Nikon

D4 Professional Setting Guide

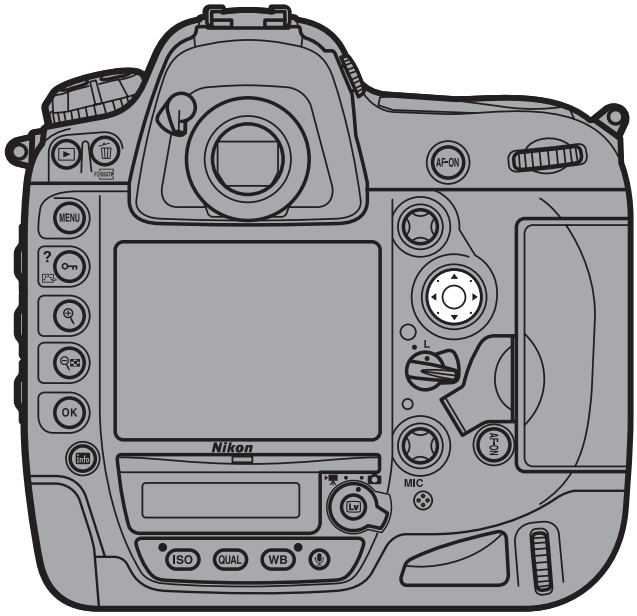

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Table of Contents

Taking Photographs 1

Improving Camera Response 2

Settings by Subject 6

Matching Settings to Your Goal 12

- Reducing Camera Blur: Vibration Reduction 12
- Preserving Natural Contrast: Active D-Lighting 13
- Quick Setting Selection: Shooting Menu Banks 14
- Finding Controls in the Dark: Button Backlights 15
- Reducing Noise at High ISO Sensitivities 15
- Reducing Noise and Blur: Auto ISO Sensitivity Control .. 16
- Reducing Shutter Noise: Quiet and Silent Release 17
- Optimizing White Balance 18
- Varying White Balance: White Balance Bracketing 22
- Copying White Balance from a Photograph 26
- Creating a Multiple Exposure 28
- Choosing a Memory Card for Playback 30
- Copying Pictures Between Memory Cards 31
- Copying Settings to Other D4 Cameras 31
- Keeping the Camera Level: Virtual Horizon 32
- Composing Photographs: The Framing Grid 34
- Resizing Photographs for Upload: Resize 34

Autofocus Tips 35
- Focusing with the AF-ON Button 35
- Choosing the Number of Focus Points 35
- AF-C Priority Selection 36
- AF-Area Mode 38
- Focus Point Selection and Camera Orientation 41
- Adjusting Autofocus to the Lens: AF Fine-Tune 42
- Focus Tracking with Lock-On 44

Movies 45

Before Filming 46
- Sound 46
- Movie Settings 47
- Starting Movie Live View 50
- Exposure Mode 51
- White Balance 51
- Using Autofocus 52
- Lens Vibration Reduction (VR) 54
- Adjusting Settings During Live View 55
- The Information Display 56
- Checking Focus 57

Filming Movies 58
- Starting and Ending Recording 58
- Editing Movies 59

Time-Lapse Movies 60
- Time-Lapse Movies 60

HDMI Output 64

First-Time Users **67**

- Customizing the Command Dials 68
- Reversing Indicators 68
- Choosing the Primary Slot 69
- Adjusting Monitor Brightness 69
- Choosing the Monitor off Delay 69
- Metering 70

Taking Photographs

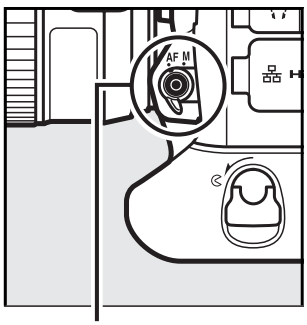
This chapter describes how the camera can be configured for improved shutter response and settings adjusted for different subjects, and gives tips on using autofocus.

Improving Camera Response

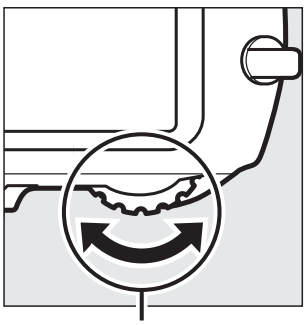
This section introduces settings for reliably and quickly photographing athletes and other moving subjects.

Continuous-Servo AF (AF-C)

Press the AF-mode button and rotate the main command dial to select **AF-C**. Focus is adjusted continuously while the shutter-release button is pressed halfway or the **AF-ON** button is pressed.



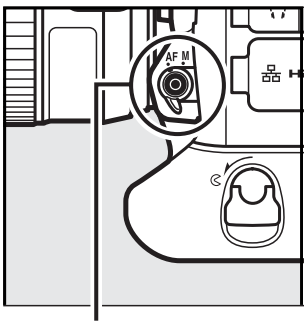
AF-mode button



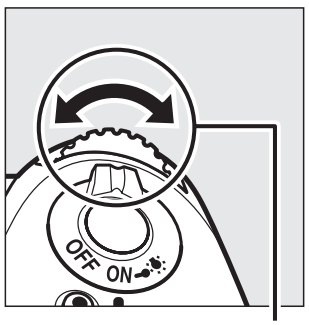
Main command dial

Dynamic-Area AF

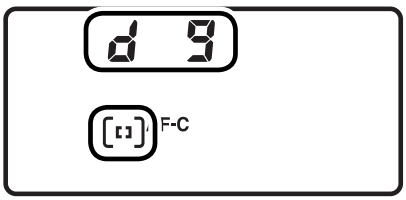
Press the AF-mode button and rotate the sub-command dial until dynamic-area AF is selected in the viewfinder and top control panel. The focus point is selected manually prior to shooting, but if the subject briefly leaves the selected focus point, the camera will focus based on data from surrounding focus points (choose from 9, 21, and 51 points as described on page 38).



AF-mode button



Sub-command dial



Top control panel

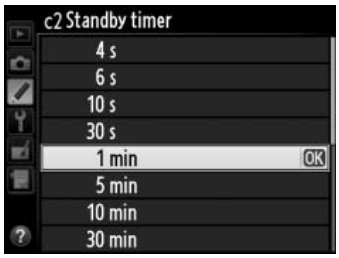
Viewfinder

Custom Settings

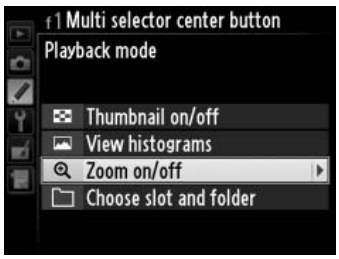
a1 AF-C priority selection > Release: The camera gives priority to shutter release over focus, ensuring that you never miss a shot (page 36).

a10 Store points by orientation > Yes: Select separate focus points in landscape and portrait orientations for quick framing (page 41).

c2 Standby timer > 1 min: Reactivating the exposure meters introduces a slight delay. Choose settings around **1 min** according to your subject, but note that longer times increase the drain on the battery.



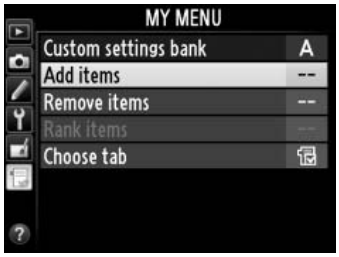
f1 Multi-selector center button > Playback mode > Zoom on/off: Use the center of the multi selector for close inspection of focus during playback.



f3 Assign Fn button/f4 Assign preview button > Press > MY MENU: Add **Custom settings bank** to My Menu and then use the **Fn** or **Pv** button to quickly select a bank according to the scene. To add items to My Menu:

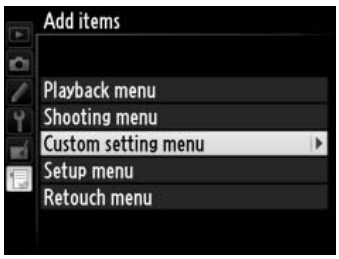
1 Select **Add items.**

In My Menu, highlight **Add items** and press ▶.



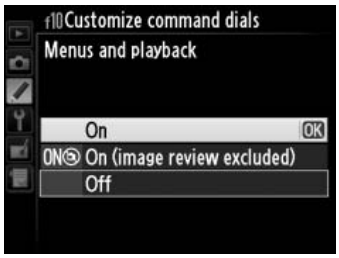
2 Add items.

Navigate to the item you wish to add and press ⓚ, then position the new item and press ⓚ again to add it to My Menu.



Custom Settings Banks

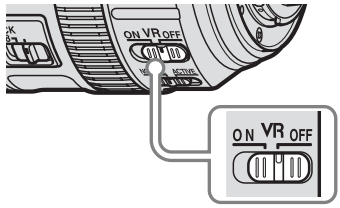
Custom settings are stored in four banks (A, B, C, and D). Changes to one bank have no effect on the others.



f10 Customize command dials > Menus and playback > On: Use the main command dial to scroll through pictures in full-frame playback without changing the zoom ratio, a handy feature when you want to check focus for multiple pictures.

f16 Assign movie record button > Press + command dial > ISO sensitivity: When taking photos, use your right hand on the movie record button and main command dial to set ISO sensitivity without taking your eye from the viewfinder.

Lens Vibration Reduction (VR)



Lens VR switch > OFF: Vibration is unlikely to affect photographs at shutter speeds of 1/500 s or faster. For accurate framing at high shutter speeds, turn vibration reduction off.

▶ *Playback Menu*

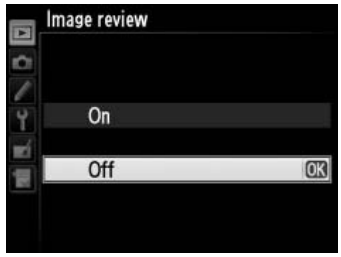
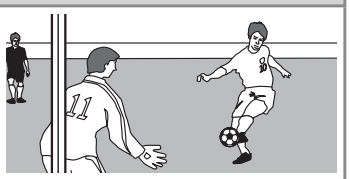
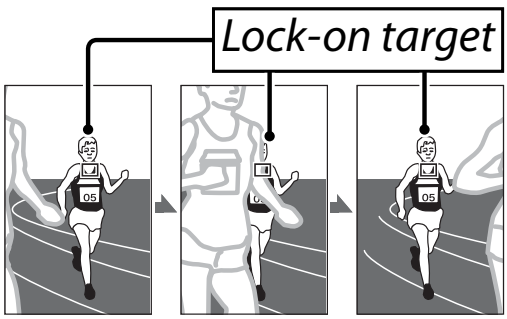
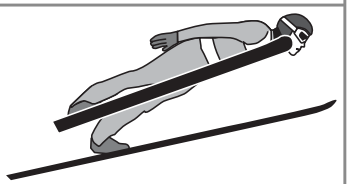


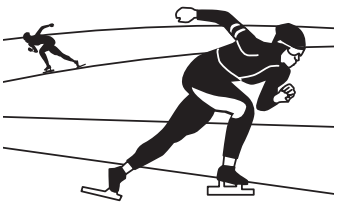
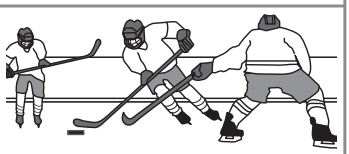
Image review > Off: Turning image review off improves shutter response during burst photography. Pictures can be viewed by pressing ▶.

Settings by Subject

In addition to the changes described above under "Improving Camera Response", you can fine-tune settings to improve response for specific subjects.

Situation	
Most team sports (e.g., soccer/rugby). Choose these basic settings if subjects are often partially obscured by other objects or focus shifts quickly between nearby and distant subjects.	
Subjects are often obscured by other athletes (e.g., track events). Select a long lock-on to maintain focus on your subject.	
Subjects appear suddenly or are hard to track (e.g., diving/ski-jumping). Increasing number of dynamic-area focus points ensures that camera will focus based on information from surrounding focus points if subject briefly leaves selected focus point. Most effective where there is separation between subject and background.	

