

PC WORLD

TECHNOLOGY ADVICE YOU CAN TRUST™ ♦ WWW.PCWORLD.COM ♦ PC WORLD MAGAZINE SUBSCRIPTIONS

PRINTING TIPS

SUPER GUIDE

SPONSORED BY

OKI[®]
PRINTING SOLUTIONS

The editorial content in this Printing Tips Insider's Guide is a compilation of articles that appeared in *PC World* magazine and on the PCWorld.com Web site. The sponsor, OKI Printing Solutions, paid the production costs of this guide, but it played no role in selecting the topics covered or in creating the editorial content and artwork in the articles.

Copyright © 2006, PC World Communications, Inc. All rights reserved. The trademark PC World is owned by International Data Group and used under license by PC World Communications, Inc. Printed in the United States. You must have permission before reproducing any material from *PC World*. Direct inquiries to permissions@pcworld.com.



- Spectacular high-quality color performance
- Live, toll-free technical support services 24/7, 365 days a year with agents based in North America
- Higher savings with a lower total cost of ownership and lower color and mono cost-per-page¹
- Industry's fastest Digital LED color printer²
- Single Pass Color™ technology makes media possibilities more flexible than ever
- Solutions customized to fit your business



- Laser color printing

It's clear which printing solutions deliver more.

OKI Printing Solutions does more than the competition by delivering a full line of color printers that provide the best balance of product, performance, solutions and support.

Compare how OKI Printing Solutions' full line of award-winning color printers give you more than the competition by calling 1-866-OKI-COLOR or visiting www.okiprintingsolutions.com/us.

NEW



C7350n
February 2005



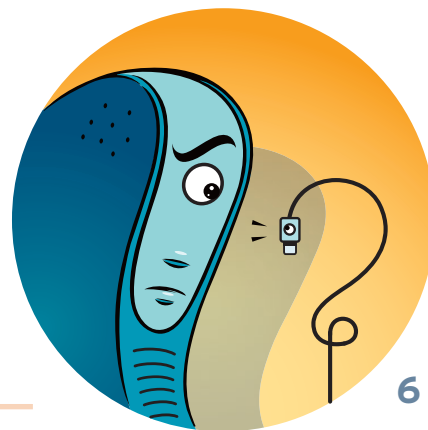
C9800 Series
August 2005



C9600n
October 2005



**C5200/C5400/
C9600 Series**
January 2006



Printing Tips

ARTICLES

PHOTO PRINTER TIPS

4 Get Great Photo Prints Without Breaking the Bank

Improve the quality of your photo printer's output for free by tweaking settings in Windows and on the device itself.

HARDWARE TIPS

5 Keep the Output Flowing From Your Laser Printer

Quick cures for the most common laser-printer maladies, from bad PC connections to chronic paper jams.

HASSLE-FREE PC

6 Smart, Free Fixes for Your USB Hassles

No way around it: USB can be flakey. Here's how to get your devices working together with minimal aggravation.

HARDWARE TIPS

7 Nine Quick Steps for Hassle-Free Printing

Avoid common printer problems with these quick and easy steps. We focus on snafus that can affect low-priced inkjets.

FINISHING TOUCHES

8 Print Your Own Photo Album

Create a hardbound photobook showcasing your best shots. With the right touches it will be worthy of your coffee table.

OUTPUT

10 Print Anything You Want

Postage, bar codes, airline tickets, checks, coffee mugs, sushi. You get the idea, now get the tools and details.

MOBILE

12 Printing on the Go

When you're away from a printer, consider using one of these Internet services. We deal with the glitches so you won't have to.

PAPER

14 How to Pick the Perfect Photo Paper

The secret to great photos often lies in the paper. Select mediocre paper and you'll get mediocre prints.

MAINTENANCE

15 Avoid Printing Problems

A little preventative maintenance and advance planning assure you of trouble-free printing and better prints.

PHOTO PRINTER TIPS

JEFFREY FUCHS

Get Great Photo Prints Without Breaking the Bank

AS MANY PHOTO-PRINTER owners have found out, paper and ink costs can quickly exceed the cost of the printer. These six tips will help you get the most bang for your photo-printer buck. Be sure to see “The Cheapskate’s Guide to Printing” (find.pcworld.com/51052) for great cost-saving tips for any printer.

Raise the resolution: Any digital camera less than three years old can capture at least 1 megapixel of data with each shot. This is sufficient to print a good-quality 4-by-6-inch photo; a 2-megapixel image holds enough information to output a higher-quality print of the same dimensions. To generate an 8-by-10-inch print worth framing, you’ll need a resolution of at least 3 megapixels. You’re in a good position if you have a new camera. As our point-and-shoot camera chart (find.pcworld.com/51050) indicates, most new models offer from 4 to 8 megapixels.

KEEP YOUR NOZZLES CLEAR

LEAVING ANY INKJET idle for even a week or two can allow the ink in the tiny tubes that feed the nozzles to dry. The resulting clogs cause streaks and other anomalies in your pictures. If the tubes become too blocked, you’ll need the services of a professional (at upward of \$85 an hour). The results of inkjet cleaning kits (which cost from \$15 to more than \$50) are mixed at best. To avoid clogs, print at least once a week. Some printers run a maintenance routine on startup, meaning that you can keep the nozzles clear simply by turning your printer on and off once a week. Check your device’s manual to see whether it has this feature.

Adjust your camera to its highest resolution when taking shots you might want to print. Some newer cameras, depending on the manufacturer’s menu setup, make it very easy to change resolution on the fly on purpose or by accident.

Save your originals: Don’t save the images you plan to print as JPEGs or in any other compressed file format. Each time you compress an image, you lose data. Before working with an image, make sure it’s unaltered and in the TIFF format.

Enhance the image: Experiment with your image-editing program’s cropping, brightness, contrast, and other controls until you’re entirely satisfied with the image’s composition. Always save the altered file with a new name.

