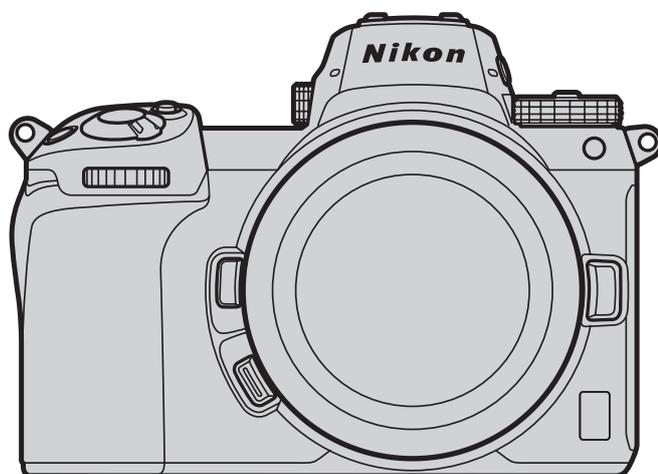


Nikon



Z 7/Z 6

Professional Technical Guide

—Images—

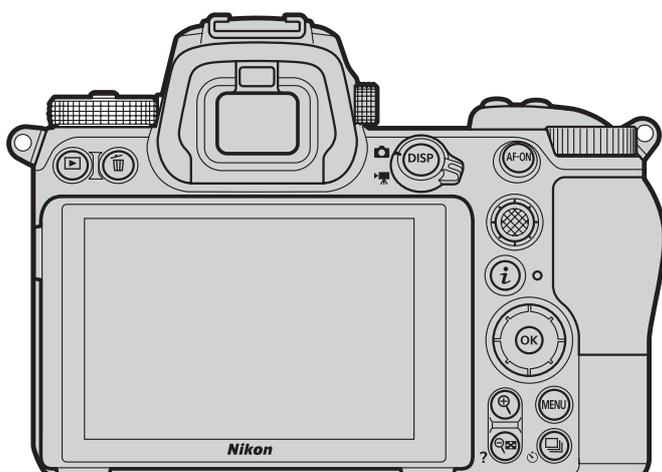


Table of Contents

Sharpening and Softening Images	3
Step 1: Make Quick Edits Using “Quick Sharp”	3
Step 2: Fine-Tune “Sharpening”, “Mid-Range Sharpening”, and “Clarity”	4
“Sharpening”, “Mid-Range Sharpening”, and “Clarity”	7
Capture NX-D	9
Keeping Pictures Sharp at Small Apertures	10
Diffraction Compensation	10
Capture NX-D	10

Sharpening and Softening Images

Adjusting the **Quick sharp** Picture Control setting is a quick way of making pictures sharper or softer. Image definition can be further fine-tuned using **Sharpening**, **Mid-range sharpening**, or **Clarity**.

- [Step 1: Make Quick Edits Using “Quick Sharp”](#)
- [Step 2: Fine-Tune “Sharpening”, “Mid-Range Sharpening”, and “Clarity”](#)

Step 1: Make Quick Edits Using “Quick Sharp”

Adjustments to the **Quick sharp** Picture Control settings made by choosing a value between -2 (**Softer** in the **i** menu) and $+2$ (**Sharper** in the **i** menu) are automatically matched by balanced adjustments to **Sharpening**, **Mid-range sharpening**, and **Clarity**. Select **A** to let the camera automatically choose the optimal values for the scene.



For images that are softer overall, select a negative (softer) value. This can be used, for example, to soften the complexions of portrait subjects.

Picture Control: Standard



Quick sharp: 0



Quick sharp: -2 (softer)

For images that are sharper overall, select a positive (sharper) value. This can be used for landscapes and other situations in which greater overall definition may be required.

Picture Control: Standard



Quick sharp: 0



Quick sharp: $+2$ (sharper)

Landscapes

Positive values for **Quick sharp** are particularly effective when applied to distant landscapes shrouded by mist or haze.