	AF-C priority selection (page 36)	AF-area mode (page 38)	Focus tracking with lock-on (page 44)	See also
	Release	Dynamic-area AF (9 points)	**3 (Normal)**	High-contrast scenes, backlighting: page 13
	Release or **Focus + release**		**3 (Normal)** to **5 (Long)**	• Focus tracking with lock-on: page 44 • AF-C priority selection: page 36
	Release	Dynamic-area AF (21 points)	**3 (Normal)**	High-contrast scenes: page 13

Situation	
Outer focus points are used (e.g., speed skating). Increase number of dynamic-area focus points by one level when framing pictures in "tall" (portrait) orientation. Choose **Focus + release** for improved focus when photographing ball sports and in other situations in which precise timing is not a priority.	
Subjects move rapidly; camera orientation changes often (e.g., figure skating). Increase number of dynamic-area focus points. Increase lock-on times for pairs events, where subjects are often obscured by partner and camera may focus background in gap between subjects. For improved framing, choose **Yes** for Custom Setting a10 (**Store points by orientation**).	
Subjects move and/or change rapidly (e.g., hockey or when alternately framing the pitcher and a runner when shooting from the bench in baseball). Reduce lock-on times for improved response in situations that call for rapid changes of subject.	

	AF-C priority selection (page 36)	AF-area mode (page 38)	Focus tracking with lock-on (page 44)	See also
	Focus + release	Dynamic-area AF (21 points)	**3 (Normal)**	AF-C priority selection: page 36
	Release	Dynamic-area AF (9 or 21 points)	**3 (Normal)** or **5 (Long)**	• AF-area mode: page 38 • Focus point selection and camera orientation: page 41 • Focus tracking with lock-on: page 44
	Release	Dynamic-area AF (9 points) or single-point AF	**Off** or **1 (Short)**	• AF-area mode: page 38 • Focus tracking with lock-on: page 44

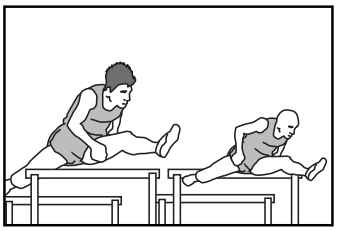
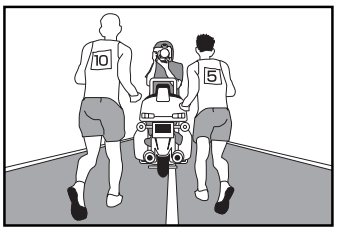
Situation	
Time between focus and shooting is short and there are obstacles between autofocus target and camera (e.g., volleyball or swimming). Use single-point AF to prevent camera focusing on obstacles such as volleyball net or splashes, and set standby timer to 1 minute or longer for improved shutter response.	

If the camera has trouble focusing when high frame advance rates are selected in continuous release mode, try lowering the frame rate.

	AF-C priority selection (page 36)	AF-area mode (page 38)	Focus tracking with lock-on (page 44)	See also
	Release	Single-point AF	**3 (Normal)**	The standby timer: page 3

Reducing Camera Blur: Vibration Reduction

Vibration reduction (VR) is supported with VR lenses. To reduce camera blur, choose a setting suited to the subject.

Situation	VR mode
Moving subjects shot at shutter speeds of 1/500 s or faster: Because blur is less likely, **OFF** is recommended at fast shutter speeds. 	**OFF**
Stationary subjects; panning shots of moving subjects: Select **ON** or **NORMAL** to reduce the effects of vibration.	**ON**/ **NORMAL**
Photos taken from cars, boats, helicopters, or other unstable platforms: Select **ACTIVE**. Note that the image in the viewfinder may be affected by panning or excessive vibration. 	**ACTIVE**
Photographs taken with a tripod: Select **TRIPOD**, but note that **NORMAL** is suggested if the head is not fixed or you are using a monopod.	**TRIPOD**

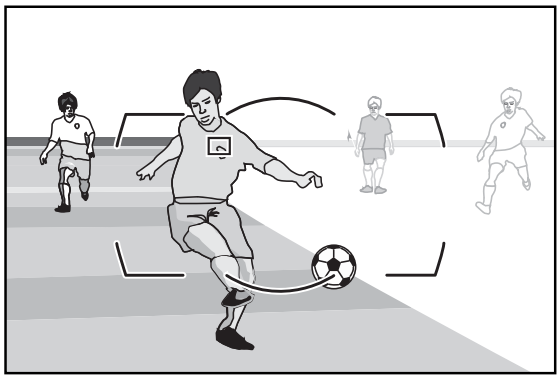
Note that depending on the lens, some of the above VR modes may not be available.

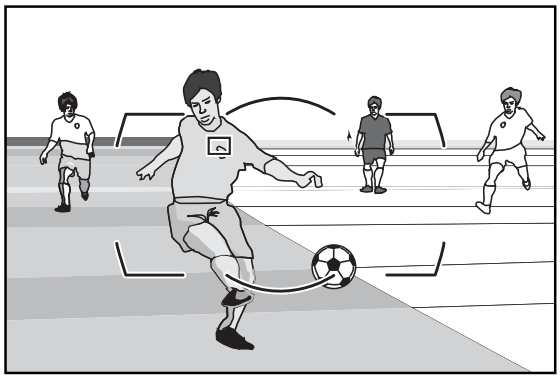
Note

Frame rates may drop at settings other than **OFF**.

Preserving Natural Contrast: Active D-Lighting

Active D-Lighting helps preserve details in highlights and shadows. Use Active D-Lighting for natural contrast when photographing day matches in stadiums and other venues that mix sunlight and shade.





Note

Noise may appear when Active D-Lighting is used at high ISO sensitivities.

The following settings are suggested:

- **Active D-Lighting: Auto**[1]
- **Metering:** Matrix[2]
- **Exposure mode:** P, S, or A[2]

1 Choose **Extra high 1** or **2** if **Auto** fails to produce desired results, but note that noise may increase.

2 Desired results may not be achieved with center-weighted or spot metering or in exposure mode M.

Quick Setting Selection: Shooting Menu Banks

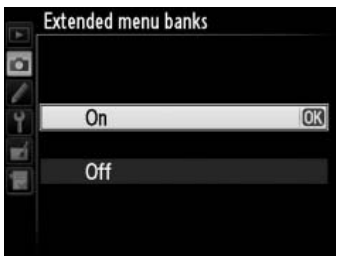
Use the **Shooting menu bank** option in the shooting menu when you need to switch rapidly from one group of settings to another, for example when alternating between sunlight and shade.

Shooting Menu Banks

Shooting menu settings are stored in four banks (A, B, C, and D). To store a particular combination of frequently-used settings, select a bank using the **Shooting menu bank** option in the shooting menu and set the camera to the desired settings. The new settings will be restored the next time the bank is selected. With some exceptions, changes to one bank have no effect on the others.

Extended Menu Banks

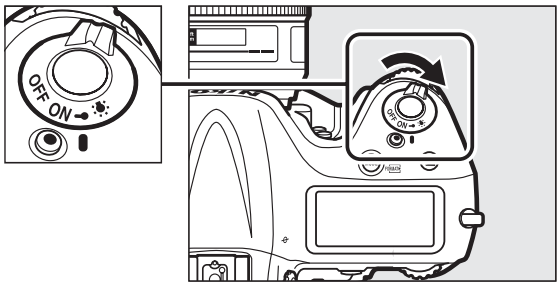
To include exposure mode, shutter speed (modes S and M only), and aperture (modes A and M only) settings in the shooting menu banks, select **On** for **Extended menu banks** in the shooting menu.



Shooting Menu Bank Selection

When shooting menu bank selection is assigned to the **Fn** or **Pv** button using the **Press + command dials** option for Custom Setting f3 (**Assign Fn button**) or f4 (**Assign preview button**), menu banks can be selected by pressing the button and rotating a command dial.

Finding Controls in the Dark: Button Backlights



If you are having trouble finding camera controls in the dark, rotate the power switch toward ☀ to activate the control panel and button backlights. The backlights remain on for 6 s after the switch is released.

The Standby Timer

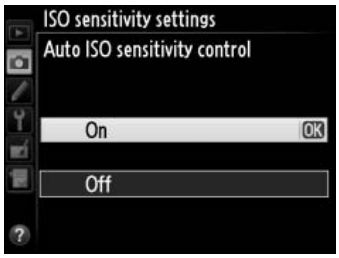
If **On** is selected for Custom Setting d10 (**LCD illumination**), the control panel and button backlights will remain on while the standby timer is active. Extend the timer to keep the backlights lit longer.

Reducing Noise at High ISO Sensitivities

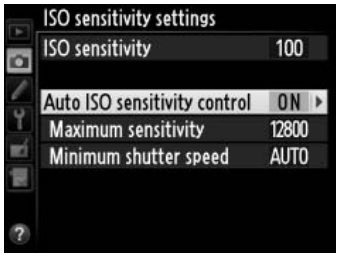
Use the **High ISO NR** option in the shooting menu to reduce "noise" (randomly-spaced bright pixels or fog) at high ISO sensitivities.

Option	Description
High	Reduce noise, particularly in photographs taken at high ISO sensitivities.
Normal	
Low	
Off	Noise reduction is only performed at sensitivities of 3200 and higher. The amount of noise reduction is less than the amount performed when **Low** is selected for **High ISO NR**.

Reducing Noise and Blur: Auto ISO Sensitivity Control



When **On** is selected for **ISO sensitivity settings** > **Auto ISO sensitivity control** in the shooting menu, the camera automatically adjusts ISO sensitivity if optimal exposure can not be achieved at the value selected by the user.



Auto ISO sensitivity control can be fine-tuned using the following options.

- **Maximum sensitivity:** Choose the maximum value available for auto ISO sensitivity control (200–Hi 4). The minimum is ISO 100.
- **Minimum shutter speed:** In exposure modes **P** and **A**, sensitivity will only be adjusted if shutter speed would otherwise be slower than this value (1/4,000–1 s or **Auto**). If **Auto** is selected, the camera will adjust the threshold for auto ISO sensitivity control according to the focal length of the lens.

Tips

We recommend that you use matrix metering (▣) and choose exposure mode **P** or **A**. Exposure compensation can be used.

Reducing Shutter Noise: Quiet and Silent Release

To reduce the amount of noise made by the shutter during viewfinder photography, rotate the release mode dial to **Q**. In live view, shutter noise can be eliminated by selecting **Silent** for **Live view photography** in the shooting menu (note that while FX format pictures taken when **Quiet** is selected for **Live view photography** are the same size as those taken during viewfinder photography—about 16.2 megapixels—those taken when **Silent** is selected are only about 2.5 megapixels in size). The effects of these settings are summarized below.

	Release mode		
	Viewfinder	**Live view**	
	Q (Quiet)	**Quiet**	**Silent**[1]
Shutter sound	Slight	Slight[2]	None[2]
Burst shooting	n/a	Up to 11 fps	Up to 24 fps[3]

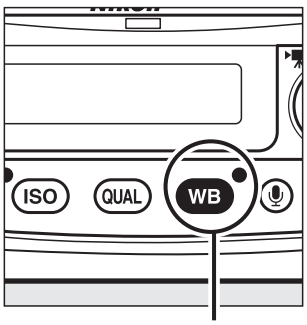
1. JPEG only.
2. Mirror slap audible at start and end of live view.
3. Bursts may be up to 5 s long.

Optimizing White Balance

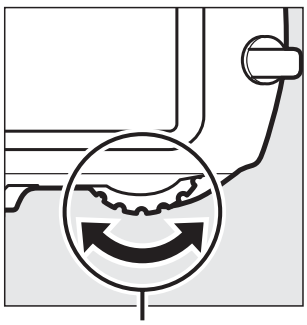
If auto white balance does not produce the desired results, you can try another setting, choose a color temperature, or use preset manual white balance as described below.

Choosing a Setting

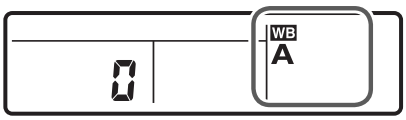
Press the **WB** button and rotate the main command dial until the desired setting is displayed in the rear control panel.



