



The 100 Best Products of 2010 p. 86

# PCWorld

## Amazing



# Windows

## Timesavers

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Our top 15 picks in flat-screen TVs, plus the specs that matter & the hype that doesn't p. 103







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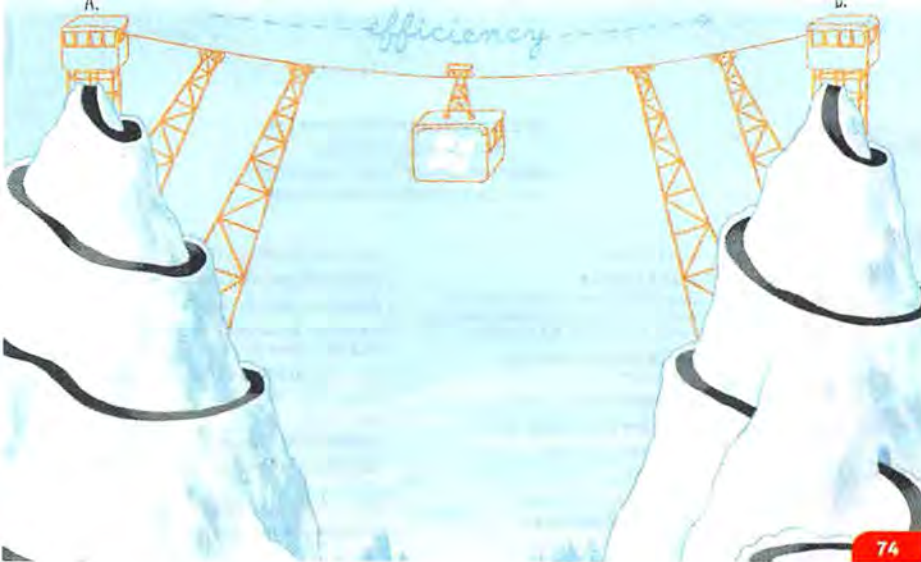
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# PCWorld

DECEMBER 2010

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[sprint.com/firsts](http://sprint.com/firsts)



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—Google—

Speed claim based on download speed comparison of 3G's 800 Kbps vs. 4G's 8 Mbps. Industry published 3G average speeds (600 Kbps-1.7 Mbps); 4G average speeds (3-6 Mbps). Actual speeds may vary by plan or based on other factors. 4G is available in 55 markets. Optional add-on required to share access to mobile hotspot. [sprint.com/firsts](http://sprint.com/firsts)

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<sup>1</sup>Based on Intel Engineering Study, January 2010 – performance increase comparing latest Intel Xeon processor 5600 series to previous generation – Intel Xeon processor 5500 series. See page 8, footnote 3 for more information: <http://www.intel.com/Assets/PDF/product/323501.pdf>. <sup>2</sup>Global Financing offerings are provided through IBM Credit LLC in the United States and other IBM subsidiaries and divisions worldwide to qualified commercial and government customers. Monthly payments provided are for planning purposes only and may vary based on your credit and other factors. Lease offer provided is based on an FMV lease of 36 monthly payments. Other restrictions may apply. Rates and offerings are subject to change, extension or withdrawal without notice. IBM hardware products are manufactured from new parts or new and serviceable used parts. Regardless, our warranty terms apply. For a copy of applicable product warranties, visit [http://www.ibm.com/servers/support/machine\\_warranties](http://www.ibm.com/servers/support/machine_warranties). IBM makes no representation or warranty regarding third-party products or services. IBM, the IBM logo, System Storage and System are registered trademarks or trademarks of International Business Machines Corporation in the United States and/or other countries. For a complete list of IBM trademarks, see [www.ibm.com/legal/copytrade.shtml](http://www.ibm.com/legal/copytrade.shtml). Intel, the Intel logo, Xeon and Xeon Inside are trademarks of Intel Corporation in the U.S. and other countries. All other products may be trademarks or registered trademarks of their respective companies. All prices and savings estimates are subject to change without notice, may vary according to configuration, are based upon IBM's estimated retail selling prices as of 8/29/10 and may not include storage, hard drive, operating system or other features. Reseller prices and savings to end users may vary. Products are subject to availability. This document was developed for offerings in the United States. IBM may not offer the products, features, or services discussed in this document in other countries. Prices are subject to change without notice. Starting price may not include a hard drive, operating system or other features. Contact your IBM representative or IBM Business Partner for the most current pricing in your geographic area. © 2010 IBM Corporation. All rights reserved.





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## Editors Duke It Out Over Best Products List

I LOVE THE end of the year: cool, crisp weather; slow work days, and even slower vacation days; and inevitably, a hefty slate of “Best of” lists that put a punctuation mark on the year that was.

Here at *PCWorld*, we’re doing our part with our annual “100 Best Products of the Year” (page 86), celebrating the ground-breaking sites, services, hardware, and software that made 2010 a banner year in tech.

What constitutes a “best” product? To start with, the candidate needs either to have been launched in the last year or so, or to have introduced a major new feature or upgrade during that span.

Second, the product itself must truly stand out. It should be a well-thought-out, relatively bug-free implementation that lets users do something they couldn’t do before, or do it better.

Third (and this is the real kicker), the

**We’ve picked the year’s most influential products; now it’s your turn. Cast your votes for the People’s Choice Top 5 of 2010.**

truly wonderful product should be a leader. It should offer a glimpse into the future of computing and point the way for a host of innovations to follow.



A product that nails all three of these criteria is a cinch for the top ten.

The *PCWorld* editors, corralled by Senior Editor Anne B. McDonald,

selected this year’s winners over grueling meetings, e-mail exchanges, and one final marathon session. “The toughest part of this job,” says McDonald, “is informing editors that all 42 of their pet picks won’t make the final cut. The arguments get heated.”

As we zeroed in on our 100 top choices, several themes emerged. Obviously mobility is this year’s breakout trend, meaning that smaller, portable devices—and the software and services that make them work—dominate our list.

Today’s smartphones have more processing power than the full-scale PCs of just a few years ago. What a delight it is to carry around a full-fledged computer in your pocket...and not have your pants fall down.

We’ve also seen an explosion of apps and services, often based in the cloud. This trend, presaged by last year’s number one pick, the Apple App Store, has accelerated in 2010. Expect more of same in the coming years.

Finally, despite all of the justified mobile hoopla, mainstream hardware isn’t dead. Plenty of PCs, notebooks, and the like are sprinkled throughout our list. Competence matters, and these mature categories show it.

### Time to Have Your Say

Agree with our picks? Think you could do better? Go to our Facebook app at [pcworld.com/top5](http://pcworld.com/top5), and vote for your faves. We’ll recognize the top vote-getters as the People’s Choice Top 5 of 2010. And with any luck, Anne McDonald won’t come knocking on your door demanding that you rethink your decision. ●

*Steve Fox is editorial director of PCWorld.*

### WHAT IT TAKES TO TEST

## How Much Can You Spend on HDTV?

WHAT WOULD YOU do if your boss handed you a credit card and told you to spend, spend, spend? That’s what happened to *PCWorld*’s HDTV specialist, Staff Editor Patrick Miller, when he was working on this month’s big HDTV review (“The Hottest in HD,” page 103).

And spend he did, ultimately dropping nearly \$15,000 on a passel of new HDTVs, including the 55-inch Samsung behemoth shown at right.

You see, in the normal course of evaluating products, manufacturers send us hundreds of PCs, cameras, and the like for review. We put the units through their paces and then send them back. TVs, though, are big-ticket items; vendors are reluctant to part with review units, even for short stretches, which left us about a dozen TVs short. So Miller compiled a wish list of HDTVs for review and took to the Internet on a shopping spree, American Express card in hand.

Shortly thereafter, a bevy of flat-screen beauties arrived in our labs. The best news: We’re allowed to keep ‘em, even after testing. So much for getting any work done.



**OUR LAB GUYS** (no, that’s not them on screen) got to watch TV on a Samsung UN55C8000.



# PCW Forum

Visitors to PCWorld.com responded, sometimes passionately, to "Don't Be Blinded by 'Gadget Lust,'" which described how people can be dazzled by new gizmos and make poor decisions when buying gear. Have your own thoughts on 'gadget lust'? Add your comments at the Find-It number below.



## 'Gadget Lust'

Your online article "Don't Be Blinded by 'Gadget Lust'" ([find.pcworld.com/70917](http://find.pcworld.com/70917)) was good, though unanticipated on a tech site like yours. It's true that advertisers and marketers are always promising things that they really can't deliver—happiness, success, popularity. In reality, they're just selling stuff. The glow doesn't last long, and the gadget will soon be obsolete anyway. Unless you really need the device for your business or studies, in my experience it's often best to just wait until the urge to buy goes away. Instant savings!

*preilly2, PCWorld.com forums*

When I bought my iPad, I wanted three things from it: good e-mail service, the digital *Wall Street Journal*, and my stock-trading software.

The *WSJ* app was okay, but it added a lot of expense on top of what I already paid for Web access, and it wasn't as good or as timely as the Web page. E-mail was horrible without access to a file system—no real way to deal with attachments. The stock-trading app was the only thing it did well. But then, my EVO phone does this equally as well. So the iPad went up on eBay.

*Quant, PCWorld.com forums*

I can agree with this article. I used to be a tech nut, especially in the days when I was into video games. Ever since I purchased an Atari 2600 at a garage sale, I have bought and owned every game console up until the first PlayStation.

Now it's the cell phone buzz—I purchased three new phones in less than six months (and tried out others).

It's easy to get caught up in that tech frenzy and hard to get out sometimes. It's as addicting as drugs can be.

*Quadicon, PCWorld.com forums*

## No Free Apps?

None of the apps in October's "101 Essential Apps" are truly free. You pay a consideration in the form of the information you agree to provide via the app, such as usage statistics, browsing history, network information, client information, location, and so on.

So to imply that any of the apps are "free" is misleading at best. Sure, we expect Yelp to access our position via GPS, but why would I allow a child's finger-painting app to access my personal contact information? Point being, people may want to make informed decisions about the value of an app in light of the information it harvests.

*Jim Preis, Cary, North Carolina*

## AWOL: Customer Service

I'm always amazed when I read the *On Your Side* column. Somebody has an issue with a company, an issue the company refuses to resolve in a satisfactory manner, whether it's a rebate that is rejected due to a silly paperwork requirement, or a defective part that needs to be replaced. Then *PCWorld* steps in, contacts the company, and—*poof!*—the problem is usually solved to the satisfaction of the consumer.

I wonder why companies refuse to be more flexible and compassionate with their valuable customers. If I ever have a similar type of issue and am treated in such a manner by a company, I am usually done with that firm forever.

I don't know about the electronics

Most points [in 'Gadget Lust'] apply to our entire consumer-oriented society, where people are convinced that buying more stuff will make them happy.

*skanter, PCWorld.com forums*

business in general; but in my business, it's less expensive to keep a customer satisfied than it is to win them back or to find a new customer.

*C. Painter, Burlington, Kentucky*

Regarding the online article "Overheating Laptop: A Personal Story" ([find.pcworld.com/70918](http://find.pcworld.com/70918)): Even without the waiting and waiting, and the rigid checklists reps work with, support calls can probably never be happy experiences. Say you end up getting a replacement device from the company—you've still experienced aggravation [from the original's problems], lost use of the original device, and then suffered through the process that got you the replacement. And then you're only back to where you were in the first place!

*reor, PCWorld.com forums* >>



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## If you purchased certain models of notebook computers containing an NVIDIA graphics processing unit or media and communications processor, you could be entitled to benefits under a class action settlement.

*The United States District Court for the Northern District of California, San Jose Division, authorized this Notice. This is not a solicitation from a lawyer.*

A settlement of a class action lawsuit (*The NVIDIA GPU Litigation*, Case No. 08-cv-04312-JW) relates to the NVIDIA chips inside certain Dell, Hewlett-Packard ("HP"), and Apple notebook computers. The lawsuit claims that NVIDIA sold defective Graphics Processing Units ("GPU") and Media and Communications Processors ("MCP") that affected the performance of some of the notebook computers in which they were incorporated. NVIDIA denies all allegations of wrongdoing and has asserted many defenses. The settlement is not an admission of wrongdoing.

### Who is Affected by this Class Action?

All United States residents who purchased in the United States a version of one of the Dell, HP or Apple notebook computer models listed in the Table of Class Computers. These individuals are referred to as "Class Members" in this Notice.

### What Can You Get From the Proposed Settlement?

Class Members who file an approved claim will be entitled to:

- 1. Replacement of the NVIDIA graphics processing unit or media and communications processor**, which are referred to in this Notice as the "chips" if you purchased a version of certain models of notebook computers manufactured by Dell, Inc. or Apple Inc. containing one of the NVIDIA chips; or
- 2. A Replacement notebook computer similar in kind and value if you purchased a version of certain models of notebook computers manufactured by HP** containing one of the NVIDIA chips; or
- 3. Reimbursement of amounts paid for repairs related to problems with the NVIDIA chips.** NVIDIA will fund \$2 million from which reimbursements will be made. The amount paid may depend on the number of reimbursement claims received.

NVIDIA is providing these benefits to members of the class, and is funding the settlement. Dell, HP and Apple are not parties to this lawsuit.

### How Do You Receive a Benefit?

You must first qualify for filing a claim, and then file an approved claim with supporting documentation during the Claim Period. To qualify for a replacement as described in numbers 1 and 2 above, your notebook computer must be one of the Dell, HP or Apple notebook computer models listed in the Table of Class Computers, contain an NVIDIA MCP or GPU, and be exhibiting one of the symptoms listed in the Full Notice. To qualify for a reimbursement as described in number 3 above, your notebook computer must be listed in the Table, contain an NVIDIA MCP or GPU, and must have been repaired because it was exhibiting one of the symptoms listed in the Full Notice. The Claim Period will begin after the Court grants final approval of the Settlement. Whether or not the Court has granted final approval, the Claim Period dates and further instructions for how to qualify and file a claim will be posted at the Settlement Website and at the toll-free telephone support line shown at the bottom of this Notice.

### Register Your Email Address To Receive an Alert When the Claim Period Begins.

To receive an email alert when the Claim

Period begins, between now and December 20, 2010, visit [www.NVIDIASettlement.com](http://www.NVIDIASettlement.com) and register your email address. If you previously received an emailed notice about this settlement, there is no need to register.

### The Final Approval Hearing.

The Court will hold a hearing in this case (*The NVIDIA GPU Litigation*, Case No. 08-cv-04312-JW) on December 20, 2010, to consider whether to approve the settlement and attorneys' fees and expenses in the amount of \$13 million. You may appear at the hearing, but you don't have to. For more details, see the Full Notice, call toll-free 1-877-440-7557, go to [www.NVIDIASettlement.com](http://www.NVIDIASettlement.com), or write to *NVIDIA GPU Litigation Settlement Administrator*, P.O. Box 6177, Novato, CA 94948-6177.

This is only a summary of the Full Notice. Please visit [www.NVIDIASettlement.com](http://www.NVIDIASettlement.com) or call 1-877-440-7557 to obtain a copy of the Full Notice.

### Table of Class Computers

The following notebook computer models are included in the settlement if they contain an NVIDIA GPU or MCP and were purchased in the time period corresponding to each Product Identification Number:

MFR.	PLATFORM NAME	PURCHASE DATE RANGES
Dell	Inspiron 1420	May 2007 – September 30, 2008
Dell	Inspiron 9400/E1705	March 2006 – February 28, 2010
Dell	Latitude D620	December 2005 – November 30, 2008
Dell	Latitude D630	February 2007 – September 30, 2008
Dell	Latitude D630c	February 2007 – September 30, 2008
Dell	Latitude D820	November 2005 – March 31, 2008
Dell	Latitude D830	March 2007 – September 30, 2008
Dell	Precision M2300	August 2007 – September 30, 2008
Dell	Precision M4300	March 2007 – September 30, 2008
Dell	Precision M6300	December 2007 – March 31, 2009
Dell	Precision M65	November 2005 – January 31, 2008
Dell	Vostro 1700	March 2007 – September 30, 2008
Dell	Vostro Notebook 1310	December 2007 – September 30, 2008
Dell	Vostro Notebook 1400	May 2007 – September 30, 2008
Dell	Vostro Notebook 1510	December 2007 – September 30, 2008
Dell	Vostro Notebook 1710	January 2008 – July 31, 2008
Dell	XPS M1210	March 2006 – November 30, 2008
Dell	XPS M1330	March 2007 – September 30, 2008
Dell	XPS M1530	September 2007 – January 31, 2009
Dell	XPS M1710	March 2006 – February 28, 2010
Dell	XPS M1730	November 2007 – January 31, 2009
HP	Compaq Presario v30xx	March 2006 – October 31, 2008
HP	Compaq Presario v31xx	March 2006 – October 31, 2008
HP	Compaq Presario v32xx	March 2006 – October 31, 2008
HP	Compaq Presario v33xx	March 2006 – October 31, 2008
HP	Compaq Presario v34xx	March 2006 – October 31, 2008
HP	Compaq Presario v60xx	May 2006 – October 31, 2008
HP	Compaq Presario v61xx	May 2006 – October 31, 2008
HP	Compaq Presario v62xx	May 2006 – October 31, 2008
HP	Compaq Presario v63xx	May 2006 – October 31, 2008
HP	Compaq Presario v64xx	May 2006 – October 31, 2008
HP	Compaq Presario F500	October 2006 – September 30, 2008
HP	Pavilion dv20xx	March 2006 – December 31, 2008
HP	Pavilion dv21xx	March 2006 – December 31, 2008
HP	Pavilion dv22xx	March 2006 – December 31, 2008
HP	Pavilion dv23xx	March 2006 – December 31, 2008
HP	Pavilion dv24xx	March 2006 – December 31, 2008
HP	Pavilion dv60xx	May 2006 – April 30, 2009
HP	Pavilion dv61xx	May 2006 – April 30, 2009
HP	Pavilion dv62xx	May 2006 – April 30, 2009
HP	Pavilion dv63xx	May 2006 – April 30, 2009
HP	Pavilion dv64xx	May 2006 – April 30, 2009
HP	Pavilion dv90xx	May 2006 – November 30, 2008
HP	Pavilion dv92xx	May 2006 – November 30, 2008
HP	Pavilion dv93xx	May 2006 – November 30, 2008
HP	Pavilion dv94xx	May 2006 – November 30, 2008
HP	Pavilion tx1xxx	March 2007 – May 31, 2008
Apple	MacBook Pro (15-inch)	May 2007 – September 2008
Apple	MacBook Pro (17-inch)	May 2007 – September 2008

# PCW Forum

## E-Readers vs. the iPad

Regarding "The E-Reader Wars" [October], I hate trying to read on the dedicated readers. The iPad has a much nicer reading experience. The electronic-ink hardware manufacturers all talk about how much easier it is to read on their devices in bright sunlight. That is all well and good, but the devices stink where I do most of my reading—in dim rooms where the LCDs shine (literally).

*GeordieKorper, PCWorld.com forums*

Electronic ink is much easier on my eyes when it comes to reading for extended periods. I tried the iPad, and after about an hour I couldn't take it anymore. Not sure why...maybe the problem is *too much* contrast, or maybe it's the fact that I'm staring into a light for an hour?

I hope that the dedicated readers stay dedicated readers. I find it too easy to get distracted on a multifunction device. I don't want things like e-mail, Web browsers, games, or Facebook clamoring for my attention when I read.

*gundark, PCWorld.com forums*

I chose a Barnes & Noble Nook over an iPad, and I couldn't be happier. The latter is a cool toy but is definitely not worth \$500. For one thing, it has no card slot, and it is not expandable.

*CarmaleeGierScarpitti, PCWorld.com forums*

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### CORRECTION

IN OCTOBER'S "TECHNOLOGY'S Biggest Myths," we should have designated the Blue Jeans Cable product (mentioned in the section on high-priced HDMI cables) as the Tartan 28AWG HDMI cable, and listed its price as \$3.60.

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# Forward

## Kill Your Cable, If You Dare

BY JEFF BERTOLUCCI

I RECENTLY cancelled my cable TV subscription. My Time Warner bill had been rising steadily—\$1.50 here, \$2.75 there. When it reached \$85 a month, I'd had enough. I stopped my cable service, vowing never to return. The

Sign up for Hulu Plus on a Roku set-top box, and you could save \$900 a year—while still allowing the TV junkie in you to get its boob-tube fix.

are two Google TV devices that marry the Web and television, as well as beefed-up set-top boxes from Apple and Roku (now with Hulu Plus). Each offering delivers

cable) and supplanting hefty premium-cable subscriptions with a set-top box can help you save a large amount of cash. At this point I'm on track to save \$900 over 12 months. Yep, that buys a lot of colon cleanser.

### Brave New Telly

All of these media-streaming devices use Wi-Fi or ethernet to pipe Internet-based material to a television. They connect to the TV's HDMI port, although some can use an analog link, such as a composite A/V cable, instead. The online movies, TV shows, and music that they deliver come from a variety of Internet sources, both free and fee-based.

As is often the case with new technologies, there's a bit of untamed Wild West to Internet streaming. For novices, the most daunting task is finding all of the video programming

scattered across the Web.

Currently, Google TV, which weds Internet-based entertainment, Web surfing, and productivity apps with your HDTV, is the best way to find content online.

An Android-based software platform, Google TV debuted in October on Internet TVs (\$600 to \$1400) and a Blu-ray player (\$400) from Sony, as well as on the Logitech Revue set-top box (\$300). The Logitech Revue is a small device that hooks up to any HDTV and allows you to browse the Web from the TV set (yes, including Flash sites such as Face-

**SONY'S NSX-24GT IS one of four new HDTV sets to incorporate Google TV functions.**



24-hour shopping networks, the cricket matches in Bangalore, the colon-cleansing infomercials—I definitely wouldn't miss any of it.

If you're tired of shelling out big bucks for cable TV service, the good news is that you have new entertainment options. Among them

movies, television shows, music, and photos to the huge screen in your den.

Of course, ditching your cable company has some drawbacks, particularly if you are a cable-news or sports addict. But saying farewell to cable (or downgrading your plan to basic



Google TV promises to merge Web-based entertainment, apps, and TV functions seamlessly. For a closer look at how it functions on one device, the Logitech Revue, browse to [find.pcworld.com/70957](http://find.pcworld.com/70957).





**THE GOOGLE TV-BASED Logitech Revue lets you surf the Web, including Flash sites, on a TV.**

book, FarmVille, and Twitter) and search and watch Web videos (except for those on Hulu, which is banned from Google TV). You can also enjoy content from a growing list of partners (Amazon Video On Demand, CNBC, HBO, Netflix, and Twitter) that each have custom Google TV channels.

Sony bakes Google TV straight into its Internet TVs—no extra boxes needed. While the Revue works with either a full-size or miniature Logitech keyboard, the Sony Internet TVs have their own style of mini-keyboard, which feels a lot like a game controller. Accompanying the Sony keyboard are two control pads: a touchpad on the right for navigating Web sites, and a mechanical rocker switch on the left for navigating when the set is tuned in to broadcast programming. The rocker switch operates like the directional buttons on a DVD remote.

### Bargain Boxes

Google TV-enabled devices are impressive, but they're also pricey compared with competing media streamers. Logitech's Revue, for instance, is three times the price of the Apple TV (\$100) and five times that of the Roku HD

device (\$60).

Both the Apple and Roku boxes, however, are considerably less ambitious than Google TV.

Apple's unit lets you rent movies and TV shows, streams content from Flickr, Netflix, and YouTube, and plays dozens of Internet radio stations. Roku offers three players (HD, XD, and XDS) that range from \$60 to \$100 and have similar functionality, as well as access to Amazon Video On Demand. Roku's boxes also stream videos from Hulu Plus and Netflix—but you'll need to subscribe to those services (\$10 and \$9 a month, respectively).

Both the Apple and Roku products lack Google TV's full Web browser and other search tools for finding material online.

The new Apple TV is much smaller and simpler than its predecessor, which cost \$229 and included a 160GB hard disk for storing digital media. The revamped, diskless model streams but doesn't save media. Users can rent movies and TV shows, access a few online services (including Flickr,

Netflix, and YouTube), and stream iTunes files stored on their networked home computers. Apple has also established deals with major partners so you can rent TV shows from ABC, the BBC, Disney, and Fox for \$1 and rent movies for \$4. In addition, Apple has announced AirPlay, a feature that will permit you to stream music and video files from an iPhone, iPod Touch, or iPad straight to an Apple TV.

For its part, Google TV has



**THE REDESIGNED Apple TV gives access to TV and movie rentals, plus online services.**

a similar trick up its sleeve with a feature called Fling, which allows you to stream media from an Android smartphone to the TV.

### Picking the Right Device for You

If you have a sizable iTunes library and just want to play files and iTunes content on your TV, the Apple TV is a cheap and elegant choice. If, on the other hand, you want to connect external storage devices or browse the Web, keep shopping.

A Roku box is an inexpensive option to stream videos from assorted paid-for services, and the company says that soon the devices will allow you to hook up

external hard drives, as well.

If you want full-blown Internet entertainment on your TV, consider the Logitech Revue with Google TV, or a Sony Internet TV. Both not only work with Internet video, locally streamed videos, and video stored on an external drive, but also integrate with your DVR and let you browse the Web. On the downside, you have to pay a lot for the functionality.

### Cable's Advantage

So should you do as I did and ditch cable TV? Maybe not, particularly if your favorite shows are available only on cable, or if you live in an area where the over-the-air broadcast channels are difficult to receive through an antenna.

Not surprisingly, the cable industry agrees with that assessment, particularly when it comes to broadcasts of live events. "Sports are still appointment-television driven—very live driven," says Comcast spokesperson Jennifer Cory. And the NFL playoffs aren't coming to a Website near you—at least not in the foreseeable future.

Rather than drop cable TV altogether, one cost-saving option is to downgrade to a bare-bones package. Verizon, for instance, offers FiOS TV Local, which includes all of the stations in your region, for just \$13 a month. And Comcast and Time Warner each have similar basic plans for a few dollars more; the exact pricing and channel lineups may vary by area.

*Daniel Ionescu contributed to this article.*



**THE COMPACT ROKU XD, as well as its siblings the HD and XDS, can stream Hulu Plus video.**







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## Unlocking Android's Multimedia Muscle

No iTunes? No problem. Here's everything you need to know about managing multimedia on your Android device.



**A POP QUIZ:** iPhone is to iTunes as Android is to what? If you're coming up blank, there's good reason.

Apple's mobile world is all about a one-size-fits-all philosophy: When you buy an iPhone, you buy into iTunes. You may love it or hate it—but if you use an iPhone, you have no other options.

Android takes the opposite approach: Managing your media is up to you. Aside from the occasional carrier-provided utility—which, let's be honest, usually isn't that good—no standard iTunes equivalent for Android phones exists.

Although it can be overwhelming, a world without mandated standards isn't a bad thing. You can use a full-featured or lightweight program, or none. You can even use iTunes, if you wish.

Follow this guide to find an Android media management strategy—and say good-bye to iPod envy.

**If you like a bare-bones, drag-and-drop approach:** Install nothing. Plug your Android

handset into your PC's USB port and activate 'USB storage' mode when the phone prompts you. (On some devices, you may need to pull down the notification bar to find this option.) The phone will show up as a removable drive on your PC, and you can drag and drop images, music, podcasts, and video files to your heart's content.

Music and video files typically live in the 'music' folder of your phone's SD Card. You can either dump everything in there or create subfolders. You may need to convert certain files to 3GP or MP4 for your phone to play them; to do so, try Any Video Converter Free Version ([find.pcworld.com/70958](http://find.pcworld.com/70958)).

**Want to build playlists?** Open the Android Music app. Long-press on a song, and select *Add to playlist*.

**If you want to stay synced with Windows:** Use Windows Media Player. Connect your phone to your PC and enable 'USB storage', as described above. Click the *Sync* tab in the upper-right corner of Media Player. You should



**ACTIVATE USB STORAGE mode on the phone to drag files to it.**



**LOOKING FOR A media manager that resembles iTunes in look and feel? DoubleTwist can handle your organizing and syncing needs.**

see your handset listed.

Click the white box below the Sync tab and select *Set up sync*. Type a name for your phone, and click *Finish*. Now, whenever you plug in the phone, Media Player will update it with any new music it finds on your PC.

**If you want a full-featured interface:** Install DoubleTwist ([www.doubletwist.com](http://www.doubletwist.com)) on your PC. The free utility gives you a familiar-looking way to view all the photos, videos, and music on your computer, and then copy or sync them to your phone. It can import all of your playlists from iTunes, convert video to Android-friendly formats, and even download and save YouTube videos for your device. The program is integrated with Amazon MP3, and it has a podcast search-and-sync tool.

**If you're craving podcast power:** The Android Market has no shortage of podcast apps. I've found DoggCatcher (\$7) to be the most polished and user-friendly one; its interface makes finding, subscribing, and listening to podcasts a snap. Other apps include BeyondPod Podcast Manager (\$7, also available in a limited "lite" edition), Google Listen (free), and

Stitcher Podcast Radio (free).

**If you want to use iTunes:** An app called iSyncr can keep your Android phone synced to iTunes. Remember, however, that Android can't play anything with Apple DRM (which currently includes all videos and some music purchased from iTunes).

Search for iSyncr in the Android Market; you'll find both PC and Mac versions. The full versions cost \$3. The



**ISYNCR KEEPS YOUR Android phone and iTunes in harmony.**

free "lite" versions sync only one playlist at a time and limit you to 20 items per playlist. Getting started is easy; follow the on-screen tutorial and begin the sync process with iTunes.

An even easier alternative: Use the iSyncr Wi-Fi Add-On, available for \$1 in the Android Market. It works over Wi-Fi, letting you sync your phone to iTunes without a physical connection.

—JR Raphael





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## Windows Phone 7: Microsoft Ups the Ante

FOR MICROSOFT'S Windows Phone 7 mobile operating system, it's put-up-or-shut-up time. Following a humiliating phone flop earlier this year with the Kin, the company needs to prove that its Windows-centric phones—with links to Microsoft Office, Xbox Live, and a nascent library of apps—can woo the masses away from Apple, Android, and BlackBerry handsets.

Can it pull that off? It just might. Windows Phone 7 is unlike any iteration of Windows Mobile we've seen. Starting in November, handsets by Dell, HTC, LG Electronics, and Samsung will be available on AT&T and T-Mobile wireless networks; Sprint will get its share of Windows Phone 7 next year. The new OS is impressive, and it deserves a closer look.

### A Break from the Past

Windows Phone 7 abandons the legacy of Windows Mobile 6.5, Pocket PC, and Windows CE, which required users to attack certain screen menus with a small stylus. Instead, the new colorful interface uses large icons and tight Web and Microsoft Office integration to create the software giant's first truly finger-friendly smartphone.

The new home screen—or Start, as Microsoft calls it—has “live titles” or widgets, which can show at a glance your missed calls, incoming texts, or e-mail. You can also add “live titles” from friends' social network profiles—from Facebook, for example.

Windows Phone 7 stresses

*In an attempt to win the smartphone game, the company revamps its mobile OS, stressing both social networking apps and productivity.*



AMONG THE FIRST Windows Phone 7 handsets are (from left) the HTC Surround, the LG Quantum, and the Samsung Focus.

social tools. Your phone can access photos that you've stored on Windows Live and Facebook as easily as it can the photos you've taken with the handset. The phone can integrate contacts from all local and Web sources, and your photos save to the cloud as you take them.

Joe Belfiore, corporate vice president for Windows

Phone, says the new operating system was designed “to create an environment that becomes deeply personal.”

### Where Are the Apps?

On the downside, the new phones shown in October, including the HTC Surround, the LG Quantum, and the Samsung Focus, had few apps installed beyond what would normally come with handsets, such as Fandango, the iFood Plus Food Assistant, Netflix, and Twitter.

However, Belfiore says that “hundreds of thousands of developers have downloaded the free development tools and are developing Windows Phone apps right now.”

Microsoft boasts that its upcoming mobile Games Hub on Windows Phone 7 is the first and only official Xbox Live app available on a phone. It includes Xbox Live games and a spotlight feed, and you can see people's avatars, Achievements,

and gamer profiles. If you're an Xbox 360 addict, you'll find a lot of familiar titles.

### Windows on a Phone

Mobile versions of Microsoft Office applications such as Word, Excel, PowerPoint, Outlook, and OneNote are tightly integrated into the mobile OS. For instance, the phone can automatically recognize an address that's embedded in an appointment. Touching the address launches a map, which eventually switches from map to satellite view as you zoom in on the address.