Step 2: Fine-Tune “Sharpening”, “Mid-Range Sharpening”, and “Clarity”

After using **Quick sharp** to obtain the desired overall look, you can fine-tune the results using **Sharpening** and its sisters. The examples below show how to soften the complexions of portrait subjects while leaving their eyes clearly visible. The recommended settings for images destined for printing vary with output size.



Original (Taken with the “Standard” Picture Control)



Sharpening	3
Mid-range sharpening	2
Clarity	1

The table lists the default values for the Standard Picture Control.

Quick Sharp: -2 (“Softer”)



Sharpening	-0.5
Mid-range sharpening	-1
Clarity	-1

Selecting **-2** for **Quick sharp** softens the complexion of the portrait subject.

A3 Output Viewed at a Distance of 60 cm (2 ft)



Sharpening	2
Mid-range sharpening	1
Clarity	-1

Sharpening and Mid-range sharpening have been increased so that the eyes are clearly defined, while **Clarity** has been left at **-1** to keep the complexion smooth.

A1 Output Viewed at a Distance of 60 cm (2 ft)



Sharpening	3
Mid-range sharpening	-1
Clarity	-1

Sharpening has been raised to **3** so that the eyes are clearly defined, while **Mid-range sharpening** and **Clarity** have been left at **-1** to keep the complexion smooth.

🔧 Choosing Picture Control Settings Based on Output Size

How an image appears when viewed from a given distance varies with the output size:

- When pictures are printed or displayed at a large size, small details will be visible. Most adjustments should therefore be made using **Sharpening**, which effectively softens or sharpens fine elements.
- When pictures are printed or displayed at a small size, small details are not visible. Most adjustments should therefore be made using **Clarity**, which has its greatest effect at the borders between the main subject and the background.

Adjusting Sharpening Settings for A3 Output



Quick Sharp: -2

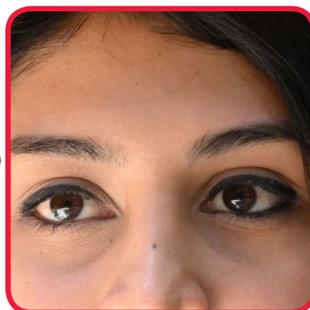
Sharpening	-0.5
Mid-range sharpening	-1
Clarity	-1



Adjusted Settings

Sharpening	2
Mid-range sharpening	1
Clarity	-1

Sharpening and Mid-range sharpening have been increased so that the eyes are clearly defined, while Clarity has been left at -1 to keep the complexion smooth.



Choosing positive values for Sharpening and Mid-range sharpening ensures that the eyes remain sharp.



Clarity is left at a negative value for a smoother complexion.

Adjusting Sharpening Settings for A1 Output



Quick Sharp: -2

Sharpening	-0.5
Mid-range sharpening	-1
Clarity	-1



Adjusted Settings

Sharpening	3
Mid-range sharpening	-1
Clarity	-1

Sharpening has been raised to 3 so that the eyes are clearly defined, while Mid-range sharpening and Clarity have been set to -1 to keep the complexion smooth.



Sharpening has been set to a high positive value to ensure that the eyes are clearly defined.



Mid-range sharpening and Clarity are left at negative values for a smoother complexion.

“Sharpening”, “Mid-Range Sharpening”, and “Clarity”

Sharpening, Mid-range sharpening, and Clarity each apply to different areas of the image. In the picture shown here, for example, **Sharpening** can be employed in fine-tuning the appearance of eyelashes and other fine details, while **Clarity** is best used to make the subject stand out from the background. **Mid-range sharpening** is effective in adjusting the level of detail visible in the middle range, such as around the nose and mouth.



The settings best used for images that will be viewed on a display vary with the zoom ratio and other factors.



Clarity



Mid-range sharpening

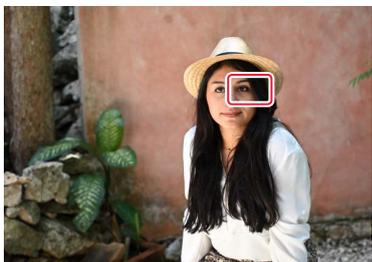


Sharpening

Sharpening and Softening Images, Continued

When images are printed, the visibility of each adjustment varies with the output size.

