Nikon

Software

NX Studio

Version 1.10

Reference Manual

■ ***This manual is available online in HTML format at:***
https://nikonimglib.com/nxstdo/onlinehelp/en/

■ ***Nikon ID***
You need a Nikon ID to use NX Studio. See the following URL for more information about the Nikon ID.
https://accounts.cld.nikon.com/other/whatIsNikonId

Nikon Transfer 2

Nikon Transfer 2 software installed with NX Studio can be used to transfer pictures to your computer. A manual with information on using Nikon Transfer 2 is available from the websites below.

■ ***A pdf manual is available for download from the Nikon Download Center:***
Nikon Transfer 2 Reference Manual (PDF)

■ ***The contents of the manual can also be viewed online in HTML format at:***
https://nikonimglib.com/ntran2/onlinehelp/en/

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About NX Studio

What NX Studio Can Do for You

Use NX Studio to view and enhance photos shot with Nikon digital cameras. Perform these tasks on images after download. It also offers other ways to enjoy your images, such as by uploading them to the Web or merging pixel shift images.

Basic Features

NX Studio is used to view and enhance pictures downloaded to your computer via Nikon Transfer 2 or the like. It can also be used to print pictures or upload them to the Web after enhancement.

Viewing Pictures

You can view pictures in a thumbnail display and quickly find the one you want. Selected pictures can be viewed single-frame at a larger size to check fine details. You also have a choice of multi-frame views that can be used to compare pictures side-by-side. You can also compare before-and-after views of the same picture to assess the effects of adjustments.

Playing Back Videos

In NX Studio, videos can only be viewed as thumbnails. Double-clicking a video thumbnail launches the external software linked to your operating system.

Filters

Pictures can be filtered by rating and label. Quickly find the pictures you want for a more efficient workflow.

Enhancing Pictures

Photos can be enhanced in a variety of ways, including by adjusting brightness, hue, and other settings, cropping pictures, or processing RAW images and saving the results in other formats.

Exporting Pictures (Saving Pictures in Other Formats)

Pictures that have been enhanced or resized can be exported in JPEG, HEIF, or TIFF format. The exported pictures can then be opened using other software.

Uploading Pictures to the Web

Upload pictures directly to NIKON IMAGE SPACE.

Printing

Print pictures and give them to friends and family.

Advanced Features

You can perform operations such as sharing Custom Picture Controls with your camera or other computers, or merging pixel shift images taken with your camera.

Managing Custom Picture Controls

Import adjusted Custom Picture Controls from your camera or export Custom Picture Controls adjusted in NX Studio as files.

Merging Pixel Shift Images

Merge pixel shift images into a single file to create high-resolution images.

Slide Shows

View a slide show of the pictures in a selected folder.

Available Features

Some features may not be available depending on the country or region of use.

The NX Studio Workflow

NX Studio can handle everything from downloading and displaying pictures from your camera to enhancing your favorite shots and uploading them to the Web.

Step 1: Launch NX Studio

Launch NX Studio as described below.

- Windows: Double-click the NX Studio icon on the desktop.
- macOS: Go to [**Applications**] and double-click the NX Studio icon in the “Nikon Software” folder.

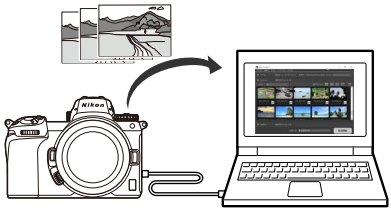
Tip: Nikon ID

You must sign in with your Nikon ID when you launch NX Studio for the first time. Follow the on-screen instructions to sign in.

- When accessing the website of another service that uses the Nikon ID, you may be required to sign in with your Nikon ID even if you have already signed in to NX Studio with the same ID. The sign-in credentials for the website and NX Studio are maintained separately.
- If you plan to use NX Studio offline, be sure to sign in while you have an internet connection. You can use NX Studio offline for 30 days after signing in. You can use NX Studio for another 30 days by re-launching it online.
- To discontinue your use of Nikon ID, you must terminate the use of NX Studio. Select [**Help**] > [**NX Studio Settings**] to display the NX Studio settings page and follow the steps to complete the termination process.

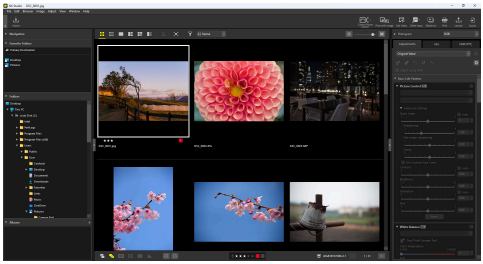
Step 2: Download Pictures to Your Computer

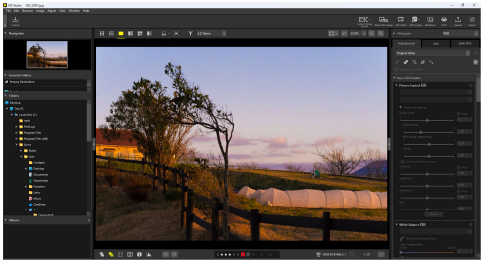
You can readily download photos and videos from your camera using Nikon Transfer 2 software installed with NX Studio.

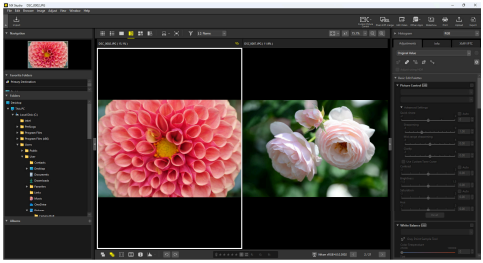


Step 3: View Pictures

NX Studio offers a variety of options for viewing the downloaded pictures and quickly finding the one you're looking for (📖 31, 📖 61).



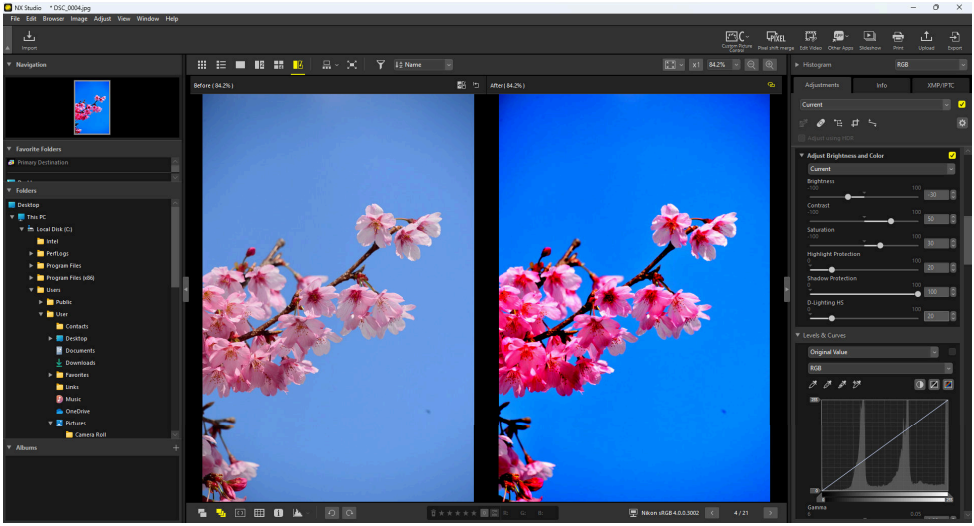






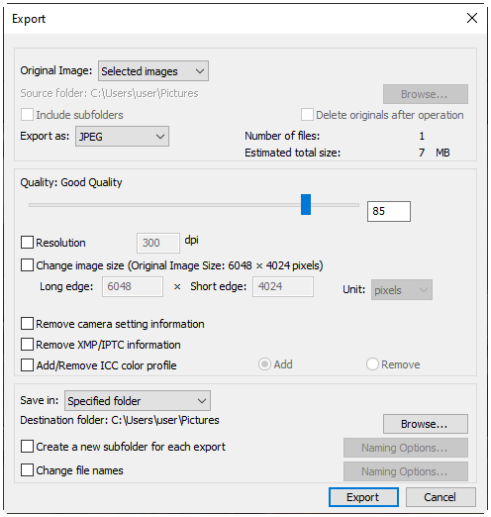
Step 4: Enhance Pictures

Adjust brightness, hue, and other settings. NX Studio's intuitive controls help you get the results you want (📖 80).



