

J. Dennis Thomas

Nikon®
D5300™
Digital Field Guide



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When not out photographing or in front of his computer writing about photography, he can be found gracing the stages of the Live Music Capital of the World and popping up randomly in films and television shows.

As always, to my girls Henrietta and Maddie...

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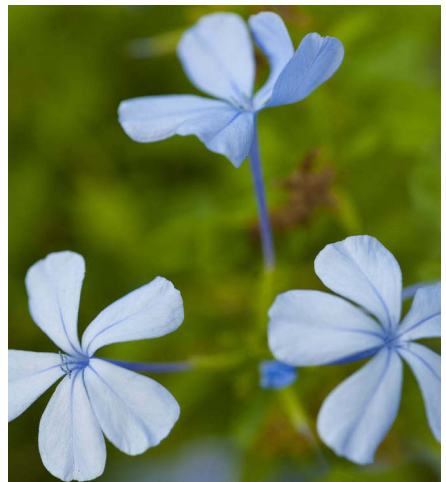
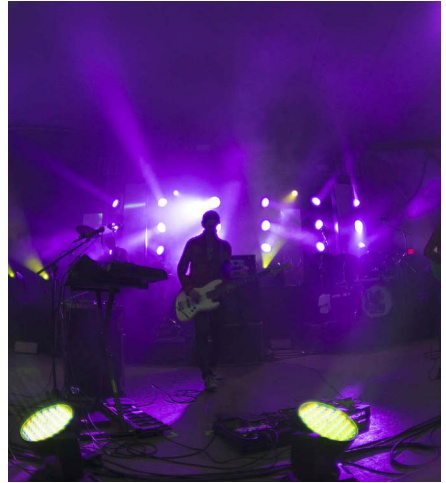
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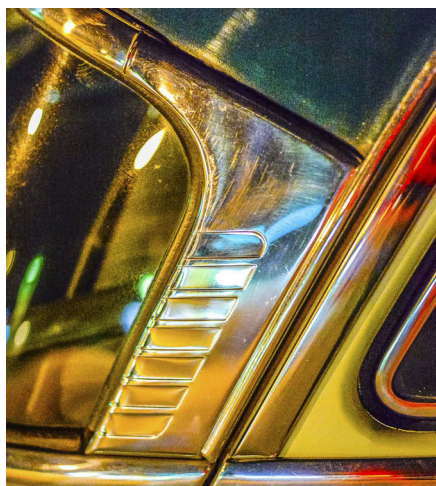
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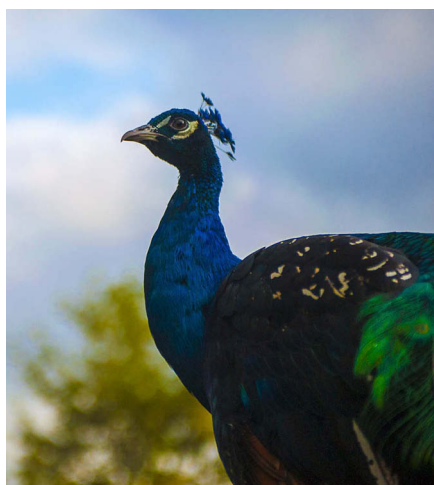
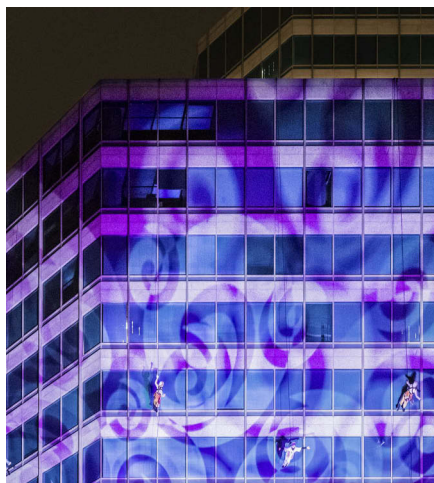
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Introduction

Once again Nikon pulled a shocking move when they announced an update to the D5200, which was a little over a year old and, to be quite honest, a very capable little camera especially for the price point. But Nikon seems to use the mid-range 5000 series cameras to test out their newest features because just as the D5200 was upgraded with features that weren't available on even the newest cameras, the D5300 is arriving hot on the heels of the brand new D610 and has some impressive features that aren't included on the more advanced camera.

