

Nikon D7000 Experience

The Still Photographer's Guide to Operation and
Image Creation with the Nikon D7000

an eBook by:
Douglas J. Klostermann

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D7000

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1. INTRODUCTION

The introduction of the Nikon D7000 created great excitement, especially for photographers who were eagerly awaiting a successor to the D90. Its features and capabilities exceeded expectations by providing users with an advanced, more sophisticated autofocus system, a ruggedly built body with a professional sturdy feel, and an improved sensor, processor, and exposure metering system. Its great image quality at high ISO settings, dual memory card slots, big and bright viewfinder, high capacity battery, video capabilities, customization options, and fast continuous frame rate make it one of the finest dSLR cameras in its class. Not only is the Nikon D7000 a significant upgrade to the D90, but it also rivals the more expensive semi-professional Nikon D300s in performance, construction, and image quality.

The Nikon D7000 is clearly a powerful, advanced tool for digital photography: 16.2 megapixel sensor, 39 point autofocus system, 6 frames per second (fps) continuous shooting speed, and high ISO capabilities. It is fully capable of capturing professional quality images in most any situation you wish to use it. But it is merely a tool.



Figure 1 - Detail of the Nikon D7000 digital SLR

It is up to you to make use of its features and capabilities to create the images you envision. While the camera's manual can tell you about all the settings and controls and how they function, this guide will build upon that and tell you when and why you want to use them. Every button, menu item, and Custom Setting of the D7000 is there for a reason: to help you capture the images you want. Some of them are more useful

to different types of photographers and shooting situations and you don't necessarily need to learn and use them all, but this guide should help to give you the knowledge to confidently use the ones that turn your Nikon D7000 into an image capturing tool that works best for you.

Learning to use and get the most out of an advanced digital SLR (dSLR) camera like the D7000 takes time, practice, patience, mistakes, and experimentation. If you are not yet familiar with all the controls of a dSLR and the exposure concepts of digital photography, don't expect to just pick it all up at once, in one or two readings of a single book. (In fact, you wouldn't want to, as the never ending journey of learning and mastering photography is a big part of what it's all about!) Try not to become frustrated when you don't quite understand something or aren't yet getting the results you desire. Instead learn the controls, functions, settings, and concepts little by little, try them out in real life shooting situations, and return to this guide, the Nikon manual, and other photography books to address questions and problems you encounter. Continue to learn and to photograph often and it should all begin to come together, sometimes slowly and sometimes in rapid spurts of discovery and understanding.

If you have upgraded from an older dSLR to the D7000, you are in for a treat. Its additional features and capabilities will more easily help you to capture images that you were limited in consistently attaining before. Its autofocus system and rapid continuous shooting speed in particular will help you capture sharp images of subjects and moments that previously you may have missed. If you are new to dSLR photography, you have perhaps jumped right into the proverbial deep end of the pool by starting out with the advanced D7000! But don't worry, this book will help guide you through its features, controls, and capabilities. Be sure to take it slowly and patiently and start with the basic features and concepts that I will explain. With practice and experience you will soon be shooting with confidence and can begin to take advantage of the camera's more advanced functions.

Using This Guide

There are many different ways to use a digital SLR camera and its controls to capture images, and I'm not going to attempt to explain them all. I am going to concentrate on the ways that I believe are the most practical, useful, and effective. The settings and techniques I discuss apply to many types of general photography, including most travel photography. I will point out other options for users who might wish to work differently and I encourage you to experiment and find the techniques that work best and are most comfortable or intuitive for you.

Since this guide is intended to help you get the most out of your D7000, I will not discuss or go into detail about all of the automatic features or Auto and Scene Modes. The D7000 is a highly sophisticated tool that deserves to be used to its full potential, and that involves taking control of the camera and its functions, which means taking it off Auto, off Program, off automatically selected auto-focus points, off Auto ISO. While this may be more challenging at first, these are the techniques that are necessary to take full advantage of the capabilities of any dSLR including the D7000, and will lead

you to having more control and consistency over your image making. Hopefully this will inevitably lead to better images!