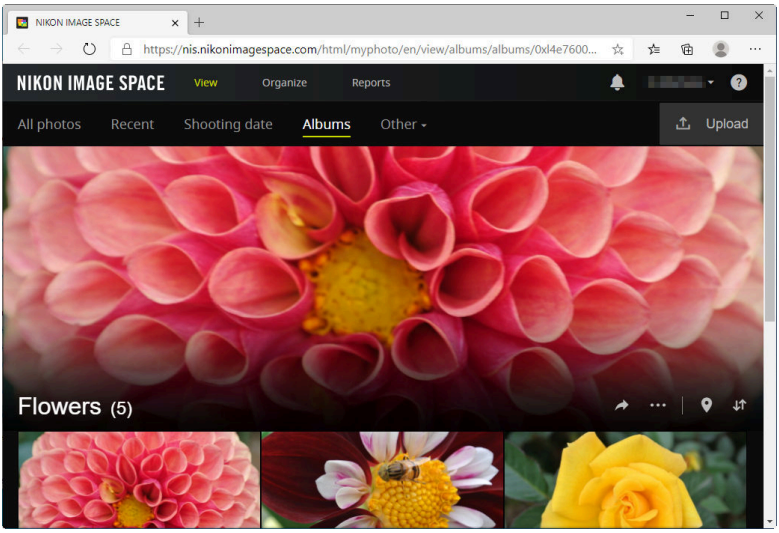
Step 5: Export Pictures (Save in Other Formats)

After enhancing pictures, you can save them as JPEG, HEIF, or TIFF files under new names. The pictures can then be used with other software.



Step 6: Upload or Print Pictures

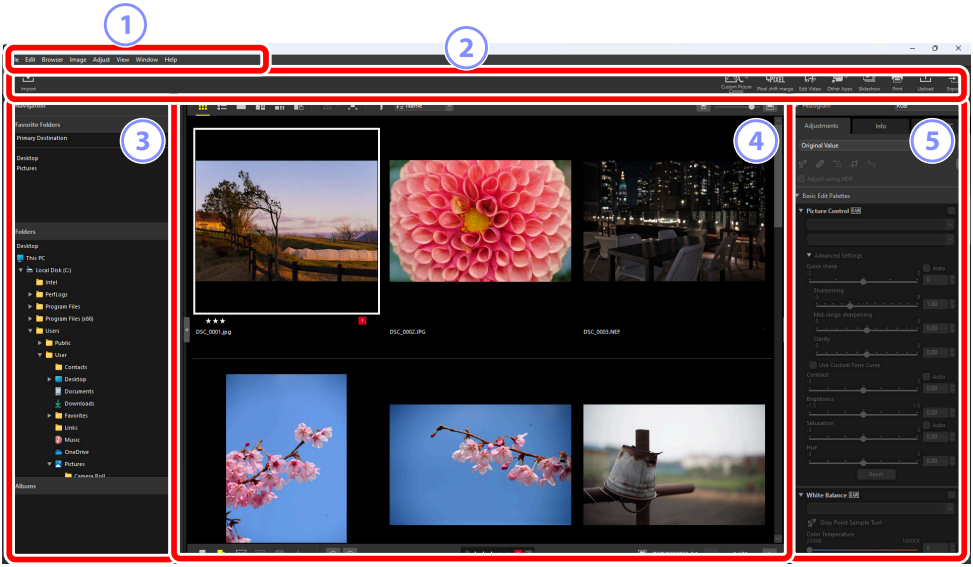
Pictures that have been saved in the appropriate formats can be uploaded directly to NIKON IMAGE SPACE (📖 222, 📖 223). You can also print pictures and share them with family and friends (📖 226).



NX Studio also offers many other ways to enjoy your photos. For more information, see “What NX Studio Can Do for You” (📖 5).

The NX Studio Window

The elements of the NX Studio window are shown below.



1 The Menu Bar

Select menu options.

2 The Toolbar

Launch Nikon Transfer 2 or other software, print pictures, or perform other tasks.

3 The Browser Palette

Select folders in the [**Folders**] list, view frequently-used folders you've added to [**Favorite Folders**], or browse [**Albums**], personalized collections of frequently-viewed photos.

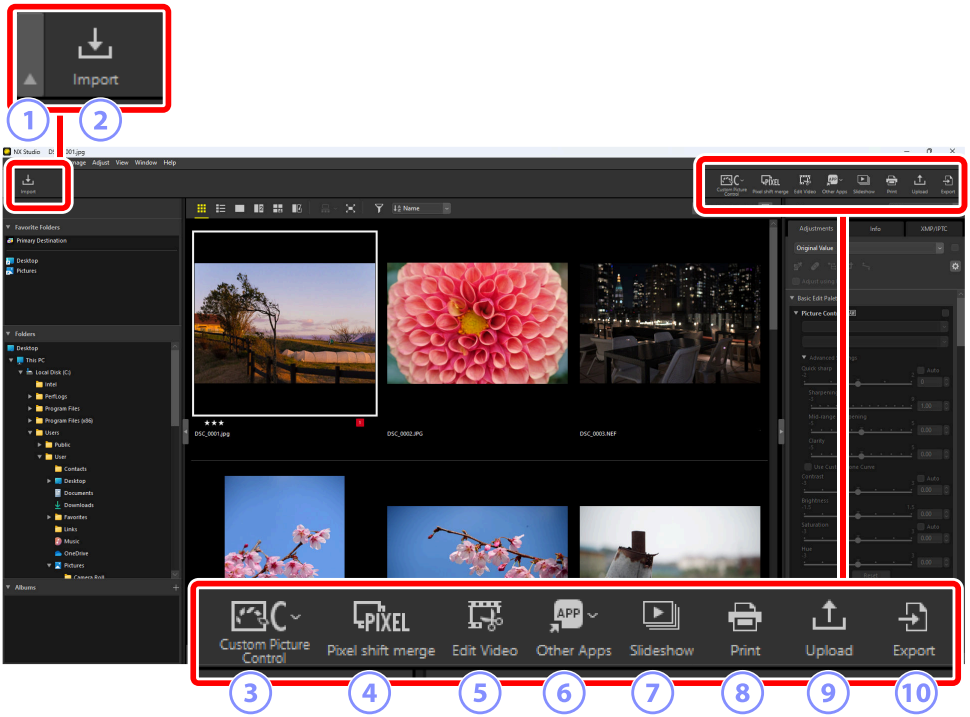
4 The View Area

Pictures are displayed here (31).

5 The Adjustments/Info Palette

Shows image information and adjustments for the selected pictures.

The Toolbar



1 View/Hide Toolbar

Click to view or hide the toolbar.

2 [Import]

Launch Nikon Transfer 2.

3 [Custom Picture Control]

Import or export Custom Picture Control files (204).

4 [Pixel shift merge]

Merge a sequence of pictures taken using pixel shift into a single file (213).

5 [Edit Video]

Click to launch the preset video editing software. The software included in your operating system is set by default. You can change the software via [**Open with Application**] in the options dialog (240, 249).

6 [Other Apps]

Open selected pictures using other software. Software can be added via [**Open with Application**] in the options dialog (240, 249).

7 [Slideshow]

View the pictures in the current selection or current folder as a slide show (218).

8 [Print]

Print the pictures in the current selection (226).

9 [Upload]

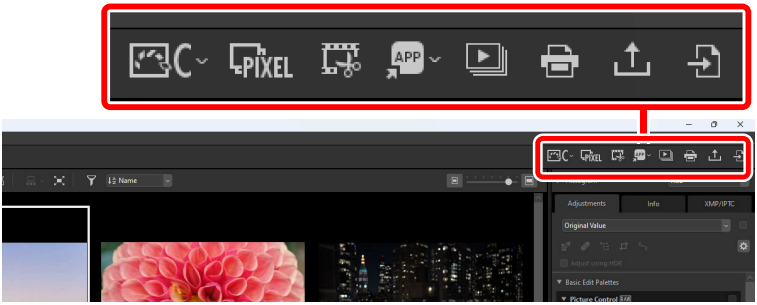
Upload the pictures in the current selection to NIKON IMAGE SPACE (222, 223).

10 [Export]

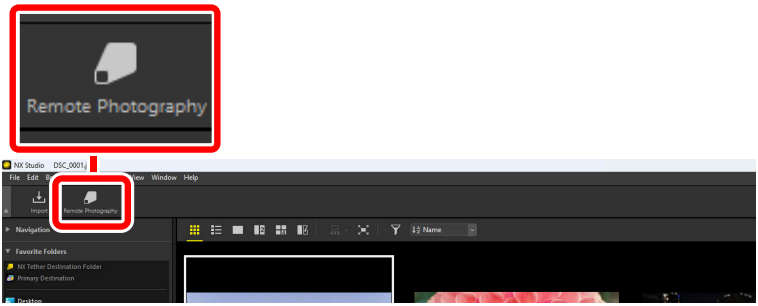
Export the pictures in the current selection in JPEG, HEIF, or TIFF format. Options available during export include resizing pictures and removing image information (234).

Tip: Toolbar Display Options

- To display the tools in the toolbar as icons without text, select [**Customize Toolbar**] > [**Icon only**] in the [**Window**] menu. Use [**Customize**] to choose the tools displayed.



