

Sony a7 Series

From Snapshots to Great Shots



Brian Smith

Sony a7 Series:
From
Snapshots to
Great Shots

This page intentionally left blank

Sony a7 Series: From Snapshots to Great Shots

Brian Smith



**Peachpit
Press**

Sony a7 Series: From Snapshots to Great Shots

Brian Smith

Peachpit Press

www.peachpit.com

To report errors, please send a note to errata@peachpit.com

Peachpit Press is a division of Pearson Education.

Copyright © 2016 by Peachpit Press

All images copyright © 2016 by Brian Smith

Project Editor: Valerie Witte

Senior Production Editor: Lisa Brazieal

Copyeditor: Scout Festa

Proofreader: Steffi Drewes

Composition: WolfsonDesign

Indexer: Karin Arrigoni

Cover Image: Brian Smith

Cover Design: Aren Straiger

Interior Design: Mimi Heft

Notice of Rights

All rights reserved. No part of this book may be reproduced or transmitted in any form by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher.

For information on getting permission for reprints and excerpts, contact permissions@peachpit.com.

Notice of Liability

The information in this book is distributed on an "As Is" basis, without warranty. While every precaution has been taken in the preparation of the book, neither the author nor Peachpit shall have any liability to any person or entity with respect to any loss or damage caused or alleged to be caused directly or indirectly by the instructions contained in this book or by the computer software and hardware products described in it.

Trademarks

"From Snapshots to Great Shots" is a trademark, in the U.S. and/or other countries, of Pearson Education, Inc. or its affiliates.

All Sony products are trademarks or registered trademarks of Sony Corporation.

Many of the designations used by manufacturers and sellers to distinguish their products are claimed as trademarks. Where those designations appear in this book, and Peachpit was aware of a trademark claim, the designations appear as requested by the owner of the trademark. All other product names and services identified throughout this book are used in editorial fashion only and for the benefit of such companies with no intention of infringement of the trademark. No such use, or the use of any trade name, is intended to convey endorsement or other affiliation with this book.

ISBN-13: 9780134185484

ISBN-10: 013418548X

9 8 7 6 5 4 3 2 1

Printed and bound in the United States of America

Dedication

To my lovely wife, Fazia, thanks for your love, laughter, and support!

To the innovators and dreamers who imagine a better future.

And to everyone who has ever stood in front of my lens...



Sony President and CEO Kazuo Hirai with author Brian Smith in Las Vegas, January 2014

Acknowledgments

Thanks to all my wonderful friends at Sony. To Neal Monowitz, Mark Weir, Kenta Honjo, El-Deane Naude, and Matt Parnell, Kelly Davis, Rosemary Flynn and Kazu Kobayashi for getting these amazing cameras in my hands, to Kimio Maki and the engineers, who keep thinking outside the box, and to Mike Fasulo and Kazuo Hirai for the opportunity to showcase the images I shot with them. My deepest thanks goes to Kayla Lindquist and my fellow Sony Artisans and Associates who constantly inspire me with the images they capture around the globe.

A project like this is really a team effort, and I'm very fortunate to have worked with many fine folks throughout its duration. Thanks to Jeff Revell for creating the foundation for what has resulted in a fantastic series of books and learning resources for many camera owners and to Jerod Foster for his fabulous book on the Sony NEX-6, which kicked off Peachpit's Sony series. Their contribution to this text is invaluable.

Huge thanks to the great team at Peachpit Press: Valerie Witte, Scout Festa, Lisa Brazieal, Bethany Stough, Aren Straiger, Mimi Heft, WolfsonDesign, Karin Arrigoni, and Sara Jane Todd. All of you made this an enjoyable experience that produced another great-looking book. Thank you.

And finally, to the love of my life, my creative collaborator, my muse, my lovely wife, Fazia, I love you dearly...

Contents

INTRODUCTION	xiii
CHAPTER 1: SONY A7-SERIES TOP TEN LIST	1
Ten Tips to Make Your Shooting More Productive Right Out of the Box	
Poring Over the Camera	2
Poring Over the Camera	4
Poring Over the Camera	6
Poring Over the Camera	8
1. Charge Your Battery	10
2. Turn Off the Auto ISO Setting	11
3. Set Your JPEG Image Quality	13
4. Configure Your LCD and Viewfinder	15
5. Set Your Autofocus Area and Mode	18
6. Set the Correct White Balance	20
7. Set Your Color Space	23
8. Know How to Override Autofocus	24
9. Review Your Shots	27
10. Hold Your Camera for Proper Shooting	32
Chapter 1 Assignments	33
CHAPTER 2: FIRST THINGS FIRST	35
A Few Things to Know and Do Before You Begin Taking Pictures	
Poring Over the Picture	36
Choosing the Right Memory Card	38
Formatting Your Memory Card	38
Updating a7-Series Firmware	40
Cleaning the Sensor	41
Using the Right Format: RAW vs. JPEG	43
Lenses and Focal Lengths	46
Understanding Exposure	52
Motion and Depth of Field	55
Chapter 2 Assignments	59

CHAPTER 3: MENU SETTINGS	61
Navigating the Menus	
Poring Over the Menu	62
Camera Settings	63
Custom Settings	74
Wireless	81
Application	82
Playback	83
Setup	84
Chapter 3 Assignments	89
CHAPTER 4: CUSTOMIZING YOUR CAMERA	91
Personalizing an a7-Series Camera for the Way You Shoot	
Poring Over the Picture	92
Using the Control Wheel to Select an AF Point	94
Avoid ISO Surprises	95
Setting Up Back-Button AF	95
Configuring the Function Menu	96
Saving Custom Key Settings	98
Saving Custom Shooting Modes	99
Chapter 4 Assignments	103
CHAPTER 5: SHOOTING MODES	105
Get Shooting with the Shooting Modes	
Poring Over the Picture	106
Intelligent Auto Mode	108
Scene Selection Modes	109
Sweep Panorama	119
Why You May Never Want to Use the Full Auto Modes Again	120
Picture Effects	121
P: Program Auto Mode	122
S: Shutter Priority Mode	125
A: Aperture Priority Mode	129
M: Manual Mode	133
How I Shoot: Here Are the Camera Settings I Use	136
Chapter 5 Assignments	138

CHAPTER 6: PORTRAIT PHOTOGRAPHY	141
Settings and Features to Make Great Portraits	
Poring Over the Picture	142
Automatic Portrait Mode	144
Using Aperture Priority Mode	145
Metering Modes for Portraits	147
Using the AE Lock Feature	149
Focusing: The Eyes Have It	150
Classic Black-and-White Portraits	152
The Portrait Creative Style for Better Skin Tones	155
Using Face Detection and Registration	155
Portraits on the Move	158
The Rule of Thirds	158
Tips for Shooting Better Portraits	160
Chapter 6 Assignments	167
CHAPTER 7: MOVING TARGET	169
Tricks to Shooting Sports and Action	
Poring Over the Picture	170
Stop Right There!	172
Using Shutter Priority (S) Mode to Stop Motion	176
Using Aperture Priority (A) Mode to Isolate Your Subject	178
Keep Them in Focus with Continuous AF and Autofocus Area Selection	180
Keeping Up with Continuous Shooting Mode	182
Manual Focus for Anticipated Action	184
A Sense of Motion	186
Tips for Shooting Action	187
Chapter 7 Assignments	190
CHAPTER 8: LANDSCAPE AND CITYSCAPE PHOTOGRAPHY	193
Tips, Tools, and Techniques to Get the Best Landscapes and Cityscapes	
Poring Over the Picture	194
Sharp and In Focus: Using Tripods	196
Selecting the Proper ISO	198

Using Noise Reduction	199
Selecting a White Balance	200
Using the Landscape Creative Style	202
Shooting Beautiful Black-and-White Landscapes	204
Golden Light	206
Shooting Compelling Sunrises and Sunsets	207
Making Water Fluid	208
Composing Landscapes and Streetscapes	210
Where to Focus	213
Easier Focusing	215
Using Manual Focus Assist	216
Using DMF Focus Mode	216
Expand Your Range	216
Shooting Panoramas	217
Look for the Unexpected	221
Chapter 8 Assignments	222

CHAPTER 9: MOOD LIGHTING **225**

Shooting When the Lights Get Low

Poring Over the Picture	226
Raising the ISO: The Simple Solution	228
High ISO Noise Reduction	229
Using Fast Glass	230
Using OSS Lenses	231
Mark II: 5-Axis Sensor-Shift Stabilization	233
Focusing in Low Light	237
Shooting Long Exposures	239
Using Flash	240
Compensating for the Flash Exposure	242
Flash Modes	243
Using an External Flash	247
Taming Flash Reflections	251
Chapter 9 Assignments	252

CHAPTER 10: ADVANCED TECHNIQUES	255
Take Your Images to the Next Level	
Poring Over the Picture	256
Spot Meter for More Exposure Control	258
Manual Mode	261
Avoiding Lens Flare	264
Using the Sun Creatively	266
Macro Photography	267
High Dynamic Range Photography	268
Using Dynamic Range Optimizer	271
Wireless Remote Capture App	274
Installing and Updating Sony PlayMemories Camera Apps	277
Sharing Photos with Send to Smartphone	278
One-Touch Connection with an NFC-Enabled Android Smartphone	281
Tethering Your a7-Series Camera	282
Chapter 10 Assignments	283
CHAPTER 11: LIGHTS, CAMERA, ACTION!	285
Getting Professional-looking Video from a7-Series Cameras	
Poring Over the Camera	286
It's All About the Lenses	293
Movie Shooting Modes	296
Getting a Shallow Depth of Field	297
Giving a Different Look to Your Videos	298
Picture Profiles	299
Shooting 4K	303
Accessories for Video	304
Tips for Better Video	306
Watching and Editing Your Video	309
Chapter 11 Assignments	311
INDEX	312
BONUS CHAPTER 12: LENS MOUNT ADAPTERS	12-1
BONUS CHAPTER 13: CREATIVE COMPOSITIONS	13-1
BONUS CHAPTER 14: PIMP MY A7	14-1

Introduction

I first became involved with Sony in early 2008, when they approached me for feedback as they were developing their first full-frame camera, the a900. I sent off a list of 20 things that users would expect from a high-end camera, never really expecting to hear back from them.

