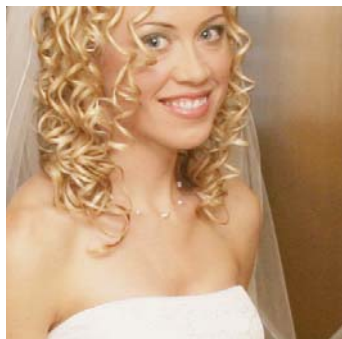


O'REILLY DIGITAL STUDIO

# Digital Photography

## *Pocket Guide*

THIRD EDITION



O'REILLY®

Derrick Story

# Who's in Charge?



When you first pick up a digital camera and hold it in your hands, many thoughts go through your head. Initially, you might simply wonder where the power button is, or how to turn on the LCD monitor.

Soon, you reach a crossroads with two options before you. The first is to just take what you've learned about your camera in the first few minutes, and use that knowledge to take the best pictures you can. If you go down this path, the camera is merely an acquaintance. It is in charge, and it does the best it can to help you capture snapshots on vacation or at birthday parties. In return, you try not to drop it and maybe even occasionally clean its lens.

The other path is much different. The first few steps are the steps that everyone takes with a new camera. "How do I make the lens zoom?" "Where's the battery compartment?" But after a short while, you find yourself in territories previously unknown. You begin to wonder, "How can I take a close-up of that flower?" or "Can I shoot a portrait at twilight?"

This book is a friendly guide for those who want to take the second path. If you go down this road, you and your camera will become close friends. You'll get to know every feature and

learn how they can help you make outstanding images. In a sense, your camera will become an extension of your vision—and that means you're the one making the decisions, not the camera.

**Chapter 1, What Is It?** The adventure begins like preparations for any vacation. You have to account for everything that's going to accompany you and know where it is. In Chapter 1, you'll learn about every nook and cranny on your camera. Or, if you haven't purchased one yet, you'll discover the features you need and—just as important—the ones you don't.

Keep your owner's manual handy when you first review Chapter 1. It will help you find where the flash control button is located on your particular model, for instance. Once you find it, this book will show you how to use the different flash modes to take the pictures *you want*, not the ones the camera dictates.

Think of Chapter 1 as a detailed map. It tells you where things are and a little about what they do. It's designed for quick reference—answers while on the road—so make sure you keep this book with you. It's designed to fit easily in your camera bag or your back pocket.

**Chapter 2, What Does It Do?** By now, you've located the flash button on your camera, and you've even read about the different modes available, such as *fill flash* and *slow synchro*. Terrific. Now, when do you use fill flash? What is slow synchro good for?

Chapter 2 will help you answer those questions. You're now well on your way to becoming close friends with your camera, and while you might not notice it, you've taken control of the situation. In the beginning, the camera

made all the decisions. Most of the time they were adequate, but now you're in charge, and your pictures are much better as a result.

**Chapter 3, How Do I...?** Here you'll learn more than a dozen important camera techniques. How do you take great outdoor portraits? How can you shoot architecture like a pro? Can you take action shots with a consumer digital camera? Chapter 3 is like an ongoing conversation between two old fishing partners, discussing the best approaches to a variety of situations.

By the time you've experimented with the techniques outlined in this pocket reference, you'll have journeyed well beyond others who chose the first path. Soon you'll be able to visualize how pictures should look in your mind, and then be able to make the camera capture those images so you can share them with others. Isn't that what photography is all about—showing others the world as you see it?

The difference between these two paths is *control*. So, who's in charge: you, or the camera?

## What's New in This Third Edition?

Digital photography has become even more exciting since I wrote the previous edition of this guide. For example, it's now easier than ever to connect your camera directly to a portable printer, bypassing a computer, and produce 4" × 6" snapshots. So if you love sharing pictures but hate computers, digital photography is for you too.

To help you understand how this computerless connection works, I've added descriptions on PictBridge and Direct Printing. That way, when you shop for your next camera and printer, you'll know to look for these features.

Another improvement we've seen in digital cameras is their ability to capture high-quality movies. Earlier models enabled you to record small, jerky video. Many of today's cameras let you capture full-motion, full-frame video with high-quality sound.

I've added discussions about how to manage these mini-movies on your computer, and even provided tips for editing them into short feature presentations. Thanks to this leap forward in technology, you can now pack just one compact camera and capture both still pictures and movies.

All of the specifications in this guide have been updated, too—everything from new formats, such as DNG and MPEG-4, to cameras with more megapixels requiring bigger memory cards.

Finally, you'll notice that I've taken extra care with the illustrations. Most of them are brand new to this edition. I want to make it as easy as possible for you to master digital photography, and that means that the pictures in this guide have to be as informative as the words that accompany them.

So let's get to taking great shots!

# What Is It?

## A Tour of Your Digital Camera

Camera makers have packed amazing capability into today's digital picture takers. The camera that you have in your hands, or the one that you're considering buying, probably has more ability than you realize. The trick is, how do you discover that hidden potential?

The first steps are to become familiar with your camera's components, and then to learn exactly what they do. This chapter helps you do just that. It explains the important components and features that will set you on the path to mastering your digital camera.