Pushing and holding the “home” button on a Windows Phone 7 handset launches a voice-recognition feature that lets you say what you want to do, such as “locate an airline flight.” Your voice goes to the server for Microsoft's TellMe service, which deciphers your command and returns the requested information to you—if it makes out what you said.

### Promise for the Future

Missing features such as copy-and-paste (it's coming next year), multitasking, and tethering—as well as a wait-and-see attitude from some app developers—cloud Windows Phone 7's future. But the smartphone party isn't over yet. Windows Phone 7 still has time to beef up and hang with the cool kids.

—Robert S. Anthony

PCWorld contributors Jared Newman and Daniel Ionescu, as well as associate editor Ginny Mies, contributed to this article.



IN PRESENTING LARGE icons, Windows Phone 7 departs from the look of previous OS versions.



## Verizon Wireless Turns Up the Heat on 4G Wireless Deployment

VERIZON WIRELESS recently announced that it will bring the latest and fastest mobile broadband flavor—4G LTE—to 39 markets in the United States, effectively lighting a fire under the 4G network roll-outs of the other U.S. wireless carriers.

Among Verizon's 39 LTE (Long Term Evolution) cities are Atlanta, Chicago, Dallas, Los Angeles, New York, and San Francisco.

In *PCWorld* speed tests, Verizon's 3G EvDO network produced average download speeds of 877 kilobits per second and average upload speeds of 434 kbps. Verizon says its 4G network will offer download speeds of 5 to 12 megabits per second and upload speeds of 2 to 5 mbps. At that rate, videoconferencing and high-def video should perform smoothly and dependably. LTE also uses a wireless spectrum that bet-

ter reaches inside buildings; 4G mobile hotspots may become fast and reliable enough to unseat home DSL or cable.

Verizon expects the service to cover 200 million people by end of 2011, and to be as extensive as the company's 3G network by the end of 2013.

As for the competition, Sprint took an early lead in the race to 4G by deploying WiMax service, which now reaches 58 cities. AT&T

says it will begin rolling out its 4G LTE network in 2011. And T-Mobile is upgrading its network with a promising pre-4G technology called HSPA+.

The first devices to link with the Verizon LTE network will be laptop USB modems. Verizon plans to show LTE phones and tablets at the 2011 Consumer Electronics Show in January; the products will reach consumers by midyear.

—Mark Sullivan



## Google Yields to the Haters of Gmail's Conversation View

IF YOU HATE how Gmail groups an e-mail with all the replies to it, Google has answered your prayers and made "Conversation View" an option that you can turn off. So, instead of having one item in your inbox that includes, say, all 16 messages from coworkers about the monthly budget, you can now have 16 separate messages somewhere in your inbox.

Judging from the complaints on the Gmail forum, people dislike Conversation View because the threaded approach doesn't allow them to kill off individual messages.

I like having a clean inbox, but I think

Conversation View haters are off-base. Threads make it much easier to keep track of the twists and turns of a topic. By default, you see only the messages you haven't read yet; the previous messages are collapsed.

The anti-Conversation View crowd also says that undeletable messages are making the inbox too bulky. But a basic Gmail account now offers 7.5GB of storage. Unless your conversations include lots of attached high-def video files, those individual messages that you can't delete aren't making a dent in your storage.

—Edward N. Albro



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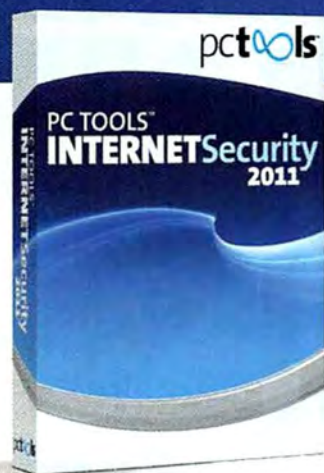
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## BETA WATCH

### EmailOracle: Inbox Spy

Do you hate hearing someone give you that lame "I haven't read your e-mail" excuse when you know they read it but didn't bother to reply? EmailOracle is a

Gmail plug-in that will tell you whether they are really blowing you off or it's time to up the antiparanoia meds. This service adds a couple of checkboxes to Gmail's interface when you're composing a message: You can choose to track whether the recipient opens your e-mail and to get a reminder if you

haven't heard back within a number of days that you specify. A free account lets you track 20 messages a month. Paid accounts cost as much as \$100 per month and allow you to track as many as 10,000 messages a month. [emailoracle.com](http://emailoracle.com)

### FriendShuffle: URL Explorer

For many people, the point of following someone on Twitter (and, in some cases, Facebook) isn't so much to see what they say in their status updates as to see what they're linking to. FriendShuffle is a mash-up that makes it easy to view the Web pages that have your friends excited. Sign

in to your Facebook or Twitter account through FriendShuffle, and click the Shuffle button—you'll go to a Web page that a friend mentioned in a status update or liked on Facebook. At the top, you'll see



**WITH THE EMAILORACLE plug-in for Gmail, you can track whether a recipient reads your message and fails to reply.**

what your friend had to say about it. And if you're intrigued, too, you can click a button to post it to your Facebook and Twitter followers. [friendshuffle.com](http://friendshuffle.com)

### Storify: Blog Collector

Literature has the concept of "found poetry," poems cobbled together from other people's words. Storify is a free tool to create what you might call a "found blog." When you compose a blog entry at Storify, you see two panels on the page. The panel on the left allows you to search for content from Creative Commons, Facebook, Google, Twitter, or YouTube. Once

you find a Facebook entry or Twitter comment that you want to include, drag it into the composition panel on the right. The information appears much as it would in its original context, but you can add your own text before and after. People can see the final product on the Storify site, or you can embed your creation in your own blog. [storify.com](http://storify.com)



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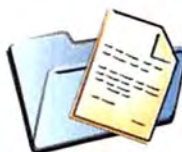
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shared digital memories.



## GEEKTECH

## New Tech Goes Beyond Traditional Displays

CURRENTLY, THE highest-resolution display you can get for a PC is a 2560-by-1600-pixel 30-incher costing \$1200 to \$2100. If you want more, you can buy multiple monitors—but the bezels break immersion in games or get in the way when you use productivity apps.

Alternatively, you could take four 1080p projectors, each about \$1000, and project images onto a single, curved surface much larger than a 30-inch display. Aligning and merging the images correctly isn't manually feasible, but companies such as Mersive and Scalable Display Technologies are working to solve the problem. Their systems break an image into multiple tiles and project each segment onto a big screen, sometimes curved, sometimes flat.

While Scalable Display seems to be focusing on smaller-scale designs, Mersive is pursuing setups that are much larger. For both companies, the idea isn't

High-resolution, projector-based setups could make using multiple monitors more useful, immersive, and practical.

is an affair that generates 2500 lumens.

In a project for a Fortune 20 company, Scalable Display has constructed an "enterprise media wall" with system integrator Cynergy that uses one PC, no external hardware, and two high-definition projectors.

The computer runs Windows 7 and a capture card for a complete, large-scale videoconferencing system.

Mersive's CEO Robert Belgley says his firm had one project that involved a

32-by-20-foot screen and used

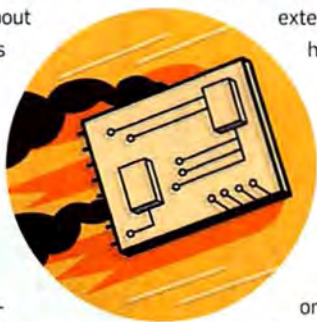
20 projectors to create a 55-megapixel display. At one point, it was the highest-resolution large display in public use.

Both companies employ GPU technology to handle the compositing, color correction, and tiling of the images. With smaller systems (up to six projectors), a dual-GPU design can still generate at least 30 frames per second of real-time animation, such as in a game. Mersive has built its products into ship simulators for the U.S. Navy, for example. Scalable Display has shown two-, three-, and six-projector curved displays that could function as an immersive gaming setup.

Using software and multiple projection sources to construct these very high-resolution displays and create a seamless image is an intriguing idea. As projector technology evolves—and as higher-output, higher-resolution pico projectors become more common—you could have a big, curved, quad-HD screen on your desktop for roughly the price of two or three 30-inch monitors.

—Lloyd Case ●

For more hardware news, visit the Geek-Tech blog at [go.pcworld.com/geektech](http://go.pcworld.com/geektech).



**SCALABLE DISPLAY TECHNOLOGIES'** ScalableDesktop drives four HD projectors in an immersive, seamless display.

to make desktop displays, but to build high-res products for larger settings. For example, NEC has licensed Scalable Display technology to build a theater-style unit that replaces a single, \$100,000 projector with four \$10,000 ones. The result

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**SAMSUNG**



# Consumer Watch

## Beyond PayPal: New Personal Payment Sites

BY YARDENA ARAR

EVER GONE OUT to a fancy restaurant with friends, only to find that someone lacked the cash to pay their share? Is writing a paper check to a relative (say, a kid in college) a hassle? A couple of new Internet services hope to do for money transfers between individuals what PayPal did for e-commerce: provide a way to make payments online without having to give recipients your credit card or bank account information.

### How They Work

Popmoney, which launched late last year, and ZashPay, which launched this summer, work much like PayPal: For payments, you need only the recipient's e-mail address or mobile phone number. One major difference: PayPal permits you to send and receive payments only via your PayPal account. To make a payment, you must first fund your account (through a linked bank account or credit card); to receive a payment, you must transfer it to the bank or credit card to use it for anything that isn't a PayPal purchase.

Popmoney and ZashPay transfer money directly from your bank account to that of the person you're paying (neither service supports credit cards). This is much like electronic bill payments, and both services are offshoots of companies (CashEdge in the case of Popmoney; Fiserv in ZashPay's) that manage bill payment services for banks.

Both sender and recipient must have accounts on these services, but they

New Web services make online payments between individuals simpler than PayPal—and might eventually do away with checks.



don't tie up cash—they just associate your bank account with your e-mail address and/or your cell phone number.

### At More and More Banks

If your bank offers either service, it will set up your account automatically. CashEdge says some 175 banks already offer Popmoney; Fiserv says ZashPay had 70 banks on board in early October.

Otherwise, you can still use these services to receive cash by signing up for a personal account on a service's Web-

site. But you must provide sensitive information, including your date of birth, Social Security number, and the accounting and routing numbers for your linked bank account. You must then go through a verification process, which involves waiting for the service to deposit two small sums (both under \$1) to your account and then reporting the exact amounts received.

ZashPay charges 75 cents to send money (up to \$500). Popmoney doesn't let you send money through its site >>

ILLUSTRATION: EDWIN FOTHERINGHAM

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at all, but only through your bank if it supports the service. You would set up a Popmoney account for payments from someone who wants to use that service through their bank.

Since my bank doesn't offer it, I set up a ZashPay account online, which took a few days because of the verification deposits. To make a payment, I just had to provide the recipient's e-mail address and the amount I wished to send. When I received a payment, the service notified me via e-mail. Turn-around time was one to two days.

## Additional Services

Other personal payment services are AlertPay and Obopay, which work basically like PayPal—you must set up and fund an account that makes and receives payments. Obopay offers strong support for mobile devices; AlertPay serves some people that PayPal does not—it accepts money orders, and lets you send money to over 190 countries.

Do these services mean the end of checks? Jim Bruene, who tracks online finance in his NetBanker blog, says making e-payments first has to become "as easy as pulling out a \$20 bill." Still, that day is coming, Bruene says, and the checkbook may eventually go the way of the daily newspaper—online.



**OBOPAY FOR THE iPhone works a lot like PayPal, via an account you set up and fund.**

## SKEPTICAL SHOPPER GINNY MIES



### E-Coupons May Track Your Spending Habits

THE ADVENT OF online coupons has made shopping and saving that much easier.

In an earlier era, people spent their Sunday mornings clipping coupons out of the newspaper. Now, you can download coupons from dedicated sites like Coupons.com or Ebates.com, or even social networking sites like Facebook and LinkedIn. But this convenience carries certain privacy risks: Some companies track consumer spending habits based on the coupons they use.

Last April, *The New York Times* ([find.pcworld.com/70928](http://find.pcworld.com/70928)) reported on how a company called RevTrax, which manages online coupons for retailers, was tracking consumer spending habits through these online coupons.

RevTrax clients include stores like Filene's Basement, Lord & Taylor, and Micro Center; restaurants like Ruby Tuesday; and a number of marketing agencies representing multiple clients.



Online coupons, although convenient, come with privacy risks, such as letting retailers track your shopping habits.

tion, your gender, and your interests.

Note that RevTrax simply collects all this data; where the data goes and how it is used is up to the retailer employing RevTrax's service. If Ruby Tuesday wants to send a "thank you" message to your e-mail address and offer additional deals, the restaurant can now do so thanks to its access to your information.

What's most disturbing is that RevTrax is completely invisible; you have no way of knowing whether a coupon is on RevTrax's platform or not.

And RevTrax isn't the only company out there that is tracking customers' spending habits.

The May *Skeptical Shopper* ([find.pcworld.com/70930](http://find.pcworld.com/70930)) looked at a company called RapLeaf that used Facebook and Twitter to create targeted ad campaigns for banks and other financial institutions.

(The companies using RevTrax's services insist that they use the data simply to reach their customers better.)

## Collecting Your Data

So what does all of this mean for consumers? Suppose that you sign into Ebates.com via Facebook Connect and obtain a coupon for Ruby Tuesday. You take in that coupon, it gets scanned, and you enjoy your discounted dinner. However, you might choke on your cheesecake if you realized how much information the restaurant has collected about you.

Once the restaurant scans your coupon's barcode, RevTrax can track it back not only to the search terms used in Ebates.com to find that coupon but to the Facebook ID, including your first and last name, that was used to log into the site. Now the company has access to your search habits and your social networking habits. It also has access to your loca-

## Protect Your Privacy

Though most of the data collected when you use a coupon may be harmless, you can never be too sure. I recommend adjusting the privacy settings on your Facebook profile. Also, don't use Facebook Connect to log into e-coupon sites.

ReclaimPrivacy.org has a neat tool that will scan your profile and account settings. For each area of your account, ReclaimPrivacy will give the setting a green ("good"), yellow ("caution"), or red ("insecure") ranking. If your account settings prompt yellow or red warnings, the site will give you instructions on how to change those problematic settings.



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# Consumer Watch

## ON YOUR SIDE

MARLA MIYASHIRO



I RECEIVED A Windows 7 Ultimate CD from a friend of a friend when Windows 7 first came out, and as I always do, I put it through every test for genuineness that Microsoft had, because I had been tricked into buying a counterfeit copy before. Every one of those tests said it was authentic. Recently when Automatic Updates ran, a notification came saying my copy was not genuine. What should I do? I don't want to buy another copy of Windows 7 Ultimate, and I'm sure this version is real. Please help.

*Robert C. Maehl, Louisville, Kentucky*

**OYS responds:** We advised Maehl that he could submit his rejected copy of Windows to Microsoft for evaluation and possibly get a free replacement. He did just that and received a new copy.

Anyone who already has a copy of Windows or Office and wants to check whether the software is genuine can visit [www.microsoft.com/genuine](http://www.microsoft.com/genuine); Microsoft enhances its validation tests constantly, which may explain why Maehl's copy of Windows originally passed but later failed.

Besides the ethical issues surrounding software piracy, a Microsoft spokesperson points out that counterfeit software carries risks such as exposure to malware and identity theft. The company encourages customers to use its Windows Genuine Advantage (WGA) and Office Genuine Advantage (OGA) validation tools.

If you're considering buying Windows from a third party, make sure that the reseller is reputable. Look for high-quality packaging with a Certificate of Authenticity label but no product key on the outside, and check to confirm that a hologram CD, DVD, or recovery media and an End User License Agreement are included. You can see examples of counterfeit software and antipiracy features at [www.microsoft.com/resources/howtotell](http://www.microsoft.com/resources/howtotell).

### Keyboard Inconvenience

Gene Carey of Rome, New York, contacted us when he had trouble getting a product repaired or replaced under warranty. About five months after he purchased a new FireFly International illuminated keyboard on eBay, a couple of the keys stopped registering. Carey e-mailed FireFly four times to request a Return Merchandise Authorization



(RMA), but he received only automated responses saying that the company would get back to him. It didn't.

After we contacted FireFly about Carey's problem, a representative sent him an RMA. Carey returned the keyboard; the company verified that it was defective and then sent him a replacement.

### Toshiba Notebook Recall

In cooperation with the U.S. Consumer Product Safety Commission, Toshiba has recalled about 41,000 notebooks. The Satellite T135, Satellite T135D, and Satellite Pro T130 can overheat, posing a burn hazard. Toshiba has received 129 reports of the notebooks' overheating and deforming the plastic casing around the AC adapter plug; two reports are of minor burns and two are of minor property damage. Consumers should immediately download the latest version of Toshiba's BIOS from [find.pcworld.com/70927](http://find.pcworld.com/70927) to their notebook. The BIOS revision will detect whether the unit is overheating; if it is, external power will be disabled, and the user will be directed to contact Toshiba for a free repair. For more information, call Toshiba at 800/457-7777.



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# Business Center

## Videoconferencing: Stepping Up From Skype

BY CURT FRANKLIN

AFTER YEARS OF promise, videoconferencing has become useful for small businesses, offering long-distance collaboration without the need to travel.

If you're ready to move up from free videoconferencing, telepresence tools can make a video chat feel almost like being there.

Many people get their first taste of videoconferencing via Skype or a video-enabled instant messaging system, and for informal purposes such services may be all a company needs. For

organizations that want to communicate with customers or replace travel with long-distance conferences, something more sophisticated is required.

### Multiple Options

All videoconferencing products include a Web-standard video camera, a microphone, a system to deliver audio and video, and software. A more-immersive setup can include video screens coupled to full-duplex audio with whiteboard and document sharing, as well as high-def video on a desktop monitor and simultaneous document collaboration.

Your options range from the basic Webcam-and-headphone combination to the dedicated hardware and software systems sold by vendors such as Cisco, LifeSize, and Polycom. Choosing a system boils down to how many users need to be on a conference, how good the



quality must be, and how much money you have for videoconferencing and the network infrastructure to support it.

Many professionals use consumer video calling, such as Skype and free IM systems. For businesses, however, these services present problems, such as a lack of company control over how employees use them. This issue can become a headache if your firm is subject to regulations on how information

is shared. For that reason alone, many companies block consumer-level video-chat services at the firewall. Add to that the choppy streaming and grainy video, and you have an option that isn't appropriate for a professional role.

You can find commercial services and free tools that work well for small businesses and are acceptable for sharing video—some add desktop views, slide-shows, and whiteboard sharing— »

Selecting a videoconferencing system and implementing it requires careful planning. For tips on what to consider and what to avoid, see "Getting Videoconferencing Right" at [find.pcworld.com/70908](http://find.pcworld.com/70908).



but they do not provide high-def video.

A growing number of vendors offer videoconferencing as part of a larger suite under the *unified communications* umbrella. Because the technologies involve moving audio, video, and other media through a network infrastructure that is generally not optimized for it, various protocols, standards, and technologies come into play. Most small businesses that want internal videoconference capabilities should use a unified communications server from Avaya, Cisco, Microsoft, or 8x8; these platforms combine many functions into a single server that company staff or a system integrator can configure and administer.

Large enterprise videoconferencing and telepresence systems—which offer audio and video of such high quality that it's almost like being in the same room—use a component called an MCU (Multipoint Control Unit) that plays traffic cop and bandwidth manager. An MCU also serves as a universal translator, allowing videoconference clients using different compression techniques and protocols to communicate. In unified communications systems, the server contains the MCU function, simplifying configuration and administration.

The availability of dedicated processing power and silicon-based (rather than software-based) compression and decompression are the primary advantages of stand-alone, hardware-based videoconferencing systems. Enterprise-class systems base their multipoint videoconferencing setups on hardware MCUs and gateways. For most small organizations, though, a software-based system is more affordable.

## Keeping Within Budget

Videoconferencing is a demanding, high-bandwidth application for clients, servers, and networks. But technology has evolved to a point at which you can have professional-quality videoconferencing without busting your IT budget.

For more advice, including a discussion of protocols, see the online version of this article at [find.pcworld.com/70909](http://find.pcworld.com/70909).

## NET WORK

TONY BRADLEY



### Tiered Wireless-Data Plans: A Bad Bargain

RECENTLY, VERIZON and Sprint both hinted that the days of unlimited

data are numbered. Following AT&T's lead, the other wireless carriers seem prepared to start nickeling-and-diming customers. But if all the major carriers go ahead with tiered data-plan pricing, mobile broadband hotspots will become more appealing as a less-expensive option.

The wireless carriers are heading in the wrong direction. What they should do—especially in the case of AT&T and Verizon, which are also many customers' home Internet provider—is move toward merging services and allowing customers to pay a single, flat rate for broadband (wired or wireless, tiered or unlimited) that's shared across all devices. For business and family plans, data should be one pool, and AT&T in particular should extend its voice rollover program to data and allow unused bytes to transfer to the next month.

When AT&T pulled the plug on unlimited data plans and implemented tiered pricing in June ([find.pcworld.com/70877](http://find.pcworld.com/70877)), it justified the move by saying that 98 percent of its customers average less than 2GB of data consumption per month, and that 65 percent use less than 200MB. If the claim is true, and if AT&T has no ulterior motive to boost profits via nickeling-and-diming, why not allow that 98 percent to continue paying for unlimited data?

### Separate Costs Add Up

Right now, I pay AT&T for U-verse broadband, which supplies Internet access for the computers and game consoles on my home network. I also pay \$30 a month for unlimited data on my iPhone 4, \$15 a month for 200MB of data on my wife's iPhone 4, and \$15 a month for 200MB of data on my son's iPhone 3GS. If I want to tether my iPhone 4 to connect my laptop on the go, that will cost an added \$20 per month, but the fee doesn't come with any extra bandwidth. My iPad is Wi-Fi only; but if it had 3G and I wanted to connect it

**Contract-free, unlimited mobile hotspots now constitute a more appealing choice.**

over wireless, that would be another \$25 per month for 2GB of data. Combined, I could end up paying \$150 or more per month to AT&T for the privilege of accessing the Internet from all my devices.

### Mobile-Hotspot Alternative

In light of such high wireless-carrier fees, moving to portable hotspots such as the Novatel/Virgin Mobile MiFi 2000 or Clearwire Rover Puck (reviews on pages 68–70) and gaining no-contract, unlimited data access for multiple devices is becoming more attractive, especially for IT departments and mobile professionals. Rather than paying for individual data plans and



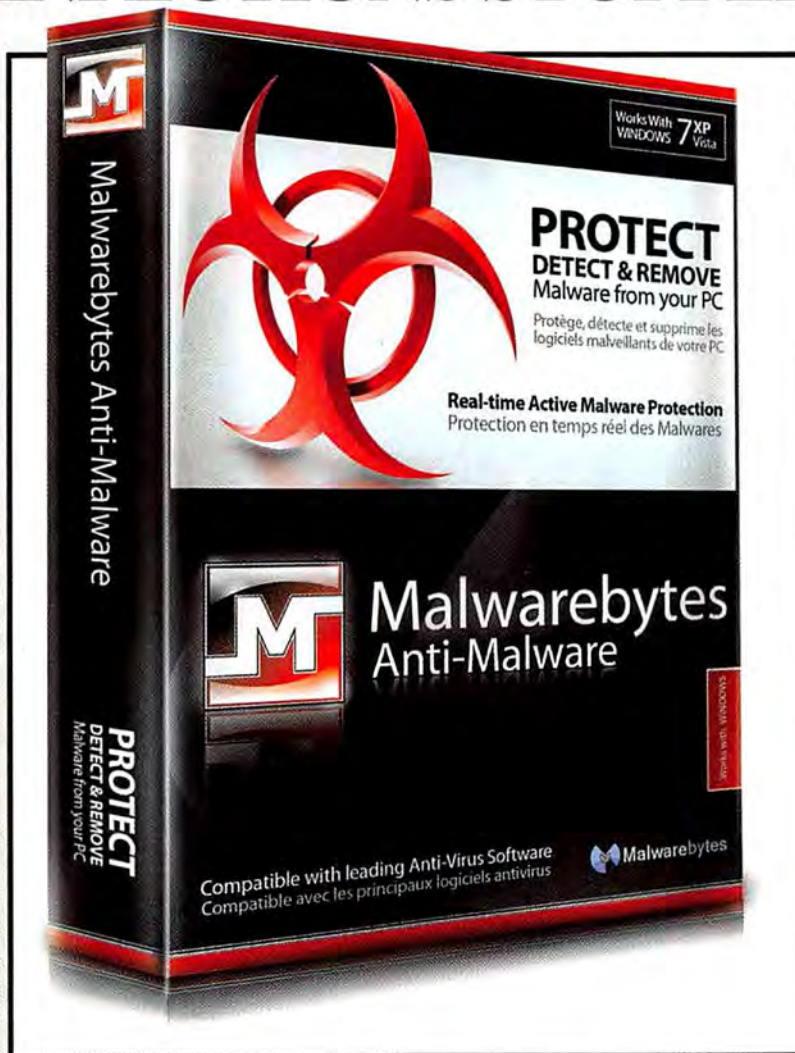
**PORTABLE HOTSPOTS SUCH as the Clearwire Rover Puck (left) or Novatel/Virgin Mobile MiFi 2000 promise unlimited data access for multiple devices.**

tethering for each device, users on the go can connect a phone, tablet, and laptop to a mobile hotspot simultaneously and let customers or partners share the connection as well—all for one low, flat rate.

Granted, you may still be under a wireless contract that requires at least a minimum data plan. But even so, you can realize savings by shifting down to the bare-minimum data plan and adopting the mobile-hotspot system. In the near future, subsidized smartphone and tablet prices might not seem like such a good deal when you add up the total service cost over the life of the contract.



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## TECH AUDIT

ELSA WENZEL



### Choose the Right Tech Support Professional for Your Business

FOR YOUR COMPANY'S tech backbone to function, it needs steady support. Finding the right IT expert can not only save money over the long run but also make the difference between merely surviving an emergency and powering ahead for growth.

Instead of providing nuts-and-bolts PC support, the pro you hire might work on broader challenges, such as unifying communications across phones, laptops, and desktops. "I try to look at what's going to happen in six months, what's projected for sales and staffing levels," says Jeremy Hayward of SNS Technologists in Edmonton, Alberta. "It's not all technical. We try to translate day-to-day business needs into technology that will help you do better."

#### What to Look For

When seeking outside help, start with word-of-mouth networking. In addition, consider searching for "tech support" on local-reviews services such as Yelp.com. For \$29 a year, you can consult AngiesList.com, which specializes in user-rated construction and home-repair pros but also includes a 'Computer Repair & Services' category. Or, if you prefer, try posting a free ad on Craigslist in the 'Gigs Offered' section under 'Computers' to invite replies from professionals to your inbox.

If you have a lot of gear from a certain brand, check the maker's Website for local partners or resellers that might also offer business support services, such as on HP's Partner Locator page ([find.pcworld.com/70906](http://find.pcworld.com/70906)). Some companies, such as Dell, provide consulting within their small-business guides ([find.pcworld.com/70907](http://find.pcworld.com/70907)).

Seek a professional who observes your operations and asks about how your business works overall, not just the technologies it uses. Your IT contact should feel the pulse of your network and pay special attention to security and backup. Where is your e-mail hosted? What operating systems, software, antivirus tools, desktops, laptops, tablets, and smartphones do your employees use? Ideally, the pro should help beyond your immediate needs with a three- or five-year plan that takes your business budgeting and forecasting into account. A monthly or quarterly check-in is a good idea.

Make sure the consultant looks for tools that fit the size and type of your business. If your family runs an antique shop, for example, your accounting data may fit neatly on a secure USB key that you take home each night. If, on the other hand, you're in charge of an investment firm or a medical office, your data must have extra lay-

**Who do you call when hardware and software fail? Here's how to seek good IT help.**

ers of protection to comply with privacy regulations and other laws.

Certifications that matter include Microsoft Certified Technology Specialist (MCTS) and Microsoft Certified IT Professional (MCITP). For networking, look for CompTIA Network+ or A+ accreditation.

An Apple Certified Support Professional (ACSP) could be appropriate for Mac shops with complex needs.

#### Warning Signs

If the consultant speaks in buzzwords and acronyms, don't be intimidated. But be ready to let them go if they won't explain; efforts to bewilder you with jargon reflect arrogance or fear, not expertise. And before you follow a know-it-all who insists that you wipe your hard drives and throw out that equipment, seek a second opinion.

Stay away from fly-by-night, crisis-based services that try to sell you the tech flavor of the month. Along the same lines, be wary of consultants who present a particular technology or a single brand as the end-all, be-all solution. It's fine to favor a brand that works for you, but no individual manufacturer makes the best of everything.

Watch out if someone tries to sell you top-of-the-line, enterprise-level gear. For example, you may not need to spend \$10,000 on a server if you have only five users—a network-attached storage device with cloud-based backup could do the trick.

If you want to do something that your IT person refuses to consider, such as giving your sales team smartphones, the professional had better explain why it's not in your best interest.

Finally, a pro who rescues data and saves you thousands of dollars with wisely chosen equipment may seem like a miracle worker, but don't expect magic. You're in a partnership, so work together and be patient. "If somebody's using technologies I haven't investigated, I don't pretend I know everything that's out there," says Hayward. "The answer should be, 'I'm not sure, but I'll find out.'"