Of course the D5300 retains the real hallmark of the 5000 series cameras, which is the Vari-Angle articulated screen, but the screen has seen an increase in both size and resolution. The screen is 3.2 inches and an impressive 1,037,000 dots, which gives the Nikon D5300 unsurpassed clarity. The outside the camera remains relatively unchanged with the exception of the removal of the drive button that was added to the D5200. This is a shame because that was a handy feature which now has to be accessed through the menu system.

The real changes to the D5300 are on the inside. Most notably, the D5300 has inherited a feature from the more expensive D7100 — a 24MP CMOS sensor without an Anti-Aliasing blur filter, which promises sharper more detailed images. Another leap in technology is the brand new Expeed 4 imaging processor that expands the D5300's native ISO all the way up to 12,800 and promises at least one stop better low-light performance in a camera that is already very capable in low light. The other thing the Expeed 4 imaging processor brings to the table is the ability to record video 60fps at 1080p, which allows perfect integration of slow motion effects into your HD videos.

A couple of other exciting features that have been included that many Nikon users have been wanting are integrated Wi-Fi and GPS. In the past you had to buy relatively expensive add-ons to get these features. Now you can record the location where all of your images are taken without a bulky GPS-1 in your hot-shoe or hanging from your camera strap. The Wi-Fi feature allows you to transfer images to your smart phone or tablet so that you can share them with your friends and family nearly instantly. The Wi-Fi also allows you to shoot tethered wirelessly as well as enabling you to control your camera using your Smartphone as both the controller and Live View source using Nikon's free app.

The D5300 retains the state of the art Multi-CAM 4800DX 39-point autofocus system and the 2016-pixel Color Matrix Metering II metering system that was introduced with the D5200.

The D5300 is a camera at its own level within the Nikon system, having many features that even the much more expensive professional models don't have. It is more compact than more expensive models too, which is great for travelers and people who don't want to be encumbered by a huge professional camera, but want high-end professional features.

About the Digital Field Guide

The Nikon Digital Field Guide book series is intended to act as an adjunct to the manual that comes with your camera. While the manual gives you a great overview of the camera, a photographer didn't write it. The *Nikon D5200 Digital Field Guide* gives you all the information you need about the camera from a working photographer's perspective.

The goal of this guide is to help photographers — from novice to advanced amateur — grasp all of the features of their new camera. It includes tips learned from working with the camera in the field, as well as some basic information to help newer photographers get up to speed quickly.

This full-color guide walks you through setting up your camera, offers insight about which settings to use, and tells you why each setting is useful in particular situations. Full-color images demonstrate different photography concepts, and show you some of the things the D5300 is able to accomplish.

The *Nikon D5300 Digital Field Guide* will help you familiarize yourself with your camera more quickly, so that you can not only navigate and handle it better, but also more easily achieve your photographic vision.

Exploring the Nikon D5300

Nikon's 5000 series of cameras occupy a special niche within the Nikon line of cameras. The D5300 is the only camera in Nikon's current lineup to feature the articulating Vari-angle LCD monitor. To make room for this handy feature the D5300 is designed differently from all other Nikon cameras, and the result is that there are fewer buttons and dials; many common features are accessed through the D5300's menu.

Because the camera has been streamlined, many of the buttons and dials have more than one function, and it's important to familiarize yourself with the layout and use of these buttons so that when you're shooting, you're not fumbling around trying to find the right button to access the features that you need.



Image courtesy of Nikon, Inc.

The Vari-angle LCD monitor is specific to the 5000 series of Nikon dSLR cameras.

Key Components of the D5300

As I mentioned previously, the D5300 doesn't have the plethora of buttons and dials that other Nikon camera models do, so the few controls the camera does have are very important. Most of them perform numerous duties depending on the camera mode, so understanding how each control functions is key to controlling your camera quickly so that you don't miss a shot.

The following sections break the camera features down into segments and go over each control.

The top of the camera

Most of the important buttons are on the top of the D5300. This makes it easier to find them, especially when you have your eye to the viewfinder. This is where you find the dial to change the shooting modes, as well as the all-important shutter-release button and the Movie record button.