But I was delighted to open a box six months later containing a pre-production a900, which addressed virtually every suggestion that I had made. Soon after that, I sat down with one of Sony's engineers. I clearly remember his words to me: "Tell me what we did wrong, what we did right, and what we need to do next."

Those words sum up Sony's approach to digital imaging: Always look for innovative ways to advance technology.

Since their introduction, mirrorless cameras have held great appeal because of their compact size and reduced weight, yet they offer image quality that rivals that of beefier DSLRs. I was immediately attracted to the vast array of lenses I could mount on the Sony NEX due to its thin body design.

Yet a small, compact, interchangeable-lens full-frame camera still seemed to be just out of reach. until the release of the ground-breaking Sony a7 and a7R.

When Peachpit approached me about writing a book about Sony a7-series cameras for this great series, I jumped at the chance after having worked with them on *Secrets of Great Portrait Photography* (Peachpit Press, 2013). Little did I expect that within 18 months the Sony a7 lineup would grow to five models. This book is not a rehash of the owner's manual, but rather a resource that teaches photography with the specific technology present in the camera that you now own and any future cameras.

Here's a short Q&A to help you get a better understanding of just what it is that you can expect from this book.

Q: Is every camera feature going to be covered?

A: Nope, just the ones I felt you need to know about in order to start taking great photos. Believe it or not, you already own a great resource that covers every feature of your camera: the owner's manual. Writing a book that just repeats this information would have been a waste of my time and your money. Instead, I wanted to write about how to harness certain camera features to improve your photography. As you read through the book, you will also see callouts that point you to specific pages in your owner's manual that are related to the topic being discussed. These are meant to expand upon the feature or function that I cover as it applies to our specific needs.

Q: So if I already own the manual, why do I need this book?

A: The manual does a pretty good job of telling you how to use a feature or turn it on in the menus, but it doesn't necessarily tell you *why* and *when* you should use it. If you really want to improve your photography, you need to know the whys and whens to put all of those great camera features to use at the right time. To that extent, the manual just isn't going to cut it. It is, however, a great resource on the camera's features, and it is for that reason that I treat it like a companion to this book. You already own it, so why not get something of value from it?

Q: What's the aim of this book?

A: There has been much said about the current trend in photography technology to make gear smaller and lighter without sacrificing image quality. Yet when I looked around, I did not come across any good resources that married this new camera platform with practical photography instruction. The aim of this book is to go beyond technical jargon to assist you in making better photographs.

Q: What can I expect to learn from this book?

A: Hopefully, you will learn how to make great photographs. My goal, and the reason the book is laid out the way it is, is to guide you through the basics of photography as they relate to different situations and scenarios. By using the features of your a7-series camera and this book, you will learn about aperture, shutter speed, ISO, lens selection, depth of field, and many other photographic concepts. You will also find plenty of full-page photos that include captions, shooting data, and callouts so you can see how all the photography fundamentals come together to make great images. All the while, you will be learning how your camera works and how to apply its functions and features to your photography.

Q: What's the big deal about the full-frame sensor used in a7-series cameras vs. other mirrorless cameras?

A: As full-frame mirrorless cameras, a7-series cameras match the angle of view that full-frame lenses were designed for. Full-frame sensors are 2.33 times larger than APS-C, nearly four times the size of a micro 4/3 sensor, and nearly eight times the size of the 1-inch CX sensor that's a great size for point-and-shoots but completely undersized for mirrorless interchangeable-lens cameras.

Q: Can I use my Canon, Leica, and Nikon lenses on a7-series cameras? How do I do it?

A: One of the most exciting features of a7-series cameras is the ability to mount virtually any brand of lens on these cameras by using lens mount adapters. I've included an entire chapter on just how to do so, filled with lots of tips and recommendations. Refer to Bonus Chapter 12 to read all about it.

Q: I can't decide between the different a7-series cameras; will this book tell me which is best?

A: Honestly, you'll be happy with whichever you choose. Sony a7S cameras have the least noise at high ISOs. The a7R offers the highest resolution, and its lack of a low-pass anti-aliasing filter yields resolution of fine detail that's normally only found when using much larger, heavier, and more expensive medium-format digital cameras. And Mark II cameras offer 5-axis image stabilization for steady handheld images at low shutter speeds.

Q: What the heck is an anti-aliasing filter and why did Sony remove it from the a7R?

A: Anti-aliasing filters are designed to reduce aliasing, which most commonly takes the form of rainbow-like moiré patterning in areas of very fine detail. This is created when the frequency of the subject approaches the frequency of the photodiodes on the camera's sensor. Most digital cameras' sensors are fitted with low-pass anti-aliasing filters, which reduce the effect by very slightly blurring the image before it hits the light-gathering photodiodes. Generally speaking, anti-aliasing filters are a good thing, but removing them does provide the potential for higher detail resolution, although with the risk of increased moiré in areas of fine detail.

Q: What are all those little icons at the top of the menu?

A: Those icons are your key to navigating through the menu. Right to left, they are: Camera Settings, Custom Settings, Wireless, Applications, Playback, and Setup. To toggle between them quickly, press the top of the Control Wheel so they are highlighted, and press the sides of the Control Wheel to jump from one to the next. Press the bottom of the Control Wheel to access their sub-menus.

Q: What happened to the menu from the NEX?

A: Good question. The a7-series camera menus are much closer to the menus found in the a99 and the a77II than to the menus used in NEX cameras. If you wish to go back to a tiled menu like you used in the NEX, press Menu > Setup 2 > Tile Menu > On. Then press the Center button to lock-in that selection.

Q: Can I use the a7-series cameras in the studio with strobes without the viewfinder getting dark?

A: Absolutely. Whenever the strobe is overpowering the ambient exposure and you don't want the EVF and LCD to reflect that, you just need to turn off Live View. First, press Menu > Custom Settings 2 > Live View Display; then press the center of the Control Wheel to select Setting Effect OFF.

Q: Will the multi-interface shoe work with my PocketWizards or Radio Poppers?

A: You bet. The multi-interface shoe functions just like a universal hot shoe for flash triggers. Just be sure that flash exposure is active. First press Menu > Camera Settings 2 > Flash Mode; then press the Center button to select Fill-Flash or Rear Sync. (Wireless mode refers to Sony's Speedlight system, not to third-party flash triggers.)

Q: What are the assignments all about?

A: At the end of most of the chapters, you will find shooting assignments, where I give you some suggestions as to how you can apply the lessons of the chapter to help reinforce everything you just learned. Let's face it—using the camera is much more fun than reading about it, so the assignments are a way of taking a little break after each chapter and having some fun.

Q: Do I need to read the book straight through or can I skip around from chapter to chapter?

A: New users may find that the first four chapters give you the basic information that you need to know about your camera. These are the building blocks for using the camera. After that, feel free to move around the book as you see fit, because the later chapters are written to stand on their own as guides to specific types of photography or shooting situations. You can bounce from portraits to shooting landscapes and then maybe to a little action photography. It's all about your needs and how you want to address them. Or, you can read it straight through. The choice is up to you.

Q: Is there anything else I should know before getting started?

A: My goal in writing this book has been to give you a resource that you can turn to for creating great photographs with your Sony a7-series camera. Take some time to learn the basics and then put them to use. Photography, like most things, takes time to master and requires practice. One of the most important things about photography is to *never* stop learning. Always remember that it's not the camera that makes beautiful photographs—it's the person using it. Photography is one of those activities that let you explore, no matter if you are traveling or shooting your child's birthday party. So enjoy the experience, learn from your mistakes (which I encourage you to make), and take your snapshots to another level—to great shots.

Q: Is that it?

A: In order to keep the book short and focused, I had to be selective about what I included in each chapter. This, however, leaves out a little more information that might come in handy after you've gone through all the chapters. So as an added value for you, I've written three bonus chapters—Chapter 12, "Lens Mount Adapters," Chapter 13, "Creative Compositions," and Chapter 14, "Pimp My a7"—to assist you in making better photographs. To access links to the bonus chapters, just log in to or join Peachpit.com (it's free), then enter the book's ISBN: 013418548X. After you register the book, a link to the bonus chapter will be listed on your Account page under Registered Products.

ISO 400 • 1/80 sec. •
f/4.5 • 35mm



6

Portrait Photography

Settings and Features to Make Great Portraits

Taking pictures of people is one of the great joys of photography. The essence of portrait photography is to capture the spirit and personality of someone in a photograph. Making someone look good in a photograph is largely about making them feel good. The first step in looking beautiful is feeling beautiful, so make sure you treat them like a star. In this chapter, we will explore some camera features and techniques that can help you create great portraits.

Automatic Portrait Mode

When we reviewed automatic modes in Chapter 5, you learned that one of the scene selections, called Portrait, is dedicated to shooting portraits. While this is not my preferred camera setting, it's not a bad jumping-off point for those who are just starting out. The key to using this mode is to understand what is going on with the camera so that when you venture further into portrait photography, you can expand on the settings and get the most from your camera and, more importantly, your subject.

Whether you are photographing an individual or a group, the emphasis should always be on the subject. The Portrait scene selection utilizes a larger aperture setting to keep the depth of field very narrow, which means that the background will appear slightly blurred or out of focus. To take full advantage of this effect, use a normal or telephoto lens (**Figure 6.1**). Also, shoot from a relatively close distance to your subject. If you shoot from too far away, the narrow depth of field will not be as effective.

Figure 6.1
Portrait mode works best when combined with a normal or telephoto lens.

ISO 100 • 1/250 sec. •
f/6.3 • 24–70mm lens
at 45mm



Using Aperture Priority Mode

If you took a poll of portrait photographers to see which shooting mode was most often used for portraits, the answer would certainly be Aperture Priority (A) mode. Selecting the right aperture is important for placing the most critically sharp area of the photo on your subject, while simultaneously blurring all the distracting background clutter (**Figure 6.2**). Not only will a large aperture give the narrowest depth of field, it will also allow you to shoot in lower light levels at lower ISO settings. Fortunately, in addition to Sony full-frame FE lenses, you can use the Sony LA-EA3 and LA-EA4 adapters to take advantage of Sony A-Mount lenses as well. And since Sony's E-Mount is about the closest thing there is to a universal lens mount, adapters are available for virtually any lens mount, from Leica M to Nikon and Canon. This opens up an entire world of lens choices, many with extremely large maximum apertures.

