

Learn the best
ways to compose
your pictures!



Nikon D7000

From Snapshots to Great Shots



Get great detail
in your subjects!

John Batdorff

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From
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Great Shots

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Peachpit
Press

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Peachpit Press
1249 Eighth Street
Berkeley, CA 94710
510/524-2178
510/524-2221 (fax)

Find us on the Web at www.peachpit.com
To report errors, please send a note to errata@peachpit.com
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Editor: Susan Rimerman
Developmental/Copy Editor: Peggy Nauts
Proofreader: Bethany Stough
Production Editor: Rebecca Winter
Composition: WolfsonDesign
Indexer: James Minkin
Cover Design: Aren Straiger
Cover Image: John Batdorff
Interior Design: Riezebos Holzbaur Design Group

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Introduction

Walk into any bookseller, go to the photography section, and you will see countless tomes on the subject of photography. Look a little further and you will locate the camera-specific ones. It is this unfilled divide between the camera-specific and the instructional photography books that inspired me to write this book. What I was seeing in the store was a lot of books that were tackling one area or the other, but not both. So, with that in mind, I set about to write this book on the Nikon D7000, not as a rehash of the owner's manual but as a resource to teach photographic concepts using the wonderful technology present in the D7000, with instructional photos and insights from my own work as a professional photographer. I have put together 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 think 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. (I know, we all hate reading manuals—we want to grab our new camera and start shooting. But if you look at your manual more closely you'll realize it can actually help you.) Writing a book that just rephrases this information would have been a waste of your time and money. What I did want to write about was how to harness certain camera features to benefit your photography. As you read through this book, you will also see references to specific pages in your owner's manual that are related to the topic being discussed. For example, in Chapter 6 the AE-L button is discussed, but there is more information available on this feature in the manual. I cover the function that applies to our specific needs and give you the page numbers in the manual to explore this function further.

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 the 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 for that reason I treat it like a companion to this book. You already own it, so why not get something of value from it?

Q: WHAT CAN I EXPECT TO LEARN FROM THIS BOOK?

A: My hope is that you will learn how to take 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 D7000 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 large full-page photos that include shooting data and comments from me so you can see how all of the photography fundamentals come together to make great images. Meanwhile, you will be learning how your camera works and how to apply its functions and features to your photography.

Q: DO I REALLY NEED TO DO THE ASSIGNMENTS?

A: In the shooting assignments at the end of the chapters, I give you some suggestions on how you can apply the lessons of the chapter to help reinforce everything you just learned. Can I make you do them? No, but 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, having some fun, and trying out your new chops.

Q: SHOULD I READ THE BOOK STRAIGHT THROUGH OR CAN I SKIP AROUND FROM CHAPTER TO CHAPTER?

A: Here's the easy answer: yes and no. No, because the first four chapters give you the basic information that you need to know about your camera. These are the building blocks of using the D7000. After that, yes, you can move around the book as you see fit, because the following chapters are written to stand on their own as guides to specific types of photography or shooting situations. So you can bounce from portraits to 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 the book straight through. The choice is up to you.

Q: IS THAT IT?

A: One last thought before you dive into the first chapter. My goal in writing this book has been to give you a resource that will help you create great photographs with your Nikon D7000. Learning the basics is vital, but playing with them is what makes the photographer. Photography, like most things, takes time to master and requires practice. It has been a part of my life since my first Kodak 110 when I was seven years old, and I am still learning. Always remember, it's not the camera but the person using it who makes beautiful photographs. Have fun, make mistakes, and then learn from them. In no time, I'm sure you will transition from someone who takes nice snapshots to a photographer who makes great shots.

