

Nikon Z 9 Experience

The Still Photography Guide to Operation
and Image Creation with the Nikon Z 9

an e-book by:
Douglas J. Klostermann



Updated for
Firmware v. 5

PREVIEW of
Nikon Z 9 Experience

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by
Douglas J. Klostermann

Full Stop. good writing for better photography

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Nikon Z 9 Experience - **PREVIEW**

The Still Photography Guide to Operation and Image Creation with the Nikon Z 9

by: Douglas J. Klostermann

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1. INTRODUCTION to the Z 9

1.1 Meet the Nikon Z 9

With the Z 9 full frame mirrorless camera, Nikon created a powerful flagship model with numerous advanced features and specifications. The Z 9 boasts a 45.7 megapixel stacked CMOS sensor, fast Expeed 7 processor, and versatile autofocus system with subject detection for people, animals, birds, vehicles, and airplanes. With the AF points spread widely across nearly the entire frame, the camera will allow the user to focus on and track subjects, faces, and eyes throughout most of the scene. The Z 9 can shoot RAW images at up to 20 frames per second (fps), or JPEG images at up to 30 fps. Using High-Speed Frame Capture, it can capture 11 megapixel JPEG images at up to 120 fps. The camera offers a pre-release capture feature that can save buffered JPEG images up to 1 second before the shutter is released, to help you capture a moment you may have previously missed. The Z 9 makes use of an electronic shutter, with no mechanical shutter, and can shoot at shutter speeds up to 1/32,000.



Figure 1.1 - Detail of the Nikon Z 9 full-frame mirrorless camera, with the 24-70mm f/4 S lens.

The Z 9 offers great image quality at high ISO settings for low-light shooting, with the native ISO range of 64 - 25,600, expandable down to 32 and up to 102,400. The camera offers in-camera 5-axis image stabilization for Z-mount lenses, which can be enabled for both stills and video shooting, plus 3-axis image stabilization is available

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with F-mount lenses attached via the FTZ or FTZ II Adapter. The Expeed 7 processor enables improved features including faster continuous shooting and a significantly increased image buffer, up to 79 RAW images when set to *Lossless Compression*, or 685 images when set to *High Efficiency (star)*. When shooting JPEG, the camera can buffer over 1000 frames. The Focus Shift Shooting mode allows you to automatically shoot up to 300 images of a scene at varying focus distances, which can be combined into a focus-stacked image, using optional software.

The camera includes dual card slots which accept either a CFexpress Type B or an XQD memory card. The two card slots allow for various card slot configurations such as overflow to the other card when one fills, or simultaneously saving all images to both cards for backup, and well as a Copy function to copy saved images from one card to the other. The Z 9 uses the EN-EL18d battery, though it is compatible with previous versions of the EN-EL18.



Figure 1.2 - 1963 Chevrolet Corvette Sting Ray - Larz Anderson Auto Museum, Cars and Coffee, Brookline, Mass. Nikon Z 9 with NIKKOR Z 24-70mm f/4 S lens. Shutter speed 1/2000, Aperture f/4.0, ISO 560.

Most of the camera controls and the touch screen of this mirrorless model are similar to what you may be used to with a Nikon dSLR or mirrorless camera, though the larger Z 9 body is designed for horizontal (landscape) and vertical (portrait) shooting, with several of the controls duplicated for shooting in the portrait orientation. The Sub-Selector joystick is used to quickly position the autofocus point while shooting, and can be used

as a focus lock and exposure lock button when pressed straight in. It can even be customized to perform functions such as temporarily switching to different autofocus settings or to a different Metering Mode during shooting. Dedicated buttons on the top, rear, and front of the camera are used to quickly access Bracketing, Flash Modes, Release Modes, Shooting Modes, Focus-Modes, White Balance, and Image Quality. And four Fn (Function) Buttons (plus one for vertical shooting) can be customized for numerous options.

The touch screen can be used for menu selection, image playback, as well as for adjusting exposure settings, autofocus, and shutter release. And the 3.2" high-resolution (2.1M dot) rear monitor extends and tilts in multiple directions to assist shooting from unique high and low vantage points. The inclusion of the i Button, now standard on current Nikon models, allows photographers to quickly access mode-specific settings, whether shooting through the viewfinder, working on the rear monitor, in movie mode, or during image playback.

The electronic viewfinder of mirrorless cameras differs from the optical viewfinder of a dSLR. The high-resolution (3.69M dot) OLED viewfinder, with 100% coverage, will enable you to preview the exposure, white balance, Picture Control settings, and depth of field of the final image, as you shoot, as well as make use of a virtual horizon to keep your images level. You can also make use of the customizable i Menu in the viewfinder, so that you can change numerous camera settings without taking the camera from your eye. And you can utilize focus peaking and scene-magnification in the viewfinder, as well as the electronic Rangefinder function, to assist with manual focusing.

Filmmakers will be able to take advantage of the numerous video improvements, including a wide variety of options for Video File Type, Tone Mode, and Video Frame Size and Rate including 4K (4128 x 2322) and 8K (8256 x 4644). Video File Type options include *N-RAW*, *ProRes RAW*, *ProRes 422 HQ*, *H.265*, and *H.264*, which make use of the *NEV*, *MOV*, or *MP4* formats depending on the file type. Tone Mode selection includes the standard *SDR*, high dynamic range *HLG*, and Nikon's unique *N-Log* with updated LUTs. The Frame Size and Rate options include 8K and 4K up to 60p, plus 4K 120p / 100p choices for creating slow motion video.

For movie shooting, you can make use of the same autofocus AF Area Modes and subject detection options as with still image shooting, although the *Subject-Tracking AF* option is available rather than *3D-Tracking*. Video features also include highlight display "zebra stripes" (*Zebra Pattern*) shown on the monitor to indicate overexposed areas of the frame, and focus peaking to indicate the parts of the subject that are in focus when using manual focus. And you can choose to use either a histogram or a wave-form as the Brightness Information Display. You can also make use of the in-camera, mechanical *Vibration Reduction* feature to help stabilize the image while hand-holding the camera, as well as the additional *Electronic Vibration Reduction*, which stabilizes the video frame, and thus will slightly crop the frame. The *Hi-Res Zoom* feature enables you to zoom in on the scene with no loss of video resolution. With the Z 9 you can capture 4K and 8K time-lapse in-camera.

The Z 9 offers built-in stereo microphones with the ability to manually adjust the audio input and choose the desired audio frequency range, as well as make use of the *Attenuator* option. You can also make use of *Power Aperture* to smoothly adjust the aperture setting during shooting. When recording in Manual (M) Shooting Mode, you can make use of *Auto ISO* so that the camera adjusts the exposure settings as the lighting or scene changes. The Metering Mode is no longer limited to *Matrix* when shooting video, and you can make use of *Center-Weighted* and *Highlight-Weighted Metering*. And the Z 9 offers the *Flat* Picture Style, which is preferred by videographers. It preserves details in the shadow and highlight areas of the scene, and allows you to capture videos with the widest tonal range. This will provide the greatest amount of flexibility to make adjustments in post-processing.

The Z 7 and Z 6 cameras introduced the Z-mount lens mount, which continues to be used on the Z 9. Several Z-mount lenses are now available, as well as an F to Z ([FTZ II](#)) mount adaptor which enables you to use many of your F-mount Nikkor lenses. The wider Z-mount design allows for lenses with extremely wide maximum apertures, such as the [NIKKOR Z 58mm f/0.95 S Noct](#). In addition, the Z 9 includes a ruggedly built, weather-sealed magnesium alloy and carbon fiber body, Wi-Fi and Bluetooth capabilities through Nikon's SnapBridge app, built-in GPS, and Ethernet port, and numerous customization options.

The high-resolution image sensor of this camera, along with the highly versatile and customizable autofocus system, on-sensor exposure metering with scene recognition and subject detection, and fast continuous frame rates will serve the needs of dedicated photographers of every level, from enthusiasts to professionals. The advanced features and customizable controls of the Nikon Z 9 will enable photographers to consistently capture sharp, clean, and well-exposed images in a wide range of shooting situations.

But the Z 9 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 manual can tell you about all the settings and controls, how to change them, and their intended functions, this guide will build upon that and explain when and why you may wish to use them. All of the buttons, dials, menu items, and Custom Settings of the Z 9 are 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 will help to give you the knowledge to confidently use the features that turn your Nikon Z 9 into an image capturing tool that works best for you.



Figure 1.3 - Flowers, Concord, Mass. Focus modes, exposure metering mode, aperture, shutter speed, ISO, and white balance all considered, even in creating this straightforward image. Nikkor Z 24-120mm f/4 S lens, Shutter speed 1/500, Aperture f/4.0, ISO 400.

1.2 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 and shutter speed that you want, and obtaining the exposure you desire. While the Z 9 is a highly intelligent camera, it cannot read your mind and your intentions and does not know that you wish to focus on and properly expose the flowers in the foreground, while making the background appear out of focus, and the flowers to be caught still and not be blurred from the motion of the wind, on a bright, overcast day (see *Figure 1.3*).

You have to tell the camera to do all of this, through the various controls and settings, such as the Focus Mode and AF-Area Mode (lock focus on the desired flowers), the exposure metering mode (properly expose the flowers and the scene), the aperture setting (the out-of-focus background), the shutter speed (freezing the motion of the flowers from the wind), the ISO (bright day) and the white balance (overcast day). Taking control of all of these functions and settings will enable you to consistently create the dramatic and compelling images you envision.

