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J. Dennis Thomas

Nikon® D5100

Digital Field Guide



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Introduction

Yet again Nikon has another winner on its hands. The Nikon D5100 builds upon the success of the D5000 by adding even more features and tweaking the existing features to make it even better than before. With the 16.2-megapixel CMOS sensor and the new redesigned high-definition Vari-Angle LCD this camera is sure to be a favorite of still photographers and videographers alike, especially since the addition of full 1080p high-definition video with *full-time* autofocus, a feature that it shares with the D7000. With superb high ISO performance and amazing possibilities with the depth-of-field options, dSLRs like the D5100 are taking over the video industry.

The Nikon D5100 fills in the gap between the entry-level D3100 and the more advanced model the D90, it's designed as more of a beginner camera, but with all of its advanced features it's a great camera all around even for a seasoned pro who wants something small yet capable for grabbing snapshots.

This Digital Field Guide is designed with beginners and even more advanced photographers in mind. The basics such as exposure and composition are covered along with advice about lenses and on to more advanced topics such as lighting, and the Real-World Applications chapter takes an in-depth look at specific topics. The Scene modes ensure that even the most inexperienced user can start taking great shots right out of the box, but the ultimate goal of this book is to get you thinking for the camera and not the other way around.

So let's get started learning your great new camera, the Nikon D5100!

Exploring the Nikon D5100

This chapter covers the key components of the Nikon D5100. These are the features that are most readily accessible because they are situated on the outside of the camera: the buttons, knobs, switches, and dials.

Although most Nikon cameras are quite similar in design, the D5100 has had a complete redesign of the button layout to accommodate for the new design of the Vari-Angle LCD. So even if you're on old hand at using Nikon dSLRs check out this chapter to acquaint yourself with the new features and layout of your Nikon D5100.



Getting to know your camera is the key to capturing your images quickly and efficiently. Taken at ISO 200, f/13, and 1/640 second.

Key Components of the D5100

This section doesn't cover the exterior controls of the D5100. Although you can access many features using menu options, oftentimes you can change the same settings with just the push of a button. Knowing exactly where these buttons are and what they do can save you loads of time and keep you from missing a shot.

Top of the camera

You find some of the most important buttons and dials on the top of the D5100. This is where you can change the Shooting mode and press the Shutter Release button to take your photo (see Figure 1.1).

- ▶ **Shutter Release button.** In my opinion, this is the most important button on the camera. Halfway pressing this button activates the camera's autofocus and light meter. Fully depressing this button releases the shutter and a photograph is taken. When the camera has been idle and has "gone to sleep," lightly pressing the Shutter Release button wakes it up. When the image review is on, lightly pressing the Shutter Release button turns off the LCD and prepares the camera for another shot.
- ▶ **On/Off switch.** This switch, located around the Shutter Release button, is used to turn the camera on and off. Pull the switch to the right to turn the camera on. Push the switch all the way to the left to turn off the camera.
- ▶ **Mode dial.** This is an important dial. Rotating it allows you to quickly change your Shooting mode. You can choose one of the semiautomatic modes, the scene mode, the effects or Manual exposure mode, which lets you pick the exposure settings.



For a detailed description of all the exposure modes, see Chapter 2.

- ▶ **Live View switch.** This is a relatively new design feature that first appeared on the D3100. On the D5100 this switch has been moved and is now located in top of the camera near the mode dial. Flipping the switch instantly activates Live View.
- ▶ **Movie-record button.** When in Live View press this button to start recording video and press again to end the recording. This button serves no other purpose in any modes except for Live View. This button is located just to the left of the shutter release button.



Image courtesy of Nikon, Inc.

1.1 Top-of-the-camera controls

- ▶ **Information button.** Pressing this button displays the Shooting Information display. This display shows all of the pertinent information; shutter speed, aperture, WB, ISO, and so on. Pressing the button again or tapping the Shutter Release button hides the display.
- ▶ **Exposure Compensation/Aperture button.** Pressing this button in conjunction with spinning the Command dial allows you to modify the exposure that is set by the D5100's light meter when it is set to Programmed Auto (P), Shutter Priority (S), or Aperture Priority (A) mode. Turning the Command dial to the right decreases exposure while turning the dial to the left increases the exposure. When using Manual exposure mode (M), pressing this button and rotating the Command dial changes the aperture setting.
- ▶ **Hot shoe.** This is where an accessory flash is attached to the camera body. The hot shoe has an electronic contact that tells the flash to fire when the shutter is released. A number of other electronic contacts allow the camera to communicate with the flash, enabling the automated features of a dedicated flash unit such as the SB-700. You can also use this as a "cold" shoe to mount the ME-1 stereo microphone or the GP-1 GPS unit.
- ▶ **Speaker.** This is used to play back the audio from your video recordings. You can adjust the volume by pressing the Zoom-out/thumbnail button to decrease the volume and the Zoom-in button to increase the volume.