*If you're an IT consultant serving small to midsize businesses, and you'd like to learn how you can contribute to Tech Audit, e-mail [techaudit@pcworld.com](mailto:techaudit@pcworld.com). For more advice, read the Tech Audit blog ([find.pcworld.com/84147](http://find.pcworld.com/84147)) and follow us on Twitter (@TechAudit).* ●





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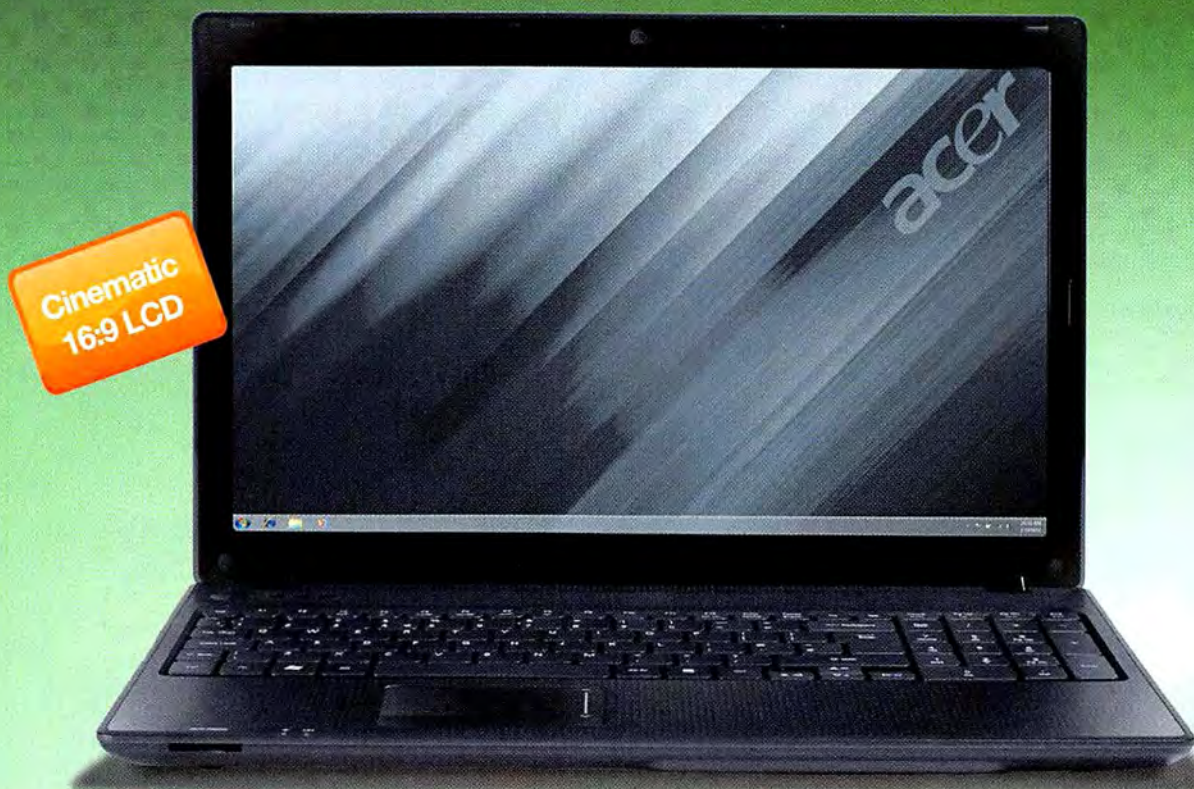
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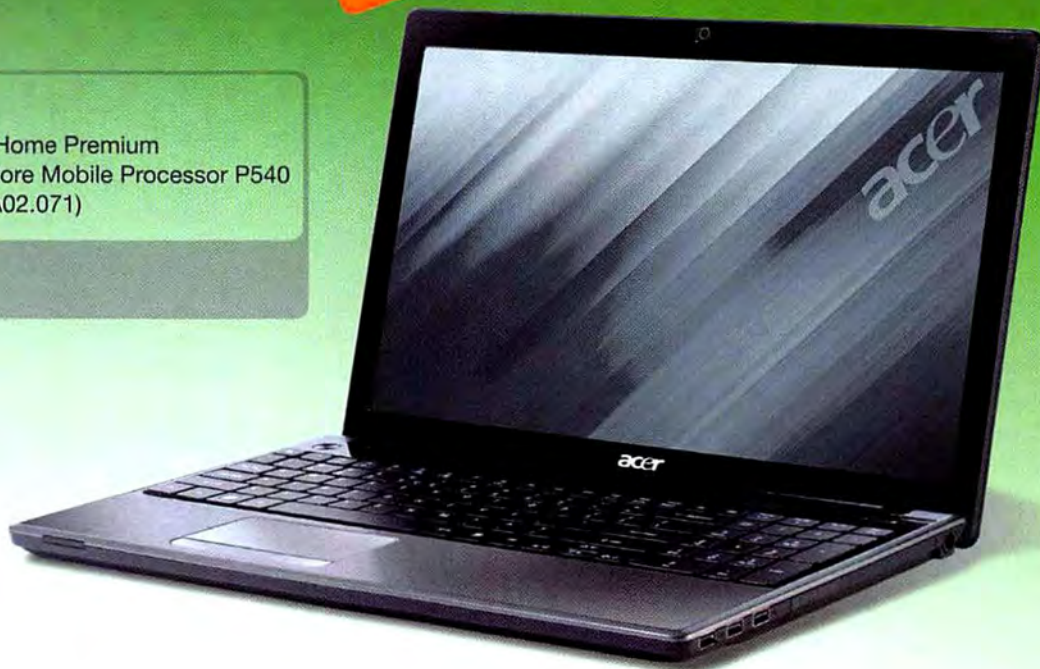
- Genuine Windows® 7 Home Premium
- Acer CineCrystal 15.0" display, 1366 x 768 resolution
- 4GB DDR3 SDRAM
- 320GB<sup>1</sup> hard drive
- Integrated Super-Multi drive
- 5-in-1 card reader
- 802.11b/g/n WLAN, gigabit LAN
- Integrated webcam
- 512MB dedicated video memory
- One-year limited warranty<sup>2</sup>

Portable  
Theater

### Acer Aspire 5553

- Genuine Windows® 7 Home Premium
- AMD Turion™ II Dual-Core Mobile Processor P540 AS5553G-5881 (LX.PUA02.071)

\$649



### Acer T230H bmidh

- 23" wide TFT LCD
- Touchscreen capable<sup>5</sup>
- 1920 x 1080 maximum resolution
- 80000:1 dynamic contrast ratio
- 160°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP), HDMI™ signal connectors
- 300 cd/m<sup>2</sup> brightness
- 2ms gray-to-gray response time
- One 1.5W integrated speaker
- Height, tilt and swivel adjustments
- Three-year limited warranty<sup>2</sup> (ET.VT0HP.001)

\$349



### Acer B243HL bmdrz

- 24" wide TFT LCD
- White LED backlight
- 1920 x 1080 maximum resolution
- 8,000,000:1 dynamic contrast ratio
- 170°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP), four USB signal connectors
- 250 cd/m<sup>2</sup> brightness
- 5ms response time
- Two 2.0W integrated speakers
- Height, pivot, tilt and swivel adjustments
- Three-year limited warranty<sup>2</sup> (ET.FB3LP.002)

\$299





Windows®. Life without Walls™.  
Acer recommends Windows 7.

## Acer® Aspire® Z5700

- Genuine Windows® 7 Home Premium
- 23" wide touchscreen with integrated speakers
- 4GB DDR3 SDRAM
- 1TB¹ SATA hard drive
- Super-Multi drive
- Multi-in-one card reader
- Gigabit LAN, 802.11b/g/n WLAN
- Integrated webcam
- Wireless keyboard and mouse
- One-year limited warranty²



### Acer Aspire Z5700

- Genuine Windows® 7 Home Premium
  - Intel® Core™ i3-540 Processor
- AZ5700-U2102 (PW.SDC02.009)

\$999

### Acer S243HL bmii

- 24" wide TFT LCD
- White LED backlight
- 1920 x 1080 maximum resolution
- 8,000,000:1 dynamic contrast ratio
- 170°/160° horizontal/vertical viewing angles
- VGA, two HDMI™ (HDCP) signal connectors
- 250 cd/m² brightness
- 2ms gray-to-gray response time
- One 2.0W integrated speaker
- Tilt adjustment
- Three-year limited warranty² (ET.FS3LP.001)



\$279



## Acer® Veriton® X275

- Genuine Windows® 7 Professional
- Super-Multi drive
- Gigabit LAN
- PS/2®-style keyboard and optical mouse

- 4.0" W x 15.6" D x 10.5" H
- One-year limited warranty<sup>2</sup> with limited on-site service<sup>6</sup>

### Acer Veriton X275

- Genuine Windows® 7 Professional
  - Intel® Core™2 Duo Processor E7600
  - 4GB DDR3 SDRAM
  - 500GB<sup>1</sup> SATA hard drive
- VX275-UD7600W (PS.VAM03.016)

\$579

### Acer Veriton X275

- Genuine Windows® 7 Professional
  - Intel® Pentium® Processor E6700
  - 3GB DDR3 SDRAM
  - 320GB<sup>1</sup> SATA hard drive
- VX275-UD6700W (PS.VAM03.015)

\$499

### Acer Veriton X275

- Genuine Windows® 7 Professional
  - Intel® Pentium® Processor E5700
  - 2GB DDR3 SDRAM
  - 320GB<sup>1</sup> SATA hard drive
- VX275-UD5700W (PS.VAM03.014)

\$449



## Acer V233H AJbd

- 23" wide TFT LCD
- 1920 x 1080 maximum resolution
- 80000:1 dynamic contrast ratio
- 160°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP) signal connectors
- 300 cd/m<sup>2</sup> brightness
- 5ms response time
- Tilt adjustment
- Three-year limited warranty<sup>2</sup> (ET.VV3HPA01)



\$195

## Acer V193W EJb

- 19" wide TFT LCD
- 1440 x 900 maximum resolution
- 50000:1 dynamic contrast ratio
- 160°/160° horizontal/vertical viewing angles
- VGA signal connector
- 250 cd/m<sup>2</sup> brightness
- 5ms response time
- Tilt adjustment
- Three-year limited warranty<sup>2</sup> (ET.CV3WP.E05)



\$145



Windows®. Life without Walls™.  
Acer recommends Windows 7.

acer

## TravelMate TIMELINE

### TravelMate Timeline Work smarter, Travel lighter

#### Acer® TravelMate® 8172

- Genuine Windows® 7 Professional
- 11.6" display, 1366 x 768 resolution
- 2GB DDR3 SDRAM, upgradeable to 4GB
- 250GB<sup>1</sup> hard drive
- 5-in-1 card reader
- 802.11b/g/n WLAN, Bluetooth®, gigabit LAN
- Integrated webcam
- Fingerprint reader
- Up to eight hours battery life<sup>4</sup>
- Optional port replicator available
- One-year limited warranty<sup>2</sup>

GENIUS  
BUY

#### Acer TravelMate 8172

- Genuine Windows® 7 Professional
- Intel® Core™ i3-380UM Processor  
TM8172T-7818 (LX.TZW03.009)

\$679

UltraThin



### Protect Your Investment with an Acer Notebook Service Upgrade

The Acer notebooks and netbooks featured in this insert come with a one-year standard limited warranty.<sup>2</sup> For extra protection and peace of mind, consider the Total Protection Upgrade, which covers the cost of a replacement unit if, as determined by Acer, your covered notebook or netbook cannot be repaired. On-site service is available, too, for TravelMate notebooks.<sup>6</sup>

**2-Year Extension of Limited Warranty (146.AB820.EX2)**  
for Acer Notebooks and Netbooks with 1-Year Limited Warranty  
\$99

**2-Year Extension of Limited Warranty + 3-Year Total Protection Upgrade (146.AD077.002)**  
for Acer Notebooks and Netbooks with 1-Year Limited Warranty (Total Protection Upgrade runs  
concurrently with limited warranty and limited warranty extension.)  
\$199

**2-Year Extension of Limited Warranty + 3-Year Limited On-Site Service (146.AD362.001)**  
for TravelMate Notebooks with 1-Year Limited Warranty (On-site service runs concurrently with  
limited warranty and limited warranty extension.)  
\$149

**2-Year Extension of Limited Warranty + 3-Year Limited On-Site Service +  
3-Year Total Protection Upgrade (146.AD362.002)**  
for TravelMate Notebooks with 1-Year Limited Warranty (On-site service and Total Protection  
Upgrade run concurrently with limited warranty and limited warranty extension.)  
\$299

<sup>1</sup> When referring to storage capacity, GB stands for one billion bytes. Some utilities may indicate varying storage capacities. Total user-accessible capacity may vary depending on operating environments.

<sup>2</sup> For a free copy of the standard limited warranty end-users should see a reseller where Acer products are sold or write to Acer America Corporation, Warranty Department, P.O. Box 6137, Temple, TX 76503.

<sup>3</sup> 3D content, 3D glasses and an appropriately equipped PC are also required to display 3D images.

<sup>4</sup> Depending on model configuration. Actual battery life varies by usage, settings and operating conditions.

<sup>5</sup> Touchscreen capability requires appropriate software installed on the PC connected to the display. This software does not come with the display.

<sup>6</sup> On-site service applies to the continental U.S. and Canada only and may not be available in all locations. In those areas where on-site service is provided, a technician will be dispatched, if necessary, following efforts to resolve the problem by telephone support.

acer

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# Security Alert

## Second Wave of Adware Pounds Web Surfers

BY LEAH YAMSHON

NEW ADWARE COMPANIES are increasingly targeting Facebook, Twitter, and other popular social networking sites as a means of distribution. The share-friendly environment of such sites is ideal for spreading adware and trackware through third-party applications, which often hide their true intent.

### The Origins of Adware

Adware is software that displays targeted ads when downloaded. It often comes bundled with downloadable games, movies, music files, or software programs, but it usually isn't listed as part of the download. Once on your system, the app tracks your online behavior and serves up ads based on that behavior. The ads may appear as shopping assistants, targeted ads, pop-up or pop-under windows, highlighted keywords, search toolbars, floating ads, or other annoying extras.

Old-style adware hit its peak around 2003; by 2005 it was common in several downloads and at sites around the Web. Installation methods included bombarding Website visitors with pop-ups, issuing prompts to install ActiveX controls or other software, posing as license acquisition installs for programs such as Windows Media Player, and offering deals in a bundle with peer-to-peer apps.

In late 2005, citing deceptive advertising and computer trespassing, state attorneys general and the Federal Trade Commission began cracking down on adware purveyors. By 2007, adware giant Zango and other major players in the industry had either folded or joined a new software market.

But the talent at Zango dispersed to companies like Loudmo and Pinball Publishing Network, to cultivate a new adware target: social networking sites. Teaming up with third-party app creators, the adware developers embed snoop code into games and apps that users share with friends and followers.

Many of today's adware distribution strategies deal exclusively with popular social networking sites—specifically Face-

book and Twitter—that rely heavily on third-party content.

On Facebook, adware offerings appear masked as games, dating apps, videos, media players, and “sponsored” distributions for real open-source programs such as Mozilla Firefox and Open Office. On Twitter, adware affiliates spam software bundles, such as a free (but adware-tainted) FLV Direct player, so that they show up in common Twitter searches.

Once considered vanquished, adware has enjoyed a big resurgence in the last year, owing in large part to social networks.



Adware distributors also exploit Facebook's “Like” function to spread their adware programs virally. Recently, a status update appeared on Facebook stating “Poor girl commits suicide after dad posted this on her wall.” When you click the link to read the page, an “age verification tool” pops up, and you have to download a gaming program (actually masked adware) to get to the story—which is unrelated to Facebook. If you fall for this scheme, friends will see that you “liked” the story.

Many users are unaware that these apps contain a hidden installation of ad-supported software (the main description of the download doesn't mention it). Companies that cre- ➤

ILLUSTRATION: GARY NEILL

PCWORLD.COM

What type of malware is most common today, and what tactics does it use? See [find.pcworld.com/70933](http://find.pcworld.com/70933) for answers. Should infected PCs be kicked off the Net? Join the discussion at [find.pcworld.com/70934](http://find.pcworld.com/70934).



ate these applications fail to clearly disclose their purpose, which is to collect data and present users with advertisements for the company's financial gain.

## Who's Behind It

Eric Howes, spyware research manager for GFI Software, a network security firm, warns users to watch out for apps, games, and video files from companies such as Circle Development, ComScore, Future Ads LLC, Game Vance, Loudmo, Pinball Publisher Network, PlaySushi, and Vomba Network. The software isn't inherently malicious, but adware companies tend not to disclose their intentions up front, and data tracking without consent is a privacy issue.

Though the TrustE privacy seal of approval supposedly "only awards privacy seals to Websites that give you proper notice of its privacy practices," according to TrustE.com, Howe says GFI has found several TrustE seals on Websites of known adware distributors.

To protect yourself from spyware and adware, keep your ad-blocker and anti-virus programs up-to-date. Most basic programs will catch adware as it downloads, as long as you have installed the most recent version of the utility on your system. Keeping Windows and Adobe apps current is important, as well: Many adware programs ask you to download a doctored version of these programs that is tainted with adware.

If you click through to one of the ads sponsored by an adware company, check the URL. In many cases, it contains the name of the company, meaning that the data gets sent back to the company when you click one of its ads.

Take the time to read the privacy policies and terms of service for third-party apps before downloading them. A program's description might not allude to adware, but its accompanying privacy policy may mention that targeted ads through trackware are a component of the download package. If you do end up with adware, you can easily uninstall most such programs by using the 'Add/Remove software' function in Windows.

## BUGS & FIXES JAMES MULROY

### Multiple Firefox Vulnerabilities Uncovered

THIS MONTH THE makers of Firefox released 15 advisories that address a wide range of security issues. Meanwhile, Microsoft posted an "out of cycle" update on September 17 for a flaw that (at press time) it was still working to resolve.

Also: Microsoft works to correct a dangerous exposure in ASP.Net.

#### A Flurry of Firefox Fixes

Mozilla released 15 security advisories for September, and it rated 10 of them as 'Critical'.

One of the other advisories, which Mozilla rated as 'Moderate', addresses a coding weakness that could allow malicious JavaScript to run when a user copies and pastes (or drags and drops) selected text on a Web page into a document. Two advisories are rated 'High'. One involves a vulnerability that an attacker could exploit to inject UTF-7 encoded JavaScript into a site and execute it; the other relates to code that could permit an XSS attack.

The ten 'Critical' advisories fix various problems that might allow a hacker to run arbitrary code on your PC and take control of the machine remotely. To correct these shortcomings, you should update your system to the latest versions of Thunderbird, SeaMonkey, and Firefox version 3 (or version 4 Beta). To obtain the update, select *Check for Updates* from the program's Help menu.

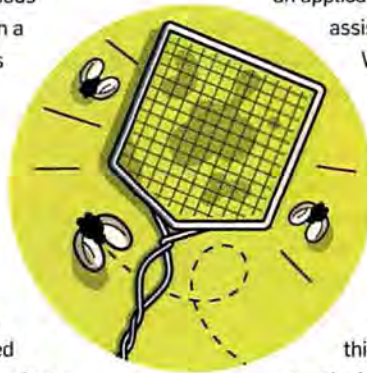
#### More Microsoft Miscues

Microsoft's Patch Tuesday bundle of corrections for September was fairly robust as well, with a total of nine security updates included. Six of those updates pertain exclusively to Microsoft Windows, two affect Microsoft

Office (one of those two also relates to Windows), and one addresses vulnerabilities in Microsoft Internet Information Services. Users of all supported versions of Windows—including XP, Vista, 7, Server 2003, Server 2008, and Server 2008 R2—should apply the updates to their systems, as all may be affected.

On September 17 (three days after issuing its regular Patch Tuesday security updates), Microsoft released another update to address a weakness in ASP.Net, an application that is designed to assist in building Websites, Web applications, and other Web features. An attacker could exploit this flaw to view encrypted data and data files on the target server, and to tamper with any of the content. At this writing, Microsoft was continuing to work on a security patch for the ASP.Net problem.

For maximum safety, always be wary when you encounter unknown or abnormal links or receive unsolicited e-mail messages. Using your system's default firewall settings can protect you against some of these hazards. And of course, you should install the fixes as soon as possible, using Windows Update. To learn more about each update—and to download them manually—visit [find.pcworld.com/70922](http://find.pcworld.com/70922) (for the September Patch Tuesday advisories) and [find.pcworld.com/70923](http://find.pcworld.com/70923) (for the ASP.Net advisory).



#### BUGGED?

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



WHAT'S *the* BUSINESS PROBLEM?

# FORMISSINGMATION

MISSING INFORMATION

the QWEST SOLUTION: Ever-increasing threats to security mean you have to go to greater lengths to keep critical data from disappearing. Fortunately, Qwest's voice, data and networking solutions are created with today's complex security challenges in mind. So you can keep your business safe and your sensitive information from going MIA. Solve more problems at [qwestsolutions.com](http://qwestsolutions.com).



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BUSINESS





## Highly Persistent Browser Cookies

IF YOU DISLIKE having your Web browsing history tracked, you probably delete cookies and clear your browsers' caches regularly. But Evercookie, written in JavaScript, produces "extremely persistent cookies" that can identify a computer even after you've removed standard or Flash cookies, according to Threatpost ([find.pcworld.com/70919](http://find.pcworld.com/70919)).

Evercookie stores cookie data in your browser in several ways—HTTP, Flash, force-cached PNG images, various HTML5 storage systems, Web history, and SQLite. If Evercookie detects that you've been deleting your cookies, the program re-creates them.

According to Threatpost, Evercookie author Samy Kamkar, who spawned a MySpace worm in 2005, created the deletion-resistant cookie to increase public awareness of privacy issues raised by tracking cookies—whether traditional HTML or Flash. The open-source code is available at Kamkar's Website for free downloading.

One way around Evercookie's persistence is Safari's Private Browsing feature, which blocks all of the cookie's methods. Other browsers might stand up to Evercookie's methods of cookie resuscitation, as well; Kamkar has not performed exhaustive testing.

Be careful about which browsers you accept cookies from. Keep tabs, too, on the developing HTML5 standard, which some critics say emphasizes functionality at the expense of security.

—Alessandra Springmann

## PRIVACY WATCH NICK MEDIATI

### Privacy in iTunes' Ping Social Network

PING, APPLE'S music-centric social network, is integrated into iTunes 10.

Its privacy features are more straightforward than Facebook's, but the services Ping offers are limited. Here's a quick rundown of the privacy features that Apple includes in Ping.

By default, Ping is switched off; but if you click 'Ping' in the source list located on the left side of the main iTunes window, you'll see a message describing what Ping is, and a button for opting in.

#### Profile Setup

Once you switch Ping on, a step-by-step wizard takes you through setting up your account profile and adjusting your privacy settings. Ping requires you to provide your name and gender; the rest of the fields (for your location, photo, and bio) are optional. If you change the name displayed in your Ping profile, the billing name for your entire iTunes account changes, too. People who may use their full names for billing purposes, but go by a nickname otherwise, may not like this arrangement.

You can specify whether Ping should automatically display anything you've rated, reviewed, or bought at the iTunes Store, whether you'd prefer to pick and choose the music you like, and whether you wish to hide your musical tastes from all your friends (thereby avoiding any and all ridicule you would endure for purchasing that Taylor Swift album).

Ping lets you choose between approving people who want to follow you and turning off following altogether. Anyone who turns on follower approval will be able to see your e-mail address in addition to your name and profile photo.

In no-follow mode, Ping lets you fol-

low others but won't permit anyone to follow you. Another feature of this mode: Your name and photo will appear only in certain instances, such as when you write a review or post a comment.

#### Genius Sidebar Update?

iTunes 10.0.1 adds the Ping sidebar, which appears to be an update of the Genius sidebar present in previous versions of iTunes. When you turn on the Ping sidebar, Apple can use information about the contents of your iTunes Library (and other information that you provide as part of your iTunes account) to show such cus-

tomized content in the Ping sidebar as music similar to songs you select in the Library, along with suggested Ping users to follow.

Interestingly, Apple appears to

be vetting profile photos for Ping—to judge from the language used on its profile settings pane: 'Once your photo is approved, it will appear next to any previous reviews you have written with this account.' Presumably Apple is checking the photos to filter out anything potentially offensive (good luck with that).

Ping can't function outside the iTunes application. You can't add any apps to your profile, and no programming tools exist for it, so software developers can't create Ping clients (apps similar to all the Twitter clients out there). This setup may make Ping safer than most traditional social networks, but that doesn't mean it can't be a target of spam, phishing scams, or social-engineering attacks. In fact, spammers are already hopping on the Ping bandwagon. ●





Disney

# TRON

L E G A C Y

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# Reviews & Rankings

## Cut the Cord: Low-Cost and Free Landline-Phone Alternatives

Begone, monthly phone bill! Smart alternatives like the NetTalk Duo, Ooma Telo, and YMax MagicJack offer you full-featured phone service at a fraction of the cost of regular landline service.

THE HOME TELEPHONE has become superfluous: One in five homeowners have abandoned their landlines in favor of cell phones.

I'm not ready to do that. Cell phones make woefully inconvenient home phones because they don't stay put, they run out of juice at bad times, and they're notorious for dropping calls indoors.

No, I want home-phone service in my home. But I'm done paying a monthly bill for it. Thanks to some new (or improved) products and



LANDLINE-PHONE-REPLACEMENT hardware from Ooma (background 'tray' and handset), NetTalk, and YMax.

services, I can keep the conversation going for far less than the cost of a traditional landline—or Internet phone services like Vonage.

### YMax MagicJack

This Zippo-lighter-size gizmo costs around \$40 for the hardware plus a year of unlimited long-distance and

local calling. After that, service costs just \$20 per year.

The service covers voicemail, call waiting, caller ID, and free 411 (directory assistance) calls. You can dial in to get voicemail messages or have the service deliver them automatically by e-mail as audio attachments.

Portability is one of the

MagicJack's best assets. You can plug it into any computer anywhere, and as long as there's a broadband connection (even via a 3G modem), you'll have a dial tone.

The device occupies a PC's USB port, however, and the computer must stay on if you want to make or receive phone calls—not ideal for a

### MORE ONLINE

For complete reviews of the four landline-phone alternatives we tested for this story, go online to [find.pcworld.com/70935](http://find.pcworld.com/70935).





53 SONY DASH HID-C10



61 APPLE IPOD Touch



66 CETON INFINITYTV 4



68 CLEARWIRE ROVER Puck

person seeking a full-time home phone (though you can dedicate a spare PC as a "phone server").

The MagicJack performed quite well most of the time. When I had it plugged into a desktop wired to my router, incoming and outgoing calls were consistently loud and clear. But when I relied on a netbook linked via 802.11g Wi-Fi, some calls dropped.

The only support option is online chat, assuming you can find it on YMax's hideous, infomercial-inspired Website. When I did, I was quickly connected to an online tech who provided helpful, courteous answers to my questions. Still, the lack of a customer-service department reachable by phone gives me pause.

Test the MagicJack for yourself before committing to it. If nothing else, it will make a fine second line that the kids can use without tying up the home phone and racking up huge bills.

## NetTalk Duo

A kissing cousin to the MagicJack, the NetTalk Duo works in much the same way, except that you can plug it into your PC or your



★★★★★ VERY GOOD

**MagicJack: YMax**

Portable device offers solid, reliable phone service for peanuts. List: \$40 (with 1 year of service) [find.pcworld.com/70887](http://find.pcworld.com/70887)

router, the latter yielding a phone-service experience closer to what Vonage offers. It costs \$70 up front (hardware plus first year of service) and \$30 annually from then on—still a great deal.

To use the Duo with my PC, I had to download and install a USB driver. (In contrast, the MagicJack stores its software in memory.) At press time, the 64-bit version of the driver was still in beta, resulting in several warning messages as I installed it on my Windows 7 system. And unlike the MagicJack, which plugs directly into a USB port, the Duo requires a cable.

In the number-selection process, NetTalk offered choices that reflected both

my area code and my city. But unlike the Ooma Telo and the MagicJack, it didn't let me choose the last four digits—it just assigned them.

On the flip side, the Duo offers a few more calling features than its rivals. In addition to caller ID, call waiting, and voicemail, you get voicemail delivered via e-mail as an audio attachment, free 411 calls, three-way calling, and Google Voice-style call forwarding: You can have calls to your Duo number ring your mobile phone, work phone, and any other numbers you want. Alas, you can't yet port your existing number to the Duo.

In my tests with a router connection, the Duo performed flawlessly, delivering

loud, clear calls—even as my BitTorrent client did some heavy-duty file sharing. With a PC connection, however, just getting a dial tone was iffy—and when it worked, I noticed some static on the line. (The scratchy audio may be a beta-driver issue that NetTalk will correct.)

NetTalk's toll-free tech support is available seven days a week, or you can submit a ticket online. When I did this on a weekday, I received a problem-specific, human-typed response within about 20 minutes.

The ability to plug directly into your router gives the NetTalk Duo a sizable advantage over the MagicJack. It has more calling features and support options, too. If you don't mind losing your current phone number, it could be a great match for you.

## Ooma Telo

Though it hits your wallet with a \$250 hardware charge, the Ooma Telo promises free local and long-distance service for life. Granted, the standard package's service offers little more than caller ID and voicemail, but putting an end to paying for phone service forever has >>



★★★★★ VERY GOOD

**Duo | NetTalk**

Plugged into a router, low-cost phone line matches landline quality. List: \$70 (with 1 year of service) [find.pcworld.com/70888](http://find.pcworld.com/70888)



some allure. (If you can't live without a monthly phone-service bill, you can pony up \$10 per month for Ooma Premier, which offers many extra calling features.) The Ooma Telo is easy to install: Just plug it into your router and set up your account on the company's Web portal, and you're ready to dial.

In my tests using an old Uniden cordless phone system and Ooma's fancy Telo Handset (\$50), Ooma's call quality was far superior to that of Vonage or Google Voice, with crisp, echo-free audio every time. The Telo Handset's optimized design for the service supports one-button voicemail retrieval and permits syncing with Outlook 2007 contact lists.

Ooma offers a couple of interesting extras not available from Vonage or any other VoIP service. One is an optional Bluetooth adapter (\$30) that pairs your cell phone with your Telo so you can answer incoming mobile calls on your home phone. The other is the ability to use your Bluetooth headset for calls around the house.

A Skype-like Ooma app for iPhones (\$10) lets you make calls over 3G or Wi-Fi, with your own phone number



**OOMA OFFERS** an optional Bluetooth adapter (\$30) that pairs your cell phone with your Telo so you can answer mobile calls on your home landline phone.

appearing as the caller ID at the other end. Regrettably, Ooma charges 1.9 cents per minute for calls to anyone except other Ooma users.

The Ooma Telo may have a higher up-front cost than other services, but if you skip the Premier subscription, it's guaranteed to save you money in the long run.

## Google Voice

The free Google Voice service isn't designed to replace a landline phone, but it does provide some interesting options for alternative service, starting with a new phone number intended to become your primary number for life. When someone calls it, Google Voice will ring your home phone, your work phone, your cell phone, or any combination of any phones you want.

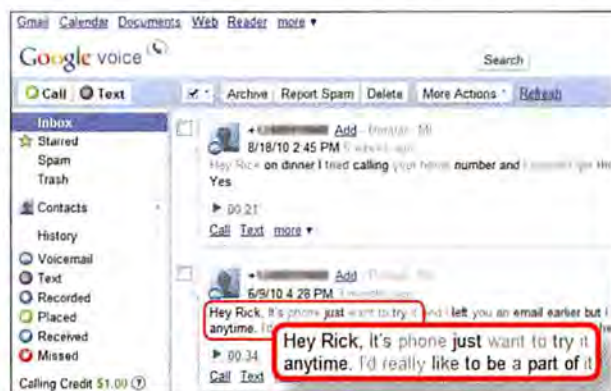
Google Voice offers free calls to the United States and Canada (but only from your PC). Amenities include call screening and blocking; customized greetings for specific callers; and voicemail transcription, in which the service converts messages into stored, searchable text and (if you wish) delivers them via e-mail or SMS. In my tests, transcription quality varied. (Google's guesses were laughably bad at times.)

Another cool perk is the recording of inbound calls; press 4 on your on-screen keypad to start recording. After you stop the recording (by hanging up or pressing 4 again), you can access the audio file just as you would a voicemail message.

At managing inbound calls, Google Voice is second to

the call. Such calls are free when they're directed within the United States or to Canada, and international rates are dirt-cheap; but you still need to have some kind of existing phone service.

If you install the Google Talk video and voice plug-in, you can make and take calls via your browser, Skype-style. Of course, adopting this approach requires a headset or Webcam, and being tethered to a PC isn't my idea of convenient. Still, I found the call quality adequate, though callers reported that I sounded as if I were talking through a computer microphone—which I was.



**YOU CAN ARRANGE** for Google Voice to create and deliver searchable text transcriptions of voicemail messages to your e-mail inbox.

none. You can search and share voicemail messages just as you do e-mail, set up do-not-disturb hours, and even add a Google Voice widget to your blog or Web page: One click, and the caller is connected to you.

Outbound calls, however, are far from Google Voice's forte. You can make an outgoing call via your Google Voice account page, but the service just rings the phone you choose (home, mobile, or whatever) and then places

Also, I found that any heavy file-transfer traffic (such as from BitTorrent) caused noticeable audio degradation.

—Rick Broida



★★★★☆ 6000

**Google Voice** Google

Service makes managing multiple phone numbers much easier. Free

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★★★★★ VERY GOOD

**Telo** Ooma

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List: \$250 (with free service)

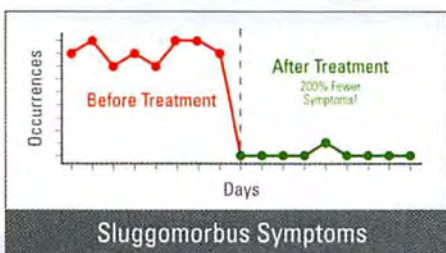
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# *Good-bye* **Sluggomorbus**



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(transferus rapidus)  
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## Adobe's Elements Apps Bring Useful Additions

PHOTOSHOP Elements and Premiere Elements, Adobe's consumer image and video editors, get minor makeovers in their ninth version.

Adobe offers a \$140 Plus edition of each that includes 20GB of online storage, along with access to more how-tos and extras in the Inspiration Browser that accompanies the apps. All that is fine—but 20GB of storage space on Photoshop.com costs just \$20 a year. So you're paying an extra \$20 not to be annoyed by the locked Inspiration Browser content.

The company's dual-app bundle, however, represents a notable value: For \$150, you can have both Elements programs (minus the Plus extras), knocking \$50 off the cost of buying the two standard apps individually.

### Enhanced Features

In Photoshop Elements 9 (\$100), the Guided Editing mode offers several new effects. If you had the know-how, you could probably pull them off without step-by-step help. Likewise, the new "Perfect Portrait" feature merely steps you through various editing tools, such as the one for red-eye removal.



CREATING HIGH-DEFINITION 'Web DVDs' with slick-looking menus is simple in Premiere Elements 9.

You get new options to make projects—photobooks, say—for which Photoshop Elements arranges images in an attractive layout that you can print yourself or upload to Kodak Picture Gallery or Shutterfly. You can monkey with the layout, of course; but by clicking a button, you can switch to "advanced" mode, which allows you to make edits with any tool. However, the program creates many layers, and working on them isn't always easy.

One new Premiere Elements 9 (\$100) feature is the ability to create Web DVDs, high-quality online movies with DVD-like menus. Web DVDs have a few advantages over regular videos—the

opening interface looks and sounds slick, and viewers can fast-forward to chapter points. Your video can be in high definition, too (DVDs are only standard resolution).

