   | 0-5MB                         | None                                   | Owest offers several DSL packages with MSN, which can include discounts for one-year contracts, optional dial-up service, and free modem use.                   |
|  | 5                         | \$200, \$99, \$50                                | \$0                           | \$50                     | 128 kbps/768 kbps   | 2MB per account               | Free/unlimited                         | For a fee, this regional phone company offers Web hosting and Web site creation software.   |
|  | 11                        | \$200, \$99, \$50                                | \$0                           | \$50                     | 128 kbps/384 kbps-1.5 mbps                                  | 15MB                          | Free/unlimited                         | Enhanced DSL packages from SBC Pacific Bell range from \$65 to \$180. Subscribers get a 30-day trial version of McAfee antivirus software.                      |
|  | 11                        | \$200, \$99, \$50                                | \$0                           | \$50                     | 128 kbps/384 kbps-1.5 mbps                                  | 15MB                          | Free/unlimited                         | Enhanced DSL packages range from \$65 to \$180. Subscribers get a 30-day trial version of McAfee antivirus software. Web hosting is available.                  |
|  | 4                         | \$0, \$200, \$50                                 | \$0                           | \$50                     | 128 kbps/768 kbps   | 10MB                          | \$9 per month/20                       | Verizon's "DSL advanced" package costs \$60 and offers downstream speeds of 1.5 mbps. Static IP addresses are available to some users.                          |
|  | 4                         | \$99, \$0, \$0                                   | \$0                           | \$43                     | 128 kbps/3 mbps   | 5MB                           | None                                   | Connections are limited to one PC per house. PowerLink one-way service provides high-speed cable downstream and dial-up upstream for \$35 per month.            |
|  | 7                         | \$100, \$200 or \$10/month, \$0                  | \$50                          | \$46                     | 128 kbps/1.5 mbps   | 10MB                          | None                                   | AT&T now serves customers from its own network. Subscribers can buy up to four additional IPs for \$5 each per month.   |
|  | 5                         | \$50-\$150, \$130, \$0                           | \$0                           | \$30-\$40                | 1 mbps/10 mbps  | None                          | None                                   | Cablevision does not currently offer static IP addresses. Connection does not support more than one PC.   |
|  | 5                         | \$50, \$5/month, \$0                             | \$25                          | \$35-\$40                | 128 kbps/512 kbps   | 5MB                           | None                                   | Charter allows users to connect up to two additional PCs via a LAN, and the company offers discounts to digital cable television subscribers.                   |
|  | 7                         | \$150, \$200, \$0                                | \$50                          | \$50                     | 128 kbps/1.5 mbps   | 10MB                          | \$15 setup fee, \$9 per hour/unlimited | Comcast offers discounted Internet service to cable television subscribers. Additional IP addresses are available for \$7-\$10 each per month.                  |
|  | 7                         | \$50 or \$150, \$200 or \$15/month, \$0          | \$30                          | \$35                     | 256 kbps/3 mbps   | 10MB per account              | \$10 per month/unlimited via AOL       | Cox offers package deals with digital TV and digital phone service. Cox is testing a home networking service in some regions.                                   |
|  | 5                         | \$100, \$0, \$0                                  | Varies                        | \$50                     | 768 kbps/2 mbps   | 5MB                           | Free/unlimited                         | When packaged with Time Warner cable television, monthly fee is \$45.   |
|  | 1                         | \$199, \$399, \$0                                | n/a                           | \$70                     | 60 kbps/500 kbps  | 10MB                          | Free/20 minutes                        | Also offers one-way satellite Internet service (\$50 per month); home networking is not available.  |
|  | 10                        | \$199, \$549, \$5/month                          | n/a                           | \$70                     | 40 kbps-60 kbps/600 kbps                                    | 10MB                          | None                                   | Offers two-way Internet service—at optimal speeds—that doesn't require dial-up. Discounted deals package Starband and Dish TV services.                         |

depending on package chosen. Prices cited do not include modem rental. <sup>4</sup> Line speeds quoted by ISP. Actual speeds will vary. <sup>5</sup> Amount available for e-mail messages and/or Web pages. <sup>6</sup> Professional installation not available. <sup>7</sup> EarthLink does not offer installation service. Cost of professional installation is determined by the retailer offering sign-up.



## THE SOUTH RISES UP

DSL AVAILABILITY continues to be spotty because typically a user must be located within 18,000 feet of a provider's central offices. But BellSouth, a regional Bell, has upgraded some of its remote terminals to handle DSL, and it can now reach more than 70 percent of the households in its area.

And that's not all BellSouth has done right. By aggressively pushing its service through discounts and through package deals with Dell, the company is gaining satisfied subscribers.

In our survey, more BellSouth users (78 percent) considered themselves Extremely satisfied or Very satisfied than users of any other regional or national DSL provider. EarthLink placed second in overall satisfaction, with 63 percent.

When it came to connection performance and ongoing support, BellSouth users were as pleased as cable users. Among regional providers, Pacific Bell and Southwestern Bell trailed other ISPs. Just 29 percent of Pacific Bell customers and 38 percent of Southwestern Bell subscribers in our survey rated their ISP as Extremely good or Very good for ongoing service and technical support.

National DSL providers also have a long way to

DSL users  
waited up  
to **2** weeks  
longer for  
service than  
did other  
broadband  
subscribers.

go in subscriber satisfaction. America Online had the fewest happy DSL customers, with only 47 percent calling themselves Extremely satisfied or Very satisfied. In particular, they noted displeasure with AOL's installation, connection performance, and support. In overall satisfaction, 51 percent of DirecTV subscribers and 63 percent of EarthLink customers gave their services top scores. Though national service providers have their work cut out for them, some are succeeding on at least some measures. Of the EarthLink subscribers we surveyed, 63 percent rated the features the ISP offers as Very good or Extremely good—a higher score than any other DSL provider received and comparable with that of the best-rated cable ISPs.

## LOOK, UP IN THE SKY

THE RUNT OF the broadband litter has always been satellite. Characterized by difficult, expensive installations, notoriously poor service, and suspect performance, the service meant for anyone who can't get cable or DSL has ceased to be a serious option. See "Tuning In on Wireless Broadband" below before you settle on satellite.

Of the 4724 broadband users in our survey, just 47 people reported using EchoStar Starband and ▶

## ALTERNATIVES

## Tuning In on Wireless Broadband



IN SEPTEMBER 2000, retired Air Force Chief Master Sergeant Tom McDaniel couldn't get a DSL or cable connection at his home in Colorado Springs. But he

had a relatively unobstructed view of Cheyenne Mountain, upon which Sprint had recently built an antenna tower for delivering wireless broadband.

"Sprint Broadband Direct was the first high-speed connection available to me, so I took it," says McDaniel. "These days I could get DSL or cable, but I have no complaints with my wireless connection."

Fixed wireless isn't like satellite service or cellular. Setup involves attaching a radio antenna to the subscriber's building; the antenna then receives signals from the ISP's tower and sends them to a broadband

modem attached to the subscriber's computer. For current fixed-wireless products, a fairly clear line of sight between antenna and tower is necessary, but more-flexible technology is in the works.

## SHARED AIRWAVES

LIKE USERS OF CABLE Internet services, fixed-wireless users must share bandwidth (in this case, airwaves); so the more people online, the slower the connection. But since fixed wireless has fewer than 100,000 U.S. subscribers, there's plenty of bandwidth to go around. "I normally get DSL speeds," says McDaniel, "but there are times when I hit 2 or 3 megabits per second."

Pricing for fixed wireless varies. In our survey, 76 percent of fixed-wireless users said they were satisfied with the value of their service. Mike Paxton, a senior analyst with Cahners In-Stat Group, says that

fixed-wireless subscribers pay about \$10 more per month on average than cable or DSL subscribers pay. McDaniel's monthly bill for Sprint Broadband Direct is \$45. And he says he's pleased with the standard of service he gets for his money.

Unfortunately, finding a fixed-wireless service provider is getting harder. Last October, Sprint announced that it would maintain service to its current subscribers but wouldn't add new ones. Soon thereafter, AT&T scrapped its entire fixed-wireless service. And although smaller players exist in the fixed-wireless market, Sprint and AT&T clearly control the lion's share.

McDaniel says that he's ready to switch to EarthLink DSL if Sprint decides to drop fixed wireless completely. For now, his biggest Internet concern is a tree growing in his neighbor's yard. "If it grows any bigger, it may block our access," he says.



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CREATIVE



33 said they used DirecWay (formerly DirecPC). Though neither number was large enough for us to draw meaningful conclusions about those ISPs, the combined results give a dismal impression of satellite service. If EchoStar's bid to acquire General Motors' Hughes Network Systems (the company that offers DirecWay) succeeds, the two ISPs may become one in the near future; but the reduction in competition and the chaos that can follow a merger may mean worse service for satellite users.

Our survey results reveal where satellite is stumbling. First, our satellite respondents waited almost a month for installation. That may be due to FCC regulations, which require professional installation. But the FCC doesn't regulate satellite Internet prices, which range from \$60 to \$70 per month (not including installation and dish purchase) and are higher than the prices for almost any other broadband option. Deals that combine satellite TV and Internet access may lower your monthly bill, but not enough to compete with cable packages.

Expect to pay  
\$100  
to  
\$200  
for a cable  
modem.

Moreover, 28 percent of the satellite subscribers we surveyed rated their ongoing service and support as Extremely poor, and 13 percent called their connection performance Extremely poor.

Satellite appears to be the only broadband type facing substantial issues now, though. Cable users are the happiest bunch, and DSL customers—once their lines are hooked up—are generally satisfied.

The bottom line: Broadband is the real deal. More PC users than ever have access to it, and improvements to the major services make broadband even more attractive. Deciding on a service may be as easy as learning which one operates in your area. But as your choices expand, it helps to find out what others think about the ISPs that serve your area. Look for features like package deals, self-installation, and free dial-up. And check out "How to Take the High Cost Out of High Speed" on page 71 for tips on reducing broadband costs.

Brad Grimes is a contributing editor for PC World. ■

## MARKET WATCH

# What to Do When Broadband Providers Close Down

DESPITE THEIR TOLERANCE for occasional service hiccups, broadband users tend to go ballistic when their service goes down with no promise of ever coming back (see "Surviving the ISP Shuffle," page 33).

Before Excite@Home's bankruptcy and service disruptions gave cable Internet a fresh black eye, a string of company failures made DSL seem especially risky. North-

Point Communications sold DSL bandwidth to retail ISPs, including EarthLink and MSN. With little warning, NorthPoint shut down its network in March 2001, leaving customers in the lurch nationwide.

David Worenklein, a computer programmer in Greenwich, Connecticut, was one NorthPoint casualty. When NorthPoint went under, Worenklein's ISP said it would try to find him a new service provider.

"They said there were no other carriers that could provide service to my home," says Worenklein. "But that didn't make sense to me, so I did some research and found AceDSL. About a month later, I was online with DSL again."

After NorthPoint shut down, Rhythms NetConnections went bankrupt. Most recently, Covad Communications filed for Chapter 11 protection, although it probably will survive its reorganization. Phone companies were left to placate angry consumers. The history lesson is clear: Broadband providers have proved to be volatile, so subscribers must prepare to have their connection yanked at some time. Here are

some ideas for picking a robust ISP, and tips for hooking up with a new ISP fast.

**Investigate your Baby Bell.** A phone company is probably a reliable first-choice ISP. After all, it's unlikely to go under anytime soon. But don't sign up with your regional Bell before evaluating its services.

**Research your options.** Pay a visit to DSLreports ([www.dslreports.com](http://www.dslreports.com)) and evaluate the ISPs in your area. Compare costs and features to create a shortlist of ISPs you might turn to for backup.

**Know the ISPs' ISPs.** Find out who provides the physical lines to your ISP. If your ISP's bandwidth provider seems to be on shaky ground, it's probably a good time to find an alternate ISP.

**Plan your time.** Call some ISPs and find out how quickly they could install new service for you. Although many DSL providers have cut their installation times to a few weeks, others still take a month or longer.

**Have a backup.** Your broadband provider should give you a dial-up account, either free or at a reduced fee, so you can remain online even if your broadband goes out.



David Worenklein



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## Dell | Home Notebooks



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- 3-Yr Limited Warranty<sup>1</sup> 3-Yr Mail-In Service, 3-Yr 24x7 Phone Support, add \$119

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## Dimension™ 4300S Desktop

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- 17" (15.9" vis., 27dp) E771 Monitor
- 16MB ATI Rage Ultra Graphics Card
- 48X Max CD-ROM Drive
- 16X/10X/40X CD-RW Drive with Roxio's Easy CD Creator
- SB Live! 1024V Digital Sound Card
- Harman Kardon HK-195 Speakers
- 56K\* PCI Telephony Modem for Windows

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### Recommended upgrades:

- 256MB SDRAM, add \$80
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- Harman Kardon HK-395 Speakers with Subwoofer, add \$30

## Dimension 8200 Desktop

### Cutting Edge Technology

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- 40GB\* Ultra ATA/100 Hard Drive (7200 RPM)
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- 64MB NVIDIA GeForce2 MX Graphics Card with TV-Out
- 16X Max DVD-ROM Drive
- 16X/10X/40X CD-RW Drive with Roxio's Easy CD Creator
- SB Live! 1024V Digital Sound Card
- Harman Kardon HK-395 Speakers with Subwoofer
- 56K\* PCI Telephony Modem for Windows

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## Dell | Standard Features

Each DELL system shown here has a number of standard features, including:

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- Dimension Desktops shown here include 1-Yr Limited Warranty; 1-Yr At-Home Service; 1-Yr 24x7 Phone Support
- Inspiron Notebooks shown here include 1-Yr Limited Warranty; 1-Yr Mail-In Service, 1-Yr 24x7 Phone Support

## Dell | Solutions

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- HP® Office Jet PSC-950 Print Center \$349 after \$50 Mail-in rebate (reg. \$399)<sup>14</sup>

#### Scanners:

- HP ScanJet 4400Cse \$99 after \$50 Mail-in-rebate (reg. \$149)<sup>15</sup>
- HP ScanJet 4470Cse \$149 after \$50 Mail-in-rebate (reg. \$199)<sup>16</sup>

#### Cameras:

- HP Photosmart 318 Digital Camera \$149 after \$50 Mail-in-rebate (reg. \$199)<sup>17</sup>
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# Browsing & Beyond

We pick 13 must-have tools for today's Internet, including the best in browsers and add-ons, e-mail, instant messaging, and much more. **BY SCOTT SPANBAUER**

**Socks, toasters, Internet software.** What do these things have in common? They're essen-

tial, yet we take them for granted. ♦ But your Internet tools really deserve a little more of your attention. While the world's great minds aren't obsessed with eliminating itchy socks or scorched toast, some very smart people are working overtime to perfect Internet applications. The best tools can make a real difference in how efficiently and safely you travel the Web. ♦ To help you find the best Internet applications, we evaluated the newest versions of leading products in four major areas: Web browsers, e-mail programs, instant messaging clients, and digital media players. In each category, we compared the products' features; their compatibility with Internet standards, services, and file types; their security and privacy functions; and their prices. Then we picked a winner in each category. ♦ But getting the most out of the Net—and avoiding some of its annoyances—requires more than just these major applications. We also recommend specialized programs that will help you dodge Web ads and privacy intrusions, discover even more information in cyberspace, and stay safe while you're surfing. ♦ Download these programs (most are free and all are available at [find.pcworld.com/19121](http://find.pcworld.com/19121)), and you'll find

you love the Internet  
so much, you'll  
want to give your  
next child the  
initials  
www.



# BROWSERS

## BEST BET:

Internet Explorer 6 ★★★★★

## OTHER CONTENDERS:

Netscape 6.2 ★★★★★

Opera 6 ★★★★★



A FEDERAL JUDGE and government antitrust attorneys (at least ones from the Clinton administration) say that Internet Explorer dominates the browser market because Microsoft used its industry muscle to shove worthy competitors like Netscape and the Norwegian browser Opera off desktops.

That may be true, but our tests showed that there's another reason IE rules: It's a really good browser.

The latest version, Internet Explorer 6 (free; [find.pcworld.com/17165](http://find.pcworld.com/17165)), is fast, smooth, and easy to customize. IE also allows you to permanently store a page, along with the pages it links to, on your hard drive for offline viewing—great for researchers. It seldom has trouble rendering a Web page correctly, and it offers extensive control over privacy and security concerns.

Netscape 6.2 (free; [home.netscape.com/computing/download/](http://home.netscape.com/computing/download/)) is nearly as graceful and powerful a browser. But its interface can't be so easily rearranged; it can save a page but not the pages it links to; and it occasionally stumbles over a complicated Web page, jumbling table elements or scrambling images. And though Opera 6 (free with ads, \$39 without; [www.opera.com](http://www.opera.com)) is excellent in many respects, it too lacks several key features, including IE's ability to save a page along with the pages it links to for offline viewing. In our informal tests, Opera made the most errors rendering pages. In addition, in Opera's free version you lose a chunk of your browser window to advertising.

What separates a great browser from a

good one is how well its controls, menus, and toolbars are arranged, and how easily you can tweak its user interface. IE's interface is uncluttered, and its buttons and menus are easy to understand.

## THE CHAMELEON BROWSER

NEED ONE-CLICK access to the Klingon Language Institute home page? Use IE's easily modified Links toolbar, with quick-access bookmarks for your favorite sites. To add a link, just drag the icon from the address field and drop it on the toolbar. If your intense study of Klingon syntax means you no longer have time to visit the International Paperweight Society site, just right-click the Society's link in the toolbar and choose Delete. The rest of

IE's interface is almost as easy to configure: You can size toolbars horizontally, drag and drop them into new positions, and add or remove any menu button or command that you wish.

Netscape, however, isn't quite as

configurable. You can drag links from its address field to its Personal Toolbar, but if you want to get rid of the preinstalled links to Netscape's shopping page or its corporate partner Net2Phone, you have to drill into the Preferences menu.

One part of Netscape 6.2's interface we liked was My Sidebar, which packs a search tool, an instant messaging client compatible with AOL's messenger, a stock ticker, a news ticker, a history list, and bookmarks into a vertical tabbed window. And you can find dozens of other My Sidebar tabs online. They range from the useful, like information on Windows 98 annoyances, to the obscure, like breaking news on television sitcom actress Amy Pietz (surely you remember her from the classic *The Weber Show*).

All three browsers offer tools for managing bookmarks and sorting through your surfing history. But IE's unique abil-



## NET FILTERS

### Hands Off My Browser!

WANT TO EXPERIENCE the Internet free of pop-ups, banners, and unwanted cookies? These programs will help.

#### BAN THE BANNERS



ONE OF THE irritations we all encounter when browsing the Web is the advertising embedded in nearly every page, not to mention the pop-up windows. If you want to clear out the sales pitches, get WebWasher 3 ([www.webwasher.com](http://www.webwasher.com)). Free for home and educational use (\$29 for other users), WebWasher filters out ads, pop-ups, embedded scripts, third-party cookies, Web bugs, and other bits of Web programming. It even offers no-configuration-necessary installation.

#### CONTROL YOUR COOKIES



NEWER BROWSERS offer you increasingly sophisticated controls over which cookies Web sites can write to your hard disk. But those settings are hardly automatic. The Limit Software's \$15 Cookie Crusher ([www.thelimitsoft.com/cookie.html](http://www.thelimitsoft.com/cookie.html)) gives you more assistance in categorizing and automating cookie options than your browser does, showing you a detailed description of each cookie and its purpose, and allowing you to permanently reject or accept it in future site visits. To see if the utility does what you want, download the free demo version.

ity to save pages for offline viewing—as extensively as three links deep—is a boon to laptop users often disconnected from the Net. For example, to read today's PCWorld.com on the plane, you can have IE pull down the home page plus all the pages immediately linked to it.

No browser is guaranteed to display every Web page perfectly; we found pages with elements disordered or missing in



all three contenders, though IE exhibited the fewest problems. IE consistently feels a little snappier than Opera or Netscape when loading pages (however, we didn't formally clock the browsers).

All three browsers let you disable Java and JavaScript, which developers can use to create pop-up windows and other on-screen effects. IE provides the most detailed control over browser security (although it also incorporates the notoriously insecure ActiveX controls). If you know what you're doing, you can configure IE to run only the scripts and controls you approve, on a site-by-site basis.

## E-MAIL CLIENTS

### BEST BET:

**Outlook Express 6** ★★★★★

### OTHER CONTENDERS:

Outlook 2002 ★★★★★

Netscape Mail 6.2 ★★☆☆☆

Eudora 5.1 ★★☆☆☆

Pegasus Mail 4 ★★☆☆☆



YOU MAY SPEND more time in your in-box than in spreadsheets. So you'll want to be able to rearrange that

environment to fit your working style—and to be able to lock the door at night knowing your data is safe. You can do both with Microsoft's Outlook 2002 and its Outlook Express 6. Each offers an interface smoother than other clients' and the ability to handle e-mail from multiple accounts and servers. Because both programs have been the punching bags for notorious viruses like last year's Nimda and SirCam, Microsoft has added strict new security measures to these versions.

Outlook 2002 (\$109), with its calendar and to-do list, is great for getting organized. But for a good, basic e-mail ►

### TOP PICKS

**Best  
BET**

## The Scoop on Our Favorite Net Tools

| CATEGORY            | Product name  | Why we like it  | Price                                       |
|---------------------|---|---|---|
| Browser             | Microsoft Internet Explorer 6<br><a href="http://find.pcworld.com/17165">find.pcworld.com/17165</a>                         | Easy to configure. Caches pages for offline viewing and provides extensive security controls.                                     | Free  |
| E-mail client       | Microsoft Outlook Express 6<br><a href="http://find.pcworld.com/17165">find.pcworld.com/17165</a>                           | Offers strong security measures and a smooth interface. Can accommodate many users with multiple e-mail accounts.                 | Free with Internet Explorer and Windows     |
| Instant messaging   | AOL Instant Messenger<br><a href="http://www.aol.com/aim">www.aol.com/aim</a>   | Has a simple interface but still gives you powerful features like multiuser chat and voice chat.                                  | Free  |
| Media player        | RealNetworks RealOne<br><a href="http://www.real.com">www.real.com</a>  | Attractive, simple-to-use interface. Copies music to both its own format and MP3.   | Free version and paid versions <sup>1</sup> |
| Ad blocker          | WebWasher 3<br><a href="http://www.webwasher.com">www.webwasher.com</a>   | Filters out ads, pop-up windows, scripts, cookies, Web bugs, and other Web annoyances.  | Free for non-commercial use                 |
| Cookie manager      | The Limit Software Cookie Crusher<br><a href="http://www.thelimitsoft.com/cookie.html">www.thelimitsoft.com/cookie.html</a> | Provides detailed control over the bits of code that Web sites and advertisers use to identify you.                               | \$15  |
| Newsgroup reader    | Forté Free Agent 1.21<br><a href="http://www.forteinc.com">www.forteinc.com</a>   | Great for offline news reading, and for downloading and decoding batches of file attachments.                                     | Free  |
| File sharing system | BearShare 2.3<br><a href="http://www.bearshare.com">www.bearshare.com</a>   | Anonymous, and easy for former Napster users to understand.   | Free  |
| Metasearch engine   | Copernic 2001 Basic<br><a href="http://www.copernic.com">www.copernic.com</a>   | Searches as many as 80 engines in seven categories.   | Free, ad-supported                          |
| Web archiver        | AskSam SurfSaver 2.2<br><a href="http://www.surfsaver.com">www.surfsaver.com</a>  | Gives you great control over what's saved, creates searchable archives, and works with Netscape Navigator 4.x and IE 4 or higher. | Free, ad-supported                          |
| Web authoring       | Evrsoft 1st Page 2000<br><a href="http://www.evrsoft.com">www.evrsoft.com</a>   | Includes samples for creating Web effects, allows real-time previews, and grows with your skills.                                 | Free  |
| File transfer       | RhinoSoft.com FTP Voyager 8<br><a href="http://www.ftpvoyager.com">www.ftpvoyager.com</a>                                   | Offers a sophisticated interface and a transfer scheduler. Allows for one-click Web site synchronization.                         | \$40  |
| Firewall            | Zone Labs ZoneAlarm 2.6<br><a href="http://www.zonelabs.com">www.zonelabs.com</a>   | Blocks hackers trying to access your system. Prevents applications on your PC from gaining unauthorized Internet access.          | Free for personal and nonprofit use         |

<sup>1</sup> Monthly fees of \$10 or \$20 (depending on the options selected) allow access to premium content and advanced software.



client that doesn't cost a cent, we recommend Outlook Express, which comes with Windows and Internet Explorer.

Both Qualcomm's Eudora 5.1 (free with ads, \$50 without; [www.eudora.com](http://www.eudora.com)) and Netscape's Mail (included with Netscape 6.2) are more-than-adequate programs. But their security isn't as ironclad and they aren't quite as versatile or flexible.

Pegasus Mail 4 ([www.pmail.com](http://www.pmail.com)) is likewise competent, and it's free. It's also highly secure against e-mail viruses and hackers, but the safety comes at the expense of compatibility with HTML-format messages.

### E-MAIL ELEGANCE

LIKE INTERNET EXPLORER, the Microsoft e-mail programs are the easiest to rearrange to fit your needs. They allow you to drag and drop toolbars and add

### WEB SECURITY

## Fend Off Attacks With a Firewall

**ZA** BEING CONNECTED to the Internet is a risk. Aspiring cybercriminals would love to break into your computer to find passwords and personal information, or plant a Trojan horse program that gives them remote control over your PC. Zone Labs' ZoneAlarm 2.6 ([www.zonelabs.com](http://www.zonelabs.com)) is a top-notch free (for personal use) firewall that makes your computer invisible to outsiders. It also blocks unauthorized access to the Internet by programs running on your system, a lifesaver if a hacker has previously slipped a Trojan horse into your PC or if you've downloaded a program that's spying on your computing activity.



or remove just about any button or field.

All the programs let you check more than one e-mail account, and they all offer access to standard POP3 and IMAP Internet mail servers, but Outlook and Outlook

Express add the capability to check Hotmail or another Web-based mail service. If you have America Online, Netscape (owned by AOL Time Warner) can grab your mail, whether you are connected through AOL or not. (See *Internet Tips* on page 148 for more on mail software and service compatibility.) Outlook Express has the easiest system for setting up multiple user identities, each with multiple e-mail accounts, making it the top choice for office mates or family members who share a single computer.

Pegasus was the only program that had difficulty displaying richly formatted HTML mail. Among the problems: improperly aligned page elements and an inability to download linked images.

### KEEPING YOUR GUARD UP

E-MAIL PROGRAMS are the doorways viruses use to enter your system, so you need all the security you can get. Pegasus is fairly safe simply because it offers little support for the technologies viruses use as their unwitting henchmen: Java, JavaScript, and ActiveX. Because Microsoft's mail programs are highly programmable, they have been vulnerable in the past to sneaky mail viruses that can send themselves automatically to others in your address book and delete files from your hard disk. In the latest versions, though, Microsoft has responded to the threat by building in multiple layers of safeguards that block almost every type of scripted attack. Neither program will let you open an extensive list of vulnerable file types—unless you turn off the safeguards. Eudora handles the problem by preventing you from launching any

### FILE FINDERS


## Kindness of Strangers

USING THE WEB is a great way to get advice and data from people you've never met. These apps make it easier.

### ALL THE NEWS FIT TO SERVE

 THE PUBLIC Usenet system, along with private NNTP news servers run by companies like Microsoft and Netscape, are the Net's unsung information sources. The posts on these servers can give you, for example, up-to-the-minute user-to-user support and the scuttlebutt on just about any product you can imagine. All three leading browsers include a competent newsreader. But if you really want to winnow the onslaught of newsgroup postings down to something manageable, you need a dedicated tool like Free Agent 1.21 by Forté ([www.fortelinc.com](http://www.fortelinc.com)). It doesn't do everything—for instance, you can't read news on both your ISP's server and Microsoft's (just one or the other)—but it excels in offline news reading and in downloading and decoding batches of file attachments, such as images and MP3 files. And it's free.

### SHARE WITH THE BEAR

 WHEN NAPSTER closed down its file-sharing system last year (in search of a legitimate business model), various other products and technologies rushed in. These peer-to-peer operations help you to swap not only music files, but almost any kind of data file. The free BearShare 2.3 utility ([www.bearshare.com](http://www.bearshare.com)) is the most anonymous and Napster-like service around. And since, unlike Napster, its sharing system does not store files in a central server, it may be less vulnerable to legal attacks. Be sure to deselect the optional "spyware" component, named SaveNow, during installation.



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executable attachments, though you can override the control. Outlook and Outlook Express treat all e-mail as hostile, preventing scripts from running by default. Neither Eudora nor Netscape provides a similar quarantine feature. The Microsoft and Netscape programs are also the only ones that support digital certificates for authenticating and encrypting mail.

## INSTANT MESSAGING

### BEST BET:

**AOL Instant Messenger 4.7** ★★★★★

### OTHER CONTENDERS:

ICQ 2001b ★★★★★

MSN/Windows Messenger ★★★★★

Odigo 3.1 ★★★★★



WHEN YOU WANT to have a running conversation with a friend or a colleague, communicating via instant messages can be more convenient than trading e-mails. But instant messaging has yet to match e-mail's popularity. Why? Because, to date, the major instant messaging clients can't talk to each other.

Attempts to create a universal instant messaging protocol are in progress, but it seems unlikely that one will win acceptance soon. That's why a program like Odigo ([www.odigo.com](http://www.odigo.com)) holds such promise.

The free chat system connects you not only to other Odigo users but to people on the AIM, ICQ, MSN, and Yahoo systems as well. Unfortunately, we found that Odigo's interaction with the other clients was so rudimentary and its native capabilities so limited that we couldn't award it the instant messaging crown. The same is true of other universal clients like Imichi, Jabber, and Trillian.

Instead, we recommend AOL Instant Messenger (free; [www.aol.com/aim](http://www.aol.com/aim)).



AIM, ICQ, and MSN Messenger are all capable programs, and they have similar features. However, AIM has a simple interface that offers powerful capabilities like multiuser chat and voice chat. And if you're hoping to make contact with friends, odds are good that they are on AIM. (Note: *PC World* provides computer-related content for AOL and other AOL-owned properties.)

AOL's other instant messaging program, ICQ (free; [www.icq.com](http://www.icq.com)), offers even more features, but its chaotic interface will drive you nuts. MSN Messenger (free; [messenger.msn.com](http://messenger.msn.com)) could overtake AIM someday, but it faces some obstacles; for one thing, Microsoft was still working out security issues in its Passport log-in system at press time.

### CHATTING WITH A CROWD

INSTANT MESSAGING can be either a one-on-one or a group affair. All of the reviewed programs offer both options. But group chats are where Odigo misses the mark: Though you can invite lots of Odigo users to your holistic poodle-grooming chat room, you can't invite users from other IM systems, even though you may be logged in to them. And Odigo users can't participate in AIM, ICQ, and Yahoo chat rooms.

All but one of the clients we reviewed corral the dozens of chat settings and options into just a few easy-to-understand preference menus. The exception is ICQ: Learning about all the program's esoteric bells and whistles can take days. You can use ICQ's simple mode, but that disables multiuser chat—an unacceptable trade-off.

Odigo is the only IM tool we looked at that doesn't let you do PC-to-PC voice chat. The version of Messenger that comes with Windows XP is unique in that it lets you videoconference, but only with other Windows XP Messenger users.

## MEDIA PLAYERS

### BEST BET:

**RealOne** ★★★★★

### OTHER CONTENDERS:

Window Media Player 7.1/XP ★★★★★

QuickTime 5 ★★★★★



JUST WHAT AN AUDIO and video player should do is still evolving. The latest player to emerge from the digital evolutionary muck, RealNetworks' RealOne Player ([www.real.com](http://www.real.com)) improves

### SEARCH AND SAVE

## Information Everywhere

THESE APPLICATIONS will help you track down information and display it wherever you go.

### DON'T SEARCH—META-SEARCH



SOME SEARCH engines are better than others, but there's no need to limit yourself to just one. Copernic 2001 Basic ([www.copernic.com](http://www.copernic.com)) is a free, ad-supported application that sends your search requests to up to 80 different search sites in seven categories, including the Web in general; newsgroups; and shopping engines for books, hardware, and software.

### THE WEB WHERE YOU WANT



THE PROBLEM with bookmarks and favorites is that they're often not around when you need them—say, at 36,000 feet. While Internet Explorer will save pages, AskSam's free, ad-supported SurfSaver 2.2 ([www.surfsaver.com](http://www.surfsaver.com)) gives you more control over what gets saved and where, creates searchable Web page archives, and works with Netscape Navigator 4.x and Internet Explorer 4 or higher. For \$30, SurfSaver Pro runs ad-free.



on the example set by Microsoft's slick, multitasking Windows Media Player. In addition to a visually stunning interface, RealOne's controls—in particular its media library—work the way you want them to. We evaluated the free basic player. RealOne's premium service provides more content and more-versatile software at a monthly cost of \$10 or \$20, depending on what content you want.

Microsoft's Windows Media Player 7.1 ([windowsmedia.com/download](http://windowsmedia.com/download)), the latest overhaul of its free player, does many of the same things, but 7.1's interface makes organizing and playing files harder.

Apple's QuickTime—also free ([www.apple.com/quicktime](http://www.apple.com/quicktime))—offers only bare-bones playback features.

Of course, while we recommend

RealOne for storing most of your media, you may want a copy of all the players on your hard drive. That's because no single program plays all formats. You need Apple's player for QuickTime media and RealOne for Real-format files.

Like Windows Media Player and RealOne, QuickTime offers access to a nice selection of streaming video and audio sites. QuickTime TV includes ABC News, the BBC, CNN, Disney, and MTV. Unfortunately, it lacks its competitors' ability to browse through the zillions of independent streaming Internet radio stations. QuickTime also lacks a media library feature for organizing clips on your computer, and it doesn't interface with CD burners or play audio CDs.