Plan your print drafts: If you plan to make test prints that you’ll discard later, reduce the image size and load the printer with plain-old \$2-a-ream paper. Your printer software may let you print multiple images on one sheet.

Use matte-finish photo cards instead of glossy photo paper when printing 4-by-6-inch images (assuming that your printer supports this paper size; most do). The cards have a nice look and feel, and they cost about 10 cents each, versus 20 to 25 cents each for full-size photo paper. Place the images that you print on 8-by-10-inch glossy photo paper behind glass for added protection from ultraviolet light, and hang them away from direct sunlight.

Save on your ink: Special photo inks such as those that come with Canon’s i960 printer (find.pcworld.com/47988) can

provide your printer with a more refined color palette. Unfortunately, if such ink didn’t come with your model, you may have to buy it separately and install it in place of the standard ink cartridges.

In some instances, photos printed using general-purpose cartridges look almost as good as ones printed using photo ink. Another effective trick is to print your black-and-white photos in color mode (with standard color cartridges). This forces the printer to use all of its inks to create the tones in your picture. The resulting prints can be as subtle and precise as pictures printed with photo inks.

Get your cartridges in line: Use your printer’s controls to realign your cartridges—

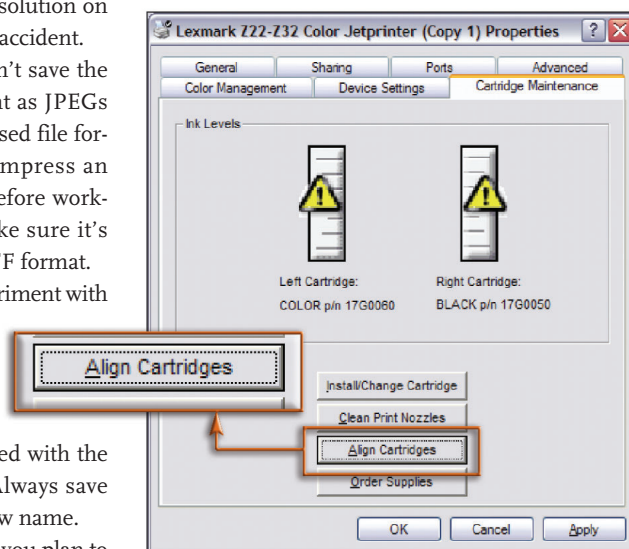


FIGURE 1: AVOID LOUSY PRINTS by making sure your printer’s ink cartridges are properly aligned.

especially if you see horizontal or vertical bands, unwanted lines, gaps, or bleeding colors in your prints. Right-click the printer’s entry in Control Panel’s “Printers and Faxes” or “Printers” applet, click *Properties*, and look for a cartridge maintenance option (see **FIGURE 1**). If aligning your cartridges doesn’t solve the problem, clean the cartridges with a cotton swab dipped in isopropyl alcohol. Use water only as a solvent, and clean just the cartridge itself, never the printhead or the nozzle plate. Always align new cartridges. ■

Jeffrey Fuchs is a Northern California-based freelance writer.

HARDWARE TIPS

KIRK STEERS

Keep the Output Flowing From Your Laser Printer

PERSONAL LASER PRINTERS combine the economy and print quality of their more expensive enterprise counterparts with the price of an inkjet. Personal lasers lack an IT department to keep them running, however. Here's how to solve problems that may plague your laser printer.

Ask Mr. Wizard: The Windows Printing Troubleshooter wizard focuses on basic problems, but it's well worth trying. In Windows XP, choose *Start•Help and Support*, type **list of troubleshooters** in the Search box, and press **<Enter>**. Click *list of troubleshooters* in the left pane, select the *Printing* troubleshooter from the list on the right, and follow the steps. In Windows 2000, click *Start•Help*, and choose *Troubleshooting and Maintenance* on the Contents tab. Select *Windows 2000 troubleshooters*, click *Print* in the list of troubleshooter wizards in the right pane, and follow the steps. To open the wizard in Windows Me, click *Start•Help*, type **troubleshooter** in the Search box, and click *Go*. In Windows 98, select *Start•Help•Contents•Troubleshooting•Windows 98 Troubleshooters•Print*, and follow the wizard.

Check the basics: If your printer is plugged in but doesn't power up, look at the fuse or circuit breaker on the surge suppressor that your printer is plugged into. Reseat both ends of the USB or parallel cable that connects your printer to the PC. Many laser printers have an online/offline control on the front panel that may have been bumped inadvertently.

Print a test page: Most printers can run a self-test if you hold down one or more buttons on the control panel while the unit powers up. If the test page looks good, then the problem lies with your

data cable, PC, or software. If the printout doesn't look right, see the chart below for a list of common problems and solutions.

Get the latest: Install the newest driver and firmware for your printer. Both should be available from the maker's Web site. To install a new driver in Windows XP, select *Start•Printers and Faxes* and choose *Add a Printer* under Printer Tasks on the Explorer bar in the 'Printers and Faxes' window. In Windows 2000, Me, and 98, remove the printer's driver and reinstall it: Select *Start•Settings•Printers* to open the Printers window. Right-click the printer, select *Delete* (choose *Yes* if you're asked to verify the removal), open the Printers window again if it closed, double-click *Add Printer*, and complete the reinstall.

Stop jam sessions: Always remove any

jammed paper by pulling it in its normal direction of motion through the printer. If your printer chronically jams, unplug it, let it cool down, remove its toner cartridge, and examine the interior for any debris that may impede paper movement.

Check your connections: If your printer uses a USB connection, open Device Manager and look for a red X or an exclamation mark in a yellow circle next to any of the USB device listings: In Windows XP, 2000, and Me, click *Start*, right-click *My Computer*, and select *Properties•Hardware•Device Manager*. In Windows 98, right-click *My Computer* and choose *Properties•Device Manager*. These icons can signify a problem with your printer's link to your PC. If your printer stops working when your system comes out of hibernate or suspend mode, double-click each root hub listed under USB, select *Power Management*, and uncheck 'Allow the computer to turn off this device to save power'. If you're using a USB hub, see whether connecting the printer directly to the USB port on the PC solves the problem. ■

Go to find.pcworld.com/31511 for past Hardware Tips columns. Send your tips and questions to kirk_steers@pcworld.com. We pay \$50 for published items. Kirk Steers is a PC World contributing editor.