The following list includes the controls/buttons on top of the camera:

- ▶ **On/Off switch.** Located concentric to the shutter-release button, this switch turns the camera on and off. Push it to the right to turn the camera on or to the left to turn the camera off.
- ▶ **Shutter-release button.** This is the most important button on the camera. It is a two-stage button. Pressing this button halfway 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 Auto info display is set to On, half-pressing and holding it turns the Info Display off, while releasing it turns the Info Display on. When the image review is on, lightly pressing the shutter-release button turns off the LCD screen and prepares the camera for another shot.
- ▶ **Movie-record button.** When the camera is in Live View mode (LV), you press this button (which has a simple red dot on it) to start recording video. Press it a second time to stop recording.
- ▶ **Exposure compensation (±)/Aperture (⊗) button.** Press this button while spinning the Command dial to modify the exposure set by the D5300 light meter when it is in the Programmed auto (P), Shutter-priority auto (S), or Aperture-priority auto (A) modes. Turning the Command dial to the right increases the exposure, while turning the dial to the left decreases the exposure. When set to Manual exposure mode (M), you can press this button and rotate the Command dial to adjust the aperture settings.



Image courtesy of Nikon, Inc.

1.1 The controls on top of the camera.

- ▶ **Info button** (Info). Press this button to display information on the LCD screen. The information display shows all of the exposure and camera setting options.

NOTE If you're stepping up from the D5200 you may notice that the shutter-release mode button has been moved to the bottom left side of the camera near the lens mount.

- ▶ **Live View mode switch** (LV). Of all Nikon cameras, the D5300 has my favorite implementation for Live View mode (LV). A quick flick of the Live View mode switch (LV), which is right next to the Mode dial, puts the camera in Live View mode (LV), so you can shoot stills or videos using the LCD monitor as a viewfinder.
- ▶ **Mode dial.** This is an important dial. Rotating the Mode dial allows you to change your shooting mode quickly. You can choose one of the scene modes, the Special Effects **EFFECTS** mode, one of the semiautomatic modes, or Manual exposure mode **M**, which lets you pick the exposure settings.

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

- ▶ **Hot shoe.** This is where you attach an accessory flash 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.
- ▶ **Stereo microphone.** The D5300 employs a built-in stereo microphone for recording sound with your movies.
- ▶ **Speaker.** This small speaker allows you to hear the sound of the video playback. The fidelity isn't very good, but it gives you a close approximation of what you will hear during playback.
- ▶ **Focal plane indicator.** This marks the plane where the front of the sensor lies. Nikon uses this as the mark of the closest focus length of a lens and when measuring distances for manual flash calculations this is where the measurement to the subject from the camera should start.

The 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. Most of the buttons have more than one function. Additionally, you use many of them in conjunction with the Command dial or multi-selector. On the back of the camera, you also find several key features, including the all-important LCD screen and viewfinder.






The following are the controls on the back of the camera:


- ▶ **Vari-angle LCD monitor.** This is the most prominent feature on the back of the camera. This 3.2-inch, liquid crystal display (LCD) is a very bright, high-resolution screen with 1,036,000 dots. The LCD is where you view all of the current camera settings and review your images after shooting. It also displays the video feed for Live View mode (**Lv**) and video recording. The Nikon D5000 series cameras are the only ones that feature this type of display, which allows you to position and swivel the screen to help in composing photos at odd angles when shooting photos or video. The biggest difference between the LCD on the D5300 and previous incarnations of the 5000 series is that the aspect ratio of the screen has changed from 4:3 to 3:2, which is the native format of the imaging sensor.
- ▶ **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 *pentamirror*), enabling you to see exactly what you're shooting. The rubber eyepiece around the viewfinder gives you a soft place to rest your eye and blocks any extra light from entering the viewfinder as you compose and shoot your images.



Image courtesy of Nikon, Inc.

1.2 The controls on the back of the camera.

- ▶ **Diopter adjustment control.** Just to the right of the viewfinder (hidden behind the eyecup) is the diopter adjustment control. Use this control to adjust the viewfinder lens to suit your individual vision strength (not everyone's eyesight is the same). The best way to do this is to look at the viewfinder display and rotate the dial until the information in the viewfinder display is sharp.
- ▶ **AE-L/AF-L ()/Protect () button.** The Auto Exposure/Autofocus Lock ()/Protect () button locks the Auto Exposure (AE) and Autofocus (AF). You can customize this button in the Custom Setting menu () f2 to provide AE/AF Lock, AE Lock only, AE Lock (hold), AF Lock only, or AF-ON. AE Lock (hold) locks the exposure when you press the shutter-release button once; the exposure remains locked until you press the button again or the shutter releases. AF-ON engages the AF in the same way that half-pressing the shutter-release button does. When the camera displays an image in Playback mode, press this button to lock the image and protect it from being deleted.

