

Camera Control Reference

Supplement to Mastering the Nikon D7000

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Camera Control Reference

Now, let's have a tour of the camera's buttons, dials, and switches. We will consider what each does. This will, of course, be expanded upon in following chapters, but this section, along with the **Camera Body Reference** section in the beginning of *Mastering the Nikon D7000* are good reference points for where and what each of the controls accomplish. For the description of each control you'll need to match the number of the control (in red) in figures 1.17–1.19 to their list entries. All control names are marked in blue to help delineate them as Nikon-created control names. Green items are words you will see on a camera LCD display. This section is different from the **Camera Body Reference** in the table of contents area of this book. Instead of merely showing you where the controls are, it goes into detail about what they do. In addition, this section is primarily concerned with actual control locations and functions, and not so much with doors and covers, which require little explanation.



Figure 1.17 – Back of Nikon D7000

Back of Camera (see figure 1.17)

1. **Playback button** – Used to preview images you have just taken on the **Monitor** (#8). You'll press this button and the image(s) will appear. Then you can scroll through images with the **Multi Selector** (#15).
2. **Delete button** – Used to delete pictures when they are displayed on the **Monitor** (#8). Also used to delete characters when inserting pictures in various functions such as **Setup Menu > Image comment**. In addition, this is one of the buttons you hold down to format memory cards, as signified by the **FORMAT** symbol below it. You use it with the **Metering button** (#44) by holding both of them down at the same time until **For** starts flashing on the Control panel (#43), release them, and immediately reapply both. The memory card will then be formatted. More detailed information on card formatting, such as how to choose which of the two to format, is available in the chapter titled **Setup Menu** under the sub-heading **Format Memory Card**.

3. **MENU button** – Used to open the camera’s menu system on the [Monitor](#) (#8). You’ll use this button often when making changes to your camera’s configuration.
4. **WB and Help/protect button** – This is a context-sensitive, multi-function button. First, it is used to change the camera’s White balance in conjunction with the rear [Main command dial](#) (#12) and the [Control panel](#) (#43) on top. Second, it is used to display a help screen on the [Monitor](#) (#8) when you have a menu open and want to know what a particular function does. Finally, it allows you to protect images you are viewing on the [Monitor](#) by marking them with a key (locked) symbol as a picture that can’t be deleted.
5. **ISO and Thumbnail/playback zoom out button** – This is a context-sensitive, multi-function button. First, it lets you set the camera’s ISO sensitivity by holding down the button and turning the rear [Main command dial](#) (#12), while watching the ISO numbers change on the [Control panel](#) (#43). Second, when you have zoomed in on an image on the [Monitor](#) (#8), it allows you to zoom back out, or even display multiple tiny thumbnail images. Third, this is often used to select/ deselect items when configuring many functions in the menu system.
6. **QUAL and Playback zoom in button** – This is a context-sensitive, multi-function button. First, it lets you set the Image quality by holding down the button and turning the rear [Main command dial](#) (#12), while watching the Image quality names (e.g., [JPEG](#), [RAW](#)) change on the [Control panel](#) (#43). Second, it allows you to zoom in on pictures you see on the [Monitor](#) (#8). Third, it is often used to select or deselect items when configuring some functions in the menu system.
7. **Viewfinder eyepiece** – Place your eye here to see your subject through the lens using the reflex viewing system. Make sure the lens cap is off!
8. **Monitor** – This is the primary LCD display screen for the camera. This 3-inch LCD display will show you your pictures after you take them and let you select and modify functions under the menu system when you press the [MENU button](#) (#3).
9. **Dioptric adjustment control** – Used to adjust the optical strength of the [Viewfinder eyepiece](#) (#7) lens so that you can make the subject sharper for your eyes. It is like adding a pair of glasses to the [Viewfinder](#), except that it does not correct for astigmatism. Adjust this dial (+/-) until the image is clear and sharp in the [Viewfinder](#). This has nothing to do with autofocus, it is merely a special lens to help you with any eye weaknesses you may have. If looking through the viewfinder gives you a headache, you need to adjust this dial.
10. **AE-L/AF-L button** – Used to lock autoexposure and/or autofocus when it is held in. This is an assignable button. It’s function can be changed to something else by modifying Custom setting [f5](#).
11. **Speaker** – If you have recorded a movie this is where the sound will come out. If you have [Beep](#) enabled in Custom setting [d1](#), you’ll hear various camera sounds through this speaker.
12. **Main command dial** – This is a very important multi-function dial. You must learn and remember this control’s name. First, it is used to control the shutter speed when using shooting modes that require manual adjustment. Second, it is used while configuring all sorts of functions in the camera’s menu system. This is one of the camera’s most important controls, along with the front [Subcommand dial](#) (#21), and [Multi Selector](#) (#15). Learn its name and location as it will be referred to often in this book.
13. **Live view switch** – This is a toggle switch that places the camera in and out of Live View (Lv) mode. You’ll use this to enter Lv mode when you want to either take pictures by looking and the [Monitor](#)