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Learning to use and get the most out of an advanced digital camera like the Z 9 takes time, practice, patience, mistakes, and experimentation. If you are used to working with a dSLR, there will be some adjustments to using a mirrorless camera, including the electronic viewfinder and the autofocus system. However, you may find that these differences can help you to successfully capture scenes and situations that you may have been limited in consistently attaining before. The sophisticated and accurate autofocus system of the camera, coupled with the fast continuous shooting speed, plus the exposure metering system and high ISO capabilities will help you get sharp images of subjects and moments that previously you may have missed.



Figure 1.4 - Alfa Romeo Giulia Spider - Larz Anderson Auto Museum, Cars and Coffee, Brookline, Mass. Nikon Z 9 with NIKKOR Z 24-70mm f/4 S lens. Shutter speed 1/320, Aperture f/4.0, ISO 64.

If you are still in the process of learning all the controls of your camera and the exposure concepts of digital photography, you have perhaps jumped into the proverbial deep end of the pool by choosing the professional Z 9! 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 your camera's more advanced functions. Even if you are an intermediate or experienced photographer, don't expect to just pick up all the new information at once, in one reading 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

3. MENUS and CUSTOM SETTINGS

3.1 Setting Up the Z 9

The Menus and Custom Settings of the Nikon Z 9 allow you to have greater, more precise control over how your camera functions. They are an important aspect of what makes the Z 9 a powerful and exacting professional tool, and they allow you to customize the camera to work for you, to work how *you* work. Using them you can also fine-tune settings and operations including white balance, metering, exposure, and autofocus. Carefully go through these menus and change the settings to the options that allow you to use the camera in the manner that works best for you and your shooting needs.

Some of the Menu items are only used when shooting, reviewing, or processing images, but several of them should be set up in advance. If you don't yet understand some of the settings or why you might wish to change them, leave those on the default or recommended settings for now. If you have worked with a Nikon Z 8, Z 7II, Z 6II, D500, D850, D750, D610, or D7500 body (or their recent predecessors) before using the Z 9, you will find that several of these Menu and Custom Settings options are similar, and you may wish to continue to use most of the same settings that you have determined work best for you. However there are many new additions, functions, and options with the Z 9, and some items have moved to different menus. Note that the time and date will need to be set in the Setup Menu (*Time Zone and Date*) in order to access certain menu items, such as Time-Lapse Video and Focus Shift Shooting.

3.2 Menu Setup Spreadsheet

In conjunction with this book, I have also created a comprehensive *Nikon Z 9 Menu Setup Spreadsheet*, with suggested settings for the Photo Shooting Menus, all of the Custom Settings, plus some shooting and exposure settings. It has complete and separate camera setup suggestions for different types of shooting, including:

General / Travel / Street
Landscape / Architecture
Action / Sports
Moving Wildlife / Birds
Studio / Portraits
Concert / Performance

The spreadsheet has been updated for Firmware 5.00. Most all of the suggested settings on the spreadsheet are further explained in this guide, so it is best to use the spreadsheet hand-in-hand with the explanations in this book. And as you read through the Menus and Custom Settings, perhaps make notes of how you may wish to set them and adjust them for the different types of scenes and situations you photograph.

Please keep in mind that the reason the Nikon Z 9 offers so many menu items and customization options is that photographers have different needs and work in different

ways, and it is best to determine which settings *you* need or prefer rather than to simply rely on the suggested settings from another photographer.

The *Nikon Z 9 Menu Setup Spreadsheet* Excel document can be downloaded at the link below. Click on the Z 9 Menu Setup Spreadsheet to add it to the cart, then enter and apply this Promo Code for Free Checkout of the spreadsheet. Printing instructions for the spreadsheet can be found as this page as well.

Promo Code:

Z9MENSHEET

<http://www.fullstopbooks.com/setup-guides/>

I have also set up a *Nikon Z Experience* page on Facebook, to discuss Nikon mirrorless cameras, ask questions, and share images. Please feel free to join and participate:

<https://www.facebook.com/groups/nikonzexperience>

3.3 Photo Shooting Menu

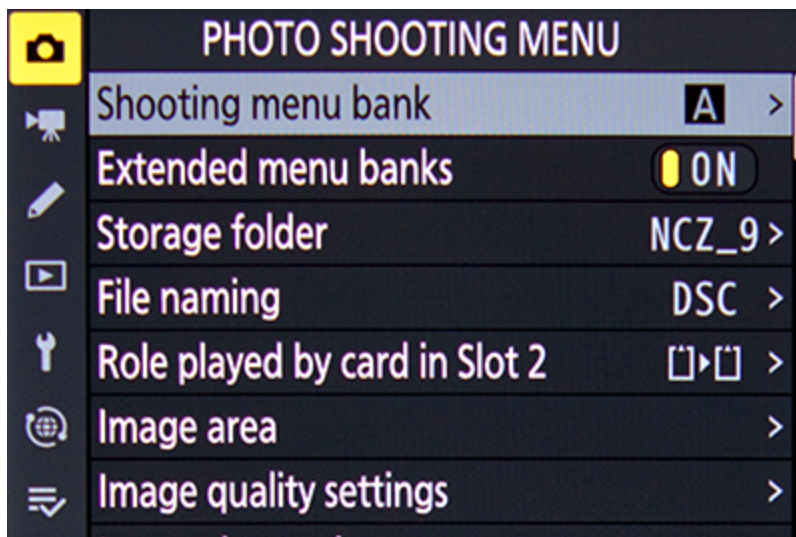


Figure 3.1 - Photo Shooting Menu

Shooting Menu Bank

You may be familiar with the custom user settings of other Nikon dSLR models, such as the U1 and U2 positions on the Shooting Mode Dial of previous models. The Nikon Z 9 does not offer these options, but instead has Menu Banks where you can register and save specific combinations of menu settings, including this Shooting Menu Bank and the Custom Settings Bank. You can save up to four Shooting Menu Banks, and custom name them (see *Figure 3.2*). For example, you can create a Shooting Menu Bank for your typical settings of the Photo Shooting Menu items, such as the *Image Quality Settings*, *Active D-Lighting* level, and *High ISO Noise Reduction* amount. Then when you later select that Shooting Menu Bank, all those settings will be in place. These

settings will be saved even if you turn off the camera. You can create additional Shooting Menu Banks with different combination of settings for action situations, or for portrait or landscape shooting. When you switch between shooting situations you will then merely need to select the appropriate Shooting Menu Bank and all your desired Photo Shooting Menu settings will be ready.

The Z 9 also includes Extended Menu Banks, which will allow you to store additional shooting information in each of the Menu Banks. If the Extended Menu Banks are enabled with the next menu item, the Shooting Menu Banks will also store the current Shooting Mode (such as Aperture-Priority A or Manual M), Flash Mode, the current shutter speed (for S and M modes), and the current aperture setting (for A and M modes).

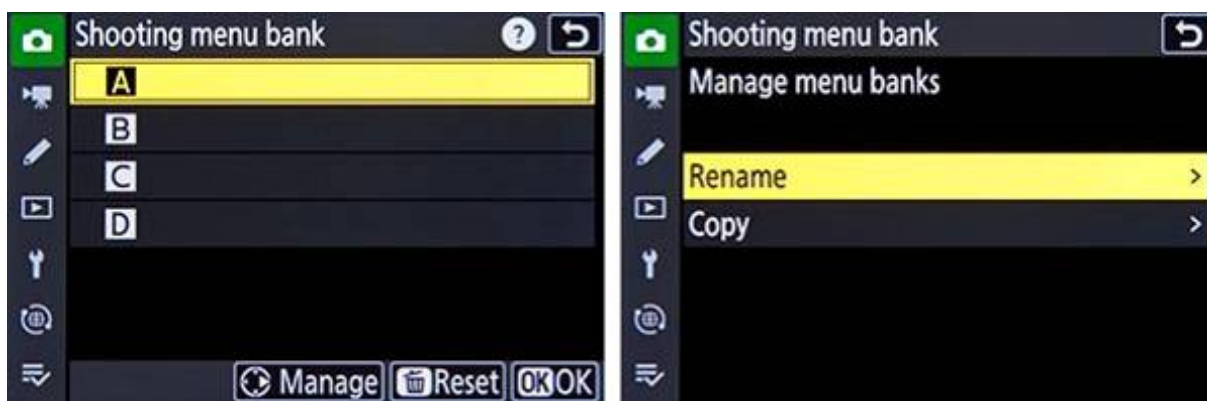


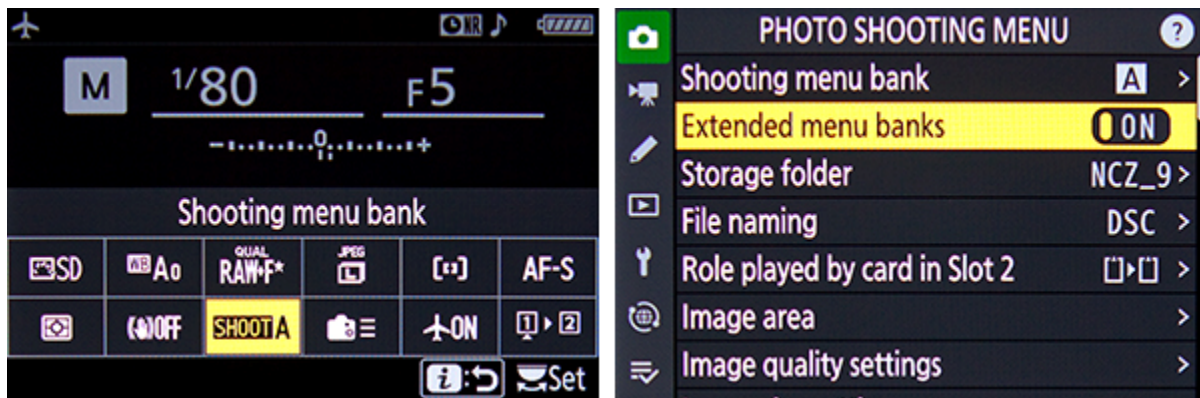
Figure 3.2 - Left: Shooting Menu Bank menu with four customizable banks. Press right on the Multi Selector as indicated by the icon at the bottom of the screen to Rename or Copy each Photo Shooting Bank. Right: Press right to Rename the selected Shooting Bank, then use the touch screen to type a name.

