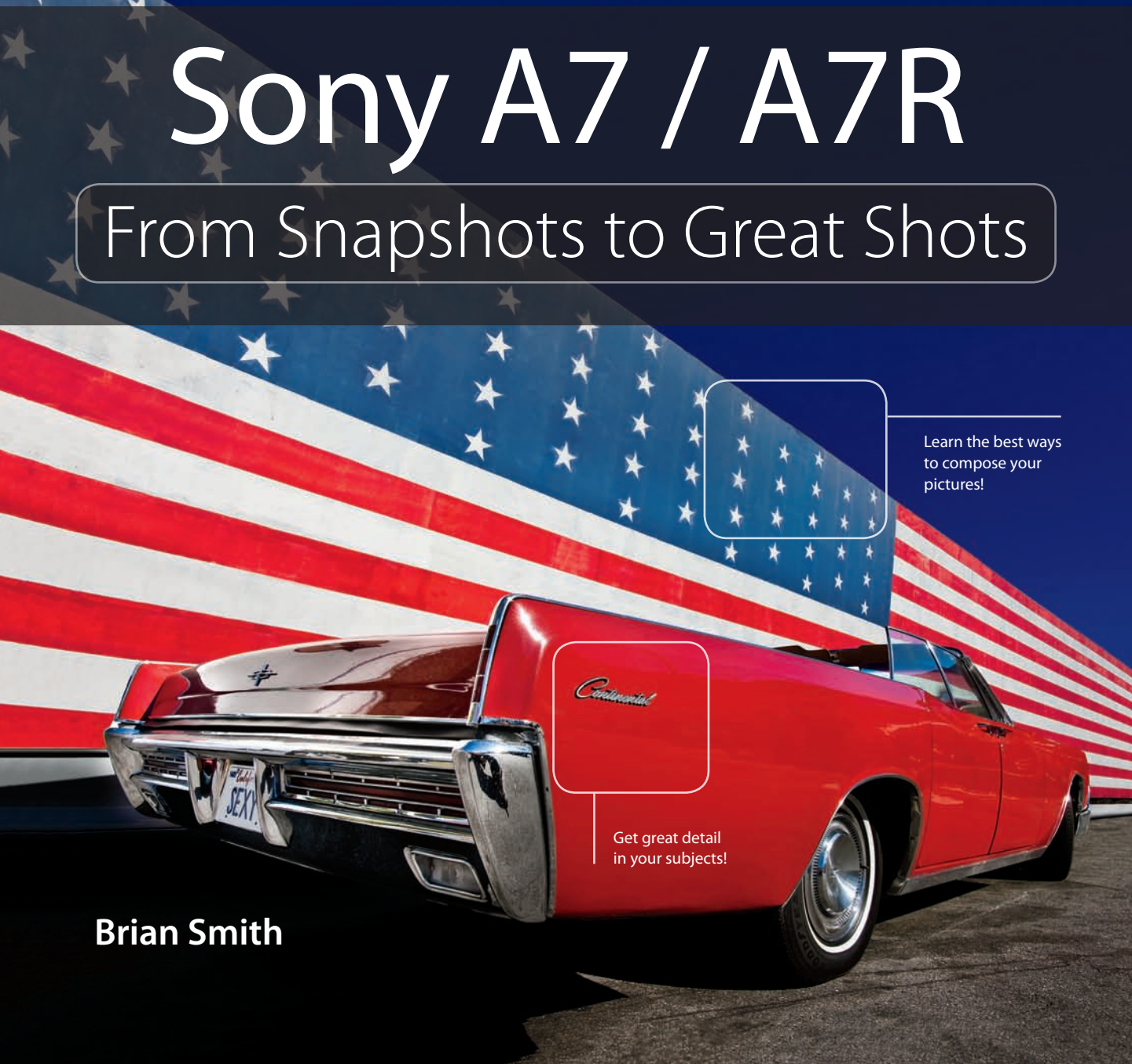
Sony A7 / A7R

From Snapshots to Great Shots



Brian Smith

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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…

Acknowledgments

Thanks to all my wonderful friends at Sony. My deepest thanks to Rosie Sandoval, Mark Weir, El-Deane Naude, Kenta Honjo, and Mike Kahn, who helped get these amazing cameras in my hands, and to Matt Parnell, Val Motis, Mike Fasulo, Phil Molyneux, and Kazuo Hirai for the opportunity to showcase the images I shot with them! To Sony's engineers, thanks for thinking outside the box! Thanks to Sony AOI's Kayla Lindquist and my fellow Sony Artisans, who always inspire me with their amazing work.

A project like this does not come together with just one person at the helm, and I'm glad to have worked with many fine folks throughout its duration. To Jeff Revell, thanks for creating the foundation for what has resulted in a fantastic series of books and learning resources for many camera owners. And thanks to Jerod Foster for his fabulous book on the NEX-6, which kicked off Peachpit's Sony series. Their contribution to this text is invaluable.

A huge thanks to everyone at Peachpit Press who was instrumental in this project: my wonderful editors, Valerie Witte and Scout Festa, for their extreme patience with all the projects I had on my plate while writing this; Wolfson Design for beautiful design; David Van Ness; Bethany Stough; Susan Rimerman; Sara Jane Todd; and my BFFs Scott Cowlin and Ted Waitt. 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

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

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 that fall 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. My fellow pros hit me up with their wish list, which I forwarded to Sony: "full-frame," "digital Contax G2," "Minolta CLE," "I want to use my old Leica M glass," "built-in EVF with Live View when shooting video," "I'd like interchangeable lenses," and "RX1 gets close."

I wasn't sure what Sony had in the works last year. I just knew that all my friends in Digital Imaging had really, really big smiles on their faces when I saw them.

When Peachpit approached me about writing a book about the Sony A7/A7R for this great series, I jumped at the chance after having worked with them on *Secrets of Great Portrait Photography* (Peachpit Press, 2013). 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.

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?

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/A7R 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 the A7/A7R vs. other mirrorless cameras?

A: As the first full-frame mirrorless cameras ever made, the A7 and A7R are the first cameras that 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 tiny 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 the A7/A7R? How do I do it?

