

Z f Reference Guide

(Supplement for Firmware Versions 2.00
and 3.00)

Table of Contents

Changes with “C” Firmware Version 2.00	6
Features Available with “C” Firmware Version 2.00	6
“Firmware Version”	6
Changes Made with “C” Firmware Version 2.00	7
Still Photography	7
Video Recording	7
Playback	7
Controls	8
Displays	8
Networks	8
New Bracketing Increments	9
New AF Subject Detection Option: “Birds”	10
New Picture Control Options: Cloud and “Flexible Color” Picture Controls	11
Cloud Picture Control	11
“Flexible Color”	12
New Large Size Option for JPEG + JPEG Recording	13
Low ISO Sensitivity Settings for N-Log Video	14
New Video Recording Feature: Hi-Res Zoom	15
Using Hi-Res Zoom	15
Hi-Res Zoom Speed	15
New Options for Custom Setting g15 “Brightness Information Display”	17
File Name Set on the Camera Now Can Be Included When Naming Video Saved on External Recorders	18
“Customize Retouch Options” Added to “Retouch” Playback i Menu	19
New Item for “Series Playback” in the Playback Menu: “Auto Series Playback Options”	20
New Playback Menu Item: “Record Camera Orientation”	21
Separate Auto ISO Sensitivity Controls Are Now Available When the ISO Sensitivity Dial Is Set to C and to a Value of 100 to 64000	22
“Focus Point Border Width” Added to Custom Setting a10 “Focus Point Display”	23
New Custom Setting: b3 “Easy ISO”	24

New Custom Setting: d5 "Exposure Delay Mode"	25
New Custom Settings: d18/g16 "Half-Press to Cancel Zoom (MF)"	26
New Options for Custom Settings f2 "Custom Controls (Shooting)" and g2 "Custom Controls"	27
New Reset Option.	27
New Roles Available via Custom Setting f2 "Custom Controls (Shooting)"	28
New Roles Available via Custom Setting g2 "Custom Controls"	30
"Save and Load Power Zoom Position"	31
New Roles for Custom Setting f3 "Custom Controls (Playback)"	32
New Reset Option.	32
New Roles.	33
Changes to the "Move Focus Point" Function in Custom Setting f4 "Touch Fn"	36
New Custom Setting: f11 "Zoom Ring Control (PZ Lens)"	37
Name and Feature Changes for Custom Settings f12/g8 "Power Zoom (PZ) Button Options"	38
Updates to "Non-CPU Lens Data"	39
Increased Character Limit for IPTC "Category" Entries.	40
Shooting Display Maximum Zoom Now 400%.	41
Updated Distance Display for Manual Focus.	42
Support for "Viewfinder Display Size" Selection in Video Mode.	43
Now Compatible with Nikon Imaging Cloud.....	44
Uploading Pictures.	45
Updating Firmware.	45
New Network Menu Item: "Nikon Imaging Cloud"	47
"Nikon Imaging Cloud" Menu Options.	47
Creating Network Profiles and Connecting the Camera to Nikon Imaging Cloud.	51
A New Option for Network Menu "Connect to FTP Server"	58
Using AirGlu Accessories While MC-N10 Remote Grips Connected.	59
Changes with "C" Firmware Version 3.00.	60
Features Available with "C" Firmware Version 3.00.	60
"Firmware Version"	60
Changes Made with "C" Firmware Version 3.00.	61
Still Photography.	61
Video Recording.	61

Playback	61
Controls	62
Displays	62
Networks	62
New Menu Item: "Film Grain Options"	63
New Release Mode Option: "C15"	65
Subject Detection Focus Point Now Displayed with Hi-Res Zoom	66
Separate "Record Camera Orientation" Settings Available for Photos and Videos in the Playback Menu	67
"Only During Zoom" Added to Custom Setting a12 "Focus Peaking"	68
New Custom Setting: a13 "Maximum Aperture Lv"	69
New Custom Setting: a15 "Focus Limiter Setting"	70
Limiting the Focus Range	71
"Minimum" Added to Custom Setting c2 "Self-timer" > "Interval Between Shots"	73
New Options for Custom Settings d16/g14 "Grid Type"	74
New Options for Custom Settings f2 "Custom Controls (Shooting)" and g2 "Custom Controls" ..	75
New Roles Available via Custom Settings f2 "Custom Controls (Shooting)" and g2 "Custom Controls"	75
Exposure Compensation and ISO Sensitivity Are Now Assignable to Command Dials in Mode M	76
Changes to Setup Menu "Camera Sounds" Options	77
New Method for Adding Picture Controls from Nikon Imaging Cloud	78
New Setup Menu Item: "Automatic Monitor Display Switch"	79
New Smart Device Connection Method: "Wi-Fi Connection (STA Mode)"	80
Connecting to an Existing Network (Wi-Fi Station Mode)	80
Direct Wireless Connection to a Smart Device (Wi-Fi Access Point Mode)	87
Terminating Wi-Fi Station/Wi-Fi Access Point Mode	88
New Option for "USB" in Network Menu: "USB Streaming (UVC/UAC)"	89
Post-Upgrade Specifications for "C" Firmware Version 3.00	91
Nikon Z f Digital Camera	91
Index	104
Index	104

A..... 104

B..... 104

C..... 104

D..... 104

E..... 104

F..... 104

G..... 104

H..... 104

I..... 105

J..... 105

K..... 105

M..... 105

N..... 105

P..... 105

R..... 105

S..... 105

T..... 105

U..... 105

V..... 105

W..... 105

Z..... 105

Changes with “C” Firmware Version 2.00

Features Available with “C” Firmware Version 2.00

The *Z f Reference Guide* is for “C” firmware version 1.xx. This chapter details the new features and changes introduced with camera “C” firmware version 2.00. The two documents are to be read together.

“Firmware Version”

To view the camera firmware version or update the camera firmware, select [**Firmware version**] in the setup menu.

Updates can be performed using a computer or smart device.

- **Computer:** Check the Nikon Download Center for new firmware. Information on performing updates is available via the firmware download page.
<https://downloadcenter.nikonimglib.com/>
- **Smart device:** If the smart device has been paired with the camera using the SnapBridge app, the app will automatically notify you when updates become available, and you can then download the update to the camera memory card via the smart device. For information on performing updates, see SnapBridge online help. SnapBridge may not display the notification at the same time that updates are made available on the Nikon Download Center.

Changes Made with “C” Firmware Version 2.00

The features added or updated with camera “C” firmware version 2.00 are summarized below. More information is available on the pages listed.

Still Photography

- New Bracketing Increments ([book 9](#))
- New AF Subject Detection Option: “**Birds**” ([book 10](#))
- New Picture Control Options: Cloud and “Flexible Color” Picture Controls ([book 11](#))
- New Large Size Option for JPEG + JPEG Recording ([book 13](#))

Video Recording

- New AF Subject Detection Option: “**Birds**” ([book 10](#))
- New Picture Control Options: Cloud and “Flexible Color” Picture Controls ([book 11](#))
- Low ISO Sensitivity Settings for N-Log Video ([book 14](#))
- New Video Recording Feature: Hi-Res Zoom ([book 15](#))
- New Options for Custom Setting g15 “**Brightness Information Display**” ([book 17](#))
- File Name Set on the Camera Now Can Be Included When Naming Video Saved on External Recorders ([book 18](#))

Playback

- “**Customize Retouch Options**” Added to “**Retouch**” Playback **i** Menu ([book 19](#))
- New Item for “**Series Playback**” in the Playback Menu: “**Auto Series Playback Options**” ([book 20](#))
- New Playback Menu Item: “**Record Camera Orientation**” ([book 21](#))

Controls

- Separate Auto ISO Sensitivity Controls Are Now Available When the ISO Sensitivity Dial Is Set to C and to a Value of 100 to 64000 ([book 22](#))
- **"Focus Point Border Width"** Added to Custom Setting a10 **"Focus Point Display"** ([book 23](#))
- New Custom Setting: b3 **"Easy ISO"** ([book 24](#))
- New Custom Setting: d5 **"Exposure Delay Mode"** ([book 25](#))
- New Custom Settings: d18/g16 **"Half-Press to Cancel Zoom (MF)"** ([book 26](#))
- New Options for Custom Settings f2 **"Custom Controls (Shooting)"** and g2 **"Custom Controls"** ([book 27](#))
- New Options for Custom Setting f3 **"Custom Controls (Playback)"** ([book 32](#))
- Changes to the **"Move Focus Point"** Function in Custom Setting f4 **"Touch Fn"** ([book 36](#))
- New Custom Setting: f11 **"Zoom Ring Control (PZ Lens)"** ([book 37](#))
- Name and Feature Changes for Custom Settings f12/g8 **"Power Zoom (PZ) Button Options"** ([book 38](#))
- Updates to **"Non-CPU Lens Data"** ([book 39](#))
- Increased Character Limit for IPTC "Category" Entries ([book 40](#))

Displays

- Shooting Display Maximum Zoom Now 400% ([book 41](#))
- Updated Distance Display for Manual Focus ([book 42](#))
- Support for **"Viewfinder Display Size"** Selection in Video Mode ([book 43](#))

Networks

- Now Compatible with Nikon Imaging Cloud ([book 44](#))
- New Network Menu Item: **"Nikon Imaging Cloud"** ([book 47](#))
- New Options for Network Menu **"Connect to FTP Server"** ([book 58](#))
- Using AirGlu Accessories While MC-N10 Remote Grips Connected ([book 59](#))

Custom Settings Menu Numbers

Some Custom Settings menu numbers have been altered due to the addition and reordering of menus accompanying the version update. This document uses the numbers as they appear after these changes.

New Bracketing Increments

New options are available to the bracketing increments when **[AE & flash bracketing]**, **[AE bracketing]**, or **[Flash bracketing]** is selected for **[Auto bracketing] > [Auto bracketing set]** in the photo shooting menu.

- Increments of 1.3, 1.7, 2.3, and 2.7 EV have been added.
- Bracketing programs with increments of 2.0 EV or more offer a maximum of 5 shots.

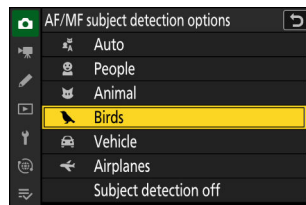


Tip: Exposure Bracketing and Interval-Timer Photography

These new options have also been added to the bracketing increments available for **[Interval timer shooting] > [Options] > [AE bracketing]** in the photo shooting menu.

New AF Subject Detection Option: “Birds”

[**Birds**] has been added to the subject detection options for autofocus and electronic rangefinding available in [**AF/MF subject detection options**] in the photo shooting and video recording menus.



- In the case of the video recording menu, the choice of subject is made via [**AF/MF subject detection options**] > [**Subject detection**]. Separate subject types can be selected for photo and video modes.
 - If a bird is detected when [**Birds**] is selected, the focus point will appear over the face of the bird in question. If the camera detects the subject's eyes, the focus point will instead appear over one or the other of their eyes. If the camera can detect neither face nor eyes, it will display a focus point over the detected bird.
-
- ✓ Cautions: Subject Detection Using “Birds”**
- Subject detection may not perform as expected if:
 - the subject's face is too large or small relative to the frame,
 - the subject's face is too brightly or dimly lit,
 - the subject's face or eyes are obscured by feathers or the like,
 - the subject's face and eyes are of similar colors, or
 - the subject moves excessively during shooting.
 - The camera may display a border around subjects that are not birds but which resemble them. If the camera often mistakenly detects the subjects other than birds, changing to an AF-area mode with smaller focus points may improve focus performance.
 - Flickering is more likely to occur if photos are taken under fluorescent, mercury-vapor, or similar lighting, compared to other environments.
 - Selecting [**ON**] for [**Photo flicker reduction**] in the photo shooting menu reduces flickering effects.
 - We recommend selecting [**OFF**] for [**Photo flicker reduction**] in the photo shooting menu if there is no flickering.
 - The light from the AF-assist illuminator may adversely affect the eyes of birds; select [**OFF**] for Custom Setting a11 [**Built-in AF-assist illuminator**].
-

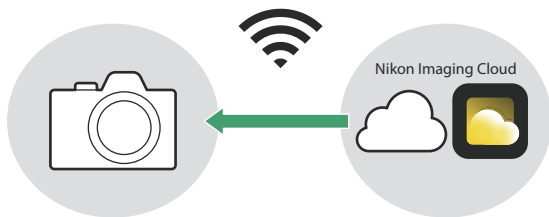


New Picture Control Options: Cloud and “Flexible Color” Picture Controls

The camera now supports Cloud and “Flexible Color” Picture Controls.

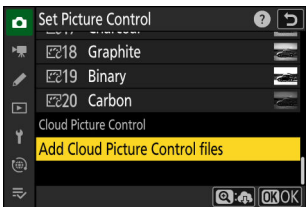
Cloud Picture Control

Download Cloud Picture Controls from the Nikon Imaging Cloud cloud service and import them to the camera as Picture Controls.

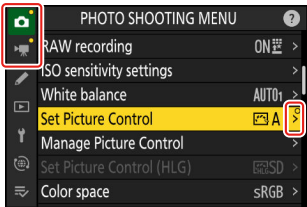


- For information on the Nikon Imaging Cloud cloud service, see “Now Compatible with Nikon Imaging Cloud” ([book 44](#)).