To create a Shooting Menu Bank, select one of the available four banks, set the camera to your desired Photo Shooting Menu settings by going through this menu and choosing the desired options, and those settings will be saved to that Shooting Menu Bank. Then when you later select that Bank, the camera will return to all the settings that were in place for that Bank. This is not as convenient as the U1 and U2 Modes of other Nikon dSLRs because only the Photo Shooting Settings Menu items will be stored in the Bank, not other menu settings, Custom Settings, or other shooting settings (unless you make use of Extended Menu Banks next). You may wish to coordinate a related Custom Settings Bank for some of those camera settings.

Also be aware that if you set the camera to one of the Shooting Menu Banks, but then change the settings while working, the current settings will be saved in that Shooting Menu Bank. When you leave that Bank and then return to it, it will return the camera to those latest settings used, not the original settings you may have set for that Bank. Since you cannot simply use the banks to register an unchanging set of settings, as can be done with the U1 and U2 settings of other Nikon models, this might limit the usefulness of the Menu Banks for some photographers.

To name a Shooting Menu Bank, highlight the desired bank (A, B, C, or D) and press right on the Multi Selector and select *Rename*. Then use the Multi Selector and Center Button, or the touch screen, to input the name (see *Figure 3.2*). Use the rear Main Command Dial to jump to the text field at the top of the screen, or use the touch screen for this. Note that changes to White Balance, Multiple Exposure, Interval Timer Shooting, Time-Lapse Video, and Focus Shift Shooting menu items will apply to all banks. You can restore a Bank to the menu default settings by highlighting the desired Bank, pressing the Delete Button for *Reset*, then confirming the action.

The current Shooting Menu Bank can be viewed on the top Control Panel. The Shooting Menu Bank menu item can also be changed during shooting by pressing the *i* Button and accessing the Photo Shooting *i* Menu (see *Figure 3.3 - left*). By default, the Shooting Menu Bank setting is assigned to the Fn1 Button.



*Figure 3.3 - Left: Shooting Menu Bank as seen on the Photo Shooting *i* Menu. Right: Enabling the Extended Photo Menu Banks, so that some additional shooting settings are also saved in the Banks.*

Extended Menu Banks

As just noted above in the Shooting Menu Banks item, the Z 9 also includes this Extended Menu Banks option, which will allow you to store additional shooting information in each of the Menu Banks (see *Figure 3.3 - right*). If the Extended Menu Banks are enabled (*On*), the Shooting Menu Banks will also store the current Shooting Mode (such as Aperture-Priority A or Manual M), Flash Mode, the current shutter speed (for S and M modes), and the current aperture setting (for A and M modes) that the camera is set for. Then when one of the Shooting Menu Banks is recalled, your registered Shooting Mode and exposure settings will be recalled as well.

Storage Folder

You can use the *Rename* item of this menu to change the naming convention used by the camera when creating new folders to store images. By default they are named starting with *100NCZ_9*. However, you can change the last 5 characters to any alphanumeric characters that you wish. You can also access this menu to specify a new folder where images are stored, or select an existing folder to continue to store images.

However, it is typically easiest to leave this alone and let the camera automatically create and name these folders, unless you have a specific need to change that - such as saving images from various photo shoots or locations into separate folders on the same card. Choose *Select folder by number* to create a new folder (or to choose an existing folder number), or choose *Select folder from list* to access an existing folder from a list (see *Figure 3.4*). If you choose *Select folder by number*, you will be prompted to enter the new or existing folder number.

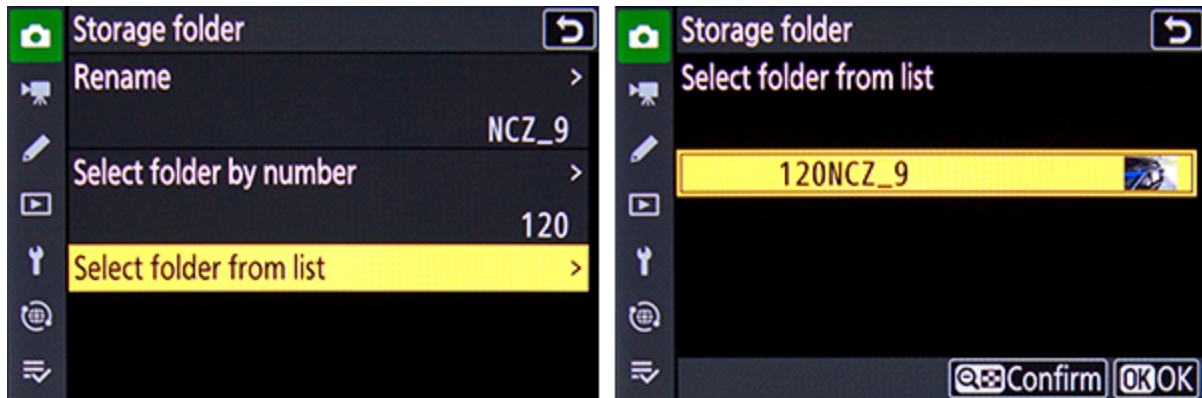


Figure 3.4 - Left: Storage Folder menu item, to rename the folders, select or create a folder by number, or select a folder from a list. Right: Selecting an existing folder from the list.

File Naming

The camera automatically names image files with the prefix “DSC_” (for *sRGB* photos) or “_DSC” (for *Adobe RGB* photos) but you can change this if you wish. You can substitute any three available alphanumeric characters for the default “DSC.” This menu will then display the current naming conventions (see *Figure 3.5*).



Figure 3.5 - File Naming menu (left), to change the “DSC” file name prefix if desired (right).

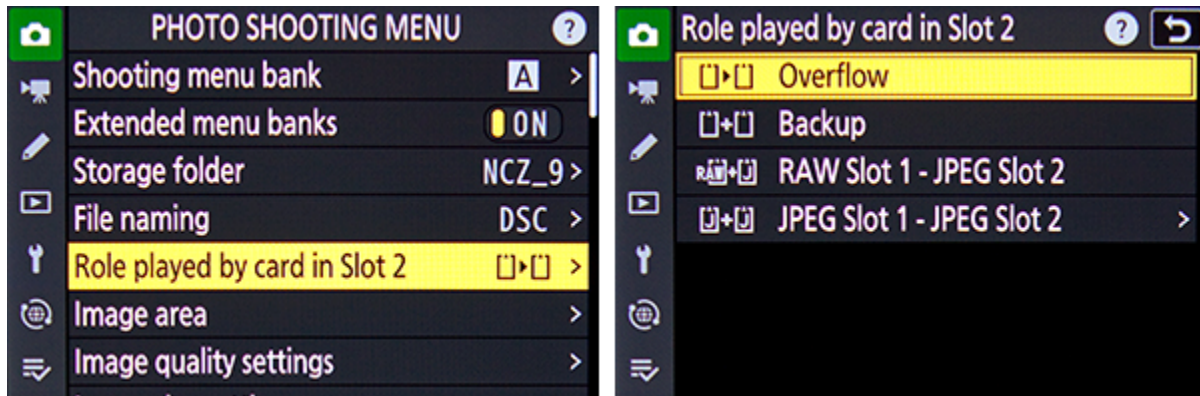


Figure 3.6 - Select the “Role Played by Card in Slot 2” for how the second memory card is used.

Role Played by Card in Slot 2

Choose the function of the secondary memory card slot (see *Figure 3.6 - right*). The *Overflow* option means that when the primary card slot becomes full, images will be saved to the secondary card. The *Backup* option simultaneously stores each image on both the primary and the secondary card. The *RAW Slot 1 - JPEG Slot 2* option will store images in the NEF (RAW) file format to the primary card, and images in the JPEG format to the secondary card. If the image file format is set for *NEF (RAW) + JPEG*, then the RAW and the JPEG images will both be saved to the primary card slot, and a JPEG copy will also be saved to the secondary card slot.

The *JPEG Slot 1 - JPEG Slot 2* option will save JPEG images to both slots. Note that the second slot is saving a lower quality *JPEG Basic* image and not a *Fine* or *Normal* quality JPEG. When selecting the *JPEG Slot 1 - JPEG Slot 2* option, press right to select the *Large*, *Medium* or *Small* JPEG Basic size option (see *Figure 3.7*). If the Image Quality Settings item is set to *RAW* or *RAW + JPEG*, then this option will function the same as the *Backup* option.

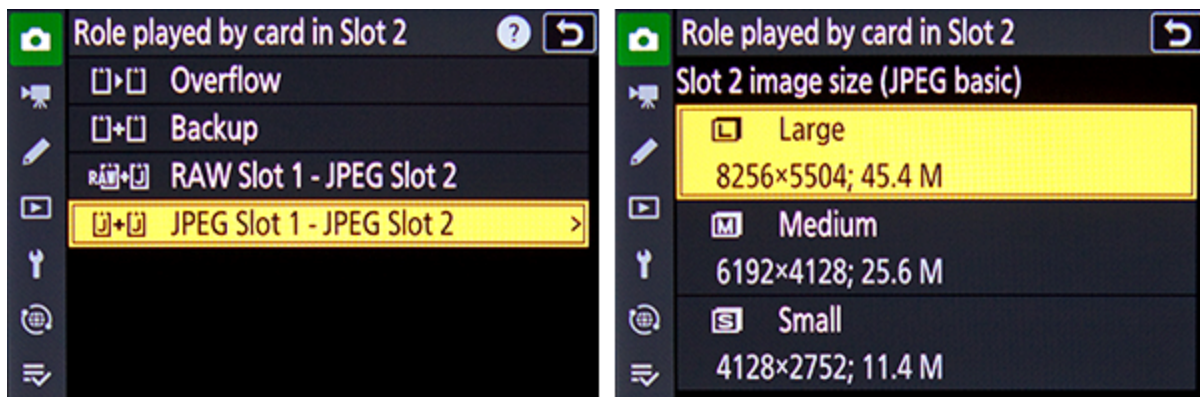


Figure 3.7 - When selecting the *JPEG Slot 1 - JPEG Slot 2* option (left), press right to choose the size of the JPEG stored on the second memory card (right).