If you purchased your D5100 with the kit lens, you find three key features on the lens:

- ▶ **Focus ring.** Rotating the focus ring allows you to focus the lens manually. Select M before attempting to manually focus. If you don't switch it over first, you can damage the lens.



For more information on lenses and compatibility, see Chapter 5.

- ▶ **Zoom ring.** Rotating the zoom ring allows you to change the focal length of the lens.
- ▶ **Focal length indicators.** These numbers indicate which focal length in millimeters your lens is zoomed to. Smaller numbers are wide-angle settings and larger numbers are normal to short telephoto settings.

Back of the camera

The back of the camera is where you find the buttons that mainly control playback and menu options, although a few buttons control some of the shooting functions. A lot of

them are used in conjunction with the Command dial or the Multi-selector. On the back of the camera you also find several key features, including the all-important LCD and viewfinder (see Figure 1.2).

This is where the D5100 differs most from all other Nikon dSLR: the Nikon button configuration was redesigned in order to accommodate the new side-mounted Vari-Angle LCD monitor.



Image courtesy of Nikon, Inc.

1.2 Back-of-the-camera controls

- ▶ **Vari-angle LCD monitor.** This is the most obvious feature on the back of the camera. This 3-inch, 930,000-dot liquid crystal display (LCD) is a huge improvement over the LCD on the D5000. The LCD is where you view all your current camera settings and review your images after shooting; and it displays the video feed for Live View and video recording. The monitor can be flipped out and swiveled, which makes it easy to take photographs or videos at odd angles such as way down low or above your head. You can also turn it around when closing it to prevent scratches when you transport it in your camera bag.
- ▶ **Viewfinder.** This is what you look through to compose your photographs. Light coming through the lens is reflected from a series of five mirrors (called a *penta-mirror*), enabling you to see exactly what you're shooting. The rubber eyepiece around the viewfinder gives you a softer place to rest your eye and blocks any extra light from entering the viewfinder as you compose and shoot your images.
- ▶ **Diopter adjustment control.** Just to the right of the viewfinder (partially hidden behind the eyecup) is the Diopter adjustment control. Use this control to adjust the viewfinder lens to suit your individual vision differences (not everyone's eyesight is the same). To adjust this, look through the viewfinder at the shooting information. Rotate the adjustment control until the information in the viewfinder display looks sharp.
- ▶ **Infrared receiver.** This is one of two infrared receivers that allow you to use the option ML-L3 infrared remote to control the camera.
- ▶ **Menu button.** Press this button to access the D5100 menu options. There are a number of different menus, including Playback, Shooting, Custom Settings, and Retouch. Use the Multi-selector to choose the menu you want to view and press OK to enter the specific menu screen.
- ▶ **Info button.** Pressing this button displays the shooting information on the monitor. Press this button twice to adjust settings in the Info menu.



Pressing and holding the Menu and Info buttons simultaneously for about 2 seconds returns all settings to the camera default.

- ▶ **AE-L/AF-L/Protect button.** The Auto-Exposure/Autofocus Lock button is used to lock the Auto-Exposure (AE) and Autofocus (AF) by pressing and holding the button. When playing back or reviewing your images pressing this button locks the image to prevent it from being accidentally deleted. The AE-L/AF-L button can be customized in CSM f2 to AE/AF Lock, AE lock only, AF lock only, AE lock (Hold), or AF-ON.



Protected images WILL be deleted when the memory card is formatted.