Windows Media Player and RealOne offer similar features, with standard playback controls and media libraries. Both will allow you to rip (digitally copy) tracks from audio CDs to digital files and transfer the digital files onto audio CDs or portable digital audio players. Both also play a healthy portion of the audio or video clips you'll find on the Net, though RealOne has a slight edge—it plays Win-

dows Media Player audio files (but not video files), while Microsoft's program turns up its nose at all Real clips.

Windows Media Player rips CD audio only to its own format—fine as long as you don't intend to play the files on a portable device that plays only MP3s. (Windows XP's version of Media Player supports third-party MP3-ripping plugins that cost about \$10.) RealOne will rip both to its own format and to MP3. Real's MP3 ripping is limited to a sample rate of 96 kbps, which is noticeably lower than CD quality; RealOne's premium service

gets you higher-quality ripping. (For a comparison of audio formats, visit [find.pcworld.com/16643](http://find.pcworld.com/16643) to read our November 2001 article "Compressed Audio: Can You Tell the Difference?").

We found RealOne's light, clean interface easier to navigate and learn than Windows Media Player's interface. In the media library area, for example, a player organizes all your video or audio clips by artist, album, genre, and media type.

Browsing a voluminous library of audio clips in Windows Media Player is frustrating. You get either long lists of albums (not identified by artist), or else long lists of artists, then a single folder listing all of an artist's songs. A column in the song display may identify which album a track belongs to, and at least you can sort by album to group tracks together, but usually the tracks will still be listed in the wrong track order. This is a real problem if you listen to classical music: Media Player has a tendency to play the finale before the overture.

RealOne offers a welcome Artist/Album view that organizes an artist's tracks into albums in the proper order, a small but key feature.

*Scott Spanbauer is a PC World contributing editor. He also writes the monthly Internet Tips column.*




## WEB AUTHORIZING


# Staking Your Claim

WITH THESE TOOLS, you can make your presence felt on the Internet.

## CREATE YOUR INTERNET HOME

 IF YOU WANT to get a basic Web page up and running without having to learn Hypertext Markup Language (HTML), you need look no further than the Netscape Composer utility. To advance beyond Composer's basic tools, though, check out Evrsoft's free 1st Page 2000 ([www.evrsoft.com](http://www.evrsoft.com)). With it you can enhance your pages with JavaScript and VBScript (over 450 included samples create mouse rollover effects, counters, menus, and other visual tricks), automate the process of writing correct HTML syntax, and preview your changes in real time using Internet Explorer. The program grows along with your Web-design skills, operating in Easy, Expert, or Hardcore mode.

## HANDLE INDUSTRIAL-STRENGTH FILE TRANSFERS

 IF YOU DOWNLOAD lots of shareware and MP3s, or if you have a Web site, you're likely to spend a lot of time transferring files to and from remote FTP (file transfer protocol) servers. Several worthy shareware tools provide help for the task. But RhinoSoft.com's FTP Voyager 8 (\$40, 30-day free trial; [www.ftpvoyager.com](http://www.ftpvoyager.com)) offers the most well-developed interface, with separate tree and directory windows for both the local and remote computers. It also has a precision batch-file-transfer scheduler that lets you download NASA's latest high-definition Mars photos automatically while you sleep. Local/remote folder synchronization makes changing your Web site a one-click process.





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## NOTEBOOKS

## IBM ThinkPad R30

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26476KU-M404

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ThinkPad Dock (Part #263120U) \$529  
ThinkPad SuperDisk (LS-240) Ultrabay 2000 Drive  
(Part #08K9616) \$289

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"Disk fragmentation can cause performance problems. You should consider running a defragmentation program on a regular basis."\*\* — Microsoft Windows NT Server Resource Guide

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# How to write stuff

BY GEORGE CAMPBELL

15 essential tips for smarter, faster word processing—no matter which version of Word or WordPerfect you use. ►



THE WORKHORSE OF ANY OFFICE SUITE, whether preloaded or store bought, is its word processing application. And though each new version adds capabilities, ostensibly to boost productivity, we still value the basics: formatting documents and customizing menus, toolbars, and macros.

With that in mind, we present ways to get more out of your word processor—Microsoft Word 6.0 or later, or WordPerfect 6 or later. We'll highlight some useful features that are right under your nose, as well as a number of undocumented power tools just waiting to be harnessed.

## time-savers

WE ALL LIKE to discover new shortcuts, whether they offer a faster route home or a quicker way to enter and edit text in a document. These tricks speed your work.

### DO-IT-YOURSELF SHORTCUTS

DO YOU FIND yourself entering the same signature block, address, or other text or object into document after document? Word lets you store these frequently used items—complete with formatting—and insert them with a few simple keystrokes.

Select the text, graphic, or object you wish to enter, and choose **Tools•AutoCorrect** (in Word 97 and 2000) or **Tools•AutoCorrect Options** (in Word 2002). Click the **AutoCorrect** tab in the resulting dialog box.



**WORD'S AUTOCORRECT** feature lets you assign any formatted text and graphics to a keyboard shortcut of your choice.

You'll see your selected text or object in the 'With' box. Type a short, nonword abbreviation in the 'Replace' box, check the **Formatted Text** option, and click **OK**. To insert this text or object in another document, just type the abbreviation you chose, and press **<Space>**. If Word prompts you to save the changes to the global template when you exit, click **Yes**.

### PRINT KEYBOARD SHORTCUTS

WORD AND WordPerfect offer dozens of useful keyboard shortcuts, but finding them can be a chore. WordPerfect 10 and all versions of Word make it easy to print a list of every shortcut to post nearby as a handy reference.

In Word, select **Tools•Macro•Macros** or press **<Alt>-<F8>**. In the **Macros** dialog box, select **Word commands** from the 'Macros in' drop-down list, and then select **ListCommands** from the 'Macro name' list box. Click **Run**, select **Current menu and keyboard settings** in the **List Commands** dialog box, and click **OK**. Word will create a document containing a table of commands and their keyboard shortcuts. Print it for reference.

In WordPerfect 10, select **Tools•Settings**. Click the **Customize** icon in the **Settings** dialog box, and choose the **Keyboards** tab in the next dialog box. There, the keyboard that you are currently using will already be selected. Click **Edit** and then click **Print Report** in the next dialog box.

### GET THERE WITH SCROLLBARS

TO NAVIGATE quickly through a long Word document, you can use the vertical and horizontal scrollbars on the right side and bottom of your document, respectively. But there's more to them than that.

By checking one of the double arrows (pointing up or down) on the bottom of Word's vertical scroll bar, you can jump from page to page in the document. Click the button between the double arrows to see a palette of options that you can assign to them. As you hover the mouse over each option, you'll see an explanation of what it sets—Browse by Graphic, or Browse by Section, for example. After selecting the option you prefer, click the double arrows to go to the next or the previous occurrence of your selection.



**RUNNING LISTCOMMANDS** from Word's Macro dialog box generates a printable list of all Word shortcut keystrokes, which you can use as a reference.

WordPerfect 9 and 10 offer almost the same tool on their vertical scrollbars. Click the icon between the double arrows to cycle through your quick-jump options.

### YOUR DOCUMENTS FOLDER

BY DEFAULT, Word stores your documents in the My Documents folder. If you want to change Word's default folder, select **Tools•Options** and bring up the **File Locations** tab in the **Options** dialog box. Choose **Documents** in the 'File types' list and then click **Modify**. Navigate to and select the folder you want to use; then click **OK** to make it the new default. If Word prompts you to confirm changes to normal.dot when you exit, click **Yes**.



# interface makeovers

THE DEFAULT INTERFACE that greets you in Word and WordPerfect is somebody else's idea of the best arrangement of toolbars, menus, and other elements. Follow these steps to give your word processor the layout you want.

## MENUS YOUR WAY

THE SMART MENUS IN Word 2000 and 2002 show only the commands you've used most recently. To see all available commands, you must either wait a few seconds or click the double arrow at the bottom of the menu. There's an easy way to shut off this 'enhancement' once and for all.

In Word 2000, choose *Tools•Customize*, click the *Options* tab in the *Customize* dialog box, uncheck the *Menus show recently used commands first* box, and click *Close*. In Word 2002 the steps are the same, but in the *Customize* dialog box you select *Always show full menus*.

## UNCLUTTER YOUR VIEW

WORD'S DEFAULT interface resembles the controls in a jet's cockpit. An array of



**RIGHT-CLICK** any Word toolbar, and either select or deselect it in the drop-down menu.

toolbars, icons, drop-down menus, scrollbars, rulers, and task panes (in Word 2002) fill more than half the screen. To remove a toolbar from Word's interface, including any that appears when you select a table or graphic, right-click it and uncheck it in the list that pops up. To delete other elements, select *Tools•Options* and click the *View* tab in the

*Options* dialog box. Then deselect the scrollbars, vertical ruler, status bar, and any other unneeded items. ►

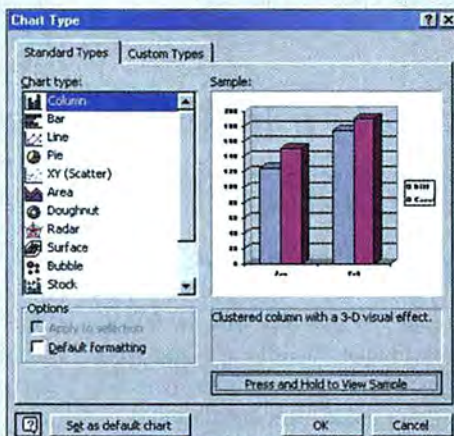
## WORD GRAPHICS

# worth a thousand pictures

## CREATE CHARTS AND GRAPHS IN AN INSTANT

YOU CAN CONVERT TABLES in a Word document into colorful, dynamic charts with just a few clicks. First, select the table data and labels that you want to include in the chart, and choose *Insert•Picture•Chart*. Word's default 3D bar chart will appear, along with a datasheet containing the data from your table. Close the datasheet, double-click the chart, right-click any blank area in the chart, and select *Chart Type* from the context menu. In the *Chart Type* dialog box, experiment by selecting different items from the *Chart type* and *Chart subtype* lists. As you try different options, you can click and hold the *Press and Hold to View Sample* button to see what they will make your chart look like.

When you're happy with the chart's appearance, click *OK*. You can resize the chart in your document by double-clicking it and dragging its sizing handles. To align the chart on the page, click anywhere outside it, click the chart again, and then select one of the text alignment icons (☐ ☐ ☐ ☐) on the *Formatting* toolbar. To make other changes to a part of the chart, double-click that part and then right-click it to view its context menu.



WORD'S CHART TYPE dialog box makes it easy to customize a chart and preview its actual appearance, based on your own data.

## THINNER GRAPHICS

BY DEFAULT, Word stores a document's graphics inside the document file itself. This can make the file huge, eating up precious hard disk space—especially if the document holds large scanned photographs. Fortunately, it's easy to tell Word to store a document's images elsewhere.

When you go to select *Insert•Picture•From File* in Word 97, choose *Link to File* in the *Insert Picture* dialog box before you click *Insert*. In Word 2000 and 2002, select your image in the *Insert Picture* dialog box and then click the down arrow on the *Insert* button. Choose *Link to*



WORD'S INSERT PICTURE dialog lets you link to an imported graphics file, rather than store it inside the document, to save valuable disk space.

*File* to insert the image into your document while keeping it stored in its original folder when the document is closed. **Note:** If you are planning to send the document as an e-mail attachment, you must include the image in the document itself.



## FIX WORD 2002'S TASK PANES

THOUGH WORD 2002's task panes are handy, they take up a lot of screen space. To force Word 2002 to hide the New Document task pane each time it opens, select *Tools>Options* and uncheck *Startup Task Pane* under the View tab. Click OK to implement the change. Click the Styles and Formatting icon ( ) on the Formatting toolbar to open or close the Styles and Formatting task pane. You can usually prevent the Styles and Formatting task pane from opening by using menu commands, toolbars, and keyboard shortcuts to reformat your document.

## formatting for smarties

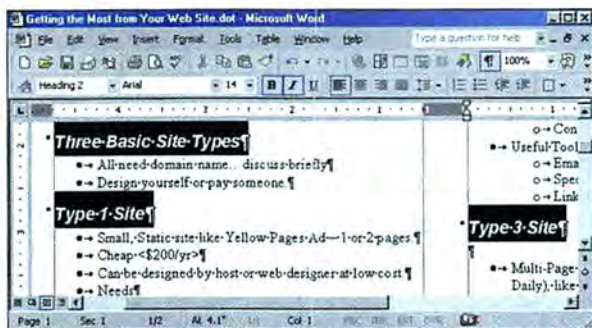
THERE'S MORE THAN one way to do just about anything you desire in your word processor. So why stick with the formatting techniques WordPerfect and Word suggest? The following alternatives can boost your productivity significantly.

## FASTER TEXT SELECTION

SELECTING TEXT for formatting or other actions is one of the most common word processing tasks. Most users click and drag over the text they want to select, but that's time-consuming and inaccurate. Here are several shortcuts to make your text selection faster and more precise.

To select a single word in any version of Word, double-click it. To select a sentence, hold down **<Ctrl>** and click anywhere in the sentence. Double-clicking the left margin next to a paragraph will select the entire paragraph, as will triple-clicking the paragraph. You can select successive words, sentences, or paragraphs by keeping the mouse button pressed as you select the first one (using the methods described above), and then dragging the mouse to subsequent or previous words, paragraphs, or sentences.

To select from the current cursor position to the end of a line, press **<Shift>**-



**WORD 2002'S ability to select multiple blocks of text anywhere in a document makes formatting and creating summaries easy.**

**<End>**. Press **<Ctrl>**-**<Shift>**-**<End>** to select from the current cursor location to the end of the document. To highlight the entire document, either press **<Ctrl>**-**A** or triple-click the left margin. A good way to select a large block of text is to click the beginning of the block and hold down **<Shift>** as you scroll down; then click the end of the desired selection.

In WordPerfect 9 and 10, you can select a word by double-clicking it, a sentence by triple-clicking anywhere in the sentence, and an entire paragraph by clicking four times anywhere in the paragraph or by double-clicking the left margin next to the paragraph. To select from the current cursor position to the end of a line, simply press **<Shift>**-**<End>**. To select from the current cursor location to the end of the document, you should press **<Ctrl>**-**<Shift>**-**<End>**. Select the entire document by pressing **<Ctrl>**-**A**, or triple-click the left margin. And to select a block of text, click its beginning and hold **<Shift>** as you scroll down; then click its end.

**Bonus Tip: Word 2002 Adds Multiple Selection Power** Word processing software has never before been able to select multiple, noncontiguous blocks of text to copy and paste into documents—to help create summaries, say, or to format in a specific way. One of Word 2002's most welcome new features is its ability to select discrete blocks of text as a group.

Start by selecting the first block of text, using any of the techniques described above. After you've made the selection, hold down **<Ctrl>** while you highlight another block of text, again using any of

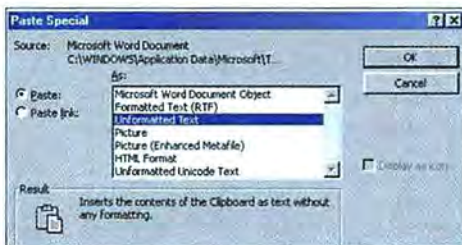
the techniques described above (except **<Ctrl>**-click sentence selection, of course). Repeat this process until you have selected all of the desired text. With the blocks of text selected, apply formatting or copy the text blocks to the

clipboard. You can paste the copied material into any Windows application.

## UNFORMAT UNSIGHTLY TEXT

IT HAPPENS all the time. You paste text into a document from a Web page or another program, and the formatting shows wrong fonts, wrong paragraph spacing, wrong everything. Word and WordPerfect 9 and 10 let you fix this alien formatting.

Select the offending material, and click *Edit>Cut* or press **<Ctrl>**-**X** to delete it and place it in the clipboard. In Word, make sure the style on the Formatting toolbar's Style drop-down menu is set to *Normal*.



**SELECT UNFORMATTED TEXT in the Paste dialog box to remove formatting from external sources.**

In WordPerfect, select *<None>* from the Select Style drop-down list. Choose *Edit>Paste Special*, select *Unformatted Text* in the Paste Special dialog box, and click OK. All previous formatting will disappear. In Word 2002, it's even easier: Select the improperly formatted text, and choose *Clear Formatting* in the Style drop-down menu.

## STYLES FOR SUCCESS

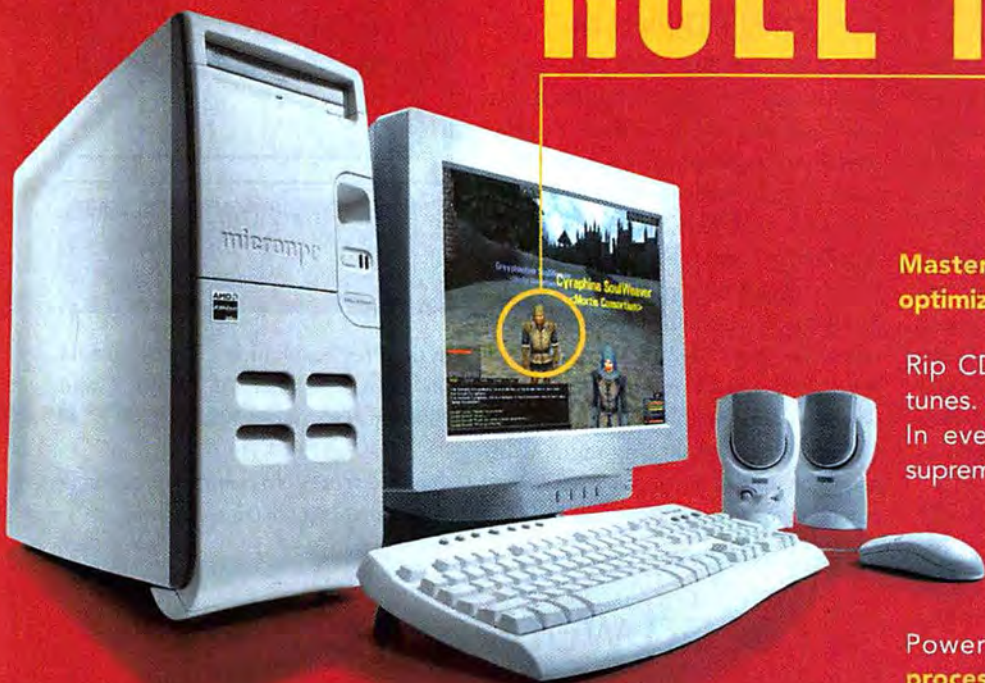
IF YOU DON'T USE Word's Heading styles in your documents, you're missing out on some useful features. After you apply Heading styles to titles, head- ▶



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ings, and subheadings, you can navigate through a document by selecting **View•Document Map** and clicking any heading displayed in the left margin to jump right to it. Heading styles also let you create a table of contents in a flash: Press **<Ctrl>•<Home>** to jump to the beginning of the document; then select **Insert•Reference•Index and Tables** (in 2002) or **Insert•Index and Tables** (in previous versions), choose the **Table of Contents** tab, and click **OK**.

Need to create a presentation quickly? If you use Word's Heading styles, your presentation is almost done. Select **File•Send To•Microsoft PowerPoint**. Word will convert Heading 1 text into individual slides, and Heading 2 and Heading 3 text into bulleted lists. Just add some formatting tweaks to the presentation, and you're done.

**Bonus Tip:** Word offers a quick keyboard shortcut for applying the first three Heading styles to your text. Press **<Ctrl>•<Alt>•1**, **-2**, or **-3** to apply the Heading 1, Heading 2, or Heading 3 style, respectively, to the current paragraph. To apply Word's Normal style, press **<Ctrl>•<Shift>•N**.

## MAKING IT ALL FIT

IF A DOCUMENT extends a line or two onto another page, you don't have to edit it to fit. Instead, let Word or WordPerfect reformat the document automatically to occupy the number of pages you want.

In Word, select **File•Print Preview**, click the **Shrink to Fit** button ( ) on the toolbar, and press **<Esc>** to return to the editing screen. Word shrinks the document by reducing all font sizes slightly. If you don't like the result, select **Edit•Undo** or press **<Ctrl>•Z**. In WordPerfect 9 and 10, select **Format•Make It Fit**. In the *Desired number of pages* box, set the number of

pages you want the document to have. Click **Make It Fit**. To undo the changes, simply select **Edit•Undo** or press **<Ctrl>•Z**.

## QUICK TABLE FORMATTING

IN WORD, inserting a table into a document is easy, but manually formatting a table's borders, lines, and colors can be slow. Word makes formatting a breeze.

Once you have added all the new information to your table, select **Table•Table AutoFormat**. In the Table AutoFormat dialog box, choose an item from the Format list (Word 97 and 2000) or from the 'Table styles' list (Word 2002). A preview of the results will appear in the Preview window. You can step through the available formats either by clicking them or by using the up and down arrow keys. Any other options you select will also show up



**WORD'S TABLE AUTOFORMAT dialog box makes it easy to add colorful, well-designed tables to your documents.**

in the Preview window. When you find the right look, click **OK** (Word 97 and 2000) or **Apply** (Word 2002).

*George Campbell is a contributing editor for PC World. He lives in Osos, California.*

## TEXT SUPPORT

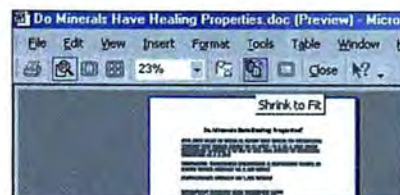
# bend word to your will

YOU CAN ADD or remove any command from a menu or toolbar in Word. Select **Tools•Customize** to display Word's Customize dialog box before making any changes.

| DESIRED ACTION   | Customize dialog box open?       | Customize dialog box tab | Necessary steps  |
|--|----------------------------------|--------------------------|--|
| Remove a toolbar button                                  | <input type="radio"/>            | n/a                      | Hold down <b>&lt;Alt&gt;</b> , drag icon off toolbar, and drop it on document window.  |
|  | <input checked="" type="radio"/> | Toolbars                 | Display desired toolbar, drag icon off toolbar and drop it on document window.   |
| Remove a menu command                                    | <input checked="" type="radio"/> | Toolbars                 | Display menu command, drag it off menu, and drop it on document window.  |
| Add a button to a toolbar                                | <input checked="" type="radio"/> | Commands                 | Select item in Categories list, and click desired command. Drag it to toolbar, and drop it at desired place.   |
| Add a command to a menu                                  | <input checked="" type="radio"/> | Commands                 | Select item in Categories list, and click desired command. Drag it to main menu to display submenu, then drop command at desired location.   |
| Add a macro to a menu or toolbar                         | <input checked="" type="radio"/> | Commands                 | Select <b>Macros</b> in Categories list, and click desired macro. Drag it to desired location in menu or toolbar.  |
| Add a command to right-click shortcut menus              | <input checked="" type="radio"/> | Toolbars                 | Double-click <b>Shortcut Menus</b> , click category on Shortcut Menu toolbar, select menu from list, click <b>Commands</b> tab, locate desired command, click and drag it to context menu and drop it in desired location. |
| Restore a default menu or toolbar                        | <input checked="" type="radio"/> | Toolbars                 | Highlight toolbar to restore (select <b>Menu Bar</b> for menus), and click <b>Reset</b> . Click <b>OK</b> to confirm change.   |
| Restore all menus and toolbars to their default settings | <input type="radio"/>            | n/a                      | Exit Word and start Windows Explorer. Locate <b>normal.dot</b> and rename it. Restart Word.  |

● = Yes ○ = No n/a = Not applicable

All versions of Word offer some quick ways to customize icons, toolbars, and menus.



**THE SHRINK TO FIT button lets you cut a page from a document's printed length.**



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Editors' Choice

<sup>a</sup> AMD Athlon XP Processor 1600+ with QuantiSpeed™ architecture outperforms competitive 1.6GHz PC processors. QuantiSpeed™ architecture operates at 1.40GHz  
AMD Athlon XP Processor 1700+ with QuantiSpeed™ architecture outperforms competitive 1.7GHz PC processors. QuantiSpeed™ architecture operates at 1.47GHz  
AMD Athlon XP Processor 1800+ with QuantiSpeed™ architecture outperforms competitive 1.8GHz PC processors. QuantiSpeed™ architecture operates at 1.53GHz  
AMD Athlon XP Processor 1900+ with QuantiSpeed™ architecture outperforms competitive 1.9GHz PC processors. QuantiSpeed™ architecture operates at 1.60GHz  
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Athlon XP 1900+ with QuantiSpeed™ architecture **\$629**  
Athlon XP 2000+ with QuantiSpeed™ architecture **\$729**

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Athlon XP 1600+ with QuantiSpeed™ architecture **\$ 939**  
Athlon XP 1700+ with QuantiSpeed™ architecture **\$ 959**  
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Athlon XP 2000+ with QuantiSpeed™ architecture **\$1,139**

**\$1,299**



## XP8000

Athlon XP 1800+ Processor with QuantiSpeed™ architecture

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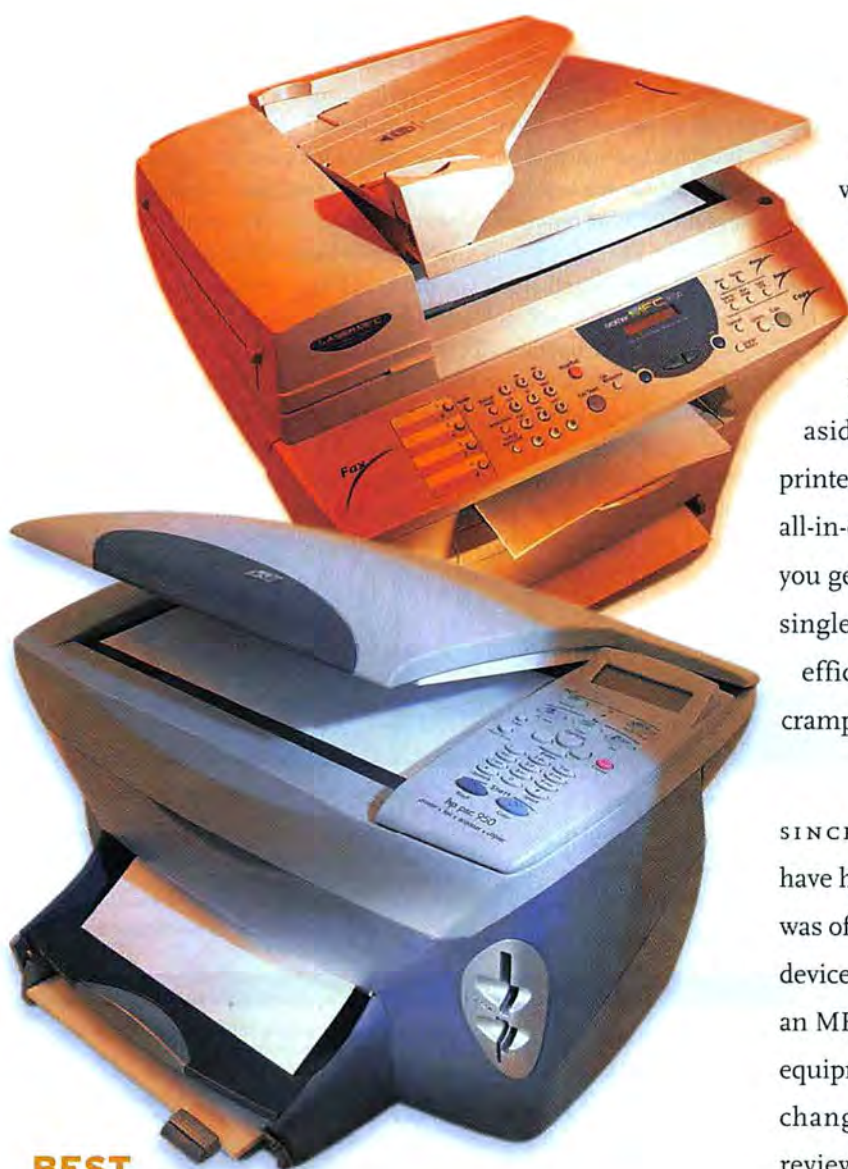




BY LISA CEKAN / PHOTOGRAPHS BY RICHARD ESKITE

# All-in-WONDERS

Can one peripheral do everything—and do it well? With the latest printer/copier/fax/scanners, the answer is finally yes.



FEEL LIKE YOU'VE set up your office in a phone booth? Attempting to carve out a work area for your home business or small office can give you that Spam-in-a-can experience—especially when you try to accommodate all the office equipment you need. If you can't figure out how to set aside adequate space for your PC, scanner, printer, copier, and other hardware, consider an all-in-one multifunction device. With an MFD you get nearly all of the functions you need in a single compact box. Today's MFDs use space efficiently, save you money, and make your cramped quarters feel just a bit more palatial.

## ALL-IN-ONES IMPROVE

SINCE THEIR INCEPTION, all-in-one MFDs have had two shortcomings: Their performance was often significantly below that of the separate devices they replaced; and if one component on an MFD broke, you lost nearly all of your office equipment in one painful stroke. That has now changed. The models we looked at for this review print almost as quickly as stand-alone printers, and their print and scan quality is ►

**BEST  
BUYS**

Brother MFC-9700 (top) and HP PSC 950.



every bit as good, so buyers need to make fewer compromises.

MFD manufacturers have tackled the reliability and repair issue in a couple of creative ways. HP's LaserJet 1220, for example, adds a separate scanner/copier unit to a stand-alone printer—though this solution generates its own difficulties. Many other MFDs keep each function separate within an all-in-one form: If the copier breaks, for instance, the printer and scanner still work. Nevertheless, if you need to send the device to a service center for repair—or if a technician arrives at your workplace to correct the problem—you're left without access to much of your basic office equipment for the duration.

For this review, we appraised the ease of use, speed, and image quality of six new multifunction devices—three ink jet MFDs and three laser models. We found a lot to like about these devices, and we encountered a variety of approaches to the simple tasks of printing, scanning, copying, and faxing. Some MFDs use a flatbed scanner, while others are sheet-fed. Some work as stand-alone fax machines, while others rely on PC-based faxing—and one lacks fax capabilities entirely. (For tips on deciding whether to get an all-in-one without fax, see the sidebar, "How Much Fax Do You Need?" on page 112.)

As with any piece of office equipment, picking the best MFD model for you depends on your particular needs. If you want color printing, pick an ink jet model; if you copy and print a mountain of documents, you're better off with a monochrome laser model; and if you need to receive important faxes at all hours, choose an MFD that works as a stand-alone fax.

## BESTBUY multifunction

**Best BUY** THE INK JET PSC 950 by Hewlett-Packard produces sharp text and deep colors and includes features for digital camera users. Brother's laser-based MFC-9700 prints quickly and has the best text and copy quality of the MFDs we reviewed.

## INKJET models

### Canon MultiPass F50

THE BULKIEST of the three ink jet MFDs we tested, Canon's MultiPass F50 is nearly 13 inches tall and 17 inches wide. It has a 100-sheet main tray and a 30-sheet automatic document feeder. At \$499, it's also the most expensive ink jet MFD here.

You can scan (the MultiPass F50 handles both sheet-fed and flatbed scanning), copy, and fax from the extensive control panel (with more than 30 buttons) and from LCD menus. The control panel is confusing at first; you must dig through three or four levels of menus to reach some options, but the F50's intuitive labeling helps. The printed manual, with an index and troubleshooting section, is thorough.

Copying is quick and easy. To make a black-and-white copy, you just press the Start button; for color, you press two buttons on the control panel. Our text copies reproduced well, with solid letters, but color copies looked garishly bright.

As a stand-alone fax, the MultiPass F50 can broadcast-fax, speed-dial, and poll other faxes. You can fax documents from your PC, but this isn't as easy as faxing from the control panel.

Scanning is a one-touch operation on the F50's control panel, and scans look bright and vivid at the default setting of 600 by 1200 dpi. Canon bundles OmniPagePro 9.0 OCR software—a powerful text recognition program that checks spelling, in addition to offering extensive formatting options. The device scanned our text document extremely well.

## FEATURES COMPARISON

### TEST Center

## Multifunction Devices

| INK JET  | Price | Text/graphics print speed (ppm) | Print quality (overall text and graphics combined) | Copy quality | Flatbed/sheet-fed scanner | Stand-alone/PC faxing | Comments  |
|--|-------|---------------------------------|--|--------------|---------------------------|-----------------------|---|
| Canon MultiPass F50<br><a href="http://find.pcworld.com/17261">find.pcworld.com/17261</a>              | \$499 | 6.1/0.8                         | Very good  | Adequate     | Both                      | Both                  | Text prints quickly, and there are tons of features, but copies look too garish. ★★★★★                                  |
| <b>Best BUY</b> HP PSC 950<br><a href="http://find.pcworld.com/17262">find.pcworld.com/17262</a>       | \$399 | 4.1/1.2                         | Very good  | Good         | Flatbed                   | Both                  | Great all-in-one for the home includes media card slots for printing photos without a PC. ★★★★★                         |
| Lexmark X63<br><a href="http://find.pcworld.com/17263">find.pcworld.com/17263</a>                      | \$199 | 4.6/0.7                         | Good   | Good         | Sheet-fed                 | Stand-alone           | This somewhat inflexible MFD faxes only from the panel and scans only through a PC. ★★★★★                               |
| LASER  |       |                                 |  |              |                           |                       |   |
| <b>Best BUY</b> Brother MFC-9700<br><a href="http://find.pcworld.com/17264">find.pcworld.com/17264</a> | \$599 | 11.1/5.6                        | Very good  | Very good    | Both                      | Both                  | A large paper tray, fast printing, and sharp images highlight this versatile small-office machine. ★★★★★                |
| HP LaserJet 1220<br><a href="http://find.pcworld.com/17265">find.pcworld.com/17265</a>                 | \$529 | 11.8/4.3                        | Very good  | Good         | Sheet-fed                 | No fax                | Though it's difficult to set up and lacks a fax capability, the 1220 is fast and offers impressive print quality. ★★★★★ |
| Oki Data OkiOffice 87<br><a href="http://find.pcworld.com/17266">find.pcworld.com/17266</a>            | \$599 | 6.5/3.6                         | Good   | Adequate     | Sheet-fed                 | Both                  | Prints text slowly and scans only in monochrome, but has a feature-rich fax function. ★★★★★                             |



Printing black-and-white text at a snappy 6.1 pages per minute, the MultiPass F50 is almost as fast as some laser models—and its text appeared nearly as sharp. We were equally impressed with its color graphics: smooth and bright on plain paper, and vivid on glossy paper at the maximum resolution of 2400 by 1200 dpi. At 0.8 ppm, however, color printing takes a relatively long time.