When making use of the *RAW primary - JPEG secondary* option and capturing multiple exposures or HDR Overlay images, and you have selected the Multiple Exposure or HDR Overlay menu option to *Save individual pictures (RAW)*, then the unprocessed individual RAW images plus the final JPEG images will be saved to both cards.

Note that when set for either *Backup* or for *RAW primary - JPEG secondary*, the shutter release will become disabled and the camera will not capture any more images when either card is full. When the *RAW primary - JPEG secondary* option is selected, the *Dual-format recording PB slot* item of the Playback Menu is used to choose which card slot you will view during image playback. When using the *RAW primary - JPEG secondary* option or the *Backup* option, and deleting an image, you will be prompted to just delete the selected image, or to delete the selected image plus its copy on the other memory card. When viewing an image during playback, you can press the *i* Button to access the image Playback *i* Menu and select the *Jump to copy on other card* to view the copy of the image saved in the other card slot.

Image Area

This setting can be used to capture images of smaller dimensions and different image area ratios, such as having your full-frame FX format sensor act as an APS-C sized DX format sensor. You can use the *Choose Image Area* item to choose full-frame FX (36x24), DX (24x16), 1:1 (24x24), or 16:9 (36x20), (see *Figure 3.8 - left*). You can see which portion of the sensor each setting will use in *Figure 3.9*. By enabling the DX or 16:9 image areas, it will change the aspect ratio (very slightly for DX) and angle of view of your resulting images. The 16:9 area mimics the cinematic widescreen ratio. And the 1:1 setting will result in square images, using the full height of the frame. With any of the Image Areas other than FX, the camera is basically cropping your photos from full-frame images to smaller sized images, as could be done in post-processing. When making use of one of the other image areas, the scene in the Viewfinder and on the rear Monitor will be zoomed-in or cropped, to only show that area being captured (see *Figure 3.10*).

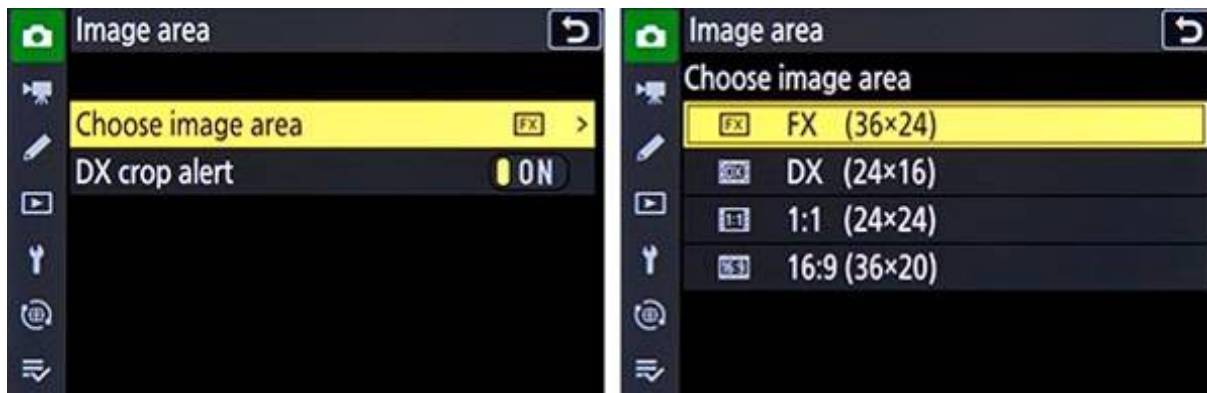


Figure 3.8 - Left: The Image Area menu. Right: The Choose Image Area options, to choose to have your full-size FX format sensor capture images full size (FX) or cropped to a smaller area and different ratio.

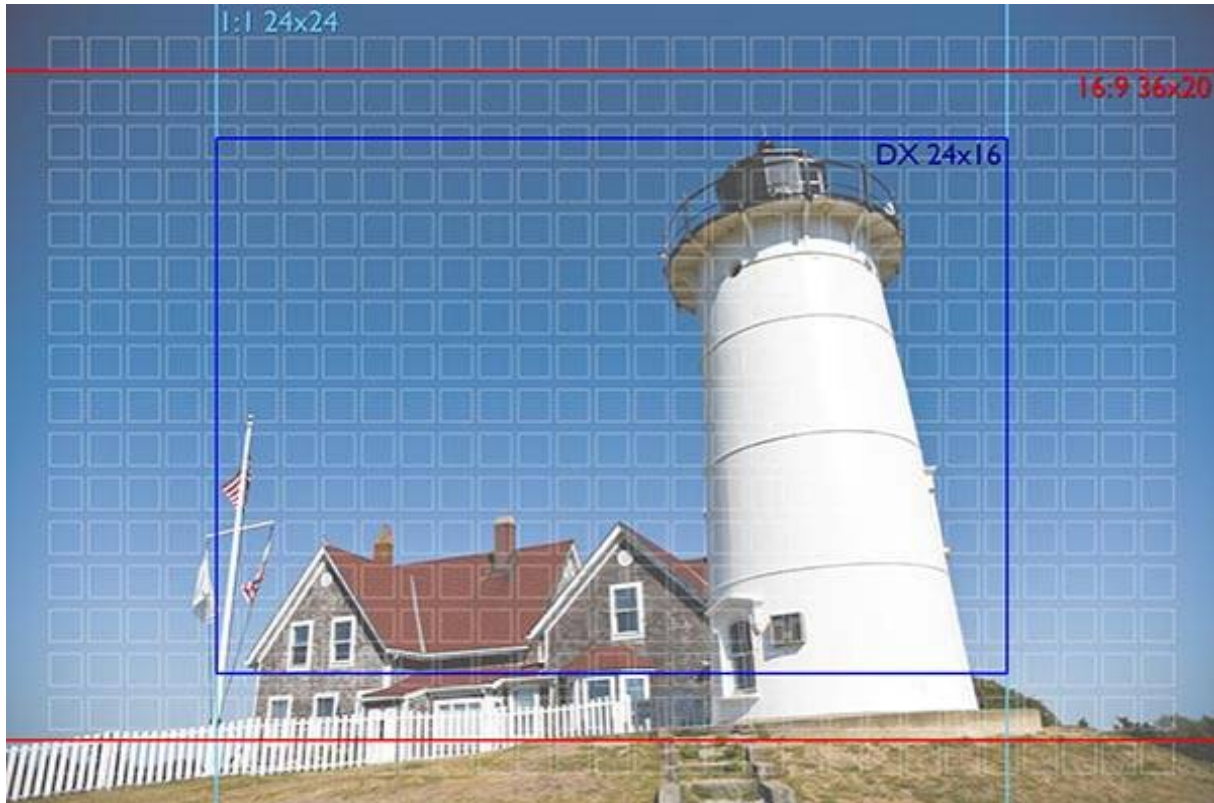


Figure 3.9 - Nobska Lighthouse on Cape Cod - Woods Hole, Falmouth, Mass - Image, showing the full-size FX image area, the location of all Z 9 AF points for reference, and approximate sizes and locations of the cropped Image Area options. The use of a wide-angle lens (or wide focal length of a zoom lens) used with the large FX format sensor of the Z 9 will provide a larger area of view than you may be used to if you have been working with a DX camera. Extreme wide angles may also display distortions, such as the apparent tilting of the structures and flagpole. Shutter speed 1/4000, Aperture f/4.0, ISO 100, Focal length 24mm.

The *DX Crop Alert* item of this menu can be enabled to warn you that the DX image area is in use. The image area icon, near the top-right of the shooting display on the rear screen or viewfinder, will flash to indicate that the image area is set for DX (see *Figure 3.10 - left*). If you don't wish to see this flashing icon, set the *DX Crop Alert* to *Off*.



Figure 3.10 - Left: If enabled, the DX Crop Alert icon near the upper-right of the display will flash when the DX Image Area is in use. Right: Press the Fn2 Button and turn the rear Main Dial to change the Image Area. The scene on the Monitor and Viewfinder will reflect the current Image Area setting. The scene is displayed as zoomed-in with the DX Image Area at left, and the 1:1 Image Area is shown at right.

The advantage of using the *DX* cropped setting is that when using telephoto lenses, you will gain the appearance of farther reach (a “virtual zoom”). The disadvantage is that you will only be using part of the sensor. The *DX* Image Area size will produce the same result as if you cropped your images in post-processing. When a *DX* lens is attached to the Z 9, the camera will automatically select and display the *DX* image area.

In addition to accessing the Image Area setting via the menus, you can also use Custom Setting f2 to customize a button to quickly change the Image Area (see *Figure 3.10 - right*). By default, the Fn2 Button is assigned to this function. When a button is assigned to this function, you can press the button and turn the rear Main Command Dial to change the Image Area while viewing the setting in the Viewfinder or on the rear Information Display. You can also customize the *i* Menu to quickly change the Image Area setting.