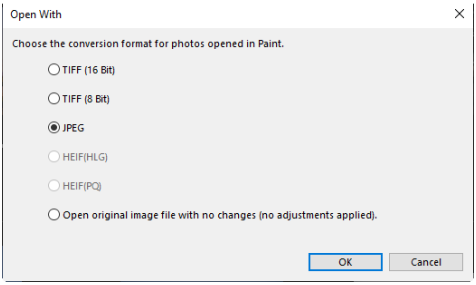
- If installed, NX Tether can be launched by clicking [**Remote Photography**] in the toolbar.



Tip: Opening Pictures in Other Applications

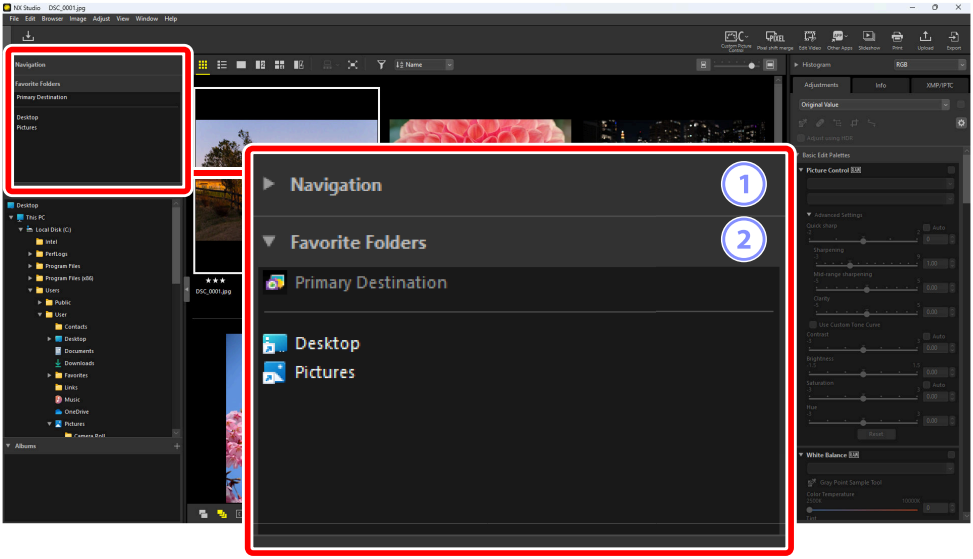
Use [**Other Apps**] to open copies of the pictures in the current selection in other applications.

- The destination to which the copies are saved can be selected using [**Open with Application**] in the options dialog (240, 249).
- The format in which the copies are saved can be selected in a dialog displayed after you have chosen the desired application.



- [**TIFF (16 Bit)**]/[**TIFF (8 Bit)**]/[**JPEG**]: The pictures will be saved and opened in the selected format with any enhancements applied in NX Studio intact. Choose [**TIFF (16 Bit)**] to open NEF (RAW) pictures or merged pixel shift pictures (NEFX files) in the destination application with no drop in quality.
- [**HEIF (HLG)**]/[**HEIF (PQ)**]: Available only in the case of pictures recorded in HLG on cameras that support tone-mode selection.
- After choosing an application, you may be prompted to install a codec (Windows only). Follow the on-screen instructions.
- [**Open original image file with no changes (no adjustments applied)**]: The files will be opened in their original formats. Enhancements made in NX Studio will not be applied.
- The pictures will not open if the chosen format is not supported in the selected application.
- Click [**OK**] to save the pictures in the selected format and open them in the chosen application.

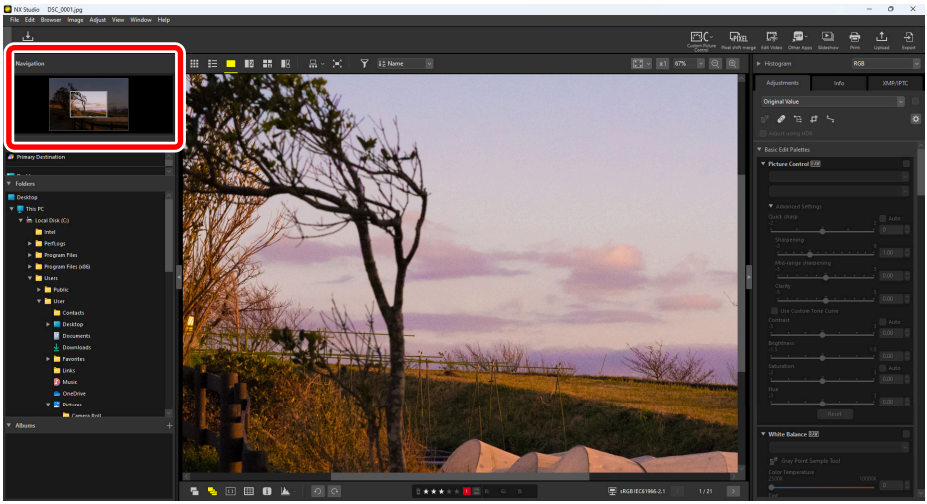
The Browser Palette



(1) [Navigation]

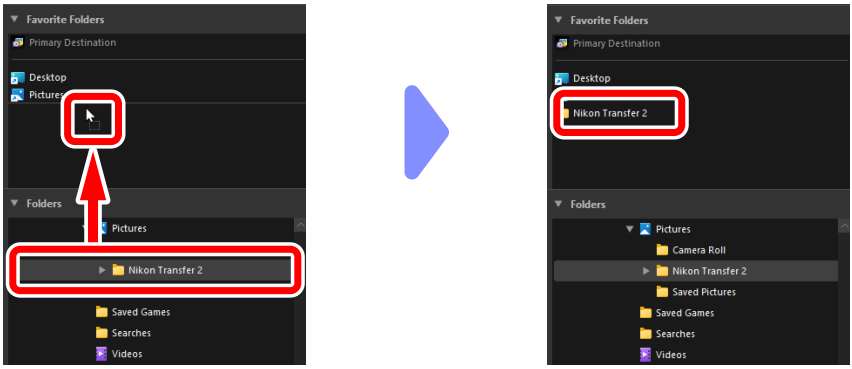
A small image showing pictures displayed in the view area in single- or multi-frame view.

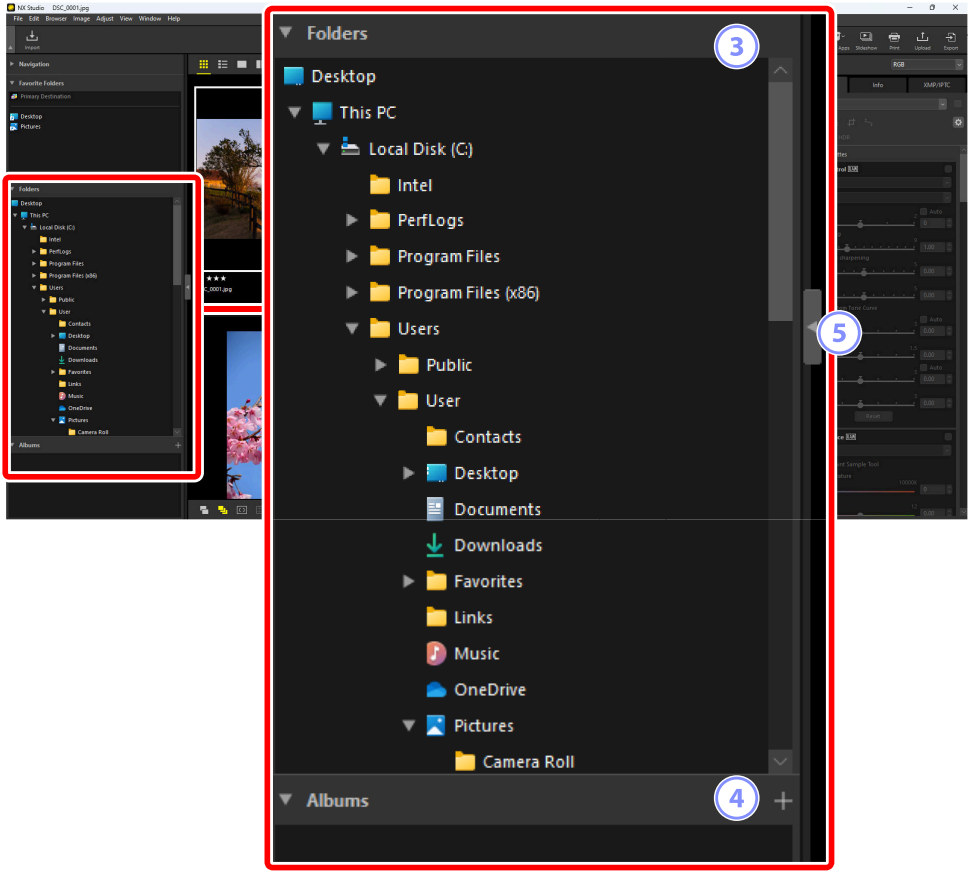
- A frame shows the area visible when the picture is zoomed in.
- Drag the frame to scroll the display in the view area to a different area of the image.



