

# Nikon D610 Experience

The Still Photography Guide to Operation  
and Image Creation with the Nikon D610

an e-book by:  
Douglas J. Klostermann



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Full Stop. *good writing for better photography*

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by: Douglas J. Klostermann

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### 1. INTRODUCTION

The introduction of the Nikon D610 brings about some small but notable updates to its popular and powerful predecessor, the D600. The D610 incorporates a new shutter mechanism which enables a faster six frames per second (fps) continuous shooting speed, and a new Quiet Continuous shutter-release mode for taking a burst of images up to three frames per second and with decreased shutter noise. In addition, the D610 has an improved Auto White Balance setting which promises more natural color reproduction both indoors under artificial lighting and outdoors. The previous D600 model marked an important moment in the evolution of digital SLR cameras as the first Nikon dSLR with a full-frame sized image sensor to also be priced at about \$2000 at release, thus putting it within the reach of far more photography enthusiasts. With the D610, Nikon has retained a similar price. And although many D600 users reportedly experienced issues with dust or oil spots on their camera's sensor, it is expected that the new shutter mechanism of the D610 will eliminate this concern in the new camera.



*Figure 1 - Detail of the Nikon D610 full-frame digital SLR, including the new Quiet Continuous Shutter-Release Mode, shown as Qc on the Release Mode Dial at the upper-left of the camera body.*

As with its predecessor, the D610 offers a high-resolution, high-quality image sensor and most all the features and controls required by dedicated photographers of every level, from enthusiasts to professionals. With its 24.3 megapixel full-frame (FX format) sensor, highly versatile and customizable 39 point autofocus system, scene-recognition

exposure metering system, powerful Expeed 3 processor, and extremely high ISO capabilities in low light, the Nikon D610 enables photographers to consistently capture sharp, clean, and well-exposed images in most any shooting situation.

Borrowing the best features of the Nikon D7100 and some of the exceptional capabilities of the high-end D800, the D610 boasts a ruggedly built, weather-sealed body with a magnesium alloy frame, dual SD memory card slots, a big and bright 100% coverage Viewfinder, remote Speedlight flash control, full HD video capabilities, and numerous customization options. Nikon has included wireless capabilities for image sharing and camera control through a smart phone or tablet with the use of the optional [\*WU-1b Wireless Adapter\*](#), a locking Mode Dial, and DX lens compatibility. All of this has been included in a dSLR body not much larger than the D7100. The Nikon D610 is clearly a powerful, advanced tool for digital photography and is fully capable of capturing professional quality images in most any situation you wish to use it.



*Figure 2 - Fall Foliage, Cambridge, Mass. - In this guide I will explain how to take full control of the camera and its settings for most situations, and will encourage you to do so in order to consistently capture the images you desire. However this vibrant image is the result of the automatic “Autumn Colors” Scene Mode of the D610, which emphasizes the bright reds and yellows of the scene. D610: Shutter speed 1/125, Aperture f/11, ISO 140.*

But the D610 is merely a tool. 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, how to change them, and their intended function, this guide will build upon that and tell you when and why you want to use them. Every button, dial, menu item, and Custom Setting of the D610 is there for a reason: to help you consistently 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 immediately, but this guide should help to give you the knowledge to confidently use the ones that turn your Nikon D610 into an image capturing tool that works best for you.

### ***1.1 Take Control of Your Camera***

Since the camera is a tool to take the images you want to take, you obviously can't always allow the camera to make decisions for you. You have to take control of the camera to ensure that you capture exactly the images you intend - by autofocusing precisely where you intend, setting the aperture or shutter speed that you want, and obtaining the exposure you desire. While the D610 is an intelligent camera, it cannot read your mind and your intentions and does not know that you wish to focus on and properly expose the leaves in the foreground, while making the background appear out of focus, and the branches and leaves to be caught still and not be blurred from the motion of the wind, on this bright, mostly-sunny day (see *Figure 3*). You have to tell the camera to do all of this, through the various controls and settings, such as the Autofocus Mode and AF-Area Mode (lock focus on the near leaves), the exposure metering mode (properly expose the leaves and background), the aperture setting (the out-of-focus background), the shutter speed (freezing the motion of the leaves from the wind), the ISO setting (bright day) and the white balance (mostly-sunny day). Taking control of all of these functions and settings will enable you to consistently create the dramatic and compelling images you envision.