When shooting video with the Z 9, movies will be captured with a 16:9 aspect ratio, though there is a separate Image Area menu item in the Video Recording Menu for this setting. If it is set for *DX* (rather than *FX*), the movie area will be 16:9 but will be using a smaller portion of the sensor. Making use of the *DX* Image Area will allow you to gain the appearance of longer telephoto “reach” with your lenses, but as with still image shooting it is a “virtual” zoom. You will see when you switch to *DX* Image Area for movie shooting that the scene appears more “zoomed-in” on the rear Monitor. The 2.3x option will result in using an even smaller area of the sensor.

For those coming to the full frame *FX* format Z 9 from a “cropped frame” *DX* format camera (with a smaller APS-C sized sensor), the full frame Z 9 sensor 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, 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* (or one of

3.5 Custom Settings Menu

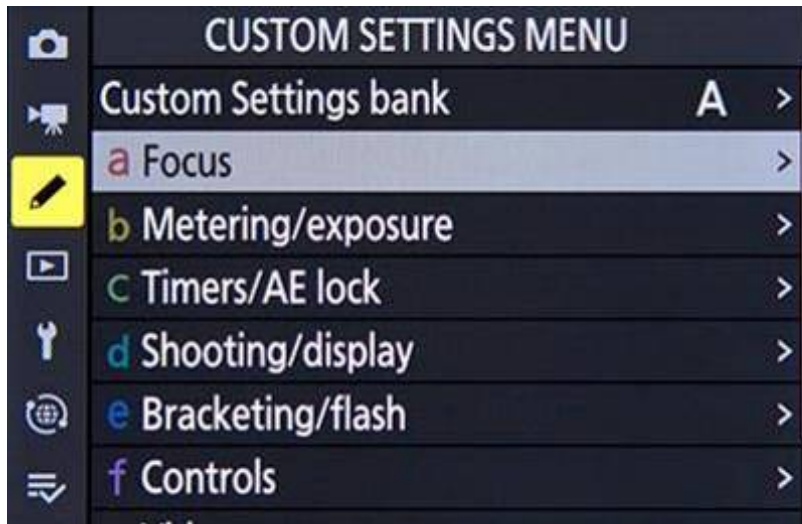


Figure 3.48 - Custom Settings Menu.

As you read through the Custom Settings, perhaps make notes of how you may wish to set them and vary them for the different types of scenes and situations you photograph. Remember that you can also consult my *Nikon Z 9 Menu Setup Spreadsheet*, which lists suggested settings for various shooting situations such as landscape, sports, or portrait, and can be edited with your settings. I will also point out recommended settings for different uses as I go over the items in this section. The download instructions for the *Nikon Z 9 Menu Setup Spreadsheet* can be found in Section 3.2 of this book.

Custom Settings Bank

Similar to the Photo Shooting Menu Bank described earlier, the Custom Settings Bank allows you to register and save specific combinations of Custom Settings. You can save up to four Custom Settings Banks, and name them (see *Figure 3.49 - left*). This is perhaps a more powerful customization option than the Photo Shooting Menu Bank because many of these Custom Settings (such as autofocus settings and camera control settings) may vary based on if you are shooting a portrait or a landscape situation vs. shooting an action or sports situation. As with the Photo Shooting Menu Bank, after setting up the Bank you can then later select it and all of the previous settings will be in place, even if you have turned off the camera. But recall that if you change any of the settings while using that Bank, the latest settings used will be active next time you access that Custom Settings Bank, not the original settings. As you read through the Custom Settings, perhaps make notes of how you may wish to set them and vary them for the different types of scenes and situations you photograph. And I will also point out recommended settings for different uses as I go over the items in this section.

To create a Custom Settings Bank, select one of the available four banks, set the camera to your desired Custom Settings by going through the Custom Setting Menu items and choosing the desired options, and those settings will then be registered to

that Custom Settings Bank. Highlight a Bank and press the Delete Button to *Reset* the Bank to the default settings.



Figure 3.49 - The Custom Settings Bank (left), allowing you to register and save a group of selected settings. Press right on the Multi Selector to access the keyboard and name the Bank (right).

To name a Bank, just as with naming a Shooting Menu Bank, highlight the desired bank (A, B, C, or D) and press right on the Multi Selector. Then use the Multi Selector and Center Button to input the name, and use the rear Main Dial to jump to the text field (see *Figure 3.49 - right*). Or you can use the touch screen to more easily enter text.

a - Focus

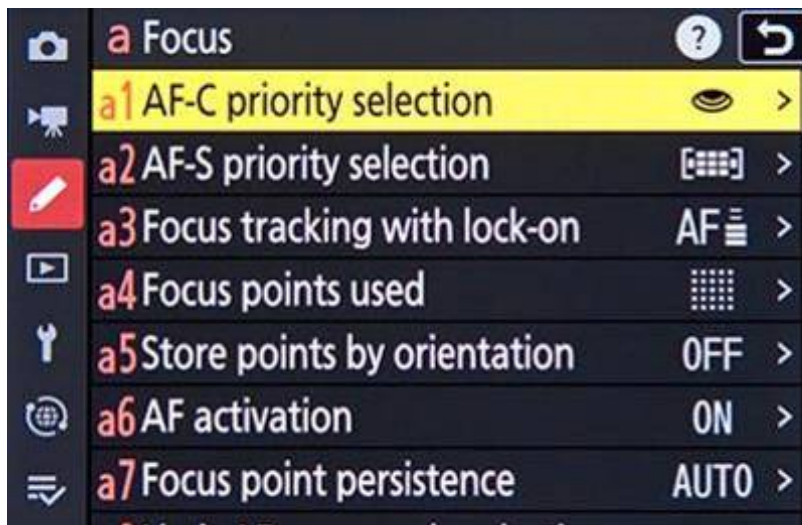


Figure 3.50 - Focus Custom Settings Menu.

a1: AF-C Priority Selection

This setting determines if attaining focus is top priority when you are working in Continuous AF Mode (AF-C Focus Mode), or if you just want the shots to be taken even if exact focus is not attained for each shot (see *Figure 3.51 - left*). Specifically, when you press the Shutter Button, this setting determines if the image or series of images are

taken immediately (*Release*) even if the first image is not yet in focus, 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 of every image is your priority, at the risk of missing some shots and encountering small shutter release delays, set on *Focus*.

The *Focus+Release* option means that priority is given to release (capturing the shot) rather than focus. If the subject is dark or lacking in contrast and a continuous-release mode is being used, the camera will give priority to the first shot in a burst so that the first shot is in focus, but priority will be given to release for the rest of the shots in the burst. This will prioritize the maximum rate of *Continuous High* (CH) or *Continuous Low* (CL) Release Mode for the subsequent photos, rather than ensuring exact focus, and therefore those shots may not be in focus. However, you may wish to use this if you know that the subject distance will not change as you take the burst of photos, and thus the subsequent images are likely to remain in focus.

Both Nikon as well as experienced sports and wildlife photographers suggest that this be set for *Release* for many different types of sports and action situations. Their experience shows that the autofocus system is going to be able to focus for most all of the shots in a burst, and that it is not worth interrupting the rapid frame rate for the camera to briefly pause and acquire focus. And even when the camera may not be able to confirm focus, critical areas of the subject are likely still in focus, and thus the *Release* setting can result in more “keepers.” (However, you will need to try and keep the active AF Point located on the subject as you begin and continue the burst.)

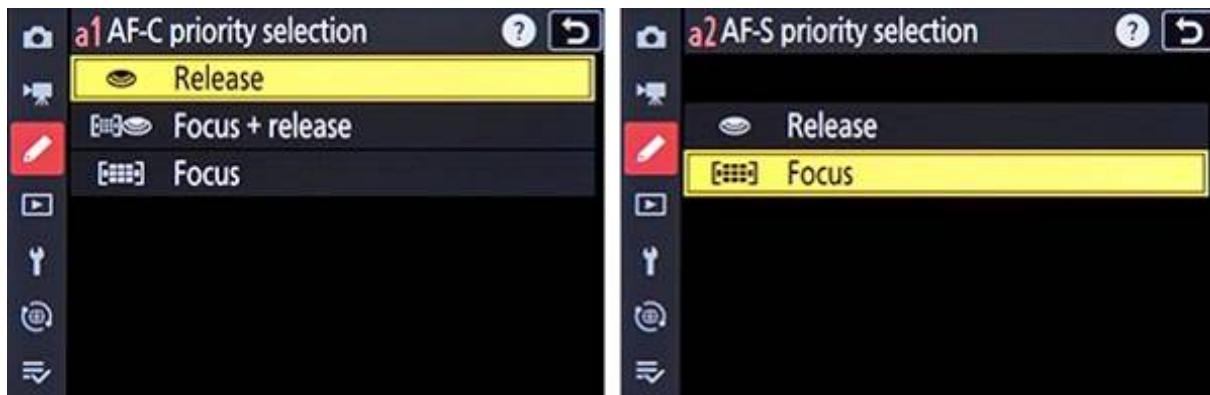


Figure 3.51 - Left: AF-C Priority Selection options, to determine if shutter release and maintaining the maximum continuous frame rate are the priorities, or if exact focus of each shot is the priority. Right: The similar AF-S Priority Selection options, for when working in AF-S Focus Mode.

a2: AF-S Priority Selection

This is similar to *AF-C Priority Selection* above, except that this setting is for when you are working in Single AF Mode (AF-S Focus Mode), typically used when your subject is stationary, relatively still, or when you are not tracking a moving subject (see *Figure 3.51 - right*). Again, determine if getting the shot (*Release*) or exact focus (*Focus*) is your priority. Since AF-S Focus Mode is typically used with subjects that are not moving, it generally makes more sense to ensure focus is attained, thus you may wish to select *Focus* for this setting.