**UPSHOT:** The MultiPass F50 would make a good choice for any small office that needs color printing.

## HP PSC 950

**Best Buy** HEWLETT-PACKARD'S \$399 PSC 950 can handle flatbed scanning, color copying, and stand-alone faxing—and it offers some extras for digital camera users. Using one of the three media slots (for CompactFlash, SmartMedia, or Sony Memory Stick removable media) on the MFD's front panel, you can print photos directly from your memory card without going through a PC: Press one button and you get a proof sheet showing every photo on the card. To select the shots you want to print in a larger format, just pick up a pen and fill in the ovals that appear under each proof-sheet image. Fill in ovals for photo size (4 by 6, 5 by 7, or 8 by 10 inches) and type of paper, and then scan the proof sheet back into the PSC 950. It will automatically

print the photos you selected on the paper you've chosen. The PSC 950 duplicated color and flesh tones well on our photo paper, though the images lost some detail and sharpness.

The PSC 950 does a good job of printing text. In our test documents, characters looked sharp at the device's standard resolution of 600 by 600 dpi. We clocked the HP at 4.1 ppm printing black text and at 1.2 ppm printing color graphics—both speeds are comparable to speeds for stand-alone ink jet printers.

Two dedicated buttons make copying and scanning extremely easy. The PSC 950 copies text quite well; color copies lose detail and look more washed out than the original. It scans quickly at 600 by 1200 dpi, and scanned images look bright and rich. The OCR application is less impressive, however: In processing our sample document, it missed words at the right margin.

You can send faxes directly from the flatbed panel. But since you have to load the paper one sheet at a time, this feature becomes more trouble than it's worth for faxes of more than one or two pages. The MFD also supports PC-based faxing.

The PSC 950 has two paper trays: one for letter- or legal-size



**INK JET** Lexmark X63 (left) and Canon MultiPass F50.

paper, and the other for snapshot-size paper and envelopes. Unfortunately (and annoyingly), it can't sense which tray you're using, so if you don't pull the photo tray out when you're done using it, you'll get an error when you print a larger document.

**UPSHOT:** More home-oriented than other models, HP's PSC 950 handles simple office tasks and prints photos at a good price.

## Lexmark X63

AT JUST \$199, the Lexmark X63 is one of the least-expensive all-in-ones we've seen, and it includes stand-alone fax capabilities. On the other hand, it's less flexible than most other MFDs we looked at. For instance, you can fax directly only from the control panel, not from a document on your PC via a driver.

Then again, you may not want to fax at all with the X63; the page of text we

faxed out came through so light that we could barely read it.

Scanning with the X63 is more complicated than it should be. Most MFDs let you scan quickly and easily by pressing one or two control buttons on the front panel. With the X63, you start by pressing the Scan button on the X73's control panel; next, using your PC, you choose whether to scan to an application, a file, or an e-mail message; finally, you click *Send*. We found these extra hoops a pain to jump through. That said, the scanned images looked vivid and sharply detailed.

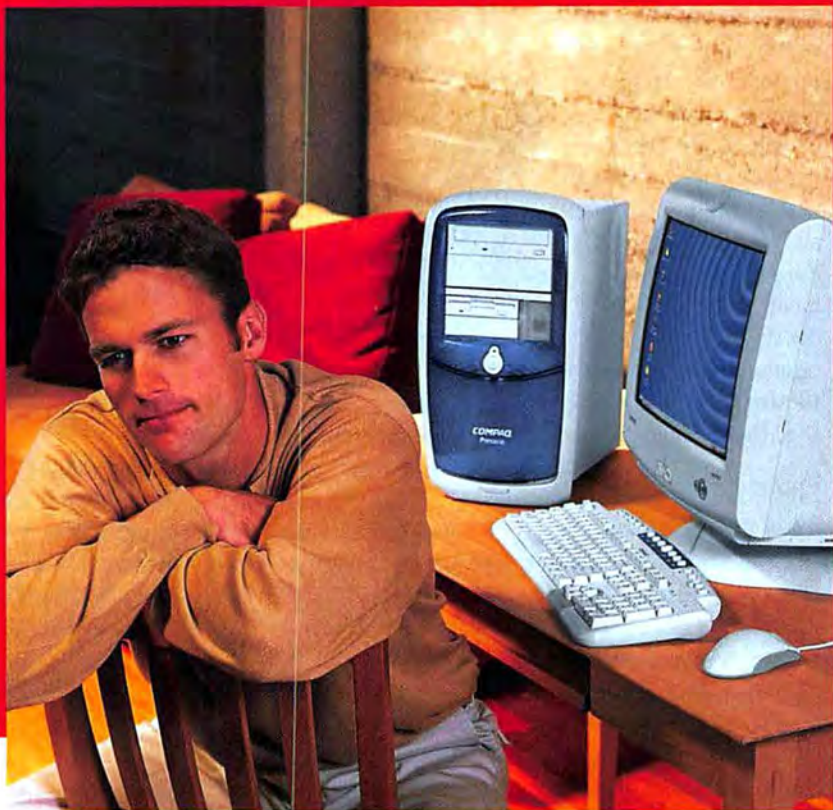
It's easy enough to copy text using the device's front panel, though copies default to printing in black-and-white. To select color, you have to scroll through a few menu items using the on-panel buttons and the LCD panel. And keep in mind that the X63 uses a sheet-fed scanner, so it won't accept thick media.

The X63 prints text fairly quickly (a brisk 4.6 ppm), but graphics pages come out at a more leisurely 0.7 ppm. At the standard setting of 600 by 600 dpi, text and color images look sharp and rich; photos are grainy, however, even when printed on glossy paper. Lexmark includes MGI's PhotoSuite 8.1 image editing ►

## Canon's MultiPass F50 handles sheet-fed and flatbed scanning.



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RATHER  
SIMPLE,  
INNOVATIVE  
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 56K ITU V.90 Modem<sup>4</sup>  
 Integrated 10/100 Network Interface Card  
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 56K ITU V.90 Modem<sup>4</sup>  
 Integrated 10/100 Network Interface Card  
 Soundmax II Digital Audio  
 JBL Platinum Speakers with Digital Audio Port  
 32 MB nVidia M64 Pro  
 Compaq CV535 15" Monitor (13.8" VIA)  
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 56K ITU V.90 Modem<sup>4</sup>  
 Integrated 10/100 Network Interface Card  
 Soundmax II Digital Audio  
 JBL Platinum Speakers with Digital Audio Port  
 32 MB nVidia M64 Pro  
 Compaq CV535 15" Monitor (13.8" VIA)  
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ATI Mobility Radeon with 4X AGP and 16 MB  
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56K ITU V.92 Modem<sup>3</sup> with Network

Interface Card

Lion Battery

IEEE-1394 Port

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24X Max CD-ROM Drive<sup>2</sup>

ATI Mobility Radeon with 4X AGP and 8 MB  
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56K ITU V.92 Modem<sup>3</sup> with Network

Interface Card

Lion Battery

IEEE-1394 Port

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software, which lets you adjust brightness and contrast and adds templates for greeting cards, calendars, and magazine covers.

**UPSHOT:** With four pieces of office equipment in one box at a bargain price, the Lexmark X63 is fine for light work—especially if you rarely send faxes.

## LASER models

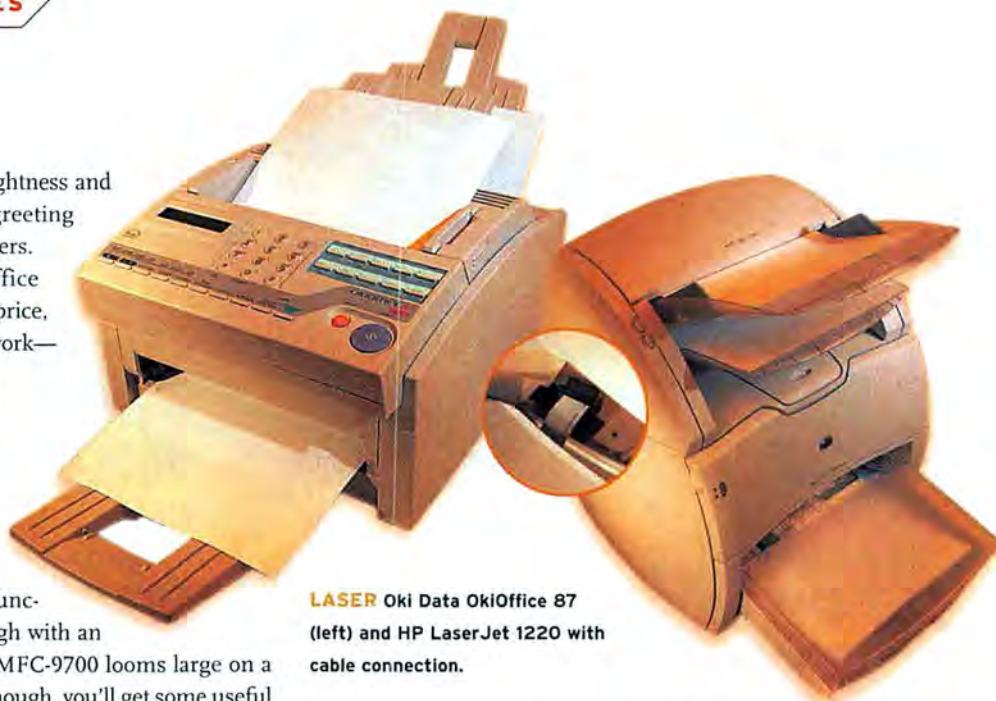
### Brother MFC-9700

**Best BUY** YOU MAY DISCOVER that you have to clear some space for Brother's flatbed multifunction device. Standing 19 inches high with an 18-by-17-inch footprint, the \$599 MFC-9700 looms large on a desk. If you can live with the size, though, you'll get some useful features, such as a paper tray capable of holding 250 sheets.

Printing at 600 by 600 dpi, the MFC-9700 generates fine, black text at 11.1 ppm. Gray-scale graphics were also speedy at 5.6 ppm, showing good contrast and slight graininess. We also liked the dark, detailed copy quality. As on many MFDs, copy buttons on the MFC-9700's control panel let you zoom up to 400 percent, adjust the contrast, enter the number of copies, and collate.

Other dedicated control panel buttons include 'Scan to email,' 'Scan image,' and 'Scan/OCR.' You can use the flatbed panel for oddly shaped documents, or you can choose to place documents in the sheet-fed input tray to feed automatically. Brother doesn't bundle an image editing program with the MFC-9700; the unit defaults to saving images as .bmp files and text as .txt files. Nevertheless, scanned text was clean and color images looked bright and realistic. We were also impressed with the bundled ScanSoft TextBridge OCR software, which recognized our entire sample text page without adding the stray paragraph breaks that many other programs do.

The MFC-9700 supports stand-alone and PC-based faxing, and both methods send dark, legible documents. Faxing from the panel is easy: Just type in a phone number and press the



**LASER** Oki Data OkiOffice 87 (left) and HP LaserJet 1220 with cable connection.

Start button. PC-based faxing is nearly as simple, but it's less intuitive to set up. After you install the drivers, you must enable the network fax in a setup dialog box; then a fax option appears within the MFC-9700's printer driver. Fortunately, Brother includes a printed manual with step-by-step instructions for setting up the PC fax and for working with such advanced features as speed-dial and broadcast faxing.

**UPSHOT:** The Brother MFC-9700 is powerful enough to handle most small-office tasks, and it produces great-looking images.

### HP LaserJet 1220

IN LIEU OF CONSTRUCTING a true all-in-one device, HP took one of its stand-alone printers, the LaserJet 1200, and added a freestanding scan/copy unit; when you hook them together you get a multifunction machine. This makes saving space easier because you can detach the scan/copy unit from the printer for storage. But the arrangement has disadvantages. First, the 1220 lacks fax capabilities; second, attaching the unit is so difficult that once you've done it you won't want to take it off again. The process sounds simple: Remove a side panel from the printer, and attach the data cable for the scan/copy unit and the printer's

USB cable. But the side panel is hard to take off, and when the unit is in place, the panel is even harder to reattach. You must slide it into position and then snap it under the scan/copy unit, keeping all cords in place.

When you finally get the LaserJet 1220 set up, printing is easy and fast. Text prints quickly at 11.8 ppm and looks quite dark at the standard resolution of 1200 by 1200 dpi. Our test photo looked smooth, with just a hint of banding and some lost detail. Graphics printed reasonably quickly, at 4.3 ppm.

The control panel has only two buttons—one for copy and one for scan—and ▶

## Copy-Quality Contest

THE ALL-IN-ONES WE TESTED can print and scan well, with most able to produce solid text and vivid colors. But good prints don't always mean good copies. We copied the same magazine cover on all of the MFDs we tested and found a range of quality among the contenders, from sharp and detailed to dark and overcontrasted.







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| 1700+ with Quantispeed™ architecture | \$775 | (abbp023) |
| 1800+ with Quantispeed™ architecture | \$825 | (abbp024) |
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- MS Windows XP Home Edition CD
- Free COREL Office 2002 CD
- One Year On-Site Warranty - add \$39

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| AMD Athlon™ XP Processor             | \$1045 | (drsp021) |
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| 1700+ with Quantispeed™ architecture | \$1089 | (drsp023) |
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- AC97 Stereo 3D Sound
- upgrade: S.B. Live Value 5.1 @ \$39
- 56K V.90 Fax Modem w/Voice
- 19" Digital SVGA Monitor, 26mm
- PS2 Win98 Keyboard & Scrolling Internet Mouse
- upgrade: MS Optical Intelli-Mouse @ \$27
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| 1700+ with Quantispeed™ architecture | \$989  | (btsp023) |
| 1800+ with Quantispeed™ architecture | \$1039 | (btsp024) |
| 1900+ with Quantispeed™ architecture | \$1129 | (btsp025) |

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| 1700+ with Quantispeed™ architecture | \$1105 | (xosp023) |
| 1800+ with Quantispeed™ architecture | \$1155 | (xosp024) |
| 1900+ with Quantispeed™ architecture | \$1245 | (xosp025) |

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- upgrade: 64MB GeForce-3TI-500 @ \$139
- Sound Blaster Live! Value 5.1 Sound Card
- upgrade: Sound Blaster Audigy Gamer @ \$69
- 56K V.90 Fax Modem w/Voice
- 19" Digital SVGA Monitor, 26mm
- upgrade: 19" ViewSonic E90 23mm @ \$79
- ALTEC LANSING AV5500 5 Pieces Speakers
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| 1700+ with Quantispeed™ architecture | \$1240 | (gpsp023) |
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- DDR 266FSB UDMA-100 Main Board
- 512MB DDR PC2100 SDRAM
- 80GB Ultra DMA-100 HDD
- 16x DVD-ROM Drive
- 24x10x40 CD-RW Drive
- IEEE-1394 PROCOMP Fire Wire 3 Ports PCI Card
- 64MB nVidia GeForce-3 Titanium-500 DDR Video
- Creative Lab Sound Blaster Live! Value 5.1 Sound
- upgrade: Sound Blaster Audigy Gamer @ \$69
- upgrade: Sound Blaster Audigy Platinum @ \$159
- 56K V.90 Fax Modem w/Voice
- 19" ViewSonic E90 23mm SVGA Monitor
- upgrade: 19" ViewSonic GS790 22mm @ \$80
- ALTEC LANSING AV5500 5 Pieces Speakers
- Microsoft Intelli Mouse & PS2 Win98 Keyboard
- MS Windows XP Home Edition CD
- Free COREL Office 2002 CD
- One Year On-Site Warranty - add \$39

|                                      |        |           |
|--------------------------------------|--------|-----------|
| AMD Athlon™ XP Processor             | \$1405 | (gdsp021) |
| 1600+ with Quantispeed™ architecture | \$1415 | (gdsp022) |
| 1700+ with Quantispeed™ architecture | \$1450 | (gdsp023) |
| 1800+ with Quantispeed™ architecture | \$1490 | (gdsp024) |
| 1900+ with Quantispeed™ architecture | \$1589 | (gdsp025) |

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they're labeled with cryptic images. The indicator lights that report on the toner and power—and those that signal other errors—are similarly vague. The manual helps explain them, but we wish HP had made the control panel clearer.

The LaserJet 1220 copies from the front panel. It reproduced the text in our sample copies slightly darker than the original, which is unusual—most of the MFDs we tested copied our text document lighter. The 1220's scanned images looked smooth and had good contrast; as with the Lexmark X63, though, you can't scan directly from the control panel. After pressing the scan button, you must complete your scan instructions via your PC. In addition, because the scanner is sheet-fed with no flatbed scanning option, scanning a variety of documents is harder.

**UPSHOT:** Consider the LaserJet 1220 if you're dexterous and want an inexpensive laser printer that can do a few extra tricks.

## Oki Data OkiOffice 87

MOST ALL-IN-ONE MFDs evolve out of printers, but the \$599 OkiOffice 87 started as a fax machine; Oki Data added printing, scanning, and copying functions. As a fax unit, it's superbly equipped. Its PC-based fax setup software is extremely intuitive, letting you quickly add speed-dial numbers into your computer and send them to the machine. The control panel has loads of buttons, most for controlling the fax. You can set up the fax for advanced features such as generating automatic reports, delay-

ing transmissions, receiving polling faxes, sending broadcast faxes, and adding extra codes for billing. Unlike using the setup software, however, using the advanced features is an opaque process; you'll need the manual to make sense of the button labels.

The other functions that the OkiOffice 87 provides seem like an afterthought. Oki Data bundles Unimesage Pro XLite software for scanning and printing. An on-panel copy button lets you make a quick single copy, but you have to go deep into the menu to adjust image quality or to change the size or number of copies. Our text copies came out clean yet lighter than the originals, but gray-scale copies were dark and mottled.

As a printer, the OkiOffice 87 is slow. Text prints at 6.5 ppm, about half the page rate of the other laser devices we looked at for this review. Graphics speed (3.6 ppm) is also slow but more in line with that of other laser printers. Text looked light and clean, but gray-scale graphics showed crosshatched patterns throughout and some visible banding.

Scanning may not be worthwhile. You must rely entirely on the scanning software in your PC—there is no button on the control panel for it—and the unit scans only in black-and-white. The OCR function garbled enough words to require editing.

**UPSHOT:** A fax machine on steroids, the OkiOffice 87 will fit in offices that need an occasional copy but minimal printing. ■

*Lisa Cekan is a PC World associate editor.*

## DECISION GUIDE

# How Much FAX Do You Need?

MULTIFUNCTION DEVICES have never been cheaper—a few are priced at under \$200—but the savings typically come at the cost of losing key features. With the near-universal trend toward communicating by e-mail, a fax capability is often the first feature to go. HP's \$529 LaserJet 1220, for example, omits any fax, and a sibling device to our reviewed Lexmark X63—the \$149 Lexmark X73—eliminates a fax in favor of a flatbed scanner. But before you buy an all-in-one without a fax function, consider carefully whether your home or small office can get by without one.

Even if you never send faxes, do other businesses you communicate with still rely on a fax machine? If so, you'll need some fax capability, even if it's just PC fax-

ing. This is especially important if you need to return faxes with your signature. Do you need to receive critical faxes at odd hours? Even if your fax volume is relatively low, consider getting a multifunction device with stand-alone fax capabilities. That way you won't have to leave your PC on 24 hours a day. Also, look for devices with advanced features, such the ability to archive faxed pages on a PC. Do you receive or send faxes in large volume? Look for an MFD or stand-alone fax machine with features such as polling, so your fax unit can call another and have it respond by sending a return fax automatically; broadcast faxing, so you can fax to multiple people at once; and time-delay faxing, so you can arrange to send a fax at

a later time, such as when phone rates are cheaper. Give it its own phone line, so the fax traffic doesn't fight for the phone line with your voice calls and Internet access. Does an available alternative technology improve on faxing? You can send almost any document by e-mail if you're willing to run through some extra steps, but this process can be unwieldy. Consider documents that require signatures, for instance: You receive the document as an e-mail attachment, print it out, sign it, scan it back in, set it up in an application, and then e-mail it back as an attachment. That adds up to considerably more steps than printing, signing, and refaxing.







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- Microsoft Windows XP Pro Edition
- 56K Fax/Voice Modem\*
- 10/100 Fast Network Card
- Stereo speakers
- 2 Front USB Ports
- Microsoft Office Keyboard
- Microsoft Optical Intellimouse
- 1 Year Toll Free Tech Support

## TRU XP Gamer

The Ultimate system for the gamer

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- 16X DVD Player
- 10/100 Fast Network Card
- Microsoft Windows XP Pro Edition
- 56K Fax/Voice Modem\*
- Stereo speakers
- 2 Front USB Ports
- Creative Audigy Sound Card
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- Microsoft Office Keyboard
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- 1 Year Toll Free Tech Support

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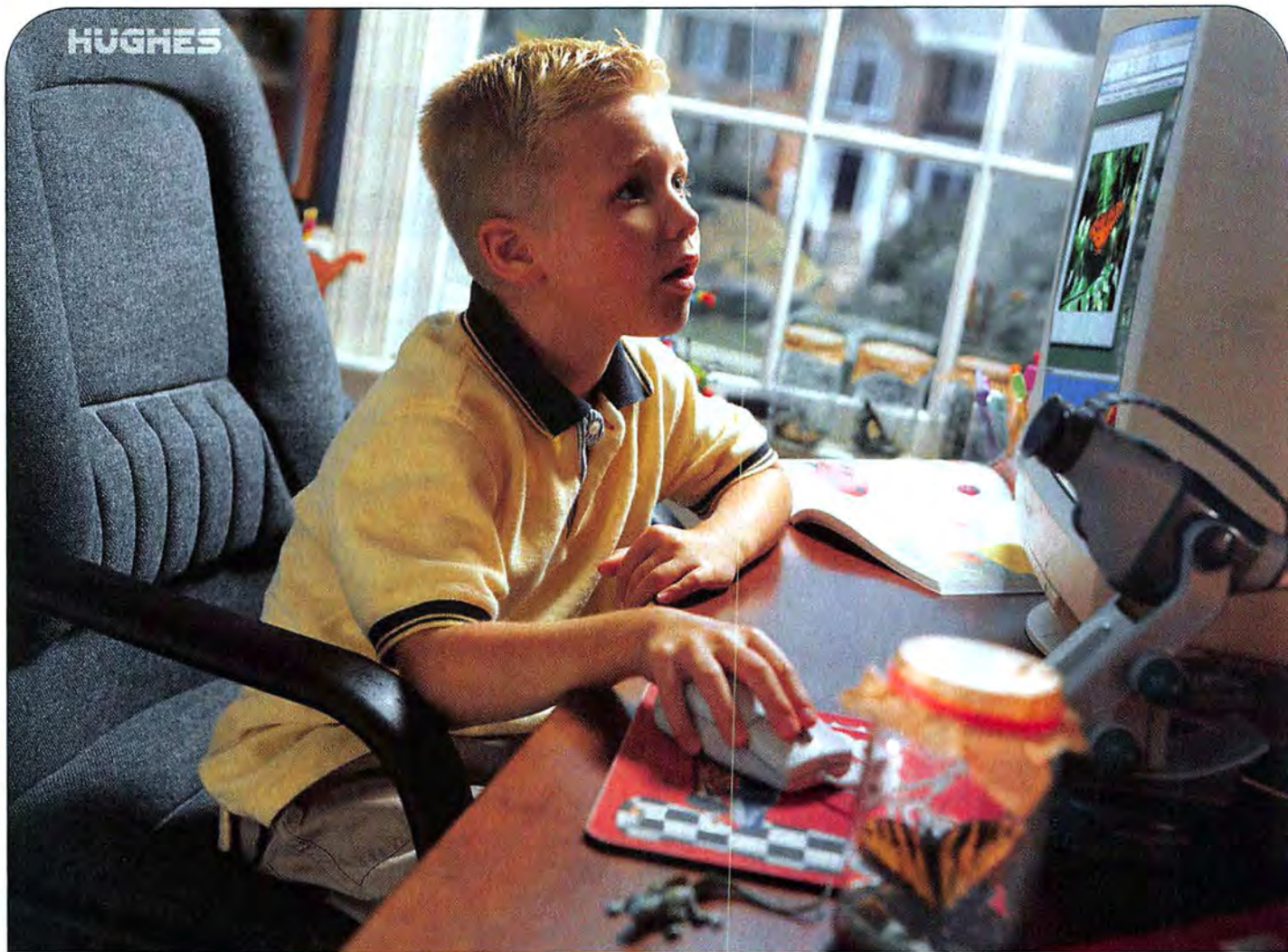
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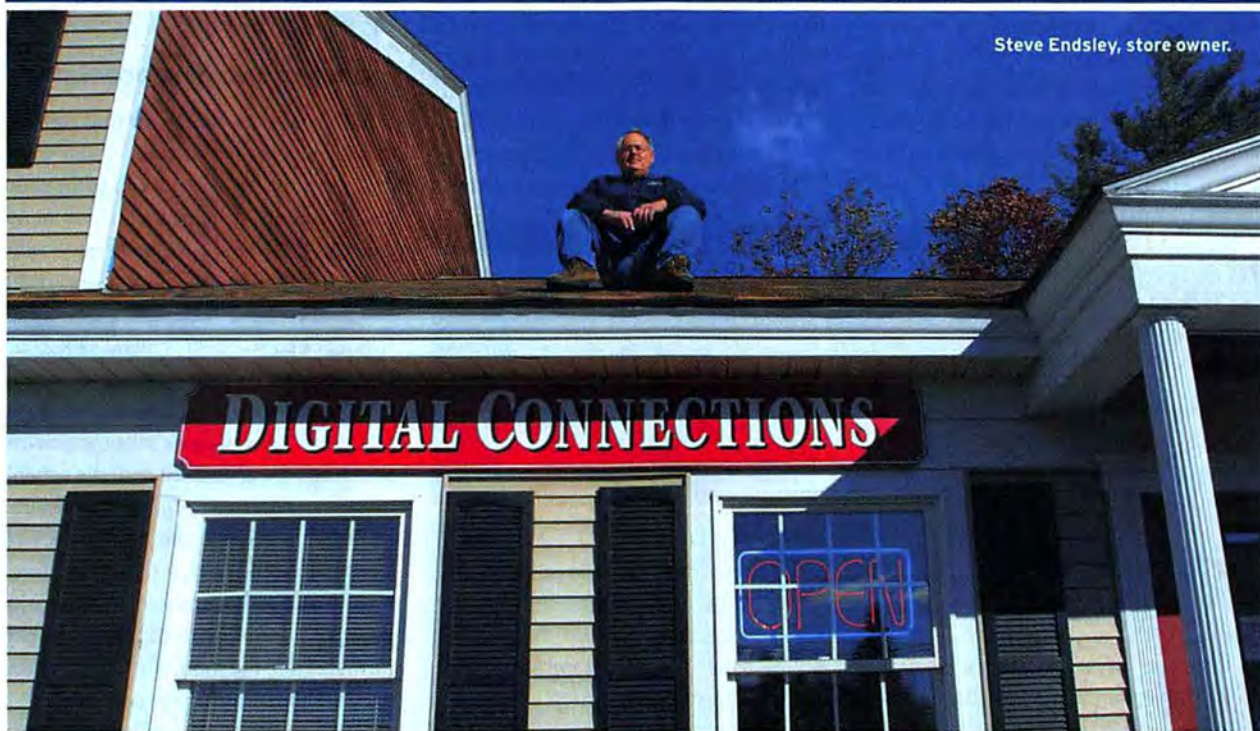
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# THE STORE NEXT DOOR

PC SERVICE FROM THE BIG GUYS IS IN FREE FALL, BUT OUR EXCLUSIVE REPORT SAYS CUSTOMERS WHO BUY LOCALLY ARE HAPPY. HERE'S HOW TO FIND A GREAT INDEPENDENT DEALER—AND STEER CLEAR OF THE FLY-BY-NIGHT OPERATORS.



Steve Endsley, store owner.

SERVICE WITH A SMILE may be closer than you think, says Stephen Wilkinson of Lee, New Hampshire. He buys PCs from a local store called Digital Connections, owned by Steve Endsley, just 20 minutes from his office. When the graphics card in one of Wilkinson's PCs gave out one morning, Digital Connections sent out a tech to replace it within an hour. "You just don't get that kind of service from a big company," says Wilkinson, a physician with a local practice.

Sure, Wilkinson is generalizing. However, we heard similar sentiments from many devotees of mom-and-pop retail-

ers in our latest PC Reliability and Service survey, based on reports from over 27,000 *PC World* subscribers.

If you're thinking about buying a new computer, this may be an ideal time to shop locally. According to our survey, customer support from the big PC companies is worse than ever. Disgruntled readers say they now wait longer on hold than in the past, and once they get through, their problems more frequently go unresolved. In contrast, customers of local retailers tended to have a better experience: Their calls were picked up promptly, and problems were handled more efficiently. ►

BY LAURIANNE McLAUGHLIN ♦ PHOTOGRAPH BY SETH RESNICK



Of course, local stores are not for everyone. Locally built PCs may be less reliable than the well-known national brands in our survey. In addition, you're less likely to get the rock-bottom prices and software goodies that the big brands provide.

Nevertheless, according to local-store fans, those trade-offs are amply repaid by the sterling customer service they receive.

### SERVICE WIZARDS

WHEN IT COMES to picking up support calls, local stores earn top marks. Among survey respondents who bought their home PC locally, almost 80 percent waited on hold no longer than 5 minutes. Less than 46 percent of owners of big-company home machines could say the same thing. Techies at local stores are more likely to know their stuff, too. (Go to [find.pcworld.com/15020](http://find.pcworld.com/15020) for the in-depth survey report.)

At first glance, getting great service

from local stores seems illogical. How can a little store beat a big PC company that employs a small army to please customers? Certainly, the face-to-face factor matters. Most of us prefer to deal with someone we know rather than with a faceless phone rep. But there's more to it.

Store owner Steve Endsley points to technician turnover. Whereas the big companies often use temporary workers who are here today, gone tomorrow, Endsley has six employees—four who work full-time on service—and rarely experiences turnover at his 13-year-old shop.

Endsley's phone lines are open from 8 a.m. to 5 p.m. six days per week (five days in the summer). If no one can handle your call, a message service will page a tech—even after-hours or on weekends.

Customers within a 3-hour drive of Digital Connections qualify for on-site service; obviously, people who are nearby,

like Wilkinson, get the fastest response. In contrast, although many big companies such as Dell tout next-day on-site service, getting that service can be a different story (see November's *Consumer Watch* at [find.pcworld.com/17101](http://find.pcworld.com/17101)).

Another store owner takes care not to make promises he can't keep. Shawn Haskins, owner of Computer Brokers in Greeley, Colorado, says he tries to avoid having too few techs for too many customers. Most of his customers are located nearby, and he requires them to bring their PCs to the store for service. That way, techs can work on more PCs at once. But people who really want on-site service can buy it for an extra \$50 per year.

### GOING LOCAL: THE DOWNSIDES

ACCORDING TO our survey findings, lots of local stores give customers that warm and fuzzy feeling—but not all of them do: PC World editors helped television newsmagazine *Dateline NBC* investigate complaints about a mom-and-pop-size retailer based in New York. Some customers had reported so-called bait-and-switch tactics: They were drawn to the store initially by compelling PC ads, but they got talked into purchasing more-expensive PCs when the advertised systems weren't available. After examining the systems built by this outfit, the PC World Test Center concluded that the builder was selling shoddily constructed PCs composed of inferior parts and that their performance fell far short of what the advertised systems would have provided.

That's an extreme case, but our survey did find that local-store PCs are less likely to be problem-free: Over 39 percent of local stores' home PC customers encountered at least one faulty component that needed replacing, compared to an average of 29 percent among the big brands.

For PC novices and first-time buyers especially, a series of parts failures can be a nasty surprise. Jean Crossman of Cedarburg, Wisconsin, a real estate office assistant, bought her first home PC locally, based on a neighbor's advice. The three-year-old PC had a lot of parts fail, includ-

### PC BUYING TIPS

## FIND THE RIGHT LOCAL STORE

THINKING OF GOING THE LOCAL ROUTE? Word-of-mouth advice is a good place to start. Then follow these ten tips to help you home in on the best store.

- DO** visit recommended stores in person—just to chat. Ask to meet the owner, and trust your gut feelings about how responsive you think the store will be.
- DO** follow Contributing Editor Steve Bass's 5/15 rule, if you can: Choose a store that has been in business for at least five years and is located no more than 15 miles from your home or office.
- DO** check with the local Better Business Bureau to see how many complaints—if any—have been filed against each store.
- DO** pursue multiple options. Compare prices, warranties, and support hours.
- DO** show the sales staff that you've done your homework on parts makers. If the store doesn't stock the brand you want, ask whether staff can hunt the item down.



- DON'T** choose a store that pressures you to buy "today" because of a massive sale or one that pushes "closeout" items.
- DON'T** purchase from a store where the sales representatives try to talk over your head using technical jargon.
- DON'T** buy from a store where the salespeople make you feel like you're not worth their time. If the store wants to sell only to people who buy ten machines at once, give someone else your business.
- DON'T** be impressed by "paper" technicians. Industry certification should not sell you on a store's tech support staff. Instead, ask how long techs have served customers; the more years, the better.
- DON'T** hesitate to ask for customer references in your community.



ing the graphics card, the sound card, the floppy drive, and memory. "We thought if we had problems, it would be easier with a local store," Crossman says. But in hindsight she realizes she didn't know enough about the different manufacturers to judge the parts list before she bought.