Learning to use and get the most out of an advanced digital SLR (dSLR) camera like the D610 takes time, practice, patience, mistakes, and experimentation. If you have upgraded from a previous dSLR such as the D7100, D90, or D300 (or one of their predecessors), or from the D5200 or D3200 to the D610, you are in for a treat. Its full-frame sensor will allow "uncropped" performance of your FX lenses while delivering extremely high quality images. Its additional features and capabilities will more easily help you to successfully capture scenes and situations that you may have been limited in consistently attaining before. Its sophisticated and accurate autofocus system coupled with its fast continuous shooting speed, plus its exposure metering system and high ISO capabilities will help you get sharp images of subjects and moments that previously you may have missed, especially in lower light situations.



*Figure 3 - Autumn Leaves, Cambridge, Mass. - Autofocus modes, exposure metering mode, aperture, shutter speed, ISO setting, and white balance all considered even in creating this straightforward image. D610: Aperture-Priority shooting mode, Shutter speed 1/500, Aperture f/4.5, ISO 100.*

If you are relatively new to dSLR photography and are still in the process of learning all the controls of a dSLR and the exposure concepts of digital photography, you have perhaps jumped right into the proverbial deep end of the pool by choosing the advanced D610! But don't worry, this book will help guide you through its features, controls, and capabilities. Be sure to take it slowly and patiently as you learn the 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. Even if you are an intermediate photographer, don't expect to just pick up all the new information 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 if you don't quite understand something or aren't always getting the results you desire. Instead learn the controls, functions, settings, and concepts bit by bit, try them out in real life shooting situations, and return to this guide, the *Nikon D610 User's 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 bursts of discovery and understanding.

### 1.2 Using This Guide

There are many different ways to use a dSLR camera and its controls to capture images, and many diverse situations in which photographers work. I'm going to concentrate on the techniques that I believe are the most practical, useful, and effective for the majority of enthusiast photographers using the D610. The settings and techniques I discuss can apply to various types of photography including general photography, action, portrait, and travel photography. Once you have a firm grasp of the controls, settings, and basic techniques you will have the tools and knowledge to address different issues, specialized situations, and challenging scenes. I encourage you to then experiment and continue to learn, and to 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 D610, I will not go into detail about all of the automatic features or Auto and Scene Modes. The D610 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 autofocus points (when not needed), 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 D610, 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 follow and understand the controls, functions, and settings as they are 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 D610 User's Manual* will not be repeated here. Among the official manual's often brief descriptions and sometimes frustratingly incomplete and disjointed explanations, there is some very valuable information, as well as the basics for buttons, controls, and how to access and change all the settings. Note that the *D610 User's Manual* can also be obtained as a PDF file from the Nikon website, at the webpage below:

[https://support.nikonusa.com/app/answers/detail/a\\_id/18706](https://support.nikonusa.com/app/answers/detail/a_id/18706)

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 1-11 of the *D610 User's Manual* and explained in the **Camera Controls** chapter below, as well as read through the manual at some point and attempt to understand or absorb as much as possible. Yes, much of it may be complicated and confusing at first, but this guide will explain and clarify the numerous buttons, controls, menus, and settings and explain when and why you will want to use them in your photography.



*Figure 4 - Terra Cotta Detail, Cambridge Public Library - Cambridge, Mass. - D610: Shutter speed 1/500, Aperture f/5.6, ISO 200.*

Various settings of the Nikon D610 can be controlled in multiple ways including using the buttons and Command Dials on the camera body while reading the settings on the top LCD Control Panel, in the Viewfinder, or on the rear Information Display. Or they can be changed through the menus accessed with the Menu Button and the Multi Selector thumb pad and read on the rear LCD Monitor. Explore the options (which will be explained throughout this guide) and find the ways that work most quickly and intuitively for you.

Any time I capitalize something in this text it is a proper term that can be looked up in the *Nikon D610 User's Manual*. I will capitalize the names of actual buttons, controls, camera parts, and menu items, such as Function (Fn) Button, Main Command Dial, Monitor, and Format Memory Card. Again, please review the camera body and display diagrams in your *D610 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 that are capitalized and bold refer to chapters and sections within this guide, such as **Menus and Custom Settings**. 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.