If *Focus* is selected for Custom Setting a2, then this setting coordinates with Custom Setting a6 - *AF Activation* if you have the camera set up for certain back-button focus techniques where you lock focus using the AF-ON Button and recompose the framing of the shot before taking the photo. The Custom Setting a6 options can allow you to make use of, or avoid, the “trap focus” set up. This will be explained in Custom Setting a6 - *AF Activation*, and in the **Trap Focus** and the **Back-Button Focusing** sections.

a3: Focus Tracking with Lock-On

The *Blocked Shot AF Response* setting determines how the autofocus system reacts to sudden, dramatic changes in the distance of the subject when you are working in AF-C Focus Mode and have the shutter button half-pressed or fully pressed, such as when another, closer object enters the frame and blocks your original subject. The camera can be set to wait a brief period of time before refocusing at the new distance with setting 1 (*Quick*), or wait a longer period of time with setting 5 (*Delayed*), or steps in-between, from 1 to 5 (see *Figure 3.52 - left*).

For example, you may be tracking a football player across the field when another player much closer to you temporarily 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 closer or farther object, then set for a shorter period, 1 or 2, and focus distance will quickly change. Keep this option in mind with the various AF-C Focus Mode and AF-Area Mode configurations (explained in the **Autofocusing** chapter), as your preference will likely vary depending on your subject and situation. This setting doesn't just apply to blocked shots, but will also affect how quickly you are able to refocus at a different distance, as you are half-pressing the shutter button to track a moving subject, or fully pressing the shutter button to take a continuous burst. Sometimes you may not want the camera to quickly refocus on a closer or more distant subject, while other times you might.

The *Subject Motion* option can be set based on how you expect the subject to move, so that the camera can better predict the motion. Set for *Steady* for smooth focus of a

subject moving at a steady pace, or *Erratic* if the subject will be suddenly starting and stopping.

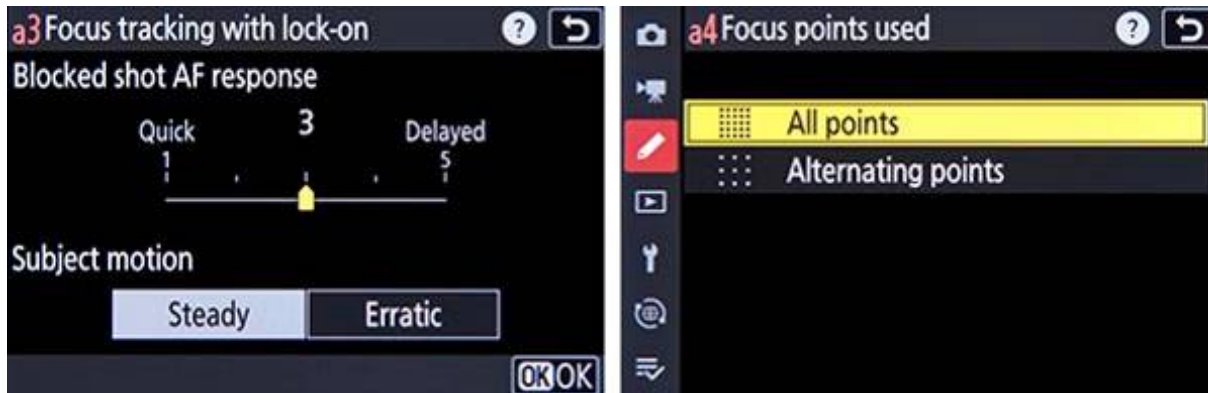


Figure 3.52 - Left: Focus Tracking With Lock-On settings - When working in AF-C Focus Mode and tracking a subject, this setting determines how long the camera waits before refocusing on a subject at a different distance. Right: Focus Points Used, to choose if All Points are selectable, or if every other point is selectable.

a4: Focus Points Used

This setting determines the number of autofocus points that are available for selection on the rear Monitor or in the Viewfinder (see *Figure 3.52 - right*). If you are manually selecting your focus point (as you typically should) you may find that it is quicker and easier, at least at first or in certain situations, to limit the number of AF Points to *Alternating points* (every other point). But to take full advantage of the Z 9 autofocus system, you will want to make use of all the selectable AF Points, as will be explained in the **Autofocus** chapter. If you prefer to have all the AF Points available for your selection, set this at *All points*. If you set to *Alternating points*, the points available for selection will be reduced by three quarters, but all of the points will still be used by the camera in subject tracking (such as when working in AF-C Focus Mode along with one of the AF-Area Modes that uses multiple AF Points), so the camera is still potentially taking advantage of all the focus points of the autofocus system. When using *Pinpoint AF Area Mode*, the number of available focus points will not be affected.

a5: Store Points by Orientation

This can be used to have a specific AF Point be automatically selected when you hold the camera in a certain orientation (see *Figure 3.53*). If you set this for *Off*, the current AF Point that you have selected will remain the active AF Point when you change camera orientation, as you would generally expect. However, if you set this for *Focus point*, the camera will return to the AF Point last selected when the camera was in that orientation.

So, for example, set this for *Focus point*, then hold the camera in the standard orientation and select a far-right AF Point. Then position the camera vertically with the grip side up and select a far-left AF Point. When you return the camera to the standard horizontal orientation, the camera will return to the far-right point as the active AF Point.

When you return the camera to the grip-up orientation, it will jump again back to the far-left point.

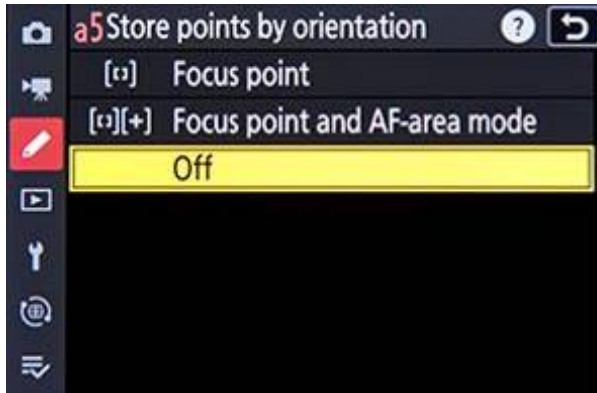


Figure 3.53 - Store Points By Orientation, to choose if the camera remembers the last focus point and/or AF-Area Mode used when the camera is held in a specific orientation.

The *Focus point and AF-area mode* option will save both the focus point and the AF-Area Mode for different camera orientations. For example, set this menu item for *Focus point and AF-area mode*, then hold the camera in the standard orientation and choose AF-Area Mode *Single-Point AF* and then select the far-right AF Point. Then position the camera vertically with the grip side up and select AF-Area Mode *Wide-Area AF (L)* and then locate the AF Area at the far-left. When you return the camera to the standard horizontal orientation, the camera will return to *Single-Point AF* mode and to the far-right AF Point as the active AF Point. When you return the camera to the grip-up orientation, it will jump again back to *Wide-Area AF (L)* and a far-left AF Area.

The camera will recognize three different orientations: horizontal, vertical with the camera grip side of the camera up, and vertical with the camera grip facing down. This can be handy in situations such as when you are taking portraits and you switch between horizontal and vertical camera orientation, yet you want an AF Point at the relative “upper-right” position to remain selected, near where you have located the model’s face. However if you enable this option and then use your camera later and forget that you have it set this way, the AF Points will seem to be acting extremely erratic as you change camera orientation, until you remember to set this back to *Off*.

a6: AF Activation

This is used to determine which button or buttons can be used to initiate autofocusing. By default the camera is set to *Shutter/AF-ON* and thus either the Shutter Button can be half-pressed or the rear AF-ON Button can be pressed to start autofocusing. If you wish to disable the autofocusing function from the Shutter Button, set for *AF-ON only* and then you will need to press the rear AF-ON Button to focus on your subject (see *Figure 3.54 - left*). This *AF-ON only* option is used for a technique called back-button focusing (Section 5.6 - **Back-Button Focusing**). This technique can allow you to separate the exposure and the autofocusing functions to two different buttons. It can be used to lock

focus at a certain distance while you recompose slightly then take a series of photos when working in AF-S Focus Mode, or it can be used to start and stop focus tracking when working in AF-C Focus Mode. It can also enable you to take advantage of a technique called trap focus (Section 5.7 - **Trap Focus**).

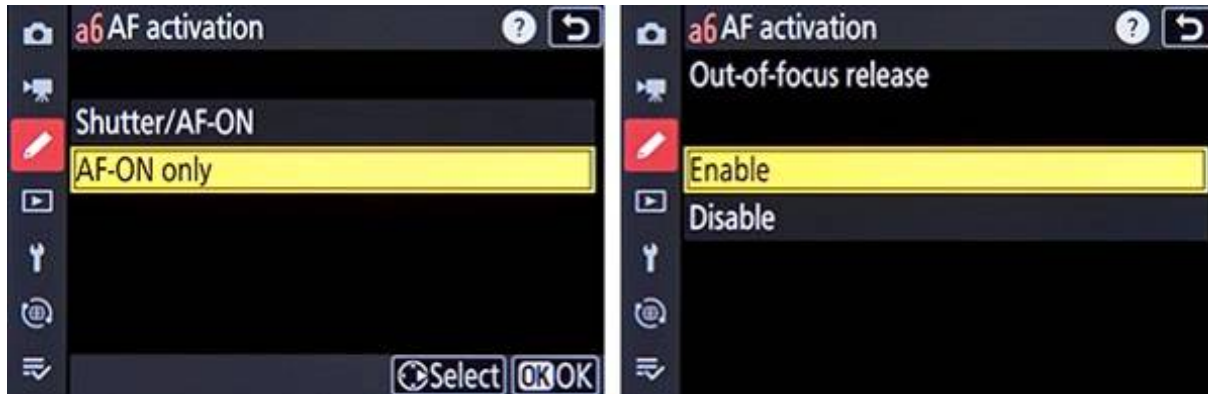


Figure 3.54 - Left: AF Activation menu, to choose if both the Shutter Button and the AF-ON Button will activate autofocus, or just the AF-ON Button. Right: If “AF-ON Only” is selected, press right to access the “Out-of-focus release” sub-menu. Typically set this for *Enable*, unless you wish to make use of trap focus.