CROSS REF See Chapter 3 for more detailed information about the AE-L/AF-L button ().

- ▶ **i button** (i). Press this button once to bring up the information edit display on the LCD screen and use the multi-selector to adjust the camera settings.
- ▶ **Command dial**. You use this dial to change a variety of settings, depending on the button with which you are using it. By default, it changes the shutter speed when the camera is in Shutter-priority auto (S), Programmed auto (P), and Manual exposure (M) modes. When shooting in Aperture-priority auto mode (A) it changes the aperture setting. It can also adjust exposure compensation and change the flash mode.
- ▶ **Playback button** (▶). Press this button to activate playback. By default, it displays the most recently taken photograph. You can also view other pictures by pressing the multi-selector left (◀) and right (▶).
- ▶ **Multi-selector**. This is another button that serves several purposes. When playing back images, you use it to scroll through the photographs you've taken or to view image information, such as histograms and shooting settings. When the D5300 is in Single-point AF (□) or Dynamic-area AF (⊞) mode, you can use the multi-selector to change the active focus point. You can also use the multi-selector to navigate through the menu options.
- ▶ **OK button** (⊗). When viewing menus, press the OK button (⊗) to select the highlighted menu item. In Playback mode (▶), press the OK button (⊗) to display the Retouch Menu (⊞) options. When actively shooting, press the OK button (⊗) to reset the active focus point to the center.
- ▶ **Memory card access lamp**. This light blinks when the memory card is in use. Under no circumstances should you remove the memory card when this light is on or blinking. You could damage the card or your camera, and lose any information in the camera's buffer. If the buffer is full when you switch the camera off, the camera will stay powered on and this lamp continues blinking until the data finishes transferring from the buffer to the memory card.
- ▶ **Delete button** (⊞). If you are reviewing your pictures and find some that you don't want to keep, press this button to delete them. 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 erase an image permanently.
- ▶ **Zoom in button** (⊞). When reviewing your images or using the Live View option (Lv), 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 the camera is 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 Thumbnail/Zoom out button (🖼️). You may have to press the Thumbnail/Zoom out button (🖼️) multiple times, depending on how much you zoomed in previously.

- ▶ **Thumbnail/Zoom out button (🖼️).** When reviewing images, press this button to switch from full-frame playback (that is, viewing the whole image) to viewing thumbnails. The thumbnail view displays 4, 12, or 80 images. You can also view images by calendar date. When you're viewing the menu options, press this button to display a help screen that explains the functions of that particular menu option. This button also zooms out of an image on which you have zoomed.
- ▶ **Menu button (MENU).** Press this button to access the D5300 menu options, including Playback (▶), Shooting (📷), Custom Setting (⚡), and Retouch (🔍). Use the multi-selector to choose the menu you want to view, and then press the OK button (Ⓞ) to enter the specific menu screen.
- ▶ **Rear infrared receiver.** This receiver picks up the infrared signal from the optional ML-L3 wireless remote.

The front of the camera

While this is the main business end of the camera, there really aren't many controls here. The most important part is pointed right at you — the lens.



Image courtesy of Nikon, Inc.

1.3 The front of the Nikon D5300.

The features are as follows:

- ▶ **AF-assist illuminator.** This is an LED that shines on the subject to help the camera focus when the lighting is dim. The AF-assist illuminator only lights up when in Single-servo AF mode (AF-S) or Full-time-servo mode (AF-F) and the center AF point is selected. This LED also lights up when you set the camera to Red-Eye Reduction flash (⚡👁) using the camera's built-in flash.
- ▶ **Front infrared receiver.** This receiver picks up the infrared signal from the optional wireless remote, the ML-L3.

The left side of the camera

On the left side of the camera (with the lens facing away from you, as you would normally hold it), you find the output terminals and a few other important buttons. The terminals connect accessories or link your camera to a computer or other external source for viewing. The terminals are hidden under a rubber cover that helps keep out dust and moisture.