If Picture Controls are transferred to the camera from Nikon Imaging Cloud, they can be downloaded and read to the camera by **[Set Picture Control]** > **[Add Cloud Picture Control files]** in the camera photo shooting or video recording menu. These Picture Controls can be adjusted once selected and added to the camera via **[Manage Picture Control]** in the photo shooting or video recording menu.



- If there are Picture Controls in Nikon Imaging Cloud that have not been imported to the camera, notification marks will appear on the photo shooting and video recording menu tabs and **[Set Picture Control]** item in the camera menu.



- The camera and Nikon Imaging Cloud must be connected via Wi-Fi to download and import Picture Controls. In the camera network menu, set **[Nikon Imaging Cloud]** > **[Connect to Nikon Imaging Cloud]** to **[ON]**, and then turn on the Nikon Imaging Cloud camera sign-in setting.
- See the Nikon Imaging Cloud online help for how to transfer Picture Controls to the camera and how to turn on the camera sign-in setting in Nikon Imaging Cloud.

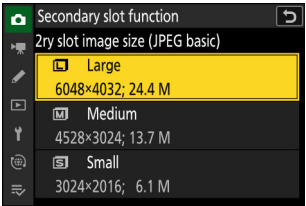
“Flexible Color”

Adjust “Flexible Color” Picture Controls with the NX Studio computer software. This Picture Control option allows for a wider variety of Picture Control adjustments with Color Blender and Color Grading. You can export adjusted Picture Controls to memory cards and import them to the camera as Custom Picture Controls.

- See the NX Studio online help for details on using NX Studio to adjust **[Flexible Color]** Picture Controls and how to export them to memory cards.
- Import these exported Custom Picture Controls to the camera via **[Manage Picture Control]** in the photo shooting or video recording menu.
- Custom Picture Controls based on **[Flexible Color]** cannot be adjusted or renamed on the camera.

New Large Size Option for JPEG + JPEG Recording

[Large] has been added to the size options available for copies recorded to the memory card in the secondary slot when [JPEG primary - JPEG secondary] is selected for [Secondary slot function] in the photo shooting menu. The size can be selected by pressing  when [JPEG primary - JPEG secondary] is highlighted.



Low ISO Sensitivity Settings for N-Log Video

Low ISO sensitivity options ranging from Lo 0.3 to Lo 2.0 have been added to the choices available for **[ISO sensitivity settings]** > **[ISO sensitivity (mode M)]** in the video recording menu when **[N-Log]** is selected as the video tone mode. Sensitivity can be set to values below ISO 800 by approximately 0.3 to 2.0 EV (equivalent respectively to ISO 640 and 200).

Cautions: Low ISO Sensitivities

The maximum output level for videos recorded at low ISO sensitivities drops due to loss of highlight data. We recommend that you select a low value for Custom Setting g12 **[Zebra pattern]** > **[Highlight threshold]** when using the zebra pattern feature. A highlight threshold around **[230]** is recommended for Lo 0.3 to 1.0 and **[200]** for Lo 2.0.

New Video Recording Feature: Hi-Res Zoom

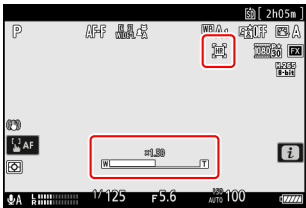
The camera now offers Hi-Res Zoom during video recording. Selecting **[ON]** for the newly-added **[Hi-Res Zoom]** item in the video recording menu lets you zoom in on your subject with no loss in resolution, even without a zoom lens.

- Hi-Res Zoom is available when all the following conditions are met:
 - **[FX]** is selected for **[Image area]** > **[Choose image area]** in the video recording menu.
 - A frame size and rate of **[1920×1080; 30p]**, **[1920×1080; 25p]**, or **[1920×1080; 24p]** is selected for **[Frame size/frame rate]** in the video recording menu.

Using Hi-Res Zoom

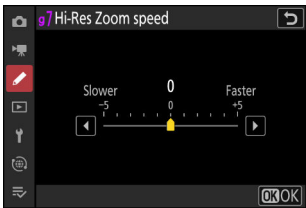
Select **[ON]** for **[Hi-Res Zoom]** in the video recording menu and press  or  to zoom in or out using Hi-Res Zoom.

- A  icon appears in the display when Hi-Res Zoom is enabled.
- The zoom position is shown by a bar as you zoom in or out. You can zoom in to a maximum of 2.0×.



Hi-Res Zoom Speed

The zoom speed of the Hi-Res Zoom can be adjusted using the **[Hi-Res Zoom speed]** item added to the Custom Settings menu at position g7.



✓ Cautions: Hi-Res Zoom

- AF-area mode is fixed at **[Wide-area AF (L)]**. The focus point is not displayed.
- **[Electronic VR]** in the video recording menu is fixed at **[OFF]**.

Tip: Hi-Res Zoom Controls with Lens Fn and Control Rings

You can use the lens Fn ring for Hi-Res Zoom control by assigning [**Hi-Res Zoom +**] to [**Lens Fn ring (clockwise)**] and [**Hi-Res Zoom –**] to [**Lens Fn ring (counterclockwise)**] respectively via Custom Setting g2 [**Custom controls**], and the lens control ring by assigning [**Hi-Res Zoom**] to [**Lens control ring**].

- When Hi-Res Zoom is assigned to the [**Lens Fn ring (clockwise)**] or [**Lens Fn ring (counterclockwise)**], you can select the zoom speed using Custom Setting g7 [**Hi-Res Zoom speed**].
- When Hi-Res Zoom is assigned to [**Lens control ring**], the control ring response can be adjusted using Custom Setting f13 [**Control ring response**].
- Instead of using the control ring, users of compatible lenses can employ the focus ring for Hi-Res Zoom by selecting [**ON**] for Custom Setting f14 [**Switch focus/control ring roles**].

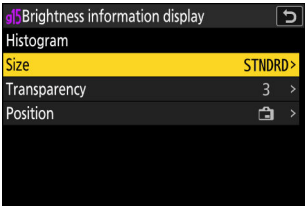
Tip: Adding to the *i* Menu

[**Hi-Res Zoom**] can now be assigned to the *i* menu using Custom Setting g1 [**Customize *i* menu**]. You can turn Hi-Res Zoom [**ON**] or [**OFF**] and adjust the Hi-Res Zoom speed.

New Options for Custom Setting g15

“Brightness Information Display”

The size, transparency, and position items of the histogram or wave-form monitor displayed in the video mode shooting display can now be changed. Select [**Histogram**] or [**Wave-form monitor**] for brightness information and press  to select the display options.



Option	Description
[Size]	Select the display size of the histogram or wave-form monitor from [Large] or [Standard].
[Transparency]	Select the transparency of the histogram or wave-form monitor from [1 (low transparency)], [2], or [3 (high transparency)].
[Position]	Select the position of the histogram or wave-form monitor from [Top right], [Bottom right], [Top left], or [Bottom left].

File Name Set on the Camera Now Can Be Included When Naming Video Saved on External Recorders

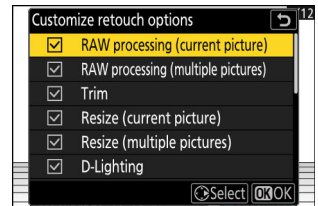
When recording video to both the camera's memory card and an Atomos external recorder that has been connected to the camera, the name of the file saved on the external recorder will now include the name of the video file saved on the camera's memory card. Having a common string in both file names makes it easier to link the files when editing the video.

- When starting video recording with a memory card inserted in the camera and **[External rec. cntrl (HDMI)]** set to **[ON]** in the video recording menu, the file name of the video to be saved on the memory card is transmitted to the external recorder.
- The file extension will not be transmitted to the external recorder.
- The following Atomos external recorders support the transmission of file names (as of March 2024).
 - Ninja (2023 models)
 - Ninja Ultra
 - Ninja V
 - Ninja V+
 - Shogun (2023 models)
 - Shogun Ultra
 - Shogun Connect
- * Some of these products may no longer be available. Contact Atomos to learn more about products that support file-name transmission.
- * Some recorders may require an Atomos operating system upgrade or paid activation of the recorder. Contact Atomos for details.
- * Refer to the documentation provided with the external recorder for instructions to set up the external recorder and details on file names saved on it.

“Customize Retouch Options” Added to “Retouch” Playback *i* Menu

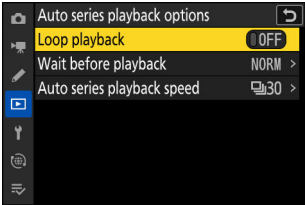
[**Customize retouch options**] has been added to [**Retouch**] in the playback *i* menu. This allows you to configure the retouch options displayed in the [**Retouch**] menu.

- Highlight options and press  to select (☒) or deselect (☐).
Only items marked with a check (☒) will appear in the [**Retouch**] menu.
- Press  to save the changes.



New Item for “Series Playback” in the Playback Menu: “Auto Series Playback Options”

[Auto series playback options] has been added to the options available for [Series playback] in the playback menu. Choose options for viewing bursts when [Auto series playback] is set to [ON].



Option	Description
[Loop playback]	If [ON] is selected, the current series will playback repeatedly.
[Wait before playback]	Choose the time until auto series playback begins once the first picture in the series is displayed: [Normal], [Long], [Short], or [Start immediately].
[Auto series playback speed]	Select the playback speed for auto series playback. • [5 fps], [15 fps], [30 fps]: Playback proceeds at the selected speed. • [At current release mode speed]: Playback speed varies depending on the current release mode. - Single frame, self-timer: Approx. 3 fps - Continuous low-speed: Approx. 5 fps - Continuous high-speed, continuous high-speed (extended): Approx. 10 fps - [C30]: Approx. 30 fps

New Playback Menu Item: “Record Camera Orientation”

[Record camera orientation] has been added to the playback menu.

- When set to [ON], the orientation information of the camera at the time of shooting is stored in pictures. When viewed on a camera or computer, the pictures are automatically rotated according to the stored orientation information.



- When set to [OFF], the orientation information of the camera at the time of shooting is not stored in pictures. As such, pictures will not be automatically rotated during playback and always displayed in landscape (wide) orientation.



✔ Caution: Record Camera Orientation

If the camera is facing upward or downward or is panned while shooting, the correct orientation information may not be stored.

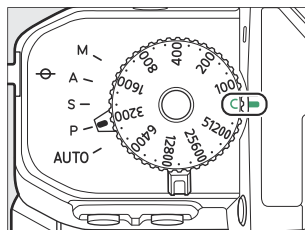
✔ “Auto-Rotate Pictures” in the Playback Menu

- When [Auto-rotate pictures] is set to [OFF], images are always displayed in landscape (wide) orientation when played back on the camera, regardless of whether [Record camera orientation] is set to [ON] or [OFF].
- If [Auto-rotate pictures] is set to [ON] while [Record camera orientation] is set to [OFF], pictures will not be automatically rotated during playback and always displayed in landscape (wide) orientation.

Separate Auto ISO Sensitivity Controls Are Now Available When the ISO Sensitivity Dial Is Set to C and to a Value of 100 to 64000

You can now set separate auto ISO sensitivity control settings when the ISO sensitivity dial is set to **C** and to a value of 100 to 64000 using **[ISO sensitivity settings] > [Auto ISO sensitivity control]** in the photo shooting menu.

- **[Auto ISO sensitivity control]** is available in modes **P**, **S**, **A**, and **M**.
- For example, if **[ON]** is selected for **[Auto ISO sensitivity control]** when the ISO sensitivity dial is set to **C** and **[OFF]** is selected when the dial is set to one of the values from ISO 100 to 64000, rotating the dial to **C** instantly enables auto ISO sensitivity control.



“Focus Point Border Width” Added to Custom Setting a10 “Focus Point Display”

[**Focus point border width**] has been added to Custom Setting a10 [**Focus point display**]. This option allows you to configure the thickness of the focus point border from [1] to [3].

New Custom Setting: b3 “Easy ISO”

An **[Easy ISO]** item has been added to the Custom Settings menu at position b3. Selecting **[ON]** allows you to adjust the ISO sensitivity using only a command dial when the ISO sensitivity dial is set to **C**.

- This option will not take effect in mode **M**.
- The command dial used varies with the shooting mode.
- This item cannot be combined with Custom Setting b2 **[Easy exposure compensation]**. Enabling one automatically disables the other.

New Custom Setting: d5 “Exposure Delay Mode”

An **[Exposure delay mode]** item has been added to the Custom Settings menu at position d5. It can be used to delay the release of the shutter until about 0.2 to 3 seconds after the shutter-release button has been pressed, helping to reduce blur caused by camera shake.

Tip: Adding to the **i** Menu

[Exposure delay mode] can now be assigned to the **i** menu using Custom Setting f1 **[Customize **i** menu]**.

New Custom Settings: d18/g16 “Half-Press to Cancel Zoom (MF)”

A [**Half-press to cancel zoom (MF)**] item has been added to the Custom Settings menu at positions d18 and g16. If [**ON**] is selected while focus mode is set to manual focus and the view through the lens is zoomed in, zoom can be cancelled by pressing the shutter-release button halfway.

