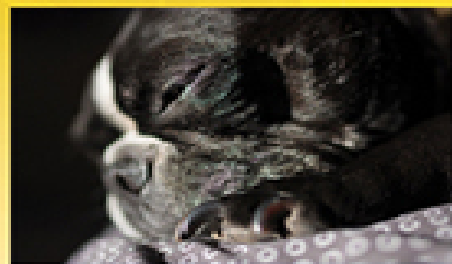


Free Gray/Color Checker Card Inside!

J. Dennis Thomas

Nikon® D7100™

Digital Field Guide



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J. Dennis Thomas

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J. Dennis Thomas is an Austin, Texas-based photographer and the author of 20 *Nikon Digital Field Guides* by Wiley, as well as the author of *Concert and Live Music Photography: Pro Tips from the Pit* and *Urban and Rural Decay Photography: Finding the Beauty in the Blight*, published by Focal Press. He is also a frequent author of articles on photographic theory and technique for Digital Photo Magazine, MasteringPhoto.com, F-Stoppers.com, and his own website, the Nikon Digital Field Guide Online (<http://Nikondfg.com>).

He is represented by Corbis Images and does freelance photography for *Rolling Stone*, *SPIN*, and *Veri.Live* magazines. His photographs have been featured in many notable publications including *Rolling Stone*, *SPIN*, *People*, *Us Weekly*, *Elle*, *W magazine*, *Thrasher*, *Ebony*, *New York Post*, *Veri.Live*, and many more.

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.

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

Nikon[®] D7100[™] Digital Field Guide

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Introduction

With the ultra-high resolution of the D800 and the D800E, the incredible and affordable full-frame camera in a small package the D600, and then the brand-new magnificently performing 24MP sensor of the D5200, Nikon has been turning the camera world upside down and giving everything a good shaking up.

With all of these great new cameras with impressive features, people weren't expecting a major upgrade to the D7000. Sure, it was expected that the resolution would be increased to at least 24MP, but what more could Nikon do?

Nikon dropped another bomb on the photo world and surprised everyone once again. Nikon took the best aspects from the newest and best high-end cameras, put these great features in the familiar compact body style and produced the D7100 — another game-changing DX camera. Nikon added more magnesium to the camera frame to make it even stronger and also increased the weather sealing making it on par with the D300s/D700 camera bodies. Nikon also put in the Multi-CAM 3500DX from the D300/s and updated it with features from the D4. This is now the top-of-the-line DX AF-system with 51-points (15 cross-type) and 3D-focus tracking. The D7100 also inherits the top-of-the-line Expeed 3 image processor and the 2016-pixel Color Matrix Metering II metering system. The D7100 also is the first Nikon camera to sport an OLED readout in the viewfinder, and the brand-new high-speed 1.3X crop mode. Further establishing itself as being as close to a professional camera as you can get at

this price level, the D7100 has the same 24MP sensor first seen in the D5200, but with a big twist — the D7100 has no Optical Low-Pass Filter. This is something that D800E owners had to pay \$300 *extra* for. This means even sharper images than even the 24MP D3X can give you.

The D7100 has everything advanced and even professional photographers need, but there's more: Nikon hasn't forgotten about newer photographers, either. The D7100 offers lots of scene and effect modes to allow you to open up your creativity and capture great images in any shooting situation, no matter how much photography experience you have. The D7100 also allows in-camera editing so you don't necessarily need to be computer savvy to add great effects to your images. It even allows you to edit RAW files.

The D7100 should appeal to videographers as well. It matches the D800 in almost every way in terms of video capabilities, including the ability to record uncompressed video through the HDMI port. The other features that should appeal to the videographer — besides the lower price point — are the stereo microphone input; the stereo headphone output; the ability to control ISO, shutter speed, and aperture; and the plethora of fast lenses that Nikon offers to achieve the shallow depth of field that is the hallmark of high-quality video production.

In the end, Nikon created an amazing, full-featured, full-frame camera that isn't out of reach of regular folks.

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 D7100 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 novices to advanced amateurs, to get a grasp on all the features of this great 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 and offers insights into which settings to use, as well as why each setting is useful in a particular situation. It includes full-color images that demonstrate different photography concepts, and shows you some of the things that the D7100 is able to accomplish under different circumstances.

In the end, the *Nikon D7100 Digital Field Guide* is designed to help you quickly learn to navigate and handle your camera better, as well as help you to reach your goals and achieve your photographic visions more easily.

Chapter 1: Exploring the Nikon D7100

This chapter covers the key components of the D7100 — the buttons, switches, dials, and knobs. These are the features you will need to master because you will be using them all the time to modify settings in order to adapt to changing shooting conditions.

The D7100 is very similar to its precursor, the D7000, and also very similar to its FX sibling, the D600. If you're upgrading from the D7000 or you purchased the D7100 as an adjunct to the D600, you'll feel right at home. If you're stepping up from a D5100 or a D3200, the number of controls may surprise you. If you are accustomed to using one of Nikon's compact pro bodies, such as the D300s, D700, or D800, then you will definitely notice the difference in the control layout.



Getting to know all your camera's menus, buttons, and dials allows you to capture your images just as you envision them.







