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IN 1**

- Getting Started with Digital SLRs
- Going Through the Looking Glass
- Hey, Your Exposure's Showing
- Lighting and Composition
- "Spiffifying" Your Shots
- Shooting Movies
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**by Robert Correll**

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## **Digital SLR Photography All-in-One For Dummies®, 2nd Edition**

Published by

**John Wiley & Sons, Inc.**

111 River Street

Hoboken, NJ 07030-5774

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

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Published by John Wiley & Sons, Inc., Hoboken, New Jersey

Published simultaneously in Canada

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Library of Congress Control Number: 2013934420

ISBN 978-1-118-59082-9 (pbk); ISBN 978-1-118-70091-4 (ebk); ISBN 978-1-118-70084-6 (ebk);

ISBN 978-1-118-70070-9 (ebk)

Manufactured in the United States of America

10 9 8 7 6 5 4 3 2 1

## About the Author

**Robert Correll** is the author of several books about digital photography and imaging, including both editions of *Digital SLR Photography All-in-One For Dummies*. His camera-specific digital SLR titles include *Canon EOS 5D Mark III For Dummies*, *Sony Alpha SLT-A65/A77 For Dummies*, and *Sony Alpha SLT-A35/A55 For Dummies*. He coauthored *Canon EOS Rebel T3/1110D* and *Canon EOS 60D For Dummies* with Julie Adair King. His other recent works include *Photo Retouching and Restoration Using Corel PaintShop Pro X5*, Fifth Edition; *HDR Photography Photo Workshop*, Second Edition (with Pete Carr); and *High Dynamic Range Digital Photography For Dummies*.

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# *Dedication*

To my family.



# *Author's Acknowledgments*

I'm grateful to have worked with so many talented people. Their time, skills, devotion, and attention to detail have helped me reach the high goals I set for this edition of the book.

In particular, I am deeply thankful to the wonderful publishing team at John Wiley & Sons. Tonya Cupp, Steve Hayes, and Annie Sullivan are part of the talented team of editors who helped create this book. I am also thankful to technical editor Michael Sullivan, whose insights and expertise helped keep the content of the book as accurate as possible.

It was my goal to introduce many more dSLR add-ons and accessories in this edition of the book. I have many thanks to give to the individuals and companies who were so generous with their equipment and time. They are: Bill Bailey of Nodal Ninja, Robert Gantt of Gary Fong Inc., Keri Friedman of LensBaby, Stephanie Murano of Lomography USA, and Joost Nieuwenhuijse of New House Internet Services B.V. (sellers of PTGui and PTGui). I would also like to thank the many other retailers and delivery staff who helped me find what I needed and deliver it.

Many thanks to my agent, David Fugate of Launchbooks.com.

A big "Thank you!" to our Pine Hills Church family. From shooting movies to photographing practices and services, your encouragement and assistance have been invaluable.

As always, thanks to my wife and children for encouraging, supporting, loving, and sustaining me.

Thank you for reading this. You're the reason we all worked so hard putting it together!

## Publisher's Acknowledgments

We're proud of this book; please send us your comments at <http://dummies.custhelp.com>. For other comments, please contact our Customer Care Department within the U.S. at 877-762-2974, outside the U.S. at 317-572-3993, or fax 317-572-4002.

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# Introduction

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**D**igital SLRs (dSLRs) are fantastic cameras. If you want the opportunity to take great photos and high-def movies, you can't beat the combination of power, flexibility, growth potential, and "accessorize-ability" of a dSLR.

I find its versatility breathtaking. With a dSLR, you can take photos (and movies!) of people, plants, animals, planes; action shots, still lifes, close-ups, far-aways, and everything in between. Much of this is due to the fact that the lenses are interchangeable. If you want to shoot distant objects on safari in Africa, get yourself a telephoto lens. If you'd rather photograph weddings and receptions, find a good prime lens. If you want to take great landscapes while on vacation, invest in a wide-angle zoom lens.

The sky is the limit. Deciding what to do and how to spend your time and money is up to you. I hope to help you along your journey into dSLR photography by showing what it's all about.

## About This Book

*Digital SLR Photography All-in-One For Dummies*, 2nd Edition, is for anyone who's interested in enjoying photography using a dSLR camera. My goal is to demystify and un-convolute the technical aspects and illustrate the artistic elements of dSLR photography.