Figure 30 - Image Quality and Image Size menus to determine image file settings.

### Image Size

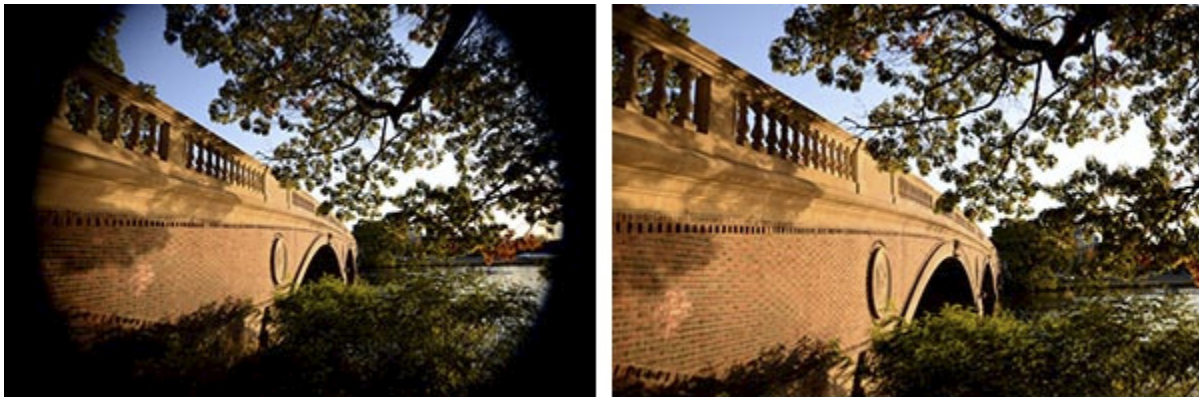
Again, you are putting a lot of effort into taking your images, so set this to Large or L (see *Figure 30*) - unless you have a specific reason to capture smaller-sized files (both in pixel dimension/ print size and image file size). For example, if you know you will only be using the images to upload to a social media site. But if you change this setting, please be sure to remember to set it back on Large for your subsequent images! You can view the resulting pixel and print sizes of the *Large*, *Medium*, and *Small* settings for both FX and DX Image Area on page 95 of the *D610 User's Manual*. This setting can also be changed during shooting by pressing the QUAL Button and turning the front Sub-Command Dial.

### Image Area

This setting can be used to have your full-frame FX format sensor act as an APS-C sized DX format sensor. By enabling the DX size image area, it will change the aspect ratio (very slightly) and angle of view (dramatically) of your resulting images - the camera is basically cropping your photos from full-frame images to smaller DX format sized images (see *Figure 31*). When the *Auto DX crop* option here is set for *On*, the camera will automatically capture images at the smaller DX size when a DX lens is being used. This is generally recommended if you will be using DX lenses, because if you use a DX lens but set the camera for Image Area size FX (the next setting option in this menu), you will see significant vignetting in your resulting images. This is because DX lenses are designed for smaller APS-C sensors, and thus do not project the scene across the full width of the camera's sensor (see *Figure 32*).



*Figure 31 - Simulated D610 Viewfinder view, showing the full size FX image area and the approximate size of the cropped DX image indicated by the inner black line surrounding the AF brackets. Note that the DX image size aligns approximately with the Viewfinder Grid Display lines which can be turned on with Custom Setting d2.*



*Figure 32 - Using a DX lens on the full-frame FX Nikon D610 - If a DX lens is used on the D610 and the “Image Area” option for “Auto DX Crop” is Off, and “Choose Image Area” set for FX, then you will see significant vignetting in your resulting images (left). If “Auto DX Crop” is On, or if “Choose Image Area” is set for DX, then the camera will use a portion of the sensor and capture a cropped image without vignetting (right). Both images taken with the same focal length and the same camera position. D610: Shutter speed 1/800, Aperture f/3.5, ISO 200.*

If the *Auto DX crop* option is set for *Off*, the camera will use the next *Choose image area* setting to determine the image size, either full sized *FX* or cropped APS-C sized *DX* (see *Figure 33*). The advantage of using the *DX* setting is that with telephoto lenses, you will gain the appearance of further reach, as you may be used to from working with a D7000, D90, or other APS-C camera. The disadvantage is that you will only be using part of the sensor and thus capturing 10 megapixel images. It will be the same result as if you cropped your images in post-processing.