This guide is intended to be used with the camera in your hands. That is the best way to directly see and understand what is being explained. It is also intended to be used in conjunction with and in addition to the camera's manual, not to completely replace it, so every bit of information in the Nikon *D7000 User's Manual* will not be repeated here. Among the official manual's often brief descriptions and sometimes frustratingly incomplete explanations, there is some very valuable information, as well as the basics for buttons, controls, and how to change all the settings. Note that the *D7000 User's Manual* can also be obtained as a PDF file from the Nikon website:

http://support.nikonusa.com/app/answers/detail/a_id/17008

As you can see, there is a lot to make sense of regarding terminology and controls, so I recommend that you familiarize yourself with the controls and displays of the camera body, as shown on pages 2-12 of the *D7000 User's Manual*, as well as read through the manual and attempt to understand as much as possible. Yes, much of it may be complicated and confusing at first, but this guide will attempt to cut through the numerous buttons, controls, menus, and settings and concentrate on the essential ones to help you create great images.

Various settings of the Nikon D7000 can be controlled in multiple ways including using the buttons and dials on the camera body while reading the settings on the top LCD Control Panel or in the Viewfinder, or through the menus on the rear screen accessed with the Menu Button and read on the rear LCD Monitor. Explore the options and find the ways that work most quickly and intuitively for you.

Any time I capitalize something in the text it is a proper term that can be looked up in the Nikon D7000 manual. I will capitalize the names of actual buttons, controls, camera parts, and menu items, such as Delete Button, Main Command Dial, Monitor, and Format. Again, please review the camera body and display diagrams in your *D7000 User's Manual* to familiarize yourself with the names of various parts, controls, and displays, as I will use these proper names in this text. Words and phrases that are capitalized *and* bold refer to chapters and sections within this guide. Turn on the bookmarks or contents navigation panel in your PDF viewer or access the Table of Contents of your e-book reader to quickly navigate to these different sections.

Many of the functions and controls of a dSLR such as the D7000 are closely inter-related, such as the shooting mode, exposure, and the metering mode. As a result of this I must sometimes refer to previous or upcoming sections of the text for further explanation of related function. It is best to read through the entire text, in the order it is organized, before returning to specific sections for further study. It may take multiple readings to fully understand both the individual functions and the relationships between functions.

memory card. It is best not to use this feature so that you don't lose track of any of your images.

Display Mode

This is used to select what information is available to be shown along with your images during playback. I recommend that you select all of these options. *Focus Point* will show you which focus point was active and will thus verify if you properly focused where you intended (unless you recomposed after locking focus). *Highlights* will show if you have overexposed the highlights (something you typically want to avoid) by having those areas of the image blink during playback. *RGB Histogram* will also help show if an image's exposure is correct, or if you have overexposed or underexposed it, through the use of a graph. *Data* will display detailed data of the camera settings used for each image. This guide will go into more detail about all of these items later in the **Exposure** and **Histograms** chapters, and why they are important to review for determining that you obtained the proper or desired exposure of an image.

Copy Image(s)

This is used to copy images from one memory card to another when two cards are inserted in the camera. This can be used to back up specific images or the entire card at once. This could be used to create back-up copies of your images when you don't have access to your computer, external hard drive, or CD/DVD burner, but it is best to back them up on one of these more permanent devices as soon as possible.

Image Review

Use this to set whether or not your images are immediately displayed on the rear LCD Monitor. If you typically review each image after taking it, turn this *On*. However, if you don't review every image, turn it *Off* to save the battery, then hit the Playback Button when you wish to review an image on the LCD Monitor. You will adjust how long the images are displayed during review in Custom Setting c4 below.

After Delete

This selects which image is shown on the LCD Monitor after an image is deleted - the next image (*Show next*), the previous image (*Show previous*), or the most intuitive option which is to set it on *Continue as before*, which will show the next or previous image depending on which order you were just reviewing them.

