

# Chapter 1: Printing Your Final Result

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## *In This Chapter*

- ✓ Figuring out if and when you need to print your photos
- ✓ Choosing the right printer for the job
- ✓ Understanding the printing process
- ✓ Hiring a professional printing company or service bureau

**D**igitally captured and retouched photos live on your computer. That's where they came to life, whether you captured them with a digital camera or scanned a printed original. It's also where they may have been doctored for any number of purposes — to make them smaller so that you can e-mail them to friends and family, to make them safe for use on a Web page, or to make them picture-perfect for printing.

However, unless you deal only in Web images or on-screen presentations, you probably need lots and lots of prints of your photos. In this chapter, you discover when and how to print your photos, which printers do what kind of job, and how to create the best-quality print of your digital images. You'll find more information about choosing printers in Book II, Chapter 4.

## *Why Do You Need Prints?*

The reasons you might need to print your photos are as numerous as the photos themselves. Look for your own reasons among these:

- ◆ You need to create a suitable-for-framing version of a photo that was too small or too damaged to be framed before you edited it. You can transform that wallet-sized photo into a framed picture suitable for the top of your grand piano. Or, perhaps, a picture has wrinkles or tears you can fix with your image editor before making a pristine, new print. See Book VII for tips on restoring damaged photos.



- ◆ You want to create a backup print of a very precious photo in case something happens to the original. Better yet, display the duplicate and keep the precious original in a safer place, such as a safety-deposit box. Put a disc containing the digital version of the original in the box, too, so you won't have to duplicate your editing efforts.
- ◆ You're building a portfolio of your digital artwork, and you need a printed copy to show to prospective employers or clients. Make as many prints as you want economically, and distribute them far and wide.
- ◆ You need a *proof*, or printed evaluation image, that you can submit to someone who can't view the image online for his or her approval. You can fiddle with the proof print to make sure it's an accurate representation so the person passing judgment on it will have the best copy possible to approve.
- ◆ You require an evaluation proof for comparing the digital image with the hard copy original, and just viewing the file electronically won't provide the necessary information about print quality. The proof of the pudding, in this case, is in the viewing.
- ◆ Your photo is for printed marketing materials, such as ads, brochures, or flyers, and you need to create camera-ready art that a professional printer can use to create the finished materials. Although many professional printers today can work with digital files, some cannot. You need a print for the print shop's use.
- ◆ You'll often need prints for holiday greeting cards or birth announcements and other special events.
- ◆ When I prepare publicity pictures for my local newspaper, I always provide the original photo on CD. But I also include a print so the editor can decide whether the photo is worth using without having to pop the CD in a drive and go to the trouble of digging down into it to view the picture.



Although this chapter's title is "Printing Your Final Result," you may also want to print versions of your image as you go along in the editing process. Because computer monitors aren't capable of displaying colors exactly as they print, you may want to print at least one "in-progress" version of your image so that you can check for color, clarity, and other qualities before you commit the final version to that sheet of expensive photo paper. You can purchase lower-priced photo paper for your test prints (because printing on plain old inkjet paper may be misleading) and then use the good stuff for your final printout.



Why does the same photo look different if you print it on plain inkjet paper than it does on photographic paper? The porous nature of regular inkjet paper absorbs more of the ink, and this affects the reflective quality of the colors. Images look darker, contrast is lost, and overall quality is diminished if you print on porous paper. If you print on glossy or matte photographic

paper, where a coating on the paper prevents absorption, your photo's color and content stand on their own, unaffected by the paper. No details, color, or contrast is lost.

## Evaluating Your Printing Options

After you know that you need to print your photo, it's time to decide how to print it. If you have only one printer and no money for or access to another printer, then the decision is already made — you'll use your one and only printer. If you have the cash for the perfect printer for your particular photo, that's great. If you don't have the cash but have access to a variety of printers, that's great, too. With the assumption that you have some choices available to you, consider the list of printing possibilities found in Table 1-1. You'll find more information on choosing printers in Book II, Chapter 4.