You don't need to have a dSLR to enjoy this book; maybe it's on your wish list. If you do have a dSLR, you can immediately apply the knowledge you glean from these pages. In classic *For Dummies* tradition, I've tried to write a book that's both friendly and accessible to beginners yet not beneath more advanced photographers.

## How This Book Is Organized

*Digital SLR Photography All-in-One For Dummies*, 2nd Edition, is split into seven minibooks. Each minibook has its own broad focus, ranging from what you need to get started, to giving practical advice designed to help you photograph certain subjects. Within each minibook, you find the chapters that flesh things out. Some have more than others. That's okay. It just depends on the subject.

Although you can read this book from start to finish, you don't have to. Are you interested in design first? Turn to Book IV first. You don't even need to read the chapters within a minibook in order. If you want to immediately jump to the chapter on shutter speed, by all means do.

If you're new to photography, though, I *do suggest* starting at the beginning and reading the first minibook in order. When you've finished that, you should be able to turn to any place in the book and not get totally lost.

Here's a quick summary of each minibook.

### ***Book I: Getting Started with Digital SLRs***

I start out with a book that has everything you need to get started. I talk about dSLRs and how they work, what makes them tick, what all the buttons are, how to work the menu, and how to set up the camera. You should be able to properly hold your camera, clean it, attach lenses, insert and remove batteries and memory cards, and start taking photos.

### ***Book II: Going Through the Looking Glass***

This book goes into great detail about the different types of lenses you can use with a dSLR. You read about standard zoom lenses, explore how to photograph wide-angle scenes, and get creative with macro and telephoto lenses. Along the way, I pass along tips and tricks for using each lens type and suggest what they're best for. All fully illustrated!

### ***Book III: Hey, Your Exposure's Showing***

If you want to exercise more creative control over the photos your camera takes, then this book is for you. You see how to control the aperture (which affects depth of field), shutter speed (which controls motion blur), and ISO (which increases your camera's sensitivity to light). You also read about filters and how to think and plan in units of exposure.

### ***Book IV: Lighting and Composition***

If you take photos indoors or in poor light, knowing even a little about flash photography will help you take much better photos. In this minibook, you see how to use your camera's built-in flash, see whether getting an external flash is right for you, and explore a ton of cool flash and lighting accessories in this book.

To take good photos, you need to know what elements should go in the frame and how to organize them. This book covers both aspects. First, I explain how to *design* a photo — consciously choosing the elements you want to photograph. It doesn't have to be random! Then, I explain the best way to arrange the elements you choose so the photo looks compelling. Great stuff.

## Book V: “Spiffifying” Your Photos

This book is mostly about software. I explain how to manage your photos using different software packages, as well as process raw exposures and edit JPEGs. You also see how to shoot and process *HDR* (*high dynamic range*) photos and panoramas. Finally, I explain ways to convert photos into black and white or creatively colorize them.

## Book VI: Shooting Movies

A few years ago, compact cameras dominated the moving picture market. It’s now possible to take *HD* (*high-definition*) movies with just about every dSLR sold. Moviemaking is here and isn’t going away soon. I reveal what all the fuss is about, and how to shoot your own HD movies, in this book. Share your creations with your family, church, school, business, or the world at large. You can even shoot commercials and movies with dSLRS.

## Book VII: Getting Specific About Your Subject

The last book has five gallery chapters. Each one is devoted to a different type of subject: people and animals, landscape and nature, sports and action, building and cities, and close-ups. I’ve chosen some of my favorite photos to share and give you insight into how I took them.

## Icons Used in This Book

Helpful icons are scattered throughout the book. They appear beside information I want you to pay particular attention to (or to avoid if you see fit). Each icon has a unique meaning:



The Warning icon highlights lurking danger. Pay attention and proceed with caution. Your equipment or photos or safety might be at stake. You know, as if you were about to drive off a cliff or stumble onto a cache of hidden dynamite. I’ve tried to include as many warnings as possible to make things exciting for you. Just kidding. I might warn you this way: “Keep hold of your camera when taking it off a tripod. You don’t want to drop it!”



The Remember icon marks an interesting fact that you should tuck away in your brain to remember and use later. They’re often facts. (With some wiggle room thrown in for good measure.) Here’s what I mean: “The best time to go outside and photograph landscapes is during the morning or evening golden hour, which is around sunset.”