New Options for Custom Settings f2

“Custom Controls (Shooting)” and g2

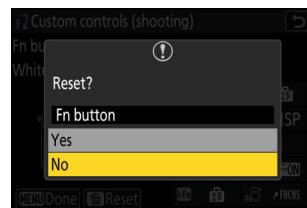
“Custom Controls”

Additional roles are now available for Custom Settings f2 [**Custom controls (shooting)**] and g2 [**Custom controls**]. Custom controls can now also be reset.

New Reset Option

You can now reset selected controls to their default roles in the control-selection displays for Custom Settings f2 [**Custom controls (shooting)**] and g2 [**Custom controls**].

- Highlight the desired control and press  to display a confirmation dialog where you can reset the control to its default role by highlighting **[Yes]** and pressing .
- Pressing and holding the  button for about three seconds when a control is highlighted displays a confirmation dialog where you can reset all controls to their default roles by highlighting **[Yes]** and pressing .



New Roles Available via Custom Setting f2

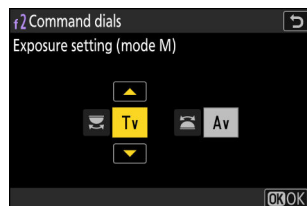
“Custom Controls (Shooting)”

Option		Description
	[Save and load power zoom position]	Press and hold the control to save the current zoom position. Briefly pressing and releasing the control recalls the saved zoom position.
	[Cycle AF-area mode]	Press the control to cycle the AF-area mode. • To choose the AF-area modes to be cycled, highlight [Cycle AF-area mode] and press . • Highlight options and press  or  to select () or deselect (). Only items marked with a check () will be cycled when the control is pressed.
Tv	[Shutter speed (mode M)]	Hold the control and rotate a command dial to adjust shutter speed in mode M .
Av	[Aperture (mode M)]	Hold the control and rotate a command dial to adjust aperture in mode M .
	[Exposure delay mode]	Hold the control and rotate a command dial to choose the exposure delay.

Exposure Compensation and ISO Sensitivity Are Now Assignable to Command Dials in Mode M

Exposure compensation (**EC**) and ISO sensitivity (**ISO**) can now be assigned to the command dials in mode **M** using Custom Setting f2 [**Custom controls (shooting)**] > [**Command dials**] > [**Exposure setting**].

- To set main and sub-command dial roles, select mode **M** in the [**Exposure setting**] dialog and press **DISP**.
- Press **←** or **→** to highlight a command dial and **⬇** or **⬆** to select roles.
- If you assigned roles other than aperture and shutter speed to the command dials, make sure to assign [**Aperture (mode M)**] and [**Shutter speed (mode M)**] to other controls.



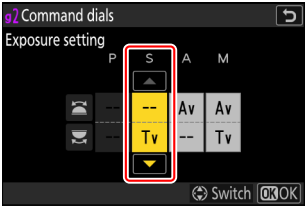
New Roles Available via Custom Setting g2

“Custom Controls”

Option		Description
	[Save and load power zoom position]	Press and hold the control to save the current zoom position. Briefly pressing and releasing the control recalls the saved zoom position.
	[Cycle AF-area mode]	Press the control to cycle the AF-area mode. - To choose the AF-area modes to be cycled, highlight [Cycle AF-area mode] and press . - Highlight options and press  or  to select ☒ or deselect ☐. Only items marked with a check ☒ will be cycled when the control is pressed.
	[Hi-Res Zoom +]	Rotate the lens Fn ring clockwise to zoom in using Hi-Res Zoom. This option is enabled automatically when [Hi-Res Zoom –] is selected for [Lens Fn ring (counterclockwise)].
	[Hi-Res Zoom –]	Rotate the lens Fn ring counterclockwise to zoom out using Hi-Res Zoom. This option is enabled automatically when [Hi-Res Zoom +] is selected for [Lens Fn ring (clockwise)].
	[Hi-Res Zoom]	Rotate the lens control ring to zoom in or out using Hi-Res Zoom.

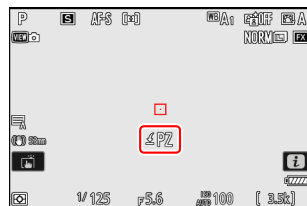
Command Dial Roles Now Switchable in Mode S

The main and sub-command dial roles in mode **S** can now be switched using Custom Setting g2 [Custom controls] > [Command dials] > [Exposure setting]. To switch the roles of the main and sub-command dials, select mode **S** in the [Exposure setting] dialog and press  or .



“Save and Load Power Zoom Position”

- Pressing and holding the control assigned [**Save and load power zoom position**] while a power zoom lens is attached will display a $\pm$ PZ icon in the shooting display and save the current zoom position.
- Only one zoom position can be saved at a time. To choose a different zoom position, select that position and press the control again.



- Recall the saved zoom position by pressing the control assigned [**Save and load power zoom position**].
 - Pressing the control assigned [**Save and load power zoom position**] again while moving to the saved zoom position will stop zooming at the current position.
- Turning off the camera does not reset the saved zoom position. Attaching another lens will reset the saved zoom position.
- Pressing the assigned control has no effect when a lens other than a power zoom lens is attached.
- Set the speed at which power zoom lenses can be zoomed in and out in video mode with Custom Setting g8 [**Assign power zoom**] > [**Power zoom speed (zoom buttons)**].

☒ Compatible Lenses

This feature is available with a NIKKOR Z 28-135mm f/4 PZ lens.

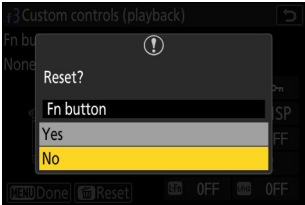
New Roles for Custom Setting f3 “Custom Controls (Playback)”

Additional roles are now available for Custom Setting f3 [**Custom controls (playback)**]. Custom controls can now also be reset.

New Reset Option

You can now reset selected controls to their default roles in the Custom Setting f3 [**Custom controls (playback)**] control-selection display.

- Highlight the desired control and press  to display a confirmation dialog where you can reset the control to its default role by highlighting [**Yes**] and pressing .
- Pressing and holding the  button for about three seconds when a control is highlighted displays a confirmation dialog where you can reset all controls to their default roles by highlighting [**Yes**] and pressing .



New Roles

Additional roles can now be assigned to buttons or the command dials.

Roles Available for Buttons

Option		Description
	[Delete]	Press the control once to display a confirmation dialog. Press the control again to delete the current picture and return to playback.
	[RAW processing (current picture)]	
	[RAW processing (multiple pictures)]	Press the control to display retouch options for the assigned role.
	[Trim]	
	[Resize (current picture)]	
	[Resize (multiple pictures)]	
	[D-Lighting]	
	[Straighten]	
	[Distortion control]	
	[Perspective control]	
	[Monochrome]	
	[Overlay (add)]	
	[Lighten]	
	[Darken]	
	[Motion blend]	

Roles Available for “Main Command Dial”/“Sub-Command Dial”

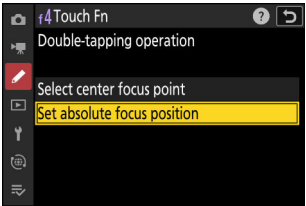
Option	Description
[Frame advance zoom position]	Choose how the camera centers the display when either the main or sub-command dial is rotated to scroll through pictures during playback zoom. • [Keep current zoom position]: Center the display on the current zoom location. • [Prefer focus point]: Center the display on the focus point active when the photograph was taken. • [Prefer focus point (face priority)]: Center the display on the focus point active when the photograph was taken. However, if a person's face is detected in the photograph, playback zoom will be performed with the face at the center.
[Playback zoom face selection]	If [ON] is selected, when multiple faces are detected in the picture during playback zoom, the sub-command dial can be rotated to switch between the detected faces. • This role can only be assigned to the [Sub-command dial].

New Roles Available Via “Main Command Dial”/“Sub-command Dial” > “Frame Advance”

Option	Description
[Uploaded to FTP]	Skip to the next or previous picture that has been uploaded to an FTP server.
[Uploaded to computer]	Skip to the next or previous picture that has been uploaded to a computer.

Changes to the “Move Focus Point” Function in Custom Setting f4 “Touch Fn”

You can now select the operation performed by double-tapping the touch Fn area in the monitor when **[Move focus point]** is assigned to touch Fn via Custom Setting f4 **[Touch Fn]** > **[Assign touch Fn]**. Highlight **[Move focus point]** and press  on the multi selector to select the options.



Option	Description
[Select center focus point]	The focus point is positioned to the center of the viewfinder.
[Set absolute focus position]	The touch Fn area represents the entire viewfinder, and the focus point is repositioned to the corresponding position in the viewfinder by double-tapping the desired location.

New Custom Setting: f11 “Zoom Ring Control (PZ Lens)”

A **[Zoom ring control (PZ lens)]** item has been added to the Custom Settings menu at position f11. Select the direction of rotation of the zoom ring and choose how far the zoom ring must be rotated to go all the way from maximum angle (WIDE) to maximum zoom (TELE) when a power zoom lens is attached.

Option	Description
[Reverse zoom ring rotation]	Select [ON] to reverse the direction of rotation for zoom operations.
[Zoom ring rotation range]	Choose how far the zoom ring must be rotated to go all the way from maximum angle (WIDE) to maximum zoom (TELE). • [Default lens rotation range (°)]: The angle of rotation is not selected with the camera. The zoom ring rotation range required to zoom from maximum angle (WIDE) to maximum zoom (TELE) will vary with the attached lens. • [45°] - [360°]: Select the angle of rotation. To zoom the lens from maximum angle (WIDE) to maximum zoom (TELE) when, for example, [90°] is selected, the ring needs only be rotated 90°. Larger values permit finer adjustments.

☒ **Compatible Lenses**

This feature is available with a NIKKOR Z 28-135mm f/4 PZ lens.

Name and Feature Changes for Custom Settings f12/g8 “Power Zoom (PZ) Button Options”

The name of f12 and g8 [**Power zoom (PZ) button options**] has been changed to [**Assign power zoom**]. In addition, the power zoom speed can now be set separately for the button controls and for using the zoom lever on the lens.

- [**Power zoom speed**] has been divided into two items: [**Power zoom speed (zoom buttons)**] and [**Power zoom speed (zoom switch)**].
 - [**Power zoom speed (zoom buttons)**]: Set the zoom speed when using the $\mathbb{Q}$ and $\mathbb{Q}^*$ (?) buttons.
 - [**Power zoom speed (zoom switch)**]: Set the zoom speed when using the zoom lever on the lens. This option is available only when a power zoom lens with a zoom lever is attached.
 - In video mode, you can choose one zoom speed for use during recording and another for pre- and post-recording.

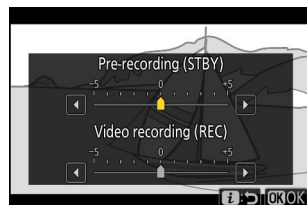
✓ “Power Zoom Speed (Zoom Switch)”

This feature is available with a NIKKOR Z 28-135mm f/4 PZ lens.

Tip: Adding to the **i** Menu

[**Power zoom speed (zoom buttons)**] can now be assigned to the **i** menu using Custom Settings f1 and g1 [**Customize **i** menu**].

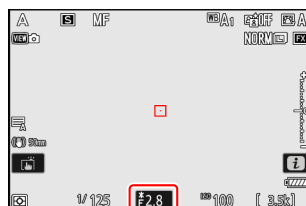
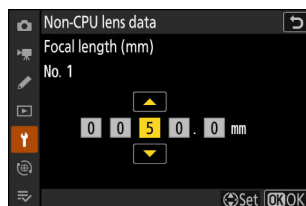
- In video mode, you can select one zoom speed for recording and another for pre- and post-recording.
 - The zoom speed can be changed without interrupting the video recording.
 - If the zoom speed changes during a zoom operation (such as when recalling the power zoom position), the new zoom speed will be applied starting from the next zoom operation.



Updates to “Non-CPU Lens Data”

The camera offers additional features to **[Non-CPU lens data]** in the setup menu.

- You can now enter values in the **[Focal length (mm)]** and **[Maximum aperture]** options.
- Names can now be assigned to lenses with a **[Lens number]** of from **[1]** to **[20]**. To enter a name of up to 36 characters, highlight **[Lens name]** and press **[OK]**.
 - The lens names assigned above are recorded in the Exif data stored in pictures.
- Selecting **[ON]** for **[Choose aperture to record]** now allows the camera to include the aperture values in the Exif data of pictures taken with non-CPU lenses.
 - You can use the lens aperture ring to adjust the actual aperture value used for shooting.
 - Select the aperture value to record in the pictures by rotating a command dial in the shooting display. As the values set using the lens aperture ring and the command dial are not linked, be sure to apply the changes made by the lens to the values to record in the pictures.
 - The recording values set on the camera are indicated by asterisks (“*”).
 - You can set the aperture value to record in the pictures within a range of up to 8 stops from the maximum aperture value set for **[Non-CPU lens data]** > **[Maximum aperture]**.



Tip: Adding to the **i** Menu

[Choose non-CPU lens number] can now be assigned to the **i** menu via Custom Settings f1 and g1 **[Customize **i** Menu]**. This allows you to select a saved lens number using the **[Non-CPU lens data]** item in the setup menu to recall the lens data currently in use.