Premiere Elements has new fixes for audio issues. At their defaults in my tests, they often reduced the audio clarity as they lowered hum, pop, and hiss. But if you pick the right effect—I had luck using Audio Polish—and play with the settings, you can improve the audio quality.

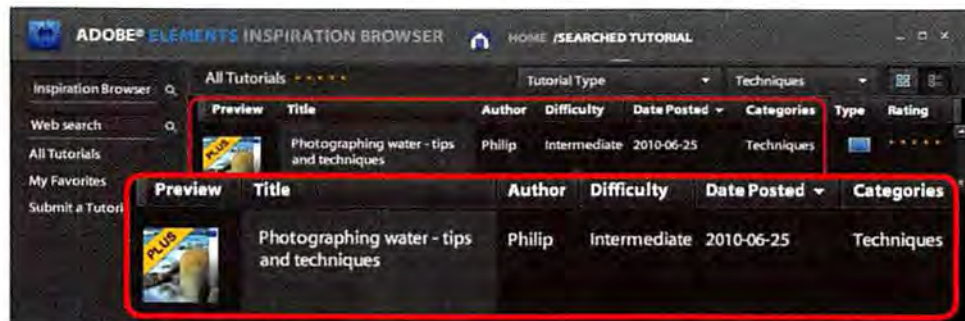
### Awkward Organizer

Unfortunately, for both Elements programs, Adobe's organizer remains a separate application, and that makes working with items clunky.

For example, to perform substantive edits on a photo in the organizer, you select the image, click a 'Fix' tab, choose an editing mode, and wait for the editor to load. You'll then have two Photoshop Elements icons in your taskbar—one for the organizer, one for the editor—and the applications' interfaces look very similar.

Each Elements program is a powerful, complete package, but I wish Adobe would rethink its organizer. Trying to recall which app does what is harder than remembering where I left my keys.

—Alan Stafford



SOME ELEMENTS HOW-TOS and creative extras remain locked unless you pay for the Plus edition.

★★★★★ VERY GOOD

**Photoshop Elements 9 | Adobe**  
Has great creative tools, but the organizer remains unintegrated.  
List: \$100 (\$150 two-app bundle)  
[find.pcworld.com/70914](http://find.pcworld.com/70914)

★★★★★ VERY GOOD

**Premiere Elements 9 | Adobe**  
This fairly minor upgrade is still excellent, especially given its price.  
List: \$100 (\$150 two-app bundle)  
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<sup>1</sup>Based on 3-party benchmark result SPECint\*\_rate\_base2000 comparing previous generation system with Intel Xeon E5410 (hyperthreading) 5.33GHz processors to this generation System x3690 X5 with Intel Xeon X7560 processors. <sup>2</sup>Return on investment and power savings calculation based on 33:1 consolidation ratio scenario of 210 Intel 2-socket servers to 6 IBM x3690 X5 servers and savings in energy costs, software license fees and other operating costs. Actual costs and savings will vary depending on individual customer configurations and environment. <sup>3</sup>Based on one IBM x3690 X5 with MAX5 memory expansion (2 processors, 64 DIMMs) vs compared to an industry-standard 2-processor 16 DIMM system and license cost per processor. <sup>4</sup>Prices are current as of 8/31/10 and are subject to change without notice. Manufacturer's suggested retail price; dealer prices may vary. Minimum transaction size: \$5,000; monthly payments are estimates based on lease rates for installations of qualified products and services in the United States. Actual rates may vary based on your creditworthiness, configuration, duties etc. and are subject to credit approval by IBM Credit LLC. For some clients, total software and services is limited to 75% of hardware financed. Other conditions may apply so please consult your IBM Authorized Business Partner or IBM representative for more information. IBM, the IBM logo, ibm.com, Smarter Planet and the planet logo are trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at [www.ibm.com/legal/copytrade.shtml](http://www.ibm.com/legal/copytrade.shtml), the main logo, Xeon and Xeon Inside are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. © International Business Machines Corporation 2010.



## Reader Pocket Edition: Light, Pricey

THE SONY READER Pocket Edition PRS-350SC (\$180; the "SC" model is silver, while "PC" designates the pink version) uses Sony's optical technology to allow fingers to tap away on its 5-inch E-Ink Pearl display.

At just 5.6 ounces, it's easy to hold in one hand while you're curled up on the couch. I found the dis-

play brighter and dramatically sharper than Sony's older touchscreen technology, with better contrast and clarity, plus crisp grayscale images. Making selections requires only featherlight touches. You touch to turn pages, as well as to get one of the 12 pop-up dictionaries.

Below the screen are several buttons, including those for zoom and options. The built-in stylus is at the upper right. The unit charges via a micro-USB port. It has both Memory Stick and SD Card slots, plus 2GB of storage.

The options allow you to adjust both contrast and brightness, a first among the

e-readers I've seen. You can also pick from six font sizes, XS to XXL.

One big weakness: No 3G or Wi-Fi. The latest Amazon Kindle with Wi-Fi and 3G sells for just \$10 more, and adds an inch to the screen. You pay a steep price for the slick design of the highly portable Reader Pocket Edition.

Still, among the 5-inch-screen e-reader set—which includes models from lesser-known makers such as Aluratek and Bookeen—Sony has leaped to the head of the



**TOUCH NAVIGATION ON the Pocket Edition feels natural.**

pack. If you want an e-reader in a paperback size, the Sony Reader Pocket Edition is the best such unit you can get.

—Melissa J. Perenson

★★★★★ VERY GOOD

**Reader Pocket Edition**  
**PRS-350SC** | Sony

This small e-reader charges a premium for the great touchscreen.

List: \$180

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## Sony Dash: More Than Just an Alarm Clock

BASICALLY A Chumby Internet appliance ([find.pcworld.com/70912](http://find.pcworld.com/70912)) gussied up with sleek industrial design and widgets, the \$180 Sony Dash HID-C10 offers prepackaged nuggets of the Internet's greatest hits on its 7-inch capacitive touchscreen.

About 7.5 by 5.5 inches, and 2.4 inches at its base, it

weighs 1.2 pounds. The 800-by-480 display is bright and crisp, but the touchscreen isn't nearly as responsive as those on iPhones or iPads.

I saw latency in downloads; images, headlines, and Facebook and Twitter feeds took seconds to appear, and videos loaded slowly. Once the videos started, they streamed smoothly over my home network. I wish the audio were more robust, however.

The Dash defaults to a few preset apps, while a larger window has material from a customizable app "channel." A 'Themes and Apps' button



THE DASH GIVES you access to dozens of sites and services.

gives access to layouts and channels. You can get rid of Sony's presets by switching to the App View theme, for instance. You can also create channels; I easily set up one with news, social networking, and photo sites, as well

as a couple of little games.

A software keyboard pops up when needed. Its buttons don't always respond well—and without predictive text entry, typing can take a while. But it gets the job done.

—Yardena Arar

★★★★★ VERY GOOD

Dash HID-C10 | Sony

Net device offers lots of content, but you can't surf the Web at will.

List: \$180

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## Top 10 Inkjet Multifunction Printers

Canon's Pixma MG8120, with smooth text output and decent speed, takes the lead spot.

MODEL		Rating	Performance	Features and specifications
1	 <p><b>Canon Pixma MG8120</b> \$300 <b>NEW</b> <a href="http://find.pcworld.com/70506">find.pcworld.com/70506</a></p> <p>► A generous feature set and great performance make the Pixma MG8120 MFP a good fit for a home or small office.</p>	★★★★★ VERY GOOD	<ul style="list-style-type: none"> <li>Text quality: Very Good</li> <li>Graphics quality: Very Good</li> <li>Tested speed (ppm): 8.3 text/2.3 graphics</li> </ul>	<ul style="list-style-type: none"> <li>USB, ethernet, wireless connectivity</li> <li>Two 150-sheet inputs, automatic duplexing</li> <li>9600-by-2400-dpi maximum true color resolution</li> </ul>
2	 <p><b>HP Photosmart Premium Touchsmart Web All-In-One</b> \$400 <a href="http://find.pcworld.com/63998">find.pcworld.com/63998</a></p> <p>► Accessing Web apps from a printer is an intriguing idea, but the execution on this unit shows that some work remains to be done.</p>	★★★★★ VERY GOOD	<ul style="list-style-type: none"> <li>Text quality: Very Good</li> <li>Graphics quality: Good</li> <li>Tested speed (ppm): 7.8 text/3.7 graphics</li> </ul>	<ul style="list-style-type: none"> <li>USB, ethernet, wireless connectivity</li> <li>100-sheet input (20 photo), auto duplexing</li> <li>9600-by-2400-dpi maximum true color resolution</li> </ul>
3	 <p><b>Lexmark Platinum Pro905</b> \$399 <a href="http://find.pcworld.com/63602">find.pcworld.com/63602</a></p> <p>► Web capabilities and generous features make the Pro905 worth considering for a small office, but it's average in other respects.</p>	★★★★★ VERY GOOD	<ul style="list-style-type: none"> <li>Text quality: Very Good</li> <li>Graphics quality: Good</li> <li>Tested speed (ppm): 7.0 text/2.5 graphics</li> </ul>	<ul style="list-style-type: none"> <li>USB, ethernet, wireless connectivity</li> <li>Two 150-sheet inputs, automatic duplexing</li> <li>4800-by-1200-dpi maximum true color resolution</li> </ul>
4	 <p><b>Epson Artisan 835</b> \$300 <b>NEW</b> <a href="http://find.pcworld.com/70514">find.pcworld.com/70514</a></p> <p>► Almost everything you could want in a high-end home MFP is here, though text quality in default mode is washed-out and grainy.</p>	★★★★★ GOOD	<ul style="list-style-type: none"> <li>Text quality: Fair</li> <li>Graphics quality: Very Good</li> <li>Tested speed (ppm): 7.3 text/3.0 graphics</li> </ul>	<ul style="list-style-type: none"> <li>USB, ethernet, wireless connectivity</li> <li>150-sheet input, automatic duplexing</li> <li>4800-by-1200-dpi maximum true color resolution</li> </ul>
5	 <p><b>BEST BUY</b> <b>Canon Pixma MX870</b> \$200 <a href="http://find.pcworld.com/69542">find.pcworld.com/69542</a></p> <p>► This MFP offers excellent output, good performance, and low ink costs, making it well suited for a small office or a busy family.</p>	★★★★★ GOOD	<ul style="list-style-type: none"> <li>Text quality: Very Good</li> <li>Graphics quality: Very Good</li> <li>Tested speed (ppm): 6.2 text/1.7 graphics</li> </ul>	<ul style="list-style-type: none"> <li>USB, ethernet, wireless connectivity</li> <li>Two 150-sheet inputs, automatic duplexing</li> <li>9600-by-2400-dpi maximum true color resolution</li> </ul>
6	 <p><b>Lexmark Pinnacle Pro901</b> \$300 <a href="http://find.pcworld.com/70031">find.pcworld.com/70031</a></p> <p>► You pay more for the machine but less for its ink, a fair trade-off—especially considering the plentiful features it offers.</p>	★★★★★ GOOD	<ul style="list-style-type: none"> <li>Text quality: Very Good</li> <li>Graphics quality: Good</li> <li>Tested speed (ppm): 6.3 text/1.8 graphics</li> </ul>	<ul style="list-style-type: none"> <li>USB, ethernet, wireless connectivity</li> <li>150-sheet input, automatic duplexing</li> <li>4800-by-1200-dpi maximum true color resolution</li> </ul>
7	 <p><b>Canon Pixma MG5220</b> \$150 <a href="http://find.pcworld.com/70444">find.pcworld.com/70444</a></p> <p>► The sleekly designed Pixma MG5220 provides good speed and print quality, and its replacement ink costs are reasonable.</p>	★★★★★ GOOD	<ul style="list-style-type: none"> <li>Text quality: Good</li> <li>Graphics quality: Very Good</li> <li>Tested speed (ppm): 7.8 text/2.3 graphics</li> </ul>	<ul style="list-style-type: none"> <li>USB, ethernet, wireless connectivity</li> <li>100-sheet input, manual duplexing</li> <li>5760-by-1440-dpi maximum true color resolution</li> </ul>
8	 <p><b>Kodak ESP 7250</b> \$200 <b>NEW</b> <a href="http://find.pcworld.com/70030">find.pcworld.com/70030</a></p> <p>► Kodak continues to shine on photo prints and low ink costs; the ESP 7250's plain-paper output, however, is a bit light.</p>	★★★★★ GOOD	<ul style="list-style-type: none"> <li>Text quality: Very Good</li> <li>Graphics quality: Fair</li> <li>Tested speed (ppm): 4.6 text/1.8 graphics</li> </ul>	<ul style="list-style-type: none"> <li>USB, ethernet, wireless connectivity</li> <li>120-sheet input (20 photo), auto duplexing</li> <li>5760-by-1440-dpi maximum true color resolution</li> </ul>
9	 <p><b>Epson WorkForce 520</b> \$130 <a href="http://find.pcworld.com/70360">find.pcworld.com/70360</a></p> <p>► Although the 520's speed and cheap inks address two small-office needs, its text quality on plain paper falls short of another.</p>	★★★★★ GOOD	<ul style="list-style-type: none"> <li>Text quality: Fair</li> <li>Graphics quality: Good</li> <li>Tested speed (ppm): 12.6 text/1.6 graphics</li> </ul>	<ul style="list-style-type: none"> <li>USB, ethernet, wireless connectivity</li> <li>100-sheet input (40 photo), auto duplexing</li> <li>4800-by-1200-dpi maximum true color resolution</li> </ul>
10	 <p><b>HP Photosmart e-All-in-One</b> \$100 <b>NEW</b> <a href="http://find.pcworld.com/70479">find.pcworld.com/70479</a></p> <p>► This home unit has good speed and print quality plus fun Web apps, but its pricey inks and skimpy paper handling are disappointing.</p>	★★★★★ GOOD	<ul style="list-style-type: none"> <li>Text quality: Very Good</li> <li>Graphics quality: Very Good</li> <li>Tested speed (ppm): 5.3 text/1.8 graphics</li> </ul>	<ul style="list-style-type: none"> <li>USB, wireless connectivity</li> <li>80-sheet input, manual duplexing</li> <li>4800-by-1200-dpi maximum true color resolution</li> </ul>

CHART NOTES: Ratings are as of 10/1/10. Speeds are in pages per minute (ppm); resolutions are in dots per inch (dpi).

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## Envy 17: For Windows Users With Mac Envy



WEIGHING 8 pounds without the power brick, HP's Envy 17 is barely thicker than an inch and offers robust media capabilities.

Our test unit had a 1.6GHz Intel Core i7-720QM CPU with a peak turbo-boost frequency of 2.8GHz, 8GB of DDR3-1066 RAM, a Blu-ray drive, and the AMD Mobili-

★★★★★ SUPERIOR

Envy 17 | HP

Robust, media-centric laptop is still svelte enough to lug around.

List: \$1825

[find.pcworld.com/70865](http://find.pcworld.com/70865)

ty Radeon HD 5850 (with 1GB of video memory). The price of our system is a steep \$1825; the base configuration starts at around \$1400.

With a WorldBench 6 score of 86, its performance is only average for a desktop replacement. On game tests, it fared pretty well; you'll have to dial down graphics settings a notch, but you should see strong frame rates and good image quality.

After getting past my initial dislike of the 17-inch, 1080p glossy screen, I found the color balance in games and movies pleasing. Video playback was uniformly excellent.

HP'S SLEEK AND glossy Envy 17 excels at movie and video playback.



On the right are two USB 2.0 ports and a five-in-one flash card reader. The left side has one USB 3.0 port and a USB/eSATA port, along with HDMI and mini-DisplayPort outputs.

The feel of the keyboard is quite nice, with excellent tactile feedback. The touchpad seems a little twitchy.

One concern worth noting

is heat. The fan grew noticeably loud when we ran our game tests, and the keyboard surface became warm in places. It wasn't too hot to touch, but clearly a lot of heat is being generated in a tight space. That's the downside of building a high-performance system into a compact package.

—Lloyd Case

## Samsung Q430 Cuts Corners but Still Seems Nimble



THE SAMSUNG Q430 zips through work and play—but a dull screen and cut corners hold it back.

A Best Buy exclusive, the Q430 costs about \$830 and delivers a mostly solid line-up of components. Armed with a 2.4GHz Intel Core i5 CPU, 4GB of RAM, nVidia GeForce 310M graphics, and a 500GB hard disk, it reached a respectable score of 108 on our WorldBench 6 test suite.

The Q430 can run nearly anything, from pro-

ductivity software to games. It nimbly juggles open programs, too, letting you multitask with ease. Battery life is another highlight: It ran for 4 hours, 16 minutes on a single charge in our tests.

The laptop's input devices are undistinguished. The keyboard works adequately.

The touchpad feels only slightly different from the palm rest, though, which causes swipes to carry too far. Worse, it stops registering movement a full fingertip from its edges.

The 14-inch glossy display is 1366 by 768 pixels, but it skimps on color and contrast. You'll have to crank up the brightness to the maximum. At lower settings, blacks and grays begin to merge.

Audio performance is fine for a laptop, but not outstanding. Music and dialogue favor high tones and can sound garbled, as if you were listening to a conversation from across the room.

You get three USB 2.0

ports, HDMI, VGA, audio-in and -out, a Webcam, and a flash-card reader, as well as 802.11 b/g/n support. Although it has a 100Base-T ethernet port, it offers nothing for gigabit ethernet.

Among the few software extras is the CyberLink DVD suite for use with the built-in DVD burner. Far less welcome is the Best Buy Software app, which pops up at each launch. You also get the Google Toolbar and other needless additions.

—Zack Stern

★★★★★ GOOD

Q430 | Samsung

This laptop's strong speed and battery life offset its skimpy features.

List: \$830

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THE Q430 IS a good midrange laptop for general use.





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**Energy savings:**  
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# Top 10 Budget Desktop PCs

The slim Gateway SX2840-01 midsize tower provides excellent general performance.


MODEL	Rating	Performance	Features and specifications
<b>1</b>  <b>BEST BUY</b> Gateway SX2840-01 \$559 <a href="http://find.pcworld.com/69988">find.pcworld.com/69988</a> <p>► Despite one lapse in connection options and limited upgradability, the SX2840-01 is a speedy little monster with a very good price.</p>	★★★★★ SUPERIOR	<ul style="list-style-type: none"> <li>WorldBench 6 score: 118</li> <li>WorldBench 6 rating: Superior</li> <li>Overall design: Fair</li> </ul>	<ul style="list-style-type: none"> <li>2.93GHz Core i3-530</li> <li>6GB RAM; 1TB storage</li> <li>Intel integrated graphics</li> <li>DVD±RW</li> </ul>
<b>2</b>  HP Compaq 6005 Pro Small Form Factor PC \$899 <a href="http://find.pcworld.com/69989">find.pcworld.com/69989</a> <p>► HP delivers a business PC that's certainly fast for its smallish size, but leaves out details that could have pushed it to the top.</p>	★★★★★ VERY GOOD	<ul style="list-style-type: none"> <li>WorldBench 6 score: 128</li> <li>WorldBench 6 rating: Superior</li> <li>Overall design: Fair</li> </ul>	<ul style="list-style-type: none"> <li>3.0GHz Phenom II X4 B95</li> <li>4GB RAM; 400GB storage</li> <li>ATI Radeon HD4200</li> <li>DVD±RW</li> </ul>
<b>3</b>  Acer Aspire M3400 \$600 <b>NEW</b> <a href="http://find.pcworld.com/70891">find.pcworld.com/70891</a> <p>► Acer's M3400 puts up a good fight—but in terms of features, similarly priced competing systems are just a bit better.</p>	★★★★★ VERY GOOD	<ul style="list-style-type: none"> <li>WorldBench 6 score: 110</li> <li>WorldBench 6 rating: Very Good</li> <li>Overall design: Good</li> </ul>	<ul style="list-style-type: none"> <li>2.8GHz Phenom II X4 820</li> <li>6GB RAM; 640GB storage</li> <li>ATI Radeon 5450</li> <li>DVD±RW</li> </ul>
<b>4</b>  Dell Inspiron 580s \$529 <a href="http://find.pcworld.com/69991">find.pcworld.com/69991</a> <p>► Storage space is lacking, and the case leaves much to be desired, but you can't argue with the performance—or the price.</p>	★★★★★ GOOD	<ul style="list-style-type: none"> <li>WorldBench 6 score: 119</li> <li>WorldBench 6 rating: Superior</li> <li>Overall design: Fair</li> </ul>	<ul style="list-style-type: none"> <li>2.93GHz Core i3-530</li> <li>4GB RAM; 320GB storage</li> <li>Intel integrated graphics</li> <li>DVD±RW</li> </ul>
<b>5</b>  HP Pavilion p6540f \$780 <b>NEW</b> <a href="http://find.pcworld.com/70892">find.pcworld.com/70892</a> <p>► HP's p6540f is a great PC for the everyday user; if you're looking to upgrade or to play games, however, look elsewhere.</p>	★★★★★ GOOD	<ul style="list-style-type: none"> <li>WorldBench 6 score: 115</li> <li>WorldBench 6 rating: Superior</li> <li>Overall design: Fair</li> </ul>	<ul style="list-style-type: none"> <li>2.8GHz Phenom II 830</li> <li>8GB RAM; 1TB storage</li> <li>ATI Radeon HD 4200</li> <li>DVD±RW</li> </ul>
<b>6</b>  Gateway SX2311-03 \$599 <b>NEW</b> <a href="http://find.pcworld.com/70893">find.pcworld.com/70893</a> <p>► Gateway's miniature desktop simply doesn't have room for anything extra, and its lack of space versus rival systems is troublesome.</p>	★★★★★ GOOD	<ul style="list-style-type: none"> <li>WorldBench 6 score: 108</li> <li>WorldBench 6 rating: Very Good</li> <li>Overall design: Fair</li> </ul>	<ul style="list-style-type: none"> <li>2.8GHz Phenom II X4 820</li> <li>4GB RAM; 1TB storage</li> <li>nVidia GeForce 9200</li> <li>DVD±RW</li> </ul>
<b>7</b>  Acer Veriton X480G \$599 <a href="http://find.pcworld.com/69992">find.pcworld.com/69992</a> <p>► Acer's X480G does a pretty good job of keeping up with the best budget PCs, but tough competition stands between it and top honors.</p>	★★★★★ GOOD	<ul style="list-style-type: none"> <li>WorldBench 6 score: 120</li> <li>WorldBench 6 rating: Superior</li> <li>Overall design: Fair</li> </ul>	<ul style="list-style-type: none"> <li>3.1GHz Core 2 Duo E7600</li> <li>3GB RAM; 640GB storage</li> <li>Intel integrated graphics</li> <li>DVD±RW</li> </ul>
<b>8</b>  HP Pavilion p6330f \$599 <a href="http://find.pcworld.com/69990">find.pcworld.com/69990</a> <p>► The performance is strong and the price is right, but a lack of advanced connectivity options mars this budget desktop.</p>	★★★★★ GOOD	<ul style="list-style-type: none"> <li>WorldBench 6 score: 118</li> <li>WorldBench 6 rating: Superior</li> <li>Overall design: Fair</li> </ul>	<ul style="list-style-type: none"> <li>2.93GHz Core i3-530</li> <li>6GB RAM; 1TB storage</li> <li>Intel integrated graphics</li> <li>DVD±RW</li> </ul>
<b>9</b>  Acer Aspire X3400 \$600 <b>NEW</b> <a href="http://find.pcworld.com/70894">find.pcworld.com/70894</a> <p>► Acer's inexpensive Aspire X3400 makes a strong showing for a reasonable price, and provides a large number of USB ports.</p>	★★★★★ FAIR	<ul style="list-style-type: none"> <li>WorldBench 6 score: 104</li> <li>WorldBench 6 rating: Very Good</li> <li>Overall design: Fair</li> </ul>	<ul style="list-style-type: none"> <li>2.9GHz Athlon II X3 435</li> <li>4GB RAM; 500GB storage</li> <li>nVidia GeForce 9200</li> <li>DVD±RW</li> </ul>
<b>10</b>  eMachines ET1831-07 \$390 <a href="http://find.pcworld.com/69993">find.pcworld.com/69993</a> <p>► Offering capable performance and a stellar price tag, the eMachines ET1831-07 may not top the charts, but it is a great value.</p>	★★★★★ FAIR	<ul style="list-style-type: none"> <li>WorldBench 6 score: 101</li> <li>WorldBench 6 rating: Good</li> <li>Overall design: Fair</li> </ul>	<ul style="list-style-type: none"> <li>2.7GHz Pentium Dual-Core E5400</li> <li>4GB RAM; 750GB storage</li> <li>nVidia GeForce 7050</li> <li>DVD±RW</li> </ul>

CHART NOTES: Ratings are as of 10/4/10.

**MORE ONLINE** Visit [find.pcworld.com/70016](http://find.pcworld.com/70016) to see in-depth reviews, full test results, and detailed specs for all desktops on this chart.



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## Livescribe's Slick Echo Smartpen Adds Features

LIVESCRIBE'S first-gen smartpen, the Pulse, offered an innovative approach to digitizing, organizing, and tying audio to handwritten notes. Now the Echo, the company's second-generation smartpen, has arrived.

This pen packs more memory (4GB for \$170 or 8GB for \$200) and a sleeker, more-ergonomic design than the Pulse. New features include

★★★★★ SUPERIOR

### Echo | Livescribe

The Echo, now with more memory, is an amazing note-taking aid.

List: \$170 (4GB) or \$200 (8GB)

[find.pcworld.com/70895](http://find.pcworld.com/70895)



LIVESCRIBE'S ECHO SMARTPEN ties its audio recordings (of lectures, say) to your handwritten notes.

password protection, the ability to function as a USB-connected input device, and an associated app store.

The Echo can record and play back audio—but instead of requiring you to cycle through your recordings to find a clip, it ties audio to your written notes. By tapping a Record button on a printed page, you start recording as you write. As you scribble notes, the pen

records spoken words linked to what you're writing.

Later, you can tap your written words with the pen to hear the audio recorded at the moment you wrote them. Livescribe includes a standard headphone jack on the Echo (and an embedded speaker) for listening.

The Echo works only on specially designed dot paper. A high-speed infrared camera at the tip of the pen cap-

tures your movements on the paper, which is also the secret for connecting captured audio to written text.

The pen comes packaged with a 50-sheet starter notebook containing perforated, lined dot-paper with various controls printed at the bottom of each sheet. Tapping these controls activates various functions. It makes sense when you actually use it.

—Sarah Jacobsson Purewal



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# Apple's Fourth-Generation iPod Touch

FOR MANY PEOPLE, the iPod Touch is the iPhone without the phone and GPS features. The 4G (fourth-generation) iPod Touch comes in 8GB (\$229), 32GB (\$299), and 64GB (\$399) capacities—and it's more like the iPhone than ever.

This iPod Touch carries a built-in omnidirectional microphone and a high-def rear-facing camera (as well as

a standard-definition front-facing camera). The microphone gives you some hands-free control of the Touch. Press and hold down the *Home* button until the Voice Control screen appears, and then you can tell the iPod whatever you want it to play.

Its combination of microphone and speaker makes this iPod Touch a better device for Skype/VoIP calls. Though the mic is on the back, it's sensitive enough to pick up your voice, and the speaker is sufficiently audible to permit conversation.

Inside, the 4G iPod Touch has Apple's A4 processor—the same kind of chip found

in the iPhone 4 and the iPad. I compared the performance of a new 32GB iPod Touch with that of a 32GB third-generation iPod and noticed very little difference.

With the cameras comes the FaceTime video-calling feature, and it works much as it does on the iPhone 4, but you don't need a phone number to place or receive a video call, only an e-mail address.

The iPod Touch is wildly popular for good reason. It's extremely versatile—a media player; pocket gaming machine; productivity tool; Internet communication device; and in this update,



**THE NEW IPOD Touch comes with more versatility than ever.**

pocket camcorder, still camera, handheld recorder, and FaceTime video phone.

—Christopher Breen

★★★★★ SUPERIOR

iPod Touch | Apple

Compelling, extremely versatile device is *almost* an iPhone.

List: \$229 (8GB) to \$399 (64GB)

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# Top 10 Ultraportable Laptops

Our new number-one ultraportable offers both the least weight and the most power.

MODEL	Rating	Performance	Features and specifications
<b>1</b>  <b>Toshiba Portege R700-S1330</b> <b>\$1599 NEW</b> <a href="http://find.pcworld.com/70871">find.pcworld.com/70871</a>	 <b>SUPERIOR</b>	<ul style="list-style-type: none"> <li>WorldBench 6 score: 128</li> <li>WorldBench 6 rating: Superior</li> <li>Overall design: Superior</li> <li>Tested battery life: 5:58</li> </ul>	<ul style="list-style-type: none"> <li>2.87GHz Intel Core i7 620M</li> <li>13.3-inch widescreen</li> <li>3.0 pounds</li> <li>128GB solid-state drive</li> </ul>
▶ Toshiba delivers a great, lightweight machine that offers superb performance and has only a few annoying flaws.			
<b>2</b>  <b>Alienware M11x (second revision)</b> <b>\$1299 NEW</b> <a href="http://find.pcworld.com/70872">find.pcworld.com/70872</a>	 <b>SUPERIOR</b>	<ul style="list-style-type: none"> <li>WorldBench 6 score: 91</li> <li>WorldBench 6 rating: Very Good</li> <li>Overall design: Superior</li> <li>Tested battery life: 4:56</li> </ul>	<ul style="list-style-type: none"> <li>1.26GHz Intel Core i7 640UM</li> <li>11.6-inch widescreen</li> <li>4.6 pounds</li> <li>500GB hard drive</li> </ul>
▶ A boost to the internal hardware gives the second revision of the M11x substantially stronger performance, but battery life takes a hit.			
<b>3</b>  <b>HP EliteBook 2740p</b> <b>\$1899 NEW</b> <a href="http://find.pcworld.com/70873">find.pcworld.com/70873</a>	 <b>VERY GOOD</b>	<ul style="list-style-type: none"> <li>WorldBench 6 score: 104</li> <li>WorldBench 6 rating: Very Good</li> <li>Overall design: Superior</li> <li>Tested battery life: 3:29</li> </ul>	<ul style="list-style-type: none"> <li>2.53GHz Intel Core i5 540M</li> <li>12.1-inch widescreen</li> <li>3.9 pounds</li> <li>250GB hard drive</li> </ul>
▶ This model's convertible tablet touchscreen and all-around performance make up for its disappointing battery life and display color.			
<b>4</b>  <b>HP EliteBook 2540p</b> <b>\$1829</b> <a href="http://find.pcworld.com/70281">find.pcworld.com/70281</a>	 <b>VERY GOOD</b>	<ul style="list-style-type: none"> <li>WorldBench 6 score: 102</li> <li>WorldBench 6 rating: Very Good</li> <li>Overall design: Very Good</li> <li>Tested battery life: 5:34</li> </ul>	<ul style="list-style-type: none"> <li>2.13GHz Intel Core i7-640LM</li> <li>12.1-inch widescreen</li> <li>4.0 pounds</li> <li>250GB hard drive</li> </ul>
▶ Small enough to travel anywhere, the EliteBook 2540p breezes through business tasks; just don't try to do 3D gaming.			
<b>5</b>  <b>Lenovo ThinkPad Edge</b> <b>\$799</b> <a href="http://find.pcworld.com/69438">find.pcworld.com/69438</a>	 <b>VERY GOOD</b>	<ul style="list-style-type: none"> <li>WorldBench 6 score: 65</li> <li>WorldBench 6 rating: Good</li> <li>Overall design: Very Good</li> <li>Tested battery life: 6:30</li> </ul>	<ul style="list-style-type: none"> <li>1.36GHz Intel Core 2 Duo SU7300</li> <li>13.3-inch widescreen</li> <li>3.9 pounds</li> <li>320GB hard drive</li> </ul>
▶ The ThinkPad Edge refreshes Lenovo's workhorse line, improving the look and feel while still letting you get your work done.			
<b>6</b>  <b>MSI X420</b> <b>\$799 NEW</b> <a href="http://find.pcworld.com/70875">find.pcworld.com/70875</a>	 <b>VERY GOOD</b>	<ul style="list-style-type: none"> <li>WorldBench 6 score: 68</li> <li>WorldBench 6 rating: Good</li> <li>Overall design: Very Good</li> <li>Tested battery life: 6:21</li> </ul>	<ul style="list-style-type: none"> <li>1.36GHz Intel Core 2 Duo SU7300</li> <li>14.0-inch widescreen</li> <li>4.5 pounds</li> <li>500GB hard drive</li> </ul>
▶ The MSI X420 packs a lot into a pretty package. Although it's not quite a gaming notebook, it delivers some great high-def video.			
<b>7</b>  <b>Lenovo IdeaPad U150</b> <b>\$749</b> <a href="http://find.pcworld.com/69829">find.pcworld.com/69829</a>	 <b>VERY GOOD</b>	<ul style="list-style-type: none"> <li>WorldBench 6 score: 66</li> <li>WorldBench 6 rating: Good</li> <li>Overall design: Good</li> <li>Tested battery life: 6:20</li> </ul>	<ul style="list-style-type: none"> <li>1.36GHz Intel Core 2 Duo SU7300</li> <li>11.6-inch widescreen</li> <li>3.2 pounds</li> <li>320GB hard drive</li> </ul>
▶ The IdeaPad U150 is a very nice-looking machine that finished at the dead center in its category on our performance benchmarks.			
<b>8</b>  <b>Acer Ferrari One (F0200-1799)</b> <b>\$599 NEW</b> <a href="http://find.pcworld.com/69439">find.pcworld.com/69439</a>	 <b>VERY GOOD</b>	<ul style="list-style-type: none"> <li>WorldBench 6 score: 51</li> <li>WorldBench 6 rating: Fair</li> <li>Overall design: Very Good</li> <li>Tested battery life: 4:52</li> </ul>	<ul style="list-style-type: none"> <li>1.26GHz AMD Athlon 64 X2</li> <li>11.6-inch widescreen</li> <li>3.2 pounds</li> <li>250GB solid-state drive</li> </ul>
▶ Excellent design and features compensate for lackluster performance in a cool little laptop that's just a bit bigger than a netbook.			
<b>9</b>  <b>Acer TimelineX 1830T-3721</b> <b>\$700 NEW</b> <a href="http://find.pcworld.com/70405">find.pcworld.com/70405</a>	 <b>GOOD</b>	<ul style="list-style-type: none"> <li>WorldBench 6 score: 76</li> <li>WorldBench 6 rating: Good</li> <li>Overall design: Very Good</li> <li>Tested battery life: 6:30</li> </ul>	<ul style="list-style-type: none"> <li>1.26GHz Intel Core i5 430UM</li> <li>11.6-inch widescreen</li> <li>3.0 pounds</li> <li>500GB hard drive</li> </ul>
▶ This TimelineX is an affordable ultraportable that's long on workaday performance but iffy on input ergonomics.			
<b>10</b>  <b>Toshiba Satellite T235-S1345</b> <b>\$600 NEW</b> <a href="http://find.pcworld.com/70876">find.pcworld.com/70876</a>	 <b>GOOD</b>	<ul style="list-style-type: none"> <li>WorldBench 6 score: 66</li> <li>WorldBench 6 rating: Good</li> <li>Overall design: Very Good</li> <li>Tested battery life: 5:17</li> </ul>	<ul style="list-style-type: none"> <li>1.56GHz AMD Turion II K625</li> <li>13.3-inch widescreen</li> <li>3.8 pounds</li> <li>320GB hard drive</li> </ul>
▶ The Satellite T235-S1345 is a good notebook for multimedia watchers on the go; however, it's not suitable for heavy typers.			