Why are locally built computers sometimes less reliable? The answer has to do with where local stores buy their parts. To thwart potential reliability hassles, local store shoppers should insist on parts built by reputable manufacturers.

The quality of some parts is the same no matter where you buy, according to Roger Kay, IDC's director of client computing. In other words, a Seagate hard drive you buy from Joe's PCs is as good as the Seagate hard drive you get from Dell.

You face more-complex issues regarding other parts. "With memory and power supplies, you have some smaller manufacturers [whose] quality might not be as good," says Kay. You're more likely to run into gray-market parts. Such parts—typically bought by the PC store from another reseller or online—could be fine. But on the other hand they could be dishonestly labeled or cosmetically damaged generics. Ask stores whether they buy memory and power supplies directly from the manufacturer. If not, that could be a red flag.

Everything from software drivers to the soldering used on motherboards can affect whether PC parts play nicely together, Kay says. Your best strategy: Choose a name-brand motherboard that the local store recommends as its best, and then research it online. Try a keyword search at Tom's Hardware Guide ([find.pcworld.com](http://find.pcworld.com)).

## SURVEY RESULTS

### READERS RATE WORK PCs

Though their systems are less reliable, local stores give better service.

| MERCHANT                                       | RELIABILITY MEASURES                                  |   | SERVICE MEASURES   |   |
|--|---|---|--|---|
|  | Percentage of PCs with at least one component failure | Percentage of users who report high satisfaction with reliability | Percentage of users who waited on hold 5 minutes or less | Percentage of users who report high satisfaction with service |
| Local retailers (average)                      | 29.7  | 59.8  | 73.6   | 50  |
| Largest national brands (average) <sup>1</sup> | 20.1  | 63.8  | 51.6   | 42.6  |

**SOURCE:** PC World Reliability and Service survey, based on 27,081 online participants' responses recorded from April through June 2001. See [find.pcworld.com/15020](http://find.pcworld.com/15020) for the full story. See [find.pcworld.com/16460](http://find.pcworld.com/16460) for full details on how local retailers fared in the work PCs category. Visit [find.pcworld.com/16461](http://find.pcworld.com/16461) to review the ratings for home PC makers. And see [find.pcworld.com/14621](http://find.pcworld.com/14621) for percentages underlying each word score. <sup>1</sup>The brands included in this tabulation are Compaq, Dell, Gateway, Hewlett-Packard, and IBM.

## BUYING A PC

### GO LOCAL AND PAY MORE? MAYBE

DO PCs FROM YOUR LOCAL STORE cost more than systems from the big guys? To find out, we configured a Dell PC<sup>1</sup> and then got estimates for similar PCs from local retailers. The verdict? On average, you'll pay more for a locally built PC.

| PC COMPANY  | Differences in configuration  | Street price <sup>2</sup> (11/2/01) |
|---|---|-------------------------------------|
| Central Computer Systems<br>(San Francisco) <a href="http://www.centralcomputers.com">www.centralcomputers.com</a>            | 19-inch Sony G400 Trinitron monitor, 32MB ATI Xpert 2000 graphics card, Microsoft Office XP | \$1814                              |
| Computer Brokers<br>(Greeley, Colorado) <a href="http://www.cbroskers.com">www.cbroskers.com</a>                              | 19-inch Sony G420S Trinitron monitor, 32MB ATI Radeon graphics card                         | \$1579                              |
| Digital Connections<br>(Dover, New Hampshire) <a href="http://www.dcinh.com">www.dcinh.com</a>                                | 19-inch Sony G400 Trinitron monitor, 32MB ATI Rage Fury graphics card                       | \$1955                              |
| Friendly Mobile Computers<br>(Las Vegas) <a href="http://www.friendlymobilecomputers.com">www.friendlymobilecomputers.com</a> | 19-inch CTX Trinitron monitor, 16MB Kaser S305 graphics card                                | \$1819                              |
| Intrex<br>(Raleigh, North Carolina) <a href="http://www.intrex.com">www.intrex.com</a>  | 19-inch AOC 9Girs monitor, 32MB Shuttle GeForce2 MX200 graphics card                        | \$1299                              |
| <b>Average of Local Retailers</b>   | See individual descriptions above   | <b>\$1693</b>                       |
| <b>Dell</b><br><a href="http://www.dell.com">www.dell.com</a>   | Not applicable  | <b>\$1469</b>                       |

<sup>1</sup>Dell's specs included a 1.7-GHz Pentium 4 CPU, a 19-inch Dell Trinitron monitor, a 16MB ATI Rage graphics card, and Microsoft Works Suite 2001.

<sup>2</sup>Tax not included.

[com/16300](http://com/16300)) for the company's name. Go to [find.pcworld.com/18941](http://find.pcworld.com/18941) for more links and for research advice.

Then there's the matter of price. Almost uniformly, buyers and store owners concur that a local-store PC will cost at least \$100 more than a comparably configured Dell or Gateway PC—though that's not always true (see our comparison above).

### WHAT'S RIGHT FOR YOU

AT THE END of the day, you must take into account your comfort level, your friends' recommendations, and any past experiences you've had with national PC

manufacturers in determining whether you should choose a local retailer.

For buyers like Stephen Wilkinson, the PC shopping process comes down to this: Chances are that you'll have a computer glitch, sooner or later. "When the problems pop up, you have got to decide who you want to deal with," he says.

Remember, local stores live and die by word-of-mouth recommendations, so be sure you ask around. It's the best way to separate the stars from the bad guys. ■

*Laurianne McLaughlin is a freelance writer based in Massachusetts.*





## KINGSTON TECHNOLOGY: TAKING THE STRESS OUT OF MEMORY UPGRADES

[www.shop.kingston.com](http://www.shop.kingston.com)

You already know that memory upgrades are the fastest, most reliable way to boost your PC's performance—so what's holding you back?

Many users are afraid that by installing new memory, they might damage their PCs. But the procedure is actually quite painless, and the results—from improved multitasking to eye-popping multimedia—are often substantial.

Now the largest independent memory manufacturer, Kingston Technology Company Inc., is helping users to successfully upgrade their own systems, through demonstrations and system-specific memory guides.

Visitors to [www.Shop.Kingston.com](http://www.Shop.Kingston.com) can access detailed hardware advice as well as an easy-to-follow animated tutorial. "We wanted to show users how easy it is to install memory," says Jason Jacobi, a Kingston spokesman. "And once they see it for themselves, they can feel comfortable buying the upgrade they need to run today's leading software and operating systems, including Microsoft Windows XP."



### KINGSTON MAKES IT EASY FOR YOU

Customers at [Shop.Kingston.com](http://Shop.Kingston.com) already use the site's Memory Configurator to choose memory by system model, memory specification, or Kingston part number. PDA users, and those with digital cameras and MP3 players, can search for their upgrades by device type.

Now Kingston's animated online tutorial, "Memory Installation in 3 Steps," shows users how just how easy it is to install memory. The animated demo reviews a typical system's layout and components and illustrates the correct way to place modules in a PC's memory bays.

Kingston also provides free, detailed Adobe Acrobat PDF-formatted installation guides for PCs from leading manufacturers, as well as guides for installing Flash memory modules and software drivers.



First-time memory buyers will especially benefit by clicking on Kingston's animated installation guide, from the [Shop.Kingston.com](http://Shop.Kingston.com) homepage. "It takes the anxiety out of the installation process for users at any level," says Jacobi. "After watching it, you won't be afraid anymore to take the cover off of your PC."

### QUALITY YOU CAN COUNT ON

By installing their own modules, users can experience firsthand the high quality of Kingston's modules. IT professionals rely on Kingston memory to update their systems. And many leading PC manufacturers in the United States build Kingston memory right into their new machines.

Kingston each year builds and tests more than two million customized modules for hardware manufacturers and systems developers. Now consumers, through [Shop.Kingston.com](http://Shop.Kingston.com), can receive the same memory, and the same warranties, as Kingston's business customers.

"Kingston has a good handle on quality," says Kingston consumer Tim Scovell. "I'm always adding modules to my systems, and the Kingston memory works every time."

Kingston's memory is system-specific, and the company guarantees the compatibility of modules selected through the Kingston Memory Configurator. "It leads you to the exact memory your system requires," Jacobi adds.

In the unlikely event that a customer has trouble with his upgrade, he or she can call Kingston at 800-435-0640 and consult with a memory expert, 24/7.

With its latest support for novice upgraders, and with its 24/7 customer service, Kingston is making its memory products and professional-level support available to every consumer. "At [Shop.Kingston.com](http://Shop.Kingston.com)," Jacobi says, "Web surfing, gaming, and exciting multimedia are going to be possible on more systems than ever before."





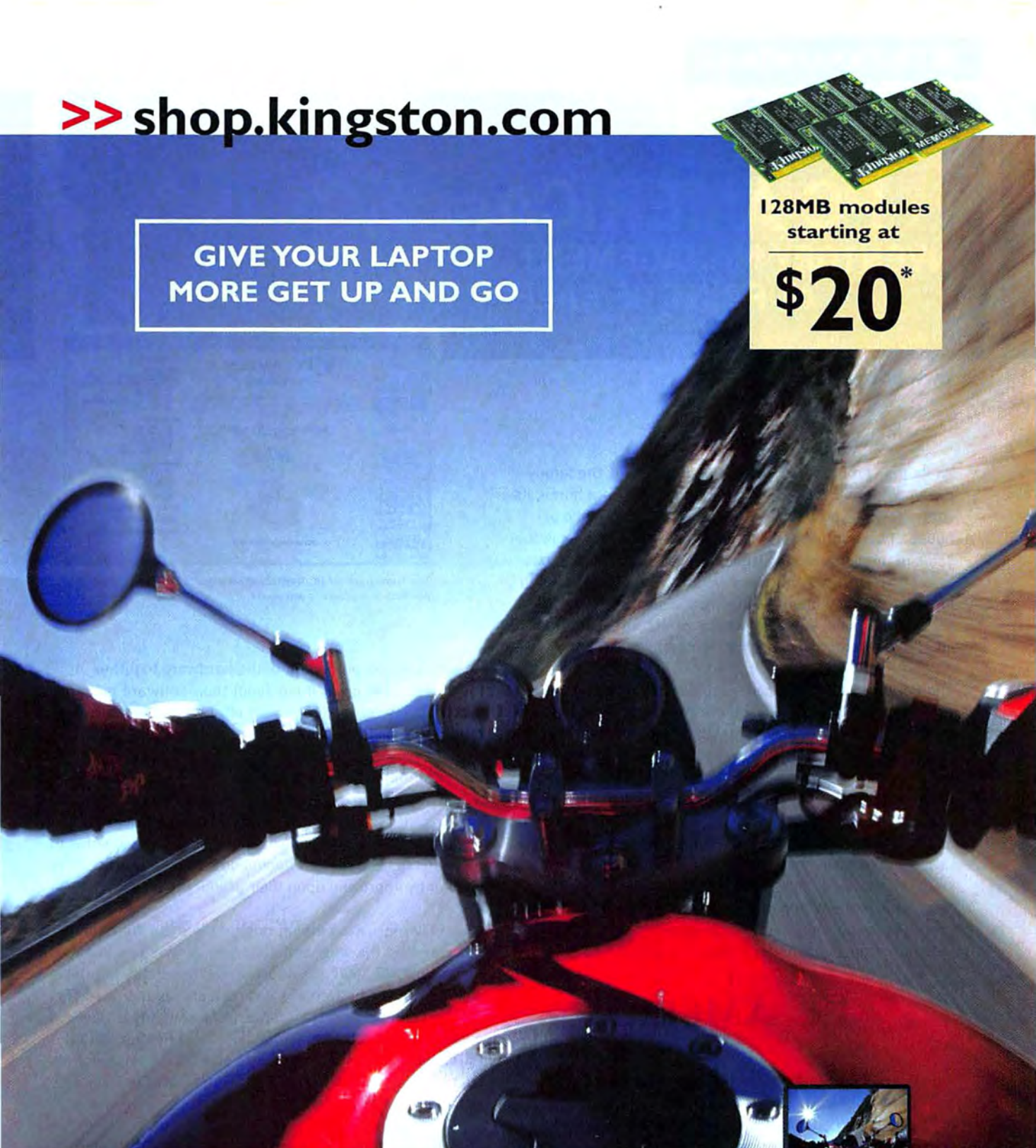
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# PC AMERICA: INVENTORY MANAGEMENT AT POINT OF SALE

[www.pcamerica.com](http://www.pcamerica.com)

While many motorists in Dimondale, Mich. say the family-owned Windmill Truck Stop is a home away from home, its controller, Kevin Edelmann, says it's been more like a house of accounting horrors. Besides monitoring retail fuel sales in the truck stop's "truckers only" area, he also has to keep an eye on commuters' and travelers' purchases in the king-sized complex's convenience store, family restaurant, motel, and auto service center. "Keeping track of all of that inventory has been a nightmare," Edelmann says.

The Point of Sale (POS) system that the Windmill had been using since 1982 did a fine job of ringing up sales, but it couldn't tell store managers anything about what was on the shelf. "The system only broke sales down by department," Edelmann says. "So it couldn't tell the difference between a tube of toothpaste and a bottle of shampoo."

Edelmann found only a few POS solutions that were easy to use, Microsoft Windows-based, and able to support multiple input devices. And none of them could manage the 20,000-plus items in the Windmill's convenience store and restaurant. "We desperately needed a solution that could bring all of these components of our business together," he says.



## PC AMERICA

Things finally turned around at the Windmill once Edelmann deployed PC America's Cash Register Express (CRE 2000), a Windows-based POS program that works with ordinary PCs and peripherals, as well as barcode scanners, receipt printers, and pole displays (which show charges at the checkout counter). Now all of the Windmill's cashiers can use touch screens and barcode scanners to enter orders and update inventory. And setting up CRE 2000 could not be easier, says Edelmann. "PC America did



The home page for PC America speeds you to the point-of-sale products you need.

an excellent job pulling all of the hardware together initially. But the great thing about their software is that I can grab any component I want off the shelf and throw it together in no time. This is one slick program."

The Windmill has processed more than half a million transactions with CRE 2000 and PC America's Restaurant Pro Express (RPE 2000) since October 1999. And Edelmann predicts that PC America will continue to develop the software he needs to keep things running smoothly. "PC America is constantly improving upon their products," he says.

Now PC America is helping retailers like the Windmill to move beyond the sale itself to increase revenues. A new feature in CRE 2000 gives businesses the ability to print coupons on the bottom of sales receipts on an Epson TM-T88II receipt printer. They can use the coupons to advertise specials on slow business days (e.g., "10 Percent Off All Purchases Every Tuesday"), or to give their customers discounts on overstock items (e.g., "Get a Free Six-Pack of Pepsi on Your Next Visit").

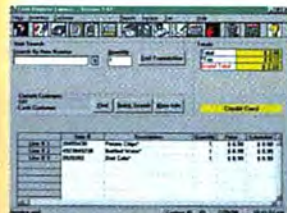
CRE 2000's couponing feature promises retailers an excellent route to a crucial dimension in retail sales. "Repeat business is the most important aspect of any business," says PC America's president, Howard Gosman. "With this addition to our POS package, we are giving our customers a quick and easy-to-use method for creating it."





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All PC America Software requires Microsoft Windows. The software was written in Visual Basic using Microsoft Access Files. The source code is available.

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Computer system failures can give anyone heart palpitations, but for Chuck Maray's customers, they can be a matter of life and death.

Maray is a customer service systems engineer at Camtronics Medical Systems Inc., a developer of imaging equipment and PC-based diagnostic workstations for cardiologists.

Part of Maray's job is to ensure the reliability of Camtronics' products, which are already in a quarter of the cardiology labs in the United States. But for a while, Camtronics thought it could save money by purchasing "no-name" memory on the Internet.

"I tried getting the best deal on RAM by buying no-name memory," Maray says, "And I had problems. There were times I couldn't even get a system to boot up after I installed the modules."



Now Maray buys Camtronics' memory upgrade modules factory-direct at www.Crucial.com.

Crucial.com is the award-winning retail Web site for leading memory manufacturer Micron Technology Inc., which tests all of its modules under extreme temperatures, voltages, and operating conditions. Crucial.com sells over 73,000 upgrades for more than 13,000 desktops, notebooks, servers, routers, printers, and electronic devices.

Maray earns a 10-percent discount with each purchase he makes at Crucial.com. But the real reason he stays with Crucial is that "they've never sold us a bad DIMM."

### RELIABLE AND COMPATIBLE

Crucial.com backs all of its memory with a lifetime limited warranty and free technical support through its live-chat Expert Line, e-mail, and a toll-free telephone number. And the site's Safe Shopping Guarantee promises shoppers that their transactions are encrypted and personal information kept completely confidential.



Camtronics' IT department also uses Crucial.com to keep the 400 PCs at its Hartland, Wisc. headquarters up to date: the upgrades they buy from Crucial, Maray says, keeps the company's technology cost-of-ownership under control.

Crucial.com ensures the modules Maray and his coworkers buy are a perfect match for their desktop and portable systems through its Memory Selector tools.

The Memory Selector gives shoppers all the information they need in one place: customers simply enter their computers' make and model information, and the Memory Selector returns a list of Crucial memory upgrades that are guaranteed to work with that system.

Indeed, the site guarantees the compatibility of every module purchased through the Memory Selector.

The Web site also includes a CompactFlash Memory Selector to help users of digital cameras and other electronic devices locate the perfect upgrade. (All of the vendor's CompactFlash memory products are mechanically and electronically compliant with the CompactFlash Association's stringent specifications.)

Those who want to learn more about the advantages of using CompactFlash memory products can visit the Crucial.com library, which shows the benefits of CompactFlash cameras and explains the capacities of various CompactFlash memory cards.

"The Crucial Web site saves me time, by directing me to exactly the right upgrade, every time," Maray says. "I don't have to do any research outside of the site."





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# TOP 100

EDITED BY RICHARD BAGULEY

## INSIDE

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### Top 15 Home PCs

The ABS Performance Ti 500 combines an attractive case with plenty of features to take the power Best Buy award on our Home chart.

## Athlon XP 1800+: The Next Generation

**The first systems** using speedy new Athlon XP 1800+ processors (which actually run at 1533 MHz) appear high on the power section of the *Top 15 Office PCs* chart this month. Systems using this processor also hold first and second place on the power side of the *Top 15 Home PCs* chart.

Look for speed on the *Top 10 CD-RW Drives* chart, too—models that can write data to CD-R discs at up to 24X have six of the ten spots. Such drives can write 70 minutes of music to a CD-R disc in less than 5 minutes.

Finally, check out our review of multifunction devices—which combine scanning, printing, and faxing tasks into one package—on page 103.

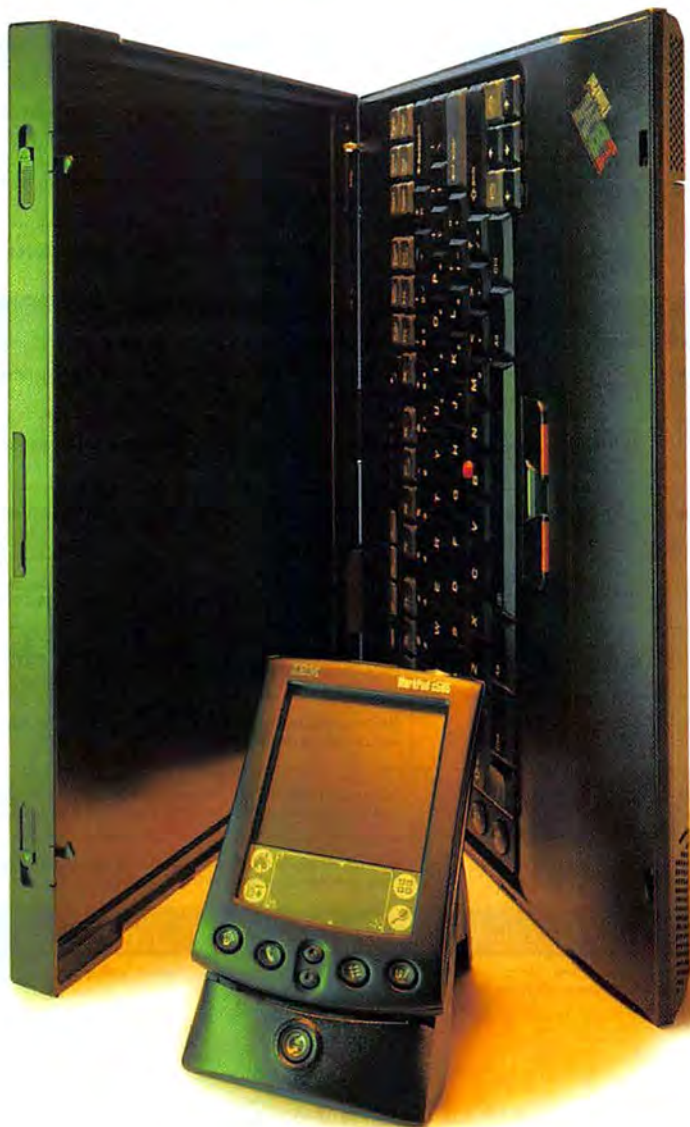
*Freelance writers Jon L. Jacobi, Richard Jantz, Joel Strauch, and Carla Thornton, and PC World editors Richard Baguley, Tracey Capen, Seán Captain, Lisa Cekan, Rebecca Freed, Alexandra Krasne, Melissa Perenson, Kalpana Narayanamurthi, and Alan Stafford contributed to this month's Top 100 section. Ulrike Diehlmann, Robert James, Elliott Kirschling, Jeff Kuta, Tony K. Leung, and Thomas Luong of the PC World Test Center performed testing on the products reviewed here, with support from Julio Giannobile and Julian Weatherby.*



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**Top 15 Notebook PCs**

IBM's new ThinkPad A30p offers an optional pop-out PDA cradle that fits into one of the two expansion bays for easy syncing.



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**Top 10 Digital Cameras**

The Kodak DX3900 Zoom works with an optional dock that recharges the battery and transfers pictures with the press of a button.

**Top 10 CD-RW Drives**

More 24X/10X/40X drives are coming onto our chart: This month, the Teac CD-W524E and the Sony CRX175A/A1 debut at number 6 and number 9, respectively.

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**YOUR GUIDE TO THE TOP 100**

EACH MONTH WE TEST a large number of PCs, printers, monitors, and other products. Only the best products land on the charts, which are refreshed monthly.

System configurations are shown as tested. The overall rating for each product is calculated on a 100-point scale and reflects results from our hands-on evaluations

and performance tests. A 90-point score is exceptional, while one in the 70s is above average.

The PC WorldBench 4 score is a measure of how fast a PC can run a mix of common business applications as compared with our baseline machine, a Gateway Select 1200 with an Athlon-1200 processor, 128MB of PC133

SDRAM, and a 20GB hard drive. For example, a PC that scores 120 is 20 percent faster than the baseline system. The policies score is based on vendor support policies (not shown on charts). Please see [find.pcworld.com/15720](http://find.pcworld.com/15720) for additional details on how we compile charts for the Top 100.



## TOP 15 OFFICE PCs

|              | POWER SYSTEM  | Issue tested | Overall rating | Street price (11/15/01)        | PC WorldBench 4 performance score <sup>1</sup> | Faster          | Comments  |
|--------------|---|--------------|----------------|--------------------------------|--|-----------------|---|
| 1            | <b>Best BUY</b> Polywell Poly 815T5-1260<br><a href="http://find.pcworld.com/13161">find.pcworld.com/13161</a>      | Jan 02       | 83             | Average \$1950                 | Windows 2000                                   | Very good 122   | An array of features, a \$200 drop from last month, and the second-highest PC WorldBench 4 score on the chart. (★★★★☆ Nov 01)           |
| 2            | Micro Express MicroFlex 18A<br><a href="http://find.pcworld.com/17482">find.pcworld.com/17482</a>                   | NEW          | 82             | Very inexpensive \$1199        | Windows 2000                                   | Outstanding 127 | Offers very impressive performance at a low price, but has some low-end components. (★★★★☆)   |
| 3            | Sys Performance 1800+<br><a href="http://find.pcworld.com/17501">find.pcworld.com/17501</a>                         | NEW          | 81             | Average \$2236                 | Windows 2000                                   | Outstanding 127 | Plenty of processing power and a 17-inch LCD monitor make this a strong package. (★★★★☆)  |
| 4            | MicronPC Millennia Max XS<br><a href="http://find.pcworld.com/17481">find.pcworld.com/17481</a>                     | NEW          | 80             | Average \$2044                 | Windows XP Professional                        | Average 106     | Good performance and a great monitor, but the tall, thin case could easily tip over. (★★★★☆)  |
| 5            | HP Vectra VL420<br><a href="http://find.pcworld.com/15240">find.pcworld.com/15240</a>                               | Jan 02       | 78             | Average \$2394                 | Windows 2000                                   | Average 109     | Corporate PC has management features and uses Intel's 845 chip set. Price drops \$634 this month. (★★★★☆ Dec 01)                        |
| 6            | Polywell Poly 880K7-1400<br><a href="http://find.pcworld.com/16760">find.pcworld.com/16760</a>                      | Jan 02       | 77             | Average \$2399                 | Windows 2000                                   | Good 113        | Includes a speedy Athlon processor and an IEEE 1394 card. Price drops \$200 this month. (★★★★☆ Oct 01)                                  |
| 7            | Xi Computer 4200 MTower SP<br><a href="http://find.pcworld.com/17761">find.pcworld.com/17761</a>                    | NEW          | 76             | Expensive \$2699               | Windows XP Professional                        | Average 103     | Bears a high-end graphics card and lots of memory, but has a high-end price and only average performance. (★★★★☆)                       |
| VALUE SYSTEM |   |              |                | Percent of overall rating ▶    | 10 percent                                     | 25 percent      |   |
| 1            | <b>Best BUY</b> Micro Express MicroFlex 1200C<br><a href="http://find.pcworld.com/15221">find.pcworld.com/15221</a> | Jan 02       | 83             | Inexpensive \$999              | Windows 2000                                   | Very good 117   | Excellent performance and ample expandability at an affordable price, but needs a better monitor. (★★★★☆ Dec 01)                        |
| 2            | ABS Conquest VP<br><a href="http://find.pcworld.com/16700">find.pcworld.com/16700</a>                               | Jan 02       | 81             | Average \$1199                 | Windows XP Professional                        | Very good 115   | Strong performance and an IEEE 1394 interface, but the monitor could be better. (★★★★☆ Jan 02)  |
| 3            | Tangent Valera PC<br><a href="http://find.pcworld.com/13182">find.pcworld.com/13182</a>                             | Jan 02       | 78             | Inexpensive \$1129             | Windows 2000                                   | Very good 111   | Fast; dual monitor capability; integrated IDE RAID controller, but only one hard drive. (★★★★☆ Nov 01)                                  |
| 4            | Gateway E-3600<br><a href="http://find.pcworld.com/15820">find.pcworld.com/15820</a>                                | Jan 02       | 75             | Average \$1459                 | Windows 2000                                   | Average 99      | Remote manageability, tool-less access to components, and plenty of expansion options. Price drops by \$100. (★★★★☆ Jan 02)             |
| 5            | Sys TaskMaster 1000D<br><a href="http://find.pcworld.com/15800">find.pcworld.com/15800</a>                          | Jan 02       | 75             | Average \$1222                 | Windows 2000                                   | Average 100     | Reasonable speed for the price, and a good monitor, but expandability is somewhat limited. (★★★★☆ Jan 02)                               |
| 6            | Compaq Evo D500<br><a href="http://find.pcworld.com/15840">find.pcworld.com/15840</a>                               | Jan 02       | 75             | Average \$1254                 | Windows 2000                                   | Average 100     | Average speed and limited expandability, but an attractive case with tool-less access to components. (★★★★☆ Jan 02)                     |
| 7            | Polywell Poly 830K7-1000<br><a href="http://find.pcworld.com/10370">find.pcworld.com/10370</a>                      | Jan 02       | 74             | Inexpensive \$1050             | Windows Me                                     | Poor 90         | Includes partition backup software along with a hard drive that is easy to remove through the front of the tower. Price lower by \$100. |
| 8            | Dell Dimension 2100<br><a href="http://find.pcworld.com/13183">find.pcworld.com/13183</a>                           | Jan 02       | 74             | Inexpensive \$999              | Windows 2000                                   | Poor 85         | A stylish, affordable system with a good software bundle, but relatively slow performance. (★★★★☆ Nov 01)                               |
|              |   |              |                | Percentage of overall rating ▶ | 20 percent                                     | 20 percent      |   |

All systems tested or retested under our new PC WorldBench 4 test suite. See [find.pcworld.com/10860](http://find.pcworld.com/10860) for details on PC World's Star Ratings.

<sup>1</sup> Performance word scores reflect comparisons of PCs in the same category (power or value) running the same operating system. See "Your Guide to the Top 100" on page 125 for more details.

THE FIRST SYSTEMS BASED on the Athlon XP 1800+ processor (which runs at 1.53 GHz) climb aboard our power chart this month, including the number two Micro Express MicroFlex 18A. This \$1199 system achieved an impressive PC WorldBench 4 score of 127, a mark that ties it for fastest on the chart with the third-ranked Sys Performance 1800+, which also uses the new processor. Our test Sys unit came with a 17-inch LCD monitor, evidence that LCDs are becoming more mainstream.

Also making its debut on the power chart is the number four Millennia Max XS from MicronPC. This system comes with Intel's best CPU, the Pentium 4-2000, and plenty of features, but we note one potential problem: MicronPC's new tall, thin case could easily tip over, so purchasers who place it underneath a desk should be careful not to bump it. Another new system with the P4-2000, the Xi



Visit [find.pcworld.com/18581](http://find.pcworld.com/18581) for reviews of all products ranked in this chart or tested this month.

| BASE CONFIGURATION   |                  |                    |                                   |                                    |                           |                    |  | Extra features                   | Design/<br>documentation           | Vendor's<br>reliability/<br>service |
|----------------------|------------------|--------------------|-----------------------------------|------------------------------------|---------------------------|--------------------|--|----------------------------------|------------------------------------|-------------------------------------|
| CPU                  | RAM<br>(MB/type) | Hard<br>drive (GB) | Monitor size<br>(diagonal inches) | Graphics board                     | Case<br>type <sup>2</sup> | Open<br>bays/slots |  |                                  |                                    |                                     |
| Pentium III-<br>1266 | 256/<br>SDRAM    | 80 <sup>3</sup>    | 19                                | Leadtek WinFast<br>GeForce3        | Midsize<br>tower          | 5/3                | <b>Very good:</b> 16X DVD-ROM drive, 12X/8X/32X CD-RW drive, V.90<br>modem, network adapter, Lotus SmartSuite Millennium Edition       | <b>Very good/<br/>Adequate</b>   | <b>*/Fair <sup>4</sup></b>         |                                     |
| Athlon XP<br>1800+   | 256/<br>SDRAM    | 40                 | 17                                | CardExpert<br>GeForce2 MX 400      | Midsize<br>tower          | 3/2                | <b>Very good:</b> 16X DVD-ROM drive, 12X/8X/32X CD-RW drive, V.90<br>modem, network adapter  | <b>Good/<br/>Adequate</b>        | <b>*/</b>                          |                                     |
| Athlon XP<br>1800+   | 256/<br>SDRAM    | 61                 | 17 (LCD)                          | Gigabyte<br>GV-GF2010              | Midsize<br>tower          | 4/4                | <b>Very good:</b> 16X DVD-ROM drive, 24X/10X/40X CD-RW drive, net-<br>work adapter, WordPerfect Office 2002                            | <b>Very good/<br/>Adequate</b>   | <b>*/</b>                          |                                     |
| Pentium 4-<br>2000   | 256/<br>RDRAM    | 40                 | 19                                | Micron GeForce2<br>MX 400          | Midsize<br>tower          | 4/3                | <b>Very good:</b> 16X/10X/40X CD-RW drive, V.90 modem, network<br>adapter, Microsoft Office XP Small Business Edition                  | <b>Good/<br/>Good</b>            | <b>Good/<br/>Fair <sup>4</sup></b> |                                     |
| Pentium 4-<br>2000   | 256/<br>SDRAM    | 80                 | 17 (LCD)                          | HP GeForce2<br>MX 400              | Desktop                   | 2/3                | <b>Outstanding:</b> 16X/10X/32X CD-RW drive, network adapter, Wake-<br>on-LAN, chassis-intrusion detection                             | <b>Outstanding/<br/>Adequate</b> | <b>Good/<br/>Fair</b>              |                                     |
| Athlon-<br>1400      | 256/<br>SDRAM    | 80                 | 19                                | Leadtek WinFast<br>GeForce3        | Midsize<br>tower          | 5/1                | <b>Outstanding:</b> 16X DVD-ROM drive, 16X/10X/40X CD-RW drive, V.90<br>modem, network adapter, Lotus SmartSuite 9.5                   | <b>Adequate/<br/>Adequate</b>    | <b>*/</b>                          |                                     |
| Pentium 4-<br>2000   | 512/<br>SDRAM    | 82 <sup>3</sup>    | 19                                | Leadtek WinFast<br>Titanium 500 TD | Midsize<br>tower          | 3/1                | <b>Good:</b> 16X/10X/40X CD-RW drive, network adapter, Microsoft<br>Office XP Small Business Edition                                   | <b>Good/<br/>Good</b>            | <b>*/</b>                          |                                     |
| 10 percent           |                  |                    |                                   |                                    |                           |                    |  | 10 percent                       | 15 percent                         | 30 percent                          |
| Athlon-<br>1200      | 256/<br>SDRAM    | 40                 | 17                                | Asus AGP-V7700                     | Midsize<br>tower          | 3/3                | <b>Good:</b> 12X DVD-ROM drive, 8X/4X/32X CD-RW drive, V.90 modem,<br>network adapter  | <b>Good/<br/>Good</b>            | <b>*/</b>                          |                                     |
| Athlon-<br>1400      | 256/<br>SDRAM    | 40                 | 17                                | Leadtek<br>GeForce2 Pro            | Midsize<br>tower          | 3/2                | <b>Very good:</b> 16X DVD-ROM drive, 16X/10X/40X CD-RW drive, V.90<br>modem, network adapter   | <b>Good/<br/>Adequate</b>        | <b>*/</b>                          |                                     |
| Athlon-1333          | 256/<br>SDRAM    | 40                 | 19                                | Matrox<br>Millennium G450          | Midsize<br>tower          | 5/3                | <b>Good:</b> 12X DVD-ROM drive, network adapter, Corel WordPerfect<br>Office 2000  | <b>Good/<br/>Adequate</b>        | <b>*/Fair <sup>4</sup></b>         |                                     |
| Pentium 4-<br>1700   | 128/<br>SDRAM    | 20                 | 19                                | VisionTek<br>GeForce3              | Midsize<br>tower          | 4/3                | <b>Good:</b> 20X-48X CD-ROM drive, network adapter, Norton AntiVirus,<br>LANDesk client manager  | <b>Good/<br/>Adequate</b>        | <b>Good/<br/>Fair</b>              |                                     |
| Duron-1000           | 128/<br>SDRAM    | 41                 | 19                                | Matrox<br>Millennium G450          | Minitower                 | 2/2                | <b>Good:</b> 12X/10X/32X CD-RW drive, network adapter  | <b>Adequate/<br/>Adequate</b>    | <b>*/</b>                          |                                     |
| Pentium 4-<br>1700   | 256/<br>SDRAM    | 20                 | 15                                | Compaq Vanta                       | Desktop                   | 0/2                | <b>Average:</b> 22X-48X CD-ROM drive, network adapter  | <b>Very Good/<br/>Adequate</b>   | <b>Good/<br/>Poor</b>              |                                     |
| Athlon-<br>1000      | 256/<br>SDRAM    | 40                 | 17                                | MicroStar<br>MS-8818               | Midsize<br>tower          | 3/4                | <b>Outstanding:</b> 16X DVD-ROM drive, 12X/10X/32X CD-RW drive, V.90<br>modem, network adapter, Norton AntiVirus, removable hard drive | <b>Good/<br/>Adequate</b>        | <b>*/</b>                          |                                     |
| Celeron-<br>900      | 128/<br>SDRAM    | 20                 | 17                                | Integrated Intel<br>810 chip set   | Minitower                 | 1/2                | <b>Average:</b> 24X-48X CD-ROM drive, network adapter, Microsoft<br>Office XP Small Business Edition                                   | <b>Good/<br/>Good</b>            | <b>Outstanding/<br/>Fair</b>       |                                     |
| 10 percent           |                  |                    |                                   |                                    |                           |                    |  | 10 percent                       | 10 percent                         | 30 percent                          |

<sup>2</sup> We define vertical cases as towers (taller than 20 inches), midsized towers (15.5 to 20 inches), or minitowers (shorter than 15.5 inches); and horizontal cases as desktops (5 inches or taller) or compacts (shorter than 5 inches).