A: One of the most exciting features of the A7/A7R 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. Turn to Chapter 12 to read all about it.

Q: I can't decide between the A7 and the A7R. Will this book tell me which is better?

A: Honestly, you'll be happy with whichever you choose. Many of the differences are minor. For instance, the A7 has slightly less noise at high ISOs than the A7R—by about half a stop. The flash sync speed on the A7 is 1/250, whereas the A7R syncs at 1/160. The A7R performs *slightly* better with extreme wide-angle rangefinder lenses—emphasis on *slightly.* The biggest difference is in resolution. The A7R has more megapixels—36 as opposed to 24—but more importantly, the A7R's 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.

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, Application, 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/A7R menu is much closer to the menu found in the A77 and the A99 than the menu used in the NEX. If you wish to go back to a tiled menu like you used in the NEX, press Menu > Setup 2 > Tile Menu. Then press the center of the Control wheel to select On.

Q: Can I use the A7 or A7R 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 RadioPoppers?

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 of the Control wheel to select Fill-flash or Rear Sync. (Wireless mode refers to Sony's Speedlight system, not to third-party remote 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/A7R. 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.

ISO 200 • 1/160 sec. • f/16 • 35mm lens

4

Advanced Modes

Taking Your Photography to the Next Level

Creativity comes through in your images when you can control your camera, and advanced exposure modes allow you such control. If you've been shooting for a while, you're probably already familiar with these modes. They allow you to influence two of the most important factors for taking great photographs: *aperture* and *shutter speed.* Accessing these modes is as simple as turning the Mode dial to P, A, S, or M. But wouldn't it be nice to know exactly what those letters and corresponding modes control and how to make them do our bidding? Well, if you really want to take that next step in controlling your photography, it is essential that you understand not only how to control these modes, but why and when to adjust them so that you get the results you want. These modes also open up a range of options not possible in full auto modes, including shooting in RAW and applying creative styles and picture effects.

Poring Over the Picture

Combining colors like green and yellow conveys a sense of movement and energy.

ISO 200 • 1/640 sec. • f/5.6 • 35mm lens

Aperture priority mode is the perfect choice for capturing eye-catching street photography. Set your aperture for the depth of field you desire, then concentrate on capturing the decisive moment.

Poring Over the Picture

Manual mode is perfect when you want total control over your exposure, such as when shooting outdoors with studio strobes.

Manual exposure mode allowed me to easily balance the background ambient exposure with the strobe.

ISO 200 • 1/50 sec. • f/5.6 • 70–200mm lens at 70mm


The machete is turned so that it reflects the light from the strobe.
The subject is lit from the side—where I wish the sun had been—by a large battery-powered strobe.
Moving water gives the photo a sense of motion.

Picture Effects

If you love the filters found on popular smartphone photography apps, you might find the picture effect function in the A7/A7R appealing. This feature allows you to choose a predetermined "filter" for your image. These filters include Toy Camera, Pop Color, Color Posterization, Retro Photo, Soft High Key, High Contrast Mono, Miniature (**Figure 4.1**), and several partial color filters. Each has its own look and feel, and it's best to simply experiment with each of them in different environments to see if you find them appealing.