Increased Character Limit for IPTC “Category” Entries

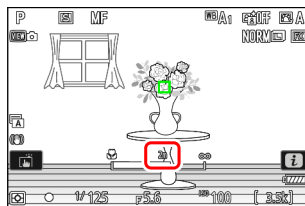
The character limit for “Category” entries in IPTC presets created or edited using the camera has been increased from 3 to 256.

Shooting Display Maximum Zoom Now 400%

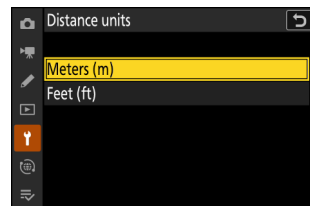
While in earlier versions of the camera firmware, the maximum shooting display zoom was 200%, from "C" firmware version 2.00 the maximum magnification is 400%. Use the  and  (?) buttons to zoom in and out.

Updated Distance Display for Manual Focus

The focus distance indicator for manual focus now shows the distance between the camera and the focus position in units of your choosing.



- The choice is made using a **[Distance units]** item newly added to the setup menu, which has options for **[Meters (m)]** and **[Feet (ft)]**.



- The distance shown is intended as a guide only. It may vary from the actual distance, depending on the lens used.

Support for “Viewfinder Display Size” Selection in Video Mode

The selected option in [**Finder display size (photo Lv)**] in the setup menu now applies to both photo and video modes. This item has consequently been renamed [**Viewfinder display size**]. Select the viewfinder display magnification during shooting and playback from [**Standard**] and [**Small**].

Now Compatible with Nikon Imaging Cloud

Nikon Imaging Cloud is Nikon's cloud service that can be used in a web browser of the computer or smart device. Nikon Imaging Cloud provides following services.



- Image transfer: Upload images shot with the camera to Nikon Imaging Cloud and send them to external online storage.
- Imaging recipe: Save image shooting data as a recipe. Create your own recipes or select from "public recipes."
- Providing Picture Controls: Download Picture Controls from Nikon Imaging Cloud and import them to the camera.
- Firmware update: Download firmware directly to the camera from Nikon Imaging Cloud.

To access Nikon Imaging Cloud from a computer or smart device, either scan the QR code or enter the following URL into a web browser. We recommend bookmarking the site.



<https://imagingcloud.nikon.com>

- You can also check the access QR code and URL by **[Nikon Imaging Cloud]** > **[About Nikon Imaging Cloud]** in the camera's network menu.
- Read all license agreements, etc. displayed when you use the service for the first time and only proceed if you are willing to accept them.
- For the latest information on Nikon Imaging Cloud, visit the Nikon website.
- To connect the camera to Nikon Imaging Cloud, see "Creating Network Profiles and Connecting the Camera to Nikon Imaging Cloud" in the "New Network Menu Item: **'Nikon Imaging Cloud'**" section ([51](#)).

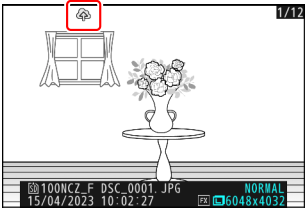
✓ **Cautions: Lending and Disposing of Cameras Connected to Nikon Imaging Cloud**

- Before lending the camera to another person, you should turn off automatic connection to the camera in the Nikon Imaging Cloud home screen or initialize the camera using the **[Reset all settings]** item in the camera setup menu.
 - If you are discarding the camera or transferring ownership to another person, you should delete the camera's information in the Nikon Imaging Cloud home screen and initialize the camera using the **[Reset all settings]** item in the camera setup menu.
-

Uploading Pictures

Nikon Imaging Cloud is now a destination option when uploading pictures.

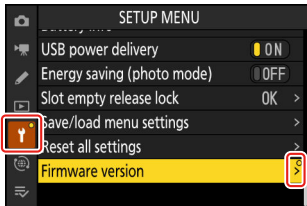
- The **[Select for upload to The Cloud]** and **[Select all for upload to The Cloud]** items were added to the playback **i** menu. Pressing the **i** button during playback when the camera is connected to Nikon Imaging Cloud displays these items.
- Highlight a picture, press the **i** button, and select **[Select for upload to The Cloud]** to mark the picture for upload. A  icon will appear on the picture selected for upload.
- Selecting **[Select all for upload to The Cloud]** during filtered playback marks all pictures meeting the current filter criteria for upload to Nikon Imaging Cloud.
- Videos cannot be selected for upload.



Updating Firmware

Firmware version update notifications from Nikon Imaging Cloud will display **[Update (from Nikon Imaging Cloud)]** in **[Firmware version]** in the setup menu. Highlight **[Update (from Nikon Imaging Cloud)]** > **[On]** and press  to download the firmware to the camera. The update will start automatically after the download is complete.

- If new camera firmware is available for download from Nikon Imaging Cloud, notification marks will appear on the setup menu tab and the **[Firmware version]** item in the camera menu.



Auto Update

If you select **[On]** for **[Firmware version]** > **[Auto update]** in the setup menu and specify a time, the camera will automatically connect to Nikon Imaging Cloud at the set time each day to download and update firmware when it becomes available. Auto update is enabled only when all the following conditions are met:

- The camera sign-in setting is enabled in Nikon Imaging Cloud.
- The camera power switch is in the "OFF" position.
- The camera is powered using one of the following:
 - An optional EH-8P AC adapter connected using the supplied USB cable (featuring Type-C connectors at both ends)
 - A third-party portable charger (power bank)

New Network Menu Item: “Nikon Imaging Cloud”

Use to connect the camera and Nikon Imaging Cloud, Nikon’s cloud service, via a wireless router.

- Highlight [**Nikon Imaging Cloud**] in the network menu and press  to display [**About Nikon Imaging Cloud**] automatically when no network profiles to connect with the wireless router are available in the camera.



“Nikon Imaging Cloud” Menu Options

You can create profiles and add them to the camera or edit existing profiles.

Connect to Nikon Imaging Cloud

Choose whether to enable a wireless connection with Nikon Imaging Cloud.

- When no network profiles to connect with the wireless router are available in the camera, you can create profiles and add them to the camera ([51](#)).
- If a network profile already exists, highlight [**Use existing profile**] and press  to select a profile to use. This item can also be used to choose from existing network profiles.

Wi-Fi Settings

- When no network profiles to connect with the wireless router are available in the camera, you can create profiles and add them to the camera ([book 51](#)).
- If a network profile already exists, choose the profile and press the  button to connect.
- To edit an existing profile, highlight it and press .

Option	Description
[Connect automatically]	Choose whether to connect automatically when the camera detects a configured Wi-Fi network.
[TCP/IP]	Adjust the TCP/IP settings. An IP address is required. • If [ON] is selected for [Obtain automatically], the IP address and sub-net mask will be acquired via a DHCP server or automatic IP addressing. • Select [OFF] to enter the IP address ([Address]) and sub-net mask ([Mask]) manually.

Connection Options

Adjust connection and upload settings.

- [Only when powered via USB]: Select [ON] to limit automatic Wi-Fi connections to Nikon Imaging Cloud to when powered via USB.
- [Connect to Cloud while off]: Select [ON] to maintain Wi-Fi connections even when the camera is turned off.
- [Inactive connection timeout]: Select [ON] to end Wi-Fi connections when Wi-Fi communications are unavailable for a certain period of time.

Photo Upload

Select [ON] to automatically send photos from the camera to Nikon Imaging Cloud when shooting images that are configured by [Photo upload options].

Photo Upload Options

Configure image sending settings from the camera to Nikon Imaging Cloud.

- **[Auto select for upload]:** Select **[ON]** to mark new photos for upload as they are taken.
 - Videos cannot be uploaded to Nikon Imaging Cloud.
 - Upload begins only after the photo has been recorded to the memory card. Be sure a memory card is inserted in the camera.
- **[Upload RAW + JPEG as]:** When uploading RAW + JPEG pictures, choose whether to upload both the NEF (RAW) and JPEG files or only the NEF (RAW) or JPEG copy. Separate options can be selected for **[Overflow/backup]** and **[RAW primary - JPEG secondary]**.
 - The option selected for **[Overflow/backup]** takes effect during both auto and manual upload.
 - The option selected for **[RAW primary - JPEG secondary]** applies only during auto upload.
- **[Upload RAW + HEIF as]:** When uploading RAW + HEIF pictures, choose whether to upload both the NEF (RAW) and HEIF files or only the NEF (RAW) or HEIF copy. Separate options can be selected for **[Overflow/backup]** and **[RAW primary - HEIF secondary]**.
 - The option selected for **[Overflow/backup]** takes effect during both auto and manual upload.
 - The option selected for **[RAW primary - HEIF secondary]** applies only during auto upload.
- **[JPEG+JPEG slot selection]:** Choose a source slot for auto upload when taking pictures with **[JPEG primary - JPEG secondary]** selected for **[Secondary slot function]** in the photo shooting menu.
- **[HEIF+HEIF slot selection]:** Choose a source slot for auto upload when taking pictures with **[HEIF primary - HEIF secondary]** selected for **[Secondary slot function]** in the photo shooting menu.
- **[Upload folder]:** Mark all photos in a selected folder for upload. Marking will be applied to all photos, regardless of whether they have been uploaded previously.
 - Videos cannot be uploaded to Nikon Imaging Cloud.
- **[Deselect all?]:** Remove upload marking from all pictures. Upload of pictures with an “uploading” icon will immediately be terminated.

View Errors

Error details and codes will be displayed if an error occurs during a connection or attempted connection to Nikon Imaging Cloud. Use the QR code displayed or the following URL to view the website when troubleshooting.

<https://onlinemanual.nikonimglib.com/troubleshooting/en/>

About Nikon Imaging Cloud

A QR code and URL will be displayed to browse Nikon Imaging Cloud from the web browser of a computer or smart device.

Unlink Nikon Imaging Cloud

Delete the connection information to Nikon Imaging Cloud.

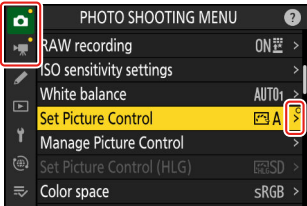
- Delete connection information before discarding this product or transferring ownership to another person.

- If the connection information is deleted, images marked for upload to Nikon Imaging Cloud will no longer be sent.
- To re-connect the camera and Nikon Imaging Cloud after deleting connection information, set [Connect to Nikon Imaging Cloud] to [ON] and create a new network profile ([51](#)).

Tip: Notifications from Nikon Imaging Cloud

In the following cases, notification marks as shown will appear on the menu tabs and menu items in the camera menu. When a menu with a notification mark is selected for display, the mark will disappear.

- When there is a difference between the Picture Controls added to the camera and the Picture Controls in Nikon Imaging Cloud.
- When new camera firmware can be downloaded from Nikon Imaging Cloud.
- When an auto firmware update was performed.
- When there is an error notification related to connection or coordination between the camera and Nikon Imaging Cloud.



Creating Network Profiles and Connecting the Camera to Nikon Imaging Cloud

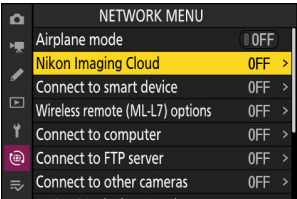
Use the camera and computer/smart device to establish a Wi-Fi connection between the camera and Nikon Imaging Cloud to access services.

Before Connecting Nikon Imaging Cloud

- You must create a Nikon ID and register with Nikon Imaging Cloud to use the service. Complete registration and sign in on the computer or smart device before connecting to the camera. See the Nikon Imaging Cloud online help for detailed instructions.
- A web browser is required to use Nikon Imaging Cloud.
- A Wi-Fi environment is required to connect the camera and Nikon Imaging Cloud. Connect the camera to an existing network (including home networks) via a wireless router.

1 Camera: Highlight [Nikon Imaging Cloud] in the network menu and press .

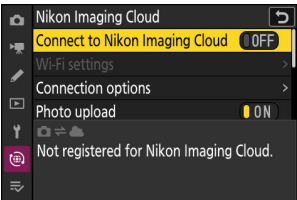
A QR code and URL to access Nikon Imaging Cloud on a computer or smart device will appear.



2 Camera: When a dialog is displayed as shown, press to proceed.

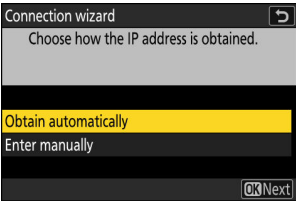


3 Camera: Select [ON] for [Connect to Nikon Imaging Cloud].



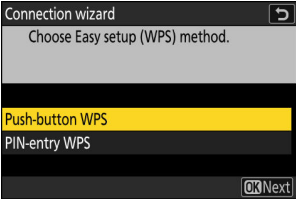
4 Camera: Highlight [Search for Wi-Fi network] and press .

The camera will search for networks currently active in the vicinity and list them by name (SSID).



** "Easy Connect"**

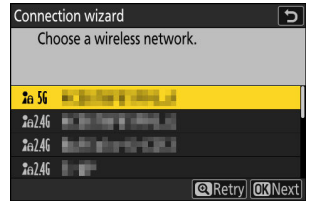
To connect without entering an SSID or encryption key, press  in Step 4. Next, highlight one of the following options and press . After connecting, proceed to Step 7.



Option	Description
[Push-button WPS]	For routers that support push-button WPS. Press the WPS button on the router and then press the camera  button to connect.
[PIN-entry WPS]	The camera will display a PIN. Using a computer, enter the PIN on the router. For more information, see the documentation provided with the router.