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1

ISO 400
1/800 sec.
f/8
100mm lens





The D7000 Top Ten List

TEN TIPS TO MAKE YOUR SHOOTING MORE PRODUCTIVE RIGHT OUT OF THE BOX

Whenever I get a new camera the first thing I do is grab the battery and the memory card and start shooting. What I should be doing is taking the extra time and reading the manual, but that's not much fun. Instead, I thought, why not make a chapter for people like me who can't wait to start taking images but don't want to feel guilty about not setting up their camera first? Here are ten things you can do right now that are going to make your experience with your shiny new D7000 a ton better, from turning on the audible chirp for focusing to getting a feel for ISO settings, white balance settings, image review, focus settings, and several other custom functions that will help you right now. That doesn't mean I want you to skip over the other nine chapters, because they're filled with some really good tips, but this is a great starting point.

The D7000 is different from previous models in that many of the controls we use every day are available with a few clicks of a button. You no longer have to drill through two or three menus to make simple adjustments. But don't worry, for those of you who love menus, they're still there. I'll briefly discuss how to adjust settings using the buttons and then discuss some of the custom menu options for those of you looking to tweak your camera a bit.

PORING OVER THE PICTURE

CAMERA FRONT



- | | |
|---------------------------------|-------------------------|
| A Sub-command dial | F Microphone |
| B Function button | G Bracketing button |
| C Depth of field preview button | H Infrared receiver |
| D Lens release button | I AF-assist illuminator |
| E Lens mounting mark | |

CAMERA BACK



- | | | | |
|---|------------------------------------|---|------------------------------------|
| A | Delete button | I | Focus selector lock |
| B | Playback button | J | (OK) button |
| C | Menu button | K | Multi selector dial |
| D | White balance/help/protect button | L | Movie record button |
| E | Thumbnail/playback/zoom-out button | M | Live view switch |
| F | Qual/zoom-in button | N | Main command dial |
| G | Monitor/LCD screen | O | AutoExposure/AutoFocus Lock button |
| H | (info) button | P | Diopter adjustment control |

PORING OVER THE PICTURE

CAMERA TOP



A Flash mode button

B Release mode dial

C Mode dial

D Release mode dial lock release

E Flash hot shoe

F Control panel

G Metering button

H Exposure compensation button

I Shutter release button

J Power switch

1. SET THE CORRECT WHITE BALANCE

Color balance correction is the process of rendering accurate colors in your final image. Most people don't even notice that light has different color characteristics because the human eye automatically adjusts to different color temperatures—so quickly, in fact, that everything looks correct in a matter of milliseconds.

When color film ruled the world, photographers would select which film to use depending on what their light source was going to be. The most common film was balanced for daylight, but you could also buy film that was color balanced for tungsten light sources. Most other lighting situations had to be handled by using color filters over the lens. This process was necessary for the photographer's final image to show the correct color balance of a scene.

Luckily, you don't need to have a deep understanding of color temperatures to control your camera's white balance (**Figures 1.1** and **1.2**). The choices are given to you in terms that are easy to relate to and that will make things pretty simple.



FIGURE 1.1

This image is the result of making a mistake and picking the wrong white balance.



FIGURE 1.2

Here we have the correct white balance.

Your white balance choices are:

- **Auto:** The default setting for your camera. It is also the setting used by all of the automatic scene modes (see Chapter 3).
- **Daylight:** Most often used for general daylight/sunlit shooting.
- **Shade:** Used when working in shaded areas where sunlight is the dominant light source.
- **Cloudy:** The choice for overcast or very cloudy days. This and the Shade setting will eliminate the blue colorcast from your images.
- **Tungsten:** Appropriate for any occasion when you are using regular household-type bulbs for your light source. Tungsten is a very warm light source and will result in a yellow/orange cast if you don't correct for it.
- **Fluorescent:** Gets rid of the green-blue cast that can result from using regular fluorescent lights as your dominant light source. Some fluorescent lights are actually balanced for daylight, which would allow you to use the Daylight white balance setting.
- **Flash:** Used whenever you're employing the built-in flash or a flash on the hot shoe. You should select this white balance to adjust for the slightly cooler light that comes from using a flash. (The hot shoe is the small bracket located on the top of your camera, which rests just above the eyepiece. This bracket is used for attaching a more powerful flash to the camera—see Chapter 8 and the bonus chapter.)
- **Pre:** Indicates that you are using a customized white balance that is adjusted for a particular light source. This option can be adjusted using an existing photo you have taken or by taking a picture of something white or gray in the scene.