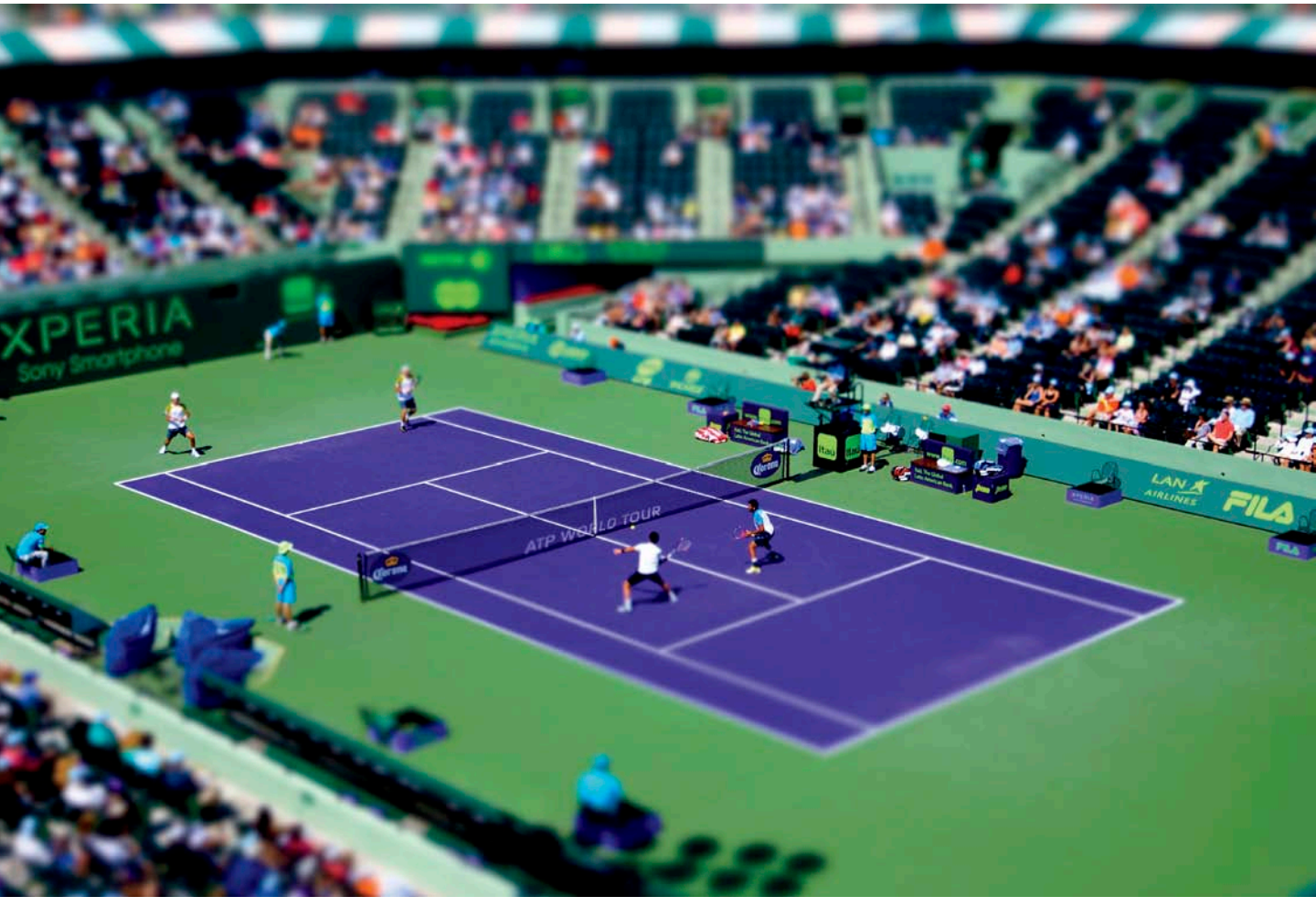


Figure 4.1 **The Miniature picture effect was applied to this photo, creating a JPEG that simulates the look of a tilt/shift lens.**

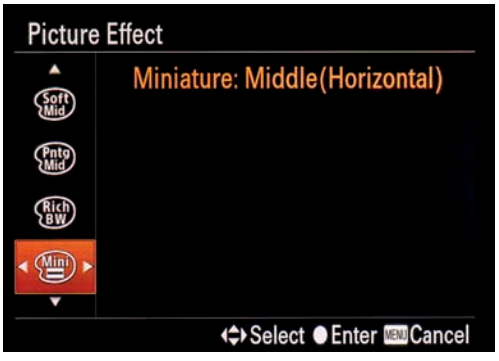
ISO 100 • 1/2500 sec. • f/2.8 • 35mm lens

Setting up picture effects

1. Put the camera in JPEG mode: Menu > Camera Settings 1 > Quality > Extra Fine.
2. Choose Menu > Camera Settings 4 > Picture Effect (**A**).
3. Select the picture effect you want (**B**).
4. If the picture effect you select has an arrow beside it, that means there are multiple options you can select for that effect. Press the right or left side of the Control wheel to scroll between them.

A

B



Picture effects require a bit of in-camera processing, so these modes are available only when shooting in JPEG mode. However, there's a similar group of settings called creative styles, which you can apply to RAW images. We'll get into creative styles in Chapter 5.

P: Program Auto Mode

There's a reason that Program Auto (P) mode is only one click away from Intelligent Auto mode. In terms of aperture and shutter speed, the camera is doing most of the thinking for you. So, if that is the case, why even bother with Program Auto mode? While I rarely use this mode, there are occasions it comes in handy, like when I am shooting in quickly changing lighting conditions and don't have the time to think through all of my options, or when I'm not very concerned with having ultimate control of the scene—I want great-looking pictures, but I'm not looking for anything to hang in a museum. For example, I might choose Program Auto if I'm quickly following someone from indoors into bright sun, because it gives me choices and control that none of the full auto modes can deliver.

Manual Callout

To see a comparison of all of the different shooting modes for the A7/A7R, check out the list on pages 67–68 of your owner's manual.

When to use Program Auto (P) mode instead of full auto modes

- When shooting in a casual environment where quick adjustments are needed
- When you want control over the ISO
- If you want or need to shoot in the Adobe RGB color space
- If you want to make corrections to the white balance

Let's go back to our scenario. As I said, the light is moving from deep shadow to bright sunlight, which means that the camera is trying to balance our three photo factors (ISO, aperture, and shutter speed) to make a good exposure. From Chapter 1, we know that Auto ISO is just not a consideration, so we have already turned that feature off (you did change it, didn't you?). Well, in Program Auto mode, you can choose which ISO you would like the camera to base its exposure on. The lower the ISO number, the better the quality of our photographs, but the less light-sensitive the camera becomes. It's a balancing act, with the main goal always being to keep the ISO as low as possible—too low an ISO, and we will get camera shake in our images from a long shutter speed; too high an ISO means we will have an unacceptable amount of digital noise. For our purposes, let's go ahead and select ISO 400 so that we provide enough sensitivity for those shadows while allowing the camera to use shutter speeds that are fast enough to stop motion.

With the ISO selected, we can now make use of the other controls built into Program Auto mode. By rotating the Control dial, we have the ability to shift the program settings. Remember, your camera is using the internal light meter to pick what it believes are suitable exposure values, but sometimes it doesn't know what it's looking at and how you want those values applied. With the program shift, you can influence what the shot will look like. Do you need faster shutter speeds in order to stop the action? Just turn the Control dial counterclockwise. Do you want a smaller aperture so that you get a narrow depth of field? Then turn the dial clockwise until you get the desired aperture. The camera shifts the shutter speed and aperture accordingly in order to get a proper exposure, and you will get the benefit of your choice as a result.

Let's set up the camera for Program Auto mode and see how we can make all of this come together.

Setting up and shooting in Program Auto mode

1. Turn your camera on, and then turn the Mode dial to align the P with the indicator line.
2. To select your ISO, press the right side of the Control wheel (next to where it reads ISO), rotate the Control wheel to the desired setting, and press the middle of the wheel to select (the ISO selection will appear in the electronic viewfinder and the rear LCD panel).

3. Point the camera at your subject, and then activate the camera meter by depressing the shutter button halfway.
4. View the exposure information in the electronic viewfinder or on the display panel on the back of the camera.
5. While the meter is activated, use your thumb to roll the Control dial left and right to see the changed exposure values.
6. Select the exposure that is right for you and start shooting. (Don't worry if you aren't sure what the right exposure is. We will start working on making the right choices for those great shots beginning with the next chapter.)

Starting points for ISO selection

There is a lot of discussion concerning ISO in this and other chapters, but it might be helpful if you know where your starting points should be for your ISO settings. The first thing you should always try to do is use the lowest possible ISO setting. That being said, here are some good starting points for your ISO settings:

- 100: Bright, sunny day
- 200: Hazy, or outdoor shade on a sunny day
- 400: Indoor lighting at night or cloudy conditions outside
- 800: Late night, low-light conditions or sporting arenas at night

These are just suggestions, and your ISO selection will depend on a number of factors that will be discussed later in the book. You might have to push your ISO even higher as needed, but at least now you know where to start.