Key Components of the D7100


You use the exterior controls of the D7100 to access features that you change often. Being a higher-end model than the D3200 and D5100 series, the D7100 offers a lot more buttons and dials to allow you to change your settings more quickly, which is a good thing. On the other hand, the D7100 has fewer buttons than the professional-grade cameras, so a lot of the buttons perform double or even triple duty, depending on what mode the camera is in.






The good news is that you can customize a number of buttons so that you can control the settings that you need to access most often.


Top of the camera


A lot of important buttons are on the top of the D7100. This makes it easier to find them, especially when you have your eye to the viewfinder. This is where you find the dials to change the shooting modes, as well as the all-important shutter-release button and the relatively new Movie record button.


- **Shutter-release button.** In my opinion, this is the most important button on the camera. 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 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 concentric to the shutter-release button, is used to turn the camera on and off. Push the switch all the way to the left to turn the camera off; pull the switch to the right to turn the camera on. The On/Off switch also has a spring-loaded momentary switch, which, when pulled to the far right, turns on the control panel backlight.
- **Movie record button.** When the camera is in Live View movie mode (), pressing this button (which has a simple red dot on it) causes the camera to start recording video. Pressing it a second time stops the video recording. In Live View still photography mode () and standard shooting mode or scene modes, this button has no function at all.
- **Metering mode button ().** Pressing this button and rotating the Main Command dial allows you to change the metering mode among Matrix (), Center-weighted (), and Spot metering (). This is also

one of the buttons for the two-button formatting option used to format the active memory card. Press and hold this button in conjunction with the Delete button () until FOR blinks on the LCD control panel, and then press the buttons in conjunction a second time to complete formatting. This second button press is required as a fail-safe against accidental formatting.

- **Exposure Compensation button ().** Pressing this button in conjunction with spinning the Main Command dial allows you to modify the exposure that is set by the D7100's light meter when it is set to Programmed auto (), Shutter-priority auto (), or Aperture-priority auto () mode. Turning the Main Command dial to the right increases the exposure, while turning the dial to the left decreases the exposure. You may also notice a green dot next to this button. Pressing and holding this button in conjunction with the Thumbnail/zoom out button () resets the camera to the default settings.

CAUTION When shooting in Manual exposure (), exposure compensation can also be applied. Because you are controlling the exposure manually, there is no need to apply exposure compensation; it's simpler to adjust the aperture or shutter speed if you need to under or over expose.

NOTE The Exposure Compensation button () serves no function when shooting in automatic or scene modes.

- **Mode dial.** This is an important dial. Pressing the Mode dial lock release button and rotating the Mode dial allows you to quickly change your shooting mode. You can choose the scene mode, one of the semiautomatic modes, or Manual exposure (), which lets you pick the exposure settings.
- **Mode dial lock release button.** Press this button to unlock the Mode dial so that you can rotate the dial to

change the settings.

CROSS REF For a detailed description of all the exposure modes, see [Chapter 2](#).

- **Focal plane mark.** The focal plane mark shows you where the plane of the image sensor is inside the camera. The sensor is directly behind the shutter. The minimum focus distance for lenses is measured from this point. When measuring distance for calculating flash output, you should measure the subject-to-focal-plane distance.



Image courtesy of Nikon, Inc.

1.1 Top-of-the-camera controls.

- **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.** This built-in stereo microphone allows you to record sound to go along with your video.
- **Control panel.** This LCD panel displays numerous controls and settings. The control panel is covered in depth later in the chapter.

On the kit lens, you find three key features:


- **Focus ring.** Rotating the focus ring allows you to focus the lens manually. The location of the focus ring varies by lens. With old AF (non-AF-S) lenses, and even older manual-focus lenses, you turn the ring to focus the lens. Newer AF-S lenses, such as the kit lens, have a switch labeled A and M. Select M before attempting to manually focus. If you don't switch it over first, you can damage the lens. Some higher-end AF-S lenses have a switch labeled A/M and M. With these lenses set to the A/M position, you can manually override the autofocus at any time without damaging the lens.

CROSS REF For more information on lenses and compatibility, see [Chapter 4](#).

- **Zoom ring.** Rotating the zoom ring allows you to change the focal length of the lens. Prime lenses do not have a zoom ring.
- **Focal length indicators.** These numbers indicate which focal length in millimeters your lens is zoomed to.

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 — a lot of them are used in conjunction with the Main Command dial or the multi-selector. On the back of the camera, you also find several key features, including the all-important LCD screen and viewfinder.

- **Release Mode dial lock release.** Press the Release Mode dial lock release and rotate the Release Mode dial to change the settings.
- **Release Mode dial.** Although technically the Release Mode dial is located on the top of the camera, on recent Nikon cameras the Release modes are easier to view from the rear of the camera. The Release mode controls how the shutter is released when you press the shutter-release button. There are seven modes:
 - **Single frame (S).** This mode allows you to take a single photograph with each press of the shutter-release button. The camera does not fire multiple frames when the button is held down.
 - **Continuous low-speed shooting (CL).** When using this mode, pressing and holding the shutter-release button allows the camera to shoot multiple frames at low speed. You can set the frame rate for this Release mode in Custom Setting menu () d5. You can select from 1 to 5 fps.
 - **Continuous high-speed shooting (CH).** When you use this mode, pressing and holding the shutter-release button allows the camera to shoot multiple