The features are as follows:

- ▶ **Flash pop-up/Flash mode (⚡)/Flash compensation button (⚡⚡).** When you're using the Programmed auto (P), Shutter-priority auto (S), Aperture-priority auto (A), or Manual (M) exposure modes, press this button to open and activate the built-in flash. Pressing this button and rotating the Command dial on the rear of the camera allow you to choose a flash mode. Depending on the Shooting mode (📷), you can choose from among the default Front curtain sync (⚡), or the Red-Eye Reduction (⚡👁), Red-Eye Reduction with Slow Sync (⚡👁^(SLOW)), Slow Sync (⚡^{SLOW}), Rear-curtain sync (⚡^{REAR}), or Rear-curtain Slow Sync (⚡^{SLOW REAR}) modes. After the flash pops up, press this button in conjunction with the Exposure Compensation button (⚡), while rotating the Command to adjust the Flash Compensation (⚡⚡). This enables you to adjust the flash output to make the flash brighter or dimmer depending on your needs. When you shoot in the Automatic point-and-shoot (AUTO) or scene modes, the flash automatically activates, but some flash sync modes aren't available in some scene modes. The following flash modes are available when using the scene modes:
 - **Automatic (AUTO), Portrait (👤), Child (👶), and Close-up (📷).** In these flash modes, you can use the default, Auto-flash (⚡^{AUTO}), Auto with Red-Eye Reduction (⚡👁^{AUTO}), or set it to Off.
 - **Night Portrait Scene mode (👤).** In this mode, you can select Red-Eye Reduction (⚡👁^{AUTO SLOW}), the default, Auto with Slow Sync (⚡^{AUTO SLOW}), or Off (🚫).

- **Programmed auto (P), Aperture-priority auto (A).** In these modes, you can select Red-Eye Reduction (⚡👁), Red-Eye Reduction with Slow Sync (⚡👁), Slow Sync (⚡ SLOW), or Rear-curtain Slow Sync (⚡ SLOW REAR).
 - **Shutter-priority auto (S), Manual (M).** These modes allow you to use Red-Eye Reduction (⚡👁) or Rear-curtain sync (⚡ REAR).
- ▶ **Function (Fn) button (Fn).** You can set the Function button (Fn) to a number of settings so that you can access them quickly, rather than searching through the menu options manually. You can set the button to change the ISO sensitivity (default), image quality, white balance, or Active D-Lighting settings via the Info display. Depending on which option you select, you can press the Function button (Fn) and rotate the Command dial to change the settings. You can change the setting options in the Setup menu (Y) in Custom Setting menu (A) f1.



Image courtesy of Nikon, Inc.

1.4 The left side of the Nikon D5300.

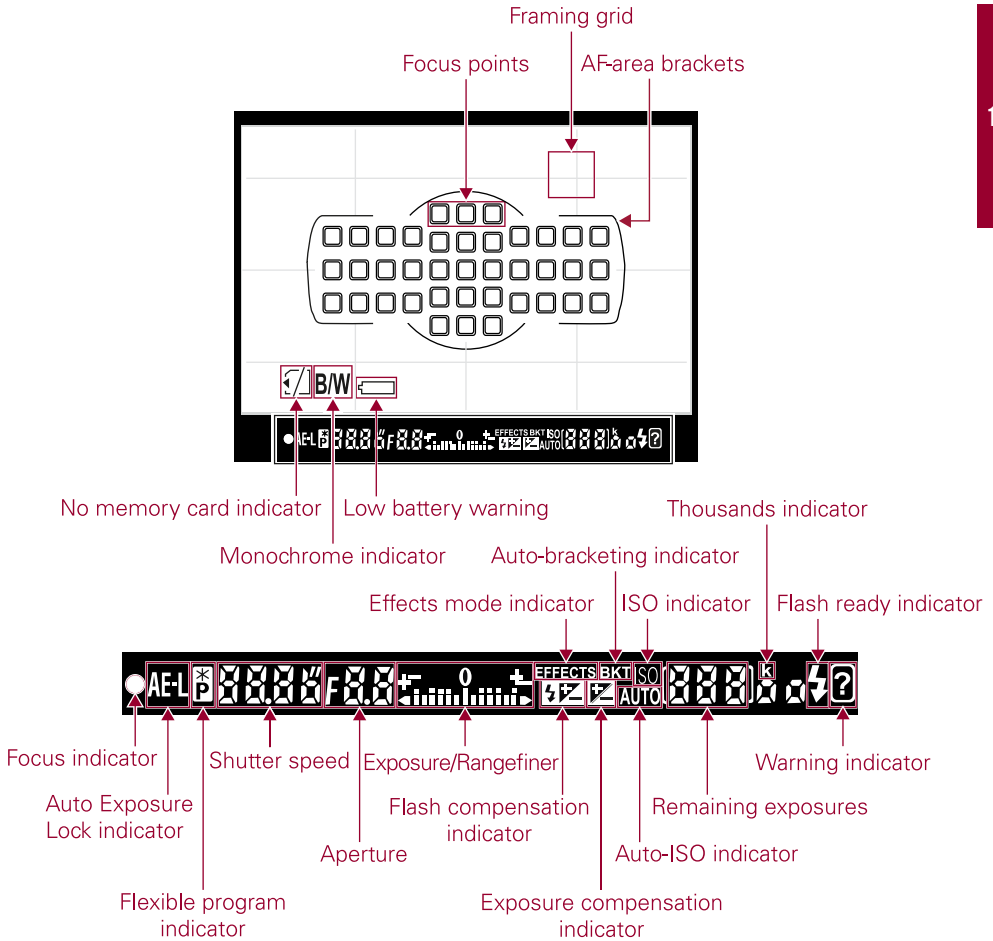
CROSS REF For the complete list of options you can control with the Function button (**Fn**), see Chapter 3.