CHART NOTES: Ratings are as of 9/27/10. Tested battery life is expressed in hours:minutes.

**MORE ONLINE** Visit [find.pcworld.com/69510](http://find.pcworld.com/69510) to see in-depth reviews, full test results, and detailed specs for each laptop on this chart.



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## Cyberlink Power2Go 7: Bargain Disc-Burning

CYBERLINK POWER2GO 7 Deluxe is an evolutionary iteration of this entry-level, reasonably priced (\$50) disc-burning suite. It works well enough at its tasks, but I did find one notable bug (involving audio importing) and found the embedded marketing plays annoying.

Power2Go packs the ability

to write virtually any type of job (data, video, music) to any kind of disc, including high-capacity Blu-ray Discs, and it can rip and transcode audio. This version adds new features such as the ability to create high-def photo gallery (slideshow) discs, and a stand-alone audio editor.

Also new are the ability to view and even extract files from an ISO disc image; a capability to create 128-bit or 256-bit encrypted discs; and a handy desktop widget for easy access to the suite.

DVD authoring has been improved to the point where



**POWER2GO ISN'T THE most powerful disc-burning suite and has its annoyances, but it's reasonably priced and handles many formats.**

most users won't need to get a more expensive option.

Though all of Power2Go's older features are mature and well-rounded, I was disappointed in the new photo gallery app. It provides just one menu style, only one slide transition, and no templates. Worse, CyberLink

watermarks every slideshow with its logo (a forthcoming update may change this).

Power2Go 7 works well and is much cheaper than the similar Roxio or Nero suites, albeit less powerful, too, and with fewer options. But it may suit your needs just fine.

—Jon L. Jacobi

★★★★★ GOOD

**Power2Go 7 | CyberLink**

Entry-level disc-burning suite is nicely priced and does the job.

List: \$50

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## Ceton InfiniTV 4 Makes Your PC a Media-Center DVR

THE \$399 INFINITV 4 is a PCI card that accommodates a single CableCard from your cable-TV provider. Once installed, it bestows four digital tuners that can show or record high-definition and

premium channels. The card works—and it is awesome.

For testing, I popped an InfiniTV 4 into an HP Pavilion Slimline s5360f desktop. The card requires Windows 7 (any version but Basic), an open PCIe expansion slot, and a video card with an HDMI-out port, as well as a multistream CableCard.

Some cable companies

may insist on sending an installer to help with setup.

The only tricky part of the setup—most of which happens inside WMC (Windows Media Center)—is “pairing” the CableCard with your cable account. That means getting on the phone with customer service and reading a bunch of numbers from a WMC setup page.

Once that was done, my PC was, in a matter of minutes, pulling down HBO, The Discovery Channel, Comedy Central, and other digital HD channels.

But could it really record four shows at once while letting me watch a fifth, pre-

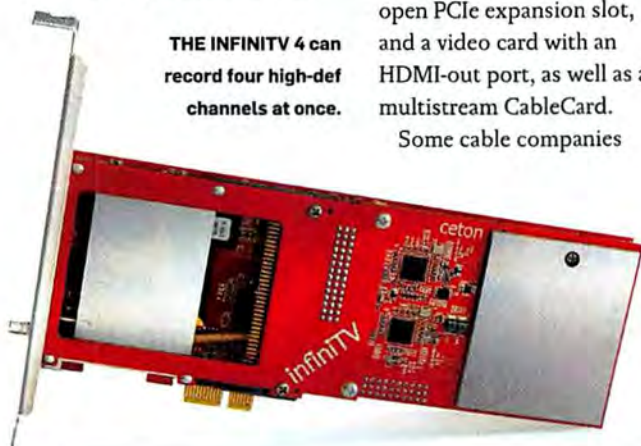
recorded show? On my Pavilion, a reasonably powerful quad-core system, yes. I noticed no hiccups.

Because of the one-way nature of current CableCards, the InfiniTV 4 can't access pay-per-view or on-demand programming.

The InfiniTV 4 isn't cheap, but it turns nearly any PC into the ultimate DVR.

—Rick Broida

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★★★★★ SUPERIOR

InfiniTV 4 | Ceton

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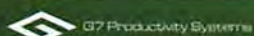
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## Reviews

### The Rover Puck: A 4G Hotspot, Sans Contract

CLEARWIRE IS OFFERING a \$150 pay-as-you-go mobile hotspot called the Rover Puck as an alternative route to its 4G service. Aimed at consumers who don't want a service contract, it lets you become a walking hotspot, sharing 4G Internet access with up to seven friends.

The catch is that you can use it only in Clearwire's WiMax service areas. Also, the Puck doesn't support 3G—and though Clear is ambitiously expanding its WiMax service, that service still doesn't reach some places. But as long as you stick to WiMax turf, the Puck is a good and economical option.

The pay-per-use option for the Puck costs \$5 for a day, \$20 for a week, or \$50 for a month of 4G service.

The Puck seems sturdy—I dropped it (accidentally) a couple times, and it didn't even scuff; plus, it fits easily into a backpack or purse.

The device measures 4.25 inches in diameter and is about 0.75 inch high (with "feet" to permit a little air flow under the disk). The two buttons at 10 o'clock and 2 o'clock are small but serviceable. One button

powers on the device; the other displays the bars of connectivity (up to four).

In my tests, the Puck provided nonstop access for about 4 hours on its battery for two users who were doing ordinary Internet connectivity tasks; you can plug it in if an AC outlet is handy.

The Puck's connectivity and throughput are as good as the 4G signal strength in your location. In one Clear-



**THE ROVER PUCK** lets you share 4G Internet access.

wire service area, I found download speed to be about 5.6 megabits per second.

My main complaint about the Puck is that it works only with WiMax; enabling the device to connect to 3G service when 4G isn't available would have been welcome, but, unfortunately, devices that support both types of service typically cost more.

The bottom line is that the Puck's technology works as long as your 4G does.

—Peggy Watt

★★★★★ VERY GOOD

**Rover Puck** | Clearwire

Reliable 4G mobile hotspot comes with pay-as-you-go data service.

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## A Gift for Travelers: Novatel/Virgin Mobile's MiFi 2200

FOR TRAVELERS who juggle several connected devices while on the road, Novatel's MiFi 2200 mobile hotspot may be just the ticket. The MiFi connects to Sprint's 3G EvDO network and then creates a mobile bubble of Wi-Fi that can connect up to five devices at once. Best of all, you can obtain the unit with a prepaid, no-contract data plan from Virgin Mobile.

★★★★★ SUPERIOR

MiFi 2200 | Novatel

Easy-to-use mobile hotspot comes with reasonable prepaid data plans.

List: \$150

[find.pcworld.com/70905](http://find.pcworld.com/70905)

Most hotel and airport connections for Wi-Fi are extremely overpriced, highly undependable, or both. The MiFi 2200 offers a reliable alternative.

Virgin Mobile provides two Broadband2Go prepaid data plans. You can pay \$40 per month for unlimited data, or \$10 for ten days of data service capped at 100MB. The price of the MiFi 2200 itself is \$150 from Virgin Mobile.

Setting up the MiFi took about 5 minutes. A "quick start" guide is the only user



**THE MIFI 2200 can connect five devices on Sprint's 3G service.**

manual you'll find in the box, but that's all you need.

In San Francisco, I repeatedly saw download speeds of more than 1 mbps when connecting with my laptop. Smaller devices (with lower

processor speeds and different radios) had slower download rates.

The MiFi is half the size and weight of an iPhone. Its battery lasts about 4 hours without a charge (less with more devices con-

nected). You can recharge the battery via microUSB cable from either a laptop or an iPad or iPhone charger.

A MiFi may cost less than a mobile hotspot plan from a wireless carrier—with no hotel Internet charges. And that's a deal hard to resist.

—Ken Biba

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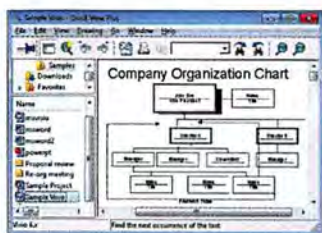


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## A Tool to View Nearly Any File

QUICK VIEW PLUS 11 Standard is a great file-viewing utility for business users. It provides easy viewing—without your having to open the originating program—of hundreds of file types, from word processing documents, databases, and spreadsheets to compressed file archives produced by myriad applications, new and old.

Quick View Plus integrates handily into the Vista and Windows 7 operating environments, so you can use its file-viewing abilities within Explorer windows. It also integrates with Outlook to render attached files in that program's preview pane. And you can copy information from the documents it allows you to view for pasting into other documents.

One limitation remains: Quick View still doesn't handle multimedia files.

But this is otherwise an exceedingly useful tool.

—Jon L. Jacob

★★★★★ VERY GOOD

**Quick View Plus 11 Standard**  
Avantstar

This is one of the handiest file-viewing utilities around.

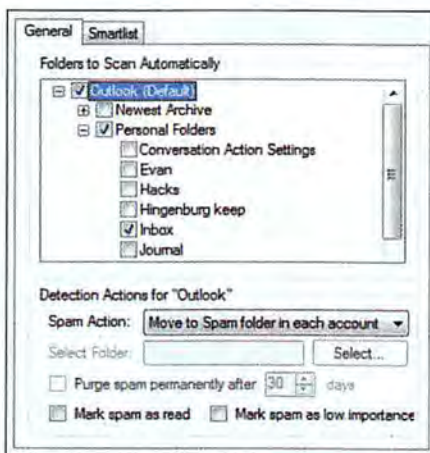
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### Cloudmark DesktopOne

Tired of getting e-mail from Nigerian strangers offering to help you claim several million dollars? Try Cloudmark's DesktopOne, which does an excellent job of killing spam before you ever read it. Even if you have a spam filter on your e-mail software, you'll find it useful. It checks incoming e-mail, determines whether it's spam, and automatically routes suspect messages to a spam folder. I found that DesktopOne did a better job of handling spam than did Outlook's own spam filter. [find.pcworld.com/70901](http://find.pcworld.com/70901)

—Preston Gralla



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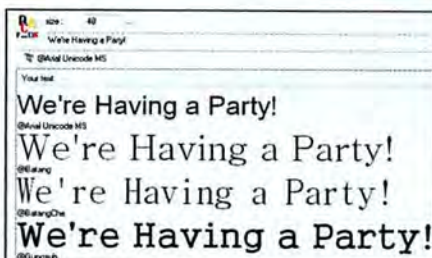
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—Sally Wiener Grotta and Daniel Grotta

### FontViewOK

Choosing a font can be more time-consuming than necessary, since most apps don't let you view fonts side-by-side. To compare your options, you must manually make the change—and then remember what your previous options looked like, and what those fonts were called. A font manager such as FontViewOK can make this process a whole lot simpler. This free app lets you view and compare your text in various fonts, side-by-side, so you can see which one best fits your needs. [find.pcworld.com/70903](http://find.pcworld.com/70903)

—Liane Cassavoy



**FOR BETTER, FASTER font selection, compare text in several fonts at once with FontViewOK.**



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*By* CHRISTOPHER NULL  
ILLUSTRATION BY ANDREW DEGRAFF





A.

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Efficiency



# With an ever-growing

number of distractions that are fighting for your attention throughout the day, it's more important than ever to be as productive as possible when you're actually on the job. With that in mind, we've dug up the best Windows tricks in our arsenal and talked to some of the best minds in productivity to find 55 tips sure to help you get more work done with your PC in less time. (*Please note:* These tips apply primarily to Windows 7.) **Let's get down to it.**

**Minimize all windows (except the one that you're working on).** When your desktop becomes so cluttered that you can't find anything, this step is a good way to regain focus. Grab the title bar of the window you want, and shake your mouse a little. All other windows will vanish into the taskbar. Repeat to undo and restore all of your hidden windows.

**Use folders in your e-mail client.** Letting your e-mail accumulate in a monolithic inbox makes it nearly impossible for you to find important messages without a laborious hunt, as well as greatly increasing the odds that you'll forget or simply overlook e-mail that requires urgent attention. Delete the junk, and file nonactionable e-mail messages into clearly defined folders. Getting into the

habit of sorting incoming mail in this way is critical for most users looking to enhance their productivity.

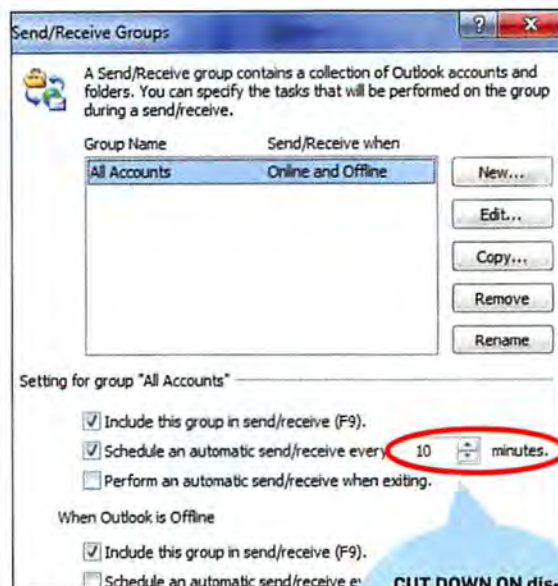
**Be judicious with e-mail folders.** An e-mail folder should not be so narrow of purpose that it's never used, but neither should it be so broad that it becomes overstuffed with messages, unless you use that folder strictly for archiving and don't need to refer to its contents regularly. Use a descriptive name for each folder and keep it short enough that it doesn't require scrolling within the Mail Folders pane. Remember that folders can usually be nested, too.

**Use rules to route messages automatically.** When your personal involvement isn't

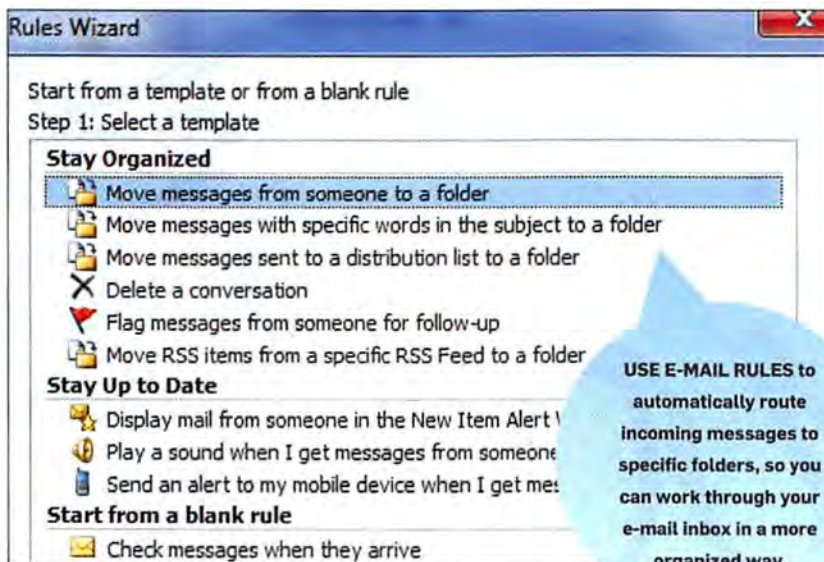
necessary, e-mail rules can save lots of time. For example, do corporate newsletters from the same address arrive ten times a day? Stuff them into a folder for "later review." In Outlook, look for a simple rules wizard that walks you through creating your rules; to find it, select **Tools > Rules and Alerts**. Most other e-mail clients have a similar option for establishing automated rules.

**Remap the Windows key.** Don't ever use the Windows key? Or dislike where it's located and want to swap it with <Alt> or <Ctrl>? Download a keyboard remapper. Many cheap or free apps for this purpose are readily available, but Keyboard Remapper ([find.pcworld.com/70883](http://find.pcworld.com/70883); \$10) works well. Remap to your heart's content, but keep in mind that there's no way to change or disable a laptop's <Fn> key, since it bypasses Windows. (You can also check your computer's BIOS for any potential tweakability.)

**Customize your browser's default search engine.** Your PC builder has likely preset Internet Explorer's default search engine to the one that's paying it the most. Otherwise,



**CUT DOWN ON distractions by limiting the frequency with which your e-mail client checks for new messages.**



**USE E-MAIL RULES to automatically route incoming messages to specific folders, so you can work through your e-mail inbox in a more organized way.**



it'll be set to Microsoft's liking: Bing. Change this setting by clicking the drop-down arrow in the top right corner of the IE window (within the search box), and click *Find More Providers*. You won't find Google without a hunt, so type **Google** into the 'Find add-ons...' search box, and select the first result, *Google Search Suggestions*. Click *Add to Internet Explorer*, and at the pop-up, click *Make this my default search provider*.

**Improve Windows Search.** If Windows Search isn't finding everything that you know you've saved, check the Windows Indexing Options (type **indexing options** into the Windows 7 Start Menu search bar), and then check the locations that are included in the search index. Click *Modify*, and navigate through the C: drive to add more locations to index.

**Rename files fast.** Renaming lots of files in Windows Explorer? Select the first file in your list, press <F2>, and type the new name. When finished, press <Tab> instead of <Enter>. Explorer will jump you to the next file in the list and automatically select the entire file name so you can rename it without having to press the <Backspace> key. Continue pressing <Tab>, and you'll zip through the list one file at a time.

**Drag in Outlook.** In Outlook, you can drag any item to any other area of the program, and it will create a new item there, with the dragged information as part of the new item or event. Drag an e-mail to the Contacts button, and it will create a new contact for the sender, automatically populating the Name and E-mail fields, and putting the body of the message in the Notes field. Drag a contact to the Calendar, and you'll create a Meeting Invitation ready to be sent to that person, and so on.

## Pro DAVID ALLEN

Tips from productivity expert David Allen, author of *Making It All Work*, now in paperback. Find more advice at [www.davidco.com](http://www.davidco.com).



## TIPS

- 1 Allen is a Lotus Notes enthusiast, through and through, but he enhances the spartan Notes interface with the eProductivity add-on, which adds next-generation features to the software. One of these features, for example, enables the user to drag an e-mail message to a "call" button in order to place an immediate phone call to the person who sent the message. [eproductivity.com](http://eproductivity.com)
- 2 Allen syncs his Notes database with his BlackBerry, which he considers the best handheld for agenda mavens.
- 3 Though Notes is a great application for day-to-day activities, Allen uses Mindjet's MindManager to keep tabs on long-term projects and brainstorming notes. He refers to it as "kind of a weekly review of what's going on... the big things coming toward me that I need to keep at top of mind." [mindjet.com](http://mindjet.com)
- 4 Keyboard shortcuts are critical for helping a busy person get through a queue of tasks quickly. Allen employs ActiveWords to create simple macros, to open frequently used documents, and even to insert the current date on command into any document or application. [activewords.com](http://activewords.com)
- 5 The professional and business versions of Pamela for Skype—a call management tool—make it easy to record VoIP phone calls of any length. [pamela.biz/en](http://pamela.biz/en)

**Don't constantly check your e-mail.** Frequent checking breaks your concentration and interrupts what you're doing, wasting time as you return your focus to the task at hand. Reduce how often your e-mail client checks for new messages to something less distracting: Every 10 or 15 minutes should give you time enough to focus without keeping people waiting overly long for a response. In Outlook, click <Ctrl>--<Alt>--S and tweak the digits for 'Schedule an automatic send/receive every \_\_\_ minutes'.

**Make important e-mail more findable.** Just change the subject lines. Few things are more annoying than receiving an important e-mail message that carries a clueless subject like "hey" (or worse, an empty subject line). A more meaningful subject line improves your search index and makes your e-mail thread more valuable in general. In Outlook, open the message (this tactic doesn't work with just a preview), select the subject line, and type over it with the more-useful text you want. >>



**Select multiple files easily.** Using the <Ctrl> or <Shift> keys to

select multiple files in Windows Explorer can be difficult and an invitation to commit errors. If, however, you frequently need to open or manipulate multiple files at once, turn on Windows' check-box system—it lets you select files more easily. In Windows Explorer, you can find this setting under *Organize*•*Folder and search options*•*View*. Scroll down and select *Use check boxes to select items*; then click OK.

**Use Outlook's categorization system.**

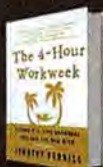
Outlook lets you color-code messages, task-list items, calendar entries, and even contacts into as many as six categories. Figure out a system and stick to it: red for business, for example, and blue for personal items. Or color-code items by level of urgency: green for "must do today," blue for "to do this week," and yellow for "to do this month."

**Power up the 'Send To' feature.** When right-clicking a file in Windows Explorer, hold down <Shift> before you click, and then select the *Send To* command. Windows will reveal a whole host of additional options, such as one to move the file to an often-used folder.

**Use Outlook's Search Folders.** Though it has somewhat less utility now that PC indexing and document search are commonplace, the Search Folders feature in Outlook still has a function. Essentially, these folders store copies of messages on the basis of predefined rules that you set—such as messages that have a keyword in the subject line or that are sent to or from a certain contact—and the folders update themselves as new messages arrive. If you need to constantly refer to a topic or to a particular person's messages (such as those from your boss or a key client),

## Pro TIM FERRISS

Tips from Tim Ferriss, author of *The 4-Hour Workweek*. Go to [www.fourhourworkweek.com/blog](http://www.fourhourworkweek.com/blog) for his blog.



## TIPS

**1** In Ferriss's words, "Self-discipline is overrated. Technology tools will help you focus and be productive where you yourself fail." Still, Ferriss is a "tool minimalist" who uses only a few applications every day to manage his workload, primarily focusing on e-mail and social media.

**2** Ferriss says the trick with e-mail is to have data about who's messaging you so you don't waste time researching them to figure out if they're worth responding to. So Ferriss uses Rapportive, a Firefox plug-in that replaces the ads in Gmail with detailed, Web-sourced information about the sender of each message in your inbox. "I get a 15 to 20 percent time savings from this one plug-in alone," he says. [rapportive.com](http://rapportive.com)

**3** To force himself to focus on the tasks at hand, Ferriss uses RescueTime, a Web-based tool that lets the user shut off access to certain Websites—Facebook and Twitter, for example—after a set amount of use. "It's easier to use tools like this than to rely on discipline," he explains. [rescuetime.com](http://rescuetime.com)

**4** Ferriss has gone virtually paperless through the use of Evernote, a free downloadable app that lets him clip to the cloud Web pages, photos, business cards, and even printed matter, which he scans into the system with a portable scanner that he takes with him just about everywhere. Evernote has enabled Ferriss to remove 90 percent of the paper in his house, he says, and since it's searchable, he no longer has to rely on folders and data management. [evernote.com](http://evernote.com)

**5** Ferriss's one piece of advice for improving self-discipline: Spend the first two hours of every workday working on outstanding projects, *before* you check your e-mail.

but organizing them individually into folders doesn't work for you, Search Folders can be a great time-saver. You can set one up under *New*•*Search Folder*:

**Alter Windows Explorer's 'Favorites'.**


Drag folders to the top left of the screen from within Explorer and then organize them however you like. Right-click and select *Remove* to get rid of anything you don't want. (For more on folders in Explorer, see [find.pcworld.com/70931](http://find.pcworld.com/70931).)

**Install a good spam filter.** If your e-mail client doesn't already have one, you can find many spam filters in PCWorld.com's Downloads library ([find.pcworld.com/70884](http://find.pcworld.com/70884)).

**Use the Windows 7 Calculator.** You don't need to hunt for a special Website or a pocket gadget to do complicated math. The Calculator utility in Windows 7 is far more powerful than it appears at first glance. Click the *View* button to pull up Scientific, Programmer, and >>



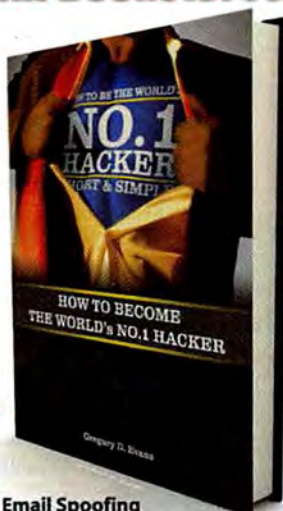
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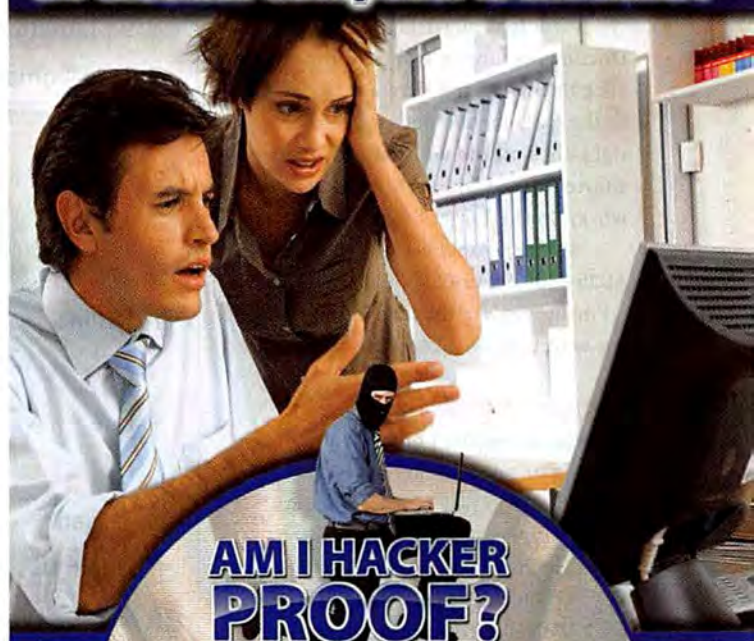


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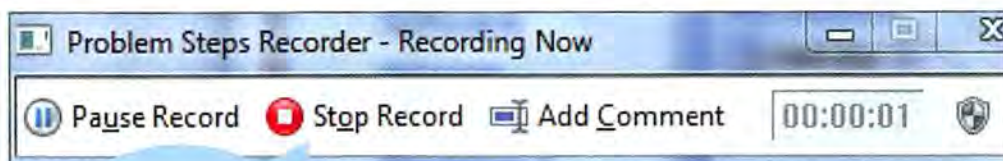
**Ratchet down User Account Control's intrusiveness.** This is an instant way to save time. In the 'User Accounts and Family Safety' control panel, first click *User Accounts*, followed by *Change User Account Control settings*. If you're paranoid (and a power user), you can probably safely turn UAC down either to *Never notify me*, or to the option that's one notch above that, *Notify me only when programs try to make changes to my computer (do not dim my desktop)*.

**Turn your iPad into a second monitor.** All it takes is Air Display ([find.pcworld.com/70885](http://find.pcworld.com/70885)), a utility now available for the PC. It's \$10 from the iTunes Store.

**Default to the Documents Library.** In Windows 7, when you launch Windows Explorer, the view automatically defaults to the Libraries Folder, which for many users is not very useful. Busy types will typically drill straight to the Documents Library from there. Save a click by instructing Explorer to default to the Documents Library. To do this, right-click on the Windows Explorer shortcut (the taskbar shortcut won't work). In the Target field, type or paste: %windir%\explorer.exe ::{450D8FBA-AD25-11D0-98A8-0800361B1103}

Finally, replace the icon in the taskbar with your tweaked shortcut.

**Liberally use Windows 7's Jump Lists.** You can access the Jump Lists by right-clicking on any icon in the taskbar. You'll find recently used documents, along with certain app-specific functions (such as setting your IM client to 'Away'). One little time-saver: You can pin a Web URL to your browser's Jump



**SHORTEN YOUR TECH support calls by using Windows' Problem Steps Recorder to capture each step of a PC problem as it happens.**

List by dragging that URL to the browser icon in the taskbar (do this by clicking on the mini icon in the URL bar).

**Use Outlook 2010's Conversations view.** This view can make your inbox much more manageable by compressing related messages into groups and showing only the most recent message in the thread—similar to the way that Gmail works. To give this view a try, click the *Arrange By* tab in the message list pane and then select *Conversation*. Outlook will display only the most recent message in a thread. Use the spinner next to each headline to see previous messages in the thread.

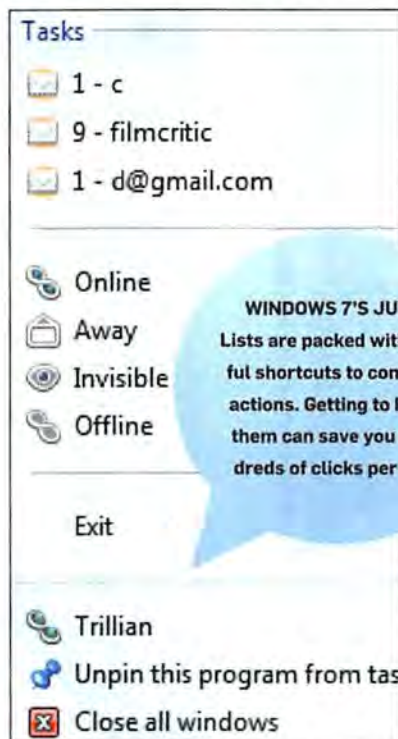
**Use Outlook's Clean Up button.** Is your inbox still out of control? In Outlook

2010, click the *Clean Up* button (it's in the ribbon), and Outlook will sweep the inbox's redundant messages into the trash for you with a single click.