Common Laser Printer Problems

HERE ARE FIXES for the most common laser printer maladies.

PROBLEM	Cause	Solution
Light print or uneven print density across the page	The toner is low.	Take out the cartridge and gently rock it to redistribute the toner.
Small white spots	The toner isn't sticking to the paper; the paper may also be too thick or moist.	Try a different paper.
A vertical black line on the edge of the page	The toner cartridge is empty or faulty; or toner may have spilled inside.	Replace the toner cartridge.
All-black page	The charger corona wire is faulty.	Remove and reinsert the toner cartridge. If that doesn't work, replace the cartridge.
All-white page	The toner is low, or the transfer corona wire is faulty.	Check the toner level; a transfer corona wire problem requires repair servicing.
Offset margins, strange spacing, or unusual text alignment	The document or image is too large for the available print area.	Check the Unprintable Area settings on your printer driver's Paper tab.
Only part of an image prints	The printer has run out of memory.	Add memory to the printer or lower the print resolution.



HASSLE-FREE PC

STEVE BASS

Smart, Free Fixes for Your USB Hassles

Make that kudzu-like array of USB devices and ports work—once and for all.

WHEN USB WORKS, it's great. But half the time, it's as flaky as Boston Red Sox slugger Manny Ramirez. Sit tight. I've discovered what could be the sources of your USB problems, and—miracle of miracles—how you can fix them.

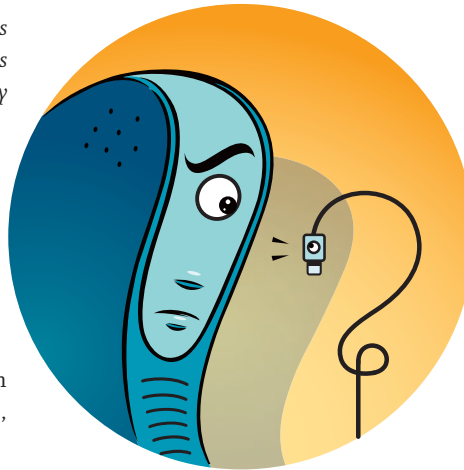
The Hassle: *Some days, my computer does not see my USB scanner, while on other days it does; the same thing happens with my external hard drive.*

The Fix: The culprit here may be overcurrent, either on the PC's USB ports or on a powered USB hub. Overcurrent occurs when too many power-draining USB peripherals are turned on at once, causing some devices not to be seen by the PC. This glitch usually arises with devices that need power from the USB port, such as unpowered hubs, memory card readers, and flash drives.

There are three possible workarounds. First, try connecting the problem device after the system boots. No luck? Then switch the position of the devices, either on your PC's USB ports or (if you use one) on a powered USB hub. Lastly, you can spread out the devices. Start by connecting a powered USB hub to your PC; make sure you provide power to USB

devices that have that option, and distribute the unpowered and self-powered devices across two hubs. You may have to experiment to get the right combination.

Yet another problem solver: Determine



whether your PC has the most current USB drivers with Intel's free USBReady utility (find.pcworld.com/49159).

HIBERNATION BLUES

The Hassle: *When my system comes back from hibernation or standby mode, some of my USB devices just keep on dozing.*

The Fix: That happens because Windows XP wants to conserve power, so it turns off the USB root hubs. You can change the default setting: Open *Control Panel* • *Performance and Maintenance* (if in Category view) • *System* • *Hardware* • *Device Manager*, and click *Universal Serial Bus controllers*. Double-click *USB Root Hub*, choose the *Power Management* tab, and then uncheck *Allow the computer to turn off this device to save power*. Repeat this procedure with each occurrence of a USB root hub. On a notebook, this trick will cost you some battery life.

The Hassle: *When I plug my external hard drive into my PC, it gets recognized. But when I unplug the drive and then plug it back in, my system ignores it.*

The Fix: Depending on the device involved, your PC's operating system may take as long as 5 minutes to find a peripheral (a process officially known as enumeration). External hard drives, including flash drives, can take up to a minute to be seen. My rule? Plug it in, don't fiddle with anything, and have patience. If you use a notebook and an unpowered hub, limit the number of devices to two. Better, buy a hub that offers a power option.

The Hassle: *My USB printer is printing out gibberish. Any idea why? And where can I find a good hardware exorcist?*

The Fix: Data starts petering out when transmitted through cables longer than 5 meters (about 16 feet). If you must use long cables, buy a \$20 active extender or repeater cable; some are available online at find.pcworld.com/49158. ■

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

TOOL OF THE MONTH

Smart USB Diagnostics

IF YOU'RE HAVING USB problems, take a look at USBInfo, a pricey but indispensable diagnostic tool. On one screen, USBInfo identifies all your USB 1.1 and 2.0 devices and ports, including the way that they're connected, the device specs, and the peripheral names. The program neatly displays all ports, hubs, add-in con-

trollers, and connected peripherals in a handy tree view. The utility also tests each USB device or controller to determine whether its actual speed matches the manufacturer's claimed speed. USBInfo works with all current editions of Windows; grab a trial version of the \$40 tool at find.pcworld.com/49161.

HARDWARE TIPS

KIRK STEERS

Nine Quick Tips for Hassle-Free Printing

PRINTERS—NOTABLY those econo-box ink jets that cost less than a couple of replacement ink cartridges—can be finicky beasts. Here are some tips to minimize the pain of your publishing experience.

Be a quick-change artist. If you frequently switch orientation (landscape or portrait), paper size, or print quality, configure a separate copy of your printer's driver for each group of settings. When you print, pick the driver whose settings you need from the drop-down menu under *Printer* in the Print dialog box (see **FIGURE 1**).