S: Shutter Priority Mode

S mode is what we photographers commonly refer to as Shutter Priority mode. The nomenclature can vary between cameras—some manufacturers use the initial T (for Time) to indicate you are shooting in Shutter Priority mode. Luckily, the A7/A7R makes it easy on us. S stands for *shutter*; hence, Shutter Priority. It can't be any more practical than that, right?

Like Program Auto mode, S mode gives us more freedom to control certain aspects of our photography. In this case, we are talking about shutter speed. The selected shutter speed determines just how long you expose your camera's sensor to light. The longer it remains open, the more time your sensor has to gather light. The shutter speed also, to a large degree, determines how sharp your photographs are. This is different from the

image being sharply in focus. Two of the major influences on the sharpness of an image are camera shake and the subject's movement. Because a slower shutter speed means that light from your subject is hitting the sensor for a longer period of time, any movement by you or your subject will show up in your photos as blur.

Shutter speeds

Slow shutter speeds refer to leaving the shutter open for a longer period of time—like 1/30 of a second or longer. Fast shutter speeds are when the shutter is open for a very short period of time—like 1/250 of a second or less. Of course there's absolutely nothing wrong with the "middle children" of shutter speeds, 1/60 and 1/125, even if they don't get the attention of their flashier siblings.

When to use Shutter Priority (S) mode

- When working with fast-moving subjects where you want to freeze the action (**Figure 4.2**); much more on this in Chapter 6
- When you want to emphasize movement in your subject with panning or with motion blur (**Figure 4.3**)
- When you want to use a long exposure to gather light over a long period of time (**Figure 4.4**); more on this in Chapter 8
- When you want to create smooth, flowing patterns in moving objects (**Figure 4.5**)

Figure 4.2
Fast-moving subjects in proximity to the camera can be frozen with the right shutter speed.
ISO 200 • 1/1250 sec. • f/5.6 • 70–400mm lens at 400mm

Figure 4.3
Slowing down the shutter speed allows your photographs to convey a sense of movement, indicated by the lateral blurring of the background in this pan.

ISO 100 • 1/100 sec. • f/8 • 16–35mm lens at 16mm

Figure 4.4
Dusk is the perfect time to balance house lights with the color of the sky. Lock the camera down on a steady tripod to keep everything sharp.