Rotate Tall

This will automatically rotate your images to the proper orientation in the camera's rear LCD Monitor during playback. Turn this *On* and use in conjunction with Auto Image Rotation (in the *Setup Menu* below) to view all images in the same orientation during playback. If you like seeing your vertically composed images larger but "sideways" on your rear LCD, set this to *Off*.

Shooting/Display

d1: Beep - This is used to customize the beep volume and sound that the camera makes for various operations. You may prefer to leave this *Off* if you find the beeps unnecessary or distracting in certain situations.

d2: Viewfinder grid display - This setting is to display grid lines in the viewfinder. These can be very helpful for keeping your framing and your horizons straight and level. However, note that it is not a “rule of thirds” grid, so make sure it doesn’t throw off your compositions (more about the **Rule of Thirds** in Chapter 17 on **Composition**). If you turn this on, you may find the viewfinder to look busy with information and distracting at first but you should soon see that your eye typically looks past the grid and is not distracted by it, but can make use of it when needed. You could also set the Preview Button to turn on and off the grid if you wish, using Custom Setting f4.

d3: ISO display and adjustment - This setting is used to choose if you want ISO or Frame Count displayed in the Viewfinder and Control Panel. It is often more important to be aware of your ISO setting than your Frame Count, especially if you are using larger capacity memory cards, so the *Show ISO sensitivity* option is recommended. Choose *Show frame count* if you prefer that to be shown. Note that if you turned on *Easy exposure compensation* in Custom Setting b3, do not turn on *Easy ISO* here - you can only use one or the other. If you prefer to directly change the ISO setting with a Command Dial rather than exposure compensation, then select *Show ISO/Easy ISO here*. Determine which setting you prefer, if either, to more quickly change while shooting.

d4: Viewfinder warning display - This setting is used to turn on warning displays in your viewfinder including if you are currently shooting in black and white, if the battery is low, and if there is no memory card inserted. These are important warnings and I suggest you leave them *On*.

d5: Screen tips - This is used to turn on or off “tool tips” - additional information about menu items. I recommend you leave this *On* since these tips are helpful if you have forgotten what a certain menu item or setting is. Press the Help Button to access these tips when you are in a menu.

d6: CL mode shooting speed - This is an extremely useful option for setting the frame rate - or frames per second (fps) - for when the camera is set on Continuous Low (CL) shooting mode. Since Continuous High (CH) shoots 6 fps, you may wish to select *3 fps* or *4 fps* for Low. See which rate best serves your shooting needs.

d7: Max continuous release - This is to set the maximum number of shots taken in a continuous mode burst when you hold the Shutter Button down while set in Continuous Low (CL) or Continuous High (CH) shooting mode. You may as well leave it set at *100*



Figure 3 - Selected AF Point (shown here in yellow and all AF points shown for clarity) positioned over subject's eye and focus locked with half-press of Shutter-Release Button.



Figure 4 - Framing of image recomposed (notice hand at lower right now visible) as

focus is still locked by holding Shutter-Release Button half pressed. Shutter-Release Button fully pressed to take image. (All AF points shown for clarity.)

To see how autofocus point selection works, set the Focus Mode Selector switch, near the base of the lens, to AF. Make sure the focus mode on your lens is also set for autofocus (A). (If it ever seems that your camera or lens is not autofocusing, be sure to check these two switches.) Press the AF Mode Button inside that switch and set the Autofocus Mode to AF-S (Single-servo AF) using the Main Command Dial and set the AF-Area Mode to Single-Point AF using the Sub-Command Dial. Ensure that the Focus Selector Lock switch below the Multi Selector is not set to L (Lock).

1. Set the Mode Dial to P (Program).
2. Tap the Shutter Button with a half-press to wake up the camera and start the exposure meter.
3. Looking through the viewfinder, use the Multi Selector to select the focus point that is nearest to where you want to focus.
4. Place that point over your intended subject.
5. Press and hold the Shutter Button halfway down and see that point blink red. The In-Focus Indicator should light up in your viewfinder. You have locked the focus.
6. Keeping the Shutter Button pressed halfway, recompose if necessary, and take the shot by fully pressing the Shutter Button.