Table 1-1		Printer Options
Type of Printer	Price Range	Comments
Inkjet	\$75–\$250	Great for color prints; good text quality, too
Laser	\$400–\$3,000	Fast, economical for text; not the best choice for images
Dye-sublimation	\$150–\$500 (and up)	Best color print quality, but can't handle text

### Inkjet printers

The name *inkjet* gives you an idea of how the inkjet printer works — assuming that the word *jet* makes you think of the water jets on a whirlpool bath or spa. The way these printers work is rather simple. *Piezoelectric crystals* make the ink cartridges vibrate (the crystals are sandwiched between two electrodes, which make the crystals dance). Different levels of voltage cause the crystals to vibrate differently, which adjusts the colors and the amount of color sprayed through a nozzle onto the paper.

Color inkjet printers can create photo-quality images, assuming you use good-quality photo paper for the output. Price isn't necessarily an indication of print quality, and you should print a test page before making a purchase or go on the recommendation of someone who owns the same model.

### Laser printers

Laser printers work very much like photocopiers. A laser beam is aimed at a photoelectric belt or drum, building up an electrical charge. This happens four times, once for each of the four colors used to make all the colors in your image — cyan, magenta, yellow, and black. The electric charge makes the colored toner stick to the belt, and then the belt transfers the toner to

the drum. The paper rolls along the drum as it moves through the printer, which transfers the toner from the drum to the paper. Then, either pressure or heat (or both) makes the toner stick to the paper.

Color laser printers are more expensive than inkjets and black-and-white laser printers and are more expensive to operate. Indeed, now that the prices for color laser printers have dipped down to affordable levels, many users are complaining that they easily spend more on toner in the first few months they own these devices than they spent on the printers themselves! If you're creating camera-ready art for very important, detailed publications, you probably want a color laser printer (assuming the images are in color) rather than an inkjet, but the image quality is not as good as what you'd get with a dye-sublimation printer.

### *Dye-sublimation printers*

Here, the name of the printer doesn't tell you much about the way the printer works. Despite their cryptic name, dye-sublimation printers work in a relatively straightforward way. A strip of plastic film, called a transfer ribbon, is coated with cyan, magenta, and yellow dye. When a print job is sent to the printer, a thermal print head heats up the paper-sized (4-x-6-inch or 8½-x-10-inch) panel of plastic transfer ribbon. Variations in temperature control what colors and the amount of color that are applied to the paper. Because the paper has a special coating on it, the dye sticks.

Dye-sublimation printers produce an excellent image, especially for color photos. The subtle results are great for professional designers, artists, and photographers. The expense for full-sized dye-sub printers may be prohibitive for small businesses and home users, but the lower-priced models that produce only snapshot-sized prints and cost less than \$150 (plus about 30 cents per print for paper and ribbon) may be within reach.

## *Touring the Print Process*

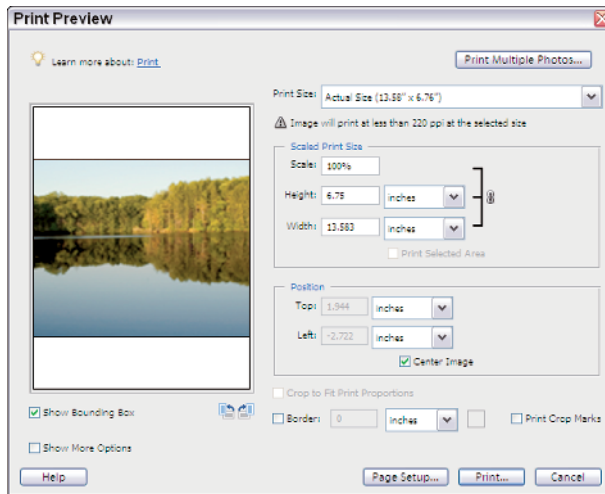
Regardless of the photo editing and retouching software that you're using to process your photographs, some aspects of the image-printing process are the same. With most image editors, the print process consists of the following options:

- ◆ You get to choose which printer to print to. If you have a black-and-white laser and a color inkjet, for example, you can choose to output to the color inkjet.
- ◆ You can choose how many copies to print.
- ◆ You can choose to print only part of the image by choosing the Selection option. This assumes you made a selection before issuing the Print command.

- ◆ You can adjust your printer's properties to print at different levels of quality, assuming the printout is the final version.
- ◆ You can choose to print crop marks, which can help you or a professional printer cut along the edges of the printout. If you want to frame a 5-x-7-inch photo, for example, and you're printing it on 8½-x-11-inch paper (letter size), the crop marks can help you cut the paper down to fit inside the frame and within any mat you're using.