In Windows XP, click *Start*•*Control Panel*•*Printers and Other Hardware* (in XP's Category view)•*Printers and Faxes*, and double-click *Add Printer*. In 98, 2000, or Me, click *Start*•*Settings*•*Printers*, and double-click *Add Printer*. Step through the wizard, and when prompted, select your printer and the settings you prefer. When you're asked to enter a name, give the driver a title that reflects its settings, such as **DeskJet--draft, portrait, legal**.

Flip the right switch. Turn off your ink jet printer via its own power switch, not the switch on its surge protector or on some

other device. Many ink jets automatically clean and park the printhead only after the on-board power switch is thrown.

Get the latest and greatest. Download and install the latest drivers for your printer from the vendor's Web site. This will help improve its performance, enable new features, and fix any bugs.

Keep it clean. Dust, dirt, and paper scraps can cause all kinds of printer problems. Keep a can of compressed air handy—it costs less than \$10 at your local computer store. If your printer sits in a dirty or dusty environment, cover it with a piece of plastic when you aren't using it.

To keep your printheads clear, run the head-cleaning program that came with the device. If that doesn't work, soak the printhead in warm water and then gently dab it with a dry, lint-free cloth.

As a last resort, brush it lightly with a cotton swab soaked in isopropyl alcohol, but take care not to spill any of the liquid on any other printer parts.

Use the right paper. Most ink jets print well on standard, 20-pound copier paper, but they tend to jam when loaded with heavier-weight paper. Some types of paper absorb too much ink, resulting in blurry or too-light images.

Use different paper brands and weights, especially those recommended by your printer's maker, until you find the best mix for your machine.

Avoid paper jams. Before inserting paper in the printer's tray, even up the edges by

placing them against a flat surface. Don't mix paper of different weights or types. In humid climates, store paper in an airtight container to keep it from absorbing moisture, which can lead to paper jams.

Get a faster connection. If your printer connects to your PC's parallel port, use an IEEE 1284-compliant printer cable (if you bought the cheapest cable available, it's probably not 1284-compliant). Next, enable ECP or EPP in your computer's Setup program. These features are often disabled by default.

Either technology can boost your parallel port's data throughput. To enter your Setup program, strike the key you're prompted to enter when your PC starts but before Windows loads. Look for an option labeled 'ECP' or 'EPP'.

Use it or lose it. If you don't use your

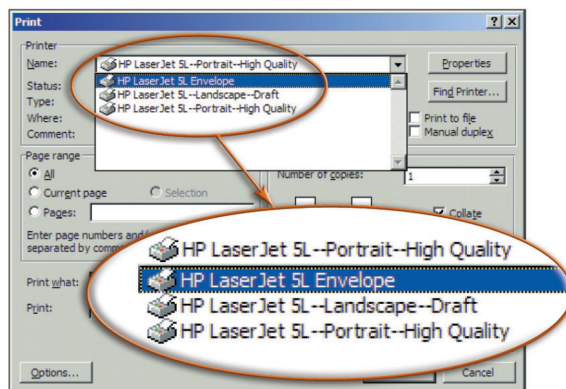


FIGURE 1: CHANGE PRINTER SETTINGS quickly by creating multiple copies of your printer's driver.

printer very often, print a test page once a week. And if you have a color printer but print mostly in black and white, print a color image once a week. If you switch between color and black ink printheads, store the cartridge you're not using in its factory container or in a sealed bag.

Don't waste wood. The FinePrint utility lets you print multiple documents on one sheet of paper. The program is free to try and \$50 to keep. Go to find.pcworld.com/40532 to download your copy. ■

Go to find.pcworld.com/31511 for past Hardware Tips columns. Send your tips and questions to kirk_steers@pcworld.com. We pay \$50 for published items. Kirk Steers is a PC World contributing editor.

WATCH YOUR PC'S PULSE

IS YOUR PC tired, overworked, and maybe running a bit torpidly? The first step in diagnosing the cause of a pooped PC is to monitor its CPU, RAM, and virtual memory as it performs various tasks. The Cool Beans System Info utility does just that—displaying all this information in a small, unobtrusive box the size of a couple of postage stamps. And best of all, the program is free. Go to find.pcworld.com/40535 for the download.

Print Your Own Photo Album

Give your best photos the treatment they deserve by designing your own hardbound photo book—and printing it yourself.

ERIC BUTTERFIELD, PC WORLD

I'd like to think that my best photos approach professional quality. (Wouldn't we all?) But displaying my 4-by-6-inch prints in a typical photo album won't earn them any respect when they sit next to a coffee-table book full of stunning photographs. They deserve the special touch of a hardbound book.

There are services that will create a book from your photos for between \$30 and \$40 (see "Have Someone Else Do It," below), but a novel alternative is to print the book yourself using a special kit, such as Epson's StoryTeller, and an inkjet printer. I tried Epson's product, with mixed results.

Create Your Book: The Fun Part

Epson's StoryTeller photo book creator kit (find.pcworld.com/50988) comes with design software, a hardcover binding, a clear plastic cover, and glossy paper. The \$30 kit I tried made a book with 20 glossy pages measuring 8 by 10 inches, though it comes with two extra pages and an extra cover sheet in case you or your printer make a mistake. The company also offers a 10-page book with 8-by-10-inch pages for \$25, and a 10-page book with 5-by-7-inch paper for \$20.

The fun is in designing the book, because that's the most creative stage. The software, called StoryTeller Publisher, is easy to use. First, you drag and drop photos into the "photo bin" along the bottom of the interface. From there you select photos for your book. You can choose to have the software place the photos for you, but if you want to document a trip in chronological order, you'll want to select the location of the photos yourself.

StoryTeller Publisher offers six layout styles with ten page types each. Most of the simple designs are adequate for documenting trips or family trees. The graphic embellishments on the Rock & Roll layouts, however, look amateurish and resemble my high-school yearbook much more than they do my Led Zeppelin album covers. On a more practical level, the variety of page types should grant you ample flexibility; for example, two page designs in "The Way We Were" have a photo in the center (presumably for the patriarch or matriarch of your choice) surrounded by smaller photos (presumably for offspring).

