

Nikon D5100 Experience

The Still Photographer's Guide to Operation and
Image Creation with the Nikon D5100

an eBook by:
Douglas J. Klostermann



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INTRODUCTION

The introduction of the Nikon D5100 brings forth a worthy successor to its popular predecessor, the D5000. By incorporating the high quality 16.2 megapixel sensor, great low-light performance, and full HD video of the prosumer D7000, the D5100 puts these advanced features in the hands of the dedicated enthusiast, plus includes a fully adjustable high resolution rotating LCD screen. With its 420 pixel RGB exposure metering sensor, accurate 11 point autofocus system, 4 frames per second continuous shooting speed, and easy to navigate information display, the D5100 offers the capability and features required for dedicated photographers who wish to continue to grow.

The Nikon D5100 is clearly an advanced tool for digital photography, and offers the potential to capture professional quality images in most any situation you wish to use it. But it is merely a tool.



Figure 1 –Detail of the Nikon D5100 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 manuals can tell you about 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 D5100 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 need to learn and use them all immediately, but this guide should help to give you the knowledge to confidently use the ones that turn your Nikon D5100 into an image capturing tool that works best for you.

There are many different ways to use a digital SLR (dSLR) 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 general photography, which includes 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. If you typically shoot very specifically, say macro photography or studio photography with complex lighting, some of what I discuss may not apply. But if you are that specialized, I'm sure you are skilled enough to know when and how to adapt what I say!

Since this guide is intended to help you get the most out of your D5100, I will not necessarily discuss or go into detail about many of the automatic features or Auto and Scene Modes. The D5100 is a sophisticated tool that deserves to be used to its full potential, and that means taking control of the camera and its functions. And since this guide is about image creation – the capturing of a photograph – it will not discuss features that deal with image processing, such as the Retouch Menu. And finally, while it will discuss basic video settings and options to get you started, the guide will focus on still photography and image creation. However there is a great deal to be learned about everything else including the autofocus system, the elements of exposure, exposure metering, white balance, and even basic composition.

As you have probably discovered by now, the camera's *User's Manual* is brief and basic. There is a more detailed *Reference Manual* on the *Reference CD* included with your camera. This ebook guide will expand on the manuals and explain not only the features, controls, and menus of the D5100, but more importantly when and why you might want to use them in your photography. However, this guide is not intended to completely replace the manuals, but to be used in conjunction with them, so every bit of information in those manuals will not be repeated here. For example, I may explain the use of Single-servo AF (AF-S auto-focus mode), but not always explain how to change to this setting on your camera. If you don't know how to change it please read the *User's Manual* where it will tell you to press the *i* Button twice, highlight the focus-mode options, press OK, and then choose the AF-S focus mode.

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 2-7 of the *D5100 User's Manual* and pages 1-10 of the *D5100 Reference Manual* (see *Figure 2*), as well as read through the manuals and attempt to understand as much as possible. Yes, much of it may be complicated and confusing at first, but this ebook guide will explain the uses of the numerous buttons, controls, menus, and settings and concentrate on the essential ones to get you started taking great images.

contrast situations with a wide range of lighting. Some differences, however, are that you need to hold your camera still for both shots so that the two frames line up and are not cropped when combined, and that it is not recommended for moving subjects. Use **Active D-Lighting** for action situations. See the **High Dynamic Range (HDR)** section below for further information.

Long Exposure Noise Reduction

This is used, obviously, to automatically correct noise in long exposures (over 8 seconds). Leave this *Off* until you are intentionally taking long exposure images, then determine if you wish the camera to do this correction or if you wish to do it yourself with Photoshop or other software. Note that the noise reduction processing occurs immediately after you take your image, and will take perhaps as long as the initial long-exposure took, during which time you cannot take another image and should not turn off your camera. For example, a 30 second exposure may require an additional 30 seconds for noise reduction processing.

High ISO Noise Reduction

The camera will automatically process images to reduce noise at 1600 ISO and above even without this setting, so turn this *Off* and evaluate any noise issues in your images before deciding if you might want to set this to *Low* or *Normal* later. Again, this can also be done later in processing and often with more control in Photoshop or other software.

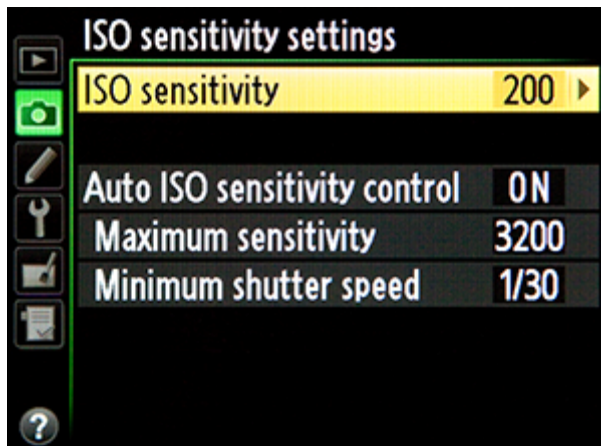


Figure 7 – ISO Sensitivity Settings Menu

ISO Sensitivity Settings

This is used to change the **ISO** setting, which is more easily done using the *i* Button and Information Display. However, this also sets the optional *Auto ISO Sensitivity Control*, which functions in P, S, A, and M modes. If you enable this (*On*) then the camera will automatically change your selected ISO, without your expressed permission, in certain situations in order to obtain a proper exposure. For example, if you are working in **Aperture-Priority Auto Mode (A)** and set the ISO at 1600, but based on your selected aperture and the lighting the camera does not believe there is enough light for the exposure and a realistic shutter speed (that you set – see below), it will automatically raise the ISO so that the shutter speed does not become impossibly slow for hand-holding. This may be good if you are still getting used to the cameras controls and settings and wish for the camera to help you out a bit in certain situations where you may not be paying close enough attention to your settings. Or perhaps in situations such as at a concert