**Use Windows' Problem Steps Recorder.** Tech support calls are a pain. If you're having computer problems, don't get stuck on an endless phone call trying to explain the difficulty. Run Windows' Problem Steps Recorder to save a step-by-step history of what you're doing so you can share it with a friend or tech support pro. Type **PSR** in the Start menu search box to find and run the recorder. Then go through the steps that lead to your problem; PSR will record a screenshot of each step, logging everything you type and click. When you're finished, click the *Stop* button and save the file. E-mail the archive to someone who's better informed for a solution. (Note: This resource can also be used to make quick-and-dirty tutorials.)

**Give yourself more screen real estate.** You can shrink Windows 7's oversize taskbar icons by right-clicking the taskbar, choosing *Properties*, and selecting *Use small icons*. This option shrinks the size of the taskbar by half, giving you a few extra millimeters of vertical screen space.

**Turn off Aero Snap.** By now you certainly know that in Windows 7, dragging a window to the side of the screen will autoresize it to fill exactly half of your available space, and dragging it to the top will cause it to fill the entire display. This is great for some people; but if you don't like Aero Snap, you're stuck with having to undo the resizing, often dozens of times per day. You can turn off this behavior with a Registry hack: Run *Regedit*, and >>



**WINDOWS 7'S JUMP Lists are packed with useful shortcuts to common actions. Getting to know them can save you hundreds of clicks per day.**



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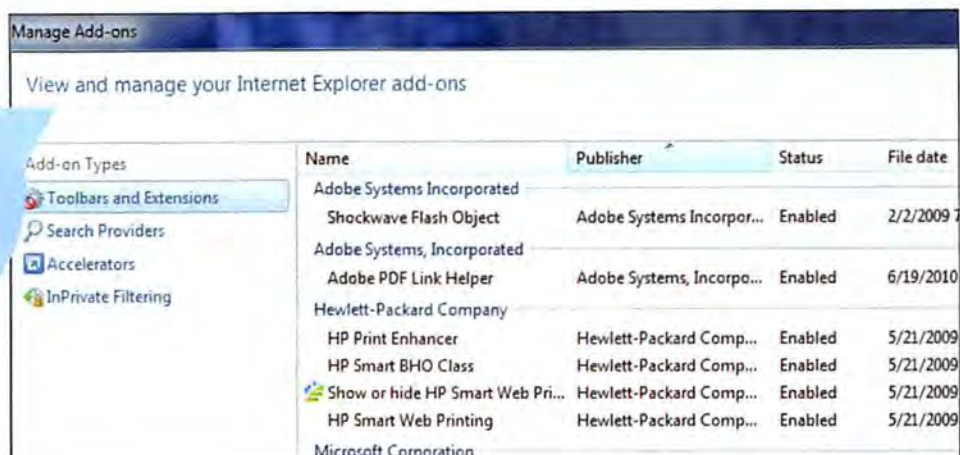
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**USE THE MANAGE Add-ons menu in Internet Explorer to eliminate browser plug-ins that are slowing down your launch times.**



then browse to `HKEY_CURRENT_USER\Control Panel\Desktop`; there, set `WindowArrangementActive` to 0. After completing this step, you'll have to reboot.

**Snap windows faster.** But what if you like Aero Snap? Here is a faster way to snap windows right or left by using keyboard shortcuts instead of the mouse. `<Windows Key><Left Arrow>` snaps left, and `<Windows Key><Right Arrow>` snaps right. While we're at it, `<Windows Key><Up Arrow>` will maximize your window, while `<Windows Key><Down Arrow>` will minimize it. (Note, however, that if you have done the Registry hack described in the preceding tip to turn off Aero Snap, that hack will have disabled these particular shortcuts, too.)

**Lowercase all-caps text in a trice.** In Microsoft Office apps, convert the text to lowercase by selecting it and pressing `<Shift><F3>`. Press `<Shift><F3>` a second time to convert the text to title case (Which Looks Like This).

**Customize your system tray.** Windows 7 helpfully decreases the amount of space dedicated to the Notification Area by putting all but the most essential notifications within a drop-down (or, in this case, drop-up) box. It looks nice, but you can burn lots of time with wasted clicks as you hunt for what you need. If you want regular, click-free

access to some of these notifications, change the default layout. It's easy to do. Just open the tray's spillover window and drag the icons you want to the taskbar area. You can rearrange icons within the added window, too.

**Pin almost anything to the taskbar.** There is practically no limit to the things you can pin to the taskbar: often-used folders, the Control Panel, even a button to shut down your PC. (For the last option, find `shutdown.exe` in the `System/Windows32` directory, create a shortcut to it, and then append this text to the target in Properties: `/s /f /t 00`).

**Make Internet Explorer load faster.** When IE loads very slowly for no clear reason, it's usually due to an add-on clogging the pipes. Fortunately, one of IE's best features is that it allows you to see how long each add-on is taking to load. You can find this under `Tools>Manage Add-ons`. Check the 'Load time' column to see what has been weighing you down.

**Work around a Jump List limitation.** Jump Lists are great, but Windows 7 no longer offers a way for you to open a new instance of an application—a new Word document or a new browser window, for example—by right-clicking on the application's icon in the taskbar. Instead of resorting to the File menu, hold down `<Shift>` and then left-click normally on the taskbar icon to open a new instance of the application, leaving your other open windows in place.



**HATE STARING AT splash screens while your programs load? Use GNAg to kill splash screens and other annoying pop-ups.**

**Get a quick peek at the desktop.** Simply click `<Windows Key><Spacebar>` to hide all open windows. Keep the `<Windows Key>` held down, and then release that key to return to your former environment with all its open windows in place. >>





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### Save downloads to a different directory.

The Windows 7 Downloads directory sounds convenient, but since few users ever go browsing there, downloaded files may be forgotten for days. Most browsers will default to downloading into this directory. Firefox and Chrome users can change this relatively easily, though, to something more convenient. In Firefox, click *Tools•Options*. Under the General tab, change the 'Save files to' setting to the directory of your choice. In Google Chrome, click the *Tools* icon (it looks like a wrench), then *Options*. Click the *Minor Tweaks* tab and change the 'Download location' setting there. IE users unfortunately have to hack the Registry to make this change (a step that only power users should consider taking).

**Zoom faster.** In Windows 7 and Vista, **<Ctrl><Mouse Wheel>** lets you zoom in and out in most applications. In Windows Explorer, this combo makes icons and thumbnails larger or smaller. In Web browsers and most graphics programs, it changes the font size or the zoom level up and down.

**Control your postvacation time.** Never schedule anything for the day after you come back from a long trip or vacation, since you'll need this day to catch up on everything you've missed while you were out. If you use a shared calendar system, book the entire day of your return with "meetings" before you leave.

**Save time with VoIP.** You can save significant time—and possibly money, too—by using a VoIP system that allows you to click phone numbers in Web pages and in e-mail messages and dial them directly via your PC. Skype ([skype.com](http://skype.com)) offers such an option, which works broadly in e-mail and on most Websites, and Google recently integrated its own VoIP offering, Google Voice,

into Gmail ([gmail.com](http://gmail.com)). In addition, Google Voice saves call histories as they take place, integrating them into the Gmail contact management system.

**Get rid of splash screens and daily nag pop-ups.** Splash screens do nothing for productivity. GNag ([gnag.sourceforge.net](http://gnag.sourceforge.net)) will get rid of many of them for you with a simple install. The application



*Pro*

## ADAM PASH

Tips from Adam Pash, editor-in-chief of the insanely useful [Lifehacker.com](http://Lifehacker.com).

## TIPS

1 Pash's approach to computing is to "do everything in as few key-

strokes as possible, or have your computer do them automatically for you." One tool he uses is Launchy, which lets you type the first few letters of an application's name to launch it. While Windows 7's integrated search features make Launchy somewhat less critical, it's still a useful application. [launchy.net](http://launchy.net)

2 Pash himself developed Belvedere, an automated file manager for Windows that lets you apply rules to folders and take action on them as certain criteria are met. For example, you can specify that folders that go untouched for extended periods of time be deleted, or that files with a .jpg extension be automatically routed to a pictures folder. [find.pcworld.com/70910](http://find.pcworld.com/70910) (download)

3 Dropbox is invaluable not just for backing up a PC but for syncing its data with multiple computers, which is key if you use more than one PC. It also works with the iPhone, the iPad, and Android devices. [dropbox.com](http://dropbox.com)

4 Simplenote is a plain-text note-taking system that, like Dropbox, can sync among multiple desktops, the Web, and an iPhone. This no-frills alternative to Evernote ensures that notes never get lost. [simplenoteapp.com](http://simplenoteapp.com)

Instapaper is a similar tool that simplifies Web pages and lets users read them later. [instapaper.com](http://instapaper.com)

5 Finally, Pash says that Gmail's new Priority Inbox feature is a "pretty good attempt at helping you deal with the glut of things that arrive in your Gmail inbox that you're faced with every day."

focuses on eliminating the vanity videos that play when you launch many video games, but it also suppresses, for example, the annoying pop-up message that you get daily with the free version of the popular Avira AntiVir Personal Edition Classic antivirus software.

**Don't get involved with FarmVille.** This advice is obvious but crucial. ●





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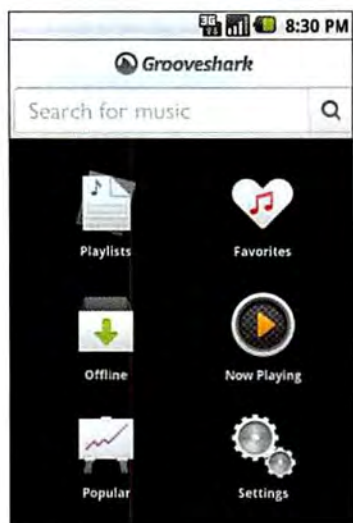
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#91 3M MPro120

#5 Samsung Galaxy Tab



#85 Grooveshark for Android



#58 ATI Radeon HD 5870



#92 B&W P5 Mobile Hi-Fi Headphones



#15 HTC HD7



#25 Motorola Droid X

#6 Sony Alpha NEX-5



#56 Lookout Mobile Security

#11 Samsung UN55C8000





# The 100 Best Products *of* 2010

PCWorld's exclusive ranking of the most innovative, useful, and influential tech of the year. »

BY PCWORLD'S EDITORS





# 1 ANDROID

**Google Android 2.2** (*smartphone operating system; included with phone*) **Mobility** led the tech industry in innovation in 2010, and amid a flourishing array of great mobile products,

we found one consistent standout this year: Google Android. Expected to eclipse Apple's iOS in market share by year's end, Android brings powerful apps, a slick interface, and extreme customizability to a host of phones and tablets available across a multitude of carriers. This range of options with Android is the one thing that the iPhone can't promise. Add to that mix a flexible browser with Flash 10.1 support, OS-wide voice control and dictation features, and a rapidly expanding app ecosystem, and Android 2.2 (also known as "Froyo") is the OS to beat in the burgeoning mobile age.

**2 Apple iPad** (*tablet; starts at \$499*) We're in the midst of a revolution that's putting slates at the forefront, and the iPad deserves full credit for launching it. After years of false starts for tablets, Apple's 9.7-inch bucked the trend with a svelte look, a robust yet simple touch interface, and a phenomenal app collection.

**3 Amazon Kindle, third-generation** (*e-reader; \$139*) Amazon rewrote the rules for e-readers with its



third-gen Kindle. The Wi-Fi-only version delivers convenient e-book shopping along with a stellar E-Ink Pearl screen and a streamlined, lightweight design.

**4 Netflix** (*streaming video service, video-by-mail plan; starts at \$9, Watch Instantly free with monthly plan*) Netflix came on strong this year with Watch Instantly. Aside from the popularity of the service on desktop PCs, the Watch Instantly app made a splashy debut on other devices such as the iPad, iPhone, and iPod Touch.

**5 Samsung Galaxy Tab** (*tablet; price to be determined*) This sleek little slate is the best Android tablet we've seen. It brings polished software and design finesse to a fun, multipurpose touchscreen device. It's the iPad for the rest of us.

**6 Sony Alpha NEX-5** (*digital camera; \$650*) This compact interchangeable-lens camera is the finest we've tested, thanks to excellent image and video quality, modes that make capturing panoramic and low-light images a breeze, and (with a firmware update) the ability to shoot 3D images.

**7 HP Envy 14 Beats Edition** (*laptop; starts at \$1149*) The Envy 14 is one of the slickest all-purpose laptops of the year. The Beats Edition turns it up to 11 with a black finish, red backlighting, dark chrome accents, and a pair of Beats headphones.

**8 Samsung Epic 4G** (*smartphone; \$249 with Sprint contract*) Of all the Android phones that launched this year, the Epic 4G is tops. The nicely designed physical keyboard, paired with 4G-network goodness and a front-facing camera, makes it hard to beat. Additionally, the gorgeous display and Samsung's MediaHub make it the ultimate entertainment smartphone.



**9 Instapaper** (*mobile app; free*) Available for many platforms, Instapaper pulls





the words and images from a site and sends them to a mobile device for reading on the go. With its browser plug-in, you simply click 'Read Later' on an article to put the cleaned-up version on your phone or tablet.

**10 Microsoft Security Essentials** (*antivirus software; free*) When a product is this solid, it redefines the category. This tool offers malware detection in an easy-to-use package with a well-designed interface—and it doesn't nag unnecessarily.

**11 Samsung UN55C8000** (*LCD HDTV; \$2900*) This LED-backlit, 55-inch TV set has lots of features and great image quality. It's less than an inch thick, too.

**12**

**HP TouchSmart 600 Quad** (*desktop; \$1699*)

HP's latest TouchSmart all-in-one PC packs a punch, offering great performance and a vibrant 23-inch multitouch display. It won't replace your TV, but its connectivity options make it just as useful when you hook it up to your cable box or your game console.



**13 Apple iPhone 4**

(*smartphone; starts at \$149 with AT&T contract*) Despite initial con-

cerns, the latest iPhone is a stylish, attractive ground-breaker. This phone screams design elegance and has the software and gorgeous display to match, as well as the richness of the Apple App Store at its command.

**14 Google Chrome** (*Web browser; free*) The top

pick in our tests is fast and well designed, has a clean and functional interface, supports plenty of add-ons, and provides strong security features. Chrome also offers

extensive customization options for power users.

**15 HTC HD7** (*smartphone; \$200 with T-Mobile*

*contract*) It's too early to determine the success of Microsoft's just-launched Windows Phone 7 OS, but the HTC HD7, which uses it, is one impressive handset with its 4.3-inch WVGA display, kickstand, and 16GB of memory. Throw in Netflix streaming, Xbox Live, and the Zune player, and you have a fantastic entertainment phone.

**16 Crucial RealSSD C300** (*solid-state drive; \$600*)

This is the first SSD we've tested to support 6-gigabits-



per-second SATA, which enables faster write speeds because it can push more data through the pipe. This 256GB drive delivered top-flight overall performance and the best write times.

**17 Blizzard Entertainment StarCraft II**

(*game; \$60*) Twelve years in the making, the highly anticipated sequel to the 1998 real-time strategy gaming classic does not disappoint.

**18 Panasonic Lumix DMC-LX5** (*digital camera; \$500*) The DMC-LX5

shines once you take it out of Auto mode and put it in Manual, offering instantaneous autofocus, great video quality, a macro mode that lets you practically touch the lens to your subject, a

## Find More Online

Looking for additional information on the 100 products, apps, and services we selected as the best of the year? Point your browser to [find.pcworld.com/70937](http://find.pcworld.com/70937) to see links to reviews and news coverage, as well as to post your comments.

bright f/2.0 aperture lens, and good low-light shooting.

**19 Microsoft Office 2010** (*office suite; starts at \$280*) After years of ceding

the online productivity world to Google Docs, Microsoft finally builds Web apps into the latest Office suite. Word, Excel, and PowerPoint all have new features for collaborating online. In addition, Power-



Point gains built-in video editing and playback, smooth new transitions, and a tool for broadcasting slideshows across the Web.

**20 Samsung LN46C650** (*LCD HDTV; \$1100*) The LN46C650, an

inexpensive set that lacks the LED backlighting and 240Hz refresh rates of rival models, nonetheless clobbers them in image quality. It's a better TV, yet it costs about \$2000 less than its nearest competitors. »



# 21

**Apple TV** (media streamer; \$99) Want to stream your iTunes library—including your home movies and iPhoto pictures—to your TV? This device handles all of that and streams Netflix, too, with typical Apple flair.



**22 Western Digital WD TVLive Plus** (media streamer; \$150) This network media player edges out the better-known Roku with its mix of online streaming services and its ability to stream your content via a network or a USB drive.

**23 Canon Pixma MG8120** (color inkjet multi-function printer; \$300) Canon's good-looking MFP has a 3.5-inch, tiltable, color LCD screen and touch controls integrated into the top lid. It also produces smooth text output at a good clip, and its replacement ink costs are reasonable.

# 24

**Blizzard Entertainment World of Warcraft: Cataclysm** (game; \$40) The third expansion—and a dramatic overhaul—of the megapopular massively multiplayer online role-playing game demonstrates why WOW is still number one. We've played the beta version of the expansion enough to feel confident that it will absolutely be among the year's best titles.



**25 Motorola Droid X** (smartphone; \$199 with Verizon contract) The Droid X, follow-up to Motorola's wildly successful Droid on Verizon, was one of the hottest phones of this summer, sporting a 4.3-inch display and an 8-megapixel camera. The Android 2.2 OS update made it even better, bringing Flash content to its speedy Web browser.

**26 Adobe Creative Suite 5** (design software; starts at \$1899) For design pros, this suite of applications remains a class act. Adobe's latest iteration introduces fresh refinements



alongside Web-friendly features.

**27 Canon EOS 7D** (digital camera; \$1700) This 18-megapixel DSLR camera



has the features and shooting power of a pro model, but its price puts it within reach of enthusiasts. Of note are its high-resolution LCD screen, handy Live View functions, and 1080p video, as well as its impressive 8-frames-per-second continuous-capture speed.

**28 Sony Handycam NEX-VG10** (camcorder; \$2000) This interchangeable-lens HD camcorder shoots 1080p AVCHD video and 14-megapixel stills—and it costs about \$4000 less than the only other swappable-lens camcorder around, a model from Panasonic.

**29 Alienware M11x**, second revision (laptop;

starts at \$949) Finally, an ultraportable notebook with enough power for real 3D gaming. This 11-inch system boasts a Core i5 or i7 CPU, plus nVidia's Optimus automatic graphics-switching technology. »

## Coming Soon?

- **RIM BlackBerry PlayBook:** With this iPad rival, tablets may get down to business.
- **Google Chrome OS:** We still yearn for this promising open-source operating system.
- **Firefox 4:** Mozilla's update looks to have a cleaner interface; the mobile browser will get improvements, too. (Both were still in beta at this writing.)
- **Android 3.0:** We hope 'Gingerbread' delivers video chat, additional tablet OS functionality, and more features.
- **'Sandy Bridge':** The new Intel microprocessor design might just make integrated graphics respectable.





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**30 Sonos ZonePlayer S5** (networked audio player; \$399) The S5—an affordable version of the impeccable Sonos audio system—can also play music from a hard drive and online services.

**31 Sony Reader Pocket Edition PRS-350** (e-reader; \$180) With a 5-inch screen, the Pocket Edition is superlight. It also rocks a sharp, high-contrast E-Ink Pearl screen and Sony's optical technology that turns the display into the touchscreen that we've long been craving.



**32 nVidia GeForce GTX 460** (graphics board; \$200) Seeking well-priced, high-caliber performance for work or play? nVidia may have been a little late to the Direct X 11 game, but this gem offers great graphics at a great price.

**33 Origin Genesis Midtower** (desktop; \$3600) Few can beat this overclocked sensation's blistering performance. Liquid cooling protects the CPU, and the case

allows plenty of upgrades.

**34 Google Voice** (phone service; free) You can have a single number that reaches multiple phones and text inboxes, along with free SMS texting and call conferencing. Voice transcriptions need work, however.

**35 Logitech C910** (Webcam; \$100) You get crystal-clear 1080p video and a sleek design. Skype-HD video-calling support boosts this unit's appeal.

**36 Bump** (mobile app; free) Need to send a song, a contact, or a PayPal payment between smartphones? Run this app and bump the two phones. It works between Android devices and iPhones, too.

**37 Norton Antivirus 2011** (antivirus software; \$40 one-year, single-PC license) In our tests, Norton had consistently high mal-

ware detection scores. Its interface is easy to use.

**38 MOG** (mobile app and service; \$10 a month after trial) MOG lets you stream the songs you want to hear, not those that it selects. For instance, you can make "artist stations" that play only songs by the person or band in question.

**39 AMD Phenom II X6 1090T** (processor; \$280) It may not be the fastest six-core CPU—but with a price that's \$700 lower than rivals, it brings hexacore performance to the masses.

**40 Livescribe Echo Smartpen** (input device; \$170 for 4GB, \$200 for 8GB) Tie audio recordings to your written notes, and play them by tapping your words with the pen tip. The USB port lets it act as an input device when it is connected to a computer.



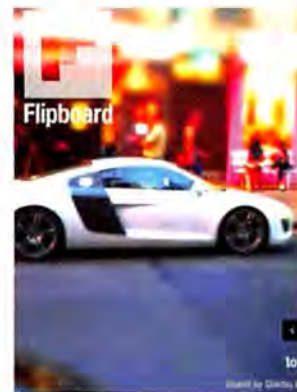
**41 Google Gmail** (Web service; free) We like the cool, new features such as the Priority Inbox, which arranges incoming

e-mail based on your reading and sorting habits. Also new is voice calling.

**42 Western Digital 3TB My Book Essential** (hard drive; \$250) Need tons of space? This four-platter USB 3.0 drive boasts speedy performance and blasts past previous capacity limits.

**43 Clickfree Network CN2** (backup device; \$140 for 500GB) Clickfree's automated software for this drive permits easy backups of multiple networked PCs.

**44 Flipboard** (mobile app; free) This iPad app turns Facebook and Twitter feeds into a personalized magazine. Swipe through pages of photos and videos, or feeds from Web sources.



**45 Panasonic HDC-SDT750** (camcorder; \$1400) Looking for 3D content to watch on a 3D HDTV? An included, detachable 3D-conversion lens mounts onto the HDC-SDT750's f/1.5, 12X-optical-zoom Leica lens—it's the first 3D-capable consumer camcorder. Without the 3D lens, it shoots 1080p video at 60 frames per second. >>



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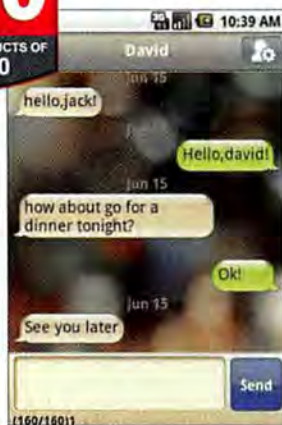
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**46** **HandcentSMS** (mobile app; free) This simple-to-use Android app sports features that put other SMS clients to shame.

**47** **HTC Droid Incredible** (smartphone; \$200 with Verizon contract) With its AMOLED display, excellent camera, and slick design, the Incredible is one of the best Android phones on Verizon.

**48** **SlingPlayer Mobile** (mobile app; \$30 per month) Play live cable TV from home on your mobile

device using this app. It runs on cell and Wi-Fi networks.

**49** **At Bat 2010 for iPad** (mobile app; \$7)

Monitor every big-league game, watch highlights, and listen to games live. Subscribe to MLB.tv, and you can watch nonlocal games.

**50** **XMind** (productivity software; free and \$49 versions)

If you're interested in trying mind mapping to record ideas, use the free edition of XMind. It works in Windows, Mac, or Linux.

**51** **PC Tools Internet Security 2011** (security suite; \$50 one-year, three-PC license)

This suite's pricing makes it a great value, and it earned strong malware detection scores in our tests.

**52** **Seagate Momentus XT** (hard drive; \$120 for 500GB) Inside this 7200-rpm, 2.5-inch internal lap-

top drive is 4GB of flash memory, which helped propel it far ahead of standard hard drives in performance.

**53** **Cisco M20 Valet Plus** (wireless router; \$130)

This speedy, full-featured router doesn't make you wade through endless con-



figuration menus. Competitors may be cheaper, but the Valet Plus is idiot-proof.

**54** **Rovio Angry Birds** (game; \$1)

Catapult peeved birds into the fortress of a gang of pigs. Physics combines with luck in a game that uses iPhone 4 multitouch controls well.

**55** **MyInnnergie mCube Mini** (power adapter; \$70)

Skip the power brick. This lightweight auto/air adapter is barely bigger than two thumbs. It powers any laptop requiring up to 65 watts at 15 to 21 volts.

**56** **Lookout Mobile Security** (mobile app; free)

This triple-threat protector for Android phones runs virus scans, tracks a lost handset, and backs up data.

**57**

**Maingear F131**

(desktop; \$2000) This PC focuses on one thing: speed. Inside the roomy, laser-etched chassis are an overclocked processor and a pair of beefy nVidia graphics cards. It delivered the best performance we've seen at its price point to date.



**58** **ATI Radeon HD 5870** (graphics board; \$400)

This ATI/AMD card offers some of the best performance you'll find in a GPU, at a decent price. Rivals may set the mark on graphics performance, but the 5870 is still the board to beat.

**59** **iVina BulletScan S300** (scanner; \$299)

Versatility and performance are the highlights of this two-in-one, 600-dpi duplex scanner. Take the USB-powered mobile scan module on the road to input forms, receipts, photos, and business cards.

**60** **DimDim** (online service; free, more than ten users starts at \$25 per month)

An online meeting tool that needs no installation, DimDim enables polls, four-way video chat, and document sharing and storage. You can embed videos and Picasa photo albums, as well.

**61** **Smartfish ErgoMotion Mouse** (input device; \$50)

Resting on a pivot, this unique mouse adjusts position to match your motions. The result is surprisingly comfortable mousing.

**62** **Lenovo ThinkPad x100e** (laptop; starts at \$449)

AMD Athlon and Turion processors make this ultraportable snappier than Atom-based netbooks. You also get Lenovo's great keyboard and touchpad quality.



**63** **Second Rotation Gazelle** (Web service; commission on sale)

Find price quotes for old tech, plus recycling options for gear no longer worth money. >>





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## 64 Facebook (social networking site; free)

The addition of the Places geolocation service and revamped privacy controls keep Facebook on our list for the second year in a row.

## 65 Plantronics K100 (Bluetooth speaker-phone; \$80)



Clip this gizmo to your car's visor to manage phone calls. It also lets you listen to streaming audio through your car speakers.

## 66 Taptrix Brushes

(mobile app; \$8) This painting app for the iPhone and iPad has layers, brush types, and more. One artist used the iPhone version to make a *New Yorker* cover.

## 67 Alphonso Labs Pulse News Reader (mobile app; \$4)

Rather than using an e-mail inbox-style layout, Pulse is more visual, promoting leisurely reading. It's an attractive—and enjoyable—alternative to traditional RSS apps.

## 68 Corsair 800D (PC case; \$270)

It's no surprise that several top performance desktops use this case. The sides pop off easily, and hot-swappable bays are built onto its face. A compartment for cables keeps the interior neat.

## 69 Qnap TS-259 Pro Turbo NAS (storage device; \$600)

This startlingly fast Intel Atom-powered, two-bay network-attached storage box offers business features and media software, plus the QMobile iPhone app for remote access.

## 70 Fuze Box Fuze Meeting (Web service; \$29 to \$69 per month)

Make a presentation or share your screen with far-flung colleagues. In our experience, the service has little lag time.

## 71 Evernote (Web service; free, or \$5-per-month premium service)

We've long touted Evernote's cloud-based note-taking functions. This year's innovation is its open ecosystem of plug-ins.

## 72 Iomega eGo Super-Speed USB 3.0 (hard drive; \$140 for 1TB)

This pocketable USB 3.0 drive boasts speedy performance. Iomega's software suite, 256-bit AES hardware encryption, and increased drop tolerance are key features.



## 73 Gateway SX2840-01 (desktop; \$560)

Small, svelte, and packed with stellar components, this budget PC delivers great performance and a large hard drive.



## 74

### Jabra Clipper (Bluetooth headset; \$50)

This stereo headset attaches earbuds to a unit that clips onto your shirt and allows you to switch easily between phone calls and music. Or, if you prefer, you can use your own headphones with it.

## 75 Lenovo ThinkPad W701ds (laptop; starts at \$3299)

This dual-screen monster is outrageously fast. It also has display color calibration, an integrated Wacom drawing tablet, USB 3.0, and the kitchen sink.

## 76 FitNow Lose It (mobile app; free)

When you want to lose weight, recording what you're eating is a big help. This app lets you enter your food intake on your iPhone or iPod Touch.

## 77

### Cisco Flip

#### UltraHD 8GB with FlipPort

(camcorder; \$200) This game-changer shoots smoother video than its predecessors did, thanks to the addition of digital image stabilization and a faster, 60-frames-per-second rate when capturing 720p video. But the big draw is the FlipPort, which allows you to attach accessories such as microphones and battery extenders.

## 78 Samsung BD-C6500 (Blu-ray player; \$225)

Its picture is among the best we've seen, and it can bring Netflix, Pandora, Vudu, and YouTube to your TV.

## 79 PopCap Games Plants vs. Zombies HD (game; \$10)

The iPad version of this zombie-bashing defense title is arguably the best.

## 80 Asus Eee PC 1201n (netbook; \$450)

You get a 12-inch screen, nVidia Ion graphics, Windows 7 Home Premium, and 2GB of RAM—all of which are above the norm for a netbook.

## 81 Genieo (browser add-on; free)

This add-on for Firefox or Internet Explorer keeps track of where you go on the Web, and creates a newsy home page.

## 82 Jabra Extreme (Bluetooth headset; \$80)

Jabra's excellent headset overcomes the clatter of the big city or a busy household.

## 83 Virgin Mobile Beyond Talk Plans (prepaid service; \$25 to \$60 per month)

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## 84 Dell UltraSharp U2711 (LCD monitor; \$1099)

Having 27 inches' worth of pixels is a nice luxury. This 2560-by-1440 panel's quick response time addresses ghosting and blur in games and movies.



## 85 Grooveshark for Android (streaming audio service; \$3 per month)

Stream any song you want right to your Android phone.

## 86 Epson PictureMate Show PM300 (printer; \$300)

This snapshot printer—with 270MB of memory and a 7-inch, 480-by-800-pixel, 15:9-aspect-ratio color LCD—also serves as a digital photo frame. You can incorporate effects into a slideshow, too.



You can even download songs for offline mode.

## 87 Polar WearLink+ Transmitter Nike+

(fitness gadget; \$70) This chest strap transmits your heart-rate data to Nike+ devices for tracking over time.

## 88 RideCharge Taxi Magic (mobile app; free)

Request a cab, see how far away it is, and pay for it on your Android, BlackBerry, iPhone, or PalmOS handset.

## 89 Belkin Conserve Smart AV (power strip; \$39)

Display energy usage in dollars. Plug in devices and see how much it costs to keep them powered.

makes task tracking simple. Tagging, search, and sorting features keep you organized.

## 91 3M Pro120 (projector; \$350)

Use this pocket-size model for presentations to small groups under low light, or to display a 60-inch-diagonal image.

## 92 B&W P5 Mobile Hi-Fi Headphones (headphones; \$300)

If you want >>

## The Flops of 2010

- **Google Wave:** Nobody surfed it.
- **Microsoft Kin:** Died before the family reunion.
- **Palm WebOS:** Only HP bought into this.

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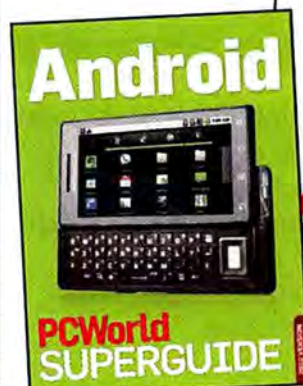
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full-size sound quality and outstanding passive noise isolation, look no further.

**93 Apple iPod Touch, 2010 version** (multi-media player; \$229 for 8GB, \$399 for 64GB) Adopting features from the iPhone 4, such as a front-facing cam-

era for video chat, the Touch is great for media, Web surfing, and pocket gaming.

**94 TheFind.com** (Web-site; free) This shopping engine outdoes Google and Bing, allowing you to filter products. It has coupons and reviews, too.



**95**

**Microsoft Arc**

**Touch Mouse** (input device; \$70) Pack it flat to store it; for use, it becomes a comfortable arch. The touch strip replaces a scrollwheel.

**96 Adobe Photoshop Lightroom 3** (image software; \$300) In addition to tools that sort, organize, develop, and publish photos, version 3 has a new noise-reduction engine and improved RAW processing.