- **Sharpening:** This parameter controls the sharpness of details and outlines and can be adjusted in the range -3 to $+9$. Its effects are most visible when images are output at larger sizes, equivalent to A1 (approximately $0.5 \text{ m}^2/5.4 \text{ sq. ft.}$).

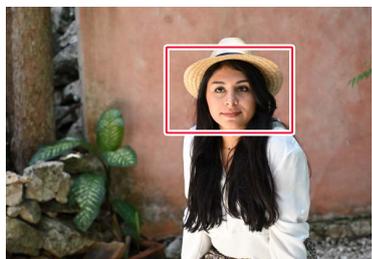


Sharpening: -3



Sharpening: $+9$

- **Mid-range sharpening:** This parameter controls the sharpness of patterns and lines in the range between **Sharpening** and **Clarity** and can be set to values of from -5 to $+5$. Its effects are most visible when images are output at sizes equivalent to A3 (approximately $0.125 \text{ m}^2/1.3 \text{ sq. ft.}$).



Mid-range sharpening: -5



Mid-range sharpening: $+5$

- **Clarity:** This parameter controls the sharpness of the borders between the main subject and the background and can be adjusted in the range -5 to $+5$. Its effects are most visible when images are output at smaller sizes equivalent to A4 (letter size) or a 5×7 print.



Clarity: -5



Clarity: $+5$

⚡ "Clarity"

Large changes to **Clarity** may result in apparent changes to overall contrast.

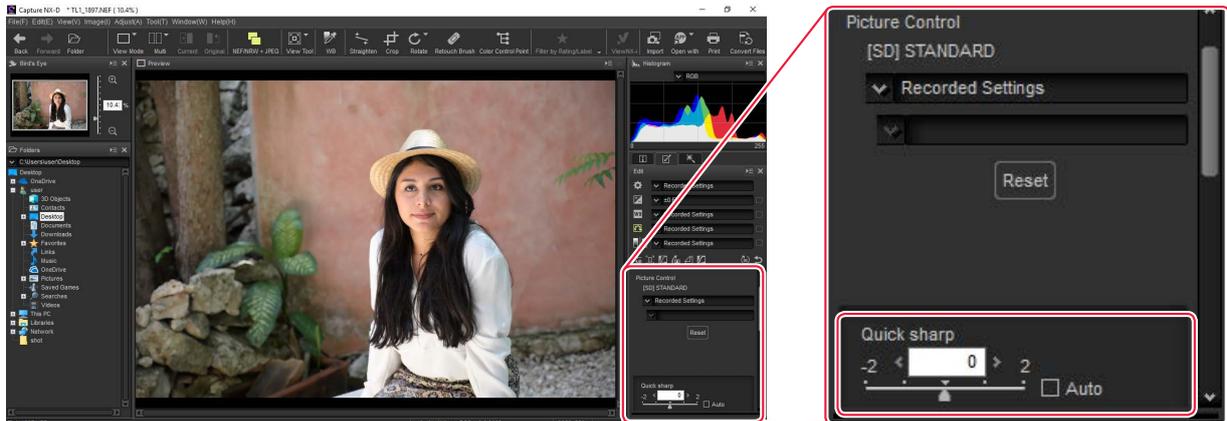
⚡ "NEF (RAW) Processing"

Sharpening and other settings for pictures shot in NEF (RAW) format can be adjusted after shooting using [Capture NX-D](#) or the **NEF (RAW) processing** option in camera's retouch menu, whether or not they have previously been altered on the camera.