- ▶ **Shutter release mode (☺).** Press this button to display the release mode options on the LCD screen. Use the multi-selector to choose an option then press the OK button (☺) to set it.
- ▶ **Lens mounting mark.** Most lenses have a white or red mark to help you align it, so you can then rotate and lock it into place. Use this white mark to line up with the mounting mark on the lens.
- ▶ **Lens release button.** This button disengages the locking mechanism of the lens, allowing the lens to be rotated and removed from the lens mount.
- ▶ **Microphone input.** You can use this port to connect an external microphone, which records sound for your videos at a better quality than you can get from the built-in microphone.
- ▶ **USB/AV out port.** This is where you plug in the USB cable to attach the camera to your computer, and transfer images directly from the camera to the computer. You can also use the Nikon Camera Control Pro 2 software to control the camera from a computer. Using the included EG-CP16 A/V cable, you can also use this port to connect your camera to a standard-definition TV.
- ▶ **Accessory port.** This accessory port allows you to connect an accessory remote, such as the Nikon MC-DC2, or the WR-R10 wireless remote control.
- ▶ **HDMI port.** This terminal is for connecting your camera to a high-definition (HD) TV or monitor. It requires a type C mini-pin HDMI cable, which is available at any electronics store.

NOTE On the right side of the camera you find the cover for the memory card slot. To open the cover and insert or remove a memory card, slide it toward the back of the camera and it springs open.

The Viewfinder Display










The viewfinder display is kind of like the heads-up display in a jet plane. It allows you to see a lot of useful information about the settings of the camera. This helps you set up the shot without taking your eye away from the viewfinder to check on your settings. Most of the information also appears in the Information display, but it is less handy when you are looking through the viewfinder composing a shot.



1.5 The viewfinder display.

Here is a complete list of the information you find in the viewfinder display:

- ▶ **Framing grid.** When you turn on this option in Custom Setting menu (⚙) d2, a grid displays in the viewing area. Use the grid to line up elements of your composition to ensure they are straight (or not).
- ▶ **Focus points.** The first thing you are likely to notice when looking through the viewfinder is a small rectangle near the center of the frame. This is your active focus point. Note that only the active focus point is shown full time when you use the Single-point (L), Dynamic-area (L), or 3-D tracking (L) autofocus settings. When you set the camera to Auto area AF mode (L), you don't see the focus point until you press the shutter-release button halfway and the camera achieves focus.