If you select the *AF-ON only* option, press right to access a sub-menu which allows you to enable or disable *Out-of-focus release* (see Figure 3.54 - right). If the *Out-of-focus release* option is set for *Enable*, then the camera can take an image when the Shutter Button is fully pressed, even if the subject is not in focus. If set for *Enable*, you will obviously need to remember that you are using back-button focus and need to focus with the AF-ON Button, otherwise you could be pressing the Shutter Button and capturing images, but the camera will not have focused.

If set for *Disable*, then the camera will not take an image when you press the Shutter Button if the subject at the active AF Point is not in focus. You will need to be sure to first focus the camera using the AF-ON Button. This setting works in conjunction with Custom Setting *a1: AF-C Priority Selection* and *a2: AF-S Priority Selection*, which each must be set for *Focus* for this *Out-of-focus release > Disable* setting to apply. It also does not apply to *Pinpoint AF-Area Mode*. This *Disable* setting is used for a technique called trap focus, which is discussed in Section 5.7 of this guide, and should not be used until you fully understand how it works.

So if you are using the *AF-ON only* option, for back-button focusing, I suggest you leave the sub-menu for *Enable*, unless you wish to make use of trap focus. While this introduces the possibility of taking out of focus shots if you fail to focus first with the AF-ON Button, it also eliminates the issue where you are pressing the Shutter Button to take a single image or burst, but the shutter is not being released.

5. AUTOFOCUSING

5.1 Using Autofocus

One of the essential steps in taking successful and sharp photos is controlling where and how the camera autofocuses. The versatile and customizable autofocus system of the Z 9 is a major part of what makes it such a powerful camera, and in any Shooting Mode you can, and should, take control of the autofocus system. The autofocus system includes the autofocus related controls (see *Figure 5.1*), the Focus Modes (such as *Single AF (AF-S)* and *Continuous AF (AF-C)*), the focus points and AF-Area Modes (such as *Single-Point AF*, *Dynamic-Area AF*, and *Wide-Area AF*), and the autofocus related menu and Custom Setting items which customize how the AF system works. You will select a Focus Mode generally based on whether the subject is still or moving, and select an AF-Area Mode based on where and how you want the camera to locate and focus on your intended subject - ranging from a single point, to a Dynamic-Area or Wide-Area, to all the available points. You can set the Focus Modes and AF-Area Modes in a variety of combinations based on what and how you are shooting.

The autofocus system of the Nikon Z 9 differs from what you may be used to with a dSLR camera. The AF system makes use of on-sensor phase-detection AF for quick autofocusing, as well as contrast-detection AF for additional fine-tuning and accuracy. Since the AF system makes use of the sensor itself to focus, properly focused images (using lenses fully compatible with the Z 9 AF system) should always be in-focus, without back-focus or front-focus issues. This also allows for AF Points to be located across nearly the entire frame. So rather than the 55 selectable AF Points of the D850, for example, the Z 9 boasts 493 AF Points covering 90% of the frame.

With such a large number of AF Points, the AF Area Modes will also differ from a dSLR. While there are still the *Single-Point AF*, *Dynamic-Area AF (S, M, and L)*, *3D-Tracking*, and *Auto-Area AF* Area Modes, there are also the *Pin-Point AF*, *Wide-Area AF (Small)*, *Wide-Area AF (Large)*, and *Wide-Area AF (C1)* and *(C2)* Area Modes where you can customize the size of the AF Area. The *Wide-Area*, *3D-Tracking*, *Subject Tracking (for video)*, and *Auto-Area AF* Area Modes can be used with Subject Detection of *People*, *Animal*, *Birds*, *Vehicles*, and *Aircraft*. If you are photographing people or animal subjects (dogs and cats), and their eyes or faces will be visible, Subject Detection will greatly assist you in locating, focusing on, and following these subjects.



Figure 5.1 - Autofocus controls and other shooting-related controls of the Nikon Z 9.

If you allow the camera to autofocus by automatically choosing its own focus point(s), such as when using *Auto-area AF* or *Wide-area AF (L) Area Modes*, it typically focuses on the closest object or subject. This may or may not be what you want to focus on, so you can select or at least narrow down where the camera focuses using the *Single-Point AF* or a small *Wide-Area AF* group 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.

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, and various other recommended autofocus settings. Most of these settings are in the Custom Setting *a: Autofocus* menu.

Autofocus works in part 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 screen or fence. And it sometimes fails to work well in highly contrasting or dim light.

Because the Z 9 is a mirrorless camera with an electronic Viewfinder and without a separate AF sensor, autofocus when working in Live View, in Movie Live View, and through the Viewfinder will all be similar.



Figure 5.2 - Simulated view of the Nikon Z 9 Viewfinder, showing the location of all 493 AF Points. Note that you will not actually see all 493 AF Points in the Viewfinder or on the Monitor, only the active point or area.

When discussing autofocus, I will assume that Custom Setting a6 - *AF Activation* is set for *Shutter/AF-ON*, so that both the Shutter Button and the AF-ON Button can be used to initiate and/or lock autofocus. The exception to this is when I discuss **Back-Button Focusing** and **Trap Focus**, where I will specify that Custom Setting a6 be set for *AF-ON only*, so that only the rear AF-ON Button is used for focusing and not the Shutter Button.

Before diving into the autofocus system, I'll briefly explain how autofocus point selection works. You will select your desired autofocus point (also called focus point or AF Point) using the Multi Selector thumb pad or the Sub-Selector joystick, as you look through the Viewfinder. Using Custom Setting f2 - *Custom Controls*, you can assign the Sub-Selector Center press or the OK Button to the *Select center focus point* option so that you can also press this control to select the center AF Point.

Use the *Focus Mode* item of the Photo Shooting Menu or the *i Menu* to set the Focus Mode to *AF-S (Single AF)*, and use the *AF-Area Mode* item of the Photo Shooting Menu or the *i Menu* to set the AF-Area Mode to *Single-Point AF*. You can also press the

Focus Mode Button and set the Focus Mode to AF-S (Single AF) using the rear Main Command Dial, and set the AF-Area Mode to Single-Point AF using the front Sub-Command Dial. Look at the rear Monitor or Viewfinder to view the settings as you change them.

1. Set the Shooting Mode to P (Program), or to the mode of your choice if you are familiar with them.
2. Tap the Shutter Button with a half-press to wake up the camera and start the exposure metering.
3. Looking through the Viewfinder or at the Live View scene on the rear Monitor, use the Multi Selector thumb pad or Sub-Selector joystick 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 turn green. You have locked the focus.
6. Keeping the Shutter Button pressed halfway so that focus remains locked, recompose if necessary, and take the shot by fully pressing the Shutter Button.

You can also press and hold the AF-ON Button to focus, and then keep it fully pressed as you recompose and then press the Shutter Button to capture the image.

If 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, the lighting may be too dim, or you may be too close to your subject for the lens to focus.

Although some people are in the habit of using only the center focus point, 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 position 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 or Sub-Selector. For example, press right multiple times so that when you bring the camera to your eye, a far-right AF Point is already selected. And remember that Custom Setting a4 - *Focus points used* allows you to limit the number of selectable points, to perhaps make this process more manageable at first.

Touch Shutter

The touch screen capability of the rear Monitor allows you to tap the screen to focus on the subject or desired part of the scene (*Touch AF*), to both focus and release the shutter (*Touch shutter/touch AF*), or to merely position the focus point but not focus or release the shutter (*Position focus point*). Or you can turn this feature off. To enable this feature, tap the Touch Shutter icon, located near the lower-left of the Live View screen. Tap it repeatedly to choose your desired setting (see *Figure 5.3*). If *Touch shutter/touch*

AF is enabled, touching the screen will position the AF Point and focus at that area, and removing your finger will release the shutter. The *Touch AF* setting will simply select the area of focus and will autofocus when you touch the screen, but will not release the shutter. The *Position focus point* setting will select a focus point, but will not focus or capture the image, you will need to use the Shutter Button or AF-ON Button to focus, and press the Shutter Button to capture the image. The *Off* setting will disable this feature.



Figure 5.3 - Repeatedly tap the Touch Shutter icon (on the left side of the screen) to enable its different options. Left: Here it is being set for “Touch shutter/touch AF”, which will enable you to tap the screen to focus and release the shutter. Right: The “Touch AF” setting will allow you to focus by tapping the screen, but the shutter will not be released. The “Position focus point” option will merely locate the AF Point, but will not focus or release the shutter.

You can use the Touch Shutter with the various AF-Area Modes, to locate the AF Point or area, select the desired face, or select the desired subject for tracking. To select a face or eyes, first set the AF-Area Mode for *Wide-area AF*, *3D-Tracking*, or for *Auto-area AF*. Then when you touch the Monitor to focus, the camera will focus on the face or eye closest to that point. If *Touch shutter/touch AF* is enabled, you can also use the Shutter Button to take the image. And you will need to use the Shutter Button if you are using one of the Continuous Release Modes, as the Touch Shutter will only take one image.