Your camera has two different “zones” of shooting modes to choose from. These are located on the Mode dial, which separates your choices into automatic scene modes and what I refer to as the professional modes. None of the automatic modes, which are chosen by turning the Mode dial to Scene and then rotating the Command dial to choose a particular mode, allow for much customization, including white balance. The professional modes, defined by the letter symbols M, A, S, P, U1, and U2, allow for much more control by the photographer (Figure 1.3).



FIGURE 1.3

The camera's shooting modes are divided into the automatic scene modes and the professional modes (M, A, S, P, U1, and U2).

SETTING THE WHITE BALANCE

1. After turning on or waking the camera, select one of the professional shooting modes such as P (you can't select white balance when using any of the automatic modes).
2. Press and hold the WB button (A) on the back of the camera to activate White Balance, visible on the control panel or rear LCD.
3. While pressing the WB button, use your thumb to rotate the Command dial to the appropriate White Balance setting, and release it to make your selection (B).



A



B

2. TURN OFF THE AUTO ISO SETTING

The ISO setting in your camera allows you to choose the level of sensitivity of the camera sensor to light. The ability to change this sensitivity is one of the biggest advantages to using a digital camera. In the days of film cameras, you had to choose the ISO by film type. This meant that if you wanted to shoot in lower light, you had to replace the film in the camera with one that had a higher ISO. So not only did you have to carry different types of film, but you also had to remove one roll from the camera to replace it with another, even if you hadn't used up the current roll. Now all you have to do is go to your information screen and select the appropriate ISO.

Having this flexibility is powerful, but just as with the quality setting, the ISO setting has a direct bearing on the quality of the final image. The higher the ISO, the more digital noise the image will contain. Since our goal is to produce high-quality photographs, it is important to get control over all of the camera settings and bend them to our will. When you turn your camera on for the first time, the ISO will be set to Auto. This means that the camera is determining how much light is available and will choose what it believes is the correct ISO setting. Since you want to use the lowest ISO possible, you will need to turn this setting off and manually select the appropriate ISO.

Which ISO you choose depends on your level of available or ambient light. For sunny days or very bright scenes, use a low ISO such as 100. As the level of light is reduced, raise the ISO level. Cloudy days or indoor scenes might require you to use ISO 400 (**Figure 1.4**). Low-light scenes, such as when you are shooting at night, will mean you need to bump up that ISO to as high as 1600. The thing to remember is to shoot with the lowest setting possible for maximum quality.

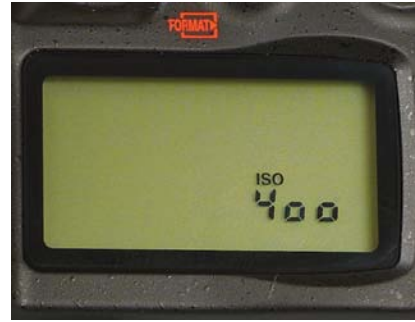


FIGURE 1.4

View the control panel to see the selected ISO.

SETTING THE ISO

Press and hold the ISO button on the back of the camera while rotating the Command dial to select ISO Sensitivity based on available light, and release the button when you have made your selection.



You should know that the Auto ISO option is enabled as a default only when using one of the automatic scene modes. When using one of the professional modes (M, A, S, and P; we'll discuss these in Chapter 4), the Auto ISO feature will be automatically turned off. If you wish to use Auto ISO in one of these modes, you must activate it and set the auto parameters in the shooting menu. If you plan on shooting with the Auto mode, you cannot turn off the Auto ISO option at all.