The Tip icon points out helpful information that might save you time. It’s something you might want to try or do. Here’s an example: “Use a wide aperture to create small depths of field. This will blur the background and make portraits look even better.” I love tips. If I could, I would make every paragraph a tip.



When you see this icon, you know that technical information lurks nearby. If that's not your cuppa tea, skip it. Here's one to see whether you might like tech stuff: "Normal lenses have focal lengths approximately the same as your camera's sensor, measured diagonally."

## Where to Go from Here

First, have a look at the table of contents. Next, jump to somewhere in the book that looks interesting or has information you want to know right now. Then go out and take some pictures. Rinse and repeat.

Seriously, no matter how much you fill your brain with information, photography is about *doing something* with that information. Use your camera to capture something of your world.

If you're feeling a little intimidated, put your camera in Auto shooting mode, don't change any other setting (with the possible exception of the photo quality), set the focus to Auto, and use your dSLR as an awesomely capable point-and-shoot camera. Become comfortable holding and using it, then read about something new and try it. Rinse and repeat.

Accumulate hands-on experience. It'll sink in.

If you're already pretty savvy, push yourself in new directions. I have. If you don't normally take photos of buildings, try it. If you don't normally shoot wide-angle shots, do it. If you don't typically venture more than five miles from home to take photos, go farther. If you've never processed a raw photo, shot HDR, attempted a panorama, taken shots at a basketball game, shot macros, gotten your feet wet in a river bed, then now is the time to get started. It's all here, waiting for you!

Book I

# Getting Started with Digital SLRs

getting started  
with  
**digital  
SLRs**



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# Chapter 1: What's So Special about Digital SLRs?

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## *In This Chapter*

- ✓ Getting excited about digital SLRs
- ✓ Grouping dSLRs into categories
- ✓ Seeing what's new in dSLR world
- ✓ Understanding the specifications
- ✓ Buying a dSLR
- ✓ Accessorizing

**W**hat's so special about dSLRs? The short answer is: Lots!

Digital SLRs are tremendous cameras. They take great photos, are versatile enough to capture different scenes in a wide variety of situations, perform well in different light, and can be customized and enhanced.

But (yes, there had to be one) people often think digital SLRs are complex, expensive, professional cameras that are hard to master. But (this is the good kind) learning to use a dSLR isn't tough. Don't be intimidated. You don't have to start out with the model that has the most buttons and esoteric features. You can find a camera with the right features and price for you, no matter what your skill or interest level. Once you do, you can learn and grow at your own pace. The sky is the limit.

You'll be amazed at the photos you can take. It'll be worth it.

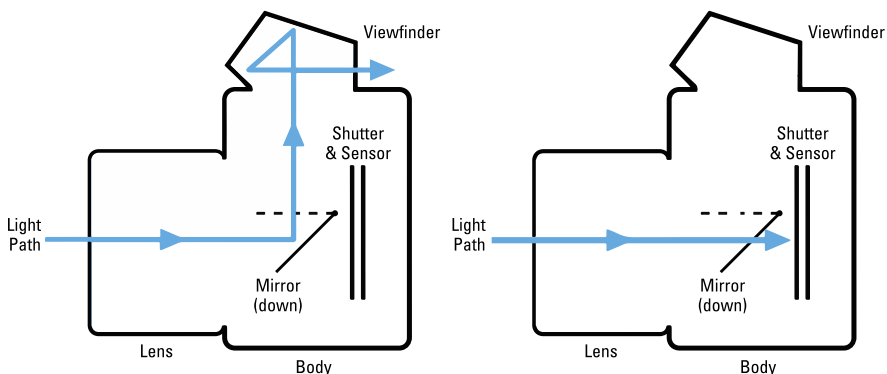


## Introducing the Digital SLR

Digital single lens reflex cameras (also known as *digital SLR*, *dSLR*, or *DSLR cameras*) are SLR (single lens reflex) cameras that capture scenes with the help of an image sensor rather than using 35mm film. The sensor collects light, converts the data to 1s and 0s, and then processes and stores the result as a digital image file on your camera's memory card. The most common file type is JPEG, followed by a proprietary raw data format called Raw.