5.2 Focus Modes

The Z 9 has two different Focus Modes to choose from for still image shooting, *AF-S* and *AF-C*. You will typically make your selection based on if your subject is still, or if it is moving and you wish to track its movement and remain continuously focused on it. There is an additional Focus Mode available for video shooting, called *AF-F*, which will be explained. The camera also has several different autofocus AF-Area Modes (discussed in the next section) to specify the size of the AF Point or AF Area that is active, and how they follow or track a moving object. You can set these two functions in various combinations. First the Focus Modes will be explained. Select the Focus Mode in the Photo Shooting Menu, or via the *i* Menu. Using the *i* Menu, highlight the Focus

Mode item, and press the OK Button to view and change the setting, as you view it on the rear Monitor or in the Viewfinder (see *Figure 5.4*). Or highlight the item, and turn the rear Main Command Dial to change the setting directly on the screen (see *Figure 5.5 - left*). You can also press the Focus-Mode Button on the front of the camera and rotate the rear Main Command Dial to change the Focus Mode setting, while viewing the settings on the rear Monitor or in the Viewfinder. The front Sub-Command Dial can then be used to change the AF-Area Mode (see *Figure 5.5 - right*).

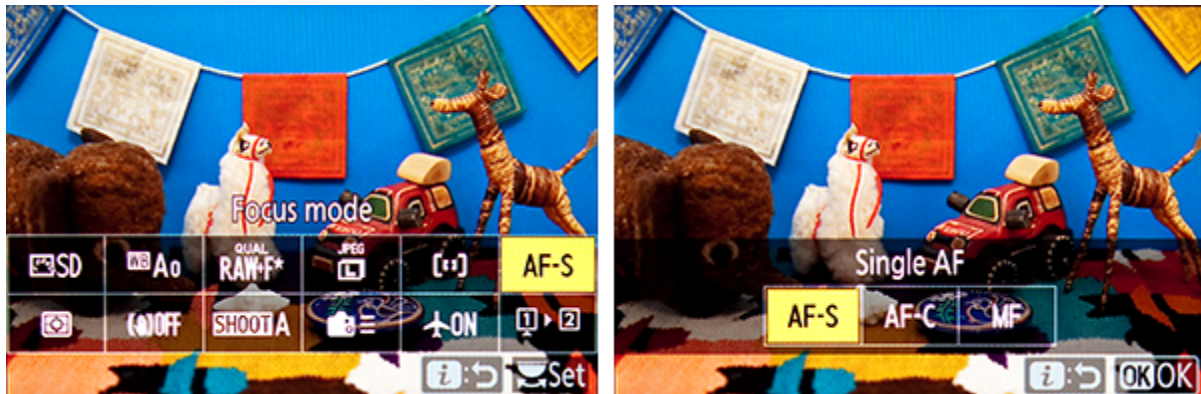


Figure 5.4 - Left: The Focus Mode setting can be found on the i Menu. Right: Highlight that icon and press the OK Button to view and change the setting on the rear Monitor or in the Viewfinder.



Figure 5.5 - Left: Or after highlighting the Focus Mode icon on the i Menu, turn the rear Main Command Dial to view and change the setting. Right: Or you can press the Focus-Mode Button on the front of the camera and turn the Command Dials to view and change those settings on the rear Monitor or in the Viewfinder. Use the rear Main Command Dial to change the Focus Mode and the front Sub-Command Dial to change the AF Area Mode. Here the Focus-Mode Button is being pressed and so the AF settings are seen in yellow at the top of the screen.

Single AF (AF-S)

Use this mode when your subject is stationary and not going to move. It can also be used 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 (or pressing and holding the AF-ON 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 these AF-Area Modes: *Pinpoint AF* where you select a small focus point, *Single-Point AF* where you select a focus point, *Wide-Area AF (S)* or *Wide-Area AF (L)* where you select a focus area, *Wide-Area AF (C1)* or *Wide-Area AF (C2)* where you select a focus area that you can customize the size, or *Auto-Area AF*, where the camera selects the AF Point(s) for you. The *Wide-Area AF* and *Auto-Area AF* Focus Modes can also take advantage of subject detection, and will select a subject within that area. You will select the type of subject to detect in the *Photo Shooting Menu > AF subject detection options*, with the options of *Auto* (automatic), *People*, *Animal*, *Birds*, *Vehicle*, *Airplanes*, or *Off*. When *People*, *Animal*, or *Birds* is selected, the camera will detect the subject's face or eye.

For still subjects, I suggest you select an individual *Single-Point AF* point and position it at the subject, so that the camera autofocuses exactly where you want it to. Or when photographing people and animals, take advantage of a customized sized *Wide-Area AF (C1 / C2)* along with subject detection, position the AF area over the subject, and let the camera locate the subject, such as a face or eye. Ensure that the camera is focusing on the desired face or eye before locking focus and taking the photo.

Focus on your subject and lock focus by pressing the Shutter Button halfway. The active AF Point will turn from red to green, and the camera will beep if you have the Beep function enabled. If subject detection is enabled with *Wide-Area AF* or *Auto-Area AF*, the camera will place an autofocusing frame around the subject, face, or eye. 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. Or you can press and hold the AF-ON Button to lock focus. You can recompose the shot as you wish and then fully press the Shutter Button to take the photo. Again, if 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. When using *Auto-Area AF*, if the camera detects multiple subjects, grey focus points will appear at the other subjects. Press left or right on the Multi-Selector to choose a different subject.

However, if you are photographing a subject that is approaching or receding from you 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 AF (AF-C) Focus Mode.

Continuous AF (AF-C)

This mode, used in conjunction with the various AF-Area Modes, can help you to capture images of action and motion (see *Figure 5.6*). 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 next. Continuous AF mode is used to track and maintain continuous focus 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 and Subject Detection setting). Custom Setting a3 - *Focus tracking with lock-on > Blocked shot AF response* will even allow you to tell the camera exactly how fast to react to changes in focus distance, in order to refocus on a subject at a different distance or to retain focus on the same subject.



Figure 5.6 - Continuous AF (AF-C) Focus Mode can be used to track and retain focus on a moving subject, such as this blue heron taking flight. Shutter speed 1/1600, Aperture f/4.0, ISO 640.

In addition to the AF-Area Modes available for AF-S, when using AF-C you can also make use of *Dynamic-Area AF (S)*, *Dynamic-Area AF (M)*, *Dynamic-Area AF (L)*, *3D-Tracking*, and *Subject-Tracking AF* (video only). You first need to position the AF Point or Area over the subject and press the Shutter Button half-way. Or you can press and hold the AF-ON Button. The autofocus will differ based on subject detection being enabled or not.

If subject detection is turned off: The camera will determine what to focus on. As long as you keep the selected AF Point on the subject and the Shutter Button pressed half-

way or the AF-ON Button pressed, the camera will continuously evaluate the focus distance so that the subject will be in focus when the shot is taken. The camera will only focus within the active AF Area, and will not follow a subject around the frame unless *3D-Tracking* or *Auto-Area AF* Area mode is in use. You will need to move the camera to follow the subject and keep it located at the active AF Point. If the subject is going to be difficult to keep located as a single AF Point, you can use the *Dynamic-Area AF* Area Modes so that the surrounding points will help retain focus if the subject temporarily moves away from the selected focus point. Or you can use one of the *Wide-Area AF* Area Modes so that a larger area of AF Points will be used to focus-on and track the subject.

If subject detection is enabled: If you want the camera to identify and follow a specific type of subject, you can make use of subject tracking. Choose the type of subject you wish to track in the *Photo Shooting Menu > AF subject detection options*, with the options of *Auto (automatic)*, *People*, *Animal*, *Birds*, *Vehicle*, or *Airplanes*. To use subject detection, you will need to set the AF-Area Mode for one of the *Wide-Area AF* options, *3D-Tracking*, *Subject-Tracking AF* (video only), or *Auto-Area AF*. I suggest using a custom-size *Wide-Area AF* area that is small enough to locate only around your desired subject. Half-press the Shutter Button and the camera will identify a subject and place a focusing frame around it. Or you can press and hold the AF-ON Button to initiate subject tracking. You will need to continue pressing the button for tracking to continue, then fully-press the Shutter Button to capture the image. When using one of the *Wide-Area AF* options, the camera will only detect and follow a subject that is located within the AF Area, and will not follow it around the entire frame. Make use of *3D-Tracking* or *Auto-Area AF* if you wish to follow a subject around the entire frame.

This subject tracking of AF-C will even work in conjunction with continuous shooting. If you keep the Shutter Button fully pressed and continue to take photos, even at multiple frames per second, the camera will (ideally) keep focusing on the moving subject. As you can imagine, this is effective 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 or Continuous High (extended), not every shot may be in sharp focus as the camera's AF system sometimes can't keep up and accurately predict the subject's speed or location. And the AF system can lose focus if it is not finding enough contrast such as in lower-light situations.

If you only intend to use one of the Focus Modes, you can use Custom Setting a9 - *Focus Mode Restrictions* to limit the Focus Modes to just one, either AF-S, AF-C, or manual focus. If a9 is set for one of the Focus Modes and not set for *No restrictions*, then you will not be able to change the Focus Mode when using the Focus-Mode Button.

While other Nikon models have an AF-A Focus Mode that automatically switches from AF-S to AF-C if a still subject starts moving, the Z 9 does not offer this option. However, switching between AF-S and AF-C is sometimes useful, such as photographing a still bird that suddenly takes flight. In this type of situation, you will not have a chance to

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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 D850 Experience* and *Nikon Z 7II / Z 6II Experience*. He has photographed for numerous organizations in the United States and Latin America, been recognized by the *United Nations Development Programme* for his humanitarian photography, and been published in magazines, books, and websites including *Conde Nast Traveler*, *Sherman's Travel*, *NationalGeographic.org*, *South American Explorer*, and *Viva Travel Guides*. Doug is a member of the North American Nature Photography Association (NANPA).

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