② [Favorite Folders]

Add folders to favorites by dragging them in from the [**Folders**] list.





3 [Folders]

A hierarchical display of the folders on the computer. Click folders to display the pictures they contain in the view area.

4 [Albums]

Create and manage albums. Use albums to organize pictures across folders (21).

5 View/Hide

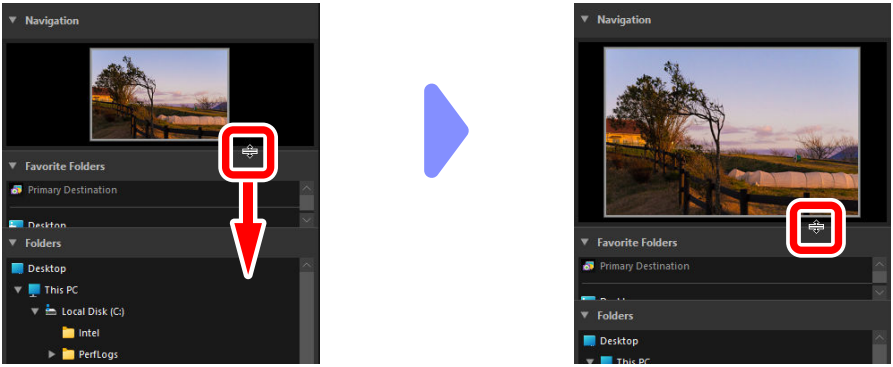
Click to view or hide the browser palette.

Tip: Viewing and Hiding Sub-Palettes

The [**Navigation**], [**Favorite Folders**], [**Folders**], and [**Albums**] sub-palettes can be viewed or hidden by clicking the ▼/▶ buttons at their top left corners.

Tip: Resizing Sub-Palettes

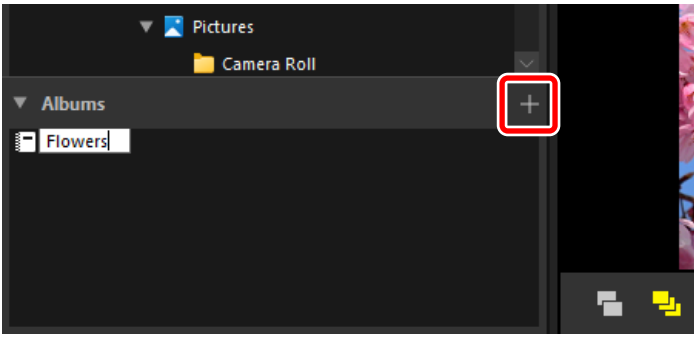
Drag the borders between the [**Navigation**], [**Favorite Folders**], [**Folders**], and [**Albums**] sub-palettes to adjust their size.



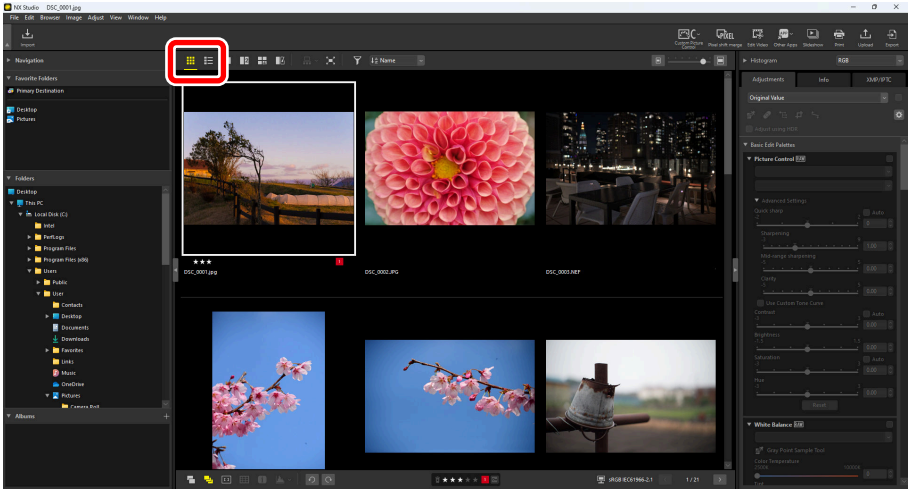
Collecting Pictures in Albums

Organize pictures by theme. Using albums to collect pictures from multiple folders can help you quickly find the shot you want.

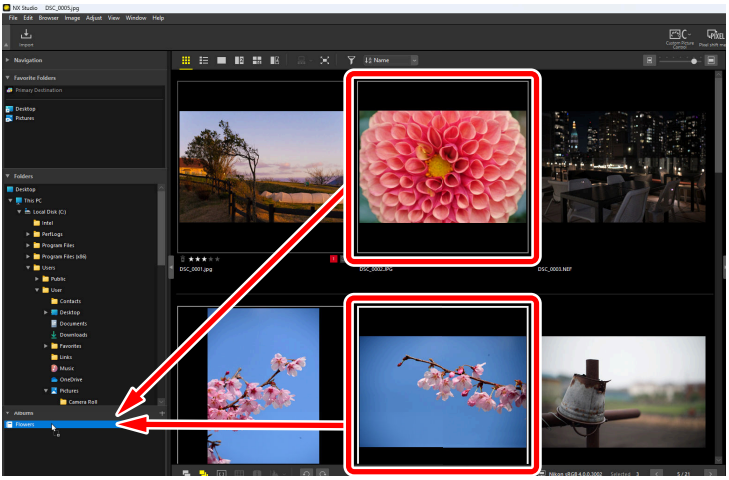
1 To create a new album, click ＋ and enter the album name.



2 Display the filmstrip (🕮 45) or select the thumbnail grid or thumbnail list view in the view area (🕮 33).



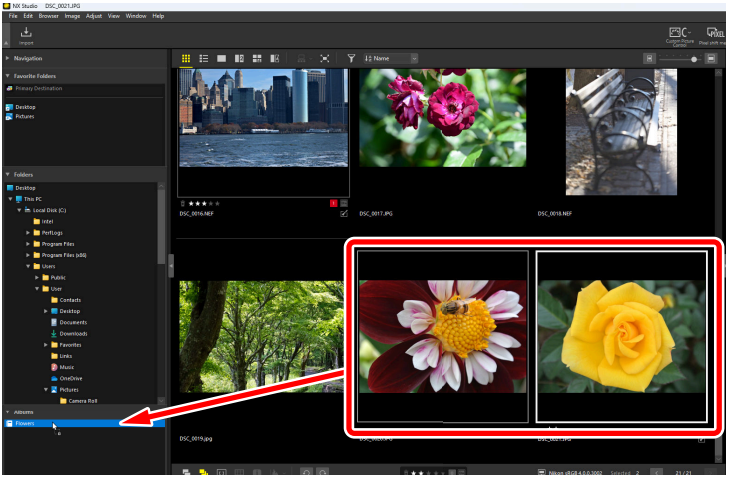
3 Drag and drop pictures into the album created in Step 1.



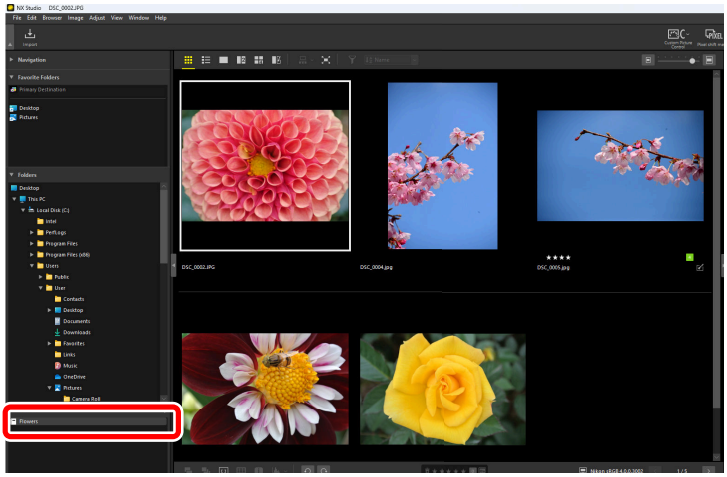
Tip: Selecting Multiple Pictures for Drag-and-Drop

Multiple pictures can be selected for drag-and-drop using the control (or in macOS, the command) or shift key.