NOISE

Noise is the enemy of digital photography, but it has nothing to do with the loudness of your camera operation. It is a term that refers to the electronic artifacts that appear as speckles in your image. Back in the days of film we would have simply called the image “grainy.” Digital noise appears in darker shadow areas and is a result of the camera trying to amplify the signal to produce visible information. The more the image needs to be amplified—by raising the sensitivity through higher ISO—the greater the amount of noise there will be. To avoid digital noise, try to use a low ISO whenever possible.

3. SET YOUR IMAGE QUALITY

Your new D7000 has a number of image quality settings to choose from, and depending on your needs, you can adjust them accordingly.

This is probably one of the most important setting adjustments you can make. Most professional photographers shoot using RAW file format because it gives them the greatest control over their images. Now, if RAW is a completely new term for you and you have no experience in post-processing applications like Adobe's Lightroom or Apple's Aperture, then I recommend holding off on selecting this setting for now.

If you're familiar with RAW, then I highly suggest you select that option now.

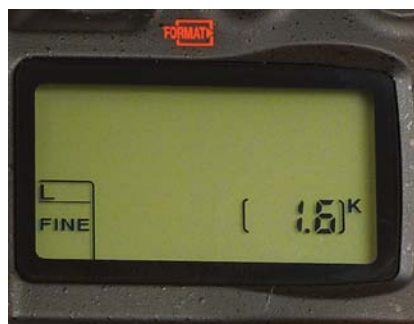
For non-RAW shooters we will be focusing in on the JPEG option. JPEG is a format that has been around since 1994 and is widely accepted. Most of your photos that are e-mailed or uploaded to social network sites like Facebook are JPEG images. Moreover, most printing services such as Walgreens, Kodak, Shutterfly, and Mpix use JPEG.

The JPEG file format compresses your image before final storage on your memory card, meaning the camera, not you, is applying all of the image processing first. Image processing involves such factors as sharpening, color adjustment, contrast adjustment, noise reduction, and so on. Many photographers prefer to use the RAW file format to get greater control over the image processing. We will take a closer look at this in Chapter 2, but for now let's just make sure that we are using the best-quality JPEG possible.

The D7000 has nine settings for the JPEG format. There are three settings each for Large, Medium, and Small image sizes. These settings (Basic, Normal, and Fine) represent image compression. The Large, Medium, and Small settings determine the actual physical size of your image in pixels. Let's work with the highest-quality setting possible.

SETTING THE IMAGE QUALITY

1. Press and hold the Qual button on the bottom left of the camera while rotating the main Command dial to select the Fine image quality setting. You can view the changes on the LCD screen on the back or the control panel on the top right of the camera (A).
2. Then, while still holding down the Qual button on the left, rotate the Sub-command dial with your right finger to choose the file setting Large, which selects the largest image size available.
3. Release the Qual button when you have made your selection (B).
4. If you've set up your camera properly it should read L Fine in the control panel (the LCD on the top of the camera).



As you will see when scrolling through the quality settings, the higher the quality, the fewer pictures you will be able to fit on your card. If you have an 8 GB memory card, the quality setting we have selected will allow you to shoot about 813 photographs before you fill up your card. I always try to choose quality over quantity.

Manual Callout

For a complete chart that shows the image quality settings with the number of possible shots for each setting, turn to page 320 in your user manual.

4. SET YOUR FOCUS POINT AND MODE

The Nikon focusing system is well known for its speed and accuracy. The automatic focus modes will give you a ton of flexibility in your shooting. There is, however, one small problem inherent with any focusing system. No matter how intelligent it is, the camera is looking at all of the subjects in the scene and noting which is closest to the camera. It then uses this information to determine where the proper focus point should be. It has no way of knowing what your main emphasis is, so it is using a “best guess” system. To eliminate this factor, you should set the camera to single-point focusing so that you can ensure that you are focusing on the most important feature in the scene.