ISO 100 • 15 sec. • f/8 • 55mm lens

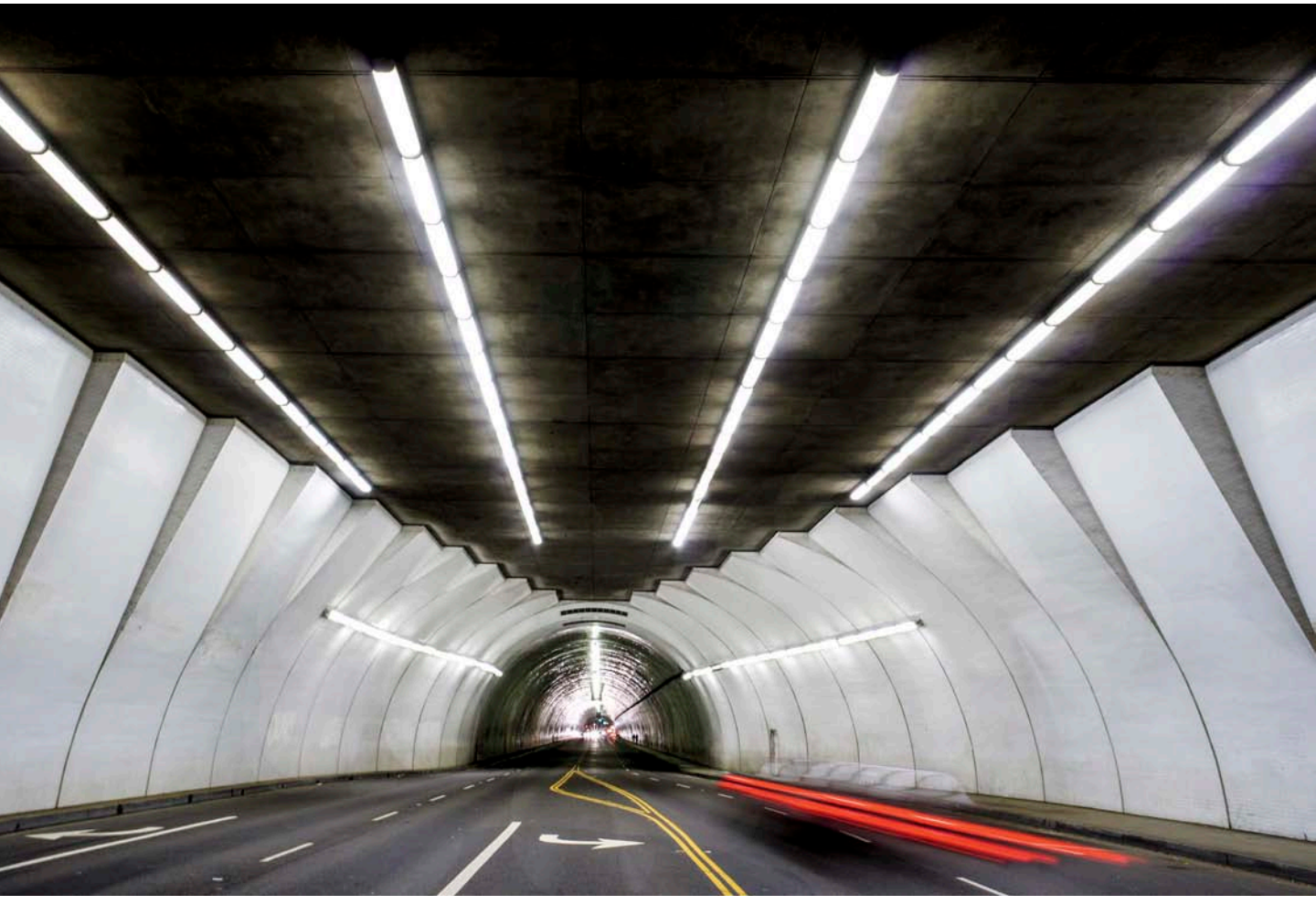


Figure 4.5 **A long exposure creates a flowing pattern out of car taillights.**

ISO 100 • 2 sec. • f/9 • 24–70mm lens at 24mm

As you can see, the subject of your photo usually determines whether or not you will use S mode. It is important that you be able to visualize the result of using a particular shutter speed. The great thing about shooting with digital cameras is that you get instant feedback by checking your shot on the LCD screen. But what if your subject won't give you a do-over? Such is often the case when shooting sporting events. It's not like you can ask the quarterback to throw that touchdown pass again because your last shot was blurry from a slow shutter speed. This is why it's important to know what those speeds represent in terms of their ability to stop the action and deliver a blur-free shot.

First, let's examine just how much control you have over the shutter speeds. The A7/A7R has a shutter speed range from 1/8000 of a second all the way down to 30 seconds. With that much latitude, you should have enough control to capture almost any subject. The other thing to think about is that S mode is considered a "semiautomatic" mode. This means that you are taking control over one aspect of the total exposure while the camera handles the other. In this instance, you are controlling the shutter speed and the camera is controlling the aperture. This is important to know because there will be times that you want to use a particular shutter speed but your lens won't be able to accommodate your request.

For example, you might encounter this problem when shooting in low-light situations: If you are shooting a fast-moving subject that will blur at a shutter speed slower than 1/125 of a second but your lens's largest aperture is f/3.5, you might see your aperture display in the electronic viewfinder and the rear LCD panel begin to blink. This is your warning that there won't be enough light available for the shot—due to the limitations of the lens—so your picture will be underexposed (too dark).

Another case where you might run into this situation is when you are shooting moving water. To get that look of silky, flowing water, it's usually necessary to use a shutter speed of at least 1/15 of a second, if not longer. If your waterfall is in full sunlight, you may get that blinking aperture display once again because the lens you are using only closes down to f/22 at its smallest opening. In this instance, your camera is warning you that you will be overexposing your image (too light). There are workarounds for these problems, which we will discuss later (see Chapter 7), but it is important to know that there can be limitations when using S mode.

Setting up and shooting in S mode

1. Turn your camera on, and then turn the Mode dial to align the S with the indicator line.
2. To select your ISO, press the right side of the Control wheel (next to where it reads ISO), rotate the Control wheel to the desired setting, and press the middle of the wheel to select (the ISO selection will appear in the electronic viewfinder and the rear LCD panel).
3. Point the camera at your subject, and then activate the camera meter by depressing the shutter button halfway.
4. View the exposure information in the electronic viewfinder or on the rear LCD panel.
5. While the meter is activated, use your thumb to roll the Control dial left and right to see the changed exposure values. Roll the dial to the right for faster shutter speeds and to the left for slower speeds.

A: Aperture Priority Mode

You wouldn't know it from its name, but A mode is one of the most useful and popular of the advanced modes. It is one of my favorites, and I believe that it will quickly become one of yours as well. A mode, more commonly referred to as Aperture Priority mode, is also deemed a semiautomatic mode because it allows you to once again control one factor of exposure while the camera adjusts for the other.

Why, you may ask, is this one of my favorite modes? It's because the aperture of your lens dictates depth of field. Depth of field, along with composition, is a major factor in how you direct attention to what is important in your image. It is the factor that controls how much of your image is in focus. If you want to isolate a subject from the background, such as when shooting a portrait, you can use a large aperture to keep the focus on your subject and make both the foreground and background blurry. If you want to keep the entire scene sharply focused, such as with a landscape, then using a small aperture will render the greatest possible depth of field.

When to use Aperture Priority (A) mode

- When shooting portraits or wildlife (**Figure 4.6**)
- When shooting architectural photography, which often benefits from a large depth of field (**Figure 4.7**)
- When shooting macro, or close-up, photography (**Figure 4.8**)
- When shooting landscape photography (**Figure 4.9**)

We have established that Aperture Priority (A) mode is highly useful in controlling the depth of field in your image. It's also pivotal in determining the limits of available light that you can shoot in. Different lenses have different maximum apertures. The larger the maximum aperture, the less light you need in order to achieve a properly exposed image. You will recall that, when in S mode, there is a limit at which you can handhold your camera without introducing movement or hand shake, which causes blurriness in the final picture. If your lens has a larger aperture, you can let in more light all at once, which means that you can use faster shutter speeds. This is why lenses with large maximum apertures, such as f/1.4, are called "fast" lenses.

On the other hand, bright scenes require the use of a small aperture (such as f/16 or f/22), especially if you want to use a slower shutter speed. That small opening reduces the amount of incoming light, and this reduction of light requires that the shutter stay open longer.

Figure 4.6 **A fairly large aperture coupled with a longer focal length created a very blurry background, so all the emphasis was left on the subject.**

ISO 200 • 1/80 sec. • f/2.2 • 55mm lens

Figure 4.7 **A wide-angle lens combined with a small aperture makes for a large depth of field.**

ISO 100 • 1/250 sec. • f/13 • 24–70mm lens at 40mm

F-stops and aperture

As discussed earlier, when referring to the numeric value of your lens aperture, you will find it described as an f-stop. The f-stop is one of those old photography terms that, technically, relates to the focal length of the lens (e.g., 200mm) divided by the effective aperture diameter. These measurements are defined as "stops" and work incrementally with your shutter speed to create proper exposure. Older camera lenses used one-stop increments to assist in exposure adjustments, such as 1.4, 2, 2.8, 4, 5.6, 8, 11, 16, and 22. Each stop represents half the amount of light entering the lens iris as the larger stop before it. Today, most lenses don't have f-stop markings, since all adjustments to this setting are performed via the camera's electronics. The stops are also now typically divided into 1/3-stop increments to allow much finer adjustments to exposures, as well as to match the incremental values of your camera's ISO settings, which are also adjusted in 1/3-stop increments.