5 Camera: Choose a network.

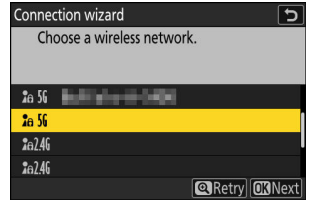
- Highlight a network SSID and press **OK**.
- The SSIDs containing characters that cannot be entered on the camera will not be displayed.
- The band on which each SSID operates is indicated by an icon.
- Encrypted networks are indicated by a **lock** icon. If the selected network is encrypted (**lock**), you will be prompted to enter the encryption key. If the network is not encrypted, proceed to Step 8.
- If the desired network is not displayed, press **Search** to search again.



✓ Hidden SSIDs

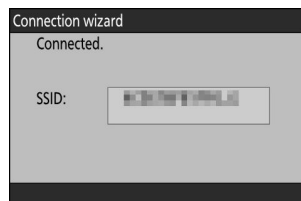
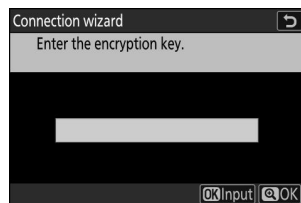
Networks with hidden SSIDs are indicated by blank entries in the network list.

- To connect to a network with a hidden SSID, highlight a blank entry and press **OK**. Next, press **OK**; the camera will prompt you to provide an SSID.
- Enter the network name and press **OK**. Press **OK** again; the camera will now prompt you to enter the encryption key.



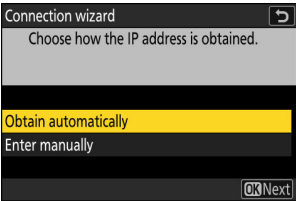
6 Camera: Enter the encryption key.

- Press **OK** and enter the encryption key for the wireless router.
- For more information, see the documentation for the wireless router.
- Press **OK** when entry is complete.
- Press **OK** again to initiate the connection. A message will be displayed for a few seconds when the connection is established.



7 Camera: Obtain or select an IP address.

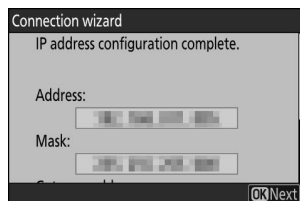
Highlight one of the following options and press **OK**.



Option	Description
[Obtain automatically]	Select this option if the network is configured to supply the IP address automatically. A "configuration complete" message will be displayed once an IP address has been assigned.
[Enter manually]	Enter the IP address, sub-net mask, gateway address, and Domain Name Server (DNS) address in that order manually. The items can be entered as follows. • IP address/gateway address/Domain Name Server (DNS): - Press OK; you will be prompted to enter the address. - Rotate the main command dial to highlight segments. - Press Left or Right to change the highlighted segment and press OK to enter changes. - When all digits have been entered, press Save to save changes. - Press Save again to proceed. • Sub-net mask: To change the highlighted digit, press Left or Right. Press OK to save changes and proceed.

8 Camera: Press to proceed when the “configuration complete” message is displayed.

The camera accesses Nikon Imaging Cloud and prepares for connection. If preparation is complete, a QR code and URL to access Nikon Imaging Cloud on a computer or smart device will appear.



9 Computer/smart device: Click or tap the connect camera button in the Nikon Imaging Cloud home screen.

An access code to connect Nikon Imaging Cloud and the camera appears.

10 Camera: Enter the access code displayed on the computer/smart device in Step 9.

- Press  to enter the access code.
- Press  when entry is complete.



- Pressing  again connects the camera and Nikon Imaging Cloud and displays a QR code and URL to access to the Nikon Imaging Cloud from a computer or smart device.



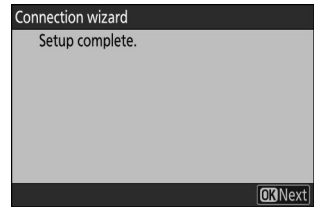
11 Computer/smart device: Scan the QR code displayed on the camera screen or enter the URL also displayed on the camera into a web browser.

- A connection confirmation screen appears.
- If a user-code entry screen appears on the computer/smart device, enter the user code displayed on the camera screen.

12 Computer/smart device: Click or tap the [Connect] button.

The network profile is added to the camera and Nikon Imaging Cloud and the camera are now connected via Wi-Fi. If connection completion screens appear on both the computer/smart device and the camera, you can use the camera with Nikon Imaging Cloud.

For information on using Nikon Imaging Cloud, see online help.



A New Option for Network Menu

“Connect to FTP Server”

[**Keep connection**] has been added to the options available for [**Connect to FTP server**] > [**Options**] in the network menu. If the connection is lost due to a wireless, TCP/IP, or FTP error when [**ON**] is selected, the camera will automatically attempt to reconnect after about 15 seconds. The camera will attempt to reconnect repeatedly until the connection is re-established.

- The standby timer will not expire when [**ON**] is selected, regardless of the option selected for Custom Setting c3 [**Power off delay**] > [**Standby timer**]. Note that this increases the drain on the battery.

Using AirGlu Accessories While MC-N10 Remote Grips Connected

In earlier versions of the camera firmware, all Bluetooth functions were disabled while an MC-N10 was connected to the camera, but from "C" firmware version 2.00, Atomos UltraSync BLUE AirGlu accessories can be used via Bluetooth.

Changes with “C” Firmware Version 3.00

Features Available with “C” Firmware Version 3.00

The *Z f Reference Guide* is for “C” firmware version 1.10 (the latest version of the *Z f Reference Guide* is available from the Nikon Download Center).

- The *Z f Reference Guide (Supplement for Firmware Version 2.00)* details the new features and changes introduced with camera “C” firmware versions 2.0x.
- This chapter details the new features and changes introduced with camera “C” firmware version 3.00.

“Firmware Version”

To view the camera firmware version or update the camera firmware, select **[Firmware version]** in the setup menu.

Update your camera as follows:

- **Download firmware from the Nikon Download Center using a computer:** Check the Nikon Download Center for new firmware. For more information, see the firmware download page. <https://downloadcenter.nikonimglib.com/>
- **Download firmware via the SnapBridge app on a smart device:** If the smart device has been paired with the camera using the SnapBridge app, the app will automatically notify you when updates become available, and you can then download the update to a camera memory card via the smart device. For more information, see the SnapBridge app's online help. SnapBridge may not display the notification at the same time that updates are made available on the Nikon Download Center.
- **Download firmware to the camera from Nikon Imaging Cloud:** If the camera receives a firmware version update notification from Nikon Imaging Cloud, **[Update now (Nikon Imaging Cloud)]** appears in the **[Firmware version]** menu. Highlight **[Update now (Nikon Imaging Cloud)]** > **[On]** and press  to download the firmware to the camera via the Internet. The update will start automatically after the download is complete. Nikon Imaging Cloud may not send a notification to the camera at the same time that updates are made available on the Nikon Download Center.

Changes Made with “C” Firmware Version 3.00

The features added or updated with camera “C” firmware version 3.00 are summarized below. More information is available on the pages listed.

Still Photography

- New Menu Item: “**Film Grain Options**” ([📖 63](#))
- New Release Mode Option: “**C15**” ([📖 65](#))

Video Recording

- New Menu Item: “**Film Grain Options**” ([📖 63](#))
- Subject Detection Focus Point Now Displayed with Hi-Res Zoom ([📖 66](#))

Playback

- Separate “**Record Camera Orientation**” Settings Available for Photos and Videos in the Playback Menu ([📖 67](#))

Controls

- **"Only During Zoom"** Added to Custom Setting a12 **"Focus Peaking"** ([book 68](#))
- New Custom Setting: a13 **"Maximum Aperture Lv"** ([book 69](#))
- New Custom Setting: a15 **"Focus Limiter Setting"** ([book 70](#))
- **"Minimum"** Added to Custom Setting c2 **"Self-timer"** > **"Interval Between Shots"** ([book 73](#))
- New Options for Custom Settings d16/g14 **"Grid Type"** ([book 74](#))
- New Options for Custom Settings f2 **"Custom Controls (Shooting)"** and g2 **"Custom Controls"** ([book 75](#))
- Changes to Setup Menu **"Camera Sounds"** Options ([book 77](#))
- New Method for Adding Picture Controls from Nikon Imaging Cloud ([book 78](#))

Displays

- New Setup Menu Item: **"Automatic Monitor Display Switch"** ([book 79](#))

Networks

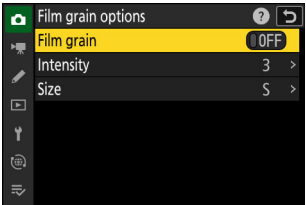
- New Smart Device Connection Method: **"Wi-Fi Connection (STA Mode)"** ([book 80](#))
- New Option for **"USB"** in Network Menu: **"USB Streaming (UVC/UAC)"** ([book 89](#))

Custom Settings Menu Numbers

Some Custom Settings menu numbers have been altered due to the addition and reordering of menus accompanying the version update. This document uses the numbers as they appear after these changes.

New Menu Item: “Film Grain Options”

The **[Film grain options]** item has been added to the photo shooting and video recording menus. Use it to take grainy pictures that simulate the look of traditional film photography.



Option	Description
[Film grain]	Select [ON] to add a grainy texture to pictures.
[Intensity]	Adjust the strength of the grainy texture from 1 to 6 (1 to 3 when recording videos). Select higher values for a rougher and grainier effect.
[Size] (photo shooting menu only)	Select a grain size from [Large] , [Medium] , and [Small] . Larger sizes emphasize the grainy texture, while smaller sizes create a finer texture. • The size is fixed at [Small] for video recording.

✓ Notes on Using Film Grain

- The film grain effect cannot be previewed in the shooting display.
- The film grain effect appears randomly. The grain pattern appears differently each time NEF (RAW) pictures are processed on the camera. The intensity and size settings are the values that were in effect when the pictures were taken.
- Selecting **[HLG]** for **[Tone mode]** in the photo shooting menu disables the film grain effect.
- Pictures may exhibit "noise" in the form of randomly-spaced bright pixels, fog, or lines depending on the options selected for image size and quality.

✓ Photography with Film Grain: Restrictions

Film grain cannot be combined with some camera features, including:

- high-speed frame capture +,
- multiple exposures,
- HDR overlay, and
- pixel shift.

✓ Video Recording with Film Grain: Restrictions

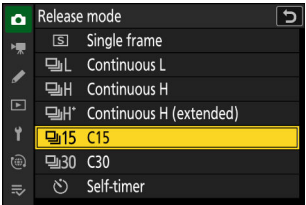
- Film grain cannot be used when:
 - **[H.265 10-bit (MOV)]** is selected for **[Video file type]** in the video recording menu.

- a frame size and rate of from [3840×2160; 60p] to [3840×2160; 25p] or from [1920×1080; 120p] to [1920×1080; 100p] is selected for [Frame size/frame rate] in the video recording menu.
 - Selecting [ON] for [Film grain options] > [Film grain] in the video recording menu disables [Skin softening] in the video recording menu.
-

New Release Mode Option: “C15”

[C15] has been added to [Release mode] in the photo shooting menu. You can shoot using high-speed frame capture + at 15 frames per second.

- The same restrictions apply to [C15] as those for [C30].



Subject Detection Focus Point Now Displayed with Hi-Res Zoom

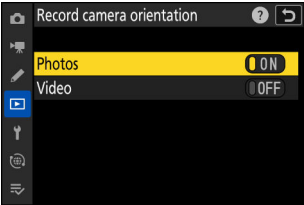
Selecting **[ON]** for **[Hi-Res Zoom]** in the video recording menu displays a focus point on the detected subject in the shooting display.



- If autofocus is enabled, this feature takes effect when you select an option other than **[Subject detection off]** for **[AF/MF subject detection options]** > **[Subject detection]** in the video recording menu.
- While using manual focus, this feature takes effect when you select an option other than **[Subject detection off]** for **[AF/MF subject detection options]** > **[Subject detection]** and you select an option other than **[MF subject detection off]** for **[MF subject detection area]** in the video recording menu.

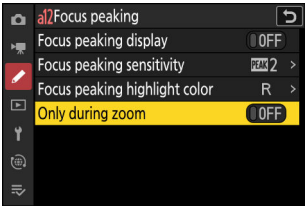
Separate “Record Camera Orientation” Settings Available for Photos and Videos in the Playback Menu

The **[Record camera orientation]** item in the playback menu now has separate **[ON]** and **[OFF]** options for photography and video recording.



“Only During Zoom” Added to Custom Setting a12 “Focus Peaking”

[Only during zoom] has been added to Custom Setting a12 [Focus peaking]. When set to [ON], focus peaking is displayed only while the view through the lens is zoomed in.



New Custom Setting: a13 “Maximum Aperture Lv”

A [**Maximum aperture Lv**] item has been added to the Custom Settings menu at position a13. When set to [**On**], the shooting display in the viewfinder or monitor is always displayed with the maximum aperture. When you press the shutter-release button all the way down, the aperture will adjust to the configured aperture value before shooting.