<sup>3</sup> Total space on two hard drives.

<sup>4</sup> Insufficient data to give a rating, or the rating is derived from the vendor's Reliability and Service survey scores for its home PCs.

Computer 4200 MTower SP, enters the power chart at number seven: It offers only average performance at a high price.

One new system we tested, the NEC PowerMate 2000, failed to make the value chart this month. Although it's well priced at \$1299 and comes with an integrated 15-inch LCD monitor, it mustered a rather lackluster PC WorldBench 4 score of 82. It's a good option, however, if

you aren't concerned about processing power and you want a system that you can put in a small space or a public location: The case is about the size of a pizza box and comes with a strong case lock and a lockable floppy drive. And you can easily remove its hard drive if you want to lock away your important data overnight. Visit [find.pcworld.com/17502](http://find.pcworld.com/17502) to read a full review of the PowerMate 2000. ▶



MICRONPC'S MILLENNIA MAX XS is reasonably priced and comes with a great monitor.



## TOP 15 NOTEBOOK PCs

|                | POWER NOTEBOOK   | Issue tested | Overall rating | Street price (11/9/01)      | PC WorldBench 4 performance score <sup>1</sup> | Faster          | Comments  |
|----------------|--|--------------|----------------|-----------------------------|--|-----------------|---|
| 1              | <b>Best Buy</b> Dell Inspiron 8100<br><a href="http://find.pcworld.com/14880">find.pcworld.com/14880</a> | Jan 02       | 89             | Inexpensive \$2066          | Windows 2000                                   | Good 100        | Built for multimedia, with GeForce2 Go graphics plus IEEE 1394 and S-Video ports. (★★★★☆ Dec 01)  |
| 2              | IBM ThinkPad A30p<br><a href="http://find.pcworld.com/18122">find.pcworld.com/18122</a>                  | <b>NEW</b>   | 88             | Very expensive \$3399       | Windows 2000                                   | Outstanding 113 | Desktop replacement has dual modular bays, ergonomic sloping case, and huge hard drive. PDA syncing bay device is optional. (★★★★☆)         |
| 3              | Gateway Solo 9550xl<br><a href="http://find.pcworld.com/16401">find.pcworld.com/16401</a>                | Jan 02       | 88             | Average \$2599              | Windows 2000                                   | Very good 107   | Includes giant screen and high-end multimedia connections, but unit is big and heavy. Price sheds \$228 this month. (★★★★☆ Jan 02)          |
| 4              | Dell Inspiron 4100<br><a href="http://find.pcworld.com/16400">find.pcworld.com/16400</a>                 | Jan 02       | 88             | Average \$2730              | Windows 2000                                   | Very good 107   | Accommodates lots of add-ins; sports dual pointing devices. Optional color palm rests and screen backs cost \$20. (★★★★☆ Jan 02)            |
| 5              | IBM ThinkPad T23<br><a href="http://find.pcworld.com/14881">find.pcworld.com/14881</a>                   | Jan 02       | 86             | Expensive \$3128            | Windows 2000                                   | Very good 105   | Equipped with a whopping 48GB hard drive and a big screen with a light at the top. (★★★★☆ Dec 01)   |
| 6              | HP Omnibook 6100<br><a href="http://find.pcworld.com/16402">find.pcworld.com/16402</a>                   | Jan 02       | 85             | Expensive \$3249            | Windows 2000                                   | Very good 106   | Corporate speedster has wireless-ready design and handsome, thin case with modular bay. Price falls by \$450. (★★★★☆ Jan 02)                |
| 7              | WinBook Z1<br><a href="http://find.pcworld.com/10442">find.pcworld.com/10442</a>                         | Jan 02       | 83             | Average \$2549              | Windows 2000                                   | Good 103        | Packs large screen and lots of storage. Overhanging screen panel is somewhat clunky; support hours are limited. Unit is now \$300 less.     |
| VALUE NOTEBOOK |  |              |                | Percent of overall rating ▶ | 15 percent                                     | 20 percent      |   |
| 1              | <b>Best Buy</b> Gateway Solo 5350<br><a href="http://find.pcworld.com/18242">find.pcworld.com/18242</a>  | <b>NEW</b>   | 84             | Average \$1799              | Windows XP Professional                        | Very good 94    | Comes with removable hard drive, handsome black-and-silver case, and one modular bay, but no substantive extras. (★★★★☆)                    |
| 2              | <b>Best Buy</b> IBM ThinkPad R30<br><a href="http://find.pcworld.com/16403">find.pcworld.com/16403</a>   | Jan 02       | 80             | Average \$2033              | Windows 2000                                   | Good 88         | Lightweight two-spindle unit has most standard connections, a light at top of screen, and built-in 802.11b wireless support. (★★★★☆ Jan 02) |
| 3              | Chem USA ChemBook 3830<br><a href="http://find.pcworld.com/12840">find.pcworld.com/12840</a>             | Jan 02       | 79             | Inexpensive \$1499          | Windows Me                                     | Very good 79    | All-in-one model also makes a nice stand-alone CD player. Battery, hard drive, and memory could be easier to access. (★★★★☆ Nov 01)         |
| 4              | Fujitsu LifeBook C Series<br><a href="http://find.pcworld.com/16404">find.pcworld.com/16404</a>          | Jan 02       | 79             | Average \$1749              | Windows 2000                                   | Good 88         | Outguns other laptops by offering four USB ports; DVD/CD-RW combination drive is a pleasant find in a low-cost notebook. (★★★★☆ Jan 02)     |
| 5              | WinBook Z1 PIII-800<br><a href="http://find.pcworld.com/16405">find.pcworld.com/16405</a>                | Jan 02       | 77             | Average \$2170              | Windows 2000                                   | Very good 95    | Speedy, with comfortable keyboard. Lacks built-in network connection, and screen panel overlaps case front when closed. (★★★★☆ Jan 02)      |
| 6              | Toshiba Portégé 4000<br><a href="http://find.pcworld.com/16407">find.pcworld.com/16407</a>               | Jan 02       | 75             | Very expensive \$2579       | Windows 2000                                   | Average 78      | Has built-in Bluetooth and 802.11b wireless support, plus Secure Digital media slot. Delivers strong sound. (★★★★☆ Jan 02)                  |
| 7              | HP Pavilion N5430<br><a href="http://find.pcworld.com/16408">find.pcworld.com/16408</a>                  | Jan 02       | 75             | Inexpensive \$1449          | Windows Me                                     | Average 68      | Offers great audio controls, including see-in-the-dark buttons and track LED for playing CDs. (★★★★☆ Jan 02)                                |
| 8              | Compaq Evo N200<br><a href="http://find.pcworld.com/18123">find.pcworld.com/18123</a>                    | <b>NEW</b>   | 72             | Average \$2178 <sup>2</sup> | Windows 2000                                   | Average 82      | Ultraportable using Intel's ultralow voltage processor runs for almost 6 hours with second battery. Cramped keyboard. (★★★★☆)               |
|                |  |              |                | Percent of overall rating ▶ | 20 percent                                     | 15 percent      |   |

See [find.pcworld.com/10860](http://find.pcworld.com/10860) for details on PC World's Star Ratings.

<sup>1</sup> Performance word scores reflect comparisons of PCs in the same category (power or value) running the same operating system. See "Your Guide to the Top 100" on page 125 for more details.

<sup>2</sup> Word score reflects both listed and unlisted features.

<sup>3</sup> Unless otherwise noted, all notebooks come with a lithium ion battery.

IF YOU TAKE YOUR PDA and notebook everywhere, but don't like to drag along the syncing cradle and cable, check out IBM's new A Series ThinkPads. These laptops feature a modular bay for holding an optional, pop-out PDA cradle. But the \$118 cradle works only with IBM's \$399 WorkPad C500 handheld, a more expensive version of Palm's M500.

The new \$3399 ThinkPad A30p wowed us with its impressive performance, dual modular bays, and huge hard drive, all of which helped it

nearly steal the power Best Buy prize from Dell's Inspiron 8100 this month.

The value side of the chart hosts a new Best Buy, the \$1799 Gateway Solo 5350—the first ranked notebook to run on Windows XP. A minor upgrade of Gateway's modestly designed Solo 5300 business laptop, the Solo 5350 adds a second USB port and a rubberized palm rest.

Just making the value chart is the new



Visit [find.pcworld.com/16600](http://find.pcworld.com/16600) for reviews of all products ranked in this chart or tested this month.

| BASE CONFIGURATION       |                 |          |                 |                      |                    |   | Extra features <sup>2</sup> | Overall design  | Battery life (hours:min) <sup>3</sup> | Average weight (pounds) <sup>4</sup> | Vendor's reliability/ service |
|--------------------------|-----------------|----------|-----------------|----------------------|--------------------|---|-----------------------------|-----------------|---------------------------------------|--------------------------------------|-------------------------------|
| CPU                      | Screen (inches) | RAM (MB) | Hard drive (GB) | Pointing device      | Multi-purpose bays |   |                             |                 |                                       |                                      |                               |
| Pentium III-M-1000/733   | 15              | 256      | 20              | Touchpad, eraserhead | 1                  | Good: 8X DVD-ROM drive, built-in modem and network adapter, Microsoft Office XP Small Business Edition 2002   | Outstanding                 | Good/ 3:01      | Heavy/ 9.0                            | Good/ Fair                           |                               |
| Pentium III-M-1200/800   | 15              | 256      | 48              | Eraserhead           | 2                  | Very good: 6X DVD-ROM and 4X/4X/24X CD-RW combo drive, built-in modem and network adapter, Lotus SmartSuite   | Outstanding                 | Average/ 2:19   | Heavy/ 8.5                            | Good/ Fair                           |                               |
| Pentium III-M-1133/733   | 15.7            | 256      | 30              | Touchpad             | 2                  | Very good: 6X DVD-ROM and 4X/4X/24X CD-RW combo drive, built-in modem and network adapter, Office XP SBE 2002 | Very good                   | Good/ 3:42      | Heavy/ 9.3                            | Fair/ Fair                           |                               |
| Pentium III-M-1200/800   | 14.1            | 256      | 20              | Touchpad, eraserhead | 2                  | Very good: 6X DVD-ROM and 4X/4X/24X CD-RW combo drive, built-in modem and network adapter, Office XP SBE 2002 | Very good                   | Average/ 2:58   | Heavy/ 8.1                            | Good/ Fair                           |                               |
| Pentium III-M-1133/733   | 14.1            | 256      | 48              | Eraserhead           | 1                  | Good: 8X DVD-ROM drive, built-in modem and network adapter, Lotus SmartSuite                                  | Outstanding                 | Average/ 2:41   | Light/ 6.5                            | Good/ Fair                           |                               |
| Pentium III-M-1133/733   | 15              | 256      | 30              | Touchpad, eraserhead | 1                  | Good: 8X DVD-ROM drive, built-in modem and network adapter  | Outstanding                 | Very good/ 3:58 | Average/ 7.8                          | Good/ Fair                           |                               |
| Pentium III-1000/700     | 15              | 256      | 30              | Touchpad             | 2                  | Good: 8X DVD-ROM and 4X/4X/24X CD-RW combination drive, built-in modem  | Very good                   | Good/ 3:06      | Heavy/ 8.5                            | 5 / 5                                |                               |
| 5 percent                |                 |          |                 |                      |                    |   | 10 percent                  | 10 percent      | 5 percent                             | 10 percent                           | 25 percent                    |
| Pentium III-M-1000/733   | 14.1            | 256      | 20              | Touchpad             | 1                  | Good: 8X DVD-ROM drive, built-in modem and network adapter  | Very good                   | Good/ 3:30      | Average/ 7.0                          | Fair/ Fair                           |                               |
| Pentium III-1000/700     | 14.1            | 256      | 30              | Eraserhead           | 1                  | Good: 8X/4X/24X CD-RW drive, built-in modem and network adapter, Lotus SmartSuite                             | Outstanding                 | Average/ 2:22   | Light/ 6.7                            | Good/ Fair                           |                               |
| Pentium III-1000         | 14.1            | 256      | 20              | Touchpad             | 0                  | Good: 8X/4X/32X CD-RW drive, built-in modem and network adapter   | Average                     | Average/ 2:54   | Average/ 7.7                          | 5 / 5                                |                               |
| Pentium III-1000/700     | 14.1            | 128      | 30              | Touchpad             | 0                  | Good: 8X DVD-ROM and 8X/4X/24X CD-RW combination drive, built-in modem and network adapter                    | Average                     | Good/ 3:18      | Average/ 7.7                          | Good/ 5                              |                               |
| Pentium III-800/650      | 15.1            | 256      | 20              | Touchpad             | 1                  | Good: 6X DVD-ROM and 4X/4X/32X CD-RW combination drive, built-in modem  | Very good                   | Good/ 3:03      | Heavy/ 8.4                            | 5 / 5                                |                               |
| Pentium III-750/550      | 12.1            | 256      | 30              | Eraserhead           | 1                  | Good: 8X DVD-ROM and 4X/4X/24X CD-RW combination drive, built-in modem and network adapter                    | Very good                   | Very good/ 4:03 | Very light/ 5.3                       | Good/ Fair                           |                               |
| Duron-850                | 14.1            | 128      | 20              | Touchpad             | 0                  | Average: 8X DVD-ROM drive, built-in modem and network adapter   | Average                     | Poor/ 1:55      | Average/ 8.0                          | Good/ Fair                           |                               |
| Pentium III-M-ULV700/300 | 10.4            | 192      | 20              | Touchpad             | 0                  | Good: 8X DVD-ROM drive, built-in modem and network adapter  | Average                     | Good/ 3:32      | Average/ 6.8                          | Fair/ Poor                           |                               |
| 5 percent                |                 |          |                 |                      |                    |   | 10 percent                  | 10 percent      | 5 percent                             | 10 percent                           | 25 percent                    |

<sup>2</sup> Includes computer, AC adapter, power cord, floppy drive, and optical drive.  
<sup>3</sup> Insufficient data to give a rating.

<sup>4</sup> Price includes \$379 mobile expansion unit with 8X DVD-ROM drive.

\$1799 Compaq Evo N200, which weighs 2.8 pounds, not including peripherals. If you need an optical drive, you'll have to factor in the extra cost—and weight—of a docking station (one with an 8X DVD-ROM drive costs \$379). We also found the small keyboard a bit frustrating to use.

Two other notebooks we tested this month failed to make the cut. NEC's new \$2499 Versa TXi is the lightest laptop

we've seen that has an internal bay—it's only 3.5 pounds with a weight-saving module—but it lasted just 1.2 hours on one battery charge. Do you work outdoors? NEC's \$2499 Versa DayLite, a 3-pound laptop equipped with a Transmeta Crusoe processor, features a nonglare screen. But its poorly arranged keyboard and slow performance kept it off our list.

—Carla Thornton ▶



COMPAQ'S EVO N200 should please users on the go with its easy portability.



## TOP 15 HOME PCs

|              | POWER SYSTEM   | Issue tested | Overall rating | Street price (11/9/01)      | PC WorldBench 4 performance score <sup>1</sup> | Faster     | Comments   |
|--------------|--|--------------|----------------|-----------------------------|--|------------|--|
| 1            | <b>Best Buy</b> ABS Performance Ti 500<br><a href="http://find.pcworld.com/17321">find.pcworld.com/17321</a> | NEW          | 95             | Very inexpensive<br>\$1699  | Windows XP Home<br>Very good<br>117            |            | Loaded system in a towering black case delivers speed, smooth game play, and powerful sound at a bargain price. ★★★★★                      |
| 2            | Falcon Northwest Mach V<br><a href="http://find.pcworld.com/15107">find.pcworld.com/15107</a>                | Dec 01       | 87             | Very expensive<br>\$3995    | Windows XP Professional<br>Outstanding<br>121  |            | Speed champ boasts a powerful, refined sound system. You'll pay dearly for this PC, however, and the monitor is only so-so. (★★★★★ Dec 01) |
| 3            | Polywell Poly K7-1400DDR<br><a href="http://find.pcworld.com/15115">find.pcworld.com/15115</a>               | Dec 01       | 84             | Inexpensive<br>\$1950       | Windows XP Home<br>Very good<br>115            |            | Speedy PC's monitor output varied from handsome on graphics to blurry on smaller text. (★★★★★ Dec 01)                                      |
| 4            | Sony VAIO PCV-RX580<br><a href="http://find.pcworld.com/16503">find.pcworld.com/16503</a>                    | Jan 02       | 76             | Inexpensive<br>\$2250       | Windows XP Home<br>Average<br>96               |            | Great-looking system comes loaded for music and video buffs. Unfortunately, it lagged in our speed tests. (★★★★★ Jan 02)                   |
| 5            | Alienware Area-51<br><a href="http://find.pcworld.com/15102">find.pcworld.com/15102</a>                      | Dec 01       | 71             | Expensive<br>\$3079         | Windows XP Home<br>Good<br>107                 |            | Loaded gaming system drops a hefty \$220 this month, though it is still a bit pricey. (★★★★★ Dec 01)                                       |
| 6            | Gateway 700C<br><a href="http://find.pcworld.com/16442">find.pcworld.com/16442</a>                           | Dec 01       | 65             | Average<br>\$2558           | Windows XP Home<br>Average<br>102              |            | Brilliant LCD monitor tops off a good-looking system. Speed and sound quality are respectable, but not stunning. (★★★★★ Dec 01)            |
| 7            | HP Pavilion 9905 <sup>*</sup><br><a href="http://find.pcworld.com/15111">find.pcworld.com/15111</a>          | Dec 01       | 65             | Average<br>\$2398           | Windows XP Home<br>Average<br>99               |            | System wins kudos for game play and digital media features; price drops \$240 this month. (★★★★★ Dec 01)                                   |
| VALUE SYSTEM |  |              |                | Percent of overall rating ▶ | 10 percent                                     | 25 percent |  |
| 1            | <b>Best Buy</b> NuTrend Athlon Mega 3<br><a href="http://find.pcworld.com/15112">find.pcworld.com/15112</a>  | Dec 01       | 95             | Average<br>\$1339           | Windows XP Home<br>Outstanding<br>111          |            | Our speedy value champ includes a great-looking LCD monitor, a printer, and extensive documentation. (★★★★★ Dec 01)                        |
| 2            | Dell Dimension 4300<br><a href="http://find.pcworld.com/15105">find.pcworld.com/15105</a>                    | Dec 01       | 90             | Inexpensive<br>\$1209       | Windows XP Home<br>Good<br>94                  |            | Good all-around system but only middling performance, audio, and video. Documentation is first-rate. (★★★★★ Dec 01)                        |
| 3            | Sony VAIO PCV-RX550<br><a href="http://find.pcworld.com/17181">find.pcworld.com/17181</a>                    | NEW          | 79             | Average<br>\$1377           | Windows XP Home<br>Good<br>90                  |            | Snazzy-looking PC comes loaded with multimedia software and a great monitor, but sound system is weak. ★★★★★                               |
| 4            | EMachines T4155<br><a href="http://find.pcworld.com/17361">find.pcworld.com/17361</a>                        | NEW          | 78             | Inexpensive<br>\$1100       | Windows XP Home<br>Good<br>90                  |            | After a hiatus, EMachines returns to our chart with a well-appointed budget system. We'll see if tech support improves. ★★★★★              |
| 5            | Gateway 300C<br><a href="http://find.pcworld.com/17281">find.pcworld.com/17281</a>                           | NEW          | 74             | Inexpensive<br>\$1019       | Windows XP Home<br>Average<br>81               |            | Basic PC makes up for low performance with a fast CD-RW drive, plentiful storage, and a good monitor and sound system. ★★★★★               |
| 6            | HP Pavilion 7966 <sup>*</sup><br><a href="http://find.pcworld.com/16502">find.pcworld.com/16502</a>          | Jan 02       | 74             | Expensive<br>\$1598         | Windows XP Home<br>Good<br>90                  |            | This well-stocked, smartly built system came up short on sound and monitor quality, especially when playing DVDs. (★★★★★ Jan 02)           |
| 7            | Polywell Poly 1000DU<br><a href="http://find.pcworld.com/15114">find.pcworld.com/15114</a>                   | Dec 01       | 74             | Average<br>\$1325           | Windows XP Home<br>Good<br>93                  |            | System squeezes impressive performance from a low-cost processor. But you can get a higher-end CPU for the price. (★★★★★ Dec 01)           |
| 8            | Dell Dimension 2100<br><a href="http://find.pcworld.com/15104">find.pcworld.com/15104</a>                    | Dec 01       | 73             | Very inexpensive<br>\$799   | Windows XP Home<br>Average<br>79               |            | It's no speed demon, but this well-built, low-cost PC is fine for basic computing. Includes thorough documentation. (★★★★★ Dec 01)         |
|              |  |              |                | Percent of overall rating ▶ | 20 percent                                     | 20 percent |  |

Go to [find.pcworld.com/10860](http://find.pcworld.com/10860) for details on PC World's Star Ratings.

<sup>1</sup> Performance word scores reflect comparisons of PCs in the same category (power or value) running the same operating system. For more details, see "Your Guide to the Top 100" on page 125.

<sup>2</sup> Vertical cases are towers (over 20 inches), midsize towers (15.5 to 20 inches), or minitowers (under 15.5 inches). Horizontal cases are desktops (5 inches or taller) or compacts (under 5 inches).

ABS CONTINUES TO OFFER LOTS of power for the money. This month, the Performance Ti 500—housed in a new, slick-looking black tower rather than ABS's standard beige case—debuts atop the power chart. The PC replaces its predecessor, the Performance 1, which captured a Best Buy last month. With a score of 117 on PC WorldBench 4, the Performance Ti 500 fell 4 points shy of the top-scoring Falcon Northwest Mach V, but you could buy two Ti 500 systems for the price of one Mach V.

The Athlon Mega 3 from ABS's sibling company, NuTrend, still reigns over the value chart, despite the efforts of three new challengers to steal its crown. One of these, the Sony VAIO PCV-RX550, features the same spiffy gray-and-lilac case and the same bundle of video- and image-editing software as its higher-end sibling, the VAIO PCV-RX580 (currently ranked at number four on the power side).



Visit [find.pcworld.com/17981](http://find.pcworld.com/17981) for reviews of all products ranked in this chart or tested this month.

| BASE CONFIGURATION             |                  |                    |                       |                                   |                           |  | Extra features                    | Graphics/<br>sound<br>quality | Setup and<br>ease of use      | Vendor's<br>reliability/<br>service |
|--------------------------------|------------------|--------------------|-----------------------|-----------------------------------|---------------------------|--|-----------------------------------|-------------------------------|-------------------------------|-------------------------------------|
| CPU                            | RAM<br>(MB/type) | Hard drive<br>(GB) | Monitor<br>(inches)   | Graphics                          | Case<br>type <sup>2</sup> |  |                                   |                               |                               |                                     |
| Athlon<br>XP<br>1800+          | 256/DDR<br>SDRAM | 60                 | 19                    | 64MB Leadtek<br>WinFast Ti 500 TD | Tower                     | <b>Very good:</b> 16X DVD-ROM drive, 24X/10X/40X CD-RW drive, V.90 modem, net-<br>work adapter, Corel WordPerfect Office 2002, Adaptec Easy CD Creator   | <b>Very good/<br/>Outstanding</b> | <b>Good</b>                   | <b>✓✓</b>                     |                                     |
| Athlon<br>XP<br>1800+          | 512/DDR<br>SDRAM | 80 <sup>4</sup>    | 22                    | 64MB VisionTek<br>Xtasy 6964      | Midsize<br>tower          | <b>Average:</b> 16X DVD-ROM drive, 24X/10X/40X CD-RW drive, network adapter  | <b>Good/<br/>Outstanding</b>      | <b>Very good</b>              | <b>✓✓</b>                     |                                     |
| Athlon-<br>1400                | 256/DDR<br>SDRAM | 80 <sup>4</sup>    | 19                    | 64MB Leadtek<br>WinFast GeForce3  | Midsize<br>tower          | <b>Good:</b> 16X DVD-ROM drive, 16X/10X/40X CD-RW drive, V.90 modem, network<br>adapter, Lexmark X83 printer, Logitech USB Webcam                        | <b>Good/<br/>Average</b>          | <b>Good</b>                   | <b>✓✓</b>                     |                                     |
| Pentium<br>4-1800              | 512/<br>SDRAM    | 80                 | 19                    | 32MB Asus<br>AGP-V3800M           | Minitower                 | <b>Outstanding:</b> DVD-RW and 8X/4X/32X CD-RW combo drive, 20X-40X CD-ROM<br>drive, V.90 modem, WordPerfect 9, Photoshop Elements and Premiere 6.0 LE   | <b>Good/<br/>Average</b>          | <b>Average</b>                | <b>Good/✓</b>                 |                                     |
| Pentium<br>4-2000              | 256/<br>RDRAM    | 60                 | 19                    | 64MB PNY Verto<br>GeForce3        | Tower                     | <b>Outstanding:</b> 16X DVD-ROM drive, 24X/10X/40X CD-RW drive, V.90 modem,<br>network adapter, Microsoft SideWinder joystick and Game Pad Pro           | <b>Good/<br/>Good</b>             | <b>Average</b>                | <b>✓✓</b>                     |                                     |
| Pentium<br>4-2000              | 256/<br>RDRAM    | 80                 | 15 (LCD) <sup>3</sup> | 64MB VisionTek<br>NV20            | Midsize<br>tower          | <b>Average:</b> 16X DVD-ROM drive, 12X/8X/32X CD-RW drive, V.90 modem, network<br>adapter, Microsoft Works Suite 2001, Norton AntiVirus 2002             | <b>Very good/<br/>Good</b>        | <b>Average</b>                | <b>Fair/Fair</b>              |                                     |
| Pentium<br>4-2000              | 512/<br>SDRAM    | 80                 | 19                    | 64MB HP GeForce3<br>Ti 200        | Tower                     | <b>Average:</b> 16X DVD-ROM drive, 16X/8X/32X CD-RW drive, V.90 modem, network<br>adapter, Microsoft Works, Pinnacle Studio DV 7                         | <b>Good/<br/>Average</b>          | <b>Good</b>                   | <b>Fair/Poor</b>              |                                     |
| 10 percent                     |                  |                    |                       |                                   |                           |  | 10 percent                        | 15 percent                    | 5 percent                     | 25 percent                          |
| Athlon-<br>1333                | 256/DDR<br>SDRAM | 40                 | 15 (LCD)              | 64MB Leadtek<br>WinFast GeForce2  | Midsize<br>tower          | <b>Outstanding:</b> 16X DVD-ROM drive, 24X/10X/40X CD-RW drive, V.92 modem,<br>network adapter, Epson Stylus C60 color printer, WordPerfect Office 2000  | <b>Good/<br/>Good</b>             | <b>Average</b>                | <b>✓✓</b>                     |                                     |
| Pentium<br>4-1500 <sup>7</sup> | 256/<br>SDRAM    | 40                 | 17                    | 32MB Dell<br>GeForce2 MX          | Midsize<br>tower          | <b>Average:</b> 16X/10X/40X CD-RW drive, network adapter, Microsoft Works<br>Suite 2001  | <b>Very good/<br/>Average</b>     | <b>Good</b>                   | <b>Outstanding/<br/>Good</b>  |                                     |
| Pentium<br>4-1500              | 256/<br>SDRAM    | 60                 | 17                    | 32MB Asus<br>AGP-V3800M           | Minitower                 | <b>Good:</b> 16X DVD-ROM drive, 16X/10X/40X CD-RW drive, V.90 modem, Word-<br>Perfect 9, Photoshop Elements, MovieShaker, SonicStage, PictureGear        | <b>Good/<br/>Average</b>          | <b>Very good</b>              | <b>Good/✓</b>                 |                                     |
| Pentium<br>4-1500              | 256/<br>SDRAM    | 60                 | 17                    | 32MB EMachines<br>GeForce2 MX 200 | Minitower                 | <b>Good:</b> 12X DVD-ROM drive, 12X/8X/32X CD-RW drive, V.92 modem, network<br>adapter, Microsoft Works and Money 2002                                   | <b>Average/<br/>Limited</b>       | <b>Good</b>                   | <b>Good/<br/>Unacceptable</b> |                                     |
| Celeron-<br>1100               | 256/<br>SDRAM    | 80                 | 17                    | Integrated<br>Intel 815           | Minitower                 | <b>Good:</b> 16X/10X/40X CD-RW drive, V.92 modem, network adapter, Microsoft<br>Works Suite 2001, Norton AntiVirus 2002, Roxio Easy CD Creator 5         | <b>Good/<br/>Average</b>          | <b>Good</b>                   | <b>Fair/<br/>Fair</b>         |                                     |
| Pentium<br>4-1700              | 512/<br>SDRAM    | 80                 | 17                    | 32MB Asus<br>AGP-V3800M           | Midsize<br>tower          | <b>Very good:</b> 16X DVD-ROM drive, 12X/8X/32X CD-RW drive, V.90 modem, net-<br>work adapter, Microsoft Works 2001, Pinnacle Studio DV, McAfee Security | <b>Average/<br/>Limited</b>       | <b>Good</b>                   | <b>Fair/<br/>Poor</b>         |                                     |
| Duron-<br>1000                 | 128/DDR<br>SDRAM | 40                 | 19                    | 32MB Matrox<br>Millennium G450    | Midsize<br>tower          | <b>Good:</b> 16X DVD-ROM drive, 16X/10X/40X CD-RW drive, V.90 modem, network<br>adapter, Lexmark Z53 Color Jetprinter, Logitech Webcam                   | <b>Good/<br/>Very good</b>        | <b>Average</b>                | <b>✓✓</b>                     |                                     |
| Celeron-<br>1100               | 128/<br>SDRAM    | 20                 | 17                    | Integrated<br>Intel 810           | Minitower                 | <b>Limited:</b> 24X-48X CD-ROM drive, V.92 modem, Microsoft Works Suite 2001   | <b>Average/<br/>Average</b>       | <b>Good</b>                   | <b>Outstanding/<br/>Good</b>  |                                     |
| 10 percent                     |                  |                    |                       |                                   |                           |  | 10 percent                        | 10 percent                    | 5 percent                     | 25 percent                          |

<sup>3</sup> Insufficient data to give a rating.  
<sup>4</sup> Two 40GB hard drives with RAID.

<sup>5</sup> Vendor has replaced the original CTX PV505 monitor with a Hitachi CML151.  
<sup>6</sup> Same configuration as last month's Pavilion 7905; vendor has switched to a larger case.

<sup>7</sup> Now sold with a 1.6-GHz processor.  
<sup>8</sup> Same configuration as last month's Pavilion 7965.