## Preventing surprises with Print Preview

Before you actually commit your image to paper, you may want to see a smaller view of an image in the context of a sheet of the currently set paper size, just to make sure everything is okay. This prevents nasty surprises such as printing your favorite portrait in horizontal format and cutting your subject in half. In virtually all software programs, you choose File⇨Print Preview (or just File⇨Print, depending on which program you're using) to see how the printout will look. Figure 1-1 shows the Print Preview window in Photoshop Elements. If you're happy with what you see, you go ahead and issue the Print command (File⇨Print or Ctrl+P) to open the Print dialog box.



**Figure 1-1:** A Print Preview window shows how your image will look on paper.



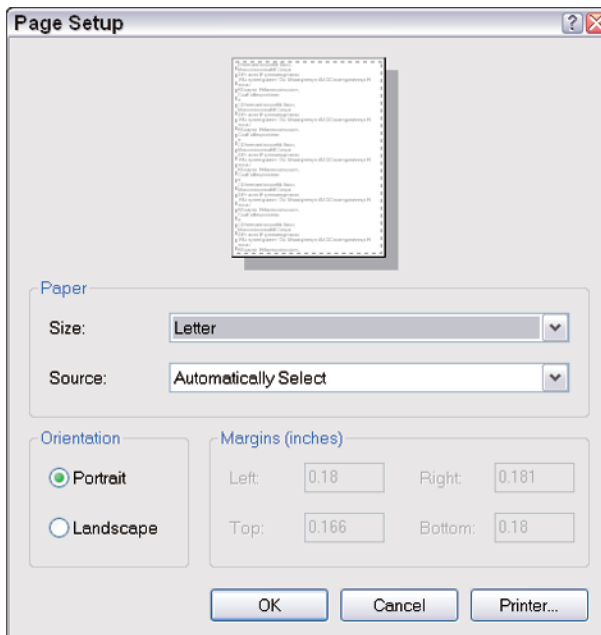
Higher-end photo editing packages (such as Photoshop) let you choose to print color separations, which means printing each of the image's colors on a separate sheet. This can be helpful to a professional printing firm that may be using your printout to create the films that will generate your prints.

## *Understanding your output options*

In the Print Preview window, you can print the image by clicking the Print button, and you can also change the scale (size) and location of the image on the paper. With some image editors, a Show More Options check box opens an extension of the original dialog box. Options here may include applying a caption to your image or turning on crop marks. You may even be able to apply a background color and a border, which can be helpful if you're printing an image for framing and don't have a mat for the frame.



The Page Setup dialog box, which you open by clicking the Page Setup button in the Print Preview dialog box, allows you to change the printer you're sending the job to and to view your printer's properties (see Figure 1-2). It's also another place to choose the Background, Border, and Corner Crop Marks options. In many packages, the Page Setup dialog box also allows you to change the paper size and orientation.



**Figure 1-2:** You can specify paper orientation and size.

## *Printing your photos*

When you're ready to print your work, choose File→Print (or choose Print from the Print Preview window) and use the Print dialog box to take advantage of your printing options — which printer to use, how many copies to print, and so forth.

If the software you're using offers a drastically different set of options through its Print dialog box, you can press the F1 key (in Windows) to open the software's help files. (Mac users can click the Help button in the dialog box.) If that doesn't work (though it should because most applications support this feature), use the Help menu and look for help articles that pertain to printing. The software may have also come with a *Read Me* file — a file that came with the software if you downloaded it from the Web — or a printed manual that you can refer to.

Of course, before you click the Print or OK button to begin the print job, you'll want to make sure the right paper is in the printer and be sure how your particular printer wants the paper fed — good-side down, the proper end in first, and so on. The printer should come with instructions, if not in a printed manual then right on the printer trays themselves, through little pictures of paper with arrows to show you how and where to insert the paper. Most photographic paper has a “good side,” which has the image-enhancing coating on it, and a repeated brand name on the back, making it easier to tell which side you want to print on. If you're not sure, though, do a test print first. In the worst case, you'll print on the wrong side and have to do it again, wasting a single sheet of paper. If you're planning to print several copies of the image, it's better to waste a single sheet than to print all ten copies on the wrong side of the paper!