The camera has 39 separate focus points to choose from. They are arranged in a grid, but I always like to start by selecting the focus point in the center. Once you have become more familiar with the focus system, you can experiment with the other points, as well as the automatic point selection.

You should also change the focus mode to AF-S so that you can focus on your subject and then recompose your shot while holding that point of focus.

SETTING THE FOCUS POINT AND FOCUS MODE

1. To choose a single point of focus, wake the camera (if necessary) by lightly pressing the shutter release button.
2. Press and hold the AF-mode button on the front of the camera near the lens, using your left thumb. Now rotate the Command dial to select AF-S (Single-servo AF) mode. This mode is used for photographing stationary objects but can be used in some motion shots as well.

The camera is now ready for single focusing. You will know if your subject is in focus by pressing the shutter button halfway while watching for the in-focus indicator to appear in the viewfinder. (Please review page 38 of your manual for a visual.) To focus on your subject and then recompose your shot, just place the focus point in the viewfinder on your subject, depress the shutter release button halfway until the in-focus indicator appears, and without letting up on the shutter button, recompose your shot and then press the shutter button all the way down to make your exposure (Figure 1.5).

FIGURE 1.5

Using the center single focus point in AF-S mode allows you to focus on your subject in the center, then recompose your photograph.



5. MANUAL FOCUS

As good as the Nikon autofocus system is, there are times when it just isn't doing the job for you. Often this has to do with how you would like to compose a scene and where the actual point of focus should be. This can be especially true when you are using the camera on a tripod, where you can't prefocus and then recompose before shooting (as discussed earlier). To take care of this problem, you will need to manually focus the lens. I am only going to cover the kit lens that came with my D7000 (the 18–105mm VR), so if you have purchased a different lens be sure to check the accompanying instruction manual for the lens.

On the 18-105mm kit lens, you simply need to slide the switch located at the base of the lens (located on the lens barrel near the body of the camera) from the A setting to the M setting (**Figure 1.6**). You can now turn the focus ring at the end of the lens to set your focus. Now that you're in manual focus mode, the camera will not give you any notification when you have correctly focused.

We'll cover more manual focus situations in greater detail in future chapters.



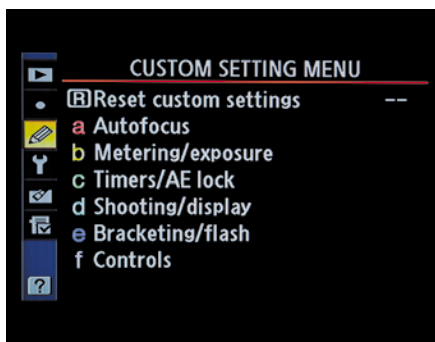
FIGURE 1.6

Slide the focus switch on the lens to the M position to manually focus.

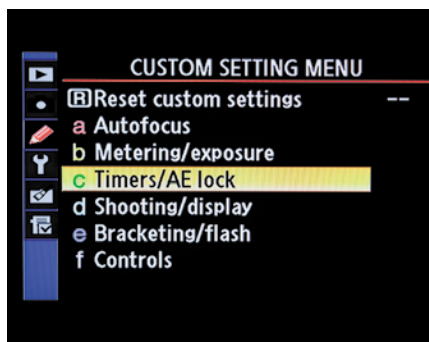
6. REVIEW YOUR SHOTS

One of the greatest features of a digital camera is its ability to give us instant feedback. By reviewing your images on the camera's LCD screen, you can instantly tell if you got your shot. This visual feedback allows you to make adjustments on the fly.