When working in DX image area setting, the Viewfinder will display the crop lines. You can set Custom Setting a4 - *AF Point Illumination* to *Off* to grey-out the area beyond the crop lines if desired. This can be useful in helping you to remember that you are only capturing a cropped portion of what you see, however then the Viewfinder AF Points and grid will not illuminate. You can also set the Depth-of-Field Preview Button or the Fn Button to quickly change the Image Area (as will be explained in **Custom Settings**). If either of these buttons is assigned this function, you can press the button and turn the Main Command Dial to change between FX and DX while viewing the setting on the top Control Panel, in the Viewfinder, or on the rear Information Display.

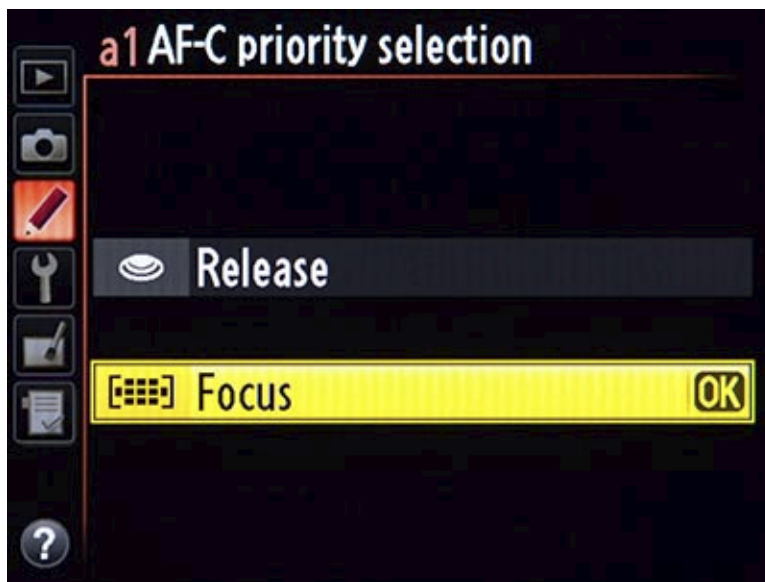


*Figure 33 - Image Area option - choose to have your full size FX format sensor capture images full size (FX) or cropped (DX) as if using an APS-C sensor sized camera.*

For those coming to the full frame FX format D610 from a "cropped frame" DX format camera (with a smaller APS-C sized sensor), the full frame D610 sensor (and thus Viewfinder too) will capture a wider field of view. This will allow you to photograph wider, more sweeping views with your wide angle lenses at any given distance to the subject (see *Figure 34*), but will not allow you to zoom in as "close" as you are used to when you used your telephoto lenses on a DX camera. You can see the difference of the field of view between FX and DX, for any given scene, when you set the Image Area for DX using this menu item, as shown in *Figure 31*.

**a1: AF-C priority selection**

This setting determines if attaining focus is top priority when you are working in Continuous-servo AF Mode (AF-C Autofocus Mode), or if you just want the shots to be immediately taken even if exact focus is not attained for each shot (see *Figure 52*). Specifically, when you press the Shutter Button, this setting determines if the image is taken immediately (*Release*) or if the camera waits for focus to be attained before taking the photo (*Focus*). For example, if you are tracking a moving subject such as a runner or an animal, you may wish to just capture a rapid series of shots at all costs in order to ensure getting 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 capturing the images at all costs and maintaining the maximum continuous frame rate are the priorities, set for *Release*. If exact focus is your priority, set on *Focus*.