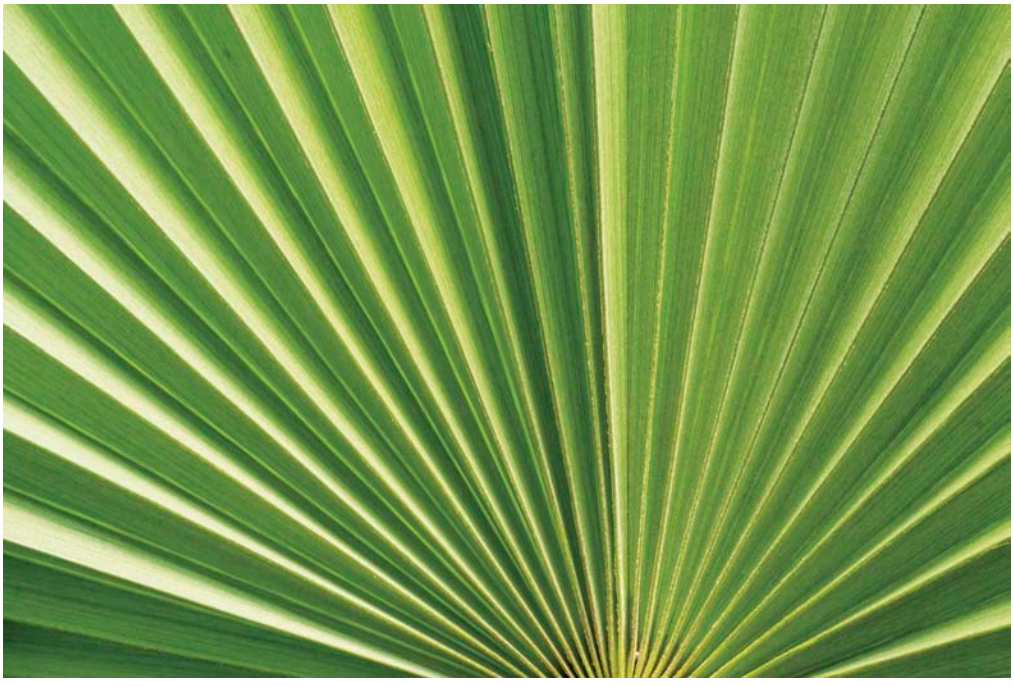


Figure 4.8
Small apertures give more sharpness in macro detail shots.
ISO 100 • 1/20 sec. • f/8 • 100mm lens

Figure 4.9
The smaller aperture setting brings sharpness to near and far objects.
ISO 100 • 1/40 sec. • f/14 • 16–35mm lens at 20mm

Setting up and shooting in A mode

1. Turn your camera on and then turn the Mode dial to align the A with the indicator line.
2. Select your ISO by pressing the right side of the Control wheel (next to where it reads ISO), rotating the Control wheel to the desired setting, and pressing the middle of the wheel to select (the ISO selection will appear in the electronic viewfinder and the rear LCD panel).
3. Point the camera at your subject, and then activate the camera meter by depressing the shutter button halfway.
4. View the exposure information in the electronic viewfinder or on the rear display.
5. While the meter is activated, use your thumb to roll the Control dial left and right to see the changed exposure values. Roll the dial to the right for a smaller aperture (higher f-stop number) and to the left for a larger aperture (smaller f-stop number).

■

Zoom lenses and maximum apertures

Some zoom lenses (like the 28–70mm kit lens) have a variable maximum aperture. This means that the largest opening will change depending on the zoom setting. In the example of the 16–50mm zoom, the lens has a maximum aperture of f/3.5 at 28mm and only f/5.6 when the lens is zoomed out to 70mm. Fixed-aperture zoom lenses like the FE 24–70mm/ f/4 ZA maintain the same maximum aperture throughout the zoom range. They are typically much more expensive than their variable maximum aperture counterparts.

M: Manual Mode

Once upon a time, long before digital cameras and programmed modes, there was manual mode. In those days it wasn't called "manual mode," because there were no other modes. It was just photography. In fact, many photographers, including me, cut their teeth on completely manual cameras. Let's face it—if you want to learn the effects of aperture and shutter speed on your photography, there is no better way to learn than by setting these adjustments yourself. But today, with the advancement of camera technology, many new photographers never give this mode a second thought. That's truly a shame, as not only is it an excellent way to learn your photography basics, it's also an essential tool to have in your photographic bag of tricks.

When you have your camera set to Manual (M) mode, the camera meter will give you a reading of the scene you are photographing. It's your job, though, to set both the f-stop (aperture) and the shutter speed to achieve a correct exposure. If you need a faster shutter speed, you will have to make the reciprocal change to your f-stop. Using any other mode, such as S or A, would mean that you just have to worry about one of these changes, but Manual mode means you have to do it all yourself. This can be a little challenging at first, but after a while you will have a complete understanding of how each change affects your exposure, which will, in turn, improve the way that you use the other modes.

When to use Manual (M) mode

- When you need to maintain consistent exposure when stitching together multiple frames into a panorama; more on this in Chapter 7
- When you are shooting into the sun and need to maintain a certain exposure setting as you recompose (**Figure 4.10**)
- When shooting silhouetted objects, which requires overriding the camera's meter readings (**Figure 4.11**)
- When shooting a bright or dark background that could fool your camera's meter (**Figure 4.12**)
- When shooting with a light source with consistent output, such as studio strobes