- ▶ **No memory card indicator** (). You see this icon if there is no memory card in the camera. This warns you that no images can be recorded.
- ▶ **Monochrome indicator** (B/W). This icon appears only when you set the Picture Control to Monochrome (B/W).
- ▶ **Low battery warning** (). When the camera's battery is nearly depleted, this icon appears. If it is flashing, the battery is completely exhausted and you can't take any more pictures.
- ▶ **AF-area brackets**. These brackets indicate the boundaries of the autofocus points. The autofocus system does not recognize anything that lies outside the brackets. In the middle of the AF-area brackets on the top and bottom, there is a semicircle, which is the 12mm, Center-weighted metering circle.
- ▶ **Focus indicator**. This green dot lets you know whether a scene is in focus. When the camera achieves focus, the green dot lights up; if the camera is not in focus, the dot isn't displayed. This indicator works in both Autofocus and Manual focus.
- ▶ **Auto Exposure Lock indicator** (). When this indicator lights up, you know that the Auto Exposure is locked.
- ▶ **Flexible Program indicator** (P*). This indicator appears when you use the Programmed auto mode (P) and Flexible Program (P*) is activated.
- ▶ **Shutter speed**. This indicator shows how long the shutter is set to stay open, from 30 seconds (30") up to 1/4000 (4000) second. If the Function button () is set to Auto area AF mode () , this shows one of the following autofocus mode settings: Auto Servo AF (), Continuous Servo AF (), or Single Servo AF () when the Fn button is pressed and held.
- ▶ **Aperture**. This indicator shows the current aperture setting. The words *aperture* and *f-stop* are used interchangeably. The aperture setting indicates the width of the lens opening and appears as a number (1.4, 2, 2.8, 4, 5.6, and so on).
- ▶ **Exposure Indicator/Exposure compensation display/Rangefinder**. When the bars are in the center, the camera is at the proper settings to get a good exposure. By default, when the bars are to the left, the image is underexposed, and when they are to the right, the image is overexposed (you can reverse this in Custom Setting menu (🔪) f5). This option only appears when in Manual (M) mode, when Exposure Compensation () is applied, or if the camera is under- or overexposing at the current settings. This display also doubles as a digital rangefinder to help you when manually focusing lenses. If the indicator bars are on the left, the focus is falling in front of the subject; if the indicator bars are on the right, the focus is behind the subject. Rotate the focus ring until a single indicator bar is centered and you see a 0 above the innermost two rangefinder lines. The focus indicator also appears when the camera achieves focus.

- ▶ **Flash compensation indicator (⚡⌘).** When this indicator appears, flash compensation is on. You adjust flash compensation by pressing the Flash mode button (⚡) in conjunction with the Exposure Compensation button (⌘) and rotating the Command dial.
- ▶ **Auto-bracketing indicator (BKT).** This indicator appears when Auto-bracketing is engaged. Bracketing is set up in Custom Setting menu (⚡) e2. You can activate it in the Info Display menu.
- ▶ **Exposure compensation indicator (⌘).** When you see this icon, exposure compensation is applied to the exposure setting. To set exposure compensation, press the Exposure Compensation button (⌘) and rotate the Command dial.
- ▶ **ISO indicator (ISO).** If you set the Function button (Fn) to ISO (the default), this indicator appears when you press the button to let you know that the numbers you see are the ISO numbers. This also occurs when Custom Setting menu (⚡) d3 is set to On.
- ▶ **Auto ISO indicator (AUTO).** This indicator appears when you activate Auto ISO (AUTO) to let you know that the camera is controlling the ISO settings. You can turn on Auto ISO (AUTO) in the ISO sensitivity settings, located in the Shooting menu (📷).
- ▶ **Remaining exposures/White balance preset/Exposure compensation value/Flash Exposure Compensation value.** By default, this set of numbers lets you know how many more exposures can fit on the memory card. The actual number of exposures may vary according to file information and compression. When you press the shutter-release button halfway, the display shows how many exposures can fit in the camera's buffer before it is full and the frame rate slows down. The *buffer* is in-camera memory that stores your image data while that data is written to the memory card. This also shows the White Balance preset recording indicator (PRE), as well as the Exposure compensation (⌘) and Flash compensation (⚡⌘) values. When Custom Setting menu (⚡) d3 is set to On, the ISO setting appears here until you press the shutter-release button halfway; it then displays the number of exposures remaining in the buffer. When you connect the camera to a computer, PC appears here.
- ▶ **Thousands indicator (K).** This indicator lets you know that there are more than 1,000 exposures remaining on your memory card.
- ▶ **Flash ready indicator (⚡).** When this indicator appears, the flash, whether it is the built-in flash or an external Speedlight attached to the hot shoe, is fully charged and ready to fire at full power.
- ▶ **Warning indicator (⚠).** When an error occurs with the camera, this icon flashes. Press the Help button (⚠).