This isn't to say that you have to use the largest aperture on your lens. A good place to begin is f/5.6. This will give you enough depth of field to keep the entire face in focus, while providing enough blur to eliminate distractions in the background. This isn't a hard-and-fast setting; it's just a good all-around number to start with. Your aperture might change depending on the focal length of the lens you are using and on the amount of blur that you want for your foreground and background elements.



Figure 6.2
Using a wide aperture, especially with a longer lens, blurs distracting background details.

ISO 100 • 1/2000 sec. •
f/2.2 • 55mm lens

Go wide for environmental portraits

There will be times when your subject's environment is of great significance to the story you want to tell. This might mean using a smaller aperture to get more detail in the background or foreground. Once again, by using A mode you can set your aperture to a smaller f-stop, such as f/8 or f/11, and include the important details of the scene that surrounds your subject.

Using a wider-than-normal lens can also assist in getting more depth of field as well as showing the surrounding area. A wide-angle lens requires less stopping down of the aperture to achieve an acceptable depth of field. This is because wide-angle lenses cover a greater area, so the depth of field appears to cover a greater percentage of the scene.

A wider lens might also be necessary to relay more information about the subject's environment (**Figure 6.3**). Select a lens length that is wide enough to tell the story but not so wide that you distort the subject. There's nothing quite as unflattering as giving someone a big, distorted nose (unless you are going for that sort of look). When shooting a portrait with a wide-angle lens, keep the subject away from the edge of the frame and the camera perpendicular to the ground, not tilted up or down. This will reduce the distortion, especially in very wide focal lengths. As the lens length increases, distortion will be reduced.



Figure 6.3 A wide-angle lens allows you to capture more of the environment without having to increase the distance between you and the subject.

ISO 200 • 1/100 sec. • f/6.3 • 16–35mm lens at 21mm

Metering Basics

There are multiple metering modes in your camera, but the way they work is very similar. A light meter measures the amount of light being reflected off your subject and then renders a suggested exposure value based on the brightness of the subject and the ISO setting of the sensor. To establish this value, the meter averages all of the brightness values to come up with a middle tone, sometimes referred to as 18 percent gray. The exposure value is then rendered based on this middle gray value. This means that a white wall would be underexposed and a black wall would be overexposed in an effort to make each one appear gray. To assist with special lighting situations, Sony a7-series cameras have three metering modes: Multi (**Figure 6.4**), which evaluates the entire frame in segments before establishing an exposure; Center (**Figure 6.5**), which looks at the entire frame but places most of the exposure emphasis on the center of the frame; and Spot (**Figure 6.6**), which takes specific readings from a small area outlined in the center of the frame (often used with a gray card).

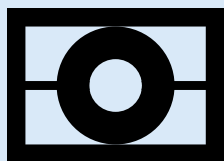


Figure 6.4 The Multi metering mode uses the entire frame.



Figure 6.5 The Center metering mode emphasizes the middle of the frame.

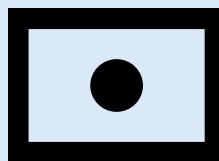


Figure 6.6 The Spot metering mode uses a very small area in the center of the frame.

Metering Modes for Portraits

For most portrait situations, the Multi metering mode is ideal. (For more on how metering works, see the “Metering Basics” sidebar.) This mode measures light values from all portions of the viewfinder and then establishes a proper exposure for the scene. The only time you might encounter a problem when using this metering mode is when you have very light or very dark backgrounds in your portrait shots.

In these instances, the meter might be fooled into using the wrong exposure information because it will be trying to lighten or darken the entire scene based on the prominence of dark or light areas (**Figure 6.7**). You can deal with this in one of two ways. You can use the Exposure Compensation feature to dial in adjustments for over- and underexposure. Or you can change the metering mode from Multi to Center. The Center metering mode assesses the entire frame, but it places more emphasis on the center of the frame. This is the best way to achieve proper exposure for many portraits; metering off of skin tones, averaged with hair and clothing, will often give a more accurate exposure (**Figure 6.8**). The Center metering mode is also great to use when the subject is strongly backlit.

Figure 6.7

The dark background fooled the Multi metering mode into choosing a slightly overexposed setting.

ISO 200 • 1/160 sec. •
f/6.3 • 35mm lens



Figure 6.8

With the Center metering mode, the camera shortens the exposure time based on the brighter values of the subjects' skin and clothing.

ISO 200 • 1/250 sec. •
f/6.3 • 35mm lens



Setting your metering mode to Center metering

1. Press the Fn button on the camera back.
2. Use the Control Wheel to highlight and select Metering Mode (A).
3. Rotate the Control Wheel to select Center (B).
4. Press the shutter button or the Center button of the Control Wheel return to shooting mode.



A



B



Using the AE Lock Feature

There will often be times when your subject is not in the center of the frame but you still want to use the Center or Spot metering modes. So how can you get an accurate reading if the subject isn't in the center? Try using the AE (Auto Exposure) Lock feature to hold the exposure setting while you recompose.

AE Lock lets you use the exposure setting from any portion of the scene that you think is appropriate, and then lock that setting in regardless of how the scene looks when you recompose. An example of this would be when you're shooting a photograph of someone and a large amount of blue sky appears in the picture. Normally, the meter might be fooled by all that bright sky and try to reduce the exposure. Using AE Lock, you can establish the correct metering by zooming in on the subject (or even pointing the camera toward the ground), taking the meter reading and locking it in with AE Lock, and then recomposing and taking your photo with the locked-in exposure.

Shooting with the AE Lock feature

1. Find the AEL button on the back of the camera and place your thumb on it.
2. While looking through the viewfinder, place the center focus point on your subject.
3. Press and hold the AEL button to get a meter reading. A star will appear in the bottom right of your viewfinder or LCD, letting you know that the exposure has been locked. Continue to hold the AEL button.
4. Recompose your shot, and then take the photo.
5. To take more than one photo without having to take another meter reading, just hold down the AEL button until you are done using the meter setting.



AEL with Shutter

If you would rather not have to use the AEL button at all, you can set up your a7-series camera to lock the exposure each time you press the shutter button halfway. All you need to do is select Menu > Custom Settings 4 > AEL w/shutter > On. Turning this function on is like having AEL enabled each time you focus in the frame. But if you wish to refocus after getting an exposure reading, the camera will lock in a new exposure reading based on those values. Fortunately, you can use the AEL button in conjunction with this setup.

Focusing: The Eyes Have It

It has been said that the eyes are the windows to the soul, and nothing could be truer when you are taking a photograph of someone (**Figure 6.9**). You could have the perfect composition and exposure, but if the eyes aren't sharp the entire image suffers. Although there are three different focusing modes to choose from on your a7-series camera, as well as two different autofocus modes, for portrait work you can't beat Single-shot AF mode and Flexible Spot. Single-shot automatic focusing will establish a single focus for the lens and then hold it until you take the photograph; the other autofocus mode, Continuous AF, continues focusing until the photograph is taken. Flexible Spot lets you place the focusing point right on your subject's eye and set that spot as the critical focus point. Using Single-shot AF mode lets you get that focus and recompose all in one motion.



Figure 6.9

When photographing people, you'll almost always want to place the emphasis on the eyes.

ISO 100 • 1/1000 sec. •
f/2.2 • 85mm lens

Setting up for Single-shot AF focusing mode

1. Ensure that you are in autofocus mode. By default the AF/MF button toggles between these settings. When Autofocus (AF) is selected, a focus point will be illuminated when you lightly press the shutter button.
2. Choose Single-shot AF mode Menu > Camera Settings > Focus Mode > Single-shot AF.



Quickly selecting the Flexible Spot AF point

By default, the Center button of the Control Wheel is assigned to eye focus, but I find it much more useful to use the Center button to adjust the Flexible Spot AF point.

1. Select Menu > Custom Settings 6 > Custom Key Settings > Center Button > Standard.
In this setting, you simply press the Center button to make the focus point active.
2. Rotate the Control Wheel to choose the size of the flexible spot: Small, Medium, or Large (I prefer Medium).
3. A small rectangle appears onscreen; press the sides, top, or bottom of the Control Wheel to place the rectangle where you want to autofocus. When you've positioned the autofocus point, press the center of the Control Wheel to make your selection.
4. To change your selection during shooting, press the center of the Control Wheel to activate the focus point, and select your new focus area by pressing the sides, top, or bottom of the Control Wheel.



To shoot using this flexible spot, place it on your subject's eye and press the shutter button halfway until the focus point turns green and the camera beeps. While still holding the shutter button down halfway, recompose and take your shot.

Classic Black-and-White Portraits

There is something timeless about a black-and-white portrait. It eliminates the distraction of color and puts all the emphasis on the subject. To get great black and whites without having to resort to any image-processing software, set your creative style to Black & White (Figure 6.10).



Figure 6.10

Getting high-quality black and white portraits can be as simple as setting the creative style to Black & White.

ISO 100 • 1/200 sec. • f/11 •
24–70mm lens at 70mm

You should know that the creative styles are automatically applied when shooting with the JPEG file format. If you are shooting in RAW, the picture that shows up on your rear LCD display will look black and white, but it will only appear that way in post-processing software if you are using Sony's Image Data Converter software, which reads that you shot the image in the Black & White creative style. If you are using Adobe Photoshop, Lightroom, or Capture One to edit and process your images, the RAW image will appear as an unaltered, color image; you will have to convert it to black and white using the software. You can change the creative style of a raw photo in Sony Image Data Converter software, so if you decide that black and white isn't the route you want to go, just change the RAW file's creative style in the software.

The real key to using the Black & White creative style is to customize it for your portrait subject. The style can be changed to alter the contrast and sharpness. For children or anyone else who should look somewhat soft, set the Sharpness setting to -1 or 0. For dramatic portraits that you want to look bold and detailed, try a Contrast setting of +2 or +3. For a softer look, use a Contrast setting of -1 or 0 for a nice range of tones throughout the image.