4 Add pictures from other folders.



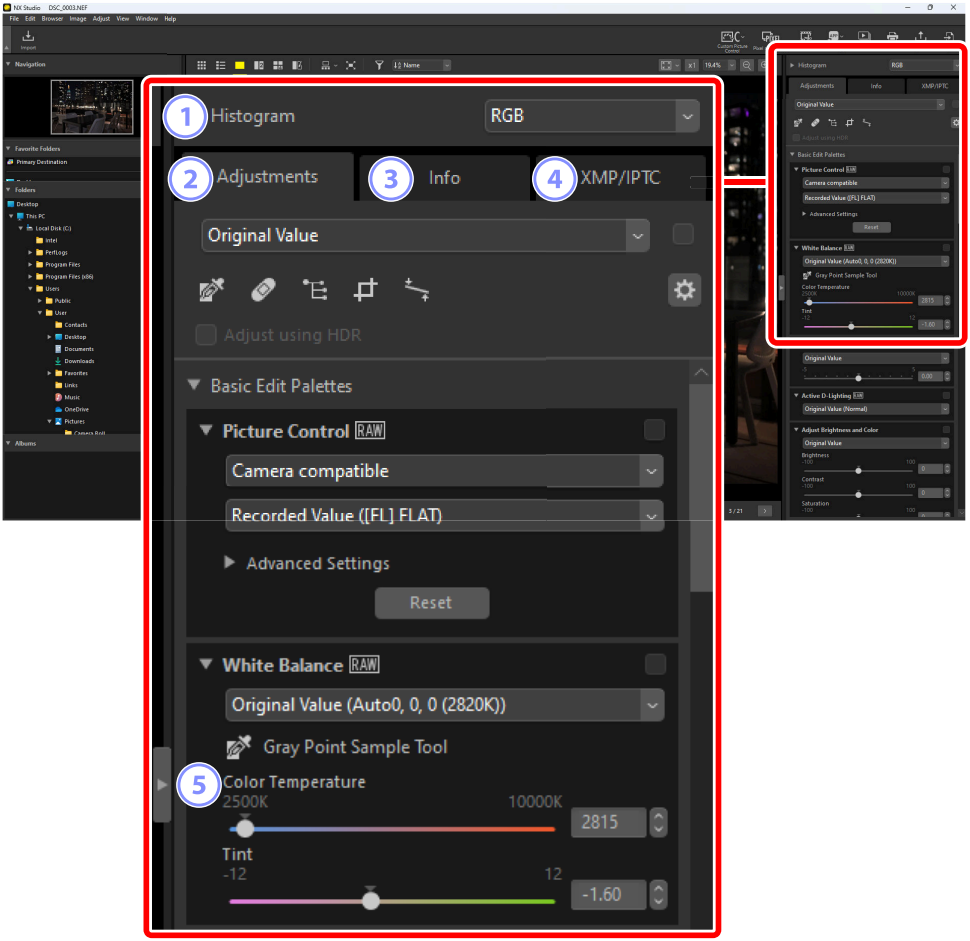
5 Click the album name to view the pictures added to the album in Steps 3 and 4.



Tip: Albums

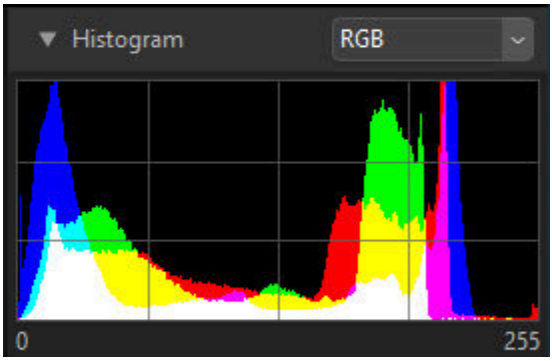
- Folders cannot be created in albums.
- Albums do not support sort or filter operations.
- Pictures in albums are stored in their original folders and are not copied or moved into the albums.
- To delete an album, right-click (or in macOS, control-click) the album and select [**Delete Album**].

The Adjustments/Info Palette

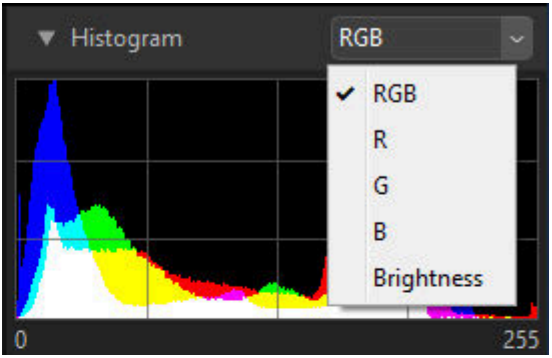


① [Histogram]

The histogram for the current picture. To view or hide the histogram, click the ▼/▶ button.



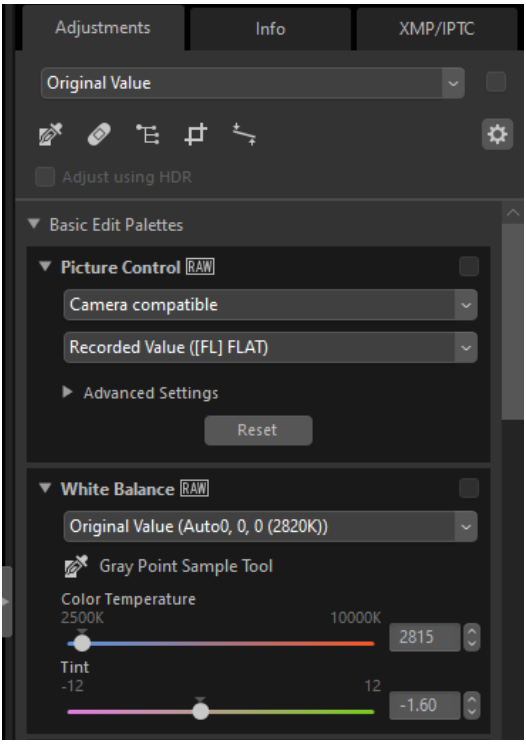
- The channel and brightness can be selected from the pull-down menu.



- Select [**RGB**] to display the histograms for all three channels, [**R**] (red), [**G**] (green), and [**B**] (blue), overlaid with each other. Regions where the histograms overlap are shown in other colors. [**G**] and [**B**] overlaps are shown in cyan, [**R**] and [**B**] overlaps in magenta, and [**R**] and [**G**] overlaps in yellow. Regions where all channels overlap are shown in white.

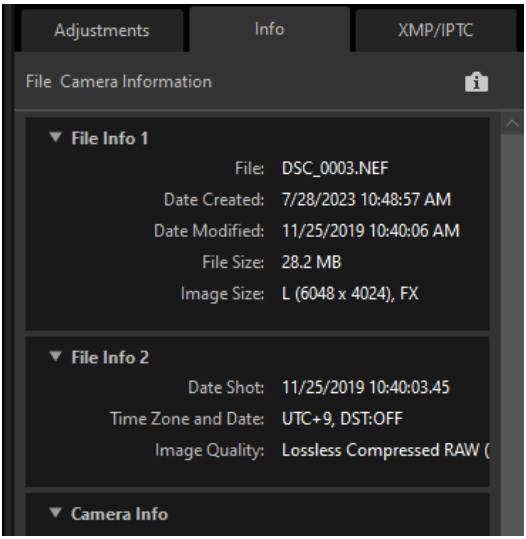
② The [Adjustments] Tab

Enhance the current picture. Among the many adjustments on offer are cropping and straightening tools and tools for adjusting such parameters as exposure, white balance, and brightness (80).



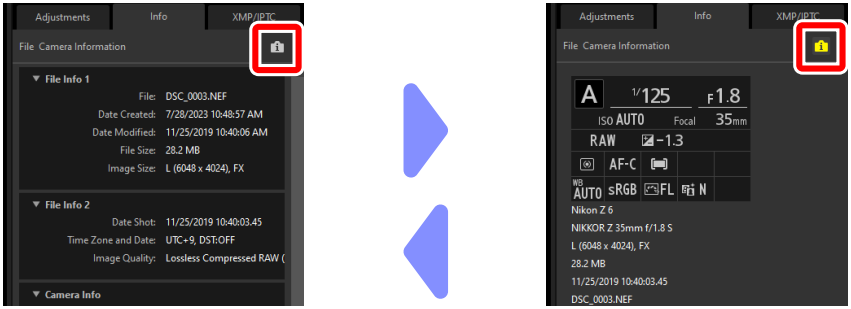
③ The [Info] Tab

View information on the current picture, including the camera model name, date of recording, and exposure. The picture's upload date and time is also displayed if uploaded from the camera to an FTP server.