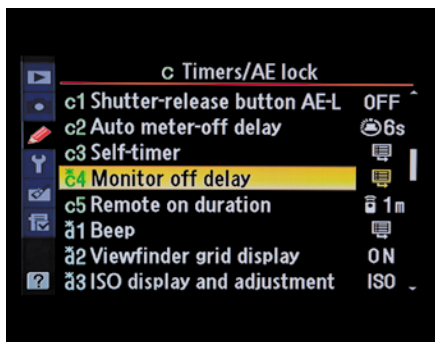
When you first press the shutter release button, your camera quickly processes your shot and then displays the image on the LCD. The default setting for that display is four seconds. Four seconds works for me, but if you want to increase the amount of time you have to view a shot, such as up to 10 seconds, you can do that.



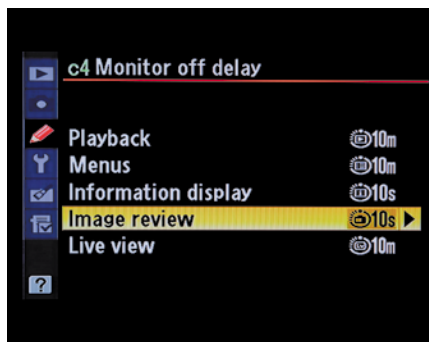
1. Menu



2. C Timers/AE Lock



3. C4 Monitor Off Delay



4. Image Review (select your preferred review time)

There are two default display modes that give you different amounts of information while reviewing your photos. The default view (**Figure 1.7**) simply displays your image along with the image filename, date, time, and image quality setting.

To get more visual feedback, press the Multi-selector up to display the second display view called Overview Data (**Figure 1.8**). This view mode not only displays the same information as the default view, but also includes camera settings such as aperture, shutter speed, lens length, white balance, exposure compensation, shooting mode, ISO, white balance setting, picture style, quality setting, any compensation settings, the active color space, picture control, and the D-Lighting setting. The other noticeable item will be the histogram, which gives you important feedback on the luminance values in your image.

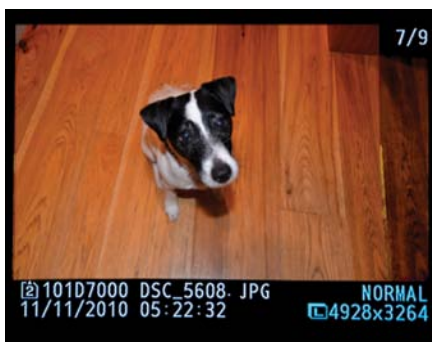


FIGURE 1.7

This is the standard view when reviewing images on your camera's monitor.

You probably won't want to use this display option as your default review setting because the image thumbnail is so small, but if you are trying to figure out what settings you used or if you want to review the histogram (see "The Value of the Histogram" sidebar), you now have all of this great information available.

There are other display options that must be turned on using the camera menu.

These can be found in the Playback menu under the Display mode option (**Figure 1.9**). With this menu option you can add display modes such as Highlights, RGB histograms

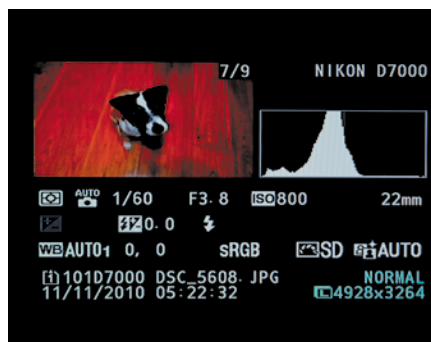


FIGURE 1.8

This display mode gives you much more information.

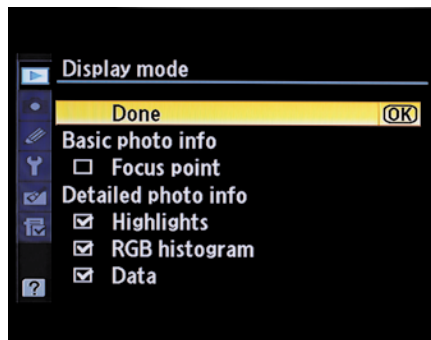


FIGURE 1.9

The Display mode options: Here's where you need to choose the image information you want displayed when reviewing an image during playback.