Setting your creative style to Black & White

1. Press Menu > Camera Menu 4 > Creative Style (A).
2. Press the Control Wheel up or down to highlight and select the Black & White (B/W) style (B). Lock it in by pressing the center of the Control Wheel.



Your camera will continue to shoot with the Black & White creative style until you change it to another setting.

Customizing the Creative Style settings

1. When you're in the section of the Creative Style menu where you have Black & White selected, press the center of the Control Wheel to select sub-settings.
2. Use the right and left side of the Control Wheel to move between Contrast, Saturation, and Sharpness, highlighting the setting you would like to change.
3. Now click up or down on the Control Wheel (or rotate it) to select a corresponding value for the highlighted setting.
4. Perform the same process for the other options, then press the Menu button to return to the regular menu screen. You can now start shooting with your new settings.



The Portrait Creative Style for Better Skin Tones

As long as we're talking about creative styles for portraits, there is another style on your a7-series cameras that has been tuned specifically for this type of shooting, which appropriately enough is called Portrait. To set this style on your camera, simply follow the same directions as earlier, except this time, select the Portrait style instead of Black & White. There are also individual options for the Portrait style that, like the Black & White style, include sharpness and contrast. You can also change the saturation (how intense the colors will be). I'm cautious not to over-saturate my images, particularly skin tones, so if I boost the saturation, I only push it to +1, leaving everything else at the defaults. You won't be able to use the same adjustments for everyone, so do some experimenting to see what works best.

Using Face Detection and Registration

Face detection in digital cameras has been around for a few years, and although it might not be the professional portrait photographer's go-to function, it does present a nice technology for those who want to bypass some of the more technical approaches to focusing. Your a7-series camera has two face detection modes: one for general face detection, and another for faces that you register with the camera. Both modes adjust

focus and exposure for the detected face, but with Face Registration, you can program eight faces for the camera to prioritize.

When you turn on Face Detection focusing, the camera does an amazing thing: It zeroes in on any face appearing on the LCD and places a box around it (**Figure 6.11**). I'm not sure how it works; it just does. Another great thing about Face Detection is that it doesn't slow down the autofocus function.

Figure 6.11
Face Detection
can lock in on your
subject's face for
easy focusing.

ISO 200 • 1/80 sec. •
f/8 • 35mm lens



Eye Detection AF

Sony a7-series cameras take face detection technology a step further with Eye Detection AF. When this option is selected, the camera tracks focus on the subject's eye instead of the entire face. When Face Detection AF is on, you can enable Eye Detection AF, by pressing the center of the Control Wheel as you focus (assuming the Center button has not been assigned to another function).

Setting up and shooting with Face Detection focusing

1. Before turning on Face Detection, you must first ensure that your camera's auto-focus area is in Multi mode. And since Face Detection determines exposure based on your subject's face, you must also have Multi metering enabled (see "Metering Modes for Portraits," earlier in this chapter, for how to change metering modes).
2. Press the Menu button and use the Control Wheel to highlight and select the Camera submenu, and navigate to the fifth tab.
3. Use the Control Wheel to navigate to the Smile/Face Detection function, and select it by pressing the center of the Control Wheel (A).
4. In the Smile/Face Detection mode options, press up or down on the Control Wheel until you highlight Face Detection On (B). Select this option by pressing the center of the Control Wheel, and return to shooting.
5. Point your camera at a person, and watch as a frame appears over the face in the LCD or in the electronic viewfinder.
6. Press and hold the shutter release button halfway to focus on the face, and wait until you hear the confirmation chirp.
7. Press the shutter button fully to take the photograph.

A



B



The Smile Shutter

One of the more fun face detection technologies you can enable with a7-series cameras is the Smile Shutter. It does exactly what it sounds like: When the camera detects your subject's smile, it automatically snaps a picture. It's not perfect, but neither is face detection in general. But when the Smile Shutter is turned on, it is relatively responsive to the pearly whites, even in low light. To enable the Smile Shutter, go to Menu > Camera Settings 5 > Smile/Face Detect > Smile Shutter > On. You even have the option of choosing whether the Smile Shutter will respond to a slight, normal, or big smile. Talk about relaxing behind the lens!

Portraits on the Move

Not all portraits are shot with the subject sitting in a chair, posed and ready for the picture. Sometimes you might want to get an action shot that says something about the person, similar to an environmental portrait. Children, especially, just like to move. Why fight it? Set up an action portrait instead.

For the photo in **Figure 6.12**, I set my camera to Shutter Priority (S) mode and my shutter speed to a relatively high shutter speed of 1/500 of a second to freeze the action. I followed the subject as he approached the camera and fired off a single frame as he passed directly in front of me.

Figure 6.12

Although the subject was not moving very fast, the key to this shot was tracking with him and pressing the shutter as he passed directly in front of me to freeze his movement.

ISO 200 • 1/500 sec. •
f/6.3 • 35mm lens



The Rule of Thirds

One of the basic rules of composition is the “rule of thirds.” Using this principle, you simply imagine two horizontal and two vertical lines dividing your frame equally. Place your subject to the side of the frame (**Figure 6.13**)—it just looks more interesting than plunking them smack dab in the middle.



Figure 6.13
Placing the subject off to one side allows the lines from her arms to lead the viewer's eye to her face.

ISO 200 • 1/100 sec. •
f/5.6 • 35mm lens

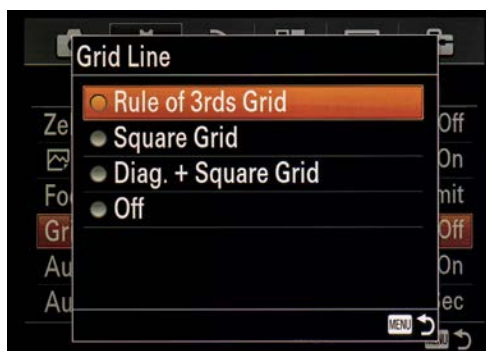
Setting up the Grid Display

1. Start by pressing the Menu button.
2. Use the Control Wheel to scroll to the first tab of the Custom Menu.
3. Press the Control Wheel to highlight and select Grid Line (A).
4. In the Grid Line submenu, rotate the Control Wheel to highlight Rule of 3rds Grid (B). Select this option by pressing the center of the Control Wheel, and return to shooting.

A



B





ISO 100 • 1/160 sec. •
f/14 • 70–200mm lens
at 100mm

8

Landscape and Cityscape Photography

Tips, Tools, and Techniques to Get the Best Landscapes and Cityscapes

Who can resist shooting a beautiful landscape or cityscape when they see one? Landscapes are a great learning ground for photographers, particularly in the areas of light and composition, and for those of us who enjoy spending time outdoors, there are few better ways to do so.

This chapter explores the functions of a7-series cameras that make landscape photography not only a possibility but also an exciting and enjoyable venture. It also covers techniques that will improve your landscape and cityscape photography.

Composing Landscapes and Streetscapes

As a photographer, it's your job to lead the viewer through your image. You accomplish this by utilizing the principles of composition, which is the arrangement of elements in the scene that draws the viewer's eye through your image and holds their attention. As the director of this viewing, you need to understand how people see, and then use that information to focus their attention on the most important elements in your image.

There is a general order in which we look at elements in a photograph. The first is brightness. The eye wants to travel to the brightest object within a scene. So if you have a bright sky, it's probably the first place the eye will travel to. The second order of attention is sharpness. Sharp, detailed elements will get more attention than soft, blurry areas. Finally, the eye will move to vivid colors while leaving the dull, flat colors for last. It is important to know these essentials in order to grab—and keep—the viewer's attention and then direct them through the frame.

In **Figure 8.16**, the eye is drawn from the road to the mountain peak and into the sky. The leaves framing the top of the image redirect the viewer back to the mountain. The elements within the image help keep the eye moving without leaving the frame.

Rule of thirds

There are, in fact, quite a few philosophies concerning composition. The easiest one to begin with is known as the “rule of thirds.” Using this principle, you simply divide your viewfinder into thirds by imagining two horizontal and two vertical lines that divide the frame equally.

The key to using this method of composition is to locate your main subject at or near one of the intersecting points.

By placing your subject near these intersecting lines, you are giving the viewer space to move within the frame. The one thing you don't want to do is place your subject smack dab in the middle of the frame. This is sometimes referred to as “bull's-eye” composition, and it requires the right subject matter for it to work. It's not always wrong, but it will usually be less appealing and may not hold the viewer's focus.

Speaking of the middle of the frame, the other rule of thirds deals with horizon lines. Generally speaking, you should position the horizon one-third of the way up or down in the frame. Splitting the frame in half by placing your horizon in the middle of the picture is akin to placing the subject in the middle of the frame—it doesn't lend a sense of importance to either the sky or the ground, creating two equally competing areas of the image.



Figure 8.16

The composition of the elements pulls the viewer's eye around the image, leading from one element to the next in a triangular pattern but never out of the frame.