*Figure 52 - AF-C Priority Selection options, to determine if shutter release and maintaining the maximum continuous frame rate are the priorities, or if exact focus of each shot is the priority. The a2: AF-S Priority Selection menu appears similar.*

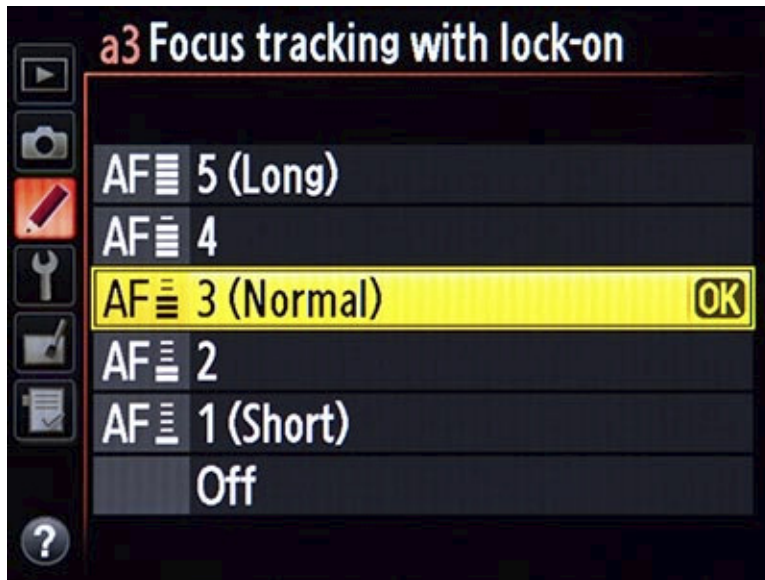
**a2: AF-S priority selection**

This is similar to AF-C Priority above, except that this setting is for when you are working in Single-servo AF Mode (AF-S Autofocus Mode), typically used when your subject is relatively still or when you are not tracking a moving subject. (This menu appears similar to *Figure 52*). Again, determine if getting the shot (*Release*) or exact focus (*Focus*) is your priority. Since AF-S is typically used with subjects that are not moving, it typically makes more sense to ensure focus is attained, thus you may generally wish to select *Focus* for this setting. Since focus is first locked when you half-press the Shutter Button, this setting applies more to when you quickly “mash-down” the Shutter Button fully without first pausing to lock focus with a half-press.



### a3: Focus tracking with lock-on

This setting determines how the autofocus system reacts to sudden, dramatic changes in the distance of the subject when you are working in AF-C autofocus mode, or when working in AF-A autofocus mode and Continuous-servo AF is active. (As will be discussed in the **Autofocusing** chapter, AF-A mode automatically switches between Single-servo AF and Continuous-servo AF based on subject movement, so you don't necessarily know which mode it is working in.) The camera can be set to wait a brief period of time - 1 (*Short*), a long period of time - 5 (*Long*), or steps in-between, from 1 to 5 (see *Figure 53*).



*Figure 53 - Focus Tracking With Lock-On setting to determine how long the camera waits before refocusing on a subject at a different distance, when working in AF-C or AF-A Autofocus Modes.*

For example, you may be tracking a football player across the field when another player comes between you and your intended subject. This setting will determine if and how quickly the camera then focuses on this nearer player, or if it continues to focus at the original distance as the closer player passes through your field of view. If you do not wish for the camera to suddenly change focus to the nearer player, set to a longer period such as 4 or 5. If you wish to switch focus to a sudden closer or farther object, such as perhaps a flock of moving birds where focusing on any bird and not a specific bird is the priority, then set for a shorter period, 1 or 2, or even set for *Off* and focus will immediately change. Keep this option in mind with the various AF-C Autofocus Mode and AF Area Mode configurations (discussed in the **Autofocusing** chapter), as it will likely change depending on your subject and situation. Sometimes you may not want the camera to quickly refocus on a closer or more distant subject, while other times you might.

## 5. AUTOFOCUSING

### 5.1 Using Autofocus

One of the essential steps in taking a successful and sharp photo is controlling where the camera autofocuses. If you allow the camera to autofocus by automatically choosing its own Focus Point(s), such as in Auto shooting mode or when using Auto-Area AF autofocus area mode, it typically focuses on the closest object. This may or may not be what you want to focus on, so you should select or at least narrow down where the camera focuses using the autofocus Focus Points or Dynamic-Area groups of points. By doing so you are telling the camera exactly where to autofocus or where to look to find a moving subject to track. For example, you often want to focus on a subject's eyes, but if you allow the camera to choose the autofocus point by itself, it may select another part of the face, or somewhere else on the body, or even a raised hand that is nearer to the camera than the face to focus most sharply on. If you are capturing an image of a bird in a tree the camera has no idea you want the autofocus system to zero in on the bird so that it is in sharp focus, and not on the branches or leaves near it or perhaps even the leaves closer to you.