(#8)—instead of peering through the [Viewfinder eyepiece](#) (#7)—or just before you start recording a movie with the [Movie record button](#) (#14).

14. **Movie-record button** – Once you have used the [Live view switch](#) (#13) to enter Lv mode, you can press the [Movie-record button](#) to start and stop recording movies.
15. **Multi selector** – This, too, is a primary control for the camera and very important to your everyday use. You must learn the name of and how to use the [Multi Selector](#). Any time you have to move between items in the menus, or scroll through pictures on the [Monitor](#) (#8), you'll use the [Multi Selector](#) to do it. Embed this control in your memory. The [OK button](#) (#16) in its middle, along with the rear [Main command dial](#) (#12), and front [Sub-command dial](#) (#21), will be your constant friends as you use this powerful camera.
16. **OK button** – The [OK button](#) in the middle of the [Multi Selector](#) (#15) is used to select all sorts of items and approve of various changes in the menu system functions. Learn this control's name and location well. You'll use it often.
17. **Infrared receiver** (rear) – When you are using a Nikon ML-L3 wireless infrared remote control to activate the camera's shutter release, this little oval-shaped sensor receives the infrared signal from the remote. There is also a larger one on the front of the cameras just above the D7000 logo.
18. **Focus selector lock** – This is a toggle switch that locks or unlocks the ability to move the selected autofocus (AF) point around the [Viewfinder](#). When you unlock the AF point and use an appropriate AF-area mode, you can select and control which AF point(s) focus on your subject. If this switch is set to the [dot](#) position it is unlocked. It is locked if pointing to the [L](#) position.
19. **Info button** – This button provides several uses. First, it opens the [Information display screen](#), and with another press, the [Information display edit screen](#). Both displays show in the [Monitor](#) (#8). Second, it is used in Live View and Movie modes to scroll through various useful screen overlays.
20. **Memory card access lamp** – This lamp lights up anytime the camera accesses one of its memory cards in [Slot 1](#) or [Slot 2](#). You will see this light up in green while taking both pictures and movies.



Figure 1.18 – Front of Nikon D7000

Front of Camera (see figure 1.18)

21. **Sub-command dial** – This, too, is a very important multi-function dial. You must learn and remember this control's name. First, it is used to control the aperture when using shooting modes that require manual adjustment. Second, it is used while configuring various functions in the camera's menu system. This is one of the camera's more important controls, along with the rear [Main command dial](#) (#12), and [Multi Selector](#) (#15). Learn its name and location as it will be referred to often in this book.
22. **AF-assist illuminator** – First, this small but powerful light is used to assist with autofocus when the light is low—only if you are using the center AF point. Second, it shines brightly to make your subject's pupils contract in the flash's red-eye reduction mode. Third, it blinks while the self-timer is counting down, doubling the blink speed a couple of seconds before the shutter fires.
23. **Fn button** – This is one of several assignable buttons that can be used to control various functions in the camera. There are 20 functions you can choose from by modifying Custom setting [f3](#). Once you assign one of these functions to the [Fn button](#), it will execute that function when you press the button. We will discuss button assignment in detail under the chapter titled **Custom Setting Menu**.
24. **Depth-of-field preview button** – This is a button that allows you to view the actual depth of field in a particular image. It "stops down" the aperture, darkening the [Viewfinder](#) since you are looking through the actual aperture opening, and shows you the zone of sharpness otherwise known as depth of field.
25. **Lens mount** – This is where the lens mounts to the front of your camera. This silver-colored ring is called the F-Mount and has been in use by Nikon cameras since the late 1950s. Nikon has never changed this bayonet mount, so virtually any lens made by Nikon for their SLR and DSLR cameras can be mounted to your camera. Most aftermarket lens manufacturers make lenses for the Nikon F-Mount. (**Note:** Do not mount old non-AI lenses on your camera.)