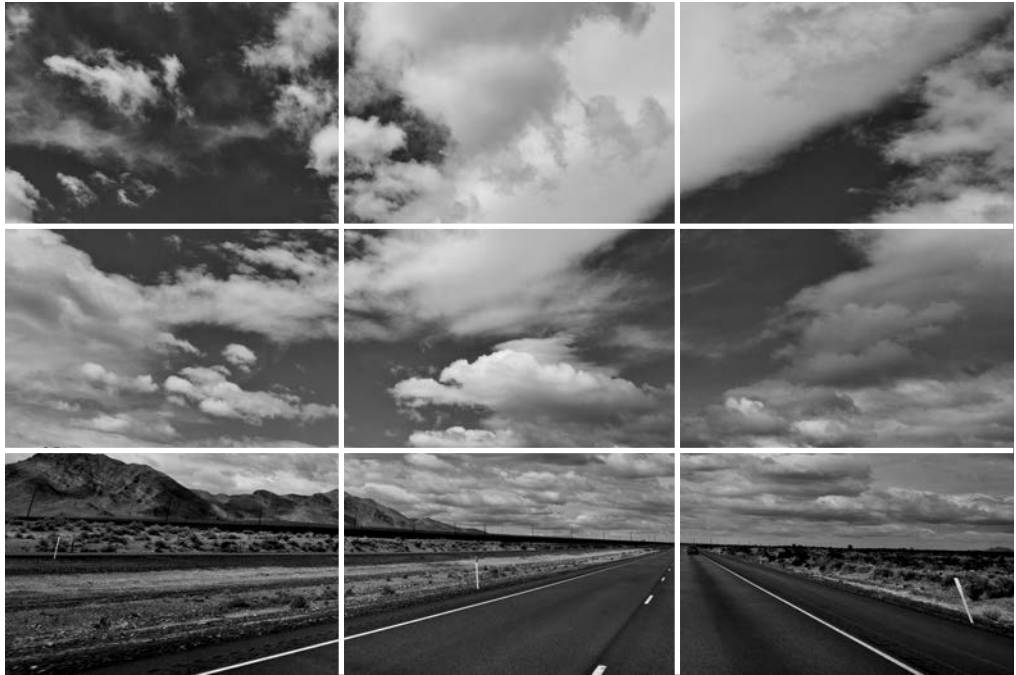
ISO 200 • 1/125 sec. •
f/8 • 35mm

Figure 8.17 incorporates the rule of thirds by aligning the horizon in the bottom third of the frame. In doing so, I have created a sense of depth in the image. By selecting the right lens focal length (24mm, in this instance) and the right vantage point, I was able to place my horizon line so that it gives the greatest emphasis to the subject. (To learn how to set up a rule-of-thirds grid, please see Chapter 6.)

Figure 8.17

With the rule-of-thirds grid atop this image, you can see that I composed the shot so that the horizon line and road meet in the lower-right intersection.

ISO 100 • 1/125 sec. •
f/10 • 24–70mm lens
at 24mm



Creating depth

Because a photograph is a flat, two-dimensional space, you need to create a sense of depth by using the elements in the scene to create a three-dimensional feel. This is accomplished by including different and distinct spaces for the eye to travel: foreground, middle ground, and background. By using these three spaces, you draw the viewer in and render depth to your image.

Landscape images need not always have everything in focus. **Figure 8.18** illustrates that as the eye travels around the frame, the focus on the foreground draws the eye to the stacked stones.



Figure 8.18
The focus on
the stones in the
foreground draws
the eye.

ISO 100 • 1/320 sec. •
f/7.1 • 35mm lens

Where to Focus

As with any type of photography, you can use various depths of field to shoot landscapes. But if you are interested in those big, encompassing shots (as most landscape shooters are), you more than likely want everything in your shot to be in focus. From the foreground to points way off in the distance, all the details of the grand scene in front of you are tack sharp! But where do you focus in order to achieve this?

First you need to make sure you are set up to shoot the large landscape. To gain maximum depth of field and focus, it is typical to use your smallest aperture. For most wide and standard lenses, this is f/22, though some stop down to f/32 or f/45. Since a smaller aperture

forces you to shoot with a slower shutter speed, you'll need to be set up on a sturdy tripod. The tripod allows you to concentrate on the other part of the formula: where to focus to achieve maximum depth of field. For this, you must utilize something called the "hyper focal distance" of your lens.

Hyper focal distance, also referred to as HFD, is the point of focus that will give you the greatest acceptable sharpness from a point near your camera all the way out to infinity. If you combine good HFD practice with a small aperture, you will get images that are sharp to infinity.

After you have composed your shot, focus on an object that is about one-third of the distance into your frame (**Figure 8.19**). That's pretty much it. You'll most easily achieve this by focusing manually, which will allow you to be more exact with where you place the focus.

Figure 8.19

To get maximum focus from near to far using the hyper focal distance (HFD) one-third rule, I focused one-third of the way up the hillside. You can either select a focus point for that area or use the center focus point and recompose before taking the picture. This kept everything in focus.

ISO 200 • 1/60 sec. •
f/6.3 • 24–70mm lens
at 35mm



When Live View is on, a7-series cameras' EVF and LCD will display depth of field in real time as you adjust your aperture. This is a handy feature when you want to preview the amount of depth of field you will achieve.

Additionally, depth of field is inherently (more like physically) different for different types of lenses. Practically speaking, wider-angle lenses achieve greater depth of field compared to longer lenses. This, among other reasons, is why wide-angle lenses are a part of most landscape photographer's kits. It is also why some photographers choose not to attempt hyper focal distance with telephoto lenses. At stopped-down apertures, longer lenses (even on a tripod) can sometimes render an image soft.

Tack Sharp

Here's one of those terms that photographers like to throw around. *Tack sharp* refers not only to the focus of an image but also to the overall sharpness of the image. This usually means that there is excellent depth of field in terms of sharp focus for all elements in the image. It also means that there is no sign of camera shake, which can give soft edges to subjects that should look nice and crisp. To get your images tack sharp, use a small depth of field, don't forget your tripod, use the self-timer to activate the shutter if no cable release is handy, and practice achieving good hyper focal distance when picking your point of focus.

Easier Focusing

There's no denying that the automatic focus features on a7-series cameras are great, but sometimes it just pays to turn them off and go manual. This is especially true when you are shooting on a tripod: Once you have your shot composed in the viewfinder and are ready to focus, chances are that the area you want to focus on is not going to be in the area of one of the focus points. Often this is the case when you have a foreground element that is fairly low in the frame. You could use a single focus point set low in your viewfinder and then pan the camera down until it rests on your subject, but then you would have to press the shutter button halfway to focus the camera and then try to recompose and lock down the tripod. It's no easy task.

But you can have the best of both worlds by having the camera focus for you, then switching to manual focus to comfortably recompose your shot.

Getting focused while using a tripod

1. Set up your shot and find the area that you want to focus on.
2. Pan your tripod head so that your active focus point is on that spot.
3. Press the shutter button halfway to focus the camera, and then remove your finger from the button.
4. Switch the camera to manual focus by pressing the Fn button next to the shutter button, navigating to FOCUS, and selecting MF (manual focus).
5. Recompose, and then take the shot.



The camera will fire without trying to refocus the lens. This works especially well for wide focal lengths, which can be difficult to focus in manual mode.

Using Manual Focus Assist

If you choose to manually focus, Sony a7-series cameras have a built-in feature that helps you achieve exact focus. Whether you have your eye to the electronic viewfinder or are using the LCD display to compose your scene, the MF Assist (manual focus assist) function will, once you start to make focus adjustments, digitally “zoom in” to the area on which you are placing focus so you can have greater control over where the plane of critical focus actually lands. Essentially, MF Assist is akin to placing a magnifying glass between the camera and subject so you can specifically adjust for exact focus. To turn on the MF Assist function, simply turn your camera’s focus mode to MF, or manual focus. (MF Assist is a default function of the camera, but if you want to ensure that it is turned on, select Menu > Custom Settings 1 > MF Assist > On.)

Using DMF Focus Mode

When you’re using native Sony E-Mount lenses, Sony a7-series cameras also offer the DMF focus mode, which is ideal for fine-tuning focus. In DMF focus mode, the camera autofocuses as normal, once it does, if you turn the focus ring slightly, the camera will digitally “zoom in” to the focus point you have selected, giving you a quick way to double-check or correct focus. To turn it on, select Menu > Camera Settings > Focus Mode > DMF.

Expand Your Range

Sony a7-series cameras have about 14 stops of dynamic range. While you may not see that in a straight capture, there’s a lot of detail hiding in the shadows of your Sony RAW files when you need it (Figure 8.20).



Figure 8.20
This backlit shot of Christ the Redeemer in Rio has detail in the shadows that can easily be recovered in Lightroom, Adobe Camera Raw, or Capture One.

ISO 100 • 1/1000 sec. •
f/5 • 70–400mm lens
at 210mm

Shooting Panoramas

If you have ever visited the Grand Canyon, you know just how large and wide open it truly is—so much so that it would be difficult to capture its splendor in just one frame. The same can be said for a mountain range or a cityscape or any extremely wide vista. There are two methods you can use to capture the feeling of this type of scene.

Sweep Panorama mode

Sony a7-series cameras include a panorama mode, and even though it takes a bit of control away from you during shooting, it serves as a great way to preview what your multiple-image panorama might look like. Depending on how well the camera stitches the shots together, the resulting panorama might just be the one you like most. In a context with enough light, the sweep panorama also allows you to forgo the tripod because it provides you a visual guide on the LCD to follow while you are shooting. Simply turn the Mode dial to Sweep Panorama (the icon that looks like a concave rectangle), turn the Control dial to indicate which direction you want to pan, and while holding the shutter button down, pan the camera using the guide. The camera will then stitch all of the individual images together into one final image. This is not the method I prefer to use to shoot panoramas, but it is useful for previewing panoramas and for those in need of a quick shot.

The multiple-image panorama

To shoot a true panorama, you need to use either a special panorama camera that shoots a very wide frame, or the following method, which requires the combining of multiple frames.

The multiple-image panorama has gained in popularity in the past few years; this is principally because of advances in image-processing software. Many software options are



Figure 8.21 Here you see the makings of a panorama, with ten shots overlapping by about 30 percent from frame to frame.

ISO 100 • 1/100 sec. • f/11 • 24–70mm lens at 50mm



Figure 8.22 I used Adobe Photoshop to combine all of the exposures into one large panorama that spans from coast to coast across Fiji's Waya Island.

available now that will take multiple images, align them, and then “stitch” them into a single panoramic image. The real key to shooting a multiple-image pano is to overlap your shots by about 30 percent from one frame to the next (**Figures 8.21 and 8.22**).

It is possible to handhold the camera while capturing your images, but the best method for capturing great panoramic images is to use a tripod.