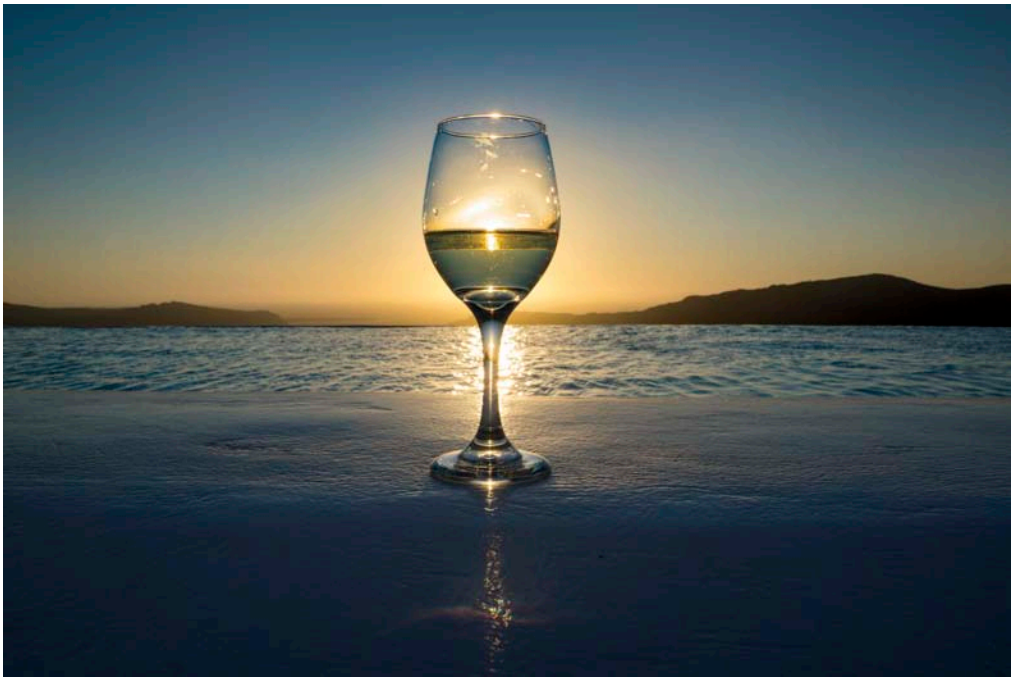


Figure 4.10
Manual is the perfect mode in lighting situations that can present a challenge to your light meter, such as shooting into the sun. Plus, it maintains a consistent exposure across every frame if you recompose.

ISO 200 • 1/160 sec. • f/14 • 24–70mm lens at 70mm

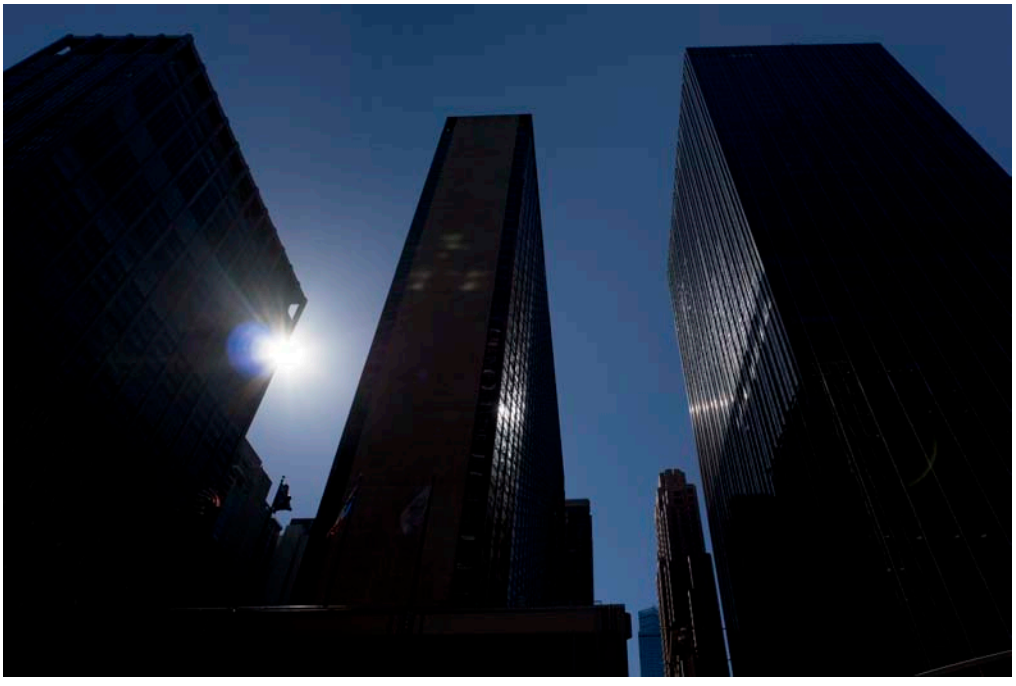


Figure 4.11
Silhouetted subjects can wreak havoc when metering, so just set your camera to Manual and use Live View to lock in the proper exposure.

ISO 100 • 1/1000 sec. • f/6.3 • 35mm lens

Figure 4.12
Extremely bright or dark backgrounds can fool your camera's meter, but spot metering your subject and applying those readings in Manual mode ensures consistent proper exposure.

ISO 100 • 1/2000 sec. • f/4 • 35mm lens

Setting up and shooting in Manual mode

1. Turn the Mode dial to align the M with the indicator line.
2. Select your ISO by pressing the right side of the Control wheel (next to where it reads ISO), rotating the Control wheel to the desired setting, and pressing the middle of the wheel to select (the ISO selection will appear in the electronic viewfinder and the rear LCD panel).
3. Point the camera at your subject, and then activate the camera meter by depressing the shutter button halfway.
4. View the exposure information in the electronic viewfinder or on the rear display.
5. While the meter is activated, use your thumb to roll the Control wheel left and right to change your shutter speed value until the exposure mark is lined up with the zero mark. The exposure information is displayed by a scale with marks that run from –2 to +2 stops. (You'll note that –3 and +3 are grayed out. They represent the range of exposure compensation available for S and A modes. In M mode, you can forget about –3 and +3.) A "proper" exposure will line up with the arrow mark in the middle. As the indicator moves to the left, it is a sign that you will be underexposing (there is not enough light hitting the sensor to provide adequate exposure). Move the indicator to the right and you will be providing more exposure than the camera meter calls for; this is overexposure.
6. To set your exposure using the aperture, depress the shutter release button until the meter is activated. Then, using your thumb, turn the Control dial right for a smaller aperture (large f-stop number) or left for a larger aperture (small f-stop number).