26. **CPU contacts** – A lens containing a CPU (central processing unit) communicates with the camera through these eight contacts. There are eight matching contacts on your CPU lenses. Intelligent CPU lenses have a designation of G or D, and pass information on aperture, shutter speed, and distance of the subject to the camera. Keep these contacts clean with a soft, lint-less cloth. If you ever see an F- - warning on your camera's [Control panel](#) (#43), it means that the camera cannot communicate with the lens through these contacts.
27. **Aperture actuation lever** – This is a mechanical lever inside the camera that moves the aperture lever on the back of your lenses. The [Aperture actuation lever](#) mechanically sets the lens to your chosen aperture when you take a picture.
28. **Reflex mirror** – This small rectangular mirror is on a hinge that allows it to move out of the way to take a picture. It moves up so that light can go to the sensor when the shutter blades open. When you are viewing a subject through the viewfinder, this mirror redirects the light from the back of your lens, through the viewfinder's glass prism, and out the [Viewfinder eyepiece](#) (#7) into your eye. The [Reflex mirror](#) is the reason for the R in DSLR. DSLR stands for digital single lens reflex camera.
29. **Built-in autofocus motor actuator** – This is a screwdriver-type, male connector that powers the autofocus on older lenses which have no built-in autofocus motors. It looks like the tip of a tiny screwdriver and extends into any lens that has a female connector designed to receive it. Older AF Nikkors and many aftermarket lenses need this connector to provide autofocus for you. AF-S (silent-wave) lenses do not use this actuator. The fact that the D7000 has this actuator allows you to use many older lenses that lesser cameras, such as the D5000 or D3100, cannot use.
30. **Meter coupling lever** – This small lever couples with non-G style lenses. It is also known as an "Ai lever" in older Nikon literature. Many older AF Nikkors, plus the AI and AI-S style manual-focus lenses require this lever for transmitting aperture ring position information to the camera. An old non-AI lens has no place for this lever to connect and could conceivably break it off if you mount the lens. Do not mount non-AI lenses on your camera! Do a Google search with this specific sentence: "*What is the difference between an AI lens, an AI-S lens, and Non-AI lens?*", to learn about how to identify the ones that might harm your camera. Look for the link to Nikon's support website: <http://support.nikonusa.com> for an article that explains (with pictures) how to know which older lenses are safe and which aren't.
31. **Flash mode button** – This button raises the built-in flash when in appropriate shooting modes. It also is used to select flash modes (e.g., Fill flash, Slow sync, Red-eye reduction) by holding it down while turning the rear [Main command dial](#) (#12) and viewing the changes on the upper [Control panel](#) (#43).
32. **BKT (bracketing) button** – Used to initiate bracketing. Bracketing is explained in the chapter titled **Custom Setting Menu**, under **e5 Auto Bracketing Set**.
33. **Infrared receiver** (front) – This is a sensor that detects infrared signals from the Nikon ML-L3 wireless remote control unit. There is a smaller version on the back of the camera to the right of the [Multi Selector](#) (#15). The smaller Infrared sensor on back is shown in #17 of figure 1.17.
34. **Mounting mark** – This raised white dot is an alignment mark for when you attach a lens to the camera's [Lens mount](#) (#25). There is a similar, smaller white dot on each Nikkor lens. You must align the two dots, insert the lens into the camera's [Lens mount](#), and turn the lens counter-clockwise until it audibly latches. There is a descriptive picture earlier in this chapter that describes the process (see figure 1.3).
35. **Built-in microphone** – These three holes below the D7000 logo are connected to the camera's built-in mono [Microphone](#). They allow sound into the camera. Be careful that you don't cover these holes when you are recording a video or you will have very muted sound.