WB *button*



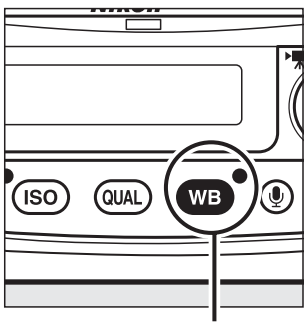
Main command dial



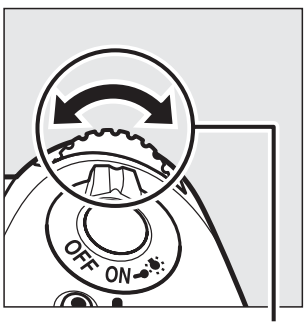
Rear control panel

Choosing a Color Temperature

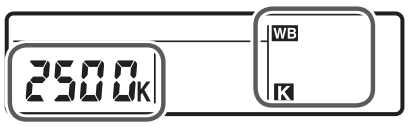
To choose a color temperature for the amber (A)–blue (B) axis, select a white balance setting of **K** (**Choose color temp.**) as described opposite and then press the **WB** button and rotate the sub-command dial until the desired value is displayed in the rear control panel.



WB *button*

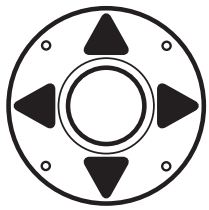


Sub-command dial



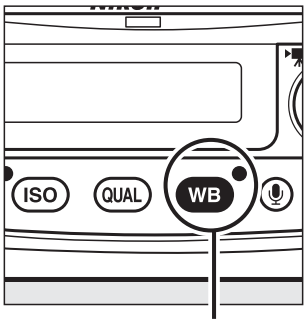
Rear control panel

To enter a value directly in increments of 10 K, press the **WB** button and use the multi selector, pressing ◀ or ▶ to highlight digits and ▲ or ▼ to change.

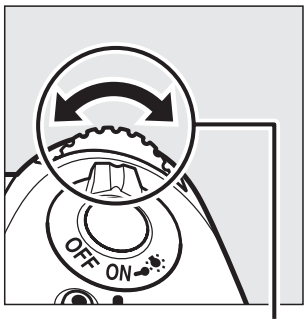


Preset Manual White Balance

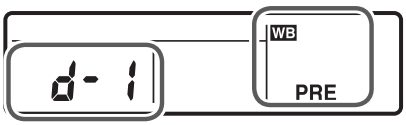
To choose a white balance preset, select a white balance setting of **PRE** (page 18) and then press the **WB** button and rotate the sub-command dial until the desired preset (d-1 to d-4) is displayed in the rear control panel.



WB *button*



Sub-command dial



Rear control panel

To measure white balance for the selected preset, place a neutral gray or white object under the lighting that will be used in the final photograph and follow the steps below.

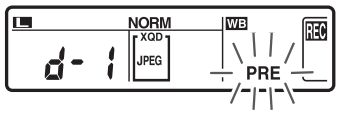
1 Choose manual focus mode.
Rotate the focus-mode selector to **M**.

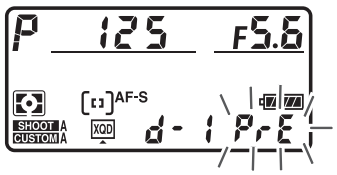
Note

The camera may be unable to measure white balance at high ISO sensitivities. If the camera fails to measure white balance, reduce ISO sensitivity and try again.

2 **Select direct measurement mode.**

Press the **WB** button briefly and then press the button until the **PRE** icon in the rear control panel starts to flash. A flashing PrE will also appear in the top control panel and viewfinder. The displays will flash for about 6 s.





3 **Measure white balance.**

Before the indicators stop flashing, frame the reference object so that it fills the viewfinder and press the shutter-release button all the way down. The camera will measure a value for white balance and store it in the selected preset. No photograph will be recorded; white balance can be measured accurately even when the camera is not in focus.

4 **Check the results.**

If the camera was able to measure a value for white balance, Good will flash in the control panels for about 6 s, while the viewfinder will show a flashing Gd.

Choosing a White Balance Preset

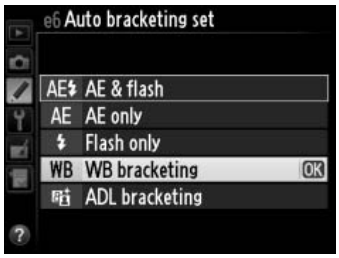
Press the **WB** button and rotate the sub-command dial to select from presets d-1 to d-4.

Varying White Balance: White Balance Bracketing

Use bracketing if you have trouble adjusting white balance. Every time you take a photo, the camera will create multiple copies, each with a different white balance.

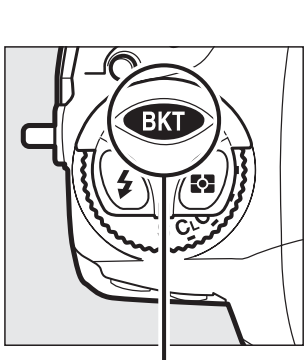
1 Select white balance bracketing.

Select **WB bracketing** for Custom Setting e6 (**Auto bracketing set**). Note that white balance bracketing is not available with NEF (RAW) image quality options.

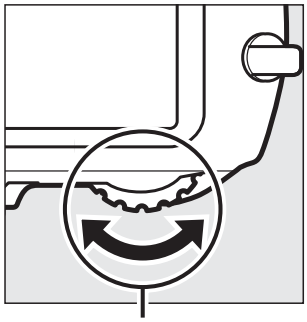


2 Choose the number of copies.

Pressing the **BKT** button, rotate the main command dial to choose the number of copies (up to 9).

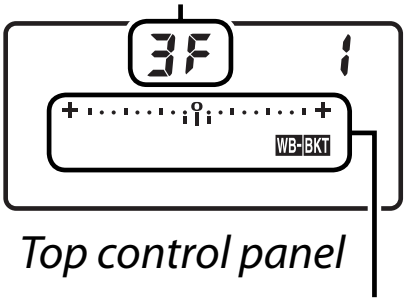


BKT *button*



Main command dial

Number of copies



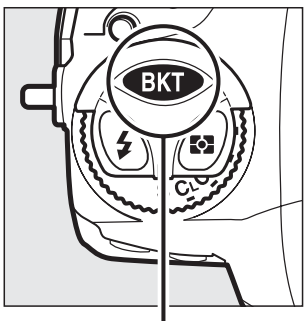
Top control panel

White balance bracketing indicator

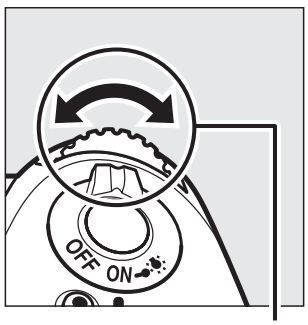
At settings other than 0, a WB-BKT icon and bracketing indicator appear in the top control panel and BKT is displayed in the viewfinder.

3 Select a bracketing increment.

Pressing the **BKT** button, rotate the sub-command dial to choose an increment of 1 (5 mired), 2 (10 mired), or 3 (15 mired).

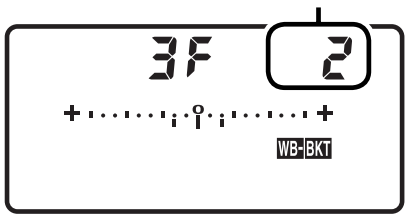


BKT *button*



Sub-command dial

Bracketing increment



Top control panel

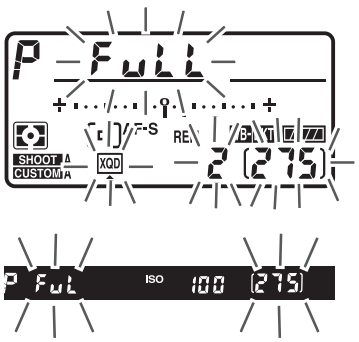
Programs with increments of 1 are shown below.

Control panel	No. of copies	Increment	Bracketing order
0F 1	0	1	0
b3F 1	3	1 B	1 B/0/2 B
A3F 1	3	1 A	1 A/2 A/0
b2F 1	2	1 B	0/1 B
A2F 1	2	1 A	0/1 A
3F 1	3	1 A, 1 B	0/1 A/1 B
5F 1	5	1 A, 1 B	0/2 A/1 A/1 B/2 B
7F 1	7	1 A, 1 B	0/3 A/2 A/1 A/ 1 B/2 B/3 B
9F 1	9	1 A, 1 B	0/4 A/3 A/2 A/1 A/ 1 B/2 B/3 B/4 B

4 Frame a photograph, focus, and shoot.

Each shot is processed to create the selected number of copies; with each copy, white balance is incremented by the selected amount, starting from the value selected for white balance fine-tuning.

If space is insufficient for all the copies, FuLL and the icon for the affected card will flash in the top control panel, FuL will flash in the viewfinder, and the shutter release will be disabled. Shooting can begin when a new memory card is inserted.



Cancelling Bracketing

To cancel bracketing, press the **BKT** button and rotate the main command dial until the number of copies is 0 (OF) and WB:BKT is no longer displayed. The program last in effect will be restored the next time bracketing is activated. Bracketing can also be cancelled by performing a two-button reset, although in this case the bracketing program will not be restored the next time bracketing is activated.

White Balance Bracketing

White balance bracketing affects color temperature (amber–blue) only. No adjustments are made on the green–magenta axis.

In self-timer mode, the number of copies specified in the white-balance program will be created each time the shutter is released, regardless of the option selected for Custom Setting c3 (**Self-timer**) > **Number of shots**.

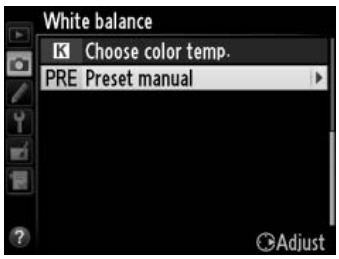
If the camera is turned off while the memory card access lamp is lit, the camera will power off only after all copies have been recorded.

Copying White Balance from a Photograph

Follow the steps below to copy a value for white balance from an existing photograph to a selected preset.

1 Select preset manual white balance.

Press MENU and select **White balance** in the shooting menu. Highlight **Preset manual** and press ▶.

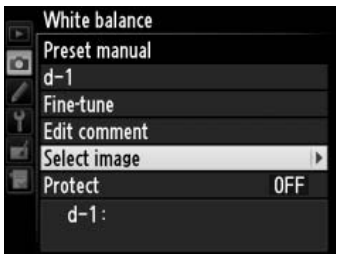


2 Select a destination.

Highlight the destination preset (d-1 to d-4) and press the center of the multi selector.

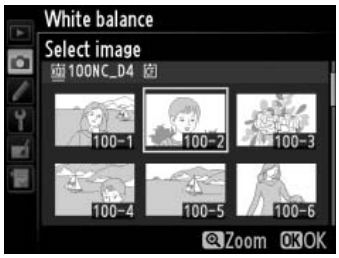
3 Choose **Select image.**

Highlight **Select image** and press ▶.

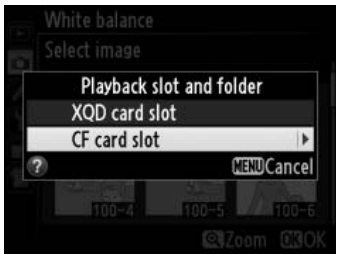


4 Highlight a source image.

Highlight the source image. To view the highlighted image full frame, press and hold the ⊕ button.



To view images in other locations, press ⊖ and select the desired card and folder.



5 Copy white balance.

Press ⊛ to copy the white balance value for the highlighted photograph to the selected preset.

Using the Copied Value

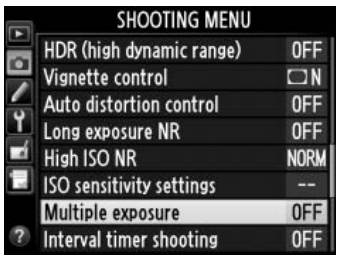
To set white balance to the copied value, press the **WB** button and rotate the sub-command dial to select the preset chosen in Step 2.

Creating a Multiple Exposure

Record from 2 to 10 exposures in a single photo.

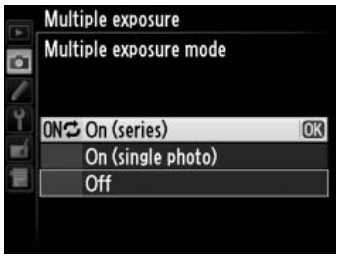
1 Select **Multiple exposure.**

Select **Multiple exposure** in the shooting menu.