Tip: View Mode

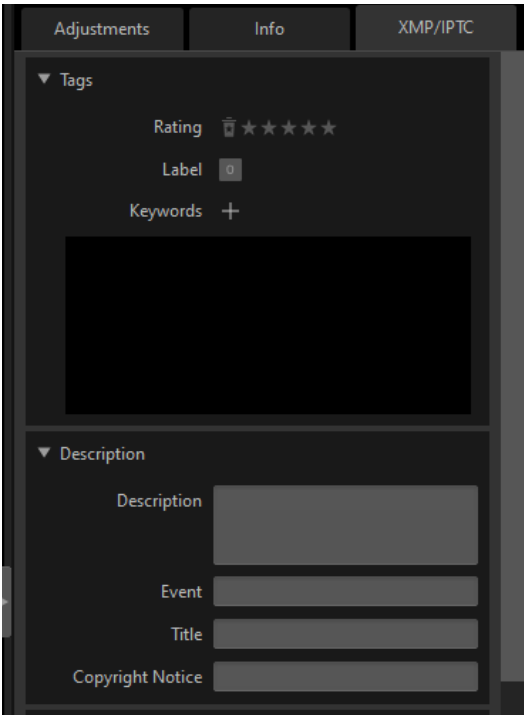
The display in the [**Info**] tab changes with each press of the view mode button.



---

4 The [XMP/IPTC] Tab

Edit XMP/IPTC metadata, including labels and ratings. Changes to labels and ratings in the view area or [**Image**] menu are reflected in the [**XMP/IPTC**] tab.



5 View/Hide

Click to view or hide the adjustments/info palette.

Supported Formats

NX Studio supports the file types listed below.

Video Files
In NX Studio, videos can only be viewed as thumbnails. Double-clicking a video thumbnail launches the external software linked to your operating system.

Image Files

NX Studio supports the following formats for still images shot with Nikon digital cameras or saved using Nikon software:

- RAW pictures in NEF and NRW formats (extensions ".nef" and ".nrw")
- JPEG (extensions ".jpg" and ".jpeg"), RGB mode only; CMYK mode and JPEG 2000 not supported
- TIFF (extensions ".tif" and ".tiff"), RGB mode only; CMYK mode not supported; editing available only with uncompressed files or files compressed using LZW
- HEIF (extension ".hif"), HDR only— note that you may be prompted to install a codec when displaying HEIF images single-frame in the view area (Windows only); follow the on-screen instructions even if a different codec has already been installed
- NEFX (extension: ".nefx"); merged pixel shift files, which are generated by using NX Studio to merge image files recorded using pixel shift on the camera
- MPO (extension ".mpo")

Caution: HEIF Pictures
HEIF pictures may no longer be viewable in the view area after being edited in other applications.

Tip: Viewing RAW Pictures
In the case of RAW pictures edited using plug-ins in the Nik Color Efex Pro series or created or edited using optional Picture Controls not installed with NX Studio, NX Studio will display only the previews embedded in the images, not the pictures themselves. Editing and export are not supported.

Tip: HEIF Pictures with Thumbnails Marked PQ
NX Studio cannot be used to edit HEIF pictures with thumbnails marked PQ (📖 35).

Tip: HDR Pictures

- Pictures shot in HLG on cameras that support tone-mode selection are recorded in HDR. Here "HDR" (high dynamic range) refers to an imaging technology that supports a range of tones (dynamic range) wider than is offered by existing techniques, as distinct from multi-exposure HDR capture, a high-dynamic-range imaging (HDRI) technique that blends multiple still photographs shot at different exposures. Pictures taken with SDR selected for tone mode are recorded using the standard dynamic range (SDR).

Camera tone mode	Image file formats	Dynamic range
SDR	• RAW • JPEG • TIFF • NEFX	SDR
HLG	• RAW • HEIF • NEFX	HDR

- Tones in pictures recorded in HLG on cameras that support tone-mode selection will not display correctly when viewed on monitors that are not HDR-compatible.
- For information on the system requirements for computers used to view pictures recorded in HLG on cameras that support tone-mode selection, visit the following URL: https://onlinemanual.nikonimglib.com/notice/hlg_setting_guide/en/

Audio Files

NX Studio supports the following format for audio files appended to pictures as voice memos and for voice recordings created with COOLPIX cameras:

- WAV (extension ".wav")

Image Dust Off Reference Data

NX Studio supports the following format for Image Dust Off reference data recorded using Nikon digital SLR and mirrorless cameras (📖 174):

- NDF (extension ".ndf")

Viewing Pictures

The View Area

Pictures are displayed in the view area. You have a choice of view modes, including not only thumbnail and single-frame display, but also side-by-side and before-and-after-editing comparison views.



(1) View Mode

Choose how pictures are displayed in the viewer. You have a choice not only of thumbnail and single-frame views, but can also compare pictures side-by-side (33).

(2) Filmstrip View

Display a filmstrip (a row or column of thumbnails) below or to the left of the viewer (45).

3 Full-Frame View

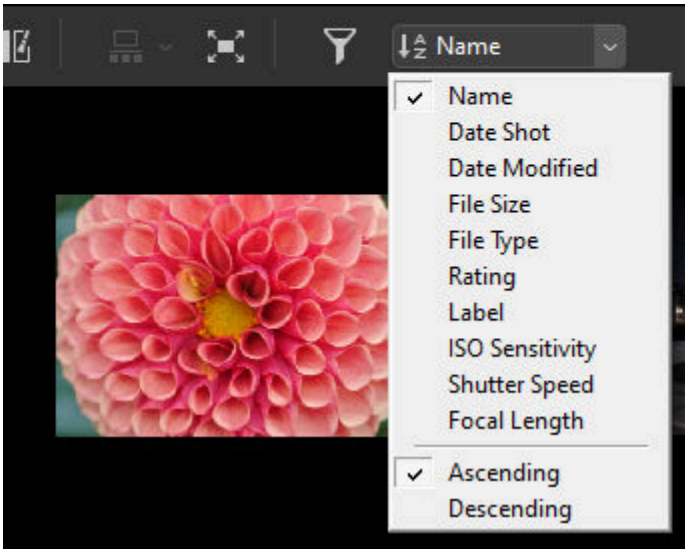
Display pictures full-screen (47).

4 Filter

Limit the display of thumbnails in the view area or filmstrip using one or more filters (61).

5 Sort

Sort thumbnails in the view area or filmstrip.



6 Display Size

Choose the thumbnail or picture display size (40, 44).

7 Viewer

View the current picture.

8 HDR

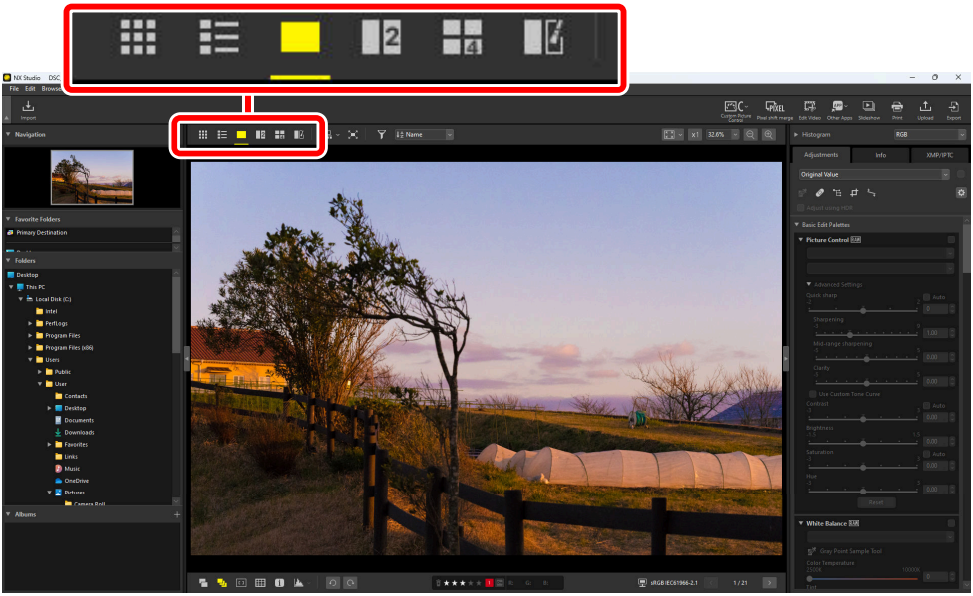
Displayed when HLG pictures recorded on cameras that support tone-mode selection are viewed on HDR-compatible monitors (30).

9 The Bottom Toolbar

Display shooting data in the viewer and rate or label pictures (51).

Choosing a View Mode

Choose a view mode in the top toolbar.



Thumbnail Grid ( )

List the pictures in selected folders.