The software includes convenient tools for fixing red-eye, sharpening, and adjusting brightness, contrast, and color. To change

the orientation or size of a photo, or to enter a caption, you double-click on the item to open a pop-up window where you apply your changes. You can't change the size of the text captions, though you can choose a color.

Unfortunately, the photo bin gets a bit unwieldy to use if you've placed many photos in it; a button on either side makes the window scroll through your photos, but there isn't a scroll bar with a draggable icon to speed things up. Also, the software slowed down after I'd imported dozens of photos; and as you might expect when working with a lot of image files, saving the book you've designed can be slow.

Put It Together: The Grunt Work

I have no complaints about my printouts. The book cover and pages I printed on Epson's new Stylus Photo RX700 multifunction printer looked great. The photos on the cover were colorful and sharp, and the accompanying title looked professionally laid out, as did the text on the inside cover flaps.

But putting it all together left me thinking that I'd rather just ship the project off to be printed. Attaching the printed pages to a series of adhesive strips in the book binding was less than ideal. And unfortunately, these pages are printed on one side, not two like a store-bought book.

To protect the book cover you print, there is a clear plastic sleeve that folds over it. This sleeve didn't fold over the edges of my book neatly, and I didn't like having to tape the sleeve to my printout to get it to stay on. The finished cover reminds me of a library book, which I don't like.

Also, although I followed Epson's directions to flatten the creases in the cover sheet before printing on it, one of them picked up ink while going through the printer; this left an unsightly black line running up the book cover's front edge.

Here's another gotcha: If you don't own an Epson printer, you may run into difficulties. For example, the StoryTeller manual warns that Hewlett-Packard printers can't print the full-length covers for the 5-by-7-inch book; you have to print the front and back covers on separate pieces of paper. So much for having extra sheets in case you make a mistake. The manual also ►

says that Canon printers can't print full-length covers for the 8-by-10-inch book.

Have Someone Else Do It

If you'd like to bypass the whole printing and assembly process, you could order one of Shutterfly's photo books (find.pcworld.com/50990). The service will print a 20-page book in a suede or satin cover for \$30. You design your book using the Shutterfly Web interface—though this isn't as easy to use as the StoryTeller software, nor does it offer as many layout options. One bonus, however, is that you can add pages to a Shutterfly book for \$1 each. You can't add pages to Epson's books; the page count is fixed at 10 or 20.

Apple (find.pcworld.com/50992), Eastman Kodak (find.pcworld.com/50994), and MyPublisher (find.pcworld.com/50996) also offer book-printing services.

Take Note

Who said the money wasn't in supplies? As if to prove correct the old saw that the printer business is based on the razor model (in which the vendor gives you a free shaver in order to make money on replacement blades), now there is FreePrinters.com (find.pcworld.com/50998). The company will give you a printer "for free" in exchange for a supplies contract. New models include the Xerox Phaser 8500 and the Okidata C5200N.

Don't like free? How about \$1? If your business could use a color laser printer, and you're willing to commit to purchasing four sets of toner in the next 12 months, TallyGenicom (find.pcworld.com/51000) will sell you its T8016 printer for \$1. The retail price of the 16-pages-per-minute printer, which has an Ethernet connection and a duplexer, is \$1499. ■

Print Anything You Want

Considering the variety of things you can print yourself, personal printers are downright revolutionary.

ERIC BUTTERFIELD, PC WORLD

Whether inkjet or laser, today's printers offer a lot of convenience beyond just printing documents and driving directions. Being able to print quickly on a whim can save you time, cut business costs, and give you flexibility to create one-off materials. If you need only a few promotional postcards, for instance, why should you buy a bunch of extras just because a print shop requires a big minimum order?

The variety of things you can print may surprise you. Some of them will save businesses time and money, while others will thrill hobbyists and general consumers.

Postage

Stamps.com (find.pcworld.com/51002) offers a service whereby you can print postage with the inkjet or laser printer you already have, without having to buy a specialized postage printer. The service costs \$16 per month.

Pitney Bowes used to offer a service called ClickStamp Online that allowed you to print postage with your own printer. In its place, the company now offers a \$20 monthly plan (find.pcworld.com/51004) that includes the rental of a postage meter and scale—you can print postage but you can't use your own printer.

Bar Codes

If the image of bar codes tattooed onto the backs of prisoners' heads in *Alien 3* horrified you, you may not rejoice to learn that printing bar codes is easy—and much less painful than getting a tattoo.

You can print bar codes by the sheet with an inkjet or laser printer, or print them individually with a smaller label printer. All you need is software and a specialized font from a company such as IDAutomation (find.pcworld.com/51006) or Seagull Scientific (find.pcworld.com/51008).

Airline Tickets

Self-check-in kiosks at airports are a fine invention. But they don't save you time if the passenger in front of you is cursing at the screen in frustration. Print your boarding pass at home. Many airlines offer this service when you make a reservation online.

Business Cards

Need an elevated title for the day? Print your own business cards. Avery's Clean Edge (find.pcworld.com/51010) business cards break off from the paper around them without leaving little nubs—that sure sign of a do-it-yourselfer that may undermine your credibility.

Event Tickets

Many organizations, from professional sports teams to museums to ski resorts, let you print your own tickets. Why wouldn't they? E-mailing a PDF file of a ticket costs a lot less than printing it—and some organizations will get you with a service charge for the convenience of hitting the slopes instead of the ticket line.

Companies like ClicknPrint (find.pcworld.com/51012) offer this service to venues. Typically, the company helps the organization set up an online ticketing site that generates PDFs, and then on the day of the event sets up a laptop and bar-code scanners on a wireless network at the venue. As for the PDFs you print at home, you don't need to worry about using an inexpensive inkjet to print a legible bar code on your ticket—as long as you don't use really cheap paper.