How I Shoot: A Closer Look at the Camera Settings I Use

One of the advantages of using a mirrorless camera system is that it operates just like a DSLR but without the size and noise. I'm attracted to the A7/A7R because I can approach it much like I would any larger rig that I use on a day-to-day basis. Personally, I am drawn to shooting in both Aperture Priority (A) and Manual (M) modes. I identify myself as an editorial and advertising photographer, which means I'm shooting anything from news to travel, from wildlife to sports, and from environmental portraits to landscapes. Working in these areas means that I am almost always going to be concerned with my depth of field—hence, my affinity for Aperture Priority mode. Whether it's isolating my subject with a large aperture or trying to maximize the overall sharpness of a sweeping landscape, I always keep an eye on my aperture setting.

And I always keep an eye on what shutter speed that aperture setting will allow me. If I'm shooting sports or a subject matter that includes a lot of action, I open up my

aperture to its maximum to gain as much shutter speed as possible. If I need to shoot faster, only then do I raise my ISO. Raising the ISO is the last part of the exposure formula I want to change, because I want to introduce the least possible amount of digital noise to the image. If I must raise my ISO, I make sure to set the camera's High ISO NR (noise reduction) to Normal (see Chapter 7).

To make quick changes while I shoot, I often use the exposure compensation feature (**Figure 4.13**) so that I can make small over- and underexposure changes. This is different from changing the aperture or shutter; it is more like fooling the camera meter into thinking the scene is brighter or darker than it actually is.

Figure 4.13 The Exposure Compensation dial, located next to the shutter release on the top right side of the camera, is the perfect way to quickly fine-tune exposure when shooting in all advanced modes except Manual.

I am also aware of the potential for areas in my frame to be over- or underexposed. I use the Histogram display on the A7/A7R to see whether I am indeed blowing out the highlights (overexposure) or "muddying up" the shadows (underexposure) (**Figure 4.14**). These exposure alerts come in the form of what are informally known as "blinkies": areas of the image that blink at you on the LCD or EVF. Blinkies are the warning signal that part of my image has been either overexposed or underexposed to the point that there is no longer any detail in the highlights or shadows. Although it is unfortunate that you can only see these alerts using the Histogram display mode, they are very valuable. If you see any area of the thumbnail blinking black, you are probably overexposing that part of the image. If you see any area blinking white, you are risking underexposure.

Figure 4.14 The A7/A7R's highlight alert screen during image playback. One advantage of this display is the histogram, which notes exactly where your exposure values lie. The out-of-place black blobs blink to show you overexposed areas.

For the majority of my shooting, I am in Aperture Priority (A) mode. It is an efficient mode in which to work, and it frees up mental resources for focusing on what I am actually shooting. When I want complete control over the imagery, or when I'm shooting difficult-to-meter subjects, I work in Manual (M). For example, if I am shooting along a row of river rapids and want to create that silky look to the water, I will often switch to Manual, since water is rarely a good value to meter for exposure. While the other camera modes have their place, I think you will find that, like me and many other working pros, you will use the A and M modes for 90 percent of your shooting.

As you work your way through the coming chapters, you will see other tips and tricks I use in my daily photography, but the most important tip I can give is that you take the time to understand the features of your camera so you can leverage the technology in a knowledgeable way. This will result in better photographs.

Chapter 4 Assignments

The information covered in this chapter will define how you work with your camera from this point on. Granted, there may be times that you just want to grab some quick pictures and will resort to the automatic modes, but to get serious with your photography, you should learn the advanced modes.

Starting off with Program Auto mode

Set your camera on Program Auto (P) mode and start shooting. Become familiar with the adjustments you can make to your exposure by turning the Control dial. While you're shooting, make sure that you keep an eye on your ISO.

Learning to control time with S mode

Find some moving subjects and then set your camera to S mode. Have someone ride a bike back and forth, or even just photograph cars as they go by. Start with a slow shutter speed of around 1/30 of a second, and then start shooting with faster and faster shutter speeds. Keep shooting until you can freeze the action. Now find something that isn't moving, like a flower. Start with your shutter speed at something fast, like 1/500 of a second, and then work your way down to about 1/4 of a second. The point is to see how well you can handhold your camera before you start introducing hand shake into the image.

Controlling depth of field with A mode

The name of the game with A mode is depth of field. Set up three items at different distances from you. I would use chess pieces or something similar. Now focus on the middle item, and set your camera to the largest aperture that your lens allows (remember that large aperture means a small number, like f/3.5). Now, while still focusing on the middle subject, start shooting with ever-smaller apertures until you are at the smallest f-stop for your lens. If you have a zoom lens, try doing this exercise with the lens at the widest and then the most telephoto settings. Now move up to subjects that are farther away, like telephone poles, and shoot them in the same way. The idea is to get a feel for how each aperture setting affects your depth of field.

Giving and taking with Manual mode

Go outside on a sunny day, and with the camera in Manual (M) mode, set your ISO to 100, your shutter speed to 1/125 of a second, and your aperture to f/16. Now press your shutter release button to get a meter reading. You should be pretty close to that zero mark. If not, make small adjustments to one of your settings until it hits that mark. Now is where the fun begins. Start moving your shutter speed slower, to 1/60, and then set your aperture to f/22. Now go the other way. Set your aperture to f/8 and your shutter speed to 1/500. Now review your images. If all went well, all the exposures should look the same. This is because you balanced the light with reciprocal changes to the aperture and shutter speed. Now go back to our original setting of 1/125 at f/16 and try just moving the shutter speed without changing the aperture. Just make 1/3-stop changes (1/125 to 1/100 to 1/80 to 1/60), and then review your images to see what 1/3 stop of overexposure looks like. Then do the same thing going in the opposite way. It's hard to know if you want to over- or underexpose a scene until you have actually done it and seen the results.

Share your results with the book's Flickr group!
Join the group here: flickr.com/groups/sonya7-a7rfromsnapshotstogreatshots

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