### Flexing the mirror

A *single lens reflex (SLR)* cameras use a reflex — moving — mirror to reflect incoming light towards different paths inside the camera. Light passes through the camera's lens and either hits the mirror or passes directly to the sensor. Figure 1-1 illustrates these paths.



**Figure 1-1:** Light path through a digital SLR.

At the time it was invented, this was a revolutionary design that gave you the same view as the film in the camera. This meant that you could line up a scene through the viewfinder (also called *framing*) with the confidence that your efforts would be rewarded by a photo taken from the same perspective. You weren't using another lens or viewfinder positioned close by. You actually *saw* what the film would see when exposed to the light. This setup also meant that you could *meter* the scene (tell how strong the light was) using the same light.



Compared to older film cameras, framing and metering through the lens that would be used to take the photo was a great improvement. Prior to this, everyone looked through a second lens (twin-lens reflex), through what amounted to a hole in the camera body (cereal box top reflex), or through a flimsy framing rectangle that popped up on top of the camera (let's pretend it's reflex). You either focused by walking off the distance to your subject, or

not at all. Metering was just a wild guess! Rangefinder cameras tried to make finding the range easier, but without modern ranging techniques, focusing was still a chore.

### *Using interchangeable lenses*

Another hallmark of SLR cameras is their lens flexibility. Although having an interchangeable lens system isn't a unique property of digital SLRs (using a single lens is), it's often thought of as a defining characteristic. To make a long point short, the lenses are interchangeable, which means you can customize your camera. Find the lens that works best for the subjects you want to photograph and attach it to the camera body. If you need more than one lens (many photographers do), buy them and keep them with you.

Figure 1-2 shows just how flexible this property is. You can change one camera body (a Nikon D300S, in this case) with as many lenses as you can afford to buy or rent — each with a different purpose and characteristics. Book I, Chapter 4, tells you how to attach a different lens.



**Figure 1-2:** A healthy lens stable.

## Swap It Out

Being able to remove and attach different lenses to the same camera body is such a powerful concept that a new camera type has emerged over the last few years to great fanfare: the interchangeable lens compact camera. Examples include the Olympus PEN

system of cameras, the Canon G1, and the Nikon 1. These cameras put a dSLR-sized sensor into a body the size of a compact digital camera that has a smaller lens mount than its larger cousins.

## Buttons and dials

Another factor that sets dSLRs apart from other digital cameras is their devotion to control. Figure 1-3 shows the controls on the back of a Canon EOS Rebel T3/1100D. Despite being an entry-level camera, the Canon has plenty of controls to modify the camera's behavior.

Compact digital cameras have many fewer. Don't let the controls intimidate you. They give you the control you need at your immediate fingertips. The less time you have to spend mucking about in menus, the more time you're shooting.



**Figure 1-3:** dSLRs focus on control.

## Why to buy

Ultimately, only you can decide if a dSLR is the right camera for you. Every system, every camera, and every technology has tradeoffs. Digital SLRs aren't as small as compact cameras, as handy as your phone, or as simple to use as a door stop.

However, they have a lot going for them.

- ✓ **You're going to like what you see.** Ultimately, it's about the pictures. That doesn't mean dSLRs are better than other camera types in every situation and scenario, but they take potentially amazing pictures. When my family upgraded from a compact digital camera to an entry-level dSLR, we were immediately amazed at how much better the photos were, even using Auto mode.



As a matter of fact, your photos will get worse when you venture away from your dSLR's Auto mode and start taking photos where you set up the camera, evaluate the exposure, and focus. It takes time to learn how to use your dSLR fully and develop as a photographer. Don't give up. Your photos will get better with practice!

Figure 1-4 is an example of this excellent picture quality (if I do say so myself). It's a photo of several mercury votives arranged in depth and lit in a dark room. I used a lens with a wide aperture to produce the shallow depth of field. (Book III, Chapter 1 talks more about depth of field.) It didn't take long to set up or take, and the camera made it possible. Shots like these are what make the effort worth it.