2 Select a mode.

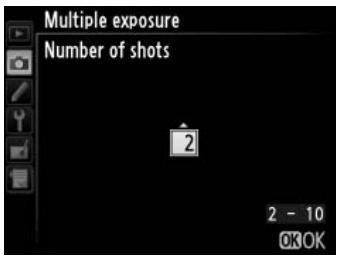
Highlight **Multiple exposure mode** and press ▶, then highlight one of the following and press ⓚ to select the highlighted option and return to the multiple exposure menu.



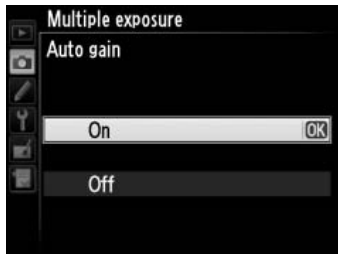
- **ON On (series)**: Shoot a series of multiple exposures. Multiple exposure shooting will continue until you select **Off**.
- **On (single photo)**: Take a single multiple exposure. Normal shooting resumes when the multiple exposure has been recorded.

3 Choose the number of shots.

Highlight **Number of shots** and press ▶. Press ▲ or ▼ to choose the number of exposures and press ⓚ to return to the multiple exposure menu.



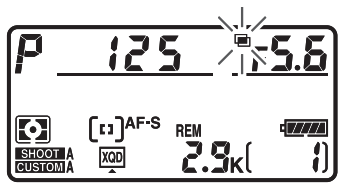
4 Adjust gain.



Select **Auto gain** and choose from the following options.

- **On**: Gain is adjusted according to number of exposures actually recorded (gain for each exposure is set to ½ for 2 exposures, ⅓ for 3 exposures, etc.).
- **Off**: Gain is not adjusted when a multiple exposure is recorded. Recommended if background is dark.

5 Frame a photograph, focus, and shoot.



The multiple exposure icon (▣) will flash while multiple exposure shooting is in progress. If **On (single photo)** is selected for multiple exposure mode, normal shooting will resume when a multiple exposure is completed; otherwise, multiple exposure mode will end only when **Off** is selected. The ▣ icon clears from the display when multiple exposure shooting ends.

Interrupting Multiple Exposures

To interrupt a multiple exposure before the specified number of exposures have been taken, select **Off** for multiple exposure mode. If shooting ends before the specified number of exposures have been taken, a multiple exposure will be created from the exposures that have been recorded to that point. If **Auto gain** is on, gain will be adjusted to reflect the number of exposures actually recorded. Note that shooting will end automatically if:

- A two-button reset is performed
- The camera is turned off
- The battery is exhausted
- Any of the individual exposures is deleted before shooting is complete

Choosing a Memory Card for Playback

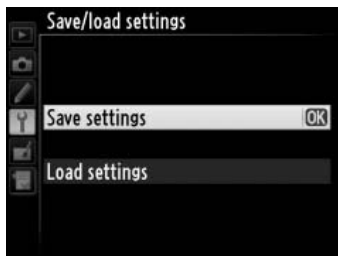
When two cards are inserted, you can choose the card from which pictures are played back by pressing OK and ▲ during playback, or by displaying 72 images in thumbnail view and pressing . A card selection menu will be displayed; highlight the desired slot and press ▶, then highlight a folder and press OK.

Copying Pictures Between Memory Cards

When two memory cards are inserted, you can use the options in the playback **Copy image(s)** menu to copy pictures between the two cards (images will not be copied if there is not enough space on the destination card or if **Enable** is selected for **Network** > **Network connection** in the setup menu).

- **Select source**: Choose the source card.
- **Select image(s)**: Select the pictures to be copied.
- **Select destination folder**: Choose the destination folder on the remaining memory card.
- **Copy image(s)**: Copy the selected pictures to the specified destination.

Copying Settings to Other D4 Cameras



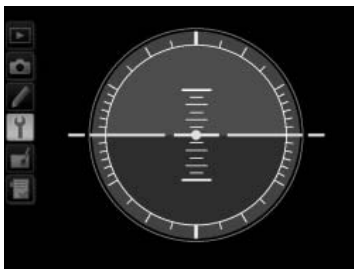
The **Save/load settings** option in the setup menu can be used to share settings among D4 cameras. Select **Save settings** to save settings to a memory card (an error will be displayed if the card is full), **Load settings** to load saved settings from a memory card. Note that **Save/load settings** is only available when a memory card is inserted in the camera, and that **Load settings** is only available if the card contains saved settings.

Keeping the Camera Level: Virtual Horizon

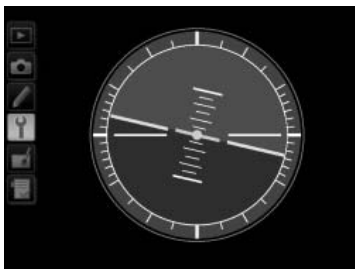
Roll and pitch data from the camera tilt sensor can be displayed for assistance in levelling the camera on a tripod and in other similar situations.

The Monitor

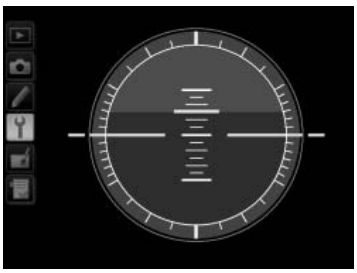
The **Virtual horizon** option in the setup menu is used to display a virtual horizon in the monitor. The roll reference line turns green if the camera is tilted neither left nor right, while the pitch reference line turns green and a dot appears in the center of the display if the camera is tilted neither forward nor back. Each division is equivalent to 5°.



Camera level



Camera tilted left or right



Camera tilted forward or back

In live view, you can display a virtual horizon over the view in the monitor by pressing the **info** button.

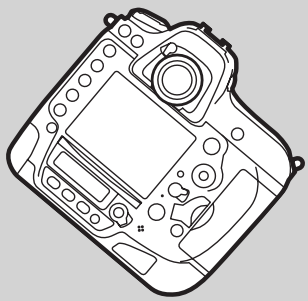
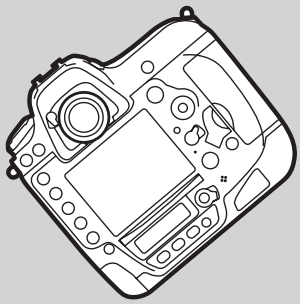
Tilt

The displays may not be accurate when the camera is tilted at a sharp angle forward or back. Tilt will not be displayed if the camera is unable to measure it.

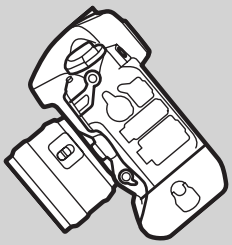
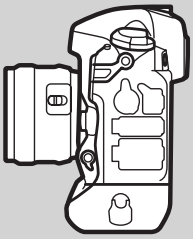
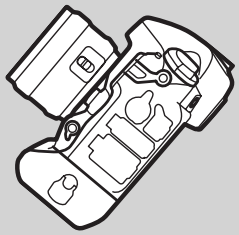
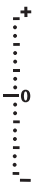
The Viewfinder

When **Viewfinder virtual horizon** is selected for Custom Setting f3 (**Assign Fn button**) or f4 (**Assign preview button**) > **Press**, pressing the button displays pitch and roll indicators in the viewfinder.

Roll

Camera tilted right	Camera horizontal	Camera tilted left
		

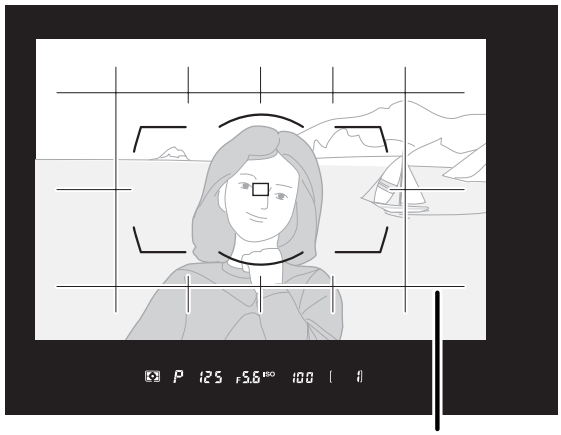
Pitch

Camera tilted forward	Camera vertical	Camera tilted back
		
		

The roles of the indicators are reversed when the camera is rotated to take pictures in "tall" (portrait) orientation.

Composing Photographs: The Framing Grid

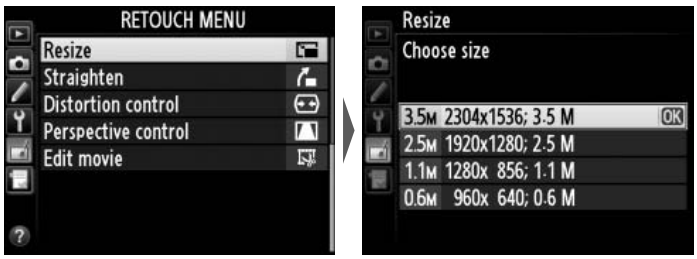
For help composing photographs, select **On** for Custom Setting d6 (**Viewfinder grid display**) to display a framing grid in the viewfinder.



Framing grid

Resizing Photographs for Upload: Resize

Use the **Resize** option in the retouch menu to create small copies of selected photographs.



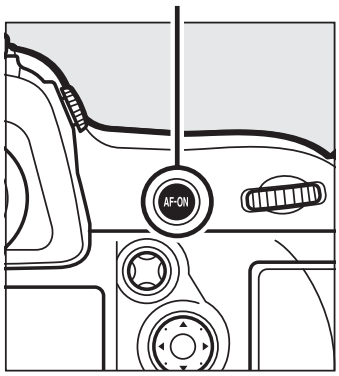
Resized Copies

Playback zoom may not be available when resized copies are displayed. Copies created from NEF (RAW), NEF (RAW) + JPEG, or TIFF (RGB) photos have an image quality of JPEG fine; copies created from JPEG photos have the same image quality as the original. Photos taken at an image area of **5 : 4 (30 × 24)** can not be resized.

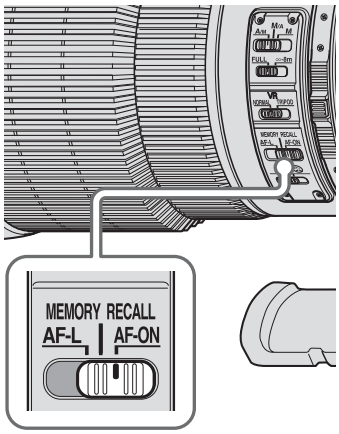
Focusing with the AF-ON Button

If **AF-ON only** is selected for Custom Setting a4 (**AF activation**), the **AF-ON** button can be used to focus and the shutter-release button to release the shutter. To lock focus or suspend autofocus when an obstacle comes between you and the subject, release the **AF-ON** button.

AF-ON *button*



In the **AF-ON** position, the focus operation selection switch on some telephoto lenses functions in the same way as the **AF-ON** button.