Shooting properly for a multiple-image panorama

1. Mount your camera on your tripod and make sure it is level.
2. Choose a focal length for your lens that is, ideally, somewhere from 35mm to 50mm. (I used a 50mm in Figure 8.21, which worked well, but a focal length similar to the perspective of the human eye is appropriate in most cases.)
3. In Aperture Priority (A) mode, use a very small aperture for the greatest depth of field. Take a meter reading of a bright part of the scene, and make note of it.
4. Now change your camera to Manual (M) mode, and dial in the aperture and shutter speed that you obtained in the previous step.
5. Set your lens to manual focus, and then focus your lens for the area of interest using the HFD method of finding a point one-third of the way into the scene. (If you use the autofocus, you risk getting different points of focus from image to image, which will make the image-stitching more difficult for the software.)
6. While carefully panning your camera, shoot your images to cover the entire area of the scene from one end to the other, leaving a 30 percent overlap from one frame to the next.



Now that you have your series of overlapping images, you can import them into your image-processing software to stitch them together and create a single panoramic image.

Sorting Your Shots for the Multi-Image Panorama

If you shoot more than one series of shots for your panoramas, it can sometimes be difficult to know when one series of images ends and the other begins. Here is a quick tip for separating your images.

Set up your camera using the steps listed here. Now, before you take your first good exposure in the series, hold up one finger in front of the camera and take a shot. Now move your hand away and begin taking your overlapping images. When you have taken your last shot, hold two fingers in front of the camera and take another shot.

Now, when you go to review your images, use the series of shots that falls between the frames with one and two fingers in them. Then just repeat the process for your next panorama series.

Look for the Unexpected

Never forget that your best images might well come from happenstance, not from meticulous planning. Always stay alert for the unexpected (**Figure 8.23**). Learn to observe and pay attention to things that come into the frame. And never forget that photography is supposed to be fun!



Figure 8.23 A typical day at the beach gets far more interesting when a cow walks into the picture.

ISO 200 • 1/500 sec. • f/10 • 16–35mm lens at 20mm

Index

A

- Access Point Set setting, 82
- accessories, xvii, 10, 304–306
- action shots. *See also* motion
 - Aperture Priority mode, 178–179
 - focus, 184–185
 - freezing action, 188
 - portraits, 158
 - shutter speed, 55, 56, 169, 172–180
 - sports, 50, 100, 113
 - stopping motion, 176–178
 - subject speed, 173–174
 - tips for, 187–189
- AEL (Automatic Exposure Lock), 149–150, 259
- AEL button, 4, 5, 95–96, 150, 260
- AEL w/Shutter setting, 77
- AF (autofocus). *See also* focus
 - 3D mode, 185
 - action and, 185
 - Back-Button AF, 95–96
 - considerations, 120, 185
 - contrast-detection, 180
 - face detection, 156
 - Flexible Spot, 66, 150, 152
 - hybrid, 180
 - overriding, 24–26
 - phase-detection, 180
 - setting area/mode, 18–20
 - settings, 67, 72, 76, 77, 79, 80
 - video, 67
- AF area selection, 180–182
- AF focus points, 66
- AF Illuminator, 67, 238–239
- AF Micro Adjust setting, 79
- AF System settings, 80
- AF w/Shutter setting, 77
- AF-C (Continuous AF) mode, 66, 120, 150, 180–182
- AF-S (Single-shot AF) mode, 66, 120, 150–152, 180–182
- Airplane Mode setting, 81
- Anti Motion Blur mode, 117
- anti-aliasing filter, xvi
- aperture
 - blurring and, 55, 57, 58, 178–179
 - considerations, 50, 136
 - depth of field and, 55, 57, 58, 178–179
 - f-stops and, 52, 53–54, 129
 - portraits, 145–147
- Aperture Priority (A) mode, 129–132
 - action shots, 178–179
 - blurred backgrounds, 145–147, 178
 - macro photography, 267–268
 - portraits, 145–147
 - setting up/shooting in, 132
 - vs. Shutter Priority mode, 178–179
 - when to use, 106, 130–132, 136
- Application List menu item, 82
- apps. *See also* software
 - listing, 82
 - PlayMemories, 82, 277–278
 - settings, 82
 - Smart Remote Control, 274–277
 - Sony, 276
 - tethering, 282
- APS-C Size Capture setting, 79
- APS-C/Super 35mm setting, 79
- Area Settings menu item, 86
- Aspect Ratio setting, 63
- Audio Level Display setting, 75
- Audio Out Timing setting, 73
- Audio Rec Level setting, 73
- Audio Recording setting, 73
- Audio Signals menu item, 84
- Auto Cleaning feature, 41–43
- Auto HDR mode, 68, 271
- Auto ISO setting, 11–12, 177
- Auto Mode setting, 72
- Auto Object Framing setting, 72
- Auto Review setting, 75
- Auto (AWB) setting, 68
- Auto Slow Shutter setting, 73

- autofocus modes, 120
- Automatic Exposure Lock. *See* AEL
- Automatic Focus (AF) points, 180–182
- automatic modes, 105–119
- AVCHD setting, 63

B

- Back-Button AF, 95–96
- backgrounds
 - backlit, 259
 - blurred, 144, 145–147, 178, 186
 - dark/light, 135, 258–259
 - depth, 212–213
 - flash exposure and, 242–243
 - in focus, 46
 - portraits, 147–148
- backlighting, 259
- batteries, 10, 292
- black and white images, 69, 152–155, 204–205
- blinkies, 209
- blurring. *See also* motion
 - Anti Motion Blur mode, 117
 - aperture size and, 55, 57, 58, 178–179
 - backgrounds, 144, 145–147, 178, 186
 - depth of field and, 55–58
 - motion blur, 55–58, 178–179, 186
- Bracket Order setting, 79
- bracketing, 64, 79, 270–271
- brightness, 74
- Bulb setting, 197, 261–264
- burst mode, 182–184

C

- cable release, 215
- camera
 - accessories, xvii, 10, 304–306
 - batteries, 10, 292
 - body, 2–9, 286–287

- buttons/controls, 2–9, 286–287
- changing device name of, 82
- choosing, xv
- cleaning sensors, 41–43
- firmware, 40–41, 87
- holding properly, 32
- manual for, xiv
- reviewing shots on, 27–31
- silent shooting, 78
- tethering, 282
- top 10 list, 1–33
- camera modes. *See also* shooting modes
 - automatic modes, 105–119
 - drive modes, 64, 120, 148, 184
 - flash modes, 65, 243–247
 - focus modes, 66, 120
 - metering modes. *See* metering modes
 - professional. *See* professional modes
 - scene selection modes, 72, 109–118
- Camera settings, 63–74
- camera shake, 215, 264
- Capture One Express, 44
- Center Lock-on AF setting, 72
- Center metering mode, 68, 147–149
- Certification Logo menu item, 87
- children, 158, 165. *See also* portraits
- cityscapes
 - composition, 210–213
 - depth of field, 213–215
 - focus, 213–217
 - ISO settings, 198–199
 - noise reduction, 199–200
 - sense of depth, 212–213
 - sharpness, 213–215
 - street photography, 47, 48, 55, 185, 198
 - tripods, 214, 215–216
 - white balance, 200–202
- Cleaning Mode menu item, 85
- cleaning sensors, 41–43
- close-ups, 267–268. *See also* macro photography
- color
 - cool/warm, 206
 - Partial Color effect, 70
 - peaking, 75
 - saturation, 69, 70, 111, 155, 202, 203
- color space, 23–24, 73

- color temperature, 22, 84
- color tone, 68
- composition
 - depth and, 212–213
 - landscapes/cityscapes, 210–213
 - overview, 210
 - rule of thirds, 74, 158–159, 210–212
- compression, 13, 43, 44
- computer, sending images to, 81
- Continuous AF (AF-C) mode, 66, 120, 150, 180–182
- Continuous drive mode, 184
- contrast, 69, 70, 204, 237, 267
- Control Wheel, 12, 15, 81, 94
- Copyright Info settings, 87
- creative styles, 69–70, 120, 203
- cropping, 162
- Custom Key Settings
 - general settings, 80
 - ISO settings, 12, 95
 - saving, 95, 98–99
- Custom settings, 74–81

D

- Dark Frame Subtraction, 71
- Date/Time Setup menu item, 86
- Daylight setting, 68, 200, 201
- Delete Confirm menu item, 85
- Delete menu item, 83
- Demo Mode menu item, 85
- depth of field
 - aperture and, 55, 57, 58, 178–179
 - composition and, 212–213
 - considerations, 178–179
 - landscapes/cityscapes, 213–215
 - motion and, 55–58
 - shallow, 297–298
 - wide-angle lenses and, 46
- Dial EV Comp setting, 81
- Dial Set-Up settings, 80
- Dial / Wheel Lock settings, 81
- digital noise. *See* noise
- Direct Manual Focus (DMF) mode, 25, 66, 216
- DISP Button setting, 75
- Display Continuous AF area setting, 76
- Display MAC Address setting, 82
- Display Media Info menu item, 87
- Display Quality settings, 85

- Display Rotation menu item, 83
- Drive mode settings, 64
- drive modes, 64, 120, 148, 184
- DRO (Dynamic Range Optimizer), 68, 271–274
- DRO bracketing, 64
- DRO/Auto HDR settings, 68
- Dual Video REC settings, 65
- dynamic range, 44, 216–217
- Dynamic Range Optimizer. *See* DRO

E

- Edit Device Name setting, 82
- effects. *See* special effects
- e-Front Curtain Shutter (EFS), 78
- electronic viewfinder (EVF), 15–18, 27, 77, 202, 237
- E-Mount lenses, 25, 50, 145, 233–235, 295
- Enlarge Image menu item, 83
- environmental portraits, 146
- EV (exposure value), 52
- EV compensation, 78, 80, 276
- EVF (electronic viewfinder), 15–18, 27, 77, 202, 237
- exposure
 - AE Lock feature, 149–150, 259
 - bracketing, 64, 79, 270–271
 - Bulb setting, 197
 - calculating, 53–54
 - long, 71, 117, 239–240, 263
 - overview, 52–54
 - reciprocal, 53, 54
 - settings, 67
 - Spot metering mode, 68, 147, 258–261
 - too dark/light, 258–259
- Exposure Comp settings, 67, 78
- exposure compensation, 67, 120, 137, 147, 242–243
- Exposure Set Guide menu item, 76
- Exposure Step settings, 67
- exposure triangle, 52, 53–54
- exposure value. *See* EV
- extenders, 268
- extension tubes, 268, 304
- Eye Detection AF, 156
- eyes, focusing on, 142, 150–152
- Eye-Start AF setting, 77