**Figure 1-4:** Digital SLRs take great photos.

- ✓ **You're impatient.** I don't like waiting to take photos. I don't like waiting for the camera to get ready. I don't like pressing the shutter button and having to wait (without moving) to hear the shutter click. If you're like me, that makes dSLRs a perfect fit for you. dSLRs start up faster and have less shutter lag (the time between pressing the shutter release button and when the photo gets taken) than compact digitals.
- ✓ **You can practically do the splits.** Digital SLRs are incredibly flexible. You can shoot close-up macros or sweeping landscapes, ultra-wide angle or telephoto, intimate portraits, family gatherings, fast-action sports, slow waterfalls, and everything in between — large, small, fast,

slow. What more could you want from a camera? Books II and VII talk you through shooting these different kinds of photos. Figure 1-5 is a dynamic action shot taken with a telephoto lens. You can see the sand on the drivers' faces and their determination. Compare it to Figure 1-4, which is a designed, static shot. They were both taken with dSLRs.

- ✓ **Sensor size:** Even cropped-body dSLRs (whose sensors are smaller than a frame of 35mm film; see a full explanation later in this chapter) have larger sensors than compact digitals and super zooms. Interchangeable lens compacts (compact cameras with dSLR sensors that also let you change lenses) now compete with dSLRs in this regard, but you still get tremendous advantages to using a traditional dSLR.
- ✓ **Large viewfinder:** The worst dSLR viewfinder is still larger and better than the one most compacts have. Well, that's if a compact even has a viewfinder. Most don't, which makes you rely exclusively on the LCD monitor on the back of the camera. Figure 1-6 shows a Canon compact camera sitting next to a larger Nikon dSLR. The compact camera doesn't have a viewfinder at all. You're expected to frame and shoot everything using the monitor, which can be tough in some lighting conditions.



**Figure 1-5:** Determined to win.

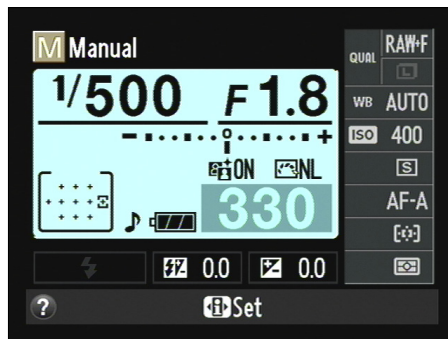




**Figure 1-6:** Most compact cameras don't even have a viewfinder.

- ✓ **Interchangeable lenses:** Changing lenses isn't a cure-all, but you can tailor your camera to take the photos you need. To me, that's an enormous benefit. Being able to take off a lens when you need to and take a portrait instead is tremendously valuable.
- ✓ **Manual control:** I can't tell you how many times I've been frustrated with compact digital cameras. They never seem to have *just the right* automatic scene I need at the time. That, and it takes me ten minutes to find it. Automatic shooting modes can make photography easier, but being able to exercise manual (even partly manual) control over your camera when you need it can be a real help. *You* make the creative decisions. *You* set the priorities. *You* manage your shots. Figure 1-7 shows the shooting display of a Nikon D3200 in Manual mode. I can change all the settings. I can change aperture (see Book III, Chapter 1) shutter speed (see Book III, Chapter 2), ISO (see Book III, Chapter 3), and flash settings (see Book IV, Chapter 1).

✓ **Automatic controls:** You don't need to be a rocket scientist to use a dSLR. In fact, entry-level dSLRs have enough automatic shooting modes to satisfy the casual photographer in all of us. The truth is that most digital SLRs, even those that cost thousands of dollars, can act like a point-and-shoot camera. Digital SLRs have manual controls and complexity *if you want them*.



**Figure 1-7:** Using a camera in Manual mode.

✓ **Hot shoe:** Digital SLRs have a *hot shoe* on top of their viewfinder. It's the silver bracket in Figure 1-8. A hot shoe is mainly to mount external flashes and other accessories.



**Figure 1-8:** Hot shoes mount external flashes and other accessories.

- ✓ **Accessible to all:** dSLRs come in enough designs and models to make everyone happy. If you're new to photography, you can pick up an entry-level model and start taking photos *right away*. If you're a professional, you have access to cameras with much more power and flexibility. You can shop for the dSLR that meets your demanding needs and find it. That you can use a dSLR both professionally and in your backyard is a testament to excellent design.
- ✓ **Tough:** dSLRs, which are much more rugged than compact digital cameras, are built to stand up to more punishment without breaking. That doesn't mean go out and hammer nails with them.