The number four value slot goes to EMachines' T4155, which posted respectable performance numbers. Once a seller of very low-cost PCs only, EMachines has expanded its lineup to include better-equipped systems that fit into our value chart. EMachines' reliability rating jumped from Fair to Good in our most recent Reliability and Service survey of *PC World* readers, so buyers may have less

need for tech support. That's fortunate, because its service quality fell from Poor to Unacceptable. (EMachines representatives say they have restructured their tech support since we conducted our survey.) The third value newcomer, Gateway's 300C, supplants the same vendor's 500X by offering similar features for \$529 less. And the new arrivals push Dell's Dimension 2100 down to eighth place. ▶



**STILL A BARGAIN:** NuTrend's low-cost, well-appointed Athlon Mega 3 value system.



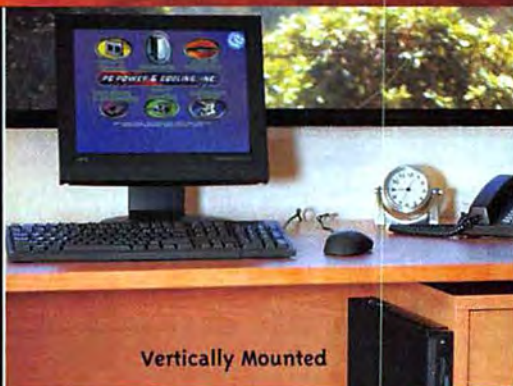
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# TOP 10 PRINTERS

TOP 100

TEST  
Center

Visit [find.pcworld.com/18901](http://find.pcworld.com/18901) for reviews of all products mentioned in this chart.

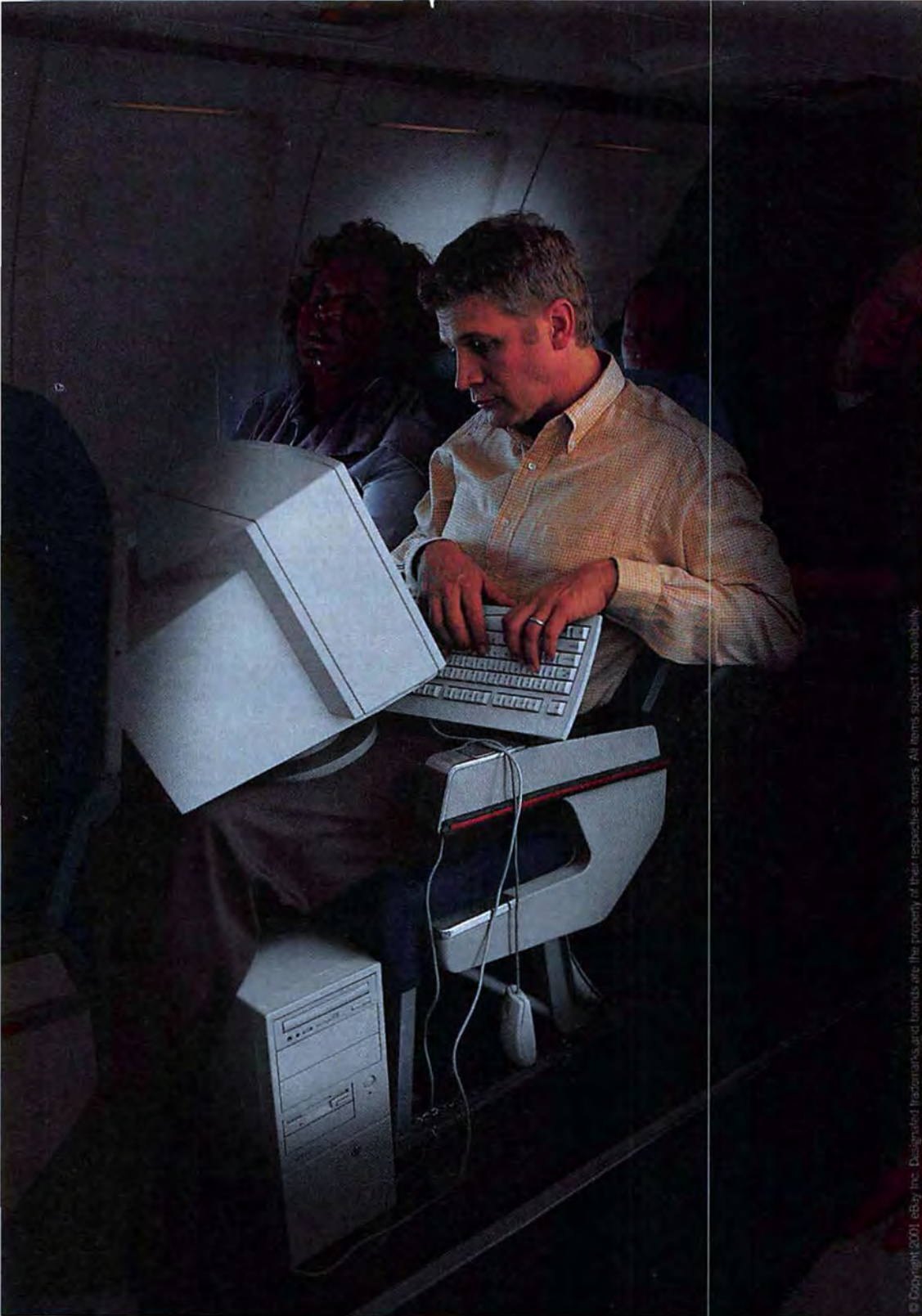
LOTS OF CHANGES affect this month's SOHO monochrome laser chart. IBM's Infoprint 12 and Lexmark's Optra E312 were discontinued, and new to the chart are Lexmark's quick E320 and the low-priced HP LaserJet 1000 and Samsung ML-1250. We also tested three new corporate models. In addition,

we now gauge the speed of nonnetworked printers by printing via their USB ports, not their parallel ports. Our USB retests showed an average increase in text speeds of 9.7 percent, and graphics printed via USB were a remarkable 34 percent faster on average. Next month we compare color ink jets. ▶

|                 | SMALL-OFFICE LASER  | Street price (11/16/01) | Overall rating | Speed for plain text/full-page graphics (ppm) | Print quality for text/graphics | Comments   |
|-----------------|---|-------------------------|----------------|---|---------------------------------|--|
| 1               | <b>Best BUY</b> Brother HL-1440<br><a href="http://find.pcworld.com/11581">find.pcworld.com/11581</a>       | \$300                   | 81             | 11.2/5.3                                      | Very good/<br>Very good         | <b>FEATURES:</b> Rated 15 ppm. Standard 2MB of RAM, 1200-by-600-dpi maximum resolution, 250 sheets input, 150 output. <b>SUMMARY:</b> Brother's HL-1440 delivers quick performance and smooth gray-scale output. Its RAM is expandable to 34MB, and an ethernet card (available for another \$299) makes the unit suitable for a small workgroup. (★★★★☆ Oct 01)                                       |
| 2               | Lexmark E320<br><a href="http://find.pcworld.com/17421">find.pcworld.com/17421</a> <b>NEW</b>               | \$299                   | 80             | 12.8/6.0                                      | Very good/<br>Adequate          | <b>FEATURES:</b> Rated 16 ppm. Standard 4MB of RAM, 1200-by-600-dpi maximum resolution, 150 sheets input, 100 output. <b>SUMMARY:</b> The E320 printed both text and graphics faster than any other SOHO printer on our chart and its price is competitive, but while text looked crisp and even, gray-scale images were too dark and lost detail. (★★★★☆)   |
| 3               | HP LaserJet 1000<br><a href="http://find.pcworld.com/17404">find.pcworld.com/17404</a> <b>NEW</b>           | \$249                   | 78             | 9.0/5.5                                       | Very good/<br>Good              | <b>FEATURES:</b> Rated 10 ppm. Standard 1MB of RAM, 1200-by-600-dpi maximum resolution, 250 sheets input, 125 output. <b>SUMMARY:</b> Though its price ties for the lowest on the SOHO chart, this model posts midpack speed scores. The USB connector is a kludgy adapter that plugs into the parallel port, but prints look clean and show good detail and contrast. (★★★★☆)                         |
| 4               | Samsung ML-1250<br><a href="http://find.pcworld.com/17401">find.pcworld.com/17401</a> <b>NEW</b>            | \$249                   | 78             | 9.8/4.0                                       | Very good/<br>Good              | <b>FEATURES:</b> Rated 12 ppm. Standard 4MB of RAM, 1200-by-600-dpi maximum resolution, 150 sheets input, 100 output. <b>SUMMARY:</b> In addition to having an attractive price, this Samsung offers easy-to-use controls; clear, thorough documentation; and support for Linux. But it printed our test graphics rather sluggishly, and narrow lines show some banding. (★★★★☆)                       |
| 5               | Brother HL-1650<br><a href="http://find.pcworld.com/17406">find.pcworld.com/17406</a>                       | \$600                   | 74             | 12.0/4.9                                      | Very good/<br>Good              | <b>FEATURES:</b> Rated 16 ppm. Standard 8MB of RAM, 1200-by-1200-dpi maximum resolution, 350 sheets input, 250 output. <b>SUMMARY:</b> The HL-1650 offers solid print quality and respectable speed (especially on text), as well as plenty of RAM and a built-in duplexer—features that contribute to its relatively high price. Larger workgroups will need the \$199, 250-sheet extra feeder.       |
| CORPORATE LASER |   |                         |                |   |                                 |  |
| 1               | <b>Best BUY</b> Xerox DocuPrint N2125<br><a href="http://find.pcworld.com/11600">find.pcworld.com/11600</a> | \$1299                  | 85             | 11.7/3.7                                      | Very good/<br>Very good         | <b>FEATURES:</b> Rated 21 ppm. Standard 32MB of RAM, 1200-by-1200-dpi maximum resolution, 650 sheets input, 500 output. <b>SUMMARY:</b> Detailed prints, lots of paper-handling features, and a standard ethernet interface make the N2125 ideal for larger workgroups. You can add two optional trays (each priced at \$298) to increase the capacity of this workhorse laser to 1750 sheets.         |
| 2               | Samsung ML-1651N<br><a href="http://find.pcworld.com/17402">find.pcworld.com/17402</a> <b>NEW</b>           | \$650                   | 81             | 10.8/4.3                                      | Very good/<br>Good              | <b>FEATURES:</b> Rated 17 ppm. Standard 16MB of RAM, 1200-by-1200-dpi maximum resolution, 650 sheets input, 250 output. <b>SUMMARY:</b> The least-expensive networked printer on the chart, the ML-1651N is fast enough for small workgroups but not for busy, larger offices. One function permits anyone at the printer to reprint the previous job—a potential security risk in workgroups. (★★★★☆) |
| 3               | HP LaserJet 4100n<br><a href="http://find.pcworld.com/11661">find.pcworld.com/11661</a>                     | \$1550                  | 81             | 13.6/4.5                                      | Excellent/<br>Good              | <b>FEATURES:</b> Rated 25 ppm. Standard 32MB of RAM, 1200-by-1200-dpi maximum resolution, 600 sheets input, 300 output. <b>SUMMARY:</b> An optional infrared port, supplementing the 4100n's standard ethernet, allows notebook users to print directly from their laptops. This unit blazed through our speed tests, and it reproduces text superbly. The price is steep, though.                     |
| 4               | Brother HL-1670N<br><a href="http://find.pcworld.com/11662">find.pcworld.com/11662</a>                      | \$750                   | 81             | 10.8/3.2                                      | Very good/<br>Very good         | <b>FEATURES:</b> Rated 16 ppm. Standard 16MB of RAM, 1200-by-1200-dpi maximum resolution, 350 sheets input, 250 output. <b>SUMMARY:</b> Built for small workgroups, this corporate laser prints reasonably quickly, produces clean output, and comes standard with both a duplexer and a built-in ethernet adapter. Its limited paper capacity best suits it for low-volume printing.                  |
| 5               | Lexmark T522dn<br><a href="http://find.pcworld.com/18342">find.pcworld.com/18342</a>                        | \$1549                  | 80             | 15.0/6.0                                      | Very good/<br>Good              | <b>FEATURES:</b> Rated 25 ppm. Standard 32MB of RAM, 1200-by-1200-dpi maximum resolution, 600 sheets input, 250 output. <b>SUMMARY:</b> The T522dn printed both text and graphics faster than any other unit on this month's corporate laser chart. You can add a 2000-sheet tray and an envelope feeder. A version without the built-in duplexer costs \$250 less. (★★★★☆ Oct 01)                     |

**HOW WE TEST:** The overall rating for monochrome laser printers is based on print quality (25 percent), price (25 percent), features (15 percent), ease of use (15 percent), speed (10 percent), and service and support (10 percent). For all ratings, higher is better. Data based on tests designed and conducted by the PC World Test Center. All rights reserved. See [find.pcworld.com/10860](http://find.pcworld.com/10860) for details on PC World's Star Ratings.





Titanium Notebook



Portable PC




Portable DVD Player



Electronic Organizer

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# TOP 10 MONITORS

Visit [find.pcworld.com/18801](http://find.pcworld.com/18801) for reviews of all products ranked in this chart or tested this month.

SAMSUNG HAS DISCONTINUED the SyncMaster 950p, a longtime Best Buy on our chart of 19-inch monitors. In addition, KDS has discontinued the VS 195i, also a former Best Buy. Rising to the occasion is ViewSonic's GS790, which earns the top spot this month thanks to its reasonable price

and notable image quality. The inexpensive Optiquest Q95 follows. Three newcomers—the Compaq S920, the IBM P97, and the Philips Brilliance 109P—win spots, while models from ADI, Cornerstone, and Eizo Nanao fall short. Next month we'll review 17- and 18-inch LCD flat panels. ▶

|    | 19-INCH MONITOR   | Street price (11/16/01) | Overall rating | Quality of text/graphics | Comments   |
|----|---|-------------------------|----------------|--------------------------|--|
| 1  | <b>Best Buy</b> ViewSonic GS790<br><a href="http://find.pcworld.com/10573">find.pcworld.com/10573</a> | \$295                   | 95             | Very good/<br>Very good  | <b>FEATURES:</b> 18-inch viewable area, .26mm ' shadow mask tube, up to 95-Hz refresh rate, <sup>1</sup> up to 1600 by 1200 resolution at 70 Hz, TCO'99 compliant, three-year warranty, 24-hour daily toll-free support. <b>SUMMARY:</b> Claims top billing as previous Best Buys are discontinued. Vibrant colors make this model a good choice for graphics pros, and a \$20 price drop makes it even more appealing. (★★★★☆ Sept 01)  |
| 2  | <b>Best Buy</b> Optiquest Q95<br><a href="http://find.pcworld.com/10800">find.pcworld.com/10800</a>   | \$229                   | 90             | Very good/<br>Very good  | <b>FEATURES:</b> 18-inch viewable area, .27mm ' shadow mask tube, up to 80-Hz refresh rate, <sup>2</sup> up to 1600 by 1200 resolution at 70 Hz, three-year warranty, 24-hour daily toll-free support. <b>SUMMARY:</b> The cheapest monitor on the chart is a fine choice for price-conscious buyers who don't need extras such as USB ports or built-in speakers. Text looked sharp and colors appeared bright. (★★★★☆ Sept 01)   |
| 3  | Compaq S920<br><a href="http://find.pcworld.com/18802">find.pcworld.com/18802</a>                     | <b>NEW</b> \$319        | 89             | Very good/<br>Very good  | <b>FEATURES:</b> 18.1-inch viewable area, .26mm ' shadow mask tube, up to 89-Hz refresh rate, <sup>2</sup> up to 1600 by 1200 resolution at 70 Hz, TCO'99 compliant, three-year warranty, 24-hour daily toll-free support. <b>SUMMARY:</b> Renders sharp, dark text in word-processing documents and spreadsheets, and vibrant colors in photos. Easy-to-use on-screen controls include horizontal and vertical moiré adjustment. (★★★★☆)                                      |
| 4  | Hewlett-Packard P920<br><a href="http://find.pcworld.com/10578">find.pcworld.com/10578</a>            | \$429                   | 84             | Very good/<br>Very good  | <b>FEATURES:</b> 17.9-inch viewable area, .24mm ' Diamondtron NF aperture grille tube, <sup>3</sup> up to 99-Hz refresh rate, <sup>2</sup> up to 1920 by 1440 resolution at 70 Hz, TCO'99 compliant, three-year warranty, 11-hour weekday toll-call support. <b>SUMMARY:</b> Delivers pleasing color and fine, clear text. This model is ideal for viewing large spreadsheets, thanks to its high maximum resolution. (★★★★☆ Sept 01)  |
| 5  | Sony CPD-G420S<br><a href="http://find.pcworld.com/10577">find.pcworld.com/10577</a>                  | \$480                   | 83             | Very good/<br>Very good  | <b>FEATURES:</b> 17.9-inch viewable area, .24-.25mm ' FD Trinitron aperture grille tube, <sup>1</sup> up to 85-Hz refresh rate, <sup>2</sup> up to 1600 by 1200 resolution at 70 Hz, TCO'99 compliant, three-year warranty, 24-hour daily toll-free support. <b>SUMMARY:</b> Well suited for heavy word processing or professional graphics work. Other monitors on our chart cost much less, even though this model sheds \$50 this month. (★★★★☆ Sept 01)                    |
| 6  | IBM P97<br><a href="http://find.pcworld.com/18803">find.pcworld.com/18803</a>                         | <b>NEW</b> \$499        | 83             | Very good/<br>Very good  | <b>FEATURES:</b> 18-inch viewable area, .24-.25mm ' FD Trinitron aperture grille tube, <sup>1</sup> up to 85-Hz refresh rate, <sup>2</sup> up to 1600 by 1200 resolution at 70 Hz, TCO'95 compliant, three-year warranty, 24-hour daily toll-free support. <b>SUMMARY:</b> Pricey display produces sharp lettering and delicately detailed photos—it's a solid choice for heavy text work or video editing. Discards basic beige in favor of a bezel dressed in black. (★★★★☆) |
| 7  | ViewSonic G90f<br><a href="http://find.pcworld.com/14622">find.pcworld.com/14622</a>                  | \$279                   | 83             | Satisfactory/<br>Good    | <b>FEATURES:</b> 17.9-inch viewable area, .25mm ' Perfect Flat shadow mask tube, up to 89-Hz refresh rate, <sup>2</sup> up to 1600 by 1200 resolution at 70 Hz, TCO'99 compliant, three-year warranty, 24-hour daily toll-free support. <b>SUMMARY:</b> This unit comes with a chart that makes setup easy, but other documentation is only on CD-ROM. While the price is reasonable, the image quality is merely average. (★★★☆☆ Dec 01)                                      |
| 8  | Philips Brilliance 109P<br><a href="http://find.pcworld.com/18804">find.pcworld.com/18804</a>         | <b>NEW</b> \$430        | 81             | Good/<br>Very good       | <b>FEATURES:</b> 17.9-inch viewable area, .25mm ' shadow mask tube, up to 85-Hz refresh rate, <sup>2</sup> up to 1920 by 1440 resolution at 70 Hz, TCO'99 compliant, three-year warranty, 16-hour weekday and 14-hour weekend toll-free support. <b>SUMMARY:</b> Delivers stronger graphics than text; suitable for image editing or surfing the Internet. Even-better image quality can be found for less. (★★★★☆)  |
| 9  | Iiyama I91A<br><a href="http://find.pcworld.com/10806">find.pcworld.com/10806</a>                     | \$345                   | 80             | Good/<br>Good            | <b>FEATURES:</b> 17.9-inch viewable area, .25mm ' Diamondtron NF aperture grille tube, <sup>1</sup> up to 89-Hz refresh rate, <sup>2</sup> up to 1600 by 1200 resolution at 70 Hz, TCO'99 compliant, three-year warranty, 10-hour weekday toll-free support. <b>SUMMARY:</b> Image quality, while fairly good, didn't overwhelm us—and neither did this model's price. Has easy-to-use controls and is smaller than many other monitors here. (★★★☆☆ Sept 01)                  |
| 10 | Samsung SyncMaster 900NF<br><a href="http://find.pcworld.com/14521">find.pcworld.com/14521</a>        | \$389                   | 80             | Good/<br>Satisfactory    | <b>FEATURES:</b> 18-inch viewable area, .25mm ' Natural Flat aperture grille tube, <sup>1</sup> up to 102-Hz refresh rate, <sup>2</sup> up to 1920 by 1440 resolution at 70 Hz, TCO'99 compliant, three-year warranty, 24-hour daily toll-free support. <b>SUMMARY:</b> Adequate image quality, but other models on the chart perform better for less. Controls are hidden behind a neat drop-down panel on the front bezel. (★★★★☆ Dec 01)                                    |

**HOW WE TEST:** Twelve judges rate a monitor's text and graphics quality. We evaluate each unit on how well it displays typical business letters, spreadsheets, Web pages, and scanned photos. The overall rating is based on text and graphics quality (25 percent each), price (25 percent), features and ease of use (20 percent), and service and support (5 percent). The best possible overall rating is 100. Data based on tests designed and conducted by the PC World Test Center. All rights reserved. See [find.pcworld.com/10860](http://find.pcworld.com/10860) for details on PC World's Star Ratings.

<sup>1</sup> Specification represents diagonal dot pitch for shadow mask monitors and stripe or varying stripe pitch for aperture grille monitors. <sup>2</sup> Maximum refresh rate at 1280 by 1024 resolution (the tested resolution for this size monitor). <sup>3</sup> Uses an aperture grille in which parallel wires near the sides of the screen are strung farther apart than those at the middle.



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# TOP 10 GRAPHICS BOARDS

TOP 100

TEST Center

Visit [find.pcworld.com/17921](http://find.pcworld.com/17921) for reviews of all products ranked in this chart or tested this month.

THIS MONTH WE TESTED ATI's high-powered Radeon 8500 and four cards based on NVidia's new GeForce2 Titanium and GeForce3 Titanium chips: VisionTek's Xtasy 6964, Xtasy 5864, and Xtasy 6564 boards, as well as Gainward's CardExpert GeForce2 Ti/500 XP Vivo Golden Sample. All of Vision-

Tek's cards were fast in our tests, but only the Xtasy 6564 and Xtasy 5864 secured places on the chart, partly because they are more affordable than the \$350 Xtasy 6964. Gainward's new card secured a fifth-place spot, thanks to its fast overall speed, bundled video extras, and reasonable price. ▶

|    | AGP BOARD  | Street price (11/20/01) | Overall rating | Image quality | Overall speed | Features rating | Comments   |
|----|--|-------------------------|----------------|---------------|---------------|-----------------|--|
| 1  | <b>Best BUY</b> Gainward CardExpert GeForce2 TwinView/Vivo Golden Sample<br><a href="http://find.pcworld.com/11423">find.pcworld.com/11423</a> | \$119                   | 95             | Very good     | Good          | Very good       | <b>FEATURES:</b> NVidia GeForce2 MX-400 chip, 32MB of SDRAM, 350-MHz RAMDAC; S-Video-in and -out, composite-in and -out; software DVD player, video editing software. <b>SUMMARY:</b> Solid performance and image quality; can display to two analog monitors or to a monitor and a TV simultaneously. (★★★★★ Oct 01)          |
| 2  | <b>Best BUY</b> ATI Radeon 8500<br><a href="http://find.pcworld.com/17122">find.pcworld.com/17122</a> <b>NEW</b>                               | \$299                   | 94             | Very good     | Very good     | Outstanding     | <b>FEATURES:</b> ATI Radeon 8500 chip, 64MB of DDR SDRAM, 400-MHz RAMDAC; dual-display support, DVI-out, S-Video-out, composite-out; software DVD player; game. <b>SUMMARY:</b> The driver installer automatically updates your PC to DirectX 8. Includes the game Half-Life: Counterstrike and many hardware extras. (★★★★★)  |
| 3  | MSI MX400 Pro-VT32S<br><a href="http://find.pcworld.com/14540">find.pcworld.com/14540</a>  | \$89                    | 91             | Very good     | Good          | Good            | <b>FEATURES:</b> NVidia GeForce2 MX-400 chip, 32MB of SDRAM, 350-MHz RAMDAC; S-Video-in and -out, composite-out; color-calibration utility, software DVD player, overclocking utilities. <b>SUMMARY:</b> Excellent value for casual gamers, but no bundled games. Produced a few glitches in some test games. (★★★★☆ Dec 01)   |
| 4  | Asus AGP-V7100 Pro Pure 32MB<br><a href="http://find.pcworld.com/13101">find.pcworld.com/13101</a>   | \$89                    | 88             | Very good     | Good          | Good            | <b>FEATURES:</b> NVidia GeForce2 MX-400 chip, 32MB of SDRAM, 350-MHz RAMDAC; color-calibration utility, software DVD player, three games. <b>SUMMARY:</b> A generous game bundle, attractive images, and a low price make this model a great choice for casual gamers on a budget. (★★★★★ Nov 01)                              |
| 5  | Gainward CardExpert GeForce2 Ti/500 XP Vivo Golden Sample<br><a href="http://find.pcworld.com/17721">find.pcworld.com/17721</a> <b>NEW</b>     | \$149                   | 86             | Average       | Very good     | Very good       | <b>FEATURES:</b> NVidia GeForce2 Ti chip, 64MB of DDR SDRAM, 350-MHz RAMDAC; S-Video-in and -out, composite-in and -out; software DVD player, overclocking and video editing utilities. <b>SUMMARY:</b> By default, installs in overclocked mode, though nonoverclocked installation is an option. (★★★★☆)                     |
| 6  | MSI MX400 Pro-TC64S<br><a href="http://find.pcworld.com/11302">find.pcworld.com/11302</a>  | \$100                   | 83             | Good          | Good          | Good            | <b>FEATURES:</b> NVidia GeForce2 MX-400 chip, 64MB of SDRAM, 350-MHz RAMDAC; S-Video-out; color-calibration utility, overclocking utility, software DVD player, one game. <b>SUMMARY:</b> Well priced, but the output was rather dark and lacked contrast in several of the games used in our tests. (★★★★☆ Oct 01)            |
| 7  | Asus AGP-V7100 Pro TV 64MB<br><a href="http://find.pcworld.com/16220">find.pcworld.com/16220</a>   | \$105                   | 83             | Good          | Good          | Good            | <b>FEATURES:</b> NVidia GeForce2 MX-400 chip, 64MB of SDRAM, 350-MHz RAMDAC; S-Video-out, composite-out; color-calibration, overclocking utilities, software DVD player, two games. <b>SUMMARY:</b> 64MB of RAM lets it run games at high resolutions, but slowly. Includes Star Trek New Worlds and Messiah. (★★★★☆ Jan 02)   |
| 8  | Matrox Millennium G550<br><a href="http://find.pcworld.com/16240">find.pcworld.com/16240</a>   | \$125                   | 83             | Good          | Average       | Very good       | <b>FEATURES:</b> Matrox G550 chip, 32MB of DDR SDRAM, 360-MHz RAMDAC; dual-display support, DVI-out, S-Video-out, composite-out, HeadCasting support; software DVD player, color-calibration utility. <b>SUMMARY:</b> Bundled Digimask software lets you make a digitized version of your face to use in games. (★★★★☆ Jan 02) |
| 9  | VisionTek Xtasy 6564<br><a href="http://find.pcworld.com/17661">find.pcworld.com/17661</a> <b>NEW</b>  | \$200                   | 82             | Average       | Very good     | Good            | <b>FEATURES:</b> NVidia GeForce3 Ti 200 chip, 64MB of DDR SDRAM, 350-MHz RAMDAC; S-Video-out; color-calibration software. <b>SUMMARY:</b> Autorun didn't work on the driver CD-ROM, so we had to install this card's drivers manually. Neck-and-neck with the number two card in speed, but lags in image quality. (★★★★☆)     |
| 10 | VisionTek Xtasy 5864<br><a href="http://find.pcworld.com/17701">find.pcworld.com/17701</a> <b>NEW</b>  | \$150                   | 78             | Average       | Very good     | Average         | <b>FEATURES:</b> NVidia GeForce2 Ti chip, 64MB of DDR SDRAM, 350-MHz RAMDAC; S-Video-out; color-calibration software. <b>SUMMARY:</b> Speed scores were near those of the fastest cards in all test resolutions except our highest (1600 by 1200). However, image-quality scores in Test Drive 6 were poor. (★★★☆☆)            |

**HOW WE TEST:** We test graphics boards under Windows Millennium Edition. Our performance scores are based on tests that we evaluate on frame rate (50 percent) and image quality (50 percent). We use GT Interactive's Unreal Tournament, Id Software's Quake III Arena, Interplay's MDK2 Demo, Infogrames' Test Drive 6, and the Caligari TrueSpace 4.2 Benchmark for both performance and image-quality testing. We test graphics boards in a Dell Dimension 4100 Series with a PIII-933 CPU and 128MB of PC133 SDRAM. To test each board, we use drivers supplied by the vendor. Overall rating is based on performance (42.5 percent), features (27.5 percent), price (20 percent), and support policies (10 percent). All boards are 4X AGP compatible unless otherwise noted. See [find.pcworld.com/10860](http://find.pcworld.com/10860) for details on PC World's Star Ratings.





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<sup>1</sup>For hard drives, GB equals one billion bytes. <sup>2</sup>QuantiSpeed architecture outperforms competitive 1.6GHz processors. QuantiSpeed architecture operates at 1.4GHz. <sup>3</sup>QuantiSpeed architecture outperforms competitive 1.7GHz processors. QuantiSpeed architecture operates at 1.47GHz. © 2001 Tangent Computer, Inc. All rights reserved. Prices and specifications valid in U.S. only and subject to change without notice. Shipping and taxes are additional. Tangent and the Tangent logo are registered trademarks and Pillar, Valera, and Network Alert are trademarks of Tangent Computer, Inc. AMD, the AMD Arrow logo, QuantiSpeed, AMD Athlon and combinations thereof are trademarks of Advanced Micro Devices, Inc. Microsoft and Windows are registered trademarks of Microsoft Corporation in the U.S. and other countries. Other product names are for identification purposes only and may be trade names of their respective companies.



# TOP 10 CD-RW DRIVES

TOP 100

TEST  
Center

Visit [find.pcworld.com/18661](http://find.pcworld.com/18661) for reviews of all products ranked in this chart or tested this month.

THIS MONTH, 20X AND 24X DRIVES dominate the CD-RW marketplace, while 16X drives serve as entry-level models. Speedy performance results and daily tech support hours help TDK's \$145 24/10/40 VeloCD ReWriter hold on to the number one spot. Nevertheless, coming up strong in second

place is Samsung's \$85 SW-216, an inexpensive 16X/10X/32X model that ranks as one of the fastest 16X drives we've seen. Two 24X models debut on the chart: Teac's \$130 CD-W524E and Sony's \$150 CRX175A/A1. The Sony drive is one of the few to include software for backing up data. ►

|    | CD-RW DRIVE  | Street price (11/20/01) | Overall rating | Performance/support policies | CD-R write speed for 650MB/CD-RW write speed for 100MB (min:sec) | Comments  |
|----|--|-------------------------|----------------|------------------------------|--|---|
| 1  | <b>Best BUY</b> TDK 24/10/40 VeloCD ReWriter<br><a href="http://find.pcworld.com/11142">find.pcworld.com/11142</a> | \$145                   | 86             | Outstanding/<br>Very good    | 4:12/1:20  | <b>FEATURES:</b> 24X/10X/40X, IDE, internal, 2MB buffer, buffer underrun protection, Ahead Nero Burning ROM 5.5 and InCD 2.12, one-year warranty, 10.5-hour daily toll-free support. <b>SUMMARY:</b> This fast drive retains its number one spot thanks to seven-days-a-week tech support; TDK also sells a similar drive, the 24/10/40b. (★★★★☆ Oct 01)                      |
| 2  | <b>Best BUY</b> Samsung SW-216<br><a href="http://find.pcworld.com/16080">find.pcworld.com/16080</a>               | \$85                    | 85             | Very good/<br>Good           | 5:29/1:19  | <b>FEATURES:</b> 16X/10X/32X, IDE, internal, 2MB buffer, buffer underrun protection, Ahead Nero Burning ROM 5.5 and InCD 2.11, one-year warranty, 10-hour weekday toll-free support. <b>SUMMARY:</b> A bargain price helps this solid all-around performer move up to second place; this is one of the best 16X drives we've seen. (★★★★☆ Jan 02)                             |
| 3  | CenDyne Lightning 24x10x40<br><a href="http://find.pcworld.com/14020">find.pcworld.com/14020</a>                   | \$140                   | 85             | Outstanding/<br>Fair         | 4:11/1:19  | <b>FEATURES:</b> 24X/10X/40X, IDE, internal, 2MB buffer, buffer underrun protection, Ahead Nero Burning ROM 5.5 and InCD 2.26, one-year warranty, 9-hour weekday and 4-hour Saturday support (calls are not toll-free). <b>SUMMARY:</b> Excellent performance and a competitive price make this 24X drive a fine choice. (★★★★☆ Dec 01)                                       |
| 4  | Philips PCRW2010<br><a href="http://find.pcworld.com/16060">find.pcworld.com/16060</a>                             | \$150                   | 84             | Outstanding/<br>Very good    | 4:31/1:19  | <b>FEATURES:</b> 20X/10X/40X, IDE, internal, 2MB buffer, buffer underrun protection, Ahead Nero Burning ROM 5.5 and InCD 2.22, one-year warranty, 11-hour weekday and 8-hour weekend toll-free support. <b>SUMMARY:</b> Less costly drives are on the market, but Philips offers toll-free daily technical support and helpful documentation. (★★★★☆ Jan 02)                  |
| 5  | LG Electronics GCE-8160B<br><a href="http://find.pcworld.com/14000">find.pcworld.com/14000</a>                     | \$110                   | 84             | Very good/<br>Very good      | 5:32/1:31  | <b>FEATURES:</b> 16X/10X/40X, IDE, internal, 2MB buffer, buffer underrun protection, Adaptec Easy CD Creator 4.03 and DirectCD 3.03, one-year warranty, 13-hour weekday and 12-hour Saturday toll-free support. <b>SUMMARY:</b> This inexpensive drive is a strong overall performer and a fast CD-ROM reader for its speed class. (★★★★☆ Dec 01)                             |
| 6  | Teac CD-W524E<br><a href="http://find.pcworld.com/18182">find.pcworld.com/18182</a> <b>NEW</b>                     | \$130                   | 84             | Very good/<br>Satisfactory   | 4:30/1:33  | <b>FEATURES:</b> 24X/10X/40X, IDE, internal, 2MB buffer, Roxio Easy CD Creator 5.1 and DirectCD 5.1, one-year warranty, 9-hour weekday support (calls are not toll-free). <b>SUMMARY:</b> Though this drive's performance is a little sluggish compared with most other 24X offerings, Teac includes a better-than-average software bundle. (★★★☆☆)                           |
| 7  | Lite-On 24x10x40x LTR-24102B<br><a href="http://find.pcworld.com/16040">find.pcworld.com/16040</a>                 | \$105                   | 83             | Outstanding/<br>Fair         | 4:31/1:19  | <b>FEATURES:</b> 24X/10X/40X, IDE, internal, 2MB buffer, buffer underrun protection, Ahead Nero Burning ROM 5.5 and InCD 2.26, one-year warranty, 9-hour weekday support (calls are not toll-free). <b>SUMMARY:</b> The lowest-cost 24X model on the chart, this drive is held back by lackluster documentation and technical support. Price sheds \$45. (★★★☆☆ Jan 02)       |
| 8  | QPS Que Internal 24x10x40x CD-RW<br><a href="http://find.pcworld.com/14040">find.pcworld.com/14040</a>             | \$140                   | 83             | Outstanding/<br>Good         | 4:12/1:20  | <b>FEATURES:</b> 24X/10X/40X, IDE, internal, 2MB buffer, buffer underrun protection, Ahead Nero Burning ROM 5.5 and InCD 2.23, one-year warranty, 11.5-hour weekday support (calls are not toll-free). <b>SUMMARY:</b> First-rate CD-R and CD-RW performance, as well as a competitive price (which drops this month by \$25), keeps this model in the Top 10. (★★★★☆ Dec 01) |
| 9  | Sony CRX175A/A1<br><a href="http://find.pcworld.com/18221">find.pcworld.com/18221</a> <b>NEW</b>                   | \$150                   | 83             | Outstanding/<br>Very good    | 4:07/1:18  | <b>FEATURES:</b> 24X/10X/40X, IDE, internal, 2MB buffer, buffer underrun protection, BHA B's Recorder Gold 3.01 and B's Clip 2.29, one-year warranty, 12-hour weekday and Saturday toll-free support. <b>SUMMARY:</b> Outstanding write performance and an excellent software bundle earn this drive a spot on our chart. (★★★★☆)   |
| 10 | Yamaha LightSpeed CRW2200EZ<br><a href="http://find.pcworld.com/11146">find.pcworld.com/11146</a>                  | \$185                   | 81             | Very good/<br>Very good      | 4:49/1:16  | <b>FEATURES:</b> 20X/10X/40X, IDE, internal, 8MB buffer, buffer underrun protection, Ahead Nero Burning ROM 5.5 and InCD 2.11, one-year warranty, 12-hour weekday support (calls are not toll-free). <b>SUMMARY:</b> This drive logged the fastest time on our CD-RW write tests. It also comes with a terrific software bundle. (★★★★☆ Oct 01)                               |

**HOW WE TEST:** To gauge CD-ROM read performance, we time how long the drive takes to install Microsoft Office 2000 SBE (disc one). To determine CD-R write performance, we burn data to CD-R discs from an image file and on the fly. We evaluate digital audio extraction speed by extracting 320MB of musical tracks from an audio CD to our hard drive. We measure CD-RW performance by copying 100MB of files to a CD-RW disc, then rewriting the same data to the same disc. Overall ratings are based on performance (35 percent), price (25 percent), features (20 percent), tech support policies (10 percent), and ease of installation (10 percent). See [find.pcworld.com/10860](http://find.pcworld.com/10860) for details on PC World's Star Ratings. \*Vendor's speed ratings, listed in order: CD-R write/CD-RW write/CD-ROM read.