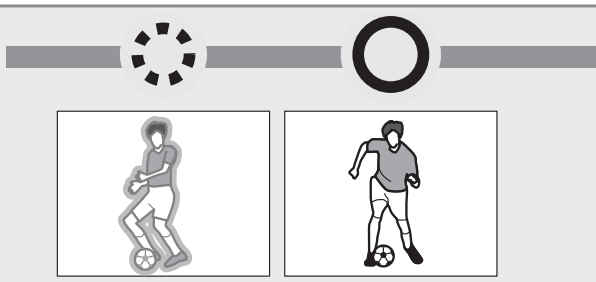
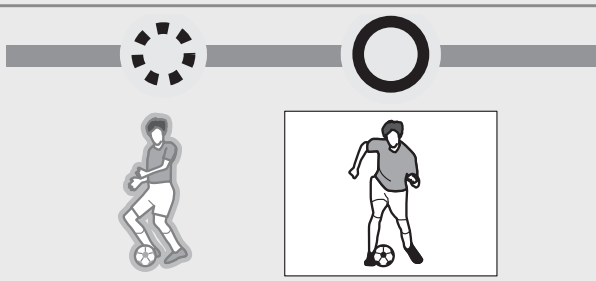
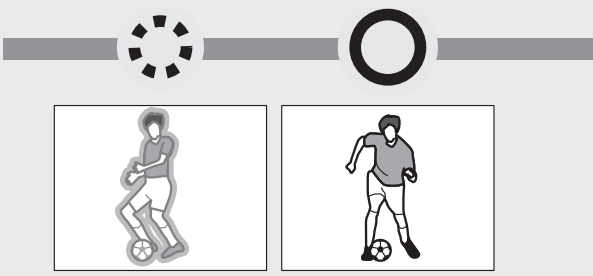
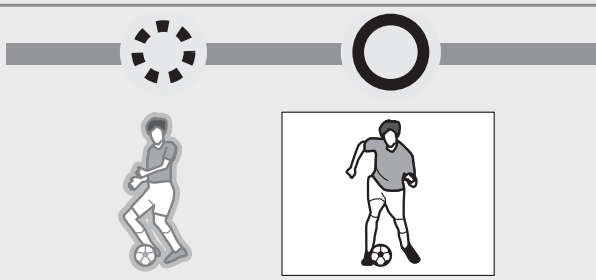


Choosing the Number of Focus Points

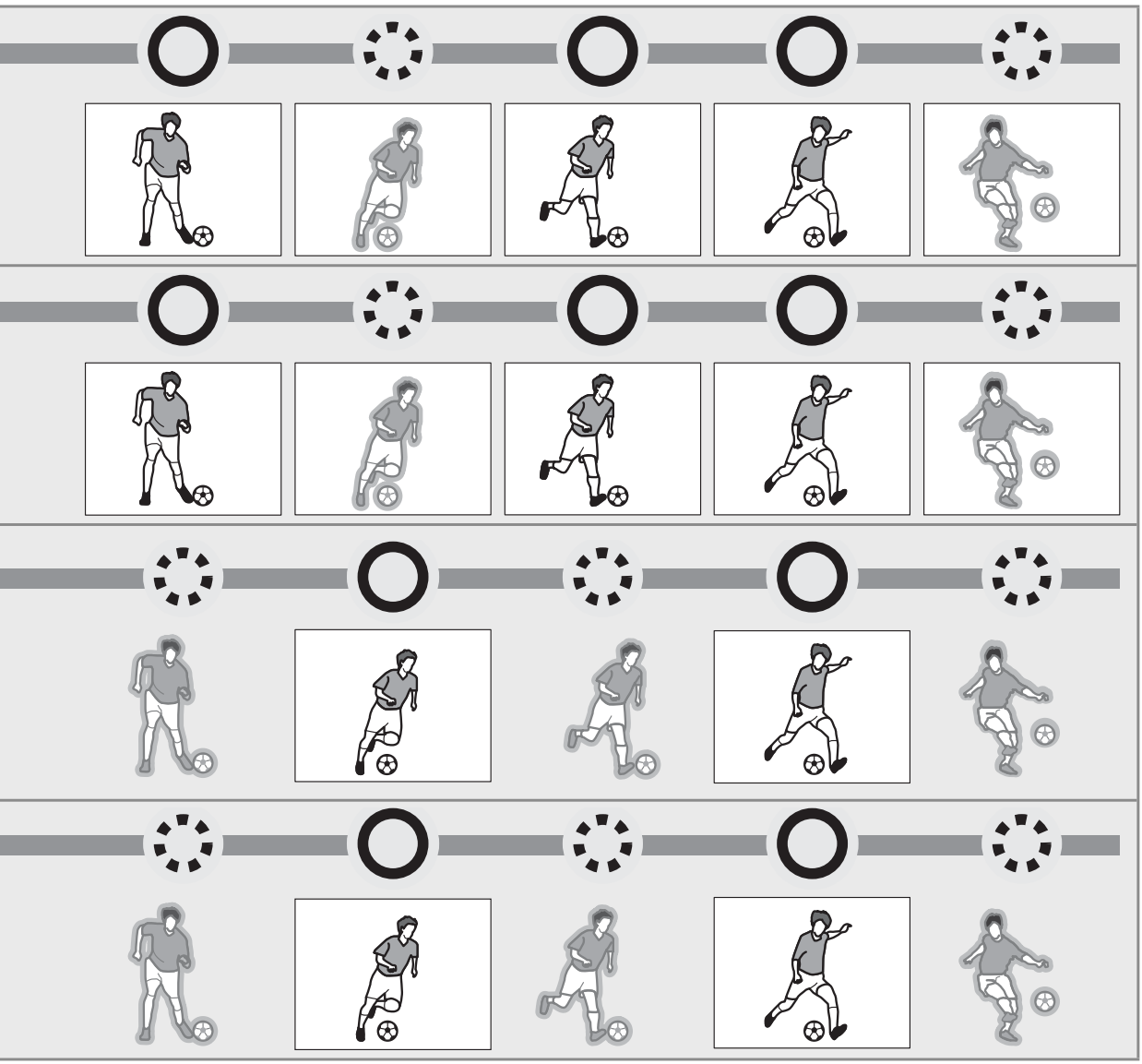
Custom Setting a7 (**Number of focus points**) can be used to choose the focus points available for manual focus point selection. Choose **11 points** for faster focus point selection when composing photographs.

AF-C Priority Selection

Custom Setting a1 (**AF-C priority selection**) controls whether the camera gives priority to focus or shutter release.

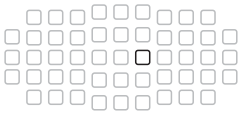
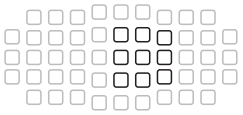
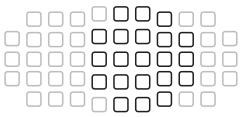
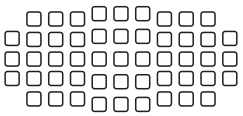
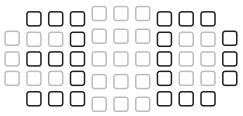
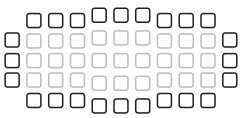
Release: Pictures can be taken whether or not the camera is in focus. Frame rates do not slow during burst photography.	
Focus + release: In burst mode, priority is given to focus for the first frame and to release for later frames. Frame rates do not slow.	
Release + focus: In burst mode, priority is given to release for the first frame and to focus for later frames. Frame rates slow as needed to allow camera to focus.	
Focus: Pictures can only be taken when the camera is in focus.	

: Subject not in focus
: Subject in focus
: Shutter released

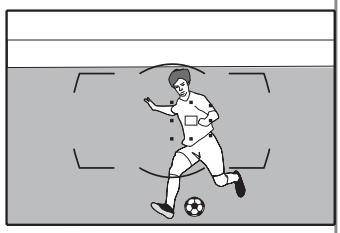


AF-Area Mode

AF-area modes are described below.

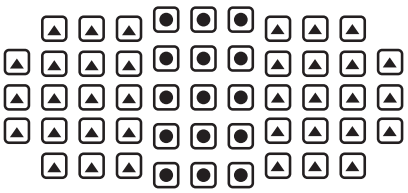
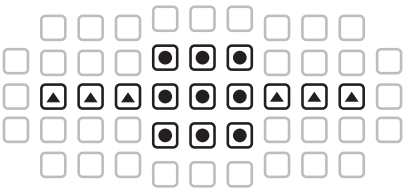
AF-area mode	Top control panel	Viewfinder	Sample focus-point display
Single-point AF	S	S	
9-point dynamic-area AF*	d 9	d 9	
21-point dynamic-area AF*	d21	d21	
51-point dynamic-area AF*	d51	d51	
3D-tracking	3d	3d	
Auto-area AF	Auto	Auto	

* Only active focus point is displayed in viewfinder. Remaining points provide information to assist focus operation.

	Description
	The focus point is selected manually. The camera focuses on the subject in the selected focus point only. Choose for subjects you can keep framed in the selected focus point.
	The focus point is selected manually. The camera focuses on the subject in the selected focus point when autofocus is initiated, but if the subject later leaves the selected point for brief periods, the camera will focus based on information from surrounding points.  Choose for low-contrast subjects if the camera has difficulty focusing or for active subjects that are hard to keep framed in a single point, and increase the number of points if the subject is moving unpredictably or occupies a large area of the frame. Choose a setting one level higher for subjects at the edge of the frame.
	The initial focus point is selected manually. The camera uses color information to track subjects that leave the selected focus point and selects new focus points as required.
	The camera automatically detects the subject and selects the focus point.

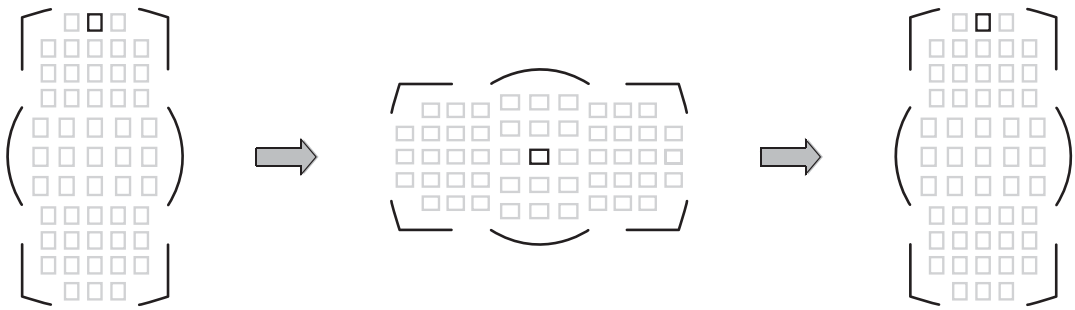
Focus Point Selection and Aperture

The focus points available vary with the maximum aperture of the lens.

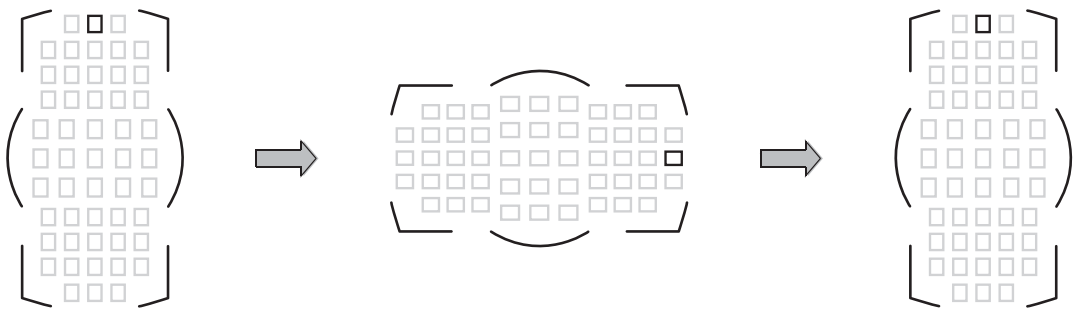
	**Maximum aperture f/5.6 or faster**: Focus point selection is supported with all 51 points: 15 cross sensors (●) at the center of the display and 18 line sensors (▲) on either side.
	**Maximum aperture slower than f/5.6 but faster than f/8** (e.g., a lens with a maximum aperture of f/4 on a TC-17E II teleconverter): Focus point selection is supported with 15 points: 9 cross sensors at the center of the display and 3 line sensors on either side.
	Maximum aperture f/8 (e.g., a lens with a maximum aperture of f/4 on a TC-20E III teleconverter): Focus point selection is supported with 11 points: a cross sensor at the center of the display, 4 line sensors on either side, and 1 line sensor above and below. The four points shown by ★ symbols are available only for dynamic-area AF.

Focus Point Selection and Camera Orientation

When **Yes** is selected for Custom Setting a10 (**Store points by orientation**), separate focus points can be selected for "wide" (landscape) orientation and for "tall" (portrait) orientation (camera rotated 90° clockwise or counterclockwise).



If **No** is selected, the same focus point will be used regardless of camera orientation.