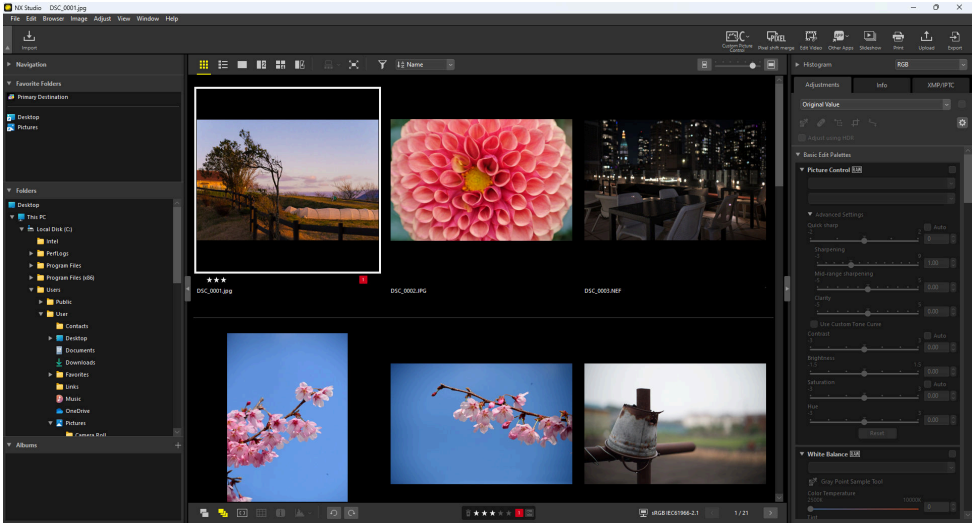
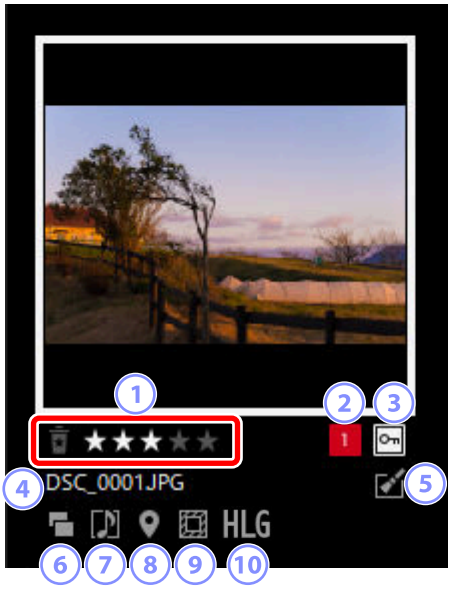


Photo Thumbnails

The meanings of the icons and other data displayed on photo thumbnails are described below. Depending on the thumbnail size, some data may not be displayed.



1 Ratings

The photo's current rating. You can add ratings to unrated photos by mousing over the thumbnail (62).

2 Labels

The picture's current label. You can add labels to unlabeled photos by mousing over the thumbnail (67).

3 Protection

Displayed on protected pictures. You can add or remove protection by mousing over the thumbnail (72).

4 File Name

The file name. Files that have yet to be saved after editing are indicated by an asterisk ("*") in front of the file name.

5 Enhancement

Displayed on pictures to which enhancements have been applied.

- : Displayed on pictures to which enhancements have been applied in the [**Adjustments**] tab (80).
- : Displayed on pictures that have been enhanced using Capture NX 2.
- : Displayed on pictures that have been enhanced using plugins in the Nik Color Efex Pro series.
- : Displayed on pictures that have been retouched on the camera.

6 Dual Format

Displayed on pictures shot in RAW + JPEG or RAW + HEIF format.

7 Group Member

Displayed on pictures that are grouped with voice memos or other files.

- : Displayed on pictures with voice memos.
- : Displayed on the best shots in sequences shot with the Smart Photo Selector.
- : Displayed on best shot candidates in sequences shot with the Smart Photo Selector.
- : Displayed on Motion Snapshots.
- : Displayed on 3D MPO pictures.
- : Displayed on pictures taken using pixel shift.
- : Displayed on pictures taken using pixel shift that have been merged.

8 Location Data

Indicates the presence of embedded location data.

9 Image Area

Displayed on pictures taken using cameras with an image area option. No icon is displayed on pictures shot in FX format, while the icons displayed on other pictures vary with the option selected for image area. Some examples are shown below.

- : Photo taken at image area settings with an aspect ratio of 3:2.
- : Photo taken at an image area setting of 5:4 (30 × 24).
- : Photo taken at an image area setting that increases the apparent focal length of the lens by 1.2×.

10 HLG/PQ

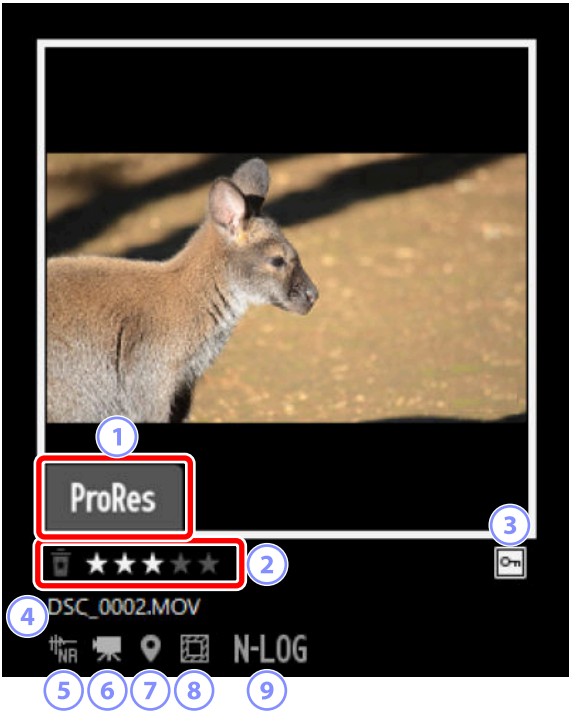
HLG is displayed on HLG pictures shot with cameras that support tone-mode selection. PQ is displayed on PQ HDR images.

Video Thumbnails

The meanings of the icons and other data displayed on video thumbnails are described below. Depending on the thumbnail size, some data may not be displayed.

Playing Back Videos

- In NX Studio, videos can only be viewed as thumbnails. Double-clicking a video thumbnail launches the external software linked to your operating system.
- Some videos may not display thumbnails.



1 ProRes

Displayed on videos recorded using the ProRes codec.

2 Rating

The video's current rating. You can add ratings to unrated videos by mousing over the thumbnail (62).

3 Protection

Displayed on protected videos. You can add or remove protection by mousing over the thumbnail (📖 72).

4 File Name

The file name. Files that have yet to be saved after editing are indicated by an asterisk (“*”) in front of the file name.

5 AF Noise Reduction

Displayed on videos that have been processed using the [**AF Noise Reduction**] option in the [**Image**] menu to reduce the sound made by the camera focusing.

6 Video

Displayed on videos.

7 Location Data

Indicates the presence of embedded location data.

8 Image Area

Displayed on videos taken using cameras with a video crop selection option. The icon displayed varies with the selected crop. Some examples are shown below.

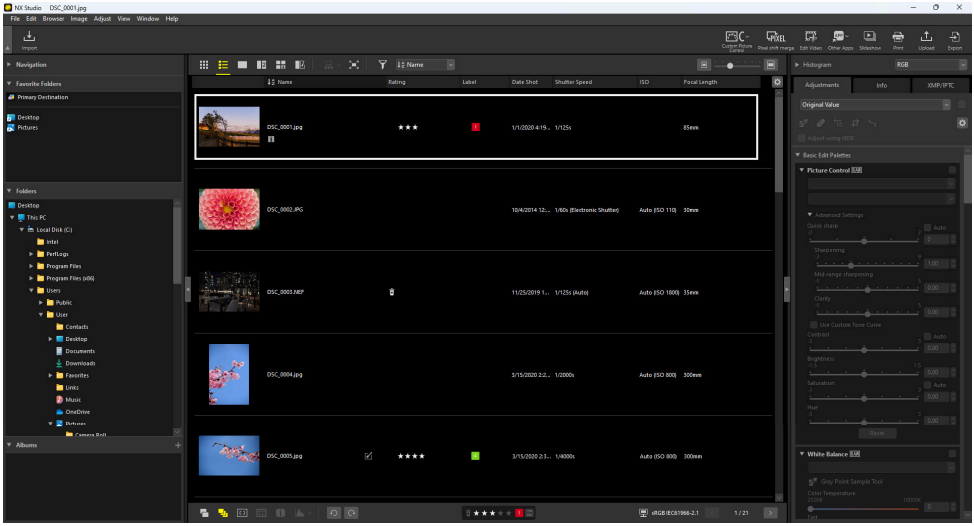
- : Video recorded using a crop with an aspect ratio of 3:2.
- : Video recorded using a crop that increases the apparent focal length of the lens by 1.3× greater than that for DX format.
- : Video recorded using a crop that increases the apparent focal length of the lens by 3×.