Figure 125 - Autofocus controls and other controls of the Nikon D610.

The versatile and customizable autofocus system of the D610 is a major part of what makes it such a powerful camera. In any shooting mode other than the Auto and Scene modes you can, and should, take control of the autofocus system. The autofocus

system is comprised of the autofocus related controls (see *Figure 125*), the Autofocus Modes (such as Single-servo AF also called AF-S), the autofocus Focus Points and AF-Area Modes (such as 9-Point Dynamic-Area AF), and the autofocus related menu and Custom Settings items described at the beginning of this text, which customize how the AF system works. You will select an Autofocus Mode generally based on whether the subject is still or moving, and select an AF-Area Mode based on how large of an area you want the camera to look at to find your intended subject - ranging from a single point, to a wider Dynamic-Area, to all the available 39 AF points. You can set the Autofocus Modes and AF-Area Modes in a variety of combinations based on what and how you are shooting. Be sure to read the **Menus and Custom Settings** section first to make sure your camera is properly set up to make use of all the autofocus points, to always illuminate your active Focus Point if desired, and various other recommended autofocus settings.

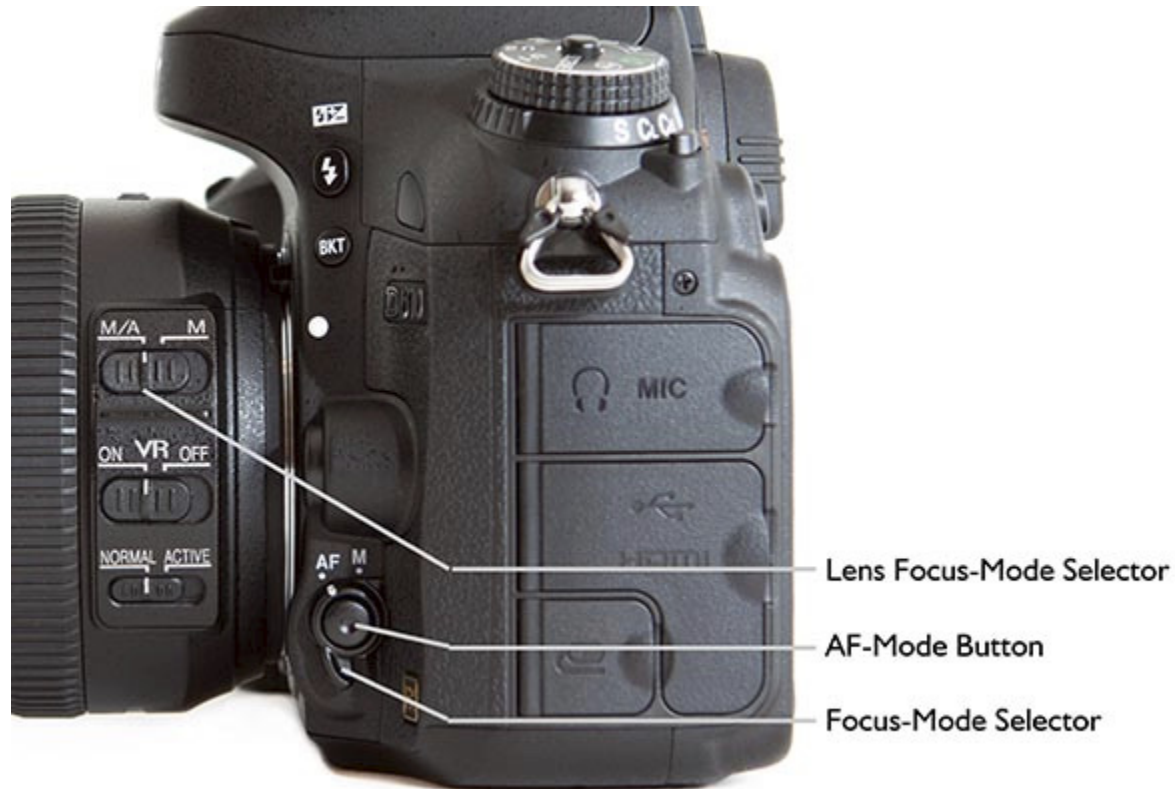
Autofocus works by looking for contrast so try to focus (locate your Focus Point as you view it in the Viewfinder) on a texture or a detail with a pronounced line or some amount of contrast between light and dark. It may not be able to focus on a large area of consistent color - such as a white wall or clear blue sky, or even a uniformly colored and illuminated shirt - or on a subject or scene that is too dark. It can be disrupted by regular patterns and fine detail, or confused when looking through close objects to objects farther away, such as looking through a fence. And it sometimes fails to work well in highly contrasting or dim light, though the *Built-in AF-Assist Illuminator* of Custom Setting a7 can assist in this situation. When photographing people, generally try to focus somewhere on the face, ideally on the eyes or eyebrows, then recompose the framing of your image if necessary. Note that the nine centrally located AF points are more sensitive cross-type points. (A cross-type AF point detects contrast in both the horizontal and vertical directions, as opposed to AF points which are only sensitive to contrast in one of these directions.)