F

- face detection, 72, 155–157
- Face Registration setting, 79
- faces, 143, 155–157, 163, 189
- fast glass, 230
- file formats, 63
- File Number menu item, 87
- fill flash, 65, 244
- filters
 - anti-aliasing, xvi
 - neutral density, 209, 305
 - picture effects, 70–71, 121–122, 299
 - polarizing, 209, 304
- Finder Color Temp menu item, 84
- Finder / Monitor setting, 77
- fireworks scenes, 261, 262
- firmware updates, 40–41
- firmware version, 40, 87
- flash
 - auto, 65
 - considerations, 241, 247
 - external, 247–251
 - fill, 65
 - freezing action with, 188
 - hot-shoe, 249
 - ISO settings and, 228
 - night photos and, 115
 - off-camera, 248, 249
 - reflections, 251
 - studio, 249–251
 - wireless, 65, 248, 249
- Flash Compensation feature, 65, 242–243
- Flash Mode settings, 65
- flash modes, 65, 243–247
- flash settings, 65
- flash synchronization, 65, 188, 241–247
- Flexible Spot mode, 66, 150, 152
- focal distance, 214
- focal length, 46–51, 161
- focus. *See also AF entries*; manual focus
 - action shots, 184–185
 - landscapes/cityscapes, 213–217
 - with Live View, 215
 - in low light, 237–239
 - on people, 150–152, 155–157
 - pre-focusing, 184–185
 - settings, 66–67, 71, 74
 - single-focus point, 150–152

- soft, 70
- with tripod, 214, 215–216
- video, 293, 307
- focus modes, 66, 120
- focus peaking, 25, 238
- focus points, 66, 120, 180–182
- Folder Name menu item, 87
- Format menu item, 87
- frames, 184, 187, 289, 308
- framing portraits, 164
- f-stops, 52, 53–54, 129. *See also* aperture
- Function menu, 17–18, 80, 96–97

G

- golden light/hours, 206
- gray card, 147
- grid overlay, 74, 159, 212
- Grid setting, 74

H

- Hand-held Twilight mode, 117
- HDMI 4K Output Select menu item, 86
- HDMI Settings menu item, 86
- HDR images, 68, 268–271
- HDR Painting effect, 70
- HDR photography, 268–271
- HFD (hyper focal distance), 214
- High Contrast Mono effect, 70
- high dynamic range. *See* HDR entries
- High ISO noise reduction (NR), 71, 228, 229–230
- High ISO NR setting, 71
- highlights, 74, 307
- high-speed sync (HSS), 242
- histograms, 30–31
- horizon lines, 210–212
- HSS (high-speed sync), 242
- Hybrid Dual AF, 180–182
- hyper focal distance (HFD), 214

I

- IBIS (in-body image stabilization), 197, 233, 234
- Illustration effect, 71
- Image Data Converter, 44, 69
- Image Index menu item, 83
- Image Size setting, 63

- image stabilization (IS), 197, 233–237
- images
 - advanced techniques, 255–283
 - black and white, 69, 152–155, 204–205
 - composing. *See* composition
 - cropping, 162
 - deleting, 29, 83, 84, 85
 - DRO, 271–274
 - folders for, 87
 - HDR, 68, 268–271
 - high-contrast, 70
 - JPEG, 13–14, 43–45, 68
 - panoramic, 63, 217–220
 - printing, 84
 - quality settings, 44
 - RAW, 43–45, 68
 - resolution, 45, 63, 84, 86
 - retro, 70
 - reviewing on camera, 27–31, 75, 83
 - rotating, 83
 - sending to computer, 81
 - sending to smartphone, 81, 278–281
 - sepia, 69, 70
 - sharing, 278–281
 - size, 63, 83
 - slide show, 83
 - special effects. *See* special effects
 - viewing on TV, 81
- in-body image stabilization (IBIS), 197, 233, 234
- Intelligent Auto mode, 108
- interlaced video, 64
- Introduction menu item, 82
- ISO Auto minimum shutter speed settings, 67
- ISO menu item, 67
- ISO numbers, 52
- ISO settings
 - adjusting, 11, 120, 176–178, 228–230
 - auto, 11–12, 67, 177
 - changing on the fly, 12
 - considerations, 52, 95, 137
 - high, 71, 228, 229–230
 - landscapes/cityscapes, 198–199
 - noise and, 176, 198–200, 228–230
 - Program Auto mode, 123

selecting, 123, 197–198
shutter speed and, 67, 176–178
video, 298

J

JPEG format, 203
JPEG images, 13–14, 43–45, 68
JPEG option, 13, 63

L

Landscape creative style, 202–204
Landscape mode, 111
landscape photography, 193–222
 beach/sand/snow scenes, 259
 black and white images,
 204–205
 clouds, 68, 200, 209
 composition, 210–213
 depth of field, 213–215
 focus, 213–217
 ISO settings, 198–199
 lightning storms, 261
 nighttime. *See* night shots
 noise reduction, 199–200
 panoramas, 217–220
 saturation, 111, 202, 203
 sense of depth, 212–213
 settings, 69
 sharpness, 202, 203, 204,
 213–215
 shooting modes, 101–102, 111
 sunlight, 163, 264–266
 sunrise/sunset, 69, 114,
 206–207, 260–261
 tripods, 196, 214, 215–216
 water, 128, 208–209
 white balance, 200–202
Language menu item, 86
LCD display (monitor), 15–18, 25,
 27–29, 77
lens adapters, 235
Lens Comp settings, 80
lens flare, 264–265
lens hood, 265
lenses, 46–51
 A-Mount, 50, 233, 235
 choosing, 160
 considerations, xv, 46
 E-Mount, 25, 50, 145, 233–235,
 295
 fast, 230
 focal length, 46–51

image stabilization, 197, 233–237
interchangable, xv
kit, 50
normal, 48–49
OSS, 197, 231–232
portraits, 109, 146, 160
prime, 50
telephoto, 50, 51
third-party, 77, 235, 236
video and, 293–295
wide-angle, 46–47, 146
zoom, 50, 71, 81, 132, 267
light meter, 147
lighting, 225–253
 AF illuminator, 67, 238–239
 backlighting, 259
 daylight, 200, 201
 dusk, 127, 225, 226–227
 fluorescent, 21, 22, 68
 focusing in low light, 237–239
 golden hours, 206
 incandescent, 21, 22, 68, 200,
 201
 long exposures, 228, 239–240
 low-light, 117, 128
 nighttime. *See* night shots
 overview, 225
 portraits, 147–149, 163
 raising ISO, 228–230
 Shutter Priority mode and,
 176–178
 sunlight, 163, 264–266
 twilight, 127
lightning storms, 261
Live View display Setting Effect,
 18, 69
Live View Display settings, 76
Live View mode, 159, 202, 215
Long Exposure NR setting, 71

M

MAC addresses, 82
Macro mode, 112
macro photography, 112, 267–268.
 See also close-ups
manual, camera, xiv
manual focus. *See also* focus
 for anticipated action, 184–185
 described, 66
 DMF mode, 25, 66, 216
 landscapes/cityscapes, 214,
 215–216
 MF Assist, 26, 74, 216
switching to, 25
tips for, 214
Manual (M) mode, 133–136
 advanced techniques, 261–264
 setting up/shooting in, 136
 when to use, 133–135
Mark II 5-axis sensor-shift
 stabilization, 233–237
Marker settings, 75
megapixels, 38, 45
memory cards, 38–39, 87, 308
Memory Recall setting, 74
Memory settings, 74
Menu button, 4, 5, 17, 28, 286
menu settings, 61–89
 Application, 82
 Camera, 63–74
 Custom, 74–81
 Playback, 83–84
 recommended, 136–137
 restoring defaults, 87
 Setup, 84–87
 Wireless, 81–82
menus
 basic menu, 62
 considerations, 61
 Custom Key Settings menu,
 98–99
 Function menu, 17–18, 96–97
 tile menu, 62, 85
Metabones Smart Adapter IV, 66
Metering Mode settings, 68
metering modes
 Center-weighted, 68, 147–149
 Multi, 68, 147, 258
 for portraits, 147–149
 Spot, 68, 147, 258–261
 for sunrise/sunset, 260–261
MF Assist setting, 74
Miniature effect, 70
Mode Dial Guide menu item, 85
modes. *See* camera modes
monitor (LCD display), 15–18, 25,
 27–29, 77
Monitor Brightness settings, 84
motion. *See also* action shots
 depth of field and, 55–58
 direction of travel, 172–173, 187
 freezing, 55–57, 126
 panning, 186, 308
 portraits and, 158
 stopping with Shutter Priority,
 176–178
 subject speed, 173–174

motion blur, 55–58, 178–179, 186.
 See also blurring
Movie AF drive speed settings, 67
Movie AF Track Sensitivity
 settings, 67
MOVIE button settings, 81
Movie settings, 67, 72, 100–101
Movie shooting modes, 72,
 290–291, 296–297
movies. *See* video
MP4 movies, 65
MP4 setting, 63
Multi metering mode, 68, 147, 258
multi-interface shoe, xvi

N

neutral density (ND) filter, 209
New Folder menu item, 87
NEX cameras, xvi
NFC (One Touch) function, 81, 281
Night Portrait mode, 115
Night Scene mode, 116
night shots, 117, 261
 Bulb setting, 261–264
 fireworks, 261, 262
 long exposures, 239–240
 Night Portrait mode, 115
 Night Scene mode, 116
 settings, 69
noise, 12, 228–230
noise reduction
 High ISO, 71, 228, 229–230
 ISO settings and, 176, 198, 199,
 228–230
 long exposures, 239–240
 setting up for, 199–200
 settings, 71
 wind, 74
NTSC format, 85
NTSC/PAL Selector setting, 85