**97 Astro A30 Headset** (headset; \$130) Paired with the company's MixAmp (\$200 for the set), the A30 is one of the best investments a PC gamer can make for comfortable, great-sounding audio.

**98 Prezi** (Web service; basic version free) This PowerPoint alternative enables remote meetings and offers a virtual whiteboard to doodle (or plot a world takeover) with others.



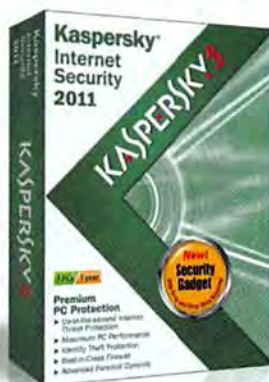
**99 TomTom XXL 550-TM** (GPS; \$200) Boasting a larger-than-average 5-inch screen, this navigation device includes lifetime traffic alerts and map updates.

**100 Ubuntu 10.10** (operating system; free) Ubuntu is a great way to breathe new life into a PC or break free from commercial software. And Linux is arguably the most secure PC platform you can find. ●

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# The Hottest in HD



**The specs that matter, the hype that doesn't, and why 3D isn't ready for prime time. We review the top 15 HDTVs. »**

BY PATRICK MILLER • TESTING BY TONY K. LEUNG  
PHOTOGRAPHS BY ROBERT CARDIN





**HDTVs are big, shiny, slim,** and sexy—everything people love in their electronics. But when it's time to buy a new TV, finding the right one isn't easy. Should you go with plasma or LCD? What's an LED TV? Do you need 3D support? What's the big deal about refresh rates?

To make things easier for you, we've tested, evaluated, and ranked 15 of the top new TVs currently on the market. Whether you're a big spender or a thrifty TV watcher, we'll help you choose a set that fits your living room and your budget.

## The State of the Set

Although lots of technology goes into making a good HDTV, buying one isn't like buying a PC: Newer isn't necessarily better, a pricey set doesn't always show a better image, and you can't safely buy a TV strictly on the basis of its specs.

Every year, manufacturers release new high-definition television sets outfitted with all kinds of innovations designed to make the images clearer, the colors more vibrant, and the motion smoother; but many of the new features attempt to fix things that aren't broken—and end up failing in spectacular ways. For practical buying tips, see "10 Things You Need

to Know Before Buying an HDTV" ([find.pcworld.com/70939](http://find.pcworld.com/70939)).

What's more, in many instances even different models from the same manufacturer have their own individual quirks, so you can't rely on the brand name as a guarantee of consistent quality. For example, even though the three Samsung TVs we tested were the best in their respective size categories, the 40-inch model had a number of image-quality quirks that the 46-inch and 55-inch models did not. The key lies in finding the set that does best with the kind of television shows, movies, and games that you want to view on it.

Before you gear up to start shopping for an HDTV, make sure that you're up-to-date on the specs and features that distinguish this year's lineup from last year's cutting edge.

**INTERNET APPS:** The masses (and the TV manufacturers) have spoken, and the Internet is now a part of your TV. The relevant Internet apps can take the form of add-ons like Yahoo Widgets that complement your TV viewing with Twitter, or news and weather feeds, or sources of streamed content through services such as Amazon Video on Demand, Netflix, and YouTube. The array of services offered varies greatly among different manufacturers, but the core features are here

## 3D TVs Are Here, but Nothing's On

WHEN YOU SHOP for a new TV, every salesperson in your zip code will try to sell you a 3D TV. But 3D TVs can cost up to \$700 more than similar 2D-only models from the same vendor, not counting the \$150 glasses and the 3D Blu-ray player. Is 3D TV worth it? Here's what you should know before you buy.

**What will you watch?** Imagine this: You set up your brand-new 3D television in your living room, pull out the glasses, press the power button...and then what? Depending on your cable provider, you may have two or three 3D channels. DirecTV has ESPN 3D, a channel for videos shot to demonstrate 3D capability, a 3D movie channel, and a 3D video-on-demand channel. Comcast carries only ESPN 3D and a special channel for events broadcast in 3D. Because 3D broadcasts are uncommon and 3D movies are scarce, your broadcast TV options are pretty slim.

**3D Blu-ray movies are rare:** Maybe you don't mind the paucity of broadcast 3D programming because you just want to watch *Avatar* or *Monsters vs. Aliens* over and over on your 3D Blu-ray player. Well, doing that may not be so easy, either. At least for now, 3D Blu-ray movies are sufficiently rare that TV manufacturers try to get them exclusively bundled with their "3D Starter Kits"—*Monsters vs. Aliens 3D*, for example, is available only as part of a Samsung pack that includes two pairs of Samsung 3D glasses for about \$300; and *Avatar 3D* will be a Panasonic exclusive for a while after its release.



The active-shutter glasses necessary for viewing 3D TV are pricey and inconvenient. They feel uncomfortable when worn for long, too.

**3D glasses are a nuisance:** The devices cost about \$150 apiece; they're heavier than regular glasses; and if you already wear corrective lenses, you'll have to put the 3D glasses over the normal glasses.

Within 10 minutes, you'll be acutely aware that something heavy, awkward, and uncomfortable is resting on the bridge of your nose.

**3D just isn't that cool:** Were you wowed the first time you ever watched a 3D movie in theaters? Great—but don't expect the same experience in your living room. Overall, today's 3D TV images look blurry, the active-shutter glasses make any other light sources in the room seem as though they're flickering, and more often than not the 3D effect takes the form of making the image appear to recede into the television (producing an effect kind of like a diorama) rather than pop out at you. The image may look somewhat different from the way it would on a 2D set, but it's not that impressive.





to stay—and they could make cutting your cable TV subscription a much more appealing option (see page 10). At this point, we're seeing Internet streaming services added to everything that plugs into your television, from Blu-ray players and game consoles to external set-top boxes that specialize in streaming video, like the Apple TV and the Roku XDS. As a result, if you find a cheaper set that doesn't offer support for streaming Netflix, you can buy a Roku or an Xbox 360 and stream Netflix through that instead of shelling out several hundred dollars extra for a pricier TV.

**REFRESH RATE:** The refresh rate is a measure of how quickly a TV can refresh its on-screen image. Lower refresh rates typically make for choppy, blurrier motion, which is especially noticeable on LCD TVs during long, slow panning shots. Last year the industry focused its attention on the significant difference between 60Hz and 120Hz, with only a few 240Hz TVs in the mix. This year 120Hz is the norm and 240Hz is the high-end alternative, but the overall difference in video quality between the two is not always immediately apparent. In fact, a 240Hz set sometimes produces odd glitches in the image that a 120Hz set doesn't. The bottom line: Don't rely on the numbers alone. See the set and decide for yourself.

### Samsung UN40C7000

The 40-inch UN40C7000 is a very thin and attractive set with smooth image panning and (for the most part) good picture quality, but it also suffers from oversaturated colors and oddly pulsating backgrounds and fine details.

**LED-BACKLIT LCDs:** In early matchups between LCD and plasma HDTV screens, plasmas often looked better because they offered deeper, brighter colors than their LCD counterparts. As LCD manufacturers sought ways to solve the refresh rate/motion blur problem, the brightness problem became more apparent—the technology used to drive a screen's refresh rate past 60Hz often made the display even dimmer. Enter the LED-backlit LCD TV, which got rid of the fluorescent lamps that HDTV manufacturers formerly used to light displays in favor of light-emitting diodes that can produce a brighter, higher-contrast image while using less space and electricity. The end result: brighter, thinner, more-energy-efficient TVs. No wonder almost all of the big TV manufacturers have come out with several LED-backlit LCDs. In fact, the HDTVs in our roundup include just one fluorescent-backlit LCD set and three plasma sets.

In the continuing competition to produce ever-slimmer televisions, some manufacturers have moved from backlit sets to "edge-lit" models. This means that the LEDs are positioned around the edges of the set, instead of being fully arrayed in the rear. A well-designed edge-lit display looks just as good as a backlit one, but several edge-lit models we







examined suffered from slight shadows and uneven lighting.

**PLASMA TV LIMITATIONS:** Plasma screens are less expensive to manufacture, and they look okay, but even plasma sets from veteran TV manufacturers like LG and Panasonic fall short in comparison to LCD screens. Stick to plasmas if you want a big TV at a relatively low price, but don't expect the set to deliver color or motion nearly as well as a good LCD would.

**TWEAKING OPTIONS AND PRESETS:** If you like to fine-tune your TV's image quality, you'll welcome the new tweaking options that recent HDTVs offer. Chief among the enhanced controls is ten-point white balance, which lets you adjust the red, green, and blue color values of your set to ten different levels of brightness, thereby ensuring that the colors balance properly across the brightness spectrum.

Of course, having more-precise controls means that calibrating your TV can take quite a lot longer, and there's more room for mistakes if you're trying to eyeball the adjustments. To help, some TV makers supply built-in THX-certified color presets or a 'THX Mode' that loads a configuration certified by THX technicians to meet a certain level of image quality. (THX is a cinema audio/video certification company respon-

sible for, among other things, the chest-shaking crescendo you sometimes hear in movie theaters after the previews.)

**3D TVs:** As discussed on page 104, the glasses look dorky, the prices are high, and not a whole lot is available to watch yet, but 3D is unmistakably the new It feature for midrange and high-end HDTVs. Nevertheless, though *Cloudy With a Chance of Meatballs* in 3D makes for an interesting in-store demo, 3D TV hasn't matured enough to be worth the money yet. We have high hopes for improved 3D in the year to come, but the 3D TVs of 2010 simply fail to seal the deal.

## 40- to 42-Inch HDTVs

**IMAGE QUALITY:** Each model of television is a unique and special flower, with its own distinctive qualities—and nowhere is that phenomenon more noticeable than among HDTVs that fall in the 40- to 42-inch category. The top three sets on our chart earned equal overall performance scores for image quality, but they received those scores for very different reasons.

The Samsung UN40C7000 (\$1600) shows off the company's bold image-processing functions; however, that technology can be a double-edged sword. Though the Samsung set >>

## 40- to 42-Inch HDTVs

The top three sets had close overall marks but different strengths and weaknesses.








MODEL	Rating	Performance	Features and specifications
<b>1</b>  <p><b>Samsung UN40C7000</b> \$1600 <a href="http://find.pcworld.com/70940">find.pcworld.com/70940</a></p> <p>► Samsung's UN40C7000 is a solid, full-featured HDTV, but despite its high ranking it has some image-quality quirks.</p>	★★★★★ VERY GOOD	<ul style="list-style-type: none"> <li>Image quality: Very Good</li> <li>Features: Perfect</li> <li>Design: Very Good</li> </ul>	<ul style="list-style-type: none"> <li>Display type: LCD (LED-backlit)</li> <li>1920-by-1080-pixel screen</li> <li>Inputs: four HDMI, two USB</li> <li>Refresh rate: 240Hz</li> </ul>
<b>2</b>  <p><b>Sony Bravia KDL-40HX800</b> \$1600 <a href="http://find.pcworld.com/70941">find.pcworld.com/70941</a></p> <p>► The Sony Bravia KDL-40HX800 provides good-enough audio and high-quality video for the price.</p>	★★★★★ VERY GOOD	<ul style="list-style-type: none"> <li>Image quality: Very Good</li> <li>Features: Very Good</li> <li>Design: Very Good</li> </ul>	<ul style="list-style-type: none"> <li>Display type: LCD (LED-backlit)</li> <li>1920-by-1080-pixel screen</li> <li>Inputs: four HDMI, one USB</li> <li>Refresh rate: 240Hz</li> </ul>
<b>3</b>  <p><b>BEST BUY</b> <b>Vizio XVT423SV</b> \$1150 <a href="http://find.pcworld.com/70942">find.pcworld.com/70942</a></p> <p>► The Vizio XVT423SV is by no means the best television we've ever seen, but it is inexpensive and solidly above average.</p>	★★★★★ VERY GOOD	<ul style="list-style-type: none"> <li>Image quality: Very Good</li> <li>Features: Good</li> <li>Design: Very Good</li> </ul>	<ul style="list-style-type: none"> <li>Display type: LCD (LED-backlit)</li> <li>1920-by-1080-pixel screen</li> <li>Inputs: five HDMI, three USB</li> <li>Refresh rate: 240Hz</li> </ul>
<b>4</b>  <p><b>LG 42LE5500</b> \$1250 <a href="http://find.pcworld.com/70943">find.pcworld.com/70943</a></p> <p>► The 42LE5500 is rather expensive for the image quality and features, but the set's thinness and touch buttons are undeniably cool.</p>	★★★★★ VERY GOOD	<ul style="list-style-type: none"> <li>Image quality: Very Good</li> <li>Features: Fair</li> <li>Design: Very Good</li> </ul>	<ul style="list-style-type: none"> <li>Display type: LCD (LED-backlit)</li> <li>1920-by-1080-pixel screen</li> <li>Inputs: four HDMI, two USB</li> <li>Refresh rate: 120Hz</li> </ul>
<b>5</b>  <p><b>Panasonic Viera TC-P42G25</b> \$850 <a href="http://find.pcworld.com/70944">find.pcworld.com/70944</a></p> <p>► Spend your money elsewhere, unless you need a large flat-screen HDTV that's inexpensive for the size.</p>	★★★★★ VERY GOOD	<ul style="list-style-type: none"> <li>Image quality: Very Good</li> <li>Features: Good</li> <li>Design: Very Good</li> </ul>	<ul style="list-style-type: none"> <li>Display type: plasma</li> <li>1920-by-1080-pixel screen</li> <li>Inputs: three HDMI, two USB</li> <li>Refresh rate: 600Hz</li> </ul>

CHART NOTES: Ratings are as of 10/14/10. Street prices are as of 10/20/10.



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often produces an excellent image, it's also more likely than competing sets to produce odd glitches. In scenes from *The Dark Knight* and *Mission: Impossible 3*, for example, we noticed that the floors of far-off office buildings appeared to shift and change position; and finely detailed patterns such as those on a man's tie would sometimes pulse as if they were animated GIFs. In addition, our panel of image-quality judges observed that the UN40C7000's colors were slightly oversaturated compared with those on the other HDTVs in the same category, especially in tests of the set's ability to upscale DVDs.

The Sony Bravia KDL-40HX800 (\$1600) doesn't attempt to improve the image as much as the Samsung does. Nevertheless, it achieved a high overall ranking by displaying consistently above-average scores in all of our tests. If you're looking for a set that doesn't make any mistakes, opt for the KDL-40HX800 over the UN40C7000. For its part, the Vizio XVT423SV (\$1150) earned image scores on a par with both the Samsung and Sony sets on every measure except motion tests. That makes it a nice choice for value-minded consumers, considering that it's 2 inches larger than the Samsung and Sony, and yet costs about \$450 less.

The other 40- to 42-inch HDTVs that we tested couldn't hang with the top

three. The LG 42LE5500 (\$1250) delivered average image quality, marred primarily by some light movement during a panning shot over a brick wall. Panasonic's Viera TC-P42G25 plasma (\$850) and Hitachi's UltraVision LE42S704 LCD (\$900), meanwhile, demonstrate that you get what you pay for. The Panasonic flunked every motion test: Brick walls seemed to vibrate, and panning shots suggested a seizure. The Hitachi, which missed our chart, received average scores in color and brightness tests but suffered from multiple motion problems.

**FEATURES AND DESIGN:** Aside from the Hitachi LE42S704, each of these HDTVs comes with a selection of Internet apps designed chiefly to feed your TV more content. Virtually all of the sets support Amazon Video On Demand, Netflix, Vudu, and YouTube, as well as access to Pandora, Picasa, Twitter,

and a collection of mini-apps via Yahoo Widgets. Oddly, though Samsung makes an app store available for its connected TV applications, at this writing the store holds little more than a few paid games.

The TVs' designs were a bit of a mixed bag. The LG, Samsung, and Sony models all had attractive designs, but our judges dinged the latter two for their awkward remote controls. The Vizio featured a cool Bluetooth remote with a slider ➤➤

### Samsung LN46C650

Though it lacks LED back-lighting, this 46-inch HDTV delivers strong audio and video and excellent Internet features. Its remarkably low price enabled it to finish as our Best Buy as well as the top-ranked set in its category.











# 46- to 47-Inch HDTVs

Samsung's LN46C650 is a cut above a strong field of contenders in this category.








MODEL	Rating	Performance	Features and specifications
<b>1</b>  <b>BEST BUY</b> Samsung LN46C650 <b>\$1050</b> <a href="http://find.pcworld.com/70945">find.pcworld.com/70945</a>	★★★★★ VERY GOOD	<ul style="list-style-type: none"> <li>Image quality: Very Good</li> <li>Features: Good</li> <li>Design: Superior</li> </ul>	<ul style="list-style-type: none"> <li>Display type: LCD</li> <li>1920-by-1080-pixel screen</li> <li>Inputs: four HDMI, two USB</li> <li>Refresh rate: 240Hz</li> </ul>
▶ Samsung's LN46C650 is a dream come true for budget-minded buyers seeking solid image quality and advanced features in an HDTV.			
<b>2</b>  Sony Bravia XBR-46HX909 <b>\$3150</b> <a href="http://find.pcworld.com/70946">find.pcworld.com/70946</a>	★★★★★ VERY GOOD	<ul style="list-style-type: none"> <li>Image quality: Very Good</li> <li>Features: Very Good</li> <li>Design: Very Good</li> </ul>	<ul style="list-style-type: none"> <li>Display type: LCD (LED-backlit)</li> <li>1920-by-1080-pixel screen</li> <li>Inputs: four HDMI, one USB</li> <li>Refresh rate: 240Hz</li> </ul>
▶ Though this set represents a substantial investment, you'll be rewarded with very good images and a lot of Internet programming.			
<b>3</b>  LG Infinia 47LE8500 <b>\$1800</b> <a href="http://find.pcworld.com/70947">find.pcworld.com/70947</a>	★★★★★ VERY GOOD	<ul style="list-style-type: none"> <li>Image quality: Very Good</li> <li>Features: Fair</li> <li>Design: Very Good</li> </ul>	<ul style="list-style-type: none"> <li>Display type: LCD (LED-backlit)</li> <li>1920-by-1080-pixel screen</li> <li>Inputs: four HDMI, two USB</li> <li>Refresh rate: 240Hz</li> </ul>
▶ The Infinia 47LE8500 delivers style, customization options, and great Internet content, but the image quality isn't great for the price.			
<b>4</b>  Mitsubishi Unisen LT-46265 <b>\$2500</b> <a href="http://find.pcworld.com/70948">find.pcworld.com/70948</a>	★★★★★ GOOD	<ul style="list-style-type: none"> <li>Image quality: Very Good</li> <li>Features: Fair</li> <li>Design: Good</li> </ul>	<ul style="list-style-type: none"> <li>Display type: LCD (LED-backlit)</li> <li>1920-by-1080-pixel screen</li> <li>Inputs: four HDMI, one USB</li> <li>Refresh rate: 240Hz</li> </ul>
▶ The Unisen LT-46265 provides Wi-Fi, Bluetooth, a very good picture, and excellent sound, but the cost may make you hesitate.			
<b>5</b>  Panasonic Viera TC-P46G25 <b>\$1100</b> <a href="http://find.pcworld.com/70949">find.pcworld.com/70949</a>	★★★★★ GOOD	<ul style="list-style-type: none"> <li>Image quality: Good</li> <li>Features: Fair</li> <li>Design: Very Good</li> </ul>	<ul style="list-style-type: none"> <li>Display type: plasma</li> <li>1920-by-1080-pixel screen</li> <li>Inputs: three HDMI, two USB</li> <li>Refresh rate: 600Hz</li> </ul>
▶ The Viera TC-P46G25 has a lot going for it, including a very affordable price; the image quality, however, just doesn't measure up.			

CHART NOTES: Ratings are as of 10/14/10. Street prices are as of 10/20/10.

keyboard (similar to a cell phone's), which is practically necessary if you intend to use the television's extensive Internet connectivity apps. The Sony model supports Qriocity, the company's in-house video rental service, giving users some extra options for (paid) on-demand movies.

If you want fine control over your TV's image, pick up the Samsung UN40C7000 or the LG 42LE5500. Both televisions are equipped with ten-point white balance, so you can tweak the picture to your heart's content. The Sony and the Vizio occupy the middle tier for tweaking options, while the Hitachi and the Panasonic offer rather anemic image options overall. The Panasonic does, however, have a THX Mode preset.

## 46- to 47-Inch HDTVs

**IMAGE QUALITY:** In this category, too, Samsung takes the top spot, with its 120Hz LCD LN46C650 (\$1050), a midrange set that outperforms rivals priced much higher. On paper, the LN46C650 (one of the best products of the year; see page 86) looks as though it shouldn't have been able to outscore the 240Hz, LED-backlit TVs we tested, but it did—unmistakably. True, it exhibited mild imperfections with motion in *The Dark*

*Knight*, and skin colors occasionally looked somewhat oversaturated, but overall the set's performance in our motion, contrast, and backlighting tests was very impressive.

The Sony Bravia XBR-46HX909 (\$3150) and the Mitsubishi Unisen LT-46265 (\$2500) tie for second place on image quality, while the LG Infinia 47LE8500 (\$1800) falls only slightly behind them. The Sony delivered perhaps the most consistent image quality across the board, displaying reasonably good color and handling motion well, though it showed a little too much contrast in some scenes and botched skin tones in others. The Mitsubishi handled motion exceptionally well, but couldn't beat the Sony on color, contrast, or brightness. The LG HDTV posted roughly equal scores across the board but made a few mistakes in motion and details.

The Panasonic Viera TC-P46G25 (\$1100) and the Hitachi UltraVision LE46S704 (\$1300) struggled with every motion test. Despite the multitude of jaggies (one judge said that a diagonal panning shot was vibrating so much it could have been filmed in an earthquake), the nonranking Hitachi displayed passable color, brightness, and contrast. The Panasonic received the lowest image-quality marks across the board. >>





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**FEATURES AND DESIGN:** At just over 1 inch thick, the LG Infinia 47LE8500 is the sexiest HDTV of the bunch; and despite being so remarkably slim, it keeps most of its ports easily accessible. None of the other sets had a particularly remarkable physical design, aside from a few quirks here and there: The Hitachi and Mitsubishi TVs have a few ports that can be a little tricky to access, and the Mitsubishi doesn't swivel at all, which is unusual for a TV these days.

As for image-tweaking options, the LG and the Samsung were the only two sets in this category to feature ten-point white balance. Both the LG and the Panasonic have a THX Mode, but the Panasonic wouldn't let us change the green levels at all, which made it difficult to calibrate.

Available streaming services and Internet options for this middle-tier category of HDTVs were much the same as for the 40- to 42-inch models: Amazon Video on Demand, Hulu Plus, Pandora, Picasa, Vudu, and YouTube are offered on most of the sets. Again, the LG television's options are relatively limited, and the Hitachi set lacks networking features altogether. The Mitsubishi HDTV comes with no Netflix support—a truly

### Samsung UN55C8000

It isn't cheap, but the 55-inch UN55C8000 delivers superb contrast, brightness, color, and audio in a superslim, energy-efficient design. It also comes with an excellent media player and supports numerous media formats.

staggering omission—but since you can access Netflix on several different set-top boxes and game consoles, you may not miss it too much on the TV itself.

### 50- to 55-Inch HDTVs

**IMAGE QUALITY:** With the UN55C8000 (\$2900), Samsung completes its hat trick, capturing the top spot in all three screen-size categories. The UN55C8000—

which also ranks as one of the best products of the year (page 86)—blew away the other 50- to 55-inch TVs in color, brightness, contrast, and skin tones. Despite getting penalized for some of the same image-processing quirks (such as animated ties and moving windows) that we saw elsewhere, this TV garnered the highest overall image-quality scores of any set we've tested in the past year. It may be pricey, but it's worth it.

Vizio's XVT553SV (\$1700) does give the Samsung a run for its money despite costing approximately \$1200 less. Though the Vizio never quite managed to match the Samsung on image quality, it earned high marks across the board, particularly for brightness, contrast, and color. Nipping at the Vizio's heels was the Sharp Aquos LC-52LE820UN (\$2000), thanks >>



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to impressive color and good motion handling; but this set's display was a bit dimmer and less detailed than the others'.

LG's Infinia 50PK950 (\$1500) and Sony's Bravia KDL-52NX800 (\$1900) trailed the other three HDTVs in this category by a fairly slim margin. The LG matched the Vizio in assessments of color fidelity but came up short in the remaining tests, especially those for motion and detail. Unfortunately, the LG's image texture was unusually grainy across all of our tests, too. Imagine watching TV through a subtle filter of translucent sandpaper, and you'll have an idea of the texture problem. The Sony won plaudits for its above-average color but didn't do as well with motion, contrast, or detail; and its edge-lit LED backlighting produced subtle localized shadows in certain areas near the bottom of the screen.

**FEATURES AND DESIGN:** Most of the televisions in this screen range looked very similar—big, black, and sleek. The silver sheep in this flock is the Samsung UN55C8000, which is far thinner than the others (just under 1 inch thick) and has the slick silvery look characteristic of the company's high-end TVs.

The LG and Samsung HDTVs share the tweak-friendliness

award. The LG Infinia 50PK950 comes with 20-point white-balance controls, and the Samsung counters with 10-point white-balance controls (if you don't want to calibrate the LG set at each of the 20 points, you can skip every other point on the scale, for the equivalent of a 10-point white-balance TV). The LG also features a THX Mode in case you don't feel like spending several hours fine-tuning your HDTV's image.

Bizarrely, neither the Samsung nor the Sharp set includes Wi-Fi. If you've already invested this much money in a television, having to pay \$50 extra for Wi-Fi so you don't have to see a \$3 ethernet cable sticking out of your \$3000 HDTV is like having to shell out for power windows on a Porsche—it should be included in the sticker price.

We also had a few problems getting the Sony set's Internet video services working; ultimately, we called tech support to walk us through the process of manually updating the firmware via flash drive, which was a pain. We ran into other glitches with the Vizio set—as it turns out, you can plug whatever you want into one of its three USB ports, but the company won't be adding support for actually playing media from USB drives until a future firmware update arrives. ●



## 50- to 55-Inch HDTVs

At this screen size, the various contenders all deliver very strong image quality.






MODEL	Rating	Performance	Features and specifications
 <p><b>1</b></p> <p><b>Samsung UN55C8000</b> \$2900 <a href="http://find.pcworld.com/70950">find.pcworld.com/70950</a></p> <p>► The Samsung UN55C8000 delivers outstanding video and audio, plus a ton of useful Internet and media player features—for a hefty fee.</p>	<p>★★★★★ <b>VERY GOOD</b></p>	<ul style="list-style-type: none"> <li>Image quality: Superior</li> <li>Features: Very Good</li> <li>Design: Very Good</li> </ul>	<ul style="list-style-type: none"> <li>Display type: LCD (LED-backlit)</li> <li>1920-by-1080-pixel screen</li> <li>Inputs: four HDMI, two USB</li> <li>Refresh rate: 240Hz</li> </ul>
 <p><b>2</b></p> <p><b>BEST BUY</b> <b>Vizio XVT553SV</b> \$1700 <a href="http://find.pcworld.com/70951">find.pcworld.com/70951</a></p> <p>► The Vizio XVT553SV provides solid image quality and a good collection of Internet features at an outstanding price.</p>	<p>★★★★★ <b>VERY GOOD</b></p>	<ul style="list-style-type: none"> <li>Image quality: Very Good</li> <li>Features: Fair</li> <li>Design: Very Good</li> </ul>	<ul style="list-style-type: none"> <li>Display type: LCD (LED-backlit)</li> <li>1920-by-1080-pixel screen</li> <li>Inputs: five HDMI, three USB</li> <li>Refresh rate: 240Hz</li> </ul>
 <p><b>3</b></p> <p><b>LG Infinia 50PK950</b> \$1500 <a href="http://find.pcworld.com/70952">find.pcworld.com/70952</a></p> <p>► Although the 50PK950 offers good color and customization options at a reasonable price, the consistently grainy image disappoints.</p>	<p>★★★★★ <b>VERY GOOD</b></p>	<ul style="list-style-type: none"> <li>Image quality: Very Good</li> <li>Features: Good</li> <li>Design: Very Good</li> </ul>	<ul style="list-style-type: none"> <li>Display type: plasma</li> <li>1920-by-1080-pixel screen</li> <li>Inputs: four HDMI, two USB</li> <li>Refresh rate: 600Hz</li> </ul>
 <p><b>4</b></p> <p><b>Sony Bravia KDL-52NX800</b> \$1900 <a href="http://find.pcworld.com/70953">find.pcworld.com/70953</a></p> <p>► The Bravia 52NX800 has respectable audio-video quality and a ton of Internet features; it suffers from annoying design issues, though.</p>	<p>★★★★★ <b>GOOD</b></p>	<ul style="list-style-type: none"> <li>Image quality: Very Good</li> <li>Features: Fair</li> <li>Design: Good</li> </ul>	<ul style="list-style-type: none"> <li>Display type: LCD (LED-backlit)</li> <li>1920-by-1080-pixel screen</li> <li>Inputs: four HDMI, one USB</li> <li>Refresh rate: 240Hz</li> </ul>
 <p><b>5</b></p> <p><b>Sharp Aquos LC-52LE820UN</b> \$2000 <a href="http://find.pcworld.com/70954">find.pcworld.com/70954</a></p> <p>► Sharp's Aquos LC-52LE820UN offers good image quality, above-average audio, and energy efficiency.</p>	<p>★★★★★ <b>GOOD</b></p>	<ul style="list-style-type: none"> <li>Image quality: Very Good</li> <li>Features: Unacceptable</li> <li>Design: Good</li> </ul>	<ul style="list-style-type: none"> <li>Display type: LCD (LED-backlit)</li> <li>1920-by-1080-pixel screen</li> <li>Inputs: four HDMI, one USB</li> <li>Refresh rate: 600Hz</li> </ul>

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# Here's How

## Update the Firmware on Your HDTV, Camera, Smartphone, PC, and More

BY LOYD CASE

THESE DAYS, home-theater gear, handheld devices, phones, and even appliances have embedded smarts in the form of a microprocessor, memory, and software. And like computer programs, firmware—the software that runs on your gadgets—needs periodic updating.

Many new gadgets aren't 100 percent complete when you buy them: Some promised features may be absent or incomplete at that point. And older hardware may require software enhancements to gain new features.

As a result, manufacturers design much of their gear to allow updates. You won't get every great new feature via downloadable updates, but firmware revisions can make your old equipment run faster and crash less often.

Firmware is software code stored in persistent memory (usually either in flash memory or in programmable, rewritable read-only memory) that is built into the device. Unlike apps loaded into a PC's RAM, firmware doesn't get erased when the system powers down. Firmware may hold basic software needed to start up a system—like a

Software updates aren't just for PCs any more. Here's how to fix bugs and add new features to your existing hardware with a few easy patches.



PC's BIOS—or it may store the entire operating system and application suites, as is the case with smartphones.

### Should I Update?

Many PC and motherboard makers advise users not to upgrade a system's BIOS, for example, unless a problem arises or the user installs an unsupported CPU.

On the other hand, a Blu-ray player needs frequent updating, because new features on the discs may render them unplayable on old firmware. But before you rush out to update the firm-

ware in a piece of electronic equipment, check the manufacturer's recommendation.

Let's start with a few simple, crucial rules of thumb.

**Confirm that you have reliable power:** For standard PCs and other electronics that you plug into a wall, power is no big deal. If you're worried, you can connect an uninterruptible power supply to the device before proceeding.

**Plug in the hardware:** Never rely on battery power when updating your laptop's BIOS or your phone's firmware.

**Create a backup of your current firmware:** Not all devices

allow you to do this, but if you can, you should. If the new firmware introduces a bug, you may need to revert to an older version.

**Log your changes:** Some firmware updates reset your device's settings to their default values, so document any adjustments you may have made before updating. That way, you can restore them properly. If the device allows it, save 'off' settings to a file (this is common in routers, for example).

**Warn other users before updating your router:** If you're updating a network device, >>



# Here's How

be sure to let all users know in advance that the network may go down briefly.

Now let's move on to the updating process itself.

## PCs and Laptops

Today's PC firmware falls into two categories: the traditional BIOS (Basic Input-Output System), and the newer EFI (Extensible Firmware Interface). EFI is much more capable than the old 16-bit BIOS routines. On the Windows PC side, most systems still use BIOS, while servers generally use EFI. Recent Apple computers use EFI too, though earlier Intel-based Macs used a firmware architecture built around the SMC (system management controller).