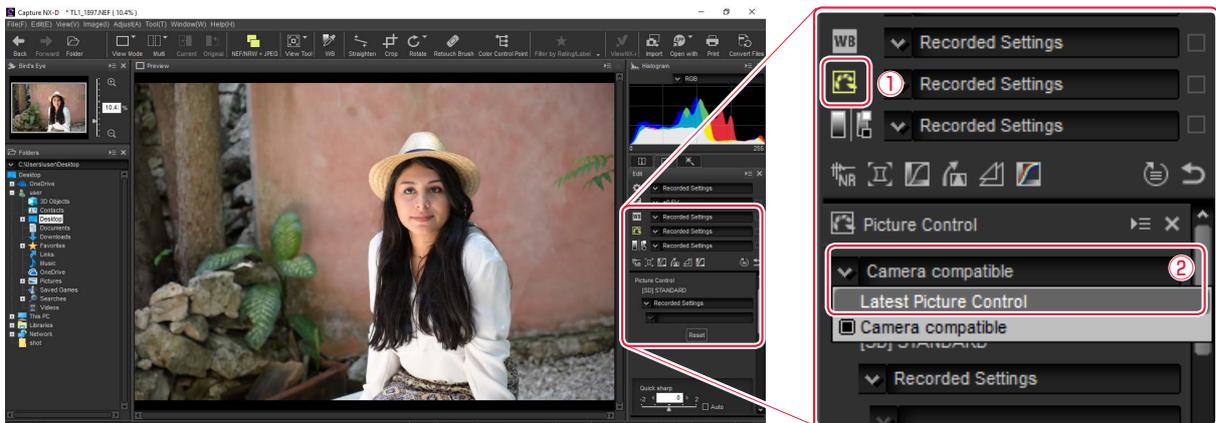
Capture NX-D

As of January 2019, the only cameras with **Quick sharp** and **Mid-range sharpening** are the Z 7 and Z 6. Capture NX-D versions 1.5.1 and later, however, offer these parameters with all NEF (RAW) images, regardless of the camera used to create them. The procedure varies depending on the camera used for the original picture:

- In the case of NEF (RAW) pictures taken with a Z 7 or Z 6, **Quick sharp** and **Mid-range sharpening** will be available via the Picture Control tool in the edit palette.



- In the case of NEF (RAW) pictures taken with a camera other than the Z 7 or Z 6 *, **Quick sharp** and **Mid-range sharpening** will only be available if you click the Picture Control icon (①) in the edit palette and select **Camera compatible > Latest Picture Control** from the Picture Control menu (②).



* Digital SLR and Nikon 1 cameras.

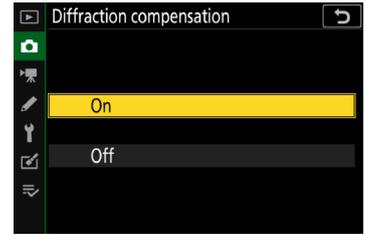
Capture NX-D can be downloaded free-of-charge from the Nikon Download Center at the URL below:

<https://downloadcenter.nikonimglib.com>

Be sure to use version 1.5.1 or later. More information is available via online help.

Keeping Pictures Sharp at Small Apertures

Enabling **Diffraction compensation** in the photo shooting menu helps reduce loss of definition caused by diffraction in pictures taken at small apertures (high f/-numbers).



Diffraction Compensation

While the effects of diffraction may still be visible in landscapes and in other pictures taken with aperture stopped all the way down, enabling **Diffraction compensation** lets you shoot at small apertures without worrying too much about loss of definition. It is generally recommended that you shoot with **Diffraction compensation** enabled, although it can be purposely disabled for photos in which the effects of diffraction are visible.



f/22, Diffraction compensation off



f/22, Diffraction compensation on

Diffraction compensation is available with Z mount lenses as well as with CPU-equipped F mount lenses connected via an FTZ mount adapter (non-CPU lenses are not supported).

Capture NX-D

The **Diffraction compensation** option in the Capture NX-D **Camera and Lens Corrections** tool can be used to turn diffraction compensation on or off when NEF (RAW) pictures taken with Z 7 or Z 6 cameras are displayed.

“Diffraction Compensation”

The **Diffraction compensation** option in Capture NX-D is available only with NEF (RAW) pictures taken using a Z 7 or Z 6.