There are reasons to use the outer focus points and not just the center one all the time, which will be discussed later. It may sound difficult to select the Focus Point each time, but it is actually very quickly done and will become instinctive. You may even start to set your Focus Point as you approach a scene before even bringing your camera to your eye, using your thumb on the Multi Selector. But if you wish, you can start by always using the center point and recomposing before taking the shot. And remember that Custom Setting a6 allows you to limit the number of selectable points to 11 to make this process more manageable.

If the In-Focus Indicator does not light up and the camera does not take the photo, the camera may not be finding something to focus on or you may be too close to your subject for the lens to focus. Autofocus works in part by looking for contrast, so try focusing on a detail with a strong line or strong contrast between light and dark. It may not be able to focus on a large area of consistent color or a subject that is too dark. It can be disrupted by regular patterns or confused when looking through close objects to objects farther away, such as looking through a fence. When photographing people, always try to focus somewhere on the face, ideally on the eyes or eyebrows (see *Figure 3*).

5.2 Autofocus Modes

The D7000 has three different Autofocus Modes to choose from, typically depending if your subject is still or moving. It also has four different **Autofocus Area Modes** (or AF-Area Modes, discussed in Section 5.3) to specify how many of the AF points are active and how they follow or track a moving object. You can set these two functions in various combinations. First the Autofocus Modes. Select the Autofocus Mode by pressing the AF-Mode Button (the button located inside the Focus-Mode Selector switch that says AF/M on the camera body near the base of the lens) and rotating the Main Command Dial (the rear dial) while monitoring the settings on the top Control Panel or in the Viewfinder.

Single-Servo AF (AF-S)

Use this mode when your subject is stationary, or still and not going to move, or if your subject is not going to move very much, or if the distance between you and the subject is not going to change between the time you lock focus, recompose, and take the shot. Lock focus on the subject and recompose if necessary. When using AF-S, you can select from two Autofocus Area Modes, either Single-Point AF where you select the AF point, or Auto-Area AF, where the camera selects the AF point(s) for you. I suggest you nearly always select your own desired AF point so that the camera autofocuses exactly where you want it to.

Continuous-Servo AF (AF-C)

Use this mode when your subject is moving. If the subject is moving towards you or away from you, the camera will keep evaluating the focus distance, *as long as the Shutter Button is kept half-pressed*. You will need to use this in conjunction with the Autofocus Area Modes to determine if and how the camera tracks the subject laterally to the surrounding AF points, or if it will only track the subject if it remains at the initially selected AF point. If the subject is going to be difficult to follow set the Autofocus Area Mode to one of the Dynamic-Area AF modes. If the subject will be moving across your field of view use the 3D-Tracking mode (further explanation of these situations and the **Autofocus Area Modes** section below). Focus on the moving subject initially with your selected point if using Single-Point, one of the Dynamic Area Modes, or 3D-Tracking, or let the camera select the AF point in Auto-Area AF (not recommended since it doesn't know what you wish to focus on), and then as long as the Shutter Button remains half-pressed the camera will track the subject as it moves closer or farther in distance. Depending which AF Area Mode you are using, the camera may also maintain focus or track the subject to some or all of the surrounding focus points if it moves away from the initially selected point (more about this below).