## Using Professional Printing Services

Also known as a *service bureau*, a professional printing firm offers services to graphic artists, photographers, fine artists, businesses (for business cards, brochures, and so on), and the general public. Chains (such as FedEx Kinko's, AlphaGraphics, and Kwik Kopy stores) offer such services, and some office supply stores print your graphic files for a fee. You can also find small, privately owned printing services, which may charge more than the chains do, but you get very personalized service and may find the staff more willing to help you if you're not entirely sure what you need to provide in order for them to do a job for you.

I used service bureaus for many years, back in the days when laser printers could output text at no more than 300 dpi. Service bureaus were an economical way to produce black-and-white camera-ready pages (which can be photographed by the printer to make printing plates) without the need to purchase a high-resolution printer or imagesetter (a high-resolution printer especially suited for images). Those can be costly. Today, most laser printers have 600 dpi or better resolution, so the need for service bureaus for text output is reduced. They are still a good idea for making full-color prints from your digital photos if you don't own a color printer that provides sufficient quality.



### *Choosing a service bureau*

Not sure who to call when you're ready to shop for a service bureau/printing service? You can always check the Yellow Pages online or in print, or you can ask friends and business associates for referrals. The best people to ask are graphic artists or people who work for an ad agency; they're likely to use service bureaus pretty extensively, and their recommendations would be valuable.

Before you hire a service bureau to print your photos, you want to ask the folks there a few questions:

- ◆ What do they charge, and how do they determine their prices? Do they have minimum fees?
- ◆ When can they finish the job? Note that most service bureaus will want to fit your job into their normal queue of projects. They may charge extra for "rush" jobs. Find out what constitutes a "rush" job — is that overnight service, or anything less than a week?
- ◆ What file formats do they support (so you know the format in which you should save your photo after editing it)? At one time, service bureaus could handle only Macintosh files and common Macintosh formats, such as TIFF or PICT. Today, most service bureaus support all platforms and all image file formats. It doesn't hurt to check, though.
- ◆ Can you view a sample of the printout before paying for the final copies? It can be helpful to view a proof or evaluation copy, even if you have to pay extra.
- ◆ Is the kind of output you're looking for something they've done before and done frequently?

With answers to these questions in hand, you can choose the right service bureau for your needs. If the person you're working with isn't open and cooperative with you, run, don't walk, to another company. I've worked with both kinds of service bureaus — the kind where the staff assumes you should know everything and doesn't want to be bothered explaining things, and the kind where folks are more than willing to help and answer any question, no matter how simple it is. Obviously, the former type of company doesn't deserve your business, and the latter type of company is best.

### *Tell them what you want, what you really, really want*

After choosing a service bureau to work with, you need to discuss your exact printing needs. When you tell the person helping you how you plan to use the printout, he or she should



- ◆ Suggest the type of paper for the printout.
- ◆ Tell you what file format you need to use (a .psd file created in Photoshop, a .tif file, and so on) and whether you need to provide printed, camera-ready art.

If you do need to provide camera-ready art, ask whether you need to provide *color separations* (each color within your image printed on a separate sheet of paper) and what kind of paper the bureau prefers you print to. If you have only an inkjet printer, the serviceperson may balk at your using it to create the camera-ready art. In general, though, any good service bureau prefers to get the image as an electronic file so that the staff can work with the image as needed to give you the printout you require.

### *Knowing when you need a service bureau*

In the end, the choice as to whether to work with a service bureau will come down to money. Time is money, and money buys quality if you shop carefully for printing services and/or your own printer. If you need a perfect, absolutely beautiful printout of the photo and can't afford a high-end printer of your own (or don't know anyone who has one you can use), then you need to spend the money to have a service bureau create the printout for you. If you need a high-quality printout and have a quality dye-sublimation or color laser printer at your disposal, you may be able to do the printing on your own.

If I sound as though I'm disregarding the role of inkjets in the printing process, I'm not. I've printed many photos with an inkjet printer and given them as gifts, used them as camera-ready art for brochures and business cards, and so forth. Some of my original artwork has also been printed on an inkjet, and the items look just fine in a portfolio. The printer you use depends on the printout quality you need and on whether the printer you have is capable of providing it. You might love the output that your inkjet generates, and if so, that's great. You've just saved some money, and you have a quick and easy way to create your prints!