I will use the term “recompose” a few times throughout the text. By this I mean moving the camera after you have set the focus and/ or exposure such as with a half-press of the Shutter Button or use of the AE-L/AF-L Button, but before you fully press the Shutter Button and take the picture. This means that what you see in the Viewfinder changes from when you do those first actions to when you take the picture; you have recomposed the view you see in the Viewfinder, as will be further explained and illustrated in the **Locking Focus** section of this chapter.

Before diving into the autofocus system, I'll briefly explain how autofocus point selection works. You will manually select your desired autofocus point (also called Focus Point or AF point) using the Multi Selector as you look through the Viewfinder. If you set Custom Setting f1 - *OK Button* for *Select center focus point*, you can use the center OK Button to select the center AF point.

Make sure the Focus Selector Lock switch surrounding the Multi Selector thumb pad is **not** set to *L*. Set the Focus-Mode Selector switch, near the base of the lens, to *AF* (see *Figure 126*). Make sure the focus mode switch on your lens is also set for autofocus (*A*

or M/A). If it ever seems that your camera or lens is not autofocusing, be sure to check these two switches - one on the camera body and one on the lens. Press the AF-Mode Button inside the Focus-Mode Selector switch and set the Autofocus Mode to AF-S (Single-servo AF) using the rear Main Command Dial and set the AF-Area Mode to Single-Point AF using the front Sub-Command Dial. Have a look at the Control Panel in *Figure 125* to see the AF-S indication and the Single-Point AF icon immediately above it.



*Figure 126 - Additional autofocus controls of the D610.*

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 metering.
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 Focus Indicator circle should light up in your Viewfinder (at the lower-left). 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.

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, may not be finding enough contrast to lock in on, or you may be too close to your subject for the lens to focus.

There are reasons to make use of all the Focus Points and not just the center one all the time, which will be discussed. It may sound difficult to manually select the Focus Point each time, but it is actually very quickly done and will become instinctive. You may even start to set your AF 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 AF point and recomposing before taking the shot. And remember that Custom Setting a6 - *Number of Focus Points* allows you to limit the number of selectable points to *11 Points* to perhaps make this process more manageable.

### **5.2 Autofocus Modes**

The D610 has three different Autofocus Modes to choose from, typically depending on if your subject is still or if it is moving and you wish to track its movement and remain continuously focused on it. It also has four different autofocus AF-Area Modes (discussed in the next section) to specify how many of the Focus 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 rear Main Command 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 is 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 by half-pressing the Shutter Button and recompose if necessary. This mode can even be used for moving people or subjects if you quickly take the shot after establishing or locking focus. When using AF-S, you can select from two AF-Area Modes, either Single-Point AF where you select the Focus Point, or Auto-Area AF, where the camera selects the AF point(s) for you. I suggest you nearly always select your own desired Focus Point so that the camera autofocuses exactly where you want it to.