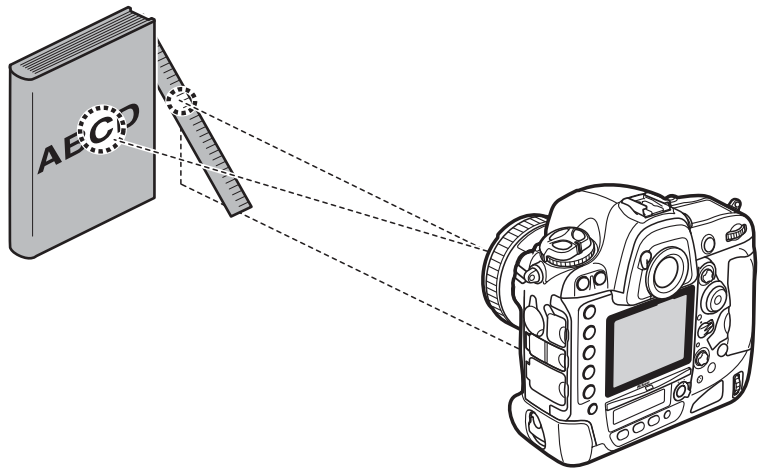
Adjusting Autofocus to the Lens: AF Fine-Tune

If you find that certain lenses do not produce the desired results with autofocus, you can adjust focus for each lens using the **AF fine-tune** > **Saved value** or **Default** options in the setup menu (note that AF tuning may interfere with normal focus; use only when required).

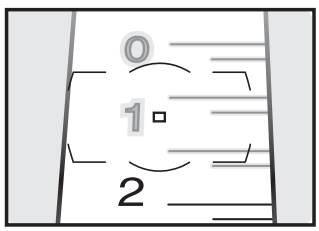
Option	Description
AF fine tune (On/Off)	• **On**: Turn AF tuning on for all saved lenses. • **Off**: Turn AF tuning off.
Saved value	Tune AF for the current lens (CPU lenses only).
Default	Choose the AF tuning value used if no previously saved value exists for the current lens (CPU lenses only).
List saved values	List previously saved AF tuning values. If you are using more than one lens of the same type, you can add an identifier to the lens name (for example, the last two digits of the lens serial number).

Checking Focus

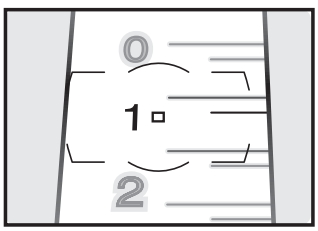
Position a ruler at an angle so that one of the rules is at the same distance from the camera as a vertical surface such as the cover of a book stood upright. Using autofocus, focus on the vertical surface and then photograph the selected rule using focus lock.



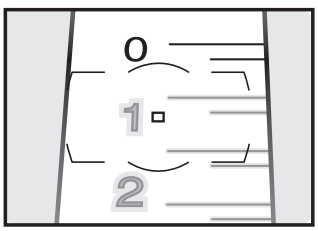
The illustration below shows how to interpret the results.



Camera focuses in front of selected rule: adjust fine-tuning upward.



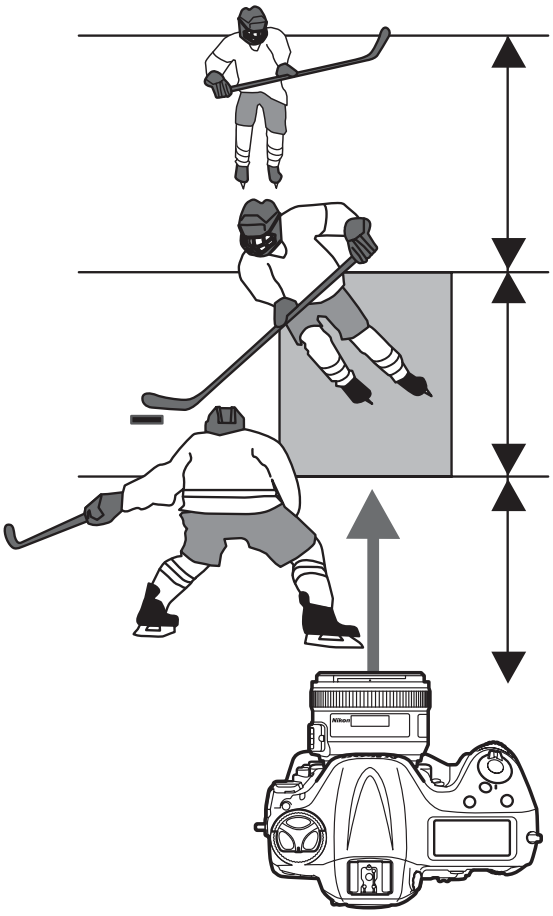
Camera focuses on selected rule: no adjustment required.



Camera focuses behind selected rule: adjust fine-tuning downward.

Focus Tracking with Lock-On

By preventing the camera from refocusing when your subject is briefly obscured by another object, focus tracking with lock-on ensures that the camera will continue to track the main subject once the obstacle has moved away (continuous-servo AF only). Choose the length of time before the camera refocuses from **5 (Long)**, **4**, **3 (Normal)**, **2**, and **1 (Short)**. To refocus before lock-on ends, press the **AF-ON** or shutter-release button again.



Camera will wait before refocusing on objects behind the subject

Camera will track and focus on objects the same distance from the camera as the subject

Camera will wait before refocusing on objects in front of the subject

Note: Turn lock-on off for improved response when you need to switch rapidly from one subject to another and in other similar situations.

Movies

This chapter covers basic camera settings and tips and tricks you can use when shooting movies, in the order you will use them during filming.

Before filming, ready the camera as described below.

Sound

The D4 supports the following sound recording features.

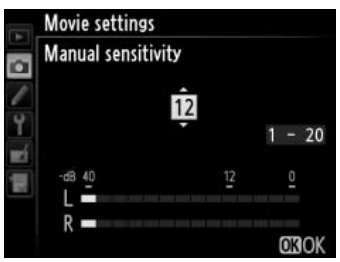
External Microphones

The optional ME-1 stereo microphone can be used to record sound in stereo or to avoid recording lens noise during autofocus. To reduce low-frequency noise, including that produced by the wind, rotate the low-cut filter switch from **FLAT** to **L-CUT**. Note that noise from the switch may be recorded if the control is operated during filming.

Headphones

Third-party headphones can be attached via the headphone connector so that you can check sound during filming. Note that headphone and microphone settings can not be adjusted during shooting; before recording, check headphone volume in the live view display (page 55) and adjust headphone volume and microphone sensitivity as necessary.

Microphone Sensitivity



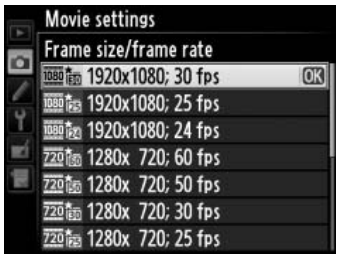
Microphone sensitivity can be adjusted before recording using the **Movie settings** > **Microphone** option in the shooting menu. If sound levels can be predicted, adjust sensitivity manually so that peak volume does not exceed 12 db. Choose **Auto** if sound levels can not be predicted in advance.

Movie Settings

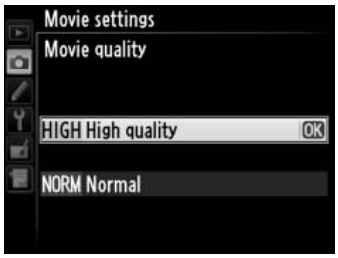
In addition to microphone sensitivity, the following options can be adjusted using **Movie settings**.

Frame Size, Frame Rate, and Movie Quality

Frame size, frame rate, and movie quality can be chosen using **Frame size/frame rate** and **Movie quality**. The camera offers sizes of 1920 × 1080, 1280 × 720, and 640 × 424 pixels, rates of 60 (59.94), 50, 30 (29.97), 25, or 24 (23.976) fps, and normal and high quality.



Frame size/frame rate

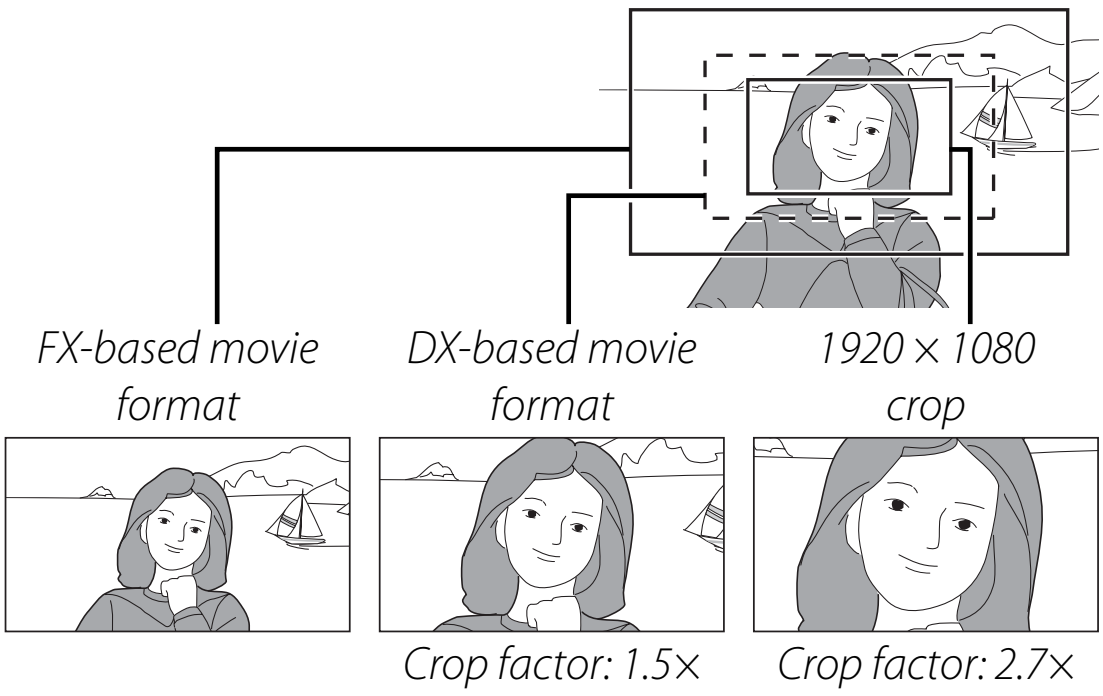


Movie quality

Image Area

Using an FX lens with movie live view gives you a choice of two crops in addition to the standard FX-based format:

1. To record movies with a crop factor 2.7× that of an FX format lens used with a non-DX image area, select a "1920 × 1080 crop" option for **Movie options** > **Frame size/frame rate** in the shooting menu. The effective lens focal length will increase by 2.7× for a telephoto effect and movies will be recorded at a higher quality than when an FX-based movie format is used.
2. To record movies with a crop factor of 1.5×, select **DX** for **Image area** > **Choose image area** in the shooting menu. Note that movies recorded at this setting show a slight drop in image-quality when compared to movies recorded in an FX-based movie format.



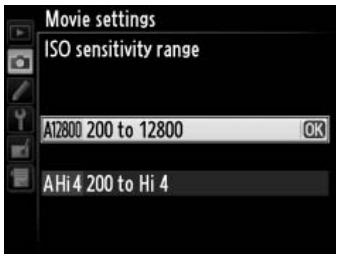
Destination

Choose the slot to which movies are recorded. The menu shows the time available on each card; recording ends automatically when no time remains.

Live view can be used to record movies up to 29 minutes 59 seconds in length.

ISO Sensitivity Range

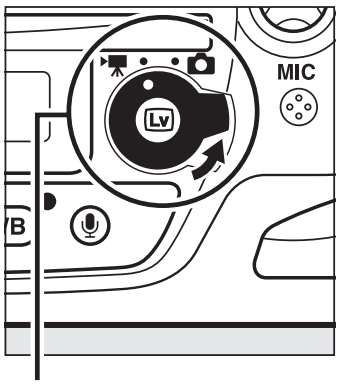
Choose the range of ISO sensitivities available during recording in modes **P**, **S**, and **A**. Note that because noise (randomly-spaced bright pixels, fog, and lines) tends to increase at high ISO sensitivities, **200 to 12800** is recommended in most situations.



Starting Movie Live View

1 Select movie live view.

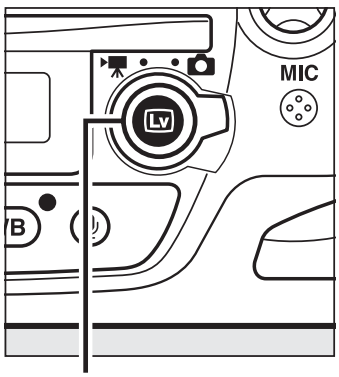
Rotate the live view selector to 🎥.



Live view selector

2 Start live view.

Press the Lv button.