Auto-Servo AF (AF-A)

This mode is a hybrid of the two other focus modes. It starts in Single-Servo AF (AF-S) mode then changes to Continuous-Servo AF (AF-C) mode if your subject starts moving. Why shouldn't you use this all the time, then? Well, it is typically not the best of both

worlds. If you are focusing and then recomposing, as you may often be doing, your movement of the camera may fool it into thinking that the subject is moving and then activate subject tracking AF-C mode, and your resulting focus may not be where you intend it to be or may not be as accurate as it could have been with Single-Servo AF-S mode. And in this hybrid AF-A Mode it may not be as quick to respond to a moving subject as it would in Continuous-Servo AF-C mode. Typically you know if your subject is still or moving so it is better to select one of the other two Autofocus Modes. Plus that way you always know which AF Mode you are working in and can either lock focus where you want it or begin tracking a subject without wondering what mode the camera is in and if it will suddenly change. But there may be situations that call for this combination mode such as a still bird or animal that may start moving unexpectedly, so keep it in mind.

Manual Focus

Sometimes you may be taking several photos of the same subject from the same distance, or for some other reason want to keep the same focus distance and not have to keep re-focusing and re-composing. Or you may be taking multiple photos for a panorama. In these situations, turn off the auto-focus on your lens by switching from AF to M with the camera's Focus Mode Selector switch and with the A/M switch on the lens itself. Just remember to switch them back when you are finished. You may also wish to do this if you want to precisely manually focus with the focus ring on your lens. For lenses with "full time manual focus" however, you don't need to switch to M in order to manually override the autofocus with the lens focus ring. These lenses will have M/A and M on the lens focus mode switch instead of A and M.

Rangefinder

Use the Rangefinder feature of the D7000 to assist with manual focus. With lenses having a maximum aperture of f/5.6 or faster (such as f/4.0 or f/2.8) the focus indicator in the Viewfinder can be used in conjunction with a selected single focus point (see **Autofocus Area Modes** Section 5.3 immediately following) to confirm that a stationary or still subject is in focus.

To use the Rangefinder switch the camera and lens to manual focus, select a single AF point as you look through the Viewfinder, locate it over the subject, and press and hold the Shutter-Release Button halfway. Rotate the focus ring on the lens until the focus indicator - the dot at the bottom-left of the viewfinder - lights up. This indicates that the subject is in focus.

5.3 Autofocus Area Modes

The Autofocus Area Modes (AF-Area Modes) are used to set if all the AF points are active and automatically selected by the camera to focus on a subject, if just a single, user-selected AF point is active, if a specific number of AF points surrounding your selected AF point will be used to help maintain focus, or if all the AF points will work in conjunction with a single user-selected point to track a moving subject across your

What Readers are Saying About Nikon D7000 Experience:

This book, together with the manual that came with your camera, is all you need to start discovering the full potential of the D7000.

-Max M.

It's the first guide I've read which has taken me through all the settings in an understandable way. I now feel that I have control over the camera.

-Peter S.

Really practical and tremendously helpful. Readers of this e-book can expect to benefit from a more rewarding photographic experience using this superb camera, and be better able to exploit its potential to match their personal objectives and photographic style. Highly recommended.

-M.M.

I would recommend this to anyone who wants to get a quick start to using the D7000. Manuals are nice, but this e-book highlights the important information and gives a quick easy to understand explanation of most all of the functions and controls.

-Ray M.

I found the Nikon manual good for understanding how to set things up but not much on the why - this book really focuses on the WHY.

-Benoit A.

This manual is a clearly written, concise and useful explanation of the rationale for the seemingly infinite and often confusing settings options for the D7000. Used in conjunction with the Nikon manual I feel more confident in understanding how to at last proceed in getting better photographs.

-W.L.S.

It's clear, concise and gets to the heart of the camera's multiple and often confusing options. Very highly recommended - for experienced user and beginner alike.

-G.S.A.

A well written, professional helpful guide - Just what I was looking for! A manual for the D7000 that was exciting, clear to follow, had examples and was used by a professional who gave just the right amount of technical with explanations of why you use those settings, when to use those settings and so on, all properly explained. The book is a revelation, a joy to follow, well thought through and well written. Nikon should be employing Doug to write every one of their cameras manuals.

-R.D.C.

Purchase Nikon D7000 Experience at:

<http://www.dojoklo.com/Full Stop/Nikon D7000 Experience.htm>