✓ Cautions: When “Maximum Aperture Lv” Is Set to “On”

- The lens will always be at maximum aperture regardless of aperture setting. Avoid pointing the camera at the sun or other powerful light sources. Failure to observe this precaution could damage the camera’s internal circuitry.
 - The timing of the shutter release may be slightly delayed. Shutter release timing delays are more likely to occur when [**Silent mode**] is set to [**ON**] in the setup menu.
 - Flickering may appear on the shooting display under the following conditions:
 - just before or after the shutter is released, or
 - when pressing a control assigned the role of [**Preview**] in Custom Setting f2 [**Custom controls (shooting)**].
-

New Custom Setting: a15 "Focus Limiter Setting"

A **[Focus limiter setting]** item has been added to the Custom Settings menu at position a15. You can now limit the camera autofocus to the selected range.

Option	Description
[Focus limiter]	Select [ON] to limit the camera autofocus to the range selected with [Limit range]. The shooting display shows a focus limit icon when [ON] is selected.

 “Focus Limiter Setting”

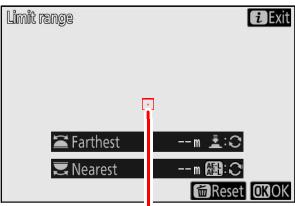
You can use the **[Focus limiter setting]** feature when a Z mount lens is attached.

Limiting the Focus Range

Select the near and far limits of the camera autofocus range.

1 Highlight [Limit range] and press .

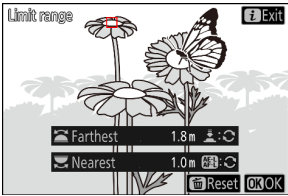
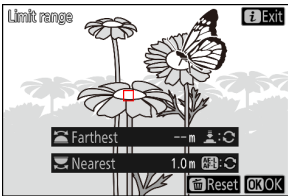
- The range setting display will appear.
- A focus-point target will appear in the range setting display.



Focus-point target

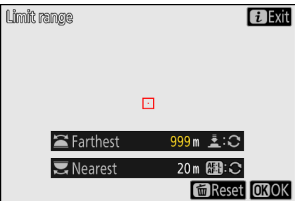
2 Select the minimum and maximum focus distances.

- Place the focus point over a subject at the nearest distance and press the  (AF-ON) button to set the minimum distance. Rotate the main command dial or keep the  (AF-ON) button pressed while rotating the lens focus ring to fine-tune the minimum distance.
- Place the focus point over a subject at the farthest distance and press the shutter-release button halfway to set the maximum distance. Rotate the sub-command dial or keep the shutter-release button pressed halfway while rotating the lens focus ring to fine-tune the maximum distance.



Tip: Supported Distances for “Nearest” and “Farthest”

We recommend that you configure [Nearest] and [Farthest] within the range of values indicated by the numbers in white. Setting these options to the values indicated in yellow may reduce the accuracy with which the camera can detect the distance to the subject, resulting in the camera focusing outside of the set range or autofocus becoming unavailable.



3 Press .

End range setting and return to the shooting display.

Caution: Changing Lenses

Changing from the lens used to set **[Limit range]** to another lens disables the set focus range.

- Reset the **[Limit range]** setting to use the focus limiter function with the new lens.
- If the **[Limit range]** setting is not reset with the new lens, re-attaching the original lens allows focusing within the set focus range.

Using Lenses with the Focus Limit Switch

When using a lens with a focus limit switch for the **[Limit range]** setting, set the lens focus limit switch to **FULL**.

Resetting the Focus Range

Press the  button to reset the values set for **[Nearest]** and **[Farthest]**.

“Minimum” Added to Custom Setting c2 “Self-timer” > “Interval Between Shots”

[**Minimum**] has been added to Custom Setting c2 [**Self-timer**] > [**Interval between shots**]. Selecting [**Minimum**] allows the self-timer shooting at intervals shorter than 0.5 seconds when [**Number of shots**] is more than 1.

New Options for Custom Settings d16/g14 “Grid Type”

Grid type options have been added to Custom Settings d16 and g14 [**Grid type**]:

- [4:3] added to Custom Setting d16 [**Grid type**].
- [9:16] added to Custom Setting g14 [**Grid type**].

New Options for Custom Settings f2 “Custom Controls (Shooting)” and g2 “Custom Controls”

Additional roles are now available for Custom Settings f2 [**Custom controls (shooting)**] and g2 [**Custom controls**].

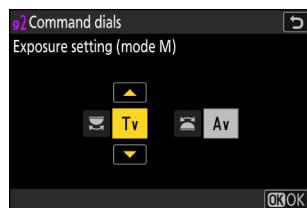
New Roles Available via Custom Settings f2 “Custom Controls (Shooting)” and g2 “Custom Controls”

Option		Description
	[Focus limiter]	Press the control to toggle between [ON] and [OFF] for Custom Setting a15 [Focus limiter setting] > [Focus limiter]. Hold the control to jump to the [Limit range] settings display (📖 70).
	[Cycle monitor mode]	Press the control to cycle through the monitor modes.
	[Film grain]	Press the control and rotate a command dial to toggle between [ON] and [OFF] for [Film grain options] > [Film grain] in the photo shooting or video recording menu (📖 63).

Exposure Compensation and ISO Sensitivity Are Now Assignable to Command Dials in Mode M

Exposure compensation (**E**) and ISO sensitivity (**ISO**) for video recording can now be assigned to the command dials in mode **M** using Custom Setting g2 [**Custom controls**] > [**Command dials**] > [**Exposure setting**].

- To set main and sub-command dial roles, select mode **M** in the [**Exposure setting**] dialog and press **DISP**.
- Press $\odot$ or $\odot$ to highlight a command dial and $\odot$ or $\odot$ to select roles.
- Use the command dials to adjust the exposure compensation or ISO sensitivity settings when either function is assigned to a control and the exposure compensation or ISO sensitivity dial is set to **C**.
- If you assigned roles other than aperture to the command dials, use touch controls to adjust aperture.



Changes to Setup Menu “Camera Sounds” Options

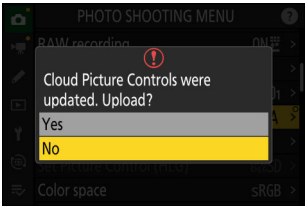
New options have been added to the **[Camera sounds]** item in the setup menu. Shutter sound volume can now be set separately from other electronic sounds.

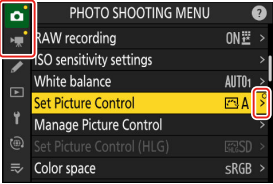
Option	Description
[Shutter sound]	If [ON] is selected, the camera will make a sound when the shutter is released during high-speed frame capture + or pixel shift shooting.
[Volume]	Choose the volume of the electronic shutter sound from a total of three options.
[Beep]	• Same as the [Beep on/off] function in earlier versions of the camera firmware. If you select [On] or [Off (touch controls only)], beeps will sound when: - the self-timer counts down, - interval-timer photography, time-lapse video recording, focus shift, or pixel shift ends, - the camera focuses in photo mode (note that this does not apply if AF-C is selected for focus mode or if [Release] is selected for Custom Setting a2 [AF-S priority selection]), or - touch controls are used (but note that beeps will not sound for touch controls if [Off (touch controls only)] is selected). • Select [Off] to mute the beep speaker.
[Volume]	Choose from three options for beep volume.
[Pitch]	Choose the pitch of the beep from [High] and [Low] .

New Method for Adding Picture Controls from Nikon Imaging Cloud

When all of the following conditions are met, pressing the **MENU** button to display the menus will show a confirmation dialog asking whether you want to add Picture Controls to your camera:

- The camera is connected to Nikon Imaging Cloud.
- You have selected Picture Controls in Nikon Imaging Cloud to add to your camera that have not yet been registered on the camera.



Option	Description
[Yes]	When you connect your camera to Nikon Imaging Cloud, Picture Controls are sent from Nikon Imaging Cloud and imported to your camera. These imported Picture Controls will not yet be displayed on the camera. Selecting [Yes] registers the imported Picture Controls to the camera and adds them to the [Set Picture Control] list.
[No]	Picture Controls sent from Nikon Imaging Cloud and imported to your camera are not registered to the camera; instead, the camera returns to the menu. In this case, notification marks will appear on the photo shooting and video recording menu tabs and on the [Set Picture Control] item in the camera menu.  • To manually register Picture Controls to the camera, select [Set Picture Control] > [Add Cloud Picture Control files] in either the photo shooting or video recording menu. • If you select [No], the confirmation dialog will not appear the next time a menu is displayed. However, selecting new Picture Controls to be added to the camera in Nikon Imaging Cloud will display the confirmation dialog.

New Setup Menu Item: “Automatic Monitor Display Switch”

An [**Automatic monitor display switch**] item has been added to the setup menu.

- Selecting [**On**] will result in the same behavior as in earlier versions of the camera firmware.
- Selecting [**On (when monitor docked)**] disables automatic switching of the viewfinder and monitor displays when the monitor is open and not in its storage position. Placing your eye to the viewfinder will not turn the viewfinder on; the monitor is always used for shooting.

New Smart Device Connection Method: “Wi-Fi Connection (STA Mode)”

Wi-Fi station mode has been added as a connection method, allowing you to connect the camera to the smart device via a wireless LAN access point. The existing method of connecting the camera and the smart device directly has been renamed Wi-Fi access point mode.

- A compatible version of SnapBridge is required to establish connections in Wi-Fi station mode and Wi-Fi access point mode. Be sure to use the latest version of the SnapBridge app.
- Some operations are performed using the camera, others on the smart device.
- Additional instructions are available via SnapBridge online help.



Tip: NX MobileAir

NX MobileAir app also supports Wi-Fi station mode. See NX MobileAir online help for information on connecting and using the NX MobileAir app with the camera.

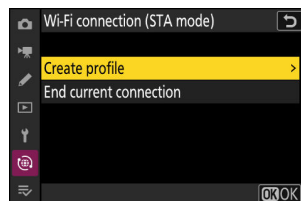
Connecting to an Existing Network (Wi-Fi Station Mode)

The camera connects to a smart device on an existing network (including home networks) via a wireless LAN access point. The smart device can still connect to the Internet while connected to the camera.

☒ Wi-Fi Station Mode

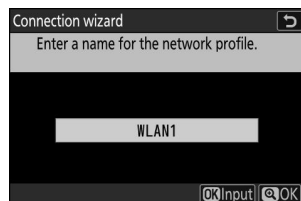
Connection to smart devices beyond the local area network is not supported. You can connect only to smart devices on the same network.

- 1 Camera:** Select **[Connect to smart device] > [Wi-Fi connection (STA mode)]** in the network menu, then highlight **[Create profile]** and press **OK**.



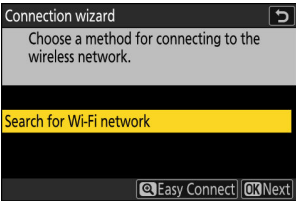
2 Camera: Name the new profile.

- To proceed to the next step without changing the default name, press **OK**.
- Whatever name you choose will appear in the network menu **[Connect to smart device] > [Wi-Fi connection (STA mode)]** list.
- To rename the profile, press **OK**.



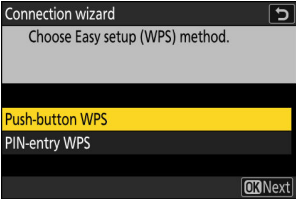
3 Camera: Highlight [Search for Wi-Fi network] and press .

The camera will search for networks currently active in the vicinity and list them by name (SSID).



** "Easy Connect"**

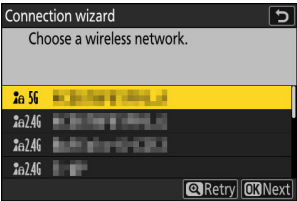
To connect without entering an SSID or encryption key, press  in Step 3. Next, highlight one of the following options and press . After connecting, proceed to Step 6.



Option	Description
[Push-button WPS]	For routers that support push-button WPS. Press the WPS button on the router and then press the camera  button to connect.
[PIN-entry WPS]	The camera will display a PIN. Using a computer, enter the PIN on the router. For more information, see the documentation provided with the router.

4 Camera: Choose a network.

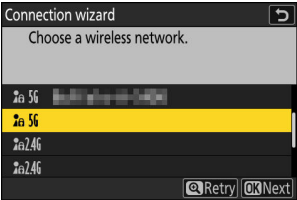
- Highlight a network SSID and press **OK**.
- The band on which each SSID operates is indicated by an icon.
- Encrypted networks are indicated by a **lock** icon. If the selected network is encrypted (**lock**), you will be prompted to enter the encryption key. If the network is not encrypted, proceed to Step 6.
- If the desired network is not displayed, press **Search** to search again.



✓ Hidden SSIDs

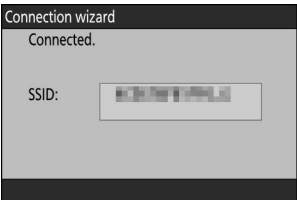
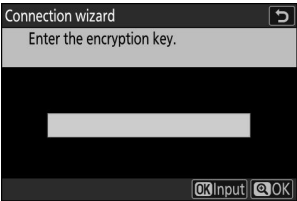
Networks with hidden SSIDs are indicated by blank entries in the network list.

- To connect to a network with a hidden SSID, highlight a blank entry and press **OK**. Next, press **OK**; the camera will prompt you to provide an SSID.
- Enter the network name and press **Search**. Press **Search** again; the camera will now prompt you to enter the encryption key.