(Figure 1.10), and additional camera data (Figure 1.11). I personally don't use the RGB histogram and Data settings because they don't offer me any visual information that I find critical during a photo session. I do, however, always have the Highlights option turned on so that I can make sure I'm not clipping any information from my image highlights.

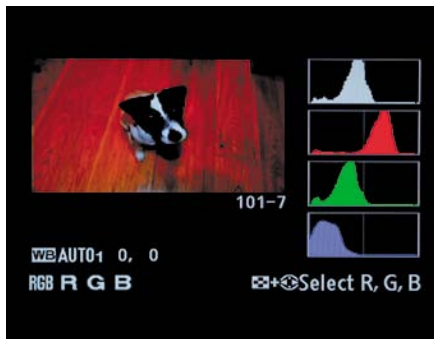


FIGURE 1.10

The RGB histogram display mode: If you're interested in monitoring the histogram of your images' color channels, select this option.



FIGURE 1.11

The Data display mode: Select this option if you wish to display focal length, exposure, lens info, and more.

DELETING IMAGES

Deleting or erasing images is a fairly simple process that is covered on page 47 of your manual. To quickly get on your way, simply press the Image Playback button and use the Multi-selector to find the picture that you want to delete. Then press the Trash button located on the back of the camera to the left of the eyepiece. When you see the confirmation screen, simply press the Trash button once again to complete the process.

Caution: Once you have deleted an image, it is gone for good. Make sure you don't want it before you drop it in the trash.

THE VALUE OF THE HISTOGRAM

Simply put, histograms are two-dimensional representations of your images in graph form. There are two histograms that you should be concerned with: the luminance and the color histograms. Luminance is referred to in your manual as “brightness” and is most valuable when evaluating your exposures. In **Figure 1.12**, you see what looks like a mountain range. The graph represents the entire tonal range that your camera can capture, from the whitest whites to the blackest blacks. The left side represents black, and all the way to the right side represents white. The peaks represent the number of pixels that contain those luminance levels (a tall peak in the middle means your image contains a large amount of medium-bright pixels).

Looking at this figure, it is hard to determine where all of the ranges of light and dark areas are and how much of each I have. If I look at the histogram, I can see that the largest peak of the graph is in the middle and trails off as it reaches the edges. In most cases, you would look for this type of histogram, indicating that you captured the entire range of tones, from dark to light, in your image. Knowing that is fine, but here is where the information really gets useful.

A histogram that has a spike or peak riding up the far left or right side of the graph means that you are clipping detail from your image. In essence, you are trying to record values that are either too dark or too light for your sensor to accurately record. This is usually an indication of over- or underexposure. It also means that you need to correct your exposure so that the important details will not record as solid black or white pixels (which is what happens when clipping occurs).

There are times, however, when some clipping is acceptable. If you are photographing a scene where the sun will be in the frame, you can expect to get some clipping because the sun is just too bright to hold any detail. Likewise, if you are shooting something that has true blacks in it—think coal in a mine shaft at

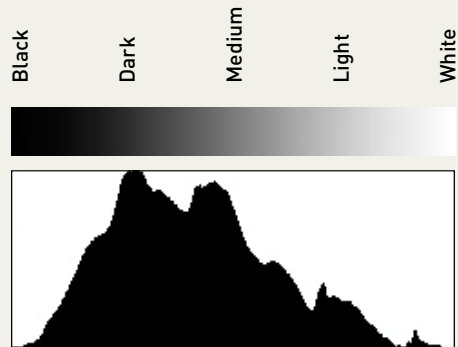


FIGURE 1.12

This is a typical histogram, where the dark to light tones run from left to right. The black to white gradient above the graph demonstrates where the tones lie on the graph and would not appear above your camera histogram display.