Greeting Cards and Invitations

Printing cards and invitations shouldn't involve a grueling session with a layout program. When you'd rather say it yourself than rely on Hallmark to pen your sentiment, consider using specially designed software and printing the card at home. Mountaincow (find.pcworld.com/51014) and other companies offer such software. Preprinted stationery is available, so for some designs all you need to print is the text. The designs tend to be simple, but if it's the thought that counts, at least the thought is yours.

Checks

We'd all like to make more money, but printing it will get you in a lot of hot water with the Feds. You can, however, print your own checks—even on an inkjet printer. With specialized paper, printing software, and fonts from the likes of CheckMaster ▶

(find.pcworld.com/51016), you're in business. For large volumes, it's probably best to use a laser printer as well as special MICR toner, which is magnetic so banks' machinery can read the checks.

Coffee Mugs, T-Shirts, and Novelties

Need a second income? NovaChrome USA (find.pcworld.com/51018) sells kits for making sublimation transfers so you can put photos on everything from ceramic mugs to mouse pads. First you print your photo on the transfer paper, and then use a heat press to transfer the ink to a piece of metal, plastic, wood, or fabric. These items need a special coating to receive the ink, and fabric needs to have a fair amount of polyester—the ink doesn't adhere well to cotton.

Of course, for starters, you'll need a printer. These inks work with Epson printers, even some low-cost models. For example, you can use the \$99 Epson C86 (find.pcworld.com/51020). A set of specialty inks is pricey, at \$337. The 8.5-by-11-inch transfer paper costs \$15 for 100 sheets from NovaChrome USA. NovaChrome charges anywhere from \$500 to \$1000 for heat presses designed for various needs; go to the company's home page (find.pcworld.com/51022) and click "Heat Presses" in the left column for more information.

Signs

Just because your printer only takes paper up to 8.5 by 11 inches in size doesn't mean you can't make larger signs. Avery Sign Kits come with foam board in various sizes on which you assemble multiple prints to make a large sign. The polymer media that comes with the kits is weather-resistant; there are guides to help you align the prints; and if you goof it up on the first try, no worries: The glue doesn't permanently adhere on first contact so you can reposition your prints if you need to.

Sushi, Circuit Boards—Even Human Skin

Yes, you read that right: A chef in Chicago is printing edible menus (find.pcworld.com/51024); Seiko Epson has printed circuit boards and a giant OLED display; and researchers are pursuing the creation of human skin—and possibly even living tissue—with the help of inkjet printers.

Take Note

Wide-format laser: When I think of wide-format printing, I usually think of big, frameable photos or colorful posters. But the Lexmark W840 (find.pcworld.com/51026) is another kind of animal. It's a wide-format monochrome laser printer that's rated to churn out up to 50 pages per minute. If you want to print Web

pages that are bigger than life, you're in luck: A feature called "Internet bookmark printing" allows users to print documents and Web pages directly from the Internet without using a PC. Also, the USB port on the control panel lets you print PDF files directly from a flash memory device. The base model costs \$2299; the networked model costs \$2899.

Solid-ink and color lasers: Xerox added four new ways to bring color printing to an office setting—two solid-ink printers and two color laser printers. The base model Phaser 8500 (find.pcworld.com/51028), a solid-ink printer, starts at \$899 and is rated to print up to 24 ppm in monochrome and color. The solid-ink Phaser 8550 starts at \$1299 and is rated at 30 ppm in monochrome and color. The color laser models start at \$1299. The Phaser 6300 is rated at 26 ppm in color, 36 ppm in monochrome. The Phaser 6350/DP (find.pcworld.com/51030) costs \$1799 and is rated at 36 ppm in both monochrome and color. All models include Ethernet ports. ■

Printing on the Go

Use these Internet services to print when you're away from a printer.

JAMES A. MARTIN

Feature: Road-Testing Internet Printing

You've got enough gear to haul on business trips: notebook, cell phone, batteries, and adapters (not to mention your battery-operated tooth flosser). So why pack a printer, too? Instead, use the Internet to print your documents.

With an online connection, you can upload a document from your notebook or, in some cases, a PDA or smart phone. The document is then output on a designated printer at a hotel, print/copy shop, or other location.

Recently, I road-tested two Internet print services from FedEx Kinko's and one from EFI, PrintMe. The verdict: FedEx Kinko's services offer the most printing options for travelers. But for travelers needing a quick printout, PrintMe is probably more convenient. All three services have limitations, however.

FedEx Kinko's Print Utility

File, Print FedEx Kinko's (quite a name, eh?) is a utility that lets you output directly from PC applications to some 1200 U.S. and 150 global FedEx Kinko's locations.

Once downloaded and installed, the utility acts like a virtual printer on your computer. When you select Print in an application such as Microsoft Word, the File, Print FedEx Kinko's utility appears as a printer option, just as, say, your HP Deskjet. Selecting the FedEx Kinko's printer opens the printing utility, in which you select output choices (paper type, number of copies, and so on). Enter in a credit card number and contact info, and in a few minutes your document is on its way to the desired FedEx Kinko's location. To download the utility, go to FedEx Kinko's site (find.pcworld.com/51032).

Unfortunately, some trial and error was required before I could use the utility. Early on, an error message informed me that installation couldn't proceed until I closed Microsoft Outlook—even though Outlook wasn't open. Later, I tried installing File, Print FedEx Kinko's on another notebook. Installation halted again, this time because Microsoft PowerPoint was supposedly open—even though it was not.

Hoping to end this stalemate, I called FedEx Kinko's toll-free cus-

tomers support line late on a Friday afternoon. The call was answered promptly, but the representative said a tech support agent would have to call me back. Though I was told to expect the call within an hour, it didn't come until 9:30 a.m. Saturday.

When I did speak to a tech-support agent, he said my particular installation problem was not uncommon. His solution: Open the Windows Task Manager by pressing Ctrl-Alt-Delete, go to Processes tab, select "Office.exe," and then click the End Process button. I followed his instructions, and the installation proceeded successfully.