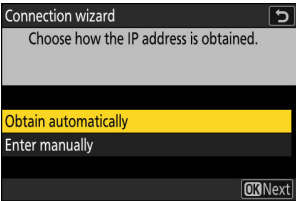
5 Camera: Enter the encryption key.

- Press **OK** and enter the encryption key for the wireless router.
- For more information on the wireless router encryption key, see the documentation for the wireless router.
- Press **OK** when entry is complete.
- Press **OK** again to initiate the connection. A message will be displayed for a few seconds when the connection is established.



6 Camera: Obtain or select an IP address.

Highlight one of the following options and press **OK**.

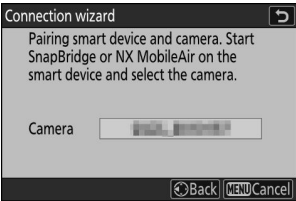


Option	Description
[Obtain automatically]	Select this option if the network is configured to supply the IP address automatically. A "configuration complete" message will be displayed once an IP address has been assigned.
[Enter manually]	Enter the IP address and sub-net mask manually. • Press OK; you will be prompted to enter the IP address. • Rotate the main command dial to highlight segments. • Press Left or Right to change the highlighted segment and press OK to proceed. • Next, press OK; a "configuration complete" message will be displayed. Press OK again to display the sub-net mask. • Press Left or Right to edit the sub-net mask and press OK; a "configuration complete" message will be displayed.

7 Camera: Press **OK to proceed when the "configuration complete" message is displayed.**

8 Camera: Start a Wi-Fi connection with the smart device.

When prompted, launch the SnapBridge app on the smart device.



9 Smart device: Launch the SnapBridge app, open the **Camera tab, tap **Settings**, and select [Wi-Fi STA Mode Connection].**

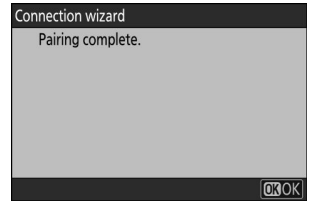
If this is the first time you have launched the app, you should instead tap **[Connect to camera]** in the welcome display.

10 Smart device: Select the camera.

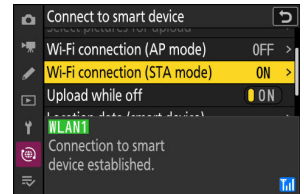
Select the camera name displayed on the camera in Step 8.

11 Camera/smart device: Establish the Wi-Fi connection.

- When the camera displays the dialog as shown, press **OK**.



- After establishing a Wi-Fi connection to the camera, the smart device will display Wi-Fi station mode options.
- The camera will display a message stating that the connection is complete.



The camera and smart device are now connected via Wi-Fi.

For information on using the SnapBridge app, see online help.

Direct Wireless Connection to a Smart Device (Wi-Fi Access Point Mode)

Connect the camera and a smart device directly via Wi-Fi. The camera acts as a wireless LAN access point, allowing you to connect when working outdoors and in other situations in which the smart device is not already connected to a wireless network and eliminating the need for complicated adjustments to settings. The smart device cannot connect to the Internet while connected to the camera.

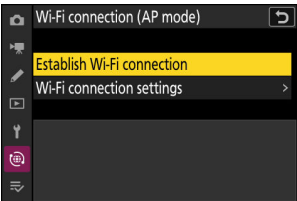
- 1 **Smart device:** Launch the SnapBridge app, open the  tab, tap , and select [Wi-Fi AP Mode Connection].

If this is the first time you have launched the app, you should instead tap [Connect to camera] in the welcome display. When prompted, tap the category for your camera and then tap the “Wi-Fi” option when prompted to choose the connection type.

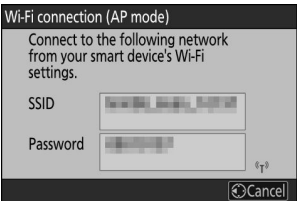
- 2 **Camera/smart device:** Turn the camera on when prompted.

Do not use any of the controls in the app at this point.

- 3 **Camera:** Select [Connect to smart device] > [Wi-Fi connection (AP mode)] in the network menu, then highlight [Establish Wi-Fi connection] and press .

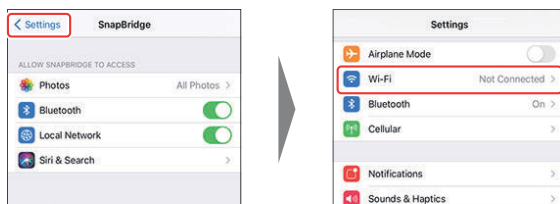


The camera SSID and password will be displayed.



4 Smart device: Follow the on-screen instructions to establish a Wi-Fi connection.

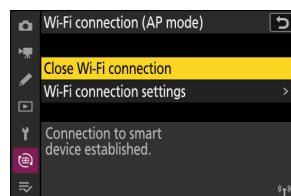
- On iOS devices, the “Settings” app will launch. Tap [**< Settings**] to open [**Settings**], then scroll up and tap [**Wi-Fi**] (which you’ll find near the top of the settings list) to display Wi-Fi settings.



- In the Wi-Fi settings display, select the camera SSID and enter the password displayed by the camera in Step 3.

5 Smart device: After adjusting device settings as described in Step 4, return to the SnapBridge app.

- After establishing a Wi-Fi connection to the camera, the smart device will display Wi-Fi access point mode options.
- The camera will display a message stating that the connection is complete.



The camera and smart device are now connected via Wi-Fi.

For information on using the SnapBridge app, see online help.

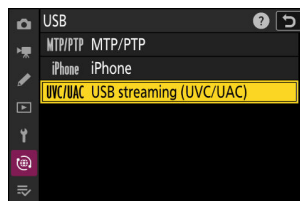
Terminating Wi-Fi Station/Wi-Fi Access Point Mode

To end the Wi-Fi connection, tap  in the SnapBridge  tab. After the icon changes to , tap , and select [**Exit Wi-Fi STA mode**] or [**Exit Wi-Fi AP mode**].

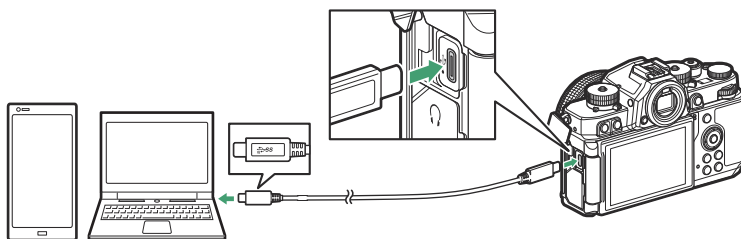
New Option for “USB” in Network Menu: “USB Streaming (UVC/UAC)”

[USB streaming (UVC/UAC)] has been added to [USB] in the network menu. You can use live streaming software and web conferencing applications on the computer or smart device connected to the camera via the supplied USB cable to live stream the video and audio recorded with the camera.

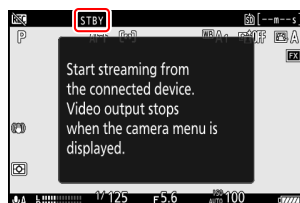
- 1 **Camera:** Select [USB] in the network menu, highlight [USB streaming (UVC/UAC)], and press **OK**.



- 2 **Connect the camera and computer/smart device using the supplied USB cable.**

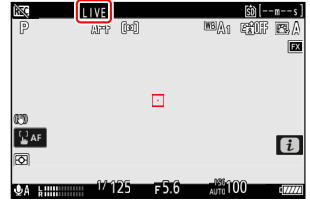


- The camera will enter streaming standby mode, and a message prompting you to start streaming and an STBY icon will be displayed in the shooting display.
- The video mode shooting display will appear regardless of the photo/video selector setting. The video mode settings including white balance and Picture Control will be applied to the streaming image.



3 Computer/smart device: Start streaming via a live streaming application.

- The camera will start streaming and a LIVE icon will be displayed in the shooting display.



- Streaming video is generated as follows.
 - Frame size/frame rate: 1080/60p, 1080/30p, 720/60p, 720/30p (settings available in the application/software vary depending on the model and specifications of the computer or smart device)
 - Video format: MJPEG
 - Audio format: PCM, 16-bit, stereo

✓ Cautions: Live Streaming

- Install live streaming software or web conferencing applications on your computer/smart device in advance.
 - Streaming will end automatically if:
 - **[USB]** in the network menu changes from **[USB streaming (UVC/UAC)]**,
 - the USB cable is removed to terminate the connection, or
 - the camera is turned off.
 - Some functions and settings cannot be used while streaming, including:
 - video recording,
 - display zoom,
 - HDMI connection,
 - communications with the computer/smart device other than the streaming software (for example, using software such as NX Studio),
 - time-lapse video recording, and
 - focus shift.
 - Some menus can be set while streaming, but a gray image will be streamed while operating the menu.
 - Depending on the operating system or model of the computer or smart device, you may need a connection application/software in addition to the application/software used for streaming.
 - We do not guarantee that streaming is available with all computers/smart devices.
-

Post-Upgrade Specifications for “C” Firmware Version 3.00

Nikon Z f Digital Camera

Type	
Type	Digital camera with support for interchangeable lenses
Lens mount	Nikon Z mount
Lens	
Compatible lenses	• Z mount NIKKOR lenses • F mount NIKKOR lenses (mount adapter required; restrictions may apply)
Effective pixels	
Effective pixels	24.5 million
Image sensor	
Type	35.9 × 23.9 mm CMOS sensor (full-frame/FX-format)
Total pixels	25.28 million
Dust-reduction system	Image sensor cleaning, Image Dust Off reference data (requires NX Studio)

Storage

Image size (pixels)	• [FX (36 × 24)] selected for image area: - 6048 × 4032 (Large: 24.4 M) - 4528 × 3024 (Medium: 13.7 M) - 3024 × 2016 (Small: 6.1 M) • [DX (24 × 16)] selected for image area: - 3984 × 2656 (Large: 10.6 M) - 2976 × 1992 (Medium: 5.9 M) - 1984 × 1328 (Small: 2.6 M) • [1:1 (24 × 24)] selected for image area: - 4032 × 4032 (Large: 16.3 M) - 3024 × 3024 (Medium: 9.1 M) - 2016 × 2016 (Small: 4.1 M) • [16:9 (36 × 20)] selected for image area: - 6048 × 3400 (Large: 20.6 M) - 4528 × 2544 (Medium: 11.5 M) - 3024 × 1696 (Small: 5.1 M)
File format (image quality)	• NEF (RAW): 14 bit; choose from lossless compression, high efficiency★, and high efficiency options • JPEG: JPEG-Baseline compliant with fine (approx. 1: 4), normal (approx. 1: 8), or basic (approx. 1: 16) compression; size-priority and optimal-quality compression available • HEIF: Supports fine (approx. 1: 4), normal (approx. 1: 8), or basic (approx. 1: 16) compression; size-priority and optimal-quality compression available • NEF (RAW) + JPEG: Single photograph recorded in both NEF (RAW) and JPEG formats • NEF (RAW) + HEIF: Single photograph recorded in both NEF (RAW) and HEIF formats

Storage	
Picture Control System	Auto, Standard, Neutral, Vivid, Monochrome, Flat Monochrome, Deep Tone Monochrome, Portrait, Rich Tone Portrait, Landscape, Flat, Creative Picture Controls (Dream, Morning, Pop, Sunday, Somber, Dramatic, Silence, Bleached, Melancholic, Pure, Denim, Toy, Sepia, Blue, Red, Pink, Charcoal, Graphite, Binary, Carbon); selected Picture Control can be modified; storage for custom Picture Controls • Choice of Picture Controls is restricted to Standard, Monochrome, and Flat when HLG is selected for tone mode during still photography. • Flexible Color settings created with NX Studio can be imported to the camera.
Media	SD (Secure Digital), SDHC, and SDXC memory cards (SDHC and SDXC memory cards are UHS-II compliant), and microSD, microSDHC, and microSDXC memory cards (microSDHC and microSDXC memory cards are UHS-I compliant)
Dual card slots	Either card can be used for overflow or backup storage, for separate storage of NEF (RAW) and JPEG or HEIF pictures, or for storage of duplicate JPEG or HEIF pictures at different sizes and image qualities; pictures can be copied between cards.
File system	DCF 2.0, Exif 2.32, MPEG-A MIAF

Viewfinder	
Viewfinder	1.27-cm/0.5-in. approx. 3690k-dot (Quad VGA) OLED electronic viewfinder with color balance and auto and 13-level manual brightness controls
Frame coverage	Approx. 100% horizontal and 100% vertical
Magnification	Approx. 0.8× (50 mm lens at infinity, -1.0 m^{-1})
Eyepoint	21 mm (-1.0 m^{-1} ; from rearmost surface of viewfinder eyepiece lens)
Diopter adjustment	$-4 - +2\text{ m}^{-1}$
Eye sensor	Automatically switches between monitor and viewfinder displays
Monitor	
Monitor	8-cm/3.2-in., approx. 2100k-dot vari-angle TFT touch-sensitive LCD with 170° viewing angle, approximately 100% frame coverage, and color balance and 15-level manual brightness controls