Most current PCs let you update firmware through the BIOS setup screen. Copy the BIOS update file to a USB flash memory stick, and plug the USB stick into the system that you want to update. At startup, press the key that launches the BIOS update application. Alternatively, press a keyboard key (usually <Delete>, but sometimes another key such as <F2> or <F10>) to enter the BIOS setup program.

Navigate to the device that contains the firmware update: Select the file name and press <Enter> to launch the update process.

Updating the BIOS from an executable file is even easier. All Intel-built motherboards are updatable via a Windows-based app. Some other motherboard makers offer the same feature, in which case you download the BIOS update app and



INTEL'S VERSION OF updating the BIOS from a flash memory key.

launch it from the desktop.

A few motherboard makers include apps for updating the BIOS over the Internet. Usually the site downloads the entire update before the updating process starts.

PCs with very old motherboards may require you to use a bootable floppy disk containing the BIOS update. The update may start as soon as you boot, or you may have to type a command at the command-line prompt; for details, print the readme file for the update before you boot from the floppy.

To update a Mac, download the firmware update for your system and launch it from the Finder. The update takes a few minutes, and uninterrupted power is crucial.

## Network Routers and Peripherals

PC peripherals such as hard drives, network-attached storage, and high-end moni-

tors may have updatable firmware. The instructions for installing updates vary, so pay attention to the manufacturer's documentation.

Wi-Fi routers are perhaps the easiest peripherals to update; most have the capability built into their router management interface. Here we will use the update screen from a Netgear WNDR3700.

The interface of the Netgear router identifies what the update may fix when installed, and it gives you the option of backing out if you don't think you need the update. Network-attached storage devices use a similar interface for firmware updates.

Monitors rarely need such updates, and most monitors don't even allow them.

We see more firmware updates for hard drives—and especially solid-state drives—which can be tricky to install. Before making any changes to a critical storage device,

back it up! In at least two instances I'm aware of, SSD firmware updates could result in permanent loss of the drives' data. The firmware updating process can be arcane, so study the documentation before proceeding.

As an example, updating an Intel X25-E solid-state drive involves downloading an ISO image, burning it to a CD, and then booting from the CD to install the firmware update. So you must be comfortable with burning the CD and booting from it before you get to the firmware update process.

Sometimes even expansion cards require firmware updates. I've had to update both graphics card firmware and network interface card firmware. In both instances, running the updates entailed working from a command-line prompt, but I did it all from within Windows.

One last rule of thumb: Whenever you update a system peripheral, you should reboot the peripheral after you install the update (assuming that the device does not restart automatically).

## Home-Theater Gear

In the consumer electronics category, the two primary candidates for upgrades are Blu-ray players and HDTVs; but as other types of gear (such as A/V receivers) become networkable devices, vendors make firmware updates available for them, too.

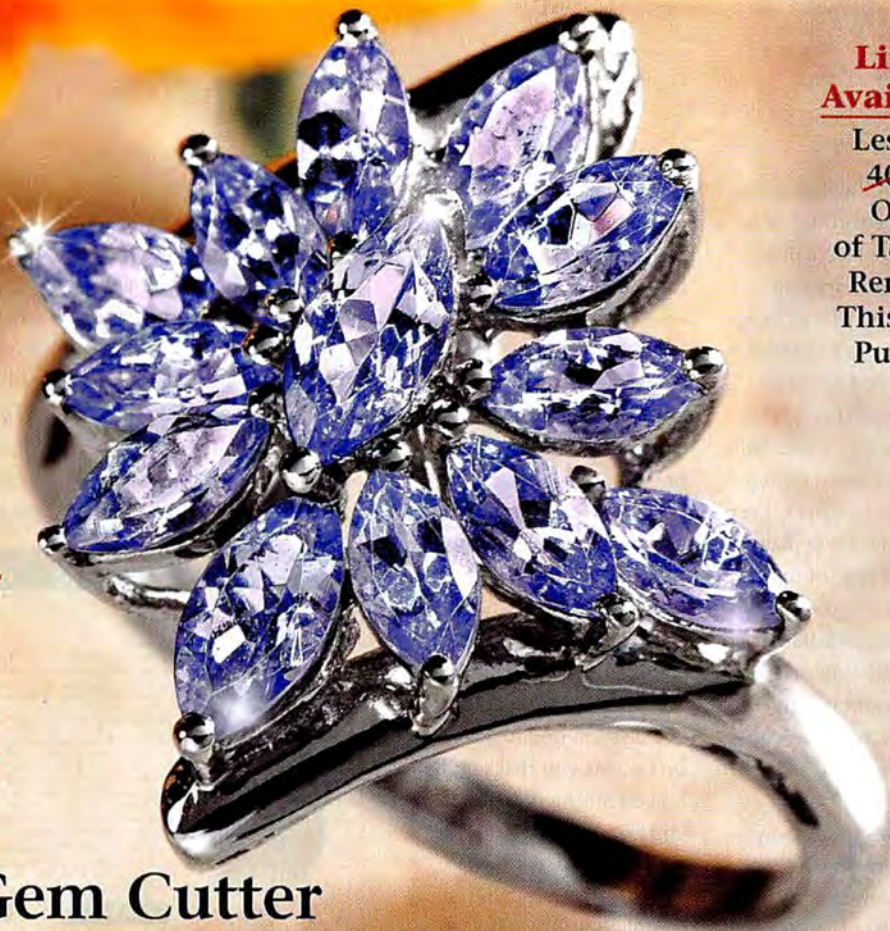
Such updates sometimes even fix problems you might have assumed were just a quirk of your HDTV set.

You update most consumer electronics gear in one ➤



YOU CAN CHECK for router updates over the Internet via the router's interface, and apply an update only if you think you need it.





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# Here's How

of the three following ways.

**ISO file burned to CD:** Some older Blu-ray players didn't have a network capability and lacked USB ports. To update them, users had to burn the downloaded firmware file to a CD and then install it via either a menu selection or a combination of remote-control button presses. Even some premium DVD players required this type of updating a few years ago.

**Firmware copied to USB flash drive:** This updating method is most common in situations where a network connection is unavailable or unreliable. I have updated several HDTVs in this way.

**Firmware directly downloaded from the Internet:** This is an increasingly prevalent method for updating firmware. For example, you can set up a Panasonic DMP-BD85 Blu-ray player to automatically inform you of new firmware updates, if you keep it connected to the Internet. The actual update screen is bur-

ied in the menus inside the Others main menu selection, however, not in the Network menu selection.

## Game Consoles

Updating the firmware on current-generation game consoles is simple—and nonvoluntary. For example, the Xbox 360 requires an always-on connection to the Internet to make most of its services available, though you can play single-player games without a connection. When the console detects a new system update, a dialog box warns you that you'll be logged off the network if you don't install it.

## Smartphones

Mobile phone updates may include critical security fixes, performance enhancements, and new features.

To update your iPhone, plug it into your Mac or PC, and make sure iTunes is running. If a firmware update is available, click **Yes** when asked if you want to update.

For Windows Mobile devices, start by syncing (via USB) to back up your contact, calendar, and other phone data. Some models use ActiveSync for updating; others rely on a dedicated app. Read and follow all instructions carefully.

Update processes for Android phones vary widely. You can manually download and update the firmware, but waiting for your cellular network to roll out the update may make more sense. If you want to download and manually update the phone, start by downloading the latest version and copying it

onto an SD card or to the phone's storage via USB. Depending on the phone, performing the update will involve pressing some combination of phone buttons.

BlackBerry owners looking for an update should go to RIM's BlackBerry Device Software page ([find.pcworld.com/70882](http://find.pcworld.com/70882)) and follow the in-

Nintendo DS and Sony PSP update automatically over their network as needed, as long as you have Wi-Fi. You can update the devices wirelessly, but attaching them to wall power is preferable.

Digital cameras occasionally need firmware updates. In most cases, to update a camera's firmware, you



**RIM'S BLACKBERRY DEVICE Software page provides detailed instructions for updating the firmware on BlackBerry phones.**

structions there; Mac users must install the BlackBerry Desktop Software first.

## Other Handheld Electronic Devices

Most off-the-shelf GPS devices come with free updates for a set period of time; after that, you may have to pay for each update.

You can download a Web browser plug-in to gauge whether your device needs an update (the GPS unit must be plugged into your PC via USB), or you can enter your device's serial number. If an update is available, you will download it as a very large file that is both a Windows app and mapping data. Attach your GPS unit via USB, run the app, and let it update your firmware.

Gaming devices like the

download the update, copy it to a flash memory card, and insert the card into the camera. Then you select an entry from the camera's built-in menu or press some combination of buttons to load the update. Usually, you'll have to copy the firmware file to the top level (root) of the memory card, not to a subfolder.

To update a media player like Apple's iPod or Microsoft's Zune, attach the player to your PC and run the relevant app (iTunes or Zune software). Updates occur almost automatically; click **Yes** if prompted to update.

Many other music players copy the downloaded firmware file to the device over a USB connection; you then disconnect it, and the update occurs automatically.



**FINDING THE RIGHT menu item for installing a firmware update on the Panasonic DMP-BD85 Blu-ray player can be tricky because it's buried as an option in the Others submenu.**





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## Eight Tips for Better Android Phone Photos

Capture stunning pictures despite the limitations of your cell phone's camera hardware and software.

THE CAMERA IN your Android phone likely packs at least 6 megapixels, but you still need a little know-how to produce attractive images with your photography.

This article offers Android camera phone tips for taking better shots at night, blurring backgrounds artistically, keeping subjects sharp, using timer apps, and more.

I shot the images for this article with a Motorola Droid X from Verizon; of course your phone may not have the same camera hardware and software features.

Your version of Android can be a huge factor, too. Depending on your phone hardware, the Froyo (Android 2.2) software update may unlock more manual controls that can help with advanced photography. Be sure to keep your phone updated, and poke around the in-camera settings to see what features are available.

### Use the Flash for Daytime Details

Why use a flash during the day? In bright settings, your camera phone's flash isn't the main light source; instead, it serves as your secret weapon—a fill flash. The burst of light it provides diminishes sharp shadows and compensates for underexposure, which are common problems with photo-



**CONSECUTIVE SHOTS TAKEN** outdoors in broad daylight without a fill flash (left) and with a fill flash to make the scene's lighting more even.

graphs taken on sunny days.

Though the Droid X's flash isn't powerful enough to fill every shadow, activating the flash for daytime portraits improves exposure in blown-out areas such as the subject's cheeks and forehead.

Camera phones are especially susceptible to setting exposure on the bright areas, which leads to overdarkened shadows. You can turn on the flash by toggling through the modes (On, Auto, and Off). The flash punches up details when you're within a few feet, so stay close to your subject.

Experiment with using the fill flash on backlit subjects, too. For example, avoid the cliché of a sunset photo featuring a bland, dark subject in front of the colorful sky. Fire the flash to light up the foreground, instead.

### Adjust ISO Settings for Better Night Shots

I'm much more sparing with the flash at night. Harsh, flat light can blow out camera-phone images, and weaker



flashes might not counteract this problem adequately.

So I prefer to use whatever moderate light is available, disable the flash, and ask subjects to hold still. You'll also have to hold the camera steady, and turn on the stabilizer in your phone's camera app settings (if available). Admittedly, parts of the image might blur anyway, but you still have other tools to improve night photos taken without the flash.

A camera phone's ISO setting mimics film speed on standard cameras; a higher number is supposed to be more sensitive to light. But in reality, cranking up the

ISO can cause your images to fill with noise—pixelated bits of color that don't belong where they appear. To find an ISO equivalent that yields good results, experiment with the setting on your camera phone; on the Droid X, look under *Settings* • *ISO equivalent sensitivity*. I like to turn it up manually to about 400 in dark situations.

### Don't Use Digital Zoom

Your camera phone has fixed optics; it can't magnify the image—and zoom—by moving its lens. Instead, you have a digital zoom, which you should almost never use.

A digital zoom blows up the pixels instead of capturing finer details. You can produce the same effect on your PC with Photoshop or another image editor later. And that's what you should do; you can't un-digital-zoom a captured photo, but you can zoom in to an image later on your PC, cropping out unneeded edges.

Want to fill the frame? Walk closer to your subject. If you absolutely can't get closer, such as when you're taking a shot of a reclusive celebrity in the wild, I'd still recommend avoiding the digital zoom; instead, consider blowing up the area you want on your PC later.

### Great Lighting Makes Great Photos

Even the cheapest camera phone can capture terrific pictures in ideal lighting. Since you won't be toting your own lights, pay attention to what's available as ➤

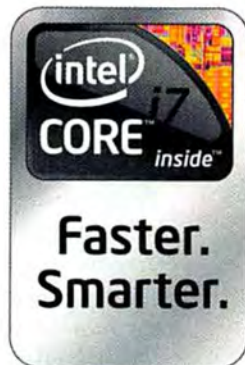


**TAP THE ISO setting** to rein in an automatic setting that may be too high (causing noise) or too low (lacking sensitivity).



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# Here's How

you compose your shots.

In most cases, you'll want the light to be at your back. Reposition yourself or ask subjects to move if you are shooting into the sun.

Think about multiple light sources for the best photos. Studios often use a combination of three light sources—a key light, a fill light, and a back light—to illuminate scenes. The key light is the brightest, coming from near the camera; meanwhile, a fill light is set off to the side to soften shadows, and a back light sits far to the side or behind the subject to add a sense of depth.

Follow similar conventions when you can. Maybe an indoor, afternoon shot could use windows as the key and fill lights, and a lamp as a back light. But avoid having bright light sources in the image, since the camera phone will end up setting exposure on that point.

## Take Sharper Photos

Taking too many blurry photos? Either your camera is moving too much or your subject is. The former produces a picture that's completely blurred, while the latter creates a picture with some sharp elements but a blurred subject. Here's how to fix the problem.

To reduce camera movement, stay still when firing the lens. Hold the camera phone with both hands, and keep your elbows tucked in to the sides of your body for support. Press the shutter button, but make no other movements—such as lifting your finger—until you're sure the image has been taken.

On the Droid X, I hold the shutter button down part-way to set the focus; then I press it down the rest of the way to capture the shot. I don't lift my finger from the button until after the image is processed. Remove your finger early, and you might shake the camera.

If you are shooting with ample light, you can prevent subjects from blurring by increasing the shutter speed. In most cases—such as on the Droid X—you'll do this by selecting *Scenes•Sport*, since a camera phone typically doesn't include manual shutter-speed settings.

## Use Blur to Draw Focus

Use camera-phone blur to your advantage, bringing attention to your subject while blurring the background. A short depth of field (the distance in focus) is the classic way people create such an effect.

You'll need ample light and an Android phone with manual exposure settings for the best results. Set the aperture as low as it can go in your camera app settings' manual mode. If you don't have that manual setting, try putting your camera phone in the Portrait auto-mode if available. (I picked *Scenes•*



**THE PORTRAIT SETTING can help reduce the depth of field.**

*Portrait* on the Droid X.) Regardless of how you choose to proceed, the effect will be more prominent if you position yourself within a few feet of your subject and stay far from the background.

Motion blur can create a different sort of feel, causing blur if either the subject or the camera moves. If they're moving together, however, only the background will blur. Try focusing on a friend as you walk together, keeping the subject in the same position in the frame. Since the two of you are in roughly the same relative position, your friend will remain sharp but the background will blur. This effect works best in darker situations—such as at dusk—when the camera has to extend its shutter speed. Alternatively, create a lot of background movement, for instance by shooting from a moving car.

## Use Timer Apps

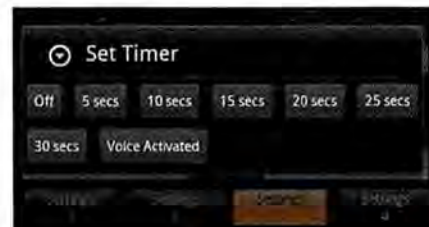
You can capture great photos with your Android phone's built-in camera app, but add-on apps can enable even more features. In choosing such an app, I looked past the filters and other gimmick apps to tools that add timer functions, which the

default Droid X camera lacks.

Camera Zoom FX offers several effects, but right now you want the timer tool. For a group shot, prop up your phone where it can see everyone; then go to *Quick Settings•Settings 3•Timer* to enable the timer. Add the burst mode to take a series of shots at once; it's easier than walking back and forth to repeat. Just go to *Quick Settings•Settings 3•Burst Mode*.

## Do Something Fresh

Many photos have an undesirable camera-phone look not because of inadequate hardware but because the photographer used a typical camera-phone angle: eye level, far from the subject. To get better photos, shoot from unique perspectives. Try getting down to kid-height to record children playing, or try capturing a



**CAMERA ZOOM FX lets you set several timer options so that everyone stays in the picture.**

group shot from a low angle after your team conquers a mountain. Most important, get close to your subject.

Experiment with all of these tips to get familiar with your Android camera phone. With a bit of practice, you can develop the technical and artistic skills to snap great photos in spite of the fixed, cheap lens.

—Zack Stern



**TOGGLE TO THE Sport setting to increase the shutter speed.**





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## **?** Will my XP software still work if I upgrade to Windows 7? —Bill Hullender

ALMOST CERTAINLY. Most programs that work in Windows XP and Windows Vista will have no trouble in Windows 7, though there are a few exceptions, of course. To confirm that a particular program works in the new environment, look it up at the Windows 7 Compatibility Center ([find.pcworld.com/70878](http://find.pcworld.com/70878)). Once there, you can browse through program types or search by the program's name. Or visit the program's Website and see what it says on the matter.

If you discover that a program you want to keep and continue to use does have a problem, you have four options.

1. Run the program in XP Compatibility Mode. Right-click the program file or a shortcut to the program on the Start menu, and select *Properties*. Click the *Compatibility* tab. Check *Run this program in compatibility mode for* and select one of the XP options from the pull-down menu. Then hope it works.
2. Upgrade to a more recent version of the XP-compatible program, or replace it with a competitor's program.
3. Install Windows 7 on a separate partition so you can choose XP or Windows 7 when you boot up (see [find.pcworld.com/70879](http://find.pcworld.com/70879)).
4. If you're upgrading to Windows 7 Professional or Ultimate, download and install the Windows Virtual PC and Windows XP Mode ([find.pcworld.com/70880](http://find.pcworld.com/70880)). These applications will allow you, in effect, to run XP inside Windows 7.

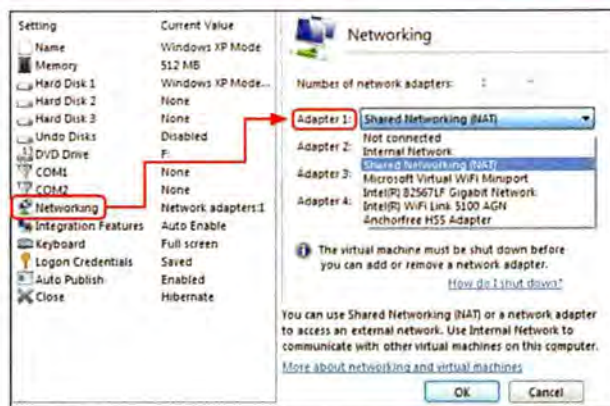
There's one other issue to keep in mind: If you're moving from an older XP computer to a new Windows 7 one, you're probably also moving from a 32-bit version of Windows to a 64-bit version. (XP



**WINDOWS VIRTUAL PC** lets you open older apps in Windows XP Mode with a single click from within your PC's Win 7 operating system.

and Windows 7 come in both flavors, but 64-bit is significantly more common now than it was when new PCs came with XP.) The 16-bit Windows programs from the early 1990s run just fine in 32-bit environments, but they don't work in 64-bit Windows. Consequently, some of your older apps may not work on the new computer.

—Lincoln Spector



**IN THE SETTINGS** for Windows XP Mode, choose 'Networking' in the left pane and select your network adapter (as 'Adapter 1') in the right.

## **?** Why can't Windows 7's XP Mode see other computers on my network? It can access the Internet. —RonE

WINDOWS 7'S XP Mode (part of the Windows Virtual PC) lets you run a separate version of XP inside the newer OS. The Virtual PC is a free but very large download (it contains a complete copy of XP) that works in the Professional and Ultimate editions of Windows 7.

If you have Windows 7 running nicely on your network, with access to the Internet, networked printers, and shared folders on other computers, XP Mode is likely to disappoint you initially. You'll probably get the Internet just fine, but not your local network. So you'll have to set up XP for the network separately.

First, however, you have to tell Windows 7 how XP should access the network. If you are currently running XP Mode, exit it before moving on to this step of the process.

In Windows 7, click *Start*, type **virtual**, select *Windows Virtual PC*, and press **<Enter>**. This opens a Windows Explorer window to the Virtual Machines folder. Right-click the Windows XP Mode file and select *Settings* (not 'Properties'—which is an easy mistake to make). In the left pane, select *Networking*. In the right pane, for Adapter 1, select your network adapter. Click *OK*.

When the dialog box is gone, load XP Mode. To do this from the same Explorer window, double-click the Windows XP Mode file.

In your virtual XP environment, select *Start+Run*, type **netsetup** and press **<Enter>**. Click *Yes* at the 'want to continue' dialog box.

In the resulting wizard, answer its questions as if your system were a stand-alone XP PC. Follow these tips as you do so:

1. Make sure that the Computer Name you enter differs from the one you use for the same PC's normal, Windows 7 environment.
2. Use the same Workgroup name that the other network PCs use.
3. Turn on file and printer sharing.

If the PC still can't access the network, you likely have other network problems. See [find.pcworld.com/70881](http://find.pcworld.com/70881) for additional advice.

—Lincoln Spector



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## RICK BROIDA'S HASSLE-FREE PC

### Force a Stubborn System Clock to Remain in Your Time Zone

THIS MONTH WE look at how to straighten out a laptop clock that always wakes up late (or early); how to select a new user-account picture in Windows XP, Vista, or 7; and how to get your hands on a hotfix designed to correct random system lockups in Windows 7.

#### Fix a Computer Clock That Forgets the Time

Reader Dan loves his Asus netbook—but not its clock. Every time he turns the machine off, it seems to lose a couple of hours, even though the minutes remain accurate.

A computer can fail to keep good time for a number of reasons. It could be the result of Windows failing to connect to its time-sync server, or it could be due to a dead CMOS battery.

In this case, however, it's something much simpler: Dan's netbook is set to the wrong time zone. Readjusting the clock fixes the problem for his current session, but every time he reboots, the clock automatically readjusts itself based on the time-zone setting.

Fortunately, this is a super-easy problem to fix:

1. Right-click the clock in the System Tray (bottom-right corner) and click *Adjust date/time*.
2. In the 'Date and Time' tab of the resulting dialog box, click *Change time zone*. Choose the proper time zone for your location.
3. Click *OK*, then click *OK* again.

That should do the trick, Dan!



**CHANGING THE APPROPRIATE setting in Windows' Time Zone Settings box cures your system of displaying the wrong time at startup.**

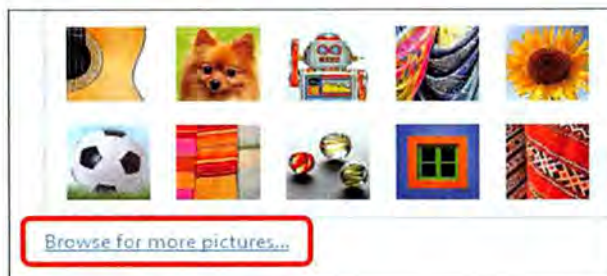
#### Change Your Windows User-Account Picture

When you click the Start menu (or visit the Windows log-on screen), you see an arbitrary thumbnail image of a flower, a soccer ball, a rubber ducky, or one of a handful of other stock Windows images.

Though you don't get many choices when you initially set up your PC (and in some cases you don't get a choice at all), you can easily change the image that's assigned to your user account. Here's how (in Windows 7; the procedure may vary slightly in earlier versions):

1. Open the Control Panel and choose *User Accounts*. (Windows

**Also: Replace your assigned user-account image; and put an end to random system freezes that are driving you to distraction in Windows 7.**



**IF YOU DON'T like the thumbnail images that Windows' User Accounts offers in its first group of options, click 'Browse for more pictures'.**

Vista and 7 users can follow an alternative route to User Accounts if they like: Click *Start*, type *User Accounts*, and press <Enter>.)

2. Click *Change your picture*.
3. If you don't want any of the available thumbnails, click *Browse for more pictures*.
4. Navigate to the desired folder and choose the BMP, GIF, JPEG, or PNG image you want.

That's all there is to it. Now you can customize Windows to be just a little more the way you want it.

#### Fix a Windows System That Randomly Freezes

Of all the hassles that can plague a PC user (and trust me, there are many), few are as infuriating as random lockups.

There you are, typing along, when suddenly everything freezes. No error message, no blue screen, just a locked-up system. Argh.

If you're a Windows 7 (or Windows Server 2008 R2) user, you may be in luck: Microsoft recently issued a hotfix for systems that stop responding randomly.

What causes the problem? Microsoft says it's "a deadlock condition between the Lsass.exe process, the Redirected Drive Buffering Subsystem (Rdbss.sys) driver, and the Winsock kernel." Well, duh! That was going to be my first guess.

The hotfix is available for both 32- and 64-bit versions of Windows 7. (Fun fact: you'll often see these versions represented as "x86" and "x64," respectively.) To get it, click *View and request hotfix downloads*, accept Microsoft's terms, choose the hotfix compatible with your system, and provide your e-mail address.

Click *Request hotfix* and then check your inbox for an e-mail containing a link to the download. (I'm not sure why Microsoft makes you jump through these hoops, but, then again, I'm not sure why Microsoft does half the things it does.)

If you've encountered a random-lockup problem recently, let me know whether this hotfix fixes it. ●



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*Brandish a whopping 50 carats of genuine South American emeralds in a handcrafted new necklace design for less than \$200... and get a \$100 Stauer Gift Coupon!*

**H**alfway into our ambitious trek through the rain forest I had to remind myself that "Nothing good comes easy." These days it seems that every business trip to Brazil includes a sweltering hike through overgrown jungles, around cascading waterfalls and down steep rock cliffs. But our gem broker insisted it was worth the trouble. To tell you the truth, for the dazzling emeralds he delivered, I'd gladly go back to stomping through jaguar country.

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— **JAMES T. FENT, Stauer**  
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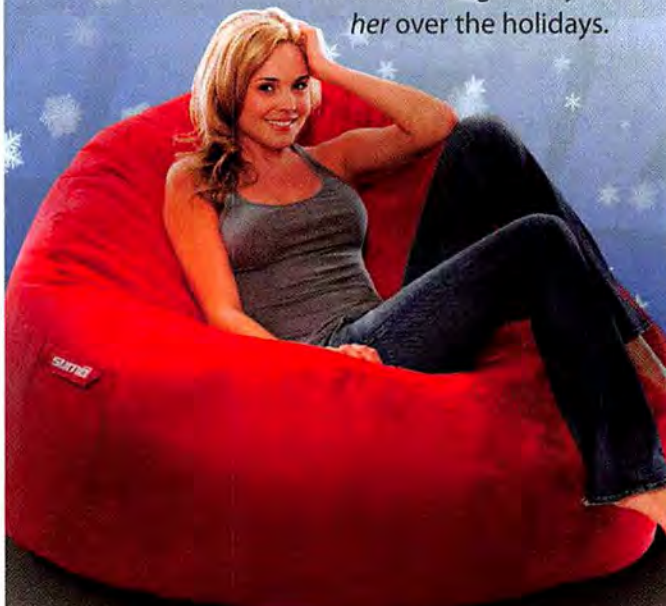
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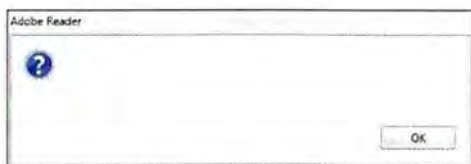
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## FROM OUR READERS



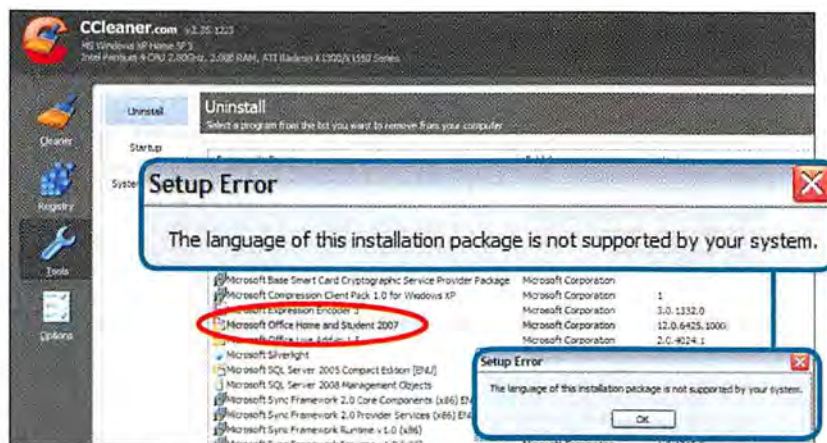
## ↑ The Cost of Free Shipping

For a little under \$10 million, reader James Jameison could have avoided those pesky shipping charges. And to think, he was so close!



## Should I Press OK? ↑

Rich Ackerman's new iPod Touch came with a user manual in a PDF file. When Ackerman launched it, however, the resulting Adobe Reader dialog box yielded more questions than answers.



## No Habla Microsoft

Steven Wallace wanted to clear out disk space by deleting some unused programs. It never occurred to him that Microsoft Office's installation package didn't support English.

## Plugged In

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### On the Small Screen

*The Social Network*, aka the Facebook movie, is a surprise hit. We've now started working on a script based on Twitter—140 characters at a time.



### Off the Beaten Track

Google Street View extends its reach into Antarctica. Already three penguins have complained about an invasion of privacy.



### Game On

A huge Tetris game on display in a Madrid plaza lets two people control the action with their bodies. The event was preceded by the traditional Running of the Blocks.



### I Remember Ewe

Facebook now lets you download and save your status updates. Finally, a way to hang onto those precious FarmVille memories forever.



### Net Newbies

A recent survey shows that 92 percent of kids in the United States have an "online presence" by age two. Our proposed new acronym: LMDO, for "laughing my diaper off."

—JR Raphael and Steve Fox

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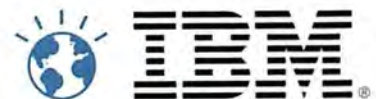
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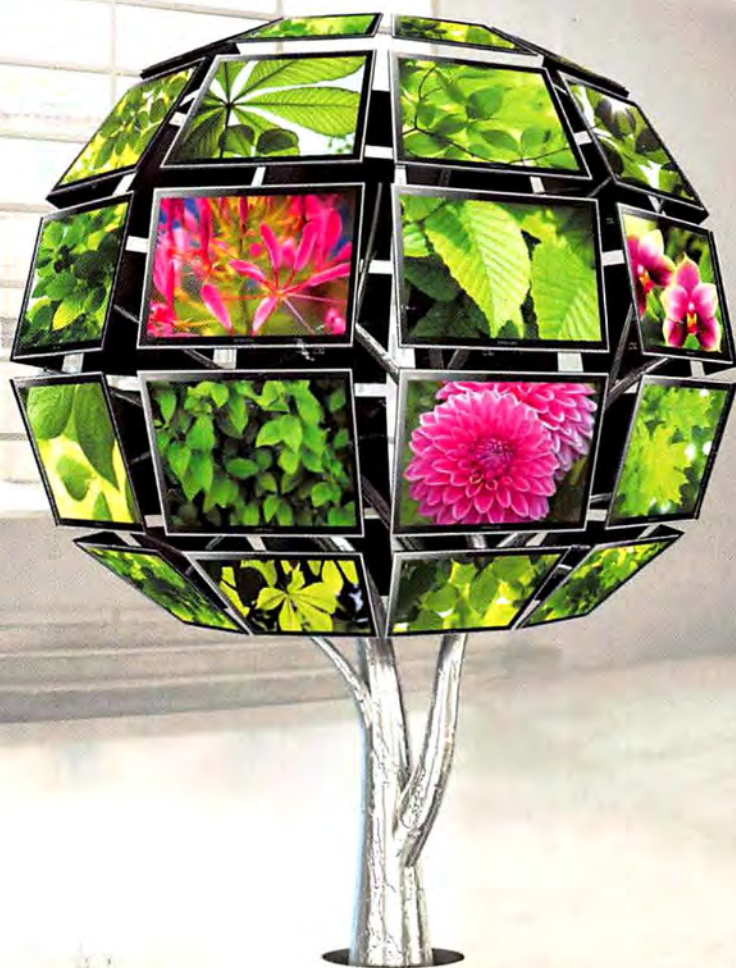
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