9 Tone Mode

Displayed on videos recorded with N-Log or HLG selected for tone mode.

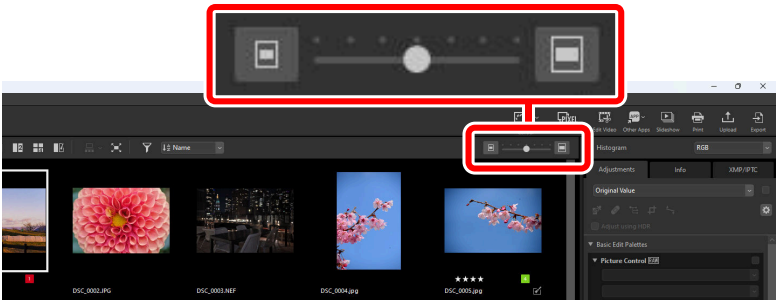
Thumbnail List ( )

List the pictures in selected folders. Pictures can be sorted by filename, label, or other criteria.



Tip: Thumbnail Size

The size of the thumbnails in the list and grid displays can be adjusted using the slider at the top right corner of the view area. Dragging the slider to the right increases thumbnail size.



Tip: The Thumbnail List

To choose the categories shown in the thumbnail list view, click the ⚙ at the top right corner of the view area.

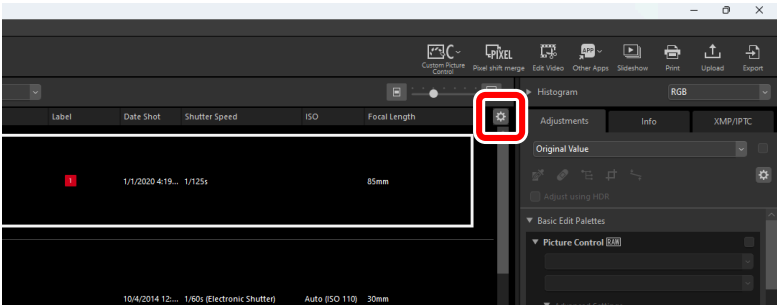
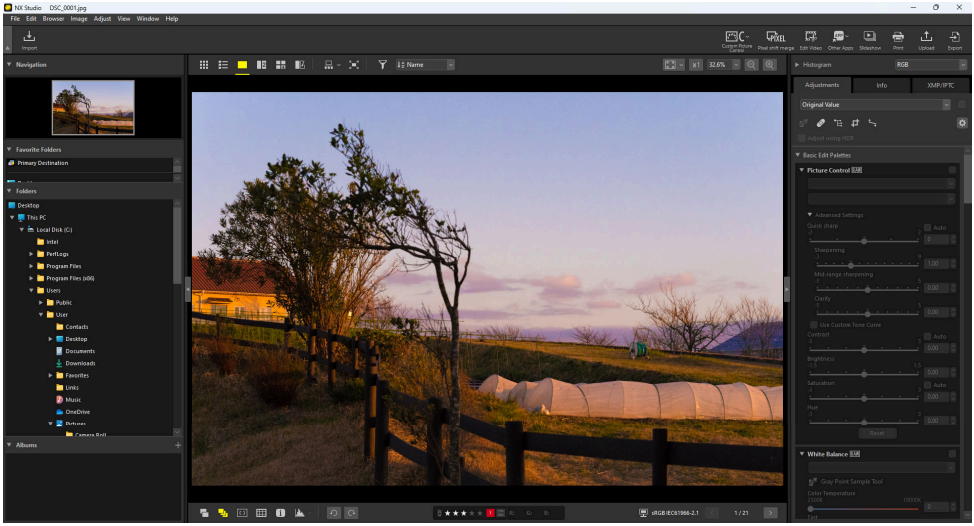


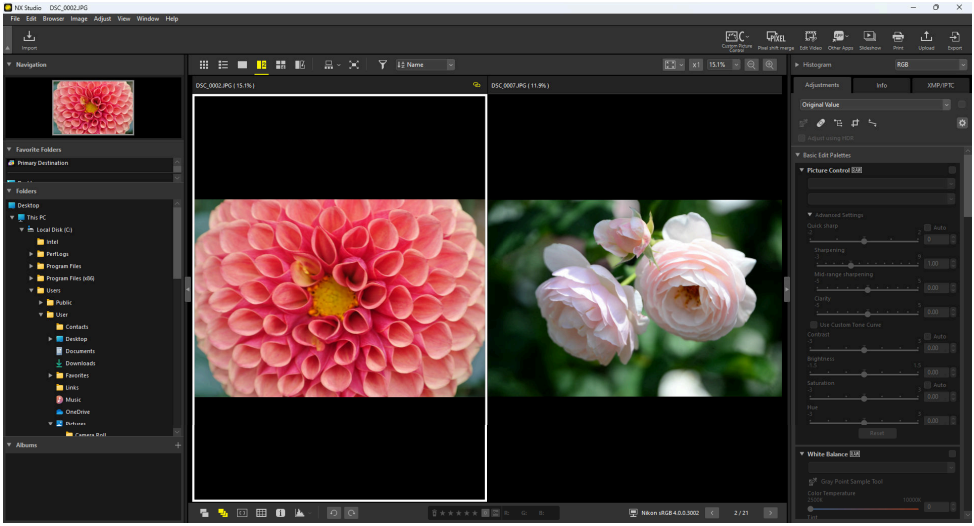
Image Viewer ( )

Display pictures in single-frame view.



2 Images ( )

Compare two pictures side-by-side (56).



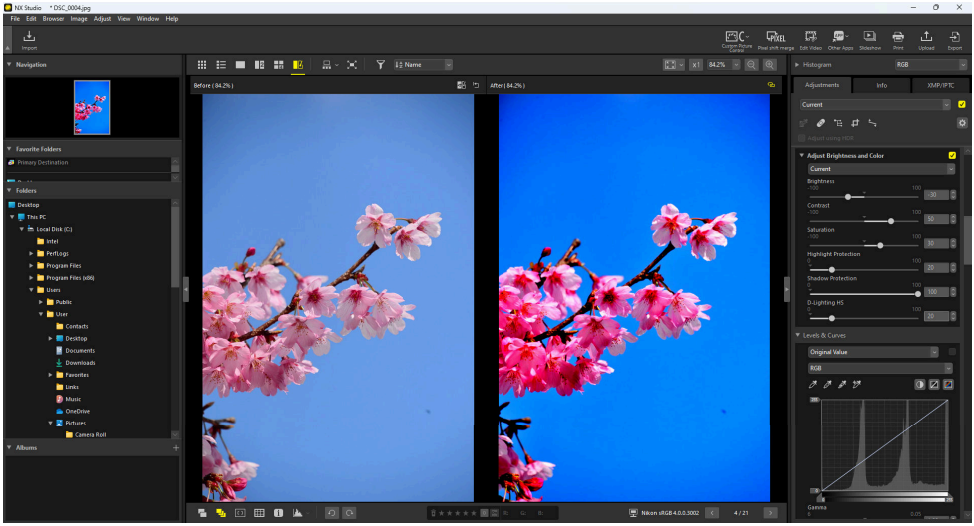
4 Images ( )

Compare four pictures at once (56).



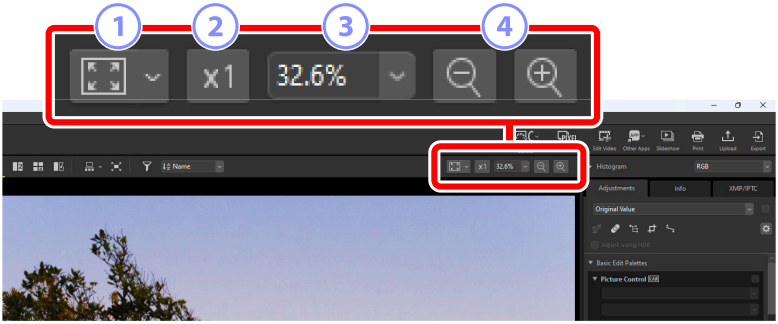
Before and After ( )

Compare enhanced pictures with the same pictures pre-enhancement (59).



Tip: Choosing a Display Size

Use the buttons at the top right corner of the view area to choose the display size for pictures in the image viewer, "2/4 images", and before-and-after displays.



(1) Fit: Click to view the entire image at the current fit. The fit can be selected by clicking .

- [**Fit to Screen**]: Fit the picture to the viewer.
- [**Fit to Square**]: Fit the picture to a square inscribed inside the viewer.
- [**Fit Short Edge to Screen**]: Fit the short edge of the picture to the viewer. The zoom ratio will not exceed 100%.

(2) 100%: View the picture at 100% zoom.

(3) Zoom ratio: Choose a zoom ratio from the menu.