Shutter	
Type	Electronically-controlled vertical-travel focal-plane mechanical shutter; electronic front-curtain shutter; electronic shutter
Speed	• Accessible via shutter speed dial: $\frac{1}{8000}$ – 4 s in steps of 1 EV, Bulb, Time, X (flash sync) • Accessible via main command dial: $\frac{1}{8000}$ – 30 s in steps of $\frac{1}{3}$ EV (extendable to 900 s in mode M), Bulb, Time, X (flash sync)
Flash sync speed	X= $\frac{1}{200}$ s; flash synchronizes with shutter at speeds of $\frac{1}{200}$ s or slower; faster sync speeds are supported with auto FP high-speed sync
Release	
Release mode	Single frame, continuous low-speed, continuous high-speed, continuous high-speed (extended), high-speed frame capture + with Pre-Release Capture, self-timer
Approximate frame advance rate *	• Continuous low-speed: Approx. 1 – 7 fps • Continuous high-speed: Approx. 7.8 fps • Continuous high-speed (extended): Approx. 14 fps • High-speed frame capture + (C15): Approx. 15 fps • High-speed frame capture + (C30): Approx. 30 fps * Maximum frame advance rate as measured by in-house tests.
Self-timer	2 s, 5 s, 10 s, 20 s; 1–9 exposures at intervals of minimum, 0.5, 1, 2, or 3 s

Exposure	
Metering system	TTL metering using camera image sensor
Metering mode	• Matrix metering • Center-weighted metering: Weight of 75% given to 12 or 8 mm circle in center of frame or weighting can be based on average of entire frame • Spot metering: Meters circle with a diameter of approximately 4 mm centered on selected focus point • Highlight-weighted metering
Range *	-4 – +17 EV * Figures are for ISO 100 and f/2.0 lens at 20 °C/68 °F
Mode	AUTO : auto, P : programmed auto with flexible program, S : shutter-priority auto, A : aperture-priority auto, M : manual
Exposure compensation	-3 – +3 EV (-5 – +5 EV when exposure compensation dial is rotated to C) in steps of $\frac{1}{3}$ EV
Exposure lock	Luminosity locked at detected value
ISO sensitivity (Recommended Exposure Index)	ISO 100–64000 (choose from step sizes of $\frac{1}{3}$ and 1 EV); can also be set to approx. 0.3, 0.7, or 1 EV (ISO 50 equivalent) below ISO 100 or to approx. 0.3, 0.7, 1, or 1.7 EV (ISO 204800 equivalent) above ISO 64000; auto ISO sensitivity control available * Note: ISO sensitivity is limited to 400–64000 when HLG is selected for tone mode.
Active D-Lighting	Auto, Extra high, High, Normal, Low, and Off
Multiple exposure	Add, average, lighten, darken
Other options	HDR overlay, photo mode flicker reduction

Autofocus	
Type	Hybrid phase-detection/contrast AF with AF assist
Detection range *	–10 – +19 EV * Measured in photo mode at ISO 100 and a temperature of 20 °C/68 °F using single-servo AF (AF-S) and a lens with a maximum aperture of f/1.2
Lens servo	• Autofocus (AF): Single-servo AF (AF-S); continuous-servo AF (AF-C); full-time AF (AF-F; available only in video mode); predictive focus tracking • Manual focus (M): Electronic rangefinder can be used
Focus points *	273 focus points * Number of focus points available in photo mode with single-point AF selected for AF-area mode and FX selected for image area
AF-area mode	Pinpoint (available in photo mode only), single-point, dynamic-area (S, M, and L; available in photo mode only), wide-area (S, L, C1, and C2), and auto-area AF; 3D-tracking (available in photo mode only); subject-tracking AF (available in video mode only)
Focus lock	Focus can be locked by pressing shutter-release button halfway (single-servo AF/ AF-S) or by pressing the AF-ON (AF-L) button
Vibration reduction (VR)	
Camera on-board VR	5-axis image sensor shift
Lens on-board VR	Lens shift (available with VR lenses)

Flash	
Flash control	TTL: i-TTL flash control; i-TTL balanced fill-flash is used with matrix, center-weighted, and highlight-weighted metering, standard i-TTL fill-flash with spot metering
Flash mode	Front-curtain sync, slow sync, rear-curtain sync, red-eye reduction, red-eye reduction with slow sync, off
Flash compensation	-3 – +1 EV in steps of $\frac{1}{3}$ EV
Flash-ready indicator	Lights when optional flash unit is fully charged; flashes as underexposure warning after flash is fired at full output
Accessory shoe	ISO 518 hot-shoe with sync and data contacts and safety lock
Nikon Creative Lighting System (CLS)	i-TTL flash control, optical Advanced Wireless Lighting, modeling illumination, FV lock, Color Information Communication, auto FP high-speed sync
White balance	
White balance	Auto (3 types), natural light auto, direct sunlight, cloudy, shade, incandescent, fluorescent (3 types), flash, choose color temperature (2500–10,000 K), preset manual (up to 6 values can be stored), all with fine-tuning
Bracketing	
Bracketing	Exposure and/or flash, white balance, and ADL
Other options for still photography	
Other options for still photography	Vignette control, diffraction compensation, auto distortion control, skin softening, portrait impression balance, film grain, and interval-timer, focus-shift, and pixel-shift photography

Video	
Metering system	TTL metering using camera image sensor
Metering mode	Matrix, center-weighted, or highlight-weighted
Frame size (pixels) and frame rate	• 3840 × 2160 (4K UHD): 60p/50p/30p/25p/24p • 1920 × 1080: 120p/100p/60p/50p/30p/25p/24p • 1920 × 1080 (slow-motion): 30p × 4 (slow-motion)/25p × 4 (slow-motion)/24p × 5 (slow-motion) * Note: Actual frame rates for 120p, 100p, 60p, 50p, 30p, 25p, and 24p are 119.88, 100, 59.94, 50, 29.97, 25, and 23.976 fps respectively.
File format	MOV, MP4
Video compression	H.265/HEVC (8 bit/10 bit), H.264/AVC (8 bit)
Audio recording format	Linear PCM (48 KHz, 24 bit, for videos recorded in MOV format) or AAC (48 KHz, 16 bit, for videos recorded in MP4 format)
Audio recording device	Built-in stereo or external microphone with attenuator option; sensitivity adjustable
Exposure compensation	−3 – +3 EV in steps of $\frac{1}{3}$ EV
ISO sensitivity (Recommended Exposure Index)	• Mode M: Manual selection (ISO 100–51200; choose from step sizes of $\frac{1}{6}$, $\frac{1}{3}$, and 1 EV); with additional options available equivalent to approximately 0.3, 0.7, 1, or 2 EV (ISO 204800 equivalent) above ISO 51200; auto ISO sensitivity control (ISO 100–Hi 2.0) available with selectable upper limit • Modes P, S, A: Auto ISO sensitivity control (ISO 100–Hi 2.0) with selectable upper limit •  mode: Auto ISO sensitivity control (ISO 100–51200) * Note: ISO sensitivity is limited to 400–51200 when HLG is selected for tone mode.

Video	
Active D-Lighting	Extra high, High, Normal, Low, and Off
Other options for video recording	Time-lapse video recording, electronic vibration reduction, time codes, N-Log and HDR (HLG) video, wave-form display, red REC frame indicator, video recording display zoom (50%, 100%, 200%, and 400%), and extended shutter speeds (modes S and M); option to view video recording info available via i menu; Hi-Res Zoom
Playback	
Playback	Full-frame and thumbnail (up to 4, 9, or 72 pictures) playback with playback zoom, playback zoom cropping, video playback, slide shows, histogram display, highlights, photo information, location data display, auto picture rotation, picture rating, voice memo recording and playback, IPTC information embedding and display, filtered playback, skip to first shot in series, series playback, save consecutive frames, and motion blend
Interface	
USB	Type-C SuperSpeed USB connector; connection to built-in USB ports is recommended
HDMI output	Type D HDMI connector
Audio input	Stereo mini-pin jack (3.5 mm diameter; plug-in power supported)
Audio output	Stereo mini-pin jack (3.5 mm diameter)

Wi-Fi/Bluetooth

Wi-Fi

- **Standards:**
 - IEEE 802.11b/g/n (Africa, Asia, and Oceania)
 - IEEE 802.11b/g/n/a/ac (Europe, Americas)
- **Operating frequency:**
 - 2412–2462 MHz (channel 11; Africa, Asia, and Oceania)
 - 2412–2462 MHz (channel 11) and 5180–5825 MHz (5180–5580 MHz, 5660–5700 MHz, and 5745–5825 MHz) (U.S.A., Canada, Mexico)
 - 2412–2462 MHz (channel 11) and 5180–5805 MHz (5180–5320 MHz and 5745–5805 MHz) (other countries in the Americas)
 - 2412–2462 MHz (channel 11) and 5745–5805 MHz (Georgia)
 - 2412–2462 MHz (channel 11) and 5180–5320 MHz (other European countries)
- **Maximum output power (EIRP):**
 - 2.4 GHz band: 6.1 dBm
 - 5 GHz band: 9.4 dBm
- **Authentication:** Open system, WPA2-PSK, WPA3-SAE

Bluetooth

- **Communication protocols:** Bluetooth Specification version 5.0
- **Operating frequency:**
 - Bluetooth: 2402–2480 MHz
 - Bluetooth Low Energy: 2402–2480 MHz
- **Maximum output power (EIRP):**
 - Bluetooth: 0.6 dBm
 - Bluetooth Low Energy: –0.9 dBm

Power source	
Battery	One EN-EL15c rechargeable Li-ion battery * * EN-EL15b and EN-EL15a batteries can be used in place of the EN-EL15c. Note, however, that fewer pictures can be taken on a single charge than with the EN-EL15c. EH-8P AC adapters can be used to charge EN-EL15c and EN-EL15b batteries only.
AC adapter	- EH-7P charging AC adapters (available separately) - EH-8P AC adapters (available separately); require supplied USB cable featuring Type-C connectors at both ends
Tripod socket	
Tripod socket	0.635 cm (1/4 in., ISO 1222)

Dimensions/weight	
Dimensions (W × H × D)	Approx. 144 × 103 × 49 mm/5.7 × 4.1 × 2 in.
Weight	Approx. 710 g (1 lb. 9.1 oz.) with battery and memory card but without body cap and accessory shoe cover; approx. 630 g/1 lb. 6.3 oz. (camera body only)
Operating environment	
Temperature	0 °C– 40 °C (+32 °F – 104 °F)
Humidity	85% or less (no condensation)

- Unless otherwise stated, all measurements are performed in conformity with Camera and Imaging Products Association (CIPA) standards or guidelines.
- All figures are for a camera with a fully-charged battery.
- Throughout this document, “FX format” and “FX” are used in reference to an angle of view equivalent to that of a 35 mm format (“full frame”) camera and “DX format” and “DX” to an angle of view equivalent to that of an APS-C camera.
- The sample images displayed on the camera and the images and illustrations in this document are for expository purposes only.
- Nikon reserves the right to change the appearance, specifications, and performance of the product described in this document at any time and without prior notice. Nikon will not be held liable for damages that may result from any mistakes that this document may contain.

Index

Index

A

AE bracketing ([book 9](#))
AE & flash bracketing ([book 9](#))
AF/MF subject detection options ([book 10](#))
Assign power zoom ([book 38](#))
Auto bracketing ([book 9](#))
Auto series playback options ([book 20](#))
Automatic monitor display switch ([book 79](#))

B

Brightness information ([book 17](#))

C

Camera sounds ([book 77](#))
Cloud Picture Control ([book 11](#))
Cloud service ([book 44](#))
Custom controls (playback) ([book 32](#))
Custom controls (shooting) ([book 27](#), [book 75](#))
Custom controls ([book 27](#), [book 75](#))
Customize **i** menu ([book 15](#), [book 25](#), [book 38](#), [book 39](#))
Customize retouch options ([book 19](#))

D

Distance units ([book 42](#))

E

Easy ISO ([book 24](#))
Exposure delay mode ([book 25](#))

F

Film grain options ([book 63](#))
Firmware version ([book 6](#), [book 60](#))
Flash bracketing ([book 9](#))
Flexible Color ([book 11](#))
Focus limiter setting ([book 70](#))
Focus peaking ([book 68](#))
Focus point display ([book 23](#))

G

Grid type ([book 74](#))

H

Half-press to cancel zoom (MF) ([book 26](#))
High-speed frame capture + ([book 65](#))
Hi-Res Zoom ([book 15](#), [book 66](#))

I

IPTC presets ([book 40](#))

ISO sensitivity (mode M) ([book 14](#))

J

JPEG primary - JPEG secondary ([book 13](#))

K

Keep connection ([book 58](#))

M

Maximum aperture Lv ([book 69](#))

N

Nikon Imaging Cloud ([book 44](#), [book 47](#))

N-Log ([book 14](#))

Non-CPU lens data ([book 39](#))

P

Picture Controls ([book 78](#))

R

Record camera orientation ([book 21](#), [book 67](#))

S

Secondary slot function ([book 13](#))

Self-timer ([book 73](#))

T

Touch Fn ([book 36](#))

U

USB ([book 89](#))

V

Viewfinder display size ([book 43](#))

W

Wi-Fi access point mode ([book 80](#))

Wi-Fi station mode ([book 80](#))

Z

Zoom ring control (PZ lens) ([book 37](#))

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