Lv button

The Shutter-Release Button

If **Record movies** is selected for Custom Setting g4 (**Assign shutter button**), you can press the shutter-release button halfway once to start live view and then press it halfway again to focus (autofocus only) or all the way down to start recording (page 58). To end movie live view, press the Lv button.

Exposure Mode

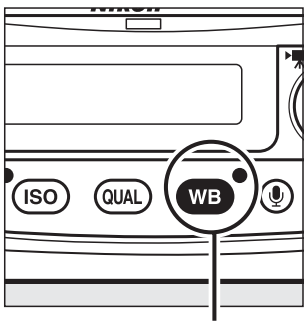
Before recording, press the **MODE** (FORMAT) button and rotate the main command dial to choose an exposure mode. The settings that can be adjusted in movie live view are determined by the exposure mode as shown below.

	Aperture	Shutter speed	ISO sensitivity	Exposure comp.
P, S	—	—	—	✔
A	✔	—	—	✔
M	✔	✔*	✔	—

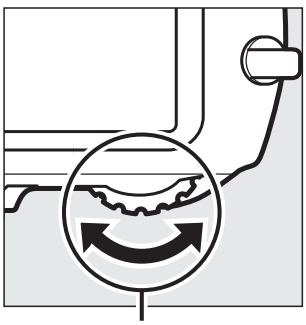
* Slower speeds produce smoother results: at a frame rate of 30 fps, for example, choose speeds between 1/30 s and 1/125 s. If flickering lights cause flicker or banding in the movie, change the shutter speed and check the effect in the monitor. If the local power supply is 50 Hz, choose a shutter speed of 1/50 s.

White Balance

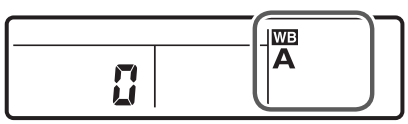
Press the **WB** button and rotate the main command dial to choose a white balance option. Note that you must exit live view to measure preset white balance (page 20).



WB *button*



Main command dial

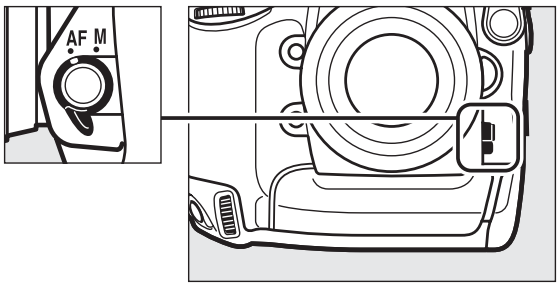


Rear control panel

Using Autofocus

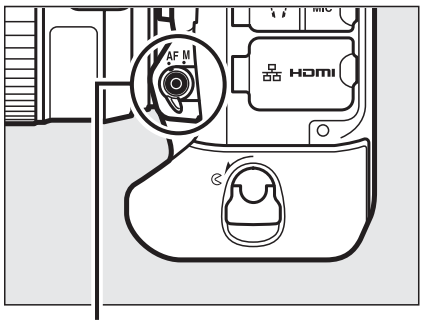
To focus using autofocus, rotate the focus-mode selector to **AF** and select autofocus and AF-area modes as described below.

Focus-mode selector

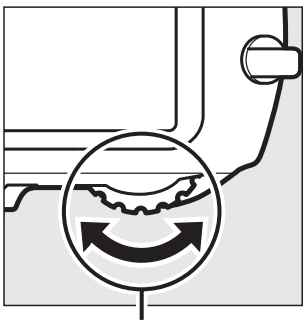


Choosing a Focus Mode

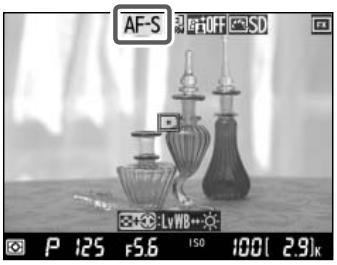
Press the AF-mode button and rotate the main command dial until the desired mode is displayed in the monitor.



AF-mode button



Main command dial



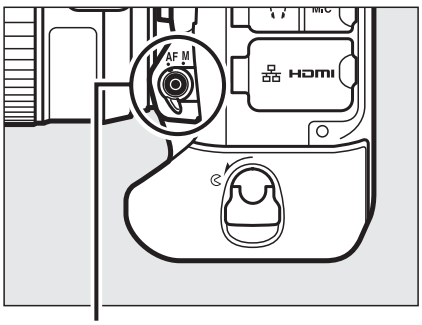
Monitor

Choose **AF-S** (single-servo AF) or **AF-F** (full-time servo AF):

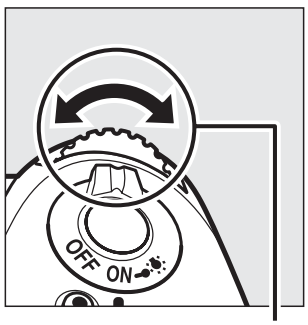
- **AF-S**: The camera focuses when the shutter-release button is pressed halfway. If the camera is able to focus, the focus point will be displayed in green and focus will lock while the shutter-release button is pressed halfway.
- **AF-F**: The camera focuses continuously until the shutter-release button is pressed halfway to lock focus. The focus point is displayed in green when the camera focuses.

Choosing an AF-Area Mode

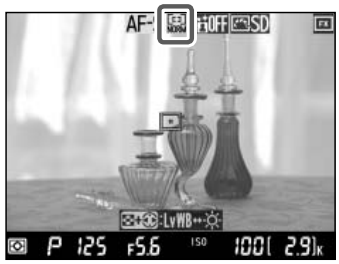
Press the AF-mode button and rotate the sub-command dial until the desired mode is displayed in the monitor.



AF-mode button



Sub-command dial



Monitor

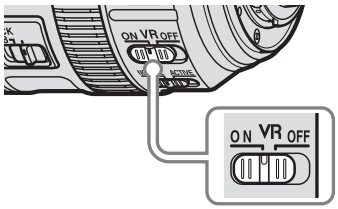
	Face-priority AF: Camera focuses on faces. If multiple faces (up to 35) are detected, desired subject can be chosen with multi selector.
WIDE	**Wide-area AF**: For handheld shots of landscapes and other subjects. Focus point can be positioned with multi selector.
NORM	**Normal-area AF**: Use multi selector to position focus point for pin-point focus on selected spot in frame.
	Subject-tracking AF: Position focus point over subject and press center of multi selector to track subject as it moves through frame. Press center of multi selector again to end tracking.

Note

The built-in microphone may record sounds made by the lens during autofocus. An optional ME-1 external microphone can be used for reduced lens noise (page 46).

Lens Vibration Reduction (VR)

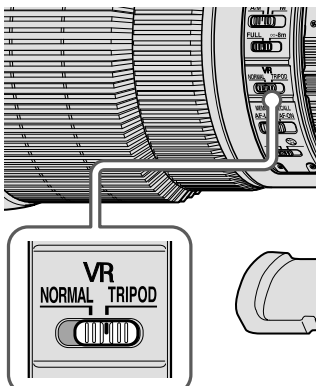
We recommend using VR lenses with the vibration reduction ON/OFF switch in the **ON** position.



If the lens has a vibration reduction mode switch, choose **NORMAL** for hand-held photography or when using a monopod. Vibration reduction should generally be turned off when the camera is on a tripod, although an exception can be made for a lens such as the AF-S NIKKOR 200mm f/2G ED VR II, which automatically detects tripod vibration. Vibration reduction should also be turned off if you notice shake during filming when panning a camera that is mounted on a tripod.

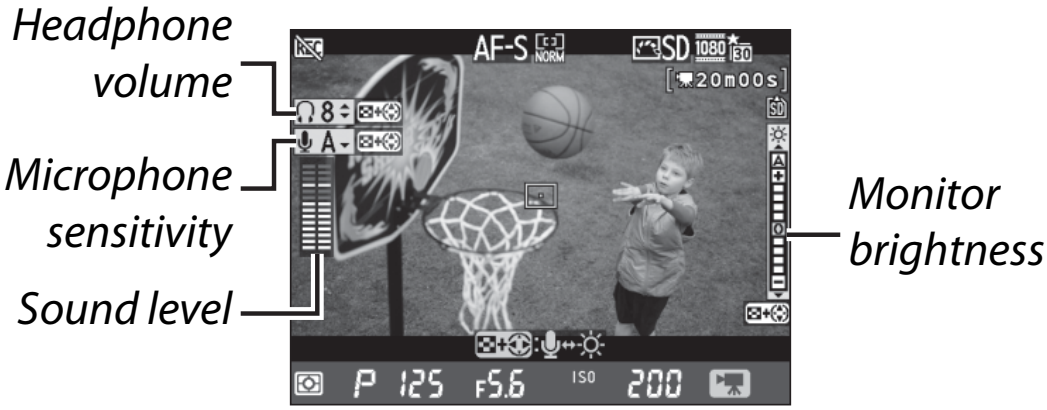
Tripod Mode

Some lenses, such as the AF-S NIKKOR 400mm f/2.8G ED VR, offer vibration reduction with a **TRIPOD** option that is generally recommended when the camera is mounted on a tripod. **NORMAL** is however preferred if the tripod head is not fixed or you are using a monopod.



Adjusting Settings During Live View

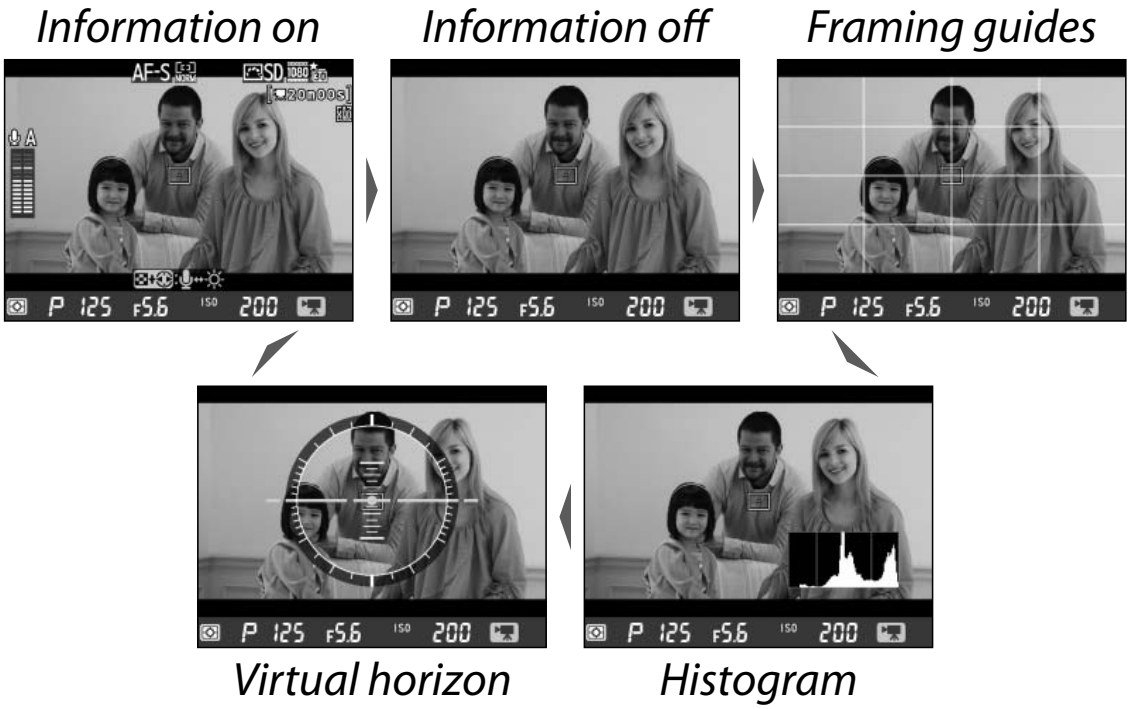
You can highlight the microphone sensitivity, headphone volume, or monitor brightness indicator in the live view display by holding ⊡ and pressing ◀ or ▶, and then adjust the highlighted setting by pressing ▲ or ▼.



Note that microphone sensitivity and headphone volume can not be adjusted during recording, and that brightness applies to the display in the monitor only and has no effect on movies.