As noted above, focus on your subject by pressing the Shutter Button halfway. The active AF point will illuminate (blink), and the Focus Indicator light at the lower left in the Viewfinder will illuminate as well. Continue to press the Shutter Button all the way to take the shot. If you half-press the Shutter Button to lock focus on your subject, the

camera will remain focused at that distance as long as you keep half-pressing the Shutter Button. You can recompose the shot as you wish and then fully press the Shutter Button to take the photo. Again, if the Focus Indicator light does not light up and the camera does not take the photo, the camera may not be finding enough contrast to focus on, you may be too close to your subject for the lens to focus, or the lighting may be too dim for the AF system to work well.

However, if you are photographing a subject that is approaching or receding from view at a relatively constant rate, or photographing fast or erratic or unpredictably moving subjects, or photographing sports, action, or wildlife you will usually want to use Continuous-Servo AF (AF-C) Autofocus Mode.

### ***Continuous-Servo AF (AF-C)***

This mode, used in conjunction with the various AF-Area Modes, can help you to capture sharp images of action and motion. To take full advantage of this mode you will need to also understand the AF-Area Modes, as described in the **Autofocus AF-Area Modes** section just below. Continuous-Servo AF mode is used for tracking and focusing on moving subjects, and is ideal for capturing sports and wildlife including birds. If the subject is moving towards you or away from you, the camera will keep evaluating the focus distance. And if the subject is moving from side to side or throughout the frame, the camera can track it as it passes from one AF point to other ones (depending on the selected AF-Area Mode). Custom Setting a3 - *Focus tracking with lock-on* will even allow you to tell the camera exactly how fast to react to changes in focus distance, such as new subjects that come into the frame or pass between you and your subject.



*Figure 127 - Continuous-Servo (AF-C) Autofocus Mode - Continuous-Servo Autofocus Mode can be used to track and retain focus on a moving subject, such as this dog running in the snow. Shutter speed 1/1600, Aperture f/5.6, ISO 400.*

You first need to select which Focus Point the camera uses to start tracking the subject, place that point over the subject, and press the Shutter Button half-way. Then as long as you keep the selected AF point on the subject and the Shutter Button pressed half-way, the camera will continuously evaluate the focus distance to the subject so that it will be in focus when the shot is taken. If the subject is going to be difficult to follow or keep located as a single AF point, you can make use of the Dynamic-Area AF Area Modes so that some or all of the surrounding points will help retain focus if the subject moves away from the selected Focus Point. If the subject will be moving across your field of view as you keep the camera relatively still, you can make use of the 3D-Tracking mode. The Focus Indicator light in the Viewfinder will illuminate when using AF-C mode when the subject is in focus, or the triangles surrounding the Focus Indicator dot will illuminate to show that focusing operation is in progress.

This subject tracking will even work in conjunction with continuous shooting. If you keep the Shutter Button fully pressed and continue to take photos, even at 6 frames per second, the camera will keep focusing on the moving subject. As you can imagine, this is ideal for tracking a player running across a field, a dog running toward you, a toddler in action, or a bird moving across the frame. Note that when shooting with Continuous High Speed not every shot may be in sharp focus as the camera sometimes can't keep



Figure 146 - (JPEG) D610: Shutter speed 1/8 sec., Aperture f/6.3, ISO 1600.





## ***About the Author***



**Douglas Klostermann** is a travel, culture, and humanitarian photographer, as well as the author and publisher of *Full Stop* e-book camera guides including the best-selling *Nikon D7100 Experience* and *Nikon D600 Experience*. He has photographed for numerous organizations in the United States and in Latin America, been recognized by the *United Nations Development Programme* for his humanitarian photography, and been published in magazines and books including *Conde Nast Traveler*, *Sherman's Travel*, *South American Explorer*, and *Viva Travel Guides*. He also lectures and gives individual instruction on digital photography. Doug is a member of the National Press Photographers Association (NPPA).

Learn more about photography techniques and equipment on his blog *Picturing Change* at <http://blog.dojoklo.com/>, view his photography and e-books at [www.dojoklo.com](http://www.dojoklo.com), and follow him on Twitter at [@dojoklo](https://twitter.com/dojoklo).

This book is dedicated to my wife Laura, for her unconditional love and never-ending support!

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-G.S.A.

*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.*  
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-Malcolm

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