Custom Settings

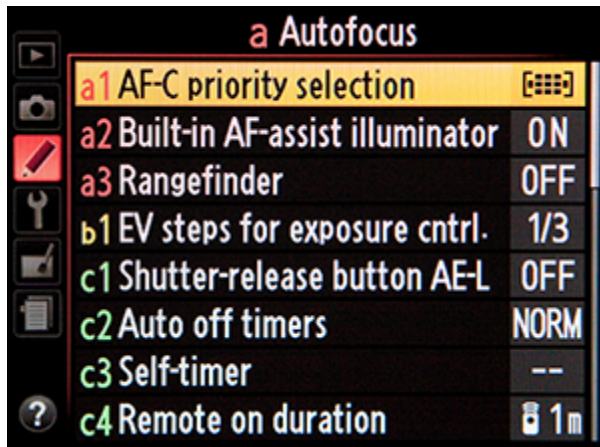


Figure 8 – Custom Settings Menu

Autofocus

a1: AF-C priority selection – This setting determines if attaining focus is top priority when you are in Continuous-servo AF mode (AF-C autofocus mode), or if you just want the shots to be taken even if exact focus is not attained for each shot. For example, if you are tracking a moving subject such as a runner or a bird, you may wish to just take a rapid series of shots at all costs in order to capture specific moments, and exact focus of each shot may not be the priority. Or you may wish to make sure the camera has properly focused each shot before the shutter is released. This however may cause a slight (perhaps millisecond) delay for each shot and the exact moments may be missed. If exact focus is your priority, set on *Focus*. If getting the shots at all costs is the priority, set for *Release*.

a2: Built-in AF-assist illuminator – This is used to enable or disable the autofocus assist light. Turn this *On* to assist you in autofocusing in low light, but be sure to turn it *Off* if you are working in situations where it will be distracting, unwanted, or unnecessary.

a3: Rangefinder – This setting is used to help obtain focus when you have turned off autofocus and are using Manual Focus mode (MF) and manually focusing. (Be sure to also set the autofocus switch on your lens to M) The exposure indicator in the viewfinder is used to indicate if the subject is correctly in focus. If the dots and arrow are to the left of 0, the camera is focused in front of the subject; to the right means the camera is focused behind the subject. Note that this indicator does not work for determining focus in Manual (M) shooting mode (when your Mode Dial is set to M) because it is used instead to indicate exposure. Turn this setting *On* if you need its assistance when manually focusing. It is generally advisable to use the camera's autofocus system and not manually focus, though some users may wish to manually focus in certain situations such as close-up and macro photography.

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worth it to use Center-Weighted Metering mode. Another time to use this is when there is a wide range of light in your scene, such as bright sunlight to deep shadows. Determine the proper exposure by metering on the subject using the center of the viewfinder, and lock in that exposure (see **Exposure Lock** below). (See *Figure 30*.)

Remember, this mode is *not* linked to your focus point. The area that is metered is always in the center so if your subject is off center – which it typically should be for a more dynamic image – you need to meter on your subject or on a middle tone in the part of the scene that is most critical and that you want properly exposed, using the central area of the viewfinder. Lock in that exposure, then recompose and take the shot. If you are finding that Matrix Metering is not giving you the exposures you desire in certain unusual, dramatic, or difficult lighting situations and your exposures are too dark or too light, try using Center-Weighted Average Metering (or **Exposure Compensation**, discussed below).



Figure 30 – Lion Sculpture – Center-Weighted Metering used to properly expose for the subject, exposure locked, then framing recomposed to place subject off center. (Very carefully hand-held at very slow shutter speed.) Shutter speed 1/13, aperture f/4.0, ISO 800

Spot Metering

This mode meters exclusively on a 3.5mm circular area, approximately 2.5% of the frame area, centered on the selected focus point. Note that the spot is not necessarily in the center of the frame as with Center-Weighted Metering, unless you or the camera has selected the center AF point. So when do you want to use Spot Metering? This, again, is useful for scenes with great variation in light and shadow, or in very critical situations. One of the most common ways to use it is when metering for proper exposure on a dramatically lit face or subject, where the proper exposure of that part of the image is critical. Be aware that the area the camera is metering does not take into account any other parts of the scene and is very small – not much larger than the brackets you see in the viewfinder surrounding the center focus point. For advanced users, Spot

What readers are saying about Doug's previous guide, Nikon D7000 Experience:

“This book, together with the manual that came with your camera, is all you need to start discovering all the 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.

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

-Ray M.

“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 a bit more confident in understanding how to at last proceed in getting better photographs.”

-WLS

“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." I would like to thank you for saving me time - now I'm confident that my camera is well tuned!”

-Benoit A.

“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. As previous reviewers have remarked, the official manual is very good on what to do, but not so clear on why.”

-GSA

Purchase *Nikon D5100 Experience* at:

http://www.dojoklo.com/Full_Stop/Nikon_D5100_Experience.htm