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# TOP 10 DIGITAL CAMERAS

Visit [find.pcworld.com/18305](http://find.pcworld.com/18305) for reviews of all products ranked in this chart or tested this month.

THREE-PLUS-MEGAPIXEL cameras make inroads on the sub-\$500 chart. Of the six new models we tested, three offer more than 3 million pixels; two of them made the chart. Our new Best Buy, Toshiba's PDR-M71, has 3.2-megapixel resolution and manual exposure controls. In ninth place, Kodak's

3.3-megapixel DX3900 Zoom has an optional docking station to upload photos, but little manual control. The Fujifilm FinePix 2600 Zoom lands midchart; it's priced well at \$299, but images looked off-color. In tenth, Canon's PowerShot S110 fits lots of function in a tiny case but is hard to use. ▶

|    | CAMERA: UNDER \$500  | Street price (11/17/01) | Overall rating | Image quality | Ease of use | Battery life/shots | Comments   |
|----|--|-------------------------|----------------|---------------|-------------|--------------------|--|
| 1  | <b>Best Buy</b> Toshiba PDR-M71<br><a href="http://find.pcworld.com/17961">find.pcworld.com/17961</a> <b>NEW</b> | \$499                   | 77             | Good          | Good        | Very good/<br>329  | <b>FEATURES:</b> 3.2-megapixel CCD resolution, 8MB SmartMedia card, 35mm-98mm focal range; <sup>1</sup> USB and video output; 12.1 ounces. <b>SUMMARY:</b> The PDR-M71 offers long battery life and more versatility than most sub-\$500 cameras, but it underexposed some of our test shots. ★★☆☆☆                      |
| 2  | <b>Best Buy</b> Casio QV-2900UX<br><a href="http://find.pcworld.com/14807">find.pcworld.com/14807</a>            | \$399                   | 77             | Adequate      | Very good   | Very good/<br>366  | <b>FEATURES:</b> 2.11-megapixel CCD resolution, 16MB CompactFlash media, 40mm-320mm focal range; <sup>1</sup> serial, USB, and video output; 14.1 ounces. <b>SUMMARY:</b> This model has a well-designed case with reprogrammable buttons. Includes a serial port. (★★★★☆ Dec 01)  |
| 3  | HP Photosmart 318<br><a href="http://find.pcworld.com/14806">find.pcworld.com/14806</a>                          | \$199                   | 77             | Adequate      | Very good   | Very good/<br>294  | <b>FEATURES:</b> 2.31-megapixel CCD resolution, 8MB internal memory; <sup>2</sup> 38mm focal length; <sup>1</sup> USB output; 10.4 ounces. <b>SUMMARY:</b> Offers the barest point-and-shoot capabilities and takes somewhat blurry photos, but is the least-expensive camera on the chart. (★★★☆☆ Dec 01)               |
| 4  | Olympus Camedia C-2040 Zoom<br><a href="http://find.pcworld.com/10584">find.pcworld.com/10584</a>                | \$449                   | 77             | Very good     | Good        | Adequate/<br>217   | <b>FEATURES:</b> 2.11-megapixel CCD resolution, 8MB SmartMedia card, 40mm-120mm focal range; <sup>1</sup> USB and video output; 12.7 ounces. <b>SUMMARY:</b> The C-2040 is solidly designed and creates realistic photos, but it won't capture audio with its video recording, and battery life is short. (★★★★☆ Dec 01) |
| 5  | Fujifilm FinePix 2600 Zoom <b>NEW</b><br><a href="http://find.pcworld.com/17965">find.pcworld.com/17965</a>      | \$299                   | 76             | Adequate      | Adequate    | Good/<br>286       | <b>FEATURES:</b> 2.1-megapixel CCD resolution, 16MB SmartMedia card, 38mm-114mm focal range; <sup>1</sup> USB and video output; 9.0 ounces. <b>SUMMARY:</b> This simple point-and-shoot model is easy to use and comes with a large storage card, but its photos looked unimpressive in our tests. ★★☆☆☆                 |
| 6  | Nikon Coolpix 775<br><a href="http://find.pcworld.com/17968">find.pcworld.com/17968</a>                          | \$399                   | 76             | Adequate      | Good        | Good/<br>270       | <b>FEATURES:</b> 2.14-megapixel CCD resolution, 8MB CompactFlash media, 38mm-115mm focal range; <sup>1</sup> USB and video output; 9.1 ounces. <b>SUMMARY:</b> With nine picture settings and video capability, the tiny Coolpix 775 adds a few features to a basic point-and-shoot camera. (★★★★☆ Dec 01)               |
| 7  | Casio QV-3500EX<br><a href="http://find.pcworld.com/17967">find.pcworld.com/17967</a>                            | \$499                   | 75             | Very good     | Adequate    | Very good/<br>298  | <b>FEATURES:</b> 3.34-megapixel CCD resolution, 16MB CompactFlash media, 33mm-100mm focal range; <sup>1</sup> serial, USB, and video output; 15.9 ounces. <b>SUMMARY:</b> Not easy to use, but takes great shots. Its Best Shot feature lets you set the camera for the type of picture you want to take. (★★★★☆ Dec 01) |
| 8  | Canon PowerShot A20<br><a href="http://find.pcworld.com/10586">find.pcworld.com/10586</a>                        | \$399                   | 75             | Very good     | Good        | Adequate/<br>179   | <b>FEATURES:</b> 2.11-megapixel CCD resolution, 8MB CompactFlash media, 35mm-105mm focal range; <sup>1</sup> USB and video output; 12.6 ounces. <b>SUMMARY:</b> This unit is easy to use, takes above-average shots, and has a built-in panorama mode to line up photos for stitching together later. (★★★★☆ Dec 01)     |
| 9  | Kodak DX3900 Zoom <b>NEW</b><br><a href="http://find.pcworld.com/17962">find.pcworld.com/17962</a>               | \$399                   | 74             | Good          | Good        | Excellent/<br>389  | <b>FEATURES:</b> 3.3-megapixel CCD resolution, 8MB CompactFlash media, 35mm-70mm focal range; <sup>1</sup> USB and video output; 9.6 ounces. <b>SUMMARY:</b> The DX3900 Zoom, the least-expensive 3-megapixel camera we've tested, can connect to an optional docking station for easy photo upload. ★★☆☆☆               |
| 10 | Canon PowerShot S110 <b>NEW</b><br><a href="http://find.pcworld.com/17966">find.pcworld.com/17966</a>            | \$399                   | 74             | Good          | Adequate    | Limited/<br>131    | <b>FEATURES:</b> 2.11-megapixel CCD resolution, 8MB CompactFlash media, 35mm-70mm focal range; <sup>1</sup> USB and video output; 8.1 ounces. <b>SUMMARY:</b> The PowerShot S110 is exquisitely constructed of stainless steel, but its sparse controls and dinky size make it difficult to use. ★★☆☆☆                   |

**HOW WE TEST:** Each camera's overall rating is based on price (30 percent), picture quality (20 percent), ease of use (15 percent), features (15 percent), battery life (10 percent), and support (10 percent). For all ratings, higher is better. To gauge picture quality, we take a series of shots, with and without flash, at 640 by 480 resolution and at the camera's highest resolution. We take pictures of a complex still life and of a mannequin to see how well each camera captures image details and subtle colorings such as skin tones. A panel of judges reviews the on-screen and printed photos and assigns image-quality scores; we then average those scores. Camera weights include batteries. Data based on tests designed and conducted by the PC World Test Center. All rights reserved. See [find.pcworld.com/10860](http://find.pcworld.com/10860) for details on PC World's Star Ratings. <sup>1</sup> 35mm film equivalent. <sup>2</sup> Camera includes a media card slot.



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AMD Athlon™ XP Processor 1700+ with **\$1199** # 2827  
QuantISpeed™ architecture\*\*\* outperforms competitive 1.70GHz processors

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- Zoom 56K V.92 Data/Fax/Modem
- PCI 10/100 Network Controller, Broad Band Ready
- Mitsumi 1.44MB Floppy Drive
- Microsoft Internet Keyboard & Microsoft IntelliMouse
- Microsoft Windows XP Home Edition
- Free ABS™ High Quality Cloth-Surface Mouse Pad
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TOP 100

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MISSED AN ISSUE OF *PC World* or passed your copy along to a friend? Here's a recap of other *Top 100* topics from previous issues. To read reviews of the products ranked on these Top 10 charts, go online and type in the *PC World* Find-It URL at

the top of each chart (for example, [find.pcworld.com/18301](http://find.pcworld.com/18301) for 17-inch CRT monitors on the *Top 10 Monitors* chart). Next month's *Top 100* will include coverage of CD-RW drives, hard drives, and digital cameras priced at \$500 and over. ■



COMPAQ'S P720 monitor eschews the usual beige color scheme for stylish black and silver.



THE EPSON STYLUS C80 took top honors in our roundup of ink jet printers in the January 2002 issue.

## PRINTERS

[find.pcworld.com/18303](http://find.pcworld.com/18303)

| INK JET PRINTERS<br>From the January 2002 issue |  |
|---|--|
| 1   | <b>Best BUY</b> Epson Stylus C80<br><a href="http://find.pcworld.com/16660">find.pcworld.com/16660</a>             |
| 2   | <b>Best BUY</b> Lexmark Z53 Color Jetprinter<br><a href="http://find.pcworld.com/10560">find.pcworld.com/10560</a> |
| 3   | Lexmark Z43 Color Jetprinter<br><a href="http://find.pcworld.com/10561">find.pcworld.com/10561</a>                 |
| 4   | Canon S600 Color Bubble Jet Printer<br><a href="http://find.pcworld.com/10567">find.pcworld.com/10567</a>          |
| 5   | Canon S300 Color Bubble Jet Printer<br><a href="http://find.pcworld.com/16641">find.pcworld.com/16641</a>          |
| 6   | Canon S500 Color Bubble Jet Printer<br><a href="http://find.pcworld.com/16644">find.pcworld.com/16644</a>          |
| 7   | Epson Stylus C60<br><a href="http://find.pcworld.com/16647">find.pcworld.com/16647</a>                             |
| 8   | HP Deskjet 940c Color Inkjet Printer<br><a href="http://find.pcworld.com/16681">find.pcworld.com/16681</a>         |
| 9   | HP Deskjet 845c Color Inkjet Printer<br><a href="http://find.pcworld.com/16680">find.pcworld.com/16680</a>         |
| 10  | Lexmark Z33 Color Jetprinter<br><a href="http://find.pcworld.com/16682">find.pcworld.com/16682</a>                 |

## MONITORS

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| 2   | <b>Best BUY</b> Compaq P720<br><a href="http://find.pcworld.com/16267">find.pcworld.com/16267</a>              |
| 3   | Iiyama Vision Master Pro 413<br><a href="http://find.pcworld.com/13260">find.pcworld.com/13260</a>             |
| 4   | ViewSonic G75f<br><a href="http://find.pcworld.com/13380">find.pcworld.com/13380</a>                           |
| 5   | Sony CPD-G220S<br><a href="http://find.pcworld.com/10572">find.pcworld.com/10572</a>                           |
| 6   | KDS XF-7i<br><a href="http://find.pcworld.com/16266">find.pcworld.com/16266</a>                                |
| 7   | Eizo Nanao FlexScan T565<br><a href="http://find.pcworld.com/10576">find.pcworld.com/10576</a>                 |
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| 5                                       | Canon CanoScan N670U<br><a href="http://find.pcworld.com/15841">find.pcworld.com/15841</a>                    |
| 6                                       | Microtek ScanMaker 5700<br><a href="http://find.pcworld.com/15844">find.pcworld.com/15844</a>                 |
| 7                                       | HP Scanjet 4470c<br><a href="http://find.pcworld.com/12160">find.pcworld.com/12160</a>                        |
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| 2                                       | Microtek ScanMaker 8700 Pro Design<br><a href="http://find.pcworld.com/15843">find.pcworld.com/15843</a>      |
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# HERE'S HOW

EDITED BY MICHAEL S. LASKY AND DENNIS O'REILLY



## WINDOWS TIPS

SCOTT DUNN

### Take Charge of Your Runaway Start Menu

**ALL  
Versions**

IF YOU REGULARLY scroll through dozens of items on your Start menu every time you open a program, maybe you should think about putting the menu on a diet.

Two prime candidates for deletion from the Start menu are your Favorites and Documents menus. Chances are you only access your Favorites menu from your browser or folder windows. And you won't need the Documents menu if you create a custom recent-documents menu

by following the steps in the next tip, "Documents Menu, Take 2."

Before you begin trimming the Start menu, put your other shortcut menus into logical groups and delete unnecessary menu items. Go to [find.pcworld.com/15920](http://find.pcworld.com/15920) for Steve Bass's suggestions on organizing a messy Windows desktop.

Windows 9x doesn't offer an easy way to remove its built-in menu items, but you can delete some of them by editing the Windows Registry. Messing with Reg-

istry settings is risky, however, so be sure to back up your system.dat and user.dat Registry files before beginning. After creating your backup, choose **Start•Run**, type **regedit**, and press **<Enter>** to open the Registry Editor. Navigate through the tree on the left until you come to **HKEY\_CURRENT\_USER\Software\Microsoft\Windows\CurrentVersion\Policies\Explorer**. Select the Explorer icon in the left pane, then add the settings in the right pane that turn off the Windows menu items. For example, to make the Documents menu disappear from the Start menu, right-click the right pane and choose **New•DWORD Value**. Type **NoRecentDocsMenu** to name the new binary value, and press **<Enter>**. Double-click the new entry, type **1** in the Value data box, and click **OK**.

To remove the Log Off command, add a **DWORD Value** icon called **NoLogOff**, and to delete the Favorites menu, create a **DWORD Value** icon named **NoFavoritesMenu**. Double-click each icon you create, type **1**, and click **OK** (see **FIGURE 1**). After removing the menu items, close the Registry Editor and, if necessary, log off and log back on to see the changes. To restore a deleted menu item, open the Registry Editor and delete the icon you created or double-click it and change its value to **0**.

To remove the Favorites and Logoff commands in Windows 2000 and Me, right-click the taskbar, choose **Properties**, click the **Advanced** tab, and in the list of settings at the bottom of the dialog box, uncheck either the **Display Favorites** box or **Display Logoff** box, or both. If you never use the **Start•Run** command or prefer to access it only from your keyboard (**<Windows>•<R>**), Windows Me lets you uncheck **Display Run** as well (see **FIGURE 2**). When you're done, click **OK**. **Note:** To remove



#### 144 WINDOWS TIPS

Remove items you don't use from your Start menu; customize your Documents menu; set file dialog box sizes.

#### 148 INTERNET TIPS

One in-box for many e-mail accounts; domain registration alternatives; at home (page) with IE's Favorites.

#### 152 STEP-BY-STEP

Files get harder to find as hard-drive capacities increase. Partition your drive to hasten your file searches.

#### 154 HARDWARE TIPS

Help your PC keep its cool no matter the weather. Will 'AGP 3' spell faster graphics? Not necessarily.

#### 156 ANSWER LINE

The best way to back up your data to a CD-Recordable/Rewritable disc; get unwanted icons out of your system tray; hide Windows Me's logo.



FIGURE 1: ADD A FEW SETTINGS to the Windows Registry to make some built-in Start menu items disappear.

the Documents submenu from Windows Me's Start menu, follow the Registry edit steps described above for Windows 9x.

Removing other built-in Start menu items from Windows 2000 requires the Group Policy administrative utility. To launch the utility, click **Start**•**Run**, type **gputil.msc**, and press **<Enter>**. Navigate in the left pane to **User Configuration**•**Administrative Templates**•**Start Menu & Taskbar**. To delete Help from the Start menu, double-click **Remove Help menu from Start Menu** in the right pane (see **FIGURE 3**). Select **Enabled** and click **OK**. You'll still be able to reach the same help information from any folder window by using its Help menu or by pressing **<F1>**. Likewise, to get

rid of the Documents menu, double-click **Remove Documents menu from Start Menu**, select **Enabled**, and click **OK**.

If you disable too many menu items, you may regret it. For example, removing the Shut Down command from the Start menu also disables the Shut

Down button when you press **<Ctrl>**•**<Alt>**•**<Delete>**. And when you remove the Search submenu, you also disable the keyboard shortcuts and context-menu options that let you search from within Explorer and folder windows. So don't disable these items unless you're happy using other software that can replace these functions.

Windows XP makes it easy to remove many built-in Start menu items—good news, since this operating system also adds a lot of junk to the Start menu. Right-click the **Start** button, choose **Properties**, click **Customize**, and select the **Advanced** tab. Under 'Start menu items', you can select **Don't display this item** for Control Panel, My Computer, My Documents, My Music, My Pictures, Network Connections, and System Administrative Tools (see **FIGURE 4**). Uncheck **Favorites menu**, **Help and Support**, **My Network Places**, **Printers and Faxes**, **Run command**, and **Search** to eliminate these menu items. To remove the My Recent Documents menu, uncheck **List my most recently opened documents** in the 'Recent documents' section at the bottom of the Customize Start Menu dialog box. When you're done, click **OK** twice. Shortcuts you've created to these items in other folders or menus will still work, as will the keyboard shortcuts for opening them.

#### DOCUMENTS MENU, TAKE 2



THE OCTOBER 2001 *Windows Tips* described ways to access recently used documents beyond the measly 15 on the Start Documents menu (see [find.pcworld.com/16000](http://find.pcworld.com/16000)). But you can make your own menu of recent shortcuts and add to it as you wish, and retain the shortcuts for as long as you like. All you need is a free-

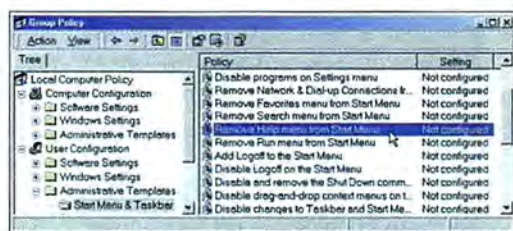


FIGURE 3: HIDE THE HELP MENU and Documents menu in Windows 2000 by using the Group Policy utility.



FIGURE 2: REMOVE FAVORITES, Logoff, and Run from your Start menu in Windows Me.

ware program and a few command lines typed in Notepad and saved as a batch file. **Preliminary steps:** Before making your batch file, create a menu that will show your recent shortcuts. Right-click the **Start** button, choose **Open**, right-click an empty area of the folder, and select **New**•**Folder**. This folder will be your new Documents menu, so give it a name, such as **More Docs**, and press **<Enter>**.

Tsahi Chitin's TDel freeware replacement for DOS's Delete command lets you delete old shortcuts based on their creation date. Go to [find.pcworld.com/15968](http://find.pcworld.com/15968) to download TDel, then unzip the file and follow the installation instructions. The program's automatic installation option won't work in Windows 2000, but don't let that bother you. Just copy **tdel.exe** to any convenient location and double-click it to finish the installation. ▶





FIGURE 4: CLEAR OUT XP'S Start menu with the Customize Start Menu dialog box.

**Automatic shortcuts:** To create the batch file that will automatically add shortcuts to this menu, open Notepad or another text editor, and on the first line, type the command that will copy files from Windows' Recent menu to your new folder—for example, `xcopy "c:\windows\recent\*.*)" "c:\windows\Start Menu\More Docs" /d /y`. Replace the first path in quotation marks ("c:\windows\recent\") with the path to your Recent folder, and change the second path in quotation marks ("c:\windows\Start Menu\More Docs") to point to the folder for your new menu. The `/d` switch copies your newest shortcuts from the Recent menu to your custom More Docs menu, while the `/y` switch suppresses prompts to overwrite files. The shortcut updates your custom menu when you launch it to show all shortcuts in your Recent folder, not just the last 15.

Unlike Windows' Documents menu, automatically adding shortcuts to this menu is easy. Add a line to the text file similar to the one above that copies specific shortcuts to your More Docs menu.

**Shortcut removal:** Add another line to this file to keep your menu size manageable. (TDel must be installed for this tip.)

Type `del c:\windows\startm~1\moredo~1\*.*) /days:3. /d-` and press **<Enter>**. Note that TDel does not support long file names, so your paths must use the abbreviated form (first 6 letters of a file name, minus spaces, followed by ~1, in most cases). Replace the path in this example

with the one to your new More Docs folder. The `/days:` switch deletes files older than a specified number of days; change '3' to the number of days you prefer. Experiment to find the number of days that works best for you. Don't forget to add the two periods after the number to delete all files older than whatever length you specify. The `/d-` switch keeps the program from deleting the More Docs folder if it becomes empty. Finally, if you're using Windows 2000, replace `del` with `tdel` (and the path to the utility, if needed).

**Final steps:** In Notepad, choose **File>Save As**, navigate to a folder where you store batch files (the Windows folder will do), type a name such as "FixMenu.bat" (in Windows 9x, Me, and XP) or "FixMenu.cmd" (in Windows 2000). Be sure to include the quotation marks so that Notepad doesn't add its .txt extension to the file name. Click **Save** and use Explorer to find the FixMenu file you just created. Choose it and click **Edit>Copy**, then navigate to your Start Menu\Programs\Startup folder and choose **Edit>Paste Shortcut**. With the new shortcut selected, choose **File>Properties**. Click the **Program** tab (in Windows 9x and Me) or the **Shortcut** tab (in Windows 2000 and XP) and choose **Minimized** from the Run drop-down list. In Windows 9x and Me, make sure **Close on exit** is checked as well. If you have problems, come back later and change these settings to keep the DOS window open while you troubleshoot. That will let you read any error messages. Click **OK**.

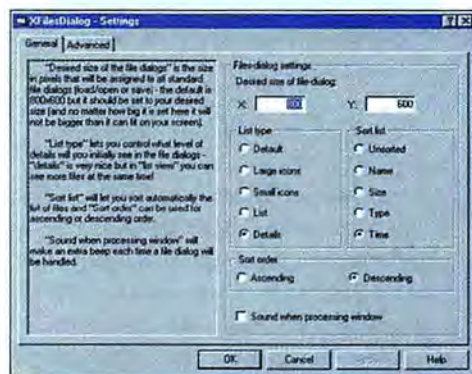
Now Windows will update your menu and delete old items automatically whenever it starts. To update the menu within the current Windows session, choose **Fix Menu** from the Start menu, or use either Task Scheduler or the Scheduled Tasks folder to run the batch file more often. If you prefer your new menu to the old Documents menu, hide the old one by following the steps in "Take Charge of Your Runaway Start Menu" above.

Windows XP Professional Edition's Group Policy utility makes it easy to increase the size of the My Recent Documents menu. Choose **Start>Run**, type

## WINDOWS TOOLBOX

### Get the Big Picture With XFileDialog

RECENT VERSIONS of Windows let you resize your Open, Save, Save As, and other file dialog boxes, and change the list's view to large icons, small icons, details, and so on. But none of your changes will persist, so you're forced to click here or drag there every time you open a dialog box just to get the view you want. The XFileDialog utility solves this problem, making the file dialog boxes in all applications (except Microsoft Office, which never conforms to Windows standards anyway) look the way you want, complete with your preferred sort order and even a pop-up menu of recently used



documents. All for only \$15 (I'm in love)! Download a trial version at [find.pcworld.com/15980](http://find.pcworld.com/15980), or from its creator at [www.xdesoftware.com/xfilesdialog.html](http://www.xdesoftware.com/xfilesdialog.html).

**gpedit.msc**, and press **<Enter>** to open Group Policy. In the left pane, select **User Configuration>Administrative Templates>Windows Components>Windows Explorer**. Double-click **Maximum number of recent documents** in the right pane and select **Enabled** under the Setting tab. Increase the maximum number of recent documents to a number above 15. The menu will show only the 10 most recent files of any file type—for example, 10 .doc (Word) files—an improvement, nevertheless. ■

Find more tips at [www.pcworld.com/heres\\_how](http://www.pcworld.com/heres_how). Windows Tips pays \$50 for published tips and questions. Scott Dunn is a contributing editor for PC World.



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## INTERNET TIPS

SCOTT SPANBAUER

KILL POP-UP ADS  
WITH ONE CLICKMAKE IE FAVORITES  
YOUR HOME PAGEFIND A CHEAPER  
DOMAIN REGISTRARGet All Your E-Mail  
in One Fell Swoop

LET'S FACE IT: E-mail is the number one use for a personal computer. Lots of us spend hours each day dealing with the dozens, even hundreds, of messages we receive. What makes it worse is that messages arrive through multiple accounts. If you're like me, you have an e-mail

e-mail. Regardless of the major e-mail program you use, you can almost always add another POP3 account in a jiffy. All you need to know is the POP3 server domain name or IP address of your ISP or e-mail service; your log-in name; and your password. The server's address is

frequently something similar to "mail.ispname.com" or "pop.ispname.com," in which *ispname* is the service's domain name.

Outgoing mail is sent to an SMTP server (for example, "smtp.ispname.com"), usually located at the same address as the incoming mail server. IMAP mail servers work about the same—you need to know the mail server's address, your log-in name, and your password, as well as the

information described above for the outgoing SMTP server.

To add a mail account to Outlook 2002 (the version that comes with Office XP), choose *Tools•E-mail Accounts*, select *Add a new e-mail account*, click *Next*, select the type of e-mail server, and click *Next* again (see **FIGURE 1**). Fill in the user and server information and click *Next* to finish.

In Outlook Express 6, choose *Tools•Accounts*, click *Add•Mail*, and enter the user and server information in the wizard that pops up. In Netscape Mail 6.2, choose *Edit•Mail & Newsgroup Account Settings*, then click the *New Account* button

and answer the queries of the resulting wizard. In Eudora 5.1, choose *Tools•Personalities*, right-click the *Personalities* window at the left side of the screen, choose *New*, and then fill in the account information in the subsequent wizard screens.

## THERE'S ALWAYS A CATCH

NOW THAT I'VE explained the basics, here's the rub: You may not be able to get all your e-mail accounts funneled nicely into one e-mail program, and in one case, you'll have to agree to receive spam.

When AOL purchased Netscape, Netscape Mail suddenly learned how to send and receive AOL mail. If you followed the instructions above to configure Netscape Mail 6.2 to check your AOL account, you may have noticed that the server address is *imap.mail.aol.com*. Don't bother trying to plug that address into Outlook Express or Eudora—it won't work.

AOL's servers don't comply with the IMAP standard, and Netscape Mail is the only e-mail program (other than AOL's own software) that knows how to talk to those servers. If you're determined to get AOL mail in Outlook, Outlook Express, Eudora, or an older version of Netscape Communicator, check out ENetBot's \$20 ENetBot Mail agent (see **FIGURE 2**).

Similarly, Microsoft Passport's Hotmail service seems to work only with that company's own e-mail programs. If you want to send and receive Hotmail messages using Eudora or Netscape Mail, you'll need another \$20 add-on mail agent called Pop3Hot. Visit [find.pcworld.com/12281](http://find.pcworld.com/12281) to download 30-day demo ver-



**FIGURE 1: CHECK ALL YOUR E-MAIL** regardless of the server type, via Outlook 2002's e-mail server options.

address for work, another for your home PC, one or more free Web-based e-mail accounts, an America Online e-mail address, and perhaps others.

Wouldn't it be great if you could grab all that mail with the click of a single button? Actually, you can. Most e-mail programs support multiple e-mail accounts and let you send and receive from them individually, or all at once. And more and more e-mail services support the standard POP3, SMTP, and IMAP mail transport protocols that let your e-mail program communicate with mail servers.

POP3 is the lingua franca of incoming

## GET RID OF X10, AGAIN

THE OCTOBER 2001 *Internet Tips* explained at great length how to disable pop-up browser windows, including the ubiquitous X10 wireless camera ad, by messing with browser settings and downloading software that suppresses the unwanted windows. But if you'd prefer to exterminate only the X10 pop-under campaign, bookmark [www.x10.com/x10ads1.htm](http://www.x10.com/x10ads1.htm). As long as cookies are still enabled on your browser, you'll be X10-free for a month.



sions of both ENetBot Mail and Pop3Hot.

Yahoo Mail lets you send and receive mail using its standard POP3 and SMTP servers (pop.mail.yahoo.com and smtp.mail.yahoo.com, respectively), but it won't work until you sign up for the Yahoo Delivers targeted-marketing (spam) service. To enable the "service," click the *Options* link after logging in to Yahoo Mail, and then choose the link labeled *POP Access & Forwarding*.

### REGISTRAR ALTERNATIVES

IMAGINE MY DELIGHT when VeriSign (formerly Network Solutions) recently sent me a friendly note offering to renew my domain name (spanbauer.com, natch) for a mere \$63 for two years (that's \$31.50 per year for the math-challenged)—a whopping discount of 10 percent!

I'm being sarcastic, of course. I've never been fond of VeriSign's pushy marketing, not to mention its high prices. But its latest message sent me over the edge. The

note's ominous warnings ("Your Web address is about to expire!") had me going for a moment—hadn't I renewed my domain last year? A quick check at [www.netsol.com](http://www.netsol.com) confirmed that more than a year remained before I needed to renew. VeriSign, you just lost a customer.

When it is time to renew, I'll transfer my domain name to one of the many alternative, low-cost registrars. Many offer domain registration for as little as \$10 per year. The Internet Corporation for Assigned Names and Numbers—in charge of who gets to create and hand out domain names such as microsoft.com, net-scape.net, and nra.org—maintains a detailed list of accredited registrars at [www.icann.org/registrars/accreditation-qualified-list.html](http://www.icann.org/registrars/accreditation-qualified-list.html).

Whichever registrar you choose should appear on the

ICANN list. But you'll probably need some help finding the right registrar for you. Another useful resource is Domain-NameBuyersGuide.com, an independent, consumer-oriented registrar review site that tells you who's good and who's not so good, as well as how much the various services charge for domain-name registration. Each registrar's policies, pricing, and consumer track record are de- ▶



FIGURE 2: MANAGE YOUR AOL mail through Outlook, Outlook Express, or Eudora, using ENetBot Mail.