- ▶ **Command dial.** This dial is used to change a variety of settings depending on which button you are using in conjunction with it. By default, it is used to change the shutter speed when the camera is in Shutter Priority and Manual modes. It is also used to adjust exposure compensation and aperture when used in conjunction with the Exposure Compensation/Aperture button, change the flash mode when pressing the Flash mode button. Using the Command dial when the Mode dial is set to Scene or Effects allows you to select the scene mode or effects setting. When in Playback mode you can use the Command dial to scroll through your images.
- ▶ **Multi-selector.** The Multi-selector is another button that serves a few different purposes. In Playback mode, you use it to scroll through the photographs you've taken, and you can also use it to view image information such as histograms and shooting settings. When the D5100 is in Single-point AF or Dynamic-area AF mode, you can use the Multi-selector to change the active focus point. And you use the Multi-selector to navigate through the menu options.
- ▶ **OK button.** When the D5100 is in the Menu mode, you press the OK button to select the menu item that is highlighted. Pressing the OK button in Playback mode displays the Retouch menu options.
- ▶ **Memory card access lamp.** This light blinks when the memory card is in use. Under no circumstances should you remove the card when this light is on or blinking. You could damage your card or camera and lose any information in the camera's buffer.
- ▶ **Playback button.** Pressing this button activates the Playback mode and by default displays the most recently taken photograph. You can also view other pictures by pressing the Multi-selector left and right.
- ▶ **Delete button.** If you are reviewing your pictures and find some that you don't want to keep, you can delete them by pressing the Delete button, which is marked with a trashcan icon. To prevent you from accidentally deleting images, the camera displays a dialog box asking you to confirm that you want to erase the picture. Press the Delete button a second time to permanently erase the image.
- ▶ **Thumbnail Zoom-out.** In Playback mode, pressing this button allows you to go from full-frame playback (or viewing the whole image) to viewing thumbnails. The thumbnails can be displayed as 4, 9, or 72 images on a page. You can also view images by calendar date. When you view the menu options, pressing this button displays a help screen that explains the functions of that particular menu option. This button also allows you to zoom out after you have zoomed in on a particular image.
- ▶ **Zoom-in button.** When reviewing your images, you can press the Zoom-in button to get a closer look at the details of your image. This is a handy feature for checking the sharpness and focus of your shot. When you are zoomed in, use

the Multi-selector to navigate around within the image. To view your other images at the same zoom ratio, you can rotate the Command dial. To return to full-frame playback, press the Zoom-out button. You may have to press the Zoom-out button multiple times, depending on how much you have zoomed in.

Front of the camera

The front of the D5100 (the lens facing you) is the business end of the camera. There are only a few features on this end of the camera (see Figure 1.3).



Image courtesy of Nikon, Inc.

1.3 Front-of-the-camera controls

- ▶ **Built-in flash.** This option is a handy feature that allows you to take sharp pictures in low-light situations. Although not as versatile as one of the external Nikon Speedlights, such as the SB-600 or SB-400, the built-in flash can be used very effectively and is great for snapshots.
- ▶ **AF-assist illuminator.** This is an LED that shines on the subject to help the camera to focus when the lighting is dim. The AF-assist illuminator lights only when in Single-servo AF mode (AF-S) or Full-time servo mode (AF-A) and the center AF point is selected. This is also lit when the camera is set to Red-Eye Reduction flash using the camera's built-in flash.
- ▶ **Infrared receiver.** This allows you to use the optional ML-L3 remote to control your camera wirelessly.
- ▶ **Lens release button.** This button disengages the locking mechanism of the lens, allowing the lens to be rotated and removed from the lens mount.

Left side of the camera

On the left side of the camera (the lens facing away from you) are the output terminals on the D5100 (see Figure 1.4).

These terminals are used to connect your camera to a computer or to an external source for viewing your images directly from the camera. They are hidden under a rubber cover that helps keep out dust and moisture. There is also a button to control the flash output and another customizable button that can be programmed for a number of functions. The kit lens also has a couple of options as well.

- ▶ **Flash pop-up/Flash mode/FEC button.** When you're using P, S, A, or M exposure modes, press this button to open and activate the built-in Speedlight. Pressing this button and rotating the Command dial on the rear of the camera allows you to choose a flash mode.

Depending on the Shooting mode, you can choose from among Front-Curtain Sync, Red-Eye Reduction, Red-Eye Reduction with Slow Sync, Slow Sync, and Rear-Curtain Sync. Once the flash pops up, pressing this button in conjunction with the Exposure Compensation button and rotating the Command dial allows you to adjust the Flash Exposure Compensation (FEC). FEC allows you to adjust the flash output to make the flash brighter or dimmer depending on your needs. When you shoot in Auto or scene modes, the flash automatically activates and some Flash sync modes aren't available depending on the scene mode.



Image courtesy of Nikon, Inc.

1.4 Controls on the right side of the camera

- **Auto, Portrait, Child, Close-up.** When using these modes, you can select Auto-flash, Auto with Red-Eye Reduction, or set to Off.
- **Night portrait.** With this mode you can select Auto with Slow Sync and Red-Eye Reduction, Auto with Slow Sync, or set to Off.
- **P, A.** With these modes you can select Fill flash, Red-Eye Reduction, Slow Sync with Red-Eye Reduction, Slow Sync, or Rear Curtain with Slow Sync.
- **S, M.** These modes allow you to use Fill flash, Red-Eye Reduction, or Rear-Curtain Sync.