Why the hang-up? Some third-party apps that integrate with Outlook, such as faxing and PDA synchronization software, fool Windows into thinking Outlook is running even when it isn't, says Sven Folleras, FedEx Kinko's senior manager for application development and architecture. I use several such apps. Because the problem can be caused by any of myriad third-party apps, "it's a difficult issue for us to resolve," he adds.

Later, I hit another roadblock with File, Print FedEx Kinko's. After installing the program, I opened a two-page Word document with color graphics and launched the utility by selecting Print from the main Word menu. I was about to print the document to a nearby FedEx Kinko's, but decided against it. When I tried to print the file later using the utility, I received an error message. This one said File, Print FedEx Kinko's "has generated an exception that could not be handled." Say what?

I had no choice but to click OK, close the utility without printing to a FedEx Kinko's store, and place another call to FedEx Kinko's customer support. An agent answered promptly and was friendly but couldn't resolve my issue. I'd have to wait until a second-level technician was available, he informed me—and that wouldn't be until the following morning.

The technician who eventually called said the error message I received was unusual and led me through some diagnostic tests. Eventually, we saw that one of my three security programs—firewall, antivirus, and antispyware—was the culprit. When I disabled all three, File, Print FedEx Kinko's worked smoothly.

I don't recommend disabling security software simply to print remotely, but you may not experience the same "exception that ►

could not be handled.” On my second notebook, for example, I was able to set up a print job online using the utility without incident.

FedEx Kinko’s Browser-Based Printing

In addition to File, Print FedEx Kinko’s, the company also makes it possible for you to upload files for remote printing within a Web browser. In my tests, using the FedEx Kinko’s browser interface (find.pcworld.com/51034) was quick and easy. I uploaded my file within a few minutes; the print job was ready at the promised time at the designated FedEx Kinko’s location; and it was printed according to my specifications (two pages printed on one double-sided page, color, glossy white finish). I was in and out of the busy FedEx Kinko’s location within 10 minutes. Cost: \$2.53.

There were some downsides, however. Though I had requested a proof be faxed to me, it never arrived. The FedEx Kinko’s store should have sent the fax, a company spokesperson acknowledges. Also, the quickest turnaround time using any FedEx Kinko’s online printing method is 4 hours—which may be too long for some people. FedEx Kinko’s has not received any significant customer demand for a faster turnaround time, the spokesperson says.

EFI PrintMe

Though it’s not a direct competitor to the FedEx Kinko’s offerings, EFI’s PrintMe offers mobile professionals a convenient way to print documents without carrying their own printers.

PrintMe is a browser-based service for sending documents from notebooks, PDAs, and other devices to remote printers located in hotels or public facilities, like shopping malls. Currently, there are 1800 PrintMe locations, the vast majority of which are American or Canadian hotels. To print, just go to the EFI PrintMe site (find.pcworld.com/51036), then specify your current location and the type of location preferred (hotel or public facility).

After uploading one or more files to a desired PrintMe location, you’ll be e-mailed a document ID number. Next, go to your PrintMe location; I chose the Hotel Palomar, a San Francisco boutique hotel. Give the business center or front desk attendant your document ID number or enter it yourself into an EFI PrintMe station. Once the ID number is entered, your document is printed.

It’s a beautifully simple concept, and it worked well in my tests. But because the PrintMe service is offered by various providers, your experience is bound to differ from one hotel to the other.

For example, at the first San Francisco hotel in the PrintMe list-

ings I called, no staff member I spoke to was familiar with the service. But when I mentioned PrintMe to the front-desk clerk at the Hotel Palomar, he knew right away what I meant. I uploaded my file and went to the hotel about 30 minutes later to retrieve my printout. I gave the clerk my document ID number, he typed it into the PrintMe station, and a few minutes later I had a black-and-white laser printout—at no charge. (Some hotels quoted me about \$1 a page for black-and-white prints.)

Another disparity: Some hotels have color printers, others don’t. If you need color, call ahead and ask.

Victor Thu, PrintMe product marketing manager, concedes there are disparities between PrintMe service providers. “But for our users, the top priority is usually convenience, not print quality,” he adds.

The Bottom Line

For travelers with basic printing needs, EFI PrintMe’s convenience can’t be beat, as long as your hotel is among those that offer the service—and the staff knows what it is. If you’ve got more ambitious print needs, however, go with FedEx Kinko’s browser-based services. Just remember that printing directly from your applications using the File, Print FedEx Kinko’s usually isn’t worth having to download, install (and potentially troubleshoot), the utility. ■

Pick the Perfect Photo Paper

Getting great results with your inkjet printer usually means picking the right paper.

DAVE JOHNSON

Feature: Pick the Perfect Photo Paper

In the old days, printing photos was easy. You'd take a roll of pictures to the corner drug store, and you'd have your prints a few days later. There were disadvantages, of course: You had no control over the color, cropping, or exposure, and the quality of the prints was totally out of your control. But it was easy.

These days, printing digital photos is a very different experience: You have tons of control. But even after using an image editor to make all the tweaks you need to get an outstanding image, a great printout can still be elusive as that gopher in the movie *Caddy Shack*. What's the final component to a top-quality print?

Getting great results with your inkjet printer usually comes down to picking the right paper. We've all seen gorgeous prints on display at the computer store—samples of what you could accomplish with the newest photo-quality inkjet printers. But getting those same results at home can be difficult if you don't feed the right paper into your printer. Here's how I choose paper.

Believe the Printer Manufacturer

It's no secret that the big names in printers—companies like Canon, Epson, and Hewlett-Packard—offer their own complete lines of inks and papers. Each manufacturer claims that you'll get the best results when you use their products with their printers, and they warn you to steer clear of paper sold by other companies.

And believe it or not, they're generally right. Photo printers are typically designed to work with specific inks and papers to yield the best results. Using Brand X paper with your particular inkjet printer, for instance, may cause the ink to spread too far into the paper before drying, which causes inaccurate colors, lower print resolution, and a dull finish. In most cases, you really do get the best results by sticking with the inks and papers recommended by your printer's manufacturer.