## cure for the blue screen blues

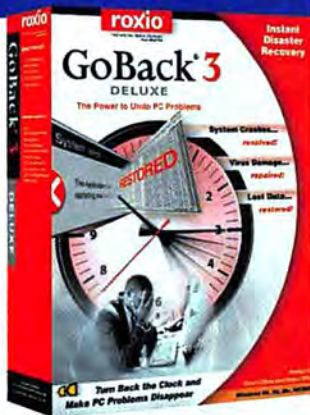
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For a free sample of Roxio's GoBack 3 Deluxe, log onto [roxio.com/control](http://roxio.com/control)

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scribed, and you get an indication of how easy it will be to manage your domain account online. You can also find out whether the service gives you outright ownership of your domain (VeriSign doesn't), and whether it restricts you from transferring your domain freely to another registrar.

Based on DomainNameBuyersGuide.com's recommendations, I'm probably going to switch to one of the little-known but highly rated registrars, which include DomainDiscover.com, DomainInfo.com, and Gandi.net (one of the least-expensive registration services at only 12 euros per year). Before you choose a registrar, be sure to read DomainNameBuyersGuide.com's Domain Name Buying Tips (look for the link on the site's home page).

#### A FAVORITES HOME PAGE

READER RICCI NEER found a tip in a PCWorld.com archive on displaying your Navigator bookmarks as your home page.

(In Netscape 6.2, choose *Edit>Preferences*, and then select *Navigator* in the category list. In the Home Page section, make sure the location shows the path to your bookmark.htm file. You can find the latter by using Windows' Find or Search tool.)

The tip stated that you can't do the same thing in Internet Explorer 4. Not so, says Neer. Choose *Tools>Internet Options*, click the *General* tab, and make sure that your Home Page or Start Page address points to the Favorites folder, using the standard URL for local files: 'file:///C:/[foldername]/[foldername]', where [foldername]/[foldername] is the path to your Favorites folder. Note that there are three forward slashes after file:. On Neer's computer, the proper URL is file:///C:/Windows/Favorites. ■

Send your questions and tips to [nettips@spanbauer.com](mailto:nettips@spanbauer.com). We pay \$50 for published items. Scott Spanbauer is a contributing editor for PC World.

#### DOWNLOAD OF THE MONTH

### Revision Control

THAT SOFTWARE you're using isn't getting any younger. Here are the latest updates to two key Internet tools. Go to [find.pcworld.com/12281](http://find.pcworld.com/12281) to find them.

**QuickTime 5.0.2; 8.3 MB; [www.apple.com/quicktime](http://www.apple.com/quicktime).** Not just for Macintosh users anymore, the newest edition of QuickTime—whose look you can customize with skins—plays a broad range of media types, including MP3 and .wav audio files. This version of the program also brings Apple's 360-degree QuickTime VR virtual-reality spec to the PC.

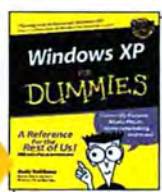
**ZoneAlarm 2.6.231; 2.8MB; [www.zonelabs.com/zlpromo/zagrid.htm](http://www.zonelabs.com/zlpromo/zagrid.htm).** The latest version of the premier free firewall smooths minor glitches present in the initial release of version 2.6 (2.6.088), including intermittent problems running under Windows Me.

## Nobody Does Windows XP Like We Do

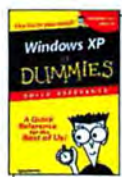
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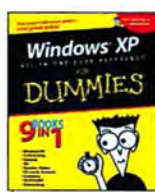
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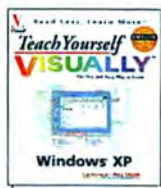
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## STEP BY STEP

STAN MIASTKOWSKI

## Partition Your Hard Drive

NO MATTER THE CAPACITY of your PC's hard drive, chances are that it's set up to function as one giant data dump. Though that's fine for most users, dividing your drive into multiple *partitions* (additional drive letters) can make life easier: At the least, keeping all your data—such as documents, worksheets, and images—in a partition separate from the operating system and applications simplifies backups and can increase your PC's performance.

And if you plan on using multiple operating systems (adding Windows 2000, try-

ing out XP, or even installing Linux), then you'll absolutely need multiple partitions.

Think of a partition as a container for data, like one drawer of a file cabinet. Each partition uses a *file system* to store and name data. Windows 98 and Me use the FAT32 file system. FAT32 allows for greater maximum partition sizes and stores data more efficiently than the FAT16 file system used by DOS and the first versions of Windows 95.

Windows NT introduced the NTFS file system, which uses space more efficient-

ly and offers better data security. Windows 95, 98, and Me can't "see" the data in an NTFS partition; however, Windows 2000 and XP can read from and write to both NTFS and FAT32 partitions.

If you're starting with a new, blank hard drive, partitioning is easy. The installation routines of Windows NT, 2000, and XP give you some control over partitions. Other versions of Windows come with FDISK, a basic partitioning utility that you copy to a bootable floppy.

But if you want to have extensive partitioning options, you'll need a utility such as Partition Commander (\$40, [www.v-com.com](http://www.v-com.com)) or PartitionMagic (\$69, [www.powerquest.com](http://www.powerquest.com)). They offer such options as changing the size of partitions and converting from different file systems. And, given enough free space, they preserve the data stored on your drive. ■

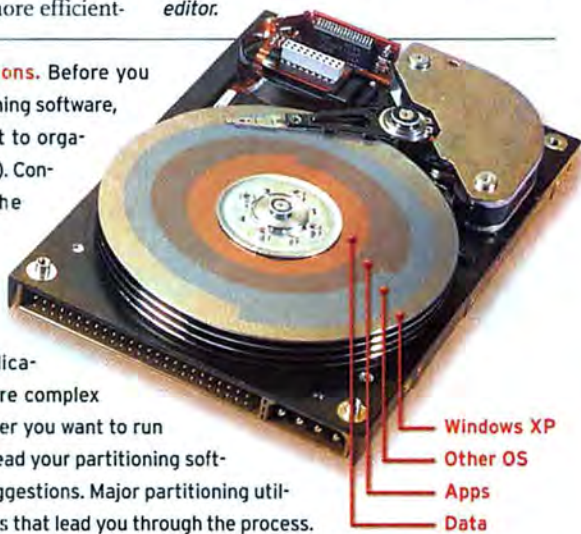
Stan Miestkowski is a PC World contributing editor.

**1 Check, optimize, and back up your drive(s).** First, select *Start•Programs•Accessories•System Tools•ScanDisk*, click *Thorough*, and check the *Automatically fix errors* box. Then click *Start*.

Next, defragment each drive by selecting *Start•Programs•Accessories•System Tools•Disk Defragmenter*.

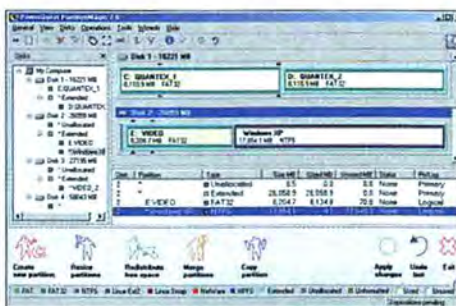
To use Windows 9x's or Me's built-in backup utility, select *Start•Programs•Accessories•System Tools•Backup* and follow the directions. (If the utility isn't there, then for Windows 9x, check *Start•Settings•Control Panel•Add/Remove Programs•Windows Setup•Accessories*, and for Windows Me, run *Msbexp.exe* from the Addons/MSBackup folder on the Me CD.) In Windows XP Professional, select *Start•Control Panel•Performance and Maintenance•Back up your data*.

**2 Plan for partitions.** Before you run the partitioning software, decide how you want to organize your hard drive(s). Consider the size of the drive, whether you want to simply segregate data from the operating system and applications or create a more complex structure, and whether you want to run more than one OS. Read your partitioning software's manual for suggestions. Major partitioning utilities also have wizards that lead you through the process.



**3 Run the software.**

Once you've decided how to set up your partitions, follow the directions to install and run the partitioning software. Although the software won't let you make incorrect choices, you should check and double-check the new partitions to make sure you've allocated all the drive's space. Creating and moving partitions may take 30 minutes or more, depending on how full your drive is. The software will also format the new partitions for you.



**4 Reboot and reorganize.** Once the partitions are created, reboot your PC to complete the process. You can then move your data around or install a new operating system. If you plan to store all your data in one of the new partitions, you'll have to tell your applications where to save files in the future. Usually, you can set this from the Preferences menu or File Locations tab in each application.

**5 Problems?** If you have problems accessing or using the new partitions, use the emergency disks that came with the partitioning software to double-check that the partitions were created and formatted. If they still don't work, then it's time to contact tech support.



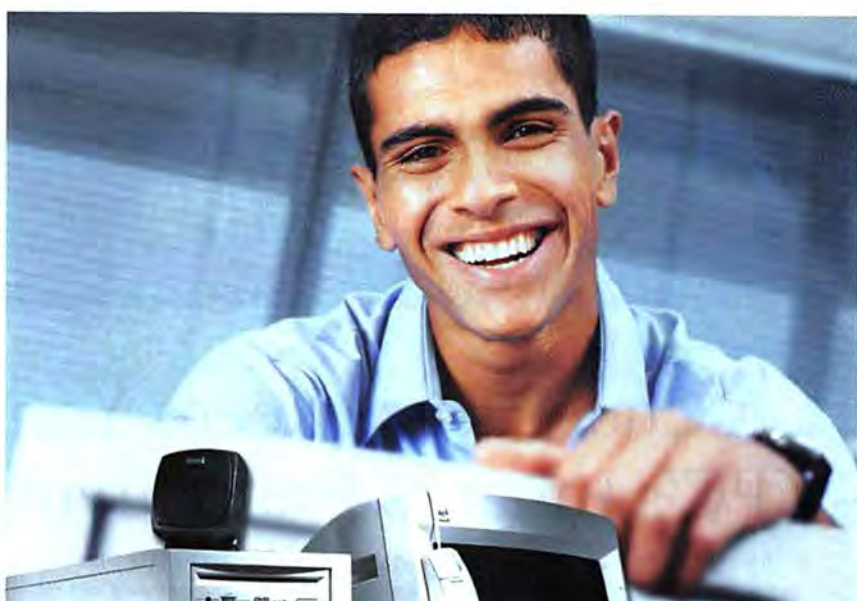
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## HARDWARE TIPS

KIRK STEERS

# A Cool Breeze Keeps Your PC's Innards From Frying

DO THE COLD, dark days of winter have you dreaming of tropical beaches, sunny deserts, and the inside of your PC? You read right. The climate inside your computer can rival that of Death Valley in the summer, and triple-digit temperatures are bad news for your hardware.

Most desktop PCs run comfortably when their internal temperature is between 60 and 110 degrees Fahrenheit. (Check your system documentation to find your PC's exact range.) Internal temperatures over 110 degrees can stress delicate circuits and electrical contacts, which may substantially shorten your computer's life. Hard drives are especially vulnerable when the temperature goes up: Data transfers slow down, and data written to the disk is more likely to be lost. Here's how to beat the PC heat.

**Avoid ups and downs:** Sudden changes in temperature are just as harmful to your PC's circuitry as high temperatures. The

biggest temperature changes occur when you turn your system on and off, so leave your PC on but use its power-management functions to keep its innards as cool as possible when it's idle. When you turn on your computer in a really cold office, let the system warm up for 15 minutes before saving anything to its hard drive.

**Listen to your fans:** Your PC keeps cool by blowing a constant stream of air through its case. The primary air mover in most PCs is the power-supply fan, although some systems have an additional ventilation fan built into the case. Even in relatively clean offices, dust can accumulate on the fan intakes and seriously obstruct airflow. Clean your PC's fans and fan intakes regularly, especially if you hear a change in the fans' one-note whir.

Most CPUs also have a cooling device—either a fan or a heat sink. (A heat sink is a metal plate with fins or spikes intended to dissipate heat.) If your CPU's fan or heat sink stops functioning properly, a CPU failure won't be far behind.

A heat sink needs a constant flow of air to remove heat. In most PCs, the internal fans provide the required airflow. Never leave the case off your system while it's running. Going topless may lower the overall temperature inside your PC, but it also destroys the internal airflow patterns that keep your CPU and other components from overheating.

**Mercury rising:** Most PCs made in the last few years monitor and report on the state of their case, CPU, and power-supply fans. Some also provide data on the system's internal temperature, and some have a temperature alarm built into their BIOS. You usually have to open your sys-

tem's CMOS setup program to see these statistics. But we've found a handy workaround: Just use Alex van Kaam's Motherboard Monitor freeware utility to keep watch over your PC's fans, voltages, and temperatures. Head to [find.pcworld.com/16020](http://find.pcworld.com/16020) to download the program.

## AGP 3: WORTH THE UPGRADE?



I REPLACED MY 1X/2X AGP graphics card with a 2X/4X AGP adapter, but my graphics performance has not improved. Should I have waited for the AGP 8X cards to come out?

*Evan Nathan, Dallas*

ABSOLUTELY NOT. Applications that take full advantage of AGP 8X transfer speeds are at least a year away. Other improvements to third-generation AGP graphics cards should enhance graphics performance, however. **FIGURE 1** shows the maximum transfer rates of the AGP versions.

## AGP DATA TRANSFER RATES

| AGP SPEED | Transfer speed (MB/second) |
|-----------|----------------------------|
| AGP 1X    | 266                        |
| AGP 2X    | 533                        |
| AGP 4X    | 1066                       |
| AGP 8X    | 2133                       |

**FIGURE 1: FASTER AGP rates speed up texture maps but won't help most applications.**

AGP's strength is its ability to process texture maps. Certain 3D games and a few 3D graphics development tools are currently the only programs that benefit greatly from fast-moving texture maps.

To make sure you're getting the full benefits of AGP 4X, go into your CMOS setup program and make sure your PC is set to run at AGP 4X rather than 2X.

Load the latest AGP drivers onto your PC. The AGP drivers that come with Windows 9x are limited, and systems using AMD's Athlon CPU don't work well with older drivers. Check with the manufacturer of your PC, motherboard, or chip set—in that order—to find updated drivers and installation instructions. ■

Hardware Tips welcomes your tips and questions and pays \$50 for published items. Kirk Steers is a PC World contributing editor.

## A CONFLICTED MOUSE

DOES YOUR CURSOR sometimes appear and disappear, move in the wrong direction, or change size and shape? It could be a sign of mouse trouble, which is often due to a conflict with your graphics card's driver. If you use Windows 9x or Me, there may be a solution simpler than installing an updated driver. Open Control Panel, double-click the *System* icon, choose the *Performance* tab, and click the *Graphics* button. Move the slider next to Hardware Acceleration one notch to the left. This change disables some graphics capabilities, but it may be the solution to your rodent problem.



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## Quick and Easy Data Backups to CD-RW Discs



WHAT'S THE BEST way to use a CD-RW drive to create backups?

Charles Green

Winston-Salem, North Carolina

YOU DON'T NEED to make frequent full backups of your entire hard drive to CD-R or CD-RW discs. Waiting to swap discs manually makes creating such backups a long, boring process.

Favorites, and Windows\Start Menu.

Windows 2000 and XP make things easier by putting all the necessary folders in one location: C:\Documents and Settings. This folder holds everything you need to back up, but Documents and Settings contains one subfolder you definitely

shouldn't include in your incremental backup: Temporary Internet Files. To place this folder in a new location, first open Internet Explorer; then select *Tools>Internet Options*, click the *Settings* button (located under the *General* tab), and click the *Move Folder* button.

You'll also need backup software. Microsoft Backup, which ships with Windows 98 and Me, doesn't officially support CD-RW, but it will work with

a program such as Roxio's DirectCD (which probably came with your CD-RW drive). DirectCD allows Windows to write transparently to CDs as if they were large floppies. You have to make sure that the entire contents of the folders listed above will fit onto a single disc. Fortunately, this will not be a problem for most people.

You may have to install Microsoft Backup manually. If you're using Windows 98, select *Start>Settings>Control Panel*, double-click the *Add/Remove Programs* icon, and

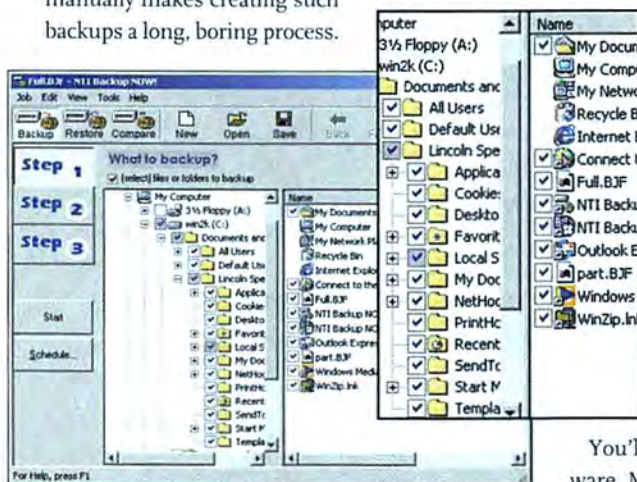
click the *Windows Setup* tab. Scroll down and double-click the *System Tools* listing. Check the *Backup* listing, click *OK* twice, and follow the prompts. If you're using Windows Me, see "More Tools Not in Win Me" in my October 2001 column ([find.pcworld.com/17041](http://find.pcworld.com/17041)).

Like Win Me, Windows 2000 comes with a version of Microsoft Backup that doesn't officially support CD-RW. But in this case, the program doesn't unofficially support CD-RW, either.

Plenty of third-party backup programs do work with CD-RW, however. I recently test-ran NewTech Infosystems' Backup Now ([www.ntibackupnow.com](http://www.ntibackupnow.com); see **FIGURE 1**), Dantz Development's Retrospect Express Backup ([www.dantz.com](http://www.dantz.com)), and Iomega's QuikSync ([www.iomega.com](http://www.iomega.com)). All three back up specific folders to a CD-RW disc, though QuikSync also requires use of DirectCD or a similar program.

All three programs let you perform full backups of every file in the selected folders, plus incremental backups of files that you've changed since the last backup. (The first two also automatically back up files you've created since your last backup.) Do full backups every week or two, and incremental backups every day.

In the past, I've recommended using CD-R discs rather than CD-RW discs to archive important files. But for daily backups, the ability to erase and reuse a CD-RW disc is more important than the added reliability of a CD-R disc.



**FIGURE 1: MAKE INCREMENTAL BACKUPS** of only selected data folders (those checked) to a CD-RW disc.

The only files you need to back up are the ones you've created or changed yourself. So concentrate on anything that isn't already on a commercial CD, or available via download from the Internet (and remember to save the registration numbers of any shareware you've registered). If you use Windows 98 or Me, the folders that you need for performing regular backups are probably on the C: drive under the names My Documents, Windows\Application Data, Windows\Desktop, Windows\

## PUT QUICKEN DATA WHERE IT BELONGS

BY DEFAULT, Intuit's Quicken personal-finance software stores your data file (usually *qdata.qdf*) in its program folder rather than with your other data files in My Documents (or wherever you store these files). The easiest way to fix this is to move the file. With Quicken closed, drag *qdata.qdf* from its current location (probably either C:\quickenw or C:\Program Files\quickenw) to the folder you prefer. Then double-click the file to open it in Quicken. Thenceforth, Quicken will look for the file in the new location each time you launch the program.



## UNDO AN OUTLOOK UPDATE



I RECENTLY downloaded the Outlook 2000 SR-1 E-mail Security Update, which is designed to thwart e-mail viruses. Now I can't open or save programs sent to me as e-mail attachments. Is there a way around this prohibition?

Jason Waltman, Salt Lake City

UNFORTUNATELY, removing the upgrade isn't easy. And if you use Office XP's Outlook 2002, there's no upgrade to remove—the inability to save e-mail attachments is embedded in the program.

The easiest solution is to use Outlook Express to open messages with attachments you want to save (after you scan the attachments for viruses, of course). First, create an Outlook folder for messages with blocked attachments. In Outlook's Inbox, select **File>NewFolder** (click the chevron if you don't see all available options). Call the folder **ToOE**.

When you receive a message carrying an .exe attachment you want to run, drag it to the ToOE folder. Then launch Outlook Express (it doesn't need to be set up to access your e-mail account). Select **FileImportMessages** to launch the Outlook Express Import wizard. On the first page, select **Microsoft Outlook**. On the second, click the **Selected folders** radio button, and then choose **ToOE**. On the third page, click **Finish**.

Outlook Express will now have its own ToOE folder containing your message and a fully accessible attachment.

## SLIM DOWN YOUR SYSTEM TRAY



I HAVE APPROXIMATELY 20 programs running in the system tray on the right end of my taskbar. How do I prevent some of them from loading every time Windows starts up?

Mike Hedrick, via the Internet

THESE DAYS every program seems to put its icon in your system tray. The icons

do more than just fill up the taskbar, though. Each icon in the system tray represents a running program that's using RAM and other system resources.

To identify the program associated with an icon, hold the mouse pointer over it until a title pops up. Now ask yourself if you need that program running at all times. If it's something like a firewall or an antivirus program's auto-protect module that does something constructive while it's in the background, the answer is yes. But if it's something like the little AOL icon that merely gives you yet another way to launch the service, you can probably do without it.

Right-click the icon and examine the menu that pops

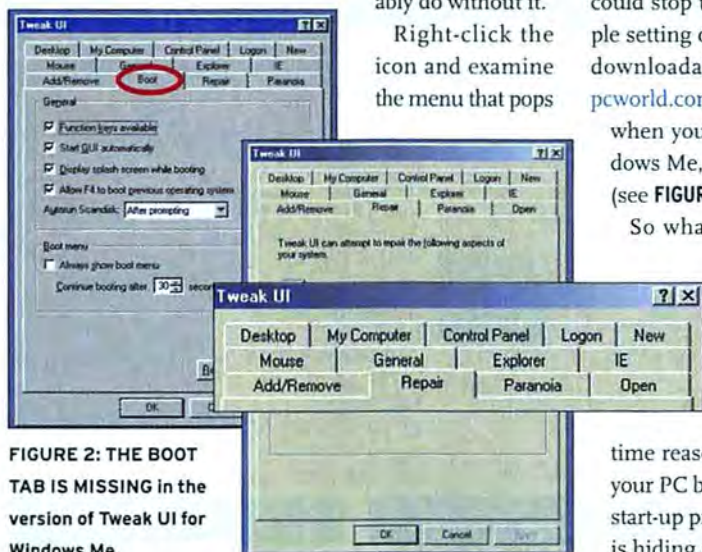


FIGURE 2: THE BOOT TAB IS MISSING in the version of Tweak UI for Windows Me.

up. There's often an Exit or Close option. When you select this, you may be asked whether you want the program to restart the next time you restart Windows; tell it you don't. (You can turn off AOL's system tray program in this way.) If that doesn't work, examine the pop-up menu for an option named 'Preferences' or 'Options'. Or open the program itself and check its menus for an option that will prevent it from loading on start-up.

If the program doesn't include a simple way to turn itself off, you have to do the job through Windows. In Windows 98, Me, or XP, select **StartRun**, type **msconfig**, press **Enter**, and click the **Startup** tab. Msconfig doesn't come with Windows 95 or 2000, but Mike Lin's Startup Control Panel freeware will do the trick if you use one of those OSs (Lin's program is avail-

able at [find.pcworld.com/18582](http://find.pcworld.com/18582)). For more information on de-iconizing the system tray, see Steve Bass's article, "Uninvited Icons Cause More Than Clutter" (just jump to [find.pcworld.com/17042](http://find.pcworld.com/17042)).

## HIDE WINDOWS ME'S LOGO



BACK IN THE JULY 2000 issue, you explained how to hide the start-up splash screen for Windows 98 ["Stop or Change the Splash Screen," [find.pcworld.com/14780](http://find.pcworld.com/14780)]. Is there a way to do this in Windows Me?

Brandon Schumann, Pine City, Minnesota

IN EARLIER VERSIONS of Windows, you could stop the splash screen with a simple setting on the Boot tab of Microsoft's downloadable freebie Tweak UI ([find.pcworld.com/18583](http://find.pcworld.com/18583)). But oddly enough, when you bring up Tweak UI in Windows Me, the Boot tab has disappeared (see FIGURE 2). Go figure.

So what can you do about it? One solution is to press the **<Esc>** key as soon as the logo appears. This simple approach is the best way to suppress the splash screen if you have a one-time reason not to sit and stare at it as your PC boots—say, to speed up the Me start-up process or to verify that the logo is hiding an important message.

If you want to avoid the splash screen every time you boot, you have to do some tinkering. Select **StartProgramsAccessoriesMS-DOS Prompt**. In the MS-DOS window, type **attrib -r -s -h c:\msdos.sys** and then press **Enter**. Type **notepad c:\msdos.sys** and press **Enter** again.

In Notepad, put your cursor at the end of the line that reads "[Options]", and press **Enter** to add a new line. Type **logo=0** (that's a zero, not the letter O). Now save the file and close Notepad.

Back in the DOS box, enter **attrib +r +s +h c:\msdos.sys**. Press **Enter** and close the DOS window. That should do it. ■

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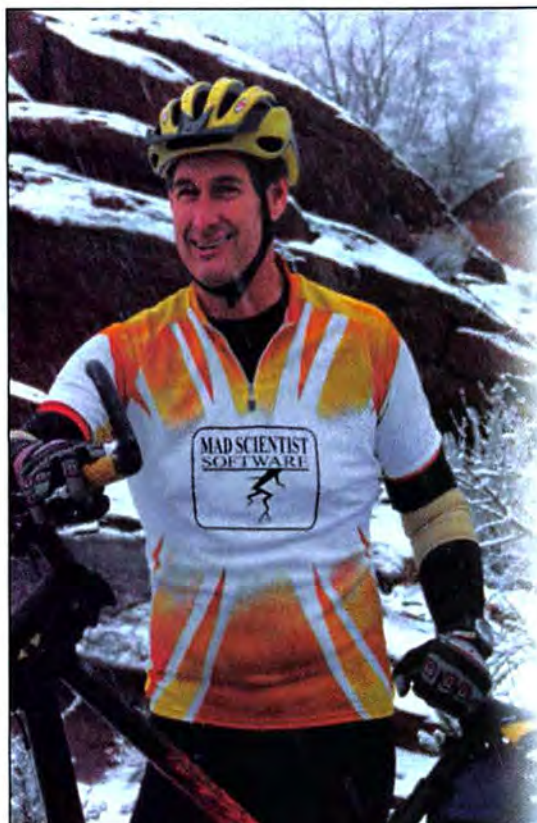
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| Your monthly net profit reselling hosting  | N/A                   | N/A                | \$388.80             | \$283.80          | \$1,196.30           | \$4,235.25           | \$15,950.05          |
| Additional Profit Reselling AIT Extras***  | N/A                   | N/A                | \$1,250.00           | \$1,250.00        | \$3,750.00           | \$12,800.00          | \$50,000.00          |
| <b>Total Monthly Profit</b>                | N/A                   | N/A                | \$1,638.80           | \$1,533.80        | \$4,946.30           | \$17,035.25          | \$65,950.05          |

\*Additional domains for Windows2000 Reseller Hosting Solution - \$5.00/month  
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[Running his **own** server]

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[Running **VM** Server]

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| Abby Cheney   | West Entrance | 03/20/2000 07:28:03 AM | Key Authorized  |
| Pete Sunman   | Records Room  | 03/20/2000 07:59:15 AM | Out of Schedule |
| John Michaels | Computer Room | 03/20/2000 08:00:03 AM | Key Authorized  |
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## Windows XP: New From the Bug Factory

LADIES AND GENTLEMEN, with the help of my half-bright assistant, Windows XP, I will now perform the wondrous feat of prestidigitation I call "The Remote Blue Screen of Death!" Watch carefully as I click Internet Explorer's Print button on this brand-new Windows XP computer....

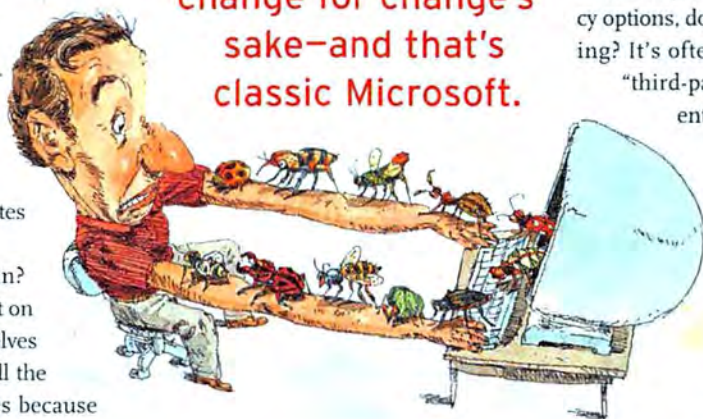
Presto! Change-o! Now follow the ethernet cables over to this machine running Microsoft's "exceptionally stable" Windows 2000, the PC that's actually hooked up to the printer. Yes, ladies and gents: a screen full of Mood Indigo and puzzling hex code. That baby is locked up tighter than Bill Gates at an antitrust deposition!

Want to see that trick again? It's totally repeatable. Blame it on the Redmond, Washington, elves who work at the campus I call the Bug Factory. The error arises because my Hewlett-Packard printer's Windows XP driver (Microsoft-certified and included in the operating system's package) lacks its predecessors' ability to print over a network without extra hardware. That shouldn't make the Win 2000 PC crash, but it does. And XP uses the driver without warning me of the consequences.

### THE MORE THINGS CHANGE...

HP SAYS IT WILL supply a fix someday, but wasn't XP supposed to be built on the Win 2000 platform? Why can't I just use the Win 2000 drivers? Hey, if it doesn't involve change for the sake of change, it wouldn't be Microsoft. And the problem isn't just that the bugs exist, it's also that the OS and its help system keep you from figuring out how to get around them.

XP is rife with change for change's sake—and that's classic Microsoft.



Remember Zenith's old slogan, "The quality goes in before the name goes on"? At the Bug Factory, it's the other way around. Boot up a brand-new XP machine, click your way to Windows Update, and you'll find a security-related "Critical Update" ready for you to install, along with other fixes. It's as if Zenith had supplied every TV with a note asking you to go back to the store and get channel and volume knobs that actually worked.

XP's updates, I thought, were supposed to be more or less automatic. And that's the way my PC seemed to be set up. But it wasn't until a few days after I began using it that a dialog balloon offered to automate the process. Why did it wait so long to suggest this? Ask the Bug Factory.

Besides, Windows Update doesn't go far enough. When I checked it on November 18, its patches stopped at October 25, omitting the "critical" Internet Explorer patch (for a nasty problem involving compromised cookies) that came out on November 12. Days passed before the "automatic" updater offered a fix.

And why, when I fiddle with IE's privacy options, do some Web sites stop working? It's often because what IE deems "third-party" sites are really differently addressed versions of the one I'm on. But can you tell the "medium" level of privacy, which (*italics mine*) "Restricts first-party cookies that use personally identifiable information without your implicit consent," from the "medium high" level, which "Blocks first-party

cookies that use personally identifiable information without your implicit consent"? If so, a law career awaits. If not, don't bother checking the help system.

What's most depressing about XP is how much hasn't changed. Even though it recognized my monitor, it didn't bother improving the display's refresh rate from an eyeball-busting 60 Hz. You might blame that on a video-driver bug, but the solution is tough to find, because it hides behind a daunting "Advanced" button.

And for that the blame rests squarely on the Bug Factory. ■

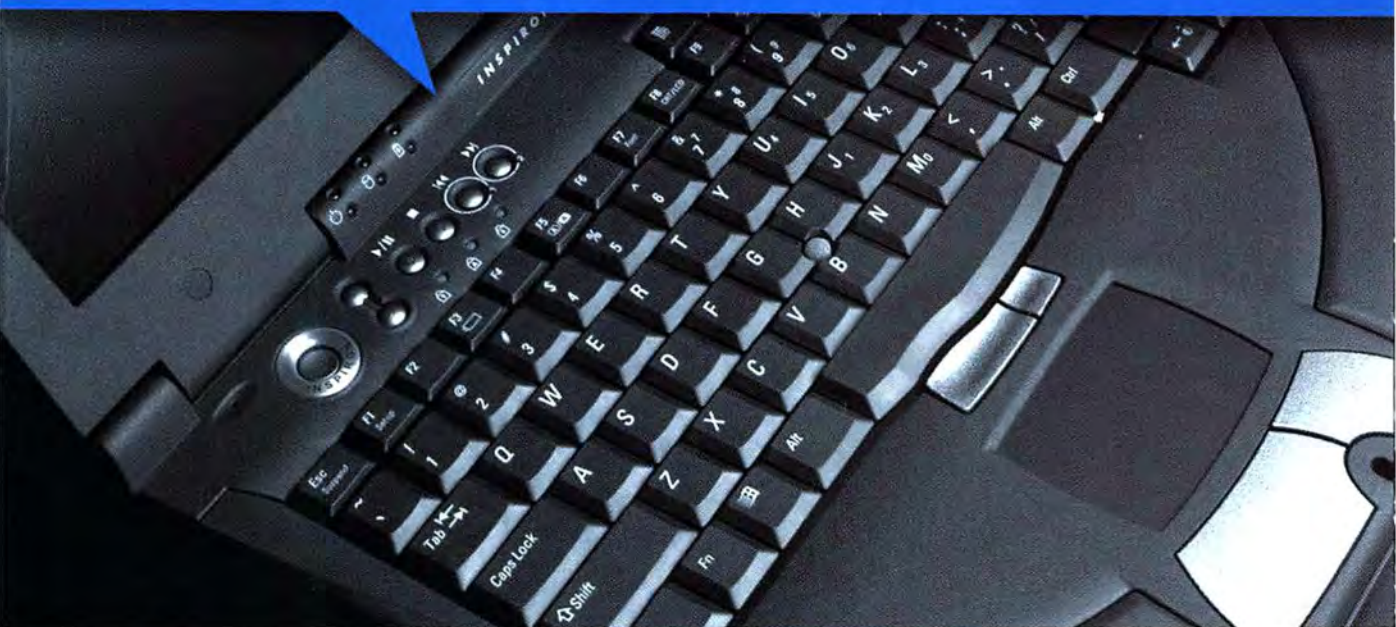
*Contributing Editor Stephen Manes, a cohort of the public television series Digital Duo, has written about PCs for nearly two decades.*



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