If you're just getting started with digital photography, this information can also help you pick the right model. I like to divide digital cameras into four broad categories: *compact*, *advanced amateur*, *professional*, and *hybrid*. As you progress through the first three categories, you'll find that the tools become more sophisticated. The fourth category, hybrid, is an example of how digital imaging is converging with other technologies. These devices can be quite useful, but they won't usually serve as your primary camera.

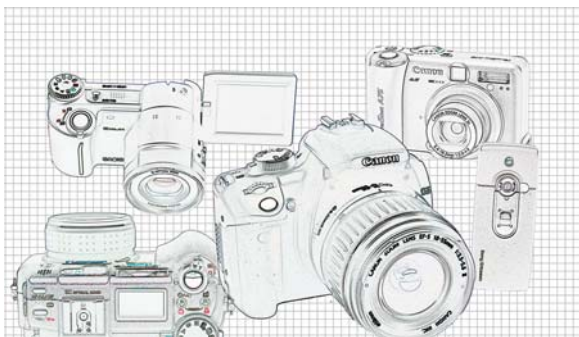
We'll begin with an overview of the features and components that are commonly found in compact digital cameras. I spend more time on the compact because it is the camera that I

think every photographer—from first-time beginner to seasoned pro—should have in his or her bag of tricks, regardless of what other tools you use. In many ways, the compact camera defines digital photography itself. It is powerful, yet easy to use.

Later in the chapter, we'll spend some time with the more advanced camera categories. This is where I discuss image sensors, lens specifications, and other components. If you enjoy technical talk, then you'll like the latter half of the chapter. If not, read the compact camera section and jump to Chapter 2. No matter what your level of interest is, I have lots here for you to explore.

## Overview of Camera Categories

In many ways, cameras are as varied and unique as the people who use them (Figure 1-1).



**Figure 1-1.** Today's digital cameras are as varied as the people who use them

But in order to help you decide which models are potentially a good fit for you, I've grouped them into four basic categories. Here's a quick summary of each one:

**Compact** Compact cameras are perfect companions for vacationers, parents, and photographers constantly on the go. Because compacts fit easily into purses, backpacks, diaper bags, briefcases, and even shirt pockets, the odds are good that you'll have a camera on hand as life unfolds before you. That's why I recommend that all photographers should pack a compact, regardless of any other cameras they have in their arsenals.

These pint-sized wonders do have their trade-offs. The zoom lens typically tops out at 3× magnification, so your ability to “zoom in” tightly on distant subjects is limited. It's also more difficult to add accessories to compacts, such as filters, auxiliary lenses, and external flashes.

Happily, though, megapixel power is no longer a trade-off for portability. Most compacts these days provide at least a 3-megapixel sensor, and 5-megapixel models have become commonplace. This is more than enough resolution for snapshots and moderate enlargements. Compacts usually cost less than \$400.

**Advanced amateur** For photographers who want professional capabilities but aren't ready to commit to the costs and bulk that come with camera bags brimming with expensive gear, advanced amateur models are a satisfying compromise. These cameras are typically more compact than digital SLRs (see the description of professional cameras, next), yet often provide a variety of camera modes, powerful zoom lenses (up to 10×), hefty image sensors (8 megapixels or more), and the capacity to accept a variety of accessories, including filters, auxiliary lenses, and external flashes.

Advanced amateur models often excel at capturing digital video in addition to still images, and they often have variable-angle viewfinders that allow you to hold the

camera above your head or below your waist and still compose the picture. Finally, advanced amateur cameras often provide the option for RAW format image capture, which enables you to delay processing of the image until later, on your computer. Advanced amateur models range from \$500 to \$800.

**Professional** Just because you don't earn your living taking pictures doesn't mean you don't want the capabilities that pros require in a camera. The star of this category is the *digital single lens reflex* (DSLR), which looks similar to the 35mm SLRs that pros and amateurs have been toting around for years.

DSLRs enable you to quickly switch from one type of lens to another by simply removing the lens from the camera body and attaching another. With dozens and dozens of optics to choose from, this provides tremendous flexibility. Another feature is that you compose your picture through the same lens that captures it. “What you see is what you get” with DSLRs.

Inside the camera body, manufacturers have packed sophisticated electronics to enable you to capture pictures quickly (with virtually no shutter lag), in rapid sequence (burst modes of a dozen pictures or more are not uncommon), and with unparalleled image quality, both in terms of megapixels and noise reduction. RAW mode is a standard feature for DSLRs.

Often, you can add wireless external flashes, WiFi image-transfer capabilities, and a host of sophisticated accessories that include remote releases and macro lighting rigs. DSLRs start at around \$900 and can quickly escalate to a few thousand dollars—and keep in mind that optics and accessories add to the bottom line.

**Hybrid devices** As digital imaging components become smaller and more energy efficient, technology companies are able to incorporate them into ever more and different types of devices. You can now buy a mobile phone that also has megapixel picture-taking capabilities, and many digital camcorders include multi-megapixel sensors, memory cards, and even electronic flashes.

Most photographers would not rely on camera phones or digital camcorders as their primary picture-taking devices. But as the technology evolves, these tools can become useful additions to your ever-broadening arsenal of imaging devices.