Which Paper Is Best?

Once you've decided to stick with your printer's brand of paper, you still have some decisions to make. The paper section at your local camera, computer, or office supply store can be fraught with many seemingly similar choices.

Consider Epson, for instance. The company offers a broad selection of papers with names like DuraBrite, Premium Glossy, Photo Quality Glossy, and ColorLife. But let's keep it simple. You'll get the best results when you match the paper to the kind of ink you are using. Epson's Premium Glossy Photo Paper is the right choice for most Epson printers, but if your printer uses DuraBrite ink, then use DuraBrite Ink Glossy Photo Paper instead. For less formal photo printing—and where print quality and longevity are not the prime factors—you can use Epson's less-expensive All Purpose Glossy Paper.

Canon has made your choice easier. Just look for the colored stripe that runs down the center of all its paper packages: Papers with a gold stripe are premium blends intended for the highest-quality prints, while bronze identifies the paper as an everyday variety.

HP sells a line of paper called Premium Plus. This is the top-of-the-line photo paper for HP printers. For routine photo printing, you want to print on HP Premium paper—which, HP claims, is slightly better than the kind of paper used by your local photo lab.

Everyday Printing

What if you just want to print photos for casual and short-term use? If you won't be framing or sharing your prints, you can grab any old photo paper off the shelf, even if the package doesn't have your printer company's name on it. The prints will be somewhat dull; the colors won't look as accurate; and the inks will fade much quicker than photos on premium paper; but you'll pay pennies instead of a dollar or more per sheet.

The cheapest papers you can buy are usually sold for everyday printing and called "inkjet paper" or just "photo paper." This type of paper is porous and usually lacks a protective polymer coating. It's inexpensive, and your prints will dry much more quickly than when you use photo-grade papers. The downside of using this type of paper is that it degrades in short order: Your photos will last only a few years if they're exposed to direct sunlight or contaminants in the air. Of course, if you're just printing out pictures of a truck you're trying to sell, that won't matter. ■

Avoid Printing Problems

Think ahead to coax the best prints possible from your inkjet printer.

DAVE JOHNSON

Feature: Fix Printing Problems

In a perfect world, printing would be easier than it is. But our world isn't perfect—for proof, just try finding a parking spot at the mall on a Saturday—and printing digital photos can be a real hassle. It's no wonder more and more people are starting to give up on inkjet printers and just send their image files off to online services like Club Photo, Ofoto, and Shutterfly.

Don't lose hope, though. Here's how to coax the best prints possible from your inkjet printer.

Start With Good Ink and Paper

I've said this before, and I still firmly believe it: You can't expect to get great-looking prints if you're cutting corners on ink. Modern printers (especially from Canon, Epson, and Hewlett-Packard) are engineered from the ground up to work best with inks sold by their parent companies.

Are brand-name inks more expensive than generics? Yes. But this isn't just a scam to keep you from buying cheaper, third-party inks. My own experience shows that you'll get noticeably inferior results when you print photos on high-quality paper if you pass on your printer vendor's branded ink and get generic cartridge refills for your printer. Odds are, the prints will not last as long without fading, either. (Decent, cut-rate inks are probably fine for printing out first drafts of your latest novel, though.)

Speaking of paper, and longevity, regular inkjet paper is fine for day-to-day printing. But when you want to share photos, frame a picture, or keep your prints for the long haul, use glossy photo paper. This paper is specially formulated to absorb the ink without letting it spread (which makes for weird colors and fuzzy prints). Generally speaking, using the paper your printer vendor sells will contribute to print longevity. And if you really want to keep your prints for the ages, bite the bullet and buy the best-quality paper your vendor has. Make sure you frame your masterpiece under glass, and place it where direct sunlight won't strike it. (For more on paper, see page 14.)

Leave the Printer On

It's generally a good idea to leave your inkjet printer on, even

when you have no intention of printing. Why? Because when it's powered on, the printer keeps its print heads clean. Shut your printer on and off frequently, and you end up mucking up the print system—which you'll have to clean, wasting ink in the process.

Align and Clean Your Print Heads

Though it's important for getting the best possible image quality, most people fail to care for their inkjet's print heads. Routine use can cause the nozzles to lose their proper alignment, which can result in the printer laying down ink inaccurately. Worse, nozzles can get clogged, so ink doesn't come out uniformly on the paper. Both of these problems can contribute to less-than-ideal pictures.

Occasionally, run the utilities that came with your printer. By occasionally, I mean about once a month, or every time you get ready to print if you use your printer very infrequently. Check your printer's user guide for details. Can't find it? Go to the vendor's Web site and check its support section. You can usually find the manual there, even for a discontinued model.

If worse comes to worst, and you can't come up with the manual, go to the Windows Control Panel and open Printers and Faxes, then right-click on the icon for your photo printer and click Properties. You'll probably find the utilities and options you need there. For example, check out the options for my Epson Photo Stylus 1280 (find.pcworld.com/51038).

Run the print head alignment tool and perform a nozzle check. If the resulting output doesn't look right, fix the problem by cleaning the print heads using the printer's head-cleaning program. Don't forget that you may have to run the head cleaner a number of times before the nozzle check prints look perfect. (Don't go nuts though; the cleaning does use up a fair amount of ink.)

Send Enough Pixels to the Printer

The image file itself also contributes to the overall quality of the print, obviously. I highly recommend printing no less than 200 pixels per inch, and 300 ppi is ideal. How do you measure that? Multiply the print size you want, like 5 by 7 inches, by 300. In this example, you'd get good results from a picture that has ▶

at least 1500 by 2100 pixels, which is what you'd get from a 3-megapixel camera.

Let the Prints Dry

After you make a print, don't handle it right away—especially if you're making a print on glossy photo paper. It can take as long as an hour for the ink to stop feeling tacky, and printer manufacturers usually recommend waiting 24 hours before placing the print under glass or plastic to be sure the ink is completely dry. ■