The Information Display

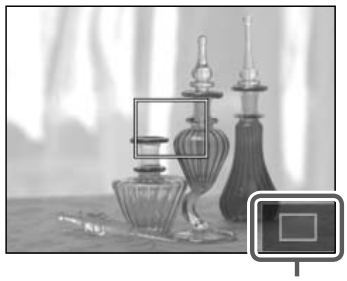
Press the info button to choose the information displayed during movie live view.



Hide indicators when the camera is connected to an external recording device (page 64).

Checking Focus

If **Zoom on/off** is selected for Custom Setting f1 (**Multi selector center button**) > **Live view**, you can press the center of the multi selector to zoom in on the current focus point. The initial zoom setting can be selected from low, medium, and high magnification by highlighting **Zoom on/off** option in the multi selector center button menu and pressing ▶. Focus zoom is not available during movie recording.



Navigation window

Subject Tracking

In subject-tracking AF, pressing the center of the multi selector locks tracking on the subject in the focus point (page 53). Press the 🔍 button to zoom in on your subject and check focus.

Starting and Ending Recording

Press the movie-record button to start recording. If **Record movies** is selected for Custom Setting g4 (**Assign shutter button**), you can start and end movie recording by pressing the shutter-release button all the way down. If the camera is mounted on a tripod, you can reduce camera shake by using the release on an optional MC-36 or MC-30 remote cord to start and end recording (movie live view can also be started by pressing the shutter-release button on the remote cord halfway).

Recording indicator

Time remaining

Taking Photographs

If **Live frame grab** is selected for Custom Setting g4 (**Assign shutter button**), you can press the shutter-release button all the way down to take photographs without interrupting movie recording. The resulting photos are about 2.1 megapixels in size and have an aspect ratio of 16 : 9.

Editing Movies

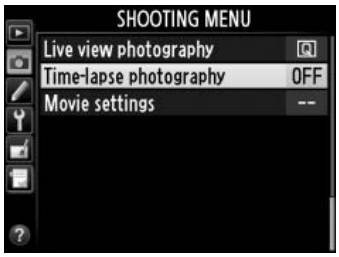
The **Edit movie** option in the retouch menu can be used to create edited copies of the movies on the memory card. Select **Choose start/end point** to trim unwanted footage in amounts as small as 0.5 s, or **Save selected frames** to save selected frames as JPEG stills.

Time-Lapse Movies

Follow the steps below to create silent time-lapse movies from photos taken automatically at selected intervals. The resulting movie is recorded at the settings currently selected for **Movie settings** in the shooting menu. We recommend that you connect the camera to an AC power supply using an optional EH-6b AC adapter and EP-6 power connector to ensure that shooting is not interrupted.

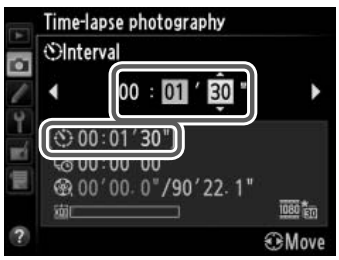
1 Select Time-lapse photography.

Select **Time-lapse photography** in the shooting menu.



2 Choose the interval.

The dialog at right will be displayed. Choose an interval of from 1 s to 10 minutes (the selected setting is shown in the bottom section of the dialog) and press ▶ to proceed to the next step.

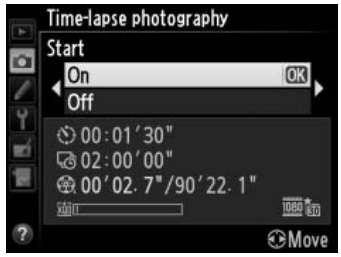


3 Choose the shooting time.

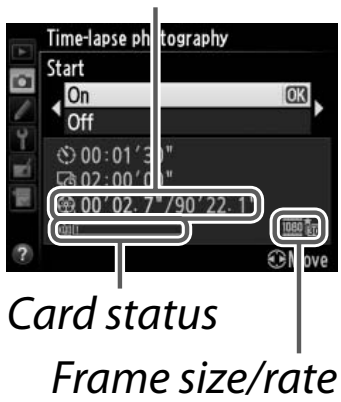
Enter a shooting time of from 1 minute to 7 hours 59 minutes (the selected setting is shown in the bottom section of the dialog) and press ▶ to proceed.

4 Start shooting.

Highlight **On** and press ⓚ (to return to the shooting menu without starting time-lapse photography, select **Off**). Shooting will begin after 3 s.



The length of the movie that will be recorded at current settings and the space available on the memory card are shown at the bottom of the time-lapse photography dialog.



Interrupting Time-Lapse Photography

Time-lapse photography will end automatically if the battery is exhausted. The following will also end time-lapse photography:

- Selecting **Start** > **Off** for **Time-lapse photography**
- Pressing ⓞⓚ between frames or immediately after a frame is recorded
- Turning the camera off
- Removing the lens
- Connecting a USB or HDMI cable
- Inserting a memory card into an empty slot
- Pressing the shutter-release button all the way down to take a photograph

A movie will be created from the frames shot to the point where time-lapse photography ended. Normal photography can be resumed once time-lapse photography ends. Note that time-lapse photography will end and no movie will be recorded if the power source is removed or disconnected or the destination memory card is ejected.

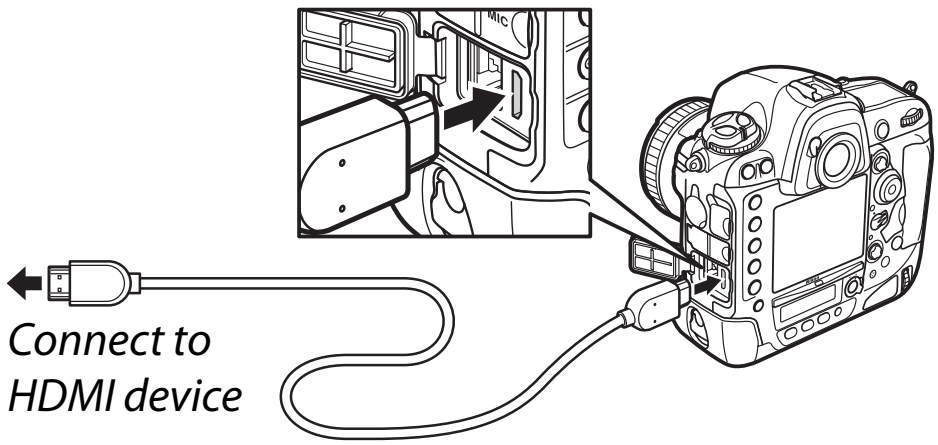
Time Lapse Photography

Time-lapse photography is not available in live view, at a shutter speed of **bULb** or when bracketing, High Dynamic Range (HDR), multiple exposure, or interval timer photography is active.

To record changes in brightness, use manual exposure; for consistent framing, colors and focus, turn vibration reduction off, choose a white balance setting other than auto, and use manual focus. When time-lapse photographs are recorded with a "1920 × 1080 crop" option selected for movie frame size, the area used for metering exposure, flash level, and auto white balance is not the same as the area in the final photographs, with the result that optimal results may not be achieved. Take test shots and check the results in the monitor.

HDMI Output

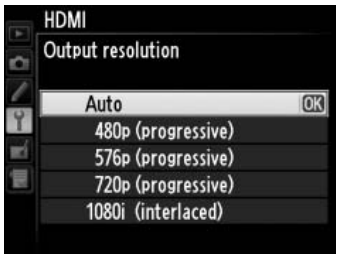
The camera can be connected to HDMI recording devices.



The **HDMI** option in the setup menu controls HDMI output.

Output Resolution

Auto is recommended. Other settings should be used only if **Auto** does not produce the desired results.



Advanced

Adjust settings as follows:

- **Output range**: **Auto**. Choose **Limited range** (16–235) or **Full range** (0–255) only if the camera is unable to detect the correct RGB video signal output range.
- **Output display size**: 100%
- **Live view on-screen display**: **Off**

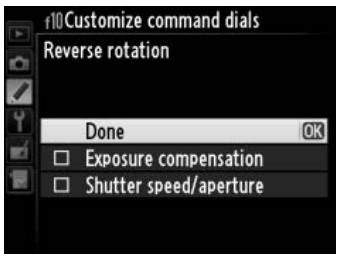
HDMI Recording

The D4 does not compress HDMI output, with the result that the camera can be connected to an HDMI recording device and movie footage recorded at a higher quality than if it were saved to a memory card. Note that while movies are being recorded with the camera, the camera may output movie footage at a smaller frame size than that selected for **Frame size/frame rate**.

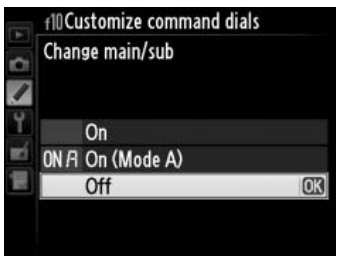
First-Time Users

Customizing the Command Dials

Custom Setting f10: Customize Command Dials



Reverse rotation: Reverse the direction of rotation for the main and sub-command dials when making adjustments to **Exposure compensation** and/or **Shutter speed/aperture** (these settings also apply to the command dials for vertical shooting). Highlight options and press ▶ to select or deselect, then highlight **Done** and press OK.



Change main/sub: If **Off** is selected, the main command dial controls shutter speed and the sub-command dial controls aperture. If **On** is selected, the main command dial will control aperture and the sub-command dial shutter speed. If **On (Mode A)** is selected, the main command dial will be used to set aperture in exposure mode A only. This setting also applies to the command dials for vertical shooting.

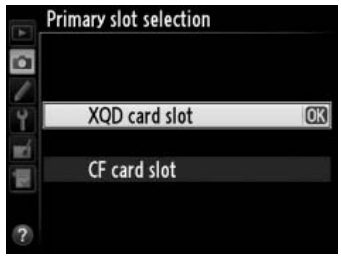
Reversing Indicators

Custom Setting f13: Reverse Indicators

If + ◀ 0 ▶ − (+ 0 −) is selected, the exposure indicators in the top control panel and information display are displayed with positive values on the left and negative values on the right. Select − ◀ 0 ▶ + (− 0 +) to display negative values on the left and positive values on the right.

Choosing the Primary Slot

When using two memory cards, you can choose one as the primary card using the **Primary slot selection** item in the shooting menu.



Adjusting Monitor Brightness

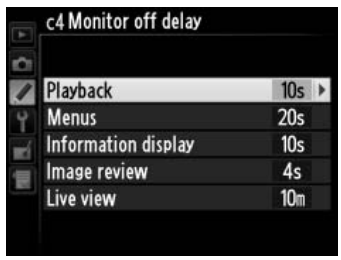
The **Monitor brightness** option in the setup menu can be used to adjust monitor brightness for playback, menus, and the information display.

Option	Description
Auto	When the monitor is on, monitor brightness is automatically adjusted according to ambient lighting conditions. Care should be taken not to cover the ambient brightness sensor.
Manual	Press ▲ or ▼ to choose monitor brightness. Choose higher values for increased brightness, lower values for reduced brightness.

Choosing the Monitor off Delay

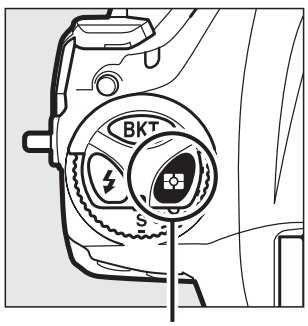
Custom Setting c4: Monitor off Delay

Choose how long the monitor remains on when no operations are performed.

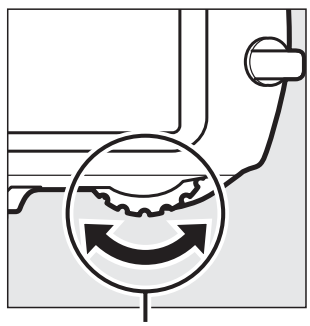


Metering

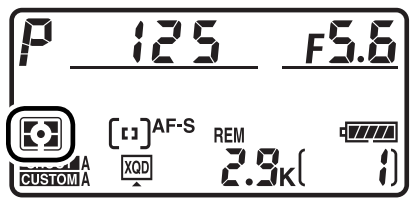
To choose how the camera sets exposure, press the ◙ button and rotate the main command dial until the desired metering option is displayed in the viewfinder and top control panel. Choose from matrix (▣), center-weighted (◎), and spot (⊡) metering.



◙ *button*



Main command dial



Top control panel

Viewfinder

Nikon

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