36. **Lens release button** – The big D-shaped [Lens release button](#) allows you to remove a lens from the camera. Once latched to the body as shown in figure 1.3, the lens is attached semi-permanently. You press this button and turn the lens clockwise to remove it from the camera.
37. **AF-mode button** – The [AF-mode button](#) allows you to change the camera's Autofocus and AF-area modes. You hold in the [AF-mode button](#) while turning the rear [Main command dial](#) (#12) to change the Autofocus mode ([AF-A](#), [AF-S](#), and [AF-C](#)) or the front [Sub-command dial](#) to change the AF-area mode (Single point AF, Dynamic area-AF, 3D-Tracking AF, and Auto-area AF). The [AF-mode button](#) is in the middle of the [Focus-mode selector](#) (#38).
38. **Focus-mode selector** – This toggle switch is a fast way to disable autofocus and disengage the [Built-in autofocus motor actuator](#) (#29). It physically pulls the actuator's tip back into the camera body so that you can safely turn the autofocus ring on older AF lenses that could otherwise be damaged by that action.



Figure 1.19 – Top of Nikon D7000

Top of Camera (see figure 1.19)

39. **Mode dial** – This dial is provided to allow rapid switching of camera shooting modes ([AUTO](#), [SCENE](#), [U1](#), [U2](#), [P](#), [S](#), [A](#), and [M](#)). The [Mode dial](#) also works in conjunction with the rear [Main command dial](#) (#12) to choose a [SCENE](#) mode, when [SCENE](#) is selected on the dial.
40. **Release mode dial lock release** – Hold this button down and turn the [Release mode dial](#) (#41) below the [Mode dial](#) (#39) to change Release modes.
41. **Release mode dial** – The Release modes ([S](#), [CL](#), [CH](#), [Q](#), [Self-timer](#), [Remote control](#), and [MUP](#)) are selected by holding down the [Release mode dial lock release](#) (#40) and stopping the dial at the white indicator where number #41's red line points.
42. **Accessory shoe** – This "hotshoe" is where you will insert various accessory units that provide services for the camera. The primary use is for Speedlight flash units. However, you can also insert the SU-800 Speedlight commander in the Accessory shoe, or even the Nikon GP-1 GPS unit or an external stereo microphone. There are all sorts of items that you'll want to attach to the camera and the [Accessory shoe](#) provides a place for attachment. Before inserting anything into the [Accessory shoe](#), you'll first need to remove the Nikon BS-1 Accessory Shoe Cover (shown inserted).

43. **Control panel** – This is the secondary LCD screen for the camera. It provides a constant readout of the most important camera settings, such as the Flash mode, Image quality, Image size, AF-area mode, Autofocus mode, White balance, meter type, shutter speed and aperture, memory card in use, GPS, and number of images remaining. You'll be referring to this frequently while using the camera, so it's a good idea to become familiar with each of the symbols shown on the [Control panel](#).
44. **Metering button** – Allows you to select one of three exposure meter types (Matrix, Center-weighted, and Spot) when you are using a shooting mode that allows choices. You will hold down the [Metering button](#) (#44) and turn the rear [Main command dial](#) (#12) while watching the three meter types change in the [Control panel](#) (#43). You'll learn more about the differences in the meter types in the chapter titled **Metering, Exposure Modes, and Histogram**, in the section called **Metering**. A second function of the button is to format a memory card quickly. You can hold this button down simultaneously with the [Delete button](#) (#2) until [For](#) starts flashing on the Control panel. This starts the process of formatting one of the memory cards. You can select which card by rotating the rear [Main command dial](#) (#12) until 1 or 2 appears on the [Control panel](#) (#43) representing memory card Slot 1 or Slot 2. Once you have selected the card to format, you simply release the [Metering](#) and [Delete button](#) and then instantly reapply them. The card will then be formatted.
45. **Exposure compensation button** – This button allows you to override the camera's exposure meter and choose up to 5 EV steps of exposure compensation, either toward under- or overexposure. You'll hold down the [Exposure compensation button](#) and turn the rear [Main command dial](#) (#12) while watching compensation settings change on the [Control panel](#) (#43). You'll learn more about exposure compensation in the chapter titled **Metering, Exposure Modes, and Histogram**.
46. **Shutter-release button** – This is the most used control on the camera and has multiple purposes. First, the [Shutter-release button](#) is use to release the shutter and take a picture. Second, it is used to activate the exposure meter. Third, it activates autofocus. The exposure meter activates and autofocus happens anytime you hold the button halfway down.
47. **Power switch** – This switch has two functions. It turns the camera [Off](#) and [On](#) in its first two positions. The third position turns on the [Control panel's](#) (#43) backlight for a few seconds.