O

One Touch (NFC) function, 81, 281
OSS (Optical SteadyShot) lens, 197,
 231–232

P

P (Program Auto) mode, 122–124
PAL format, 85
panning, 186, 308
panoramas, 63, 217–220
Partial Color effect, 70

Peaking Color settings, 75
Peaking Level settings, 75
people. *See also* portraits
 action shots. *See* action shots
 children, 158, 165
 Eye Detection AF, 156
 eyes, 65, 142, 150–152, 156
 face detection, 72, 155–157
 face registration, 79
 faces, 143, 155–157, 163, 189
 focusing on, 150–152
 skin tones, 72, 147, 148, 155, 163
 smile detection, 72, 157
Phase Detect Area setting, 76
phase-detection AF, 180
photography
 action. *See* action shots
 advanced techniques, 255–283
 cityscapes. *See* cityscapes
 close-up, 267–268
 composition. *See* composition
 HDR, 268–271
 landscape. *See* landscape
 photography
 macro, 112, 267–268
 portraits. *See* portraits
 sports, 50, 100, 113
 street, 47, 48, 55, 185, 198
photos. *See* images
picture effects, 70–71, 121–122, 299
Picture Profile settings, 71
picture profiles, 71, 299–303
pixels, 63
Playback button, 175
Playback settings, 83–84
PlayMemories app, 82, 277–278
PocketWizards, xvi
polarizing filters, 209
Pop Color effect, 70
Portrait mode, 109–110
Portrait style, 155
portraits, 141–167. *See also* people
 action shots, 158
 Aperture Priority mode,
 145–147
 Automatic Portrait mode, 144
 backgrounds, 147–148
 black and white, 152–155
 blurred backgrounds, 144, 145
 candid, 166
 children, 158, 165
 considerations, 141
 environmental, 146
 Eye Detection AF, 156

 face detection, 72, 155–157
 face registration, 79
 faces, 143, 155–157, 163, 189
 focal length and, 161
 focusing on eyes, 142, 150–152
 framing, 164
 lenses, 109, 146, 160
 lighting, 147–149, 163
 metering modes for, 147–149
 night, 115
 orientation, 162
 Portrait style, 155
 red eye reduction, 65
 settings, 69
 shooting modes, 101–102
 single-point focusing, 150–152
 skin tones, 72, 147, 148, 155, 163
 smile detection, 72, 157
 sunlight and, 163
 tips for, 160–166
Posterization effect, 70
Power Save Start Time settings, 85
Pre-AF setting, 76
printing images, 84
Priority Set in AF-C setting, 77
Priority Set in AF-S setting, 77
professional modes
 Aperture Priority. *See* Aperture
 Priority mode
 Manual. *See* Manual mode
 Program Auto, 122–124
 Shutter Priority. *See* Shutter
 Priority mode
Program Auto (P) mode, 122–124
progressive scan, 289
progressive video, 64
Protect menu item, 84

Q

Quality settings, 63, 85

R

Radio Poppers, xvi
RAW format, 43–45, 203
RAW images, 43–45, 68
RAW & JPEG option, 63, 68
RAW option, 63
Rear Sync flash mode, 245–247
reciprocal change, 53
reciprocal exposures, 53, 54
reciprocal rule, 196
Record settings, 64, 65

- recording video. *See* video
- Recover Image DB menu item, 87
- Red Eye Reduction setting, 65
- reflections, 251
- Release w/o Card setting, 77
- Release w/o Lens setting, 77
- remote control, 86, 264, 282
- Remote Control menu item, 86
- Resent Network settings, 82
- Reset EV Comp setting, 78
- resolution
 - images, 45, 63, 84
 - video, 86, 288, 309
- Retro Photo effect, 70
- Rich-tone Mono effect, 70
- Rotate menu item, 83
- rule of thirds, 74, 158–159, 210–212

S

- S (Shutter Priority) mode, 125–129
- saturation, 69, 70, 111, 155, 202, 203
- scene selection modes, 72, 109–118
- SCN shooting mode, 72, 109
- Select REC Folder menu item, 87
- self-timer, 64, 108, 198
- Send to Computer setting, 81
- Send to Smartphone, 81, 278–281
- sensors
 - cleaning, 41–43
 - full-frame, xv
- sepia images, 69, 70
- settings, 87, 136–137. *See also* menu settings
- Settings Reset menu item, 87
- Setup settings, 84–87
- Shade setting, 68
- shadows, 267
- sharing images, 278–281
- sharpness
 - black and white portraits, 154, 155
 - landscapes, 202, 203, 204, 213–217
 - RAW images and, 44
 - settings, 69, 70
 - tack sharp, 213, 215
 - tips for, 213–214
- Sharpness setting, 154, 155
- shoe, multi-interface, xvi
- shooting modes, 105–139. *See also* camera modes; *specific modes*
 - Aperture Priority (A), 129–132
 - automatic. *See* automatic modes

- considerations, 105
- continuous, 113, 182–184
- custom, 99–102
- Manual (M), 133–136
- Program Auto (P), 122–124
- Shutter Priority (S), 125–129
- Silent, 78
- Shutter Priority (S) mode, 125–129
 - vs. Aperture mode, 178–179
 - considerations, 176–178
 - light levels and, 176–178
 - overview, 125
 - setting up/shooting in, 128–129
 - stopping motion with, 176–178
 - when to use, 125–128
- shutter speed
 - action shots and, 55, 56, 169, 172–180
 - Bulb setting, 261–264
 - controlling, 128
 - described, 52
 - direction of travel and, 172–173
 - fast, 125, 176, 178
 - isolating subject, 178–179
 - long exposures, 228, 239–240
 - night photos and, 115
 - slow, 73, 125, 126, 196, 228
 - stopping motion, 176–178
 - subject speed, 173–174
 - subject-to-camera distance, 174–175
 - tripods, 196, 214, 228, 239–240
- Silent Shooting mode, 78
- silhouetted subjects, 133, 134, 207
- single-point focusing, 150–152
- Single-shot AF (AF-S) mode, 66, 120, 150–152, 180–182
- skin tones, 72, 147, 148, 155, 163
- Slide Show menu item, 83
- Slow Sync flash mode, 244–245
- Smart Remote Control app, 274–277
- smartphone, 81, 82
- smile detection, 72, 157
- snow scenes, 259
- Soft Focus effect, 70
- Soft High-key effect, 70
- Soft Skin Effect setting, 72
- software. *See also* apps
 - Capture One Express, 44
 - for RAW files, 44
 - Remote Camera Control, 282
 - Sony Image Data Converter, 44
- Sony Support page, 40
- sound, video, 73, 75, 84, 291–292, 308

- special effects
 - creative styles, 69–70, 120, 203
 - picture effects, 70–71, 121–122, 299
- Specialty Printing menu item, 84
- sports photography, 50, 100, 113
- Spot metering mode, 68, 147, 258–261
- SSID/PW Reset setting, 82
- star trails, photographing, 261
- starburst effect, 266
- SteadyShot feature, 231–232, 235, 236–237
- SteadyShot settings, 73
- street photography, 47, 48, 55, 185, 198. *See also* cityscapes
- strobe, xvi
- subject-to-camera distance, 174–175
- sunlight, 163, 264–266
- sunrise shots, 206–207, 260
- Sunset mode, 114
- sunset shots, 69, 114, 206–207, 260–261
- Super Auto Image Extract setting, 78
- Sweep Panorama mode, 119
- sync speed, 241–242

T

- tack-sharp photos, 213, 215
- TC (time code), 85
- TC/UB Settings menu item, 85
- telephoto lenses, 50, 51
- Tile Menu setting, 85
- time code (TC), 85
- timers, self, 64, 108, 198
- tonemapping, 268
- Toy Camera effect, 70
- tripods
 - considerations, 196, 197
 - focusing and, 214, 215–216
 - image stabilization and, 197, 236
 - landscapes/cityscapes, 196–197, 214, 215–216
 - long exposures, 240
 - for macro photography, 267
 - manual focus and, 215–216
 - panoramic images, 217, 220
 - reciprocal rule, 196
 - shutter speed, 214, 228, 239–240

- stability, 197
- video, 305
- water shots, 208–209
- TV, viewing images on, 81

U

- UB (user bit), 85
- Upload Settings menu item, 84
- USB Connection menu item, 86
- USB LUN Setting menu item, 86
- user bit (UB), 85

V

- Version menu item, 87
- video, 285–311
 - 4K, 63, 84, 86, 303–304
 - accessories, 304–306
 - buttons/controls, 286–287
 - camera stabilization, 305–306
 - considerations, 310
 - creative styles, 298–299
 - depth of field, 297–298
 - editing, 310
 - focus, 293, 307
 - format, 289–290
 - Function menu, 97
 - interlaced, 64

- lenses, 293–295
- memory cards, 38, 308
- Movie settings, 67, 100–101
- Movie Shooting modes, 72, 290–291, 296–297
- MP4 movies, 65
- picture profiles, 299–303
- progressive, 64
- quality, 288–290
- recording, 64, 65, 73, 288
- resolution, 288, 309
- settings, 69, 80, 81, 87
- sound, 73, 75, 84, 291–292, 308
- tips for, 306–308
- tripods, 305
- viewing, 306, 309–310
- video file format, 63
- Video Light Set settings, 80
- View Mode menu item, 83
- View on TV setting, 81
- viewfinder, 15–18, 27, 77, 202, 237
- Viewfinder Brightness settings, 84
- Volume Settings menu item, 84

W

- water, 128, 137, 208–209
- Watercolor effect, 71

- waterfalls, 128, 208–209
- website, xvii
- white balance, 20–22, 120, 200–201, 299
- White Balance settings, 68
- wide focus area, 66
- wide-angle lenses, 46–47, 146
- wildlife, 130
- Wind Noise Reduction setting, 74
- wireless flash, 65, 249
- wireless remote capture app, 274–277
- Wireless settings, 81–82
- WPS Push setting, 82

X

- XAVC video, 63, 65, 303–304

Z

- Zebra settings, 74
- Zebra tool, 74, 307
- zone focus area, 66
- zoom lenses, 50, 71, 80, 132, 267
- Zoom Ring Rotate setting, 81
- Zoom settings, 71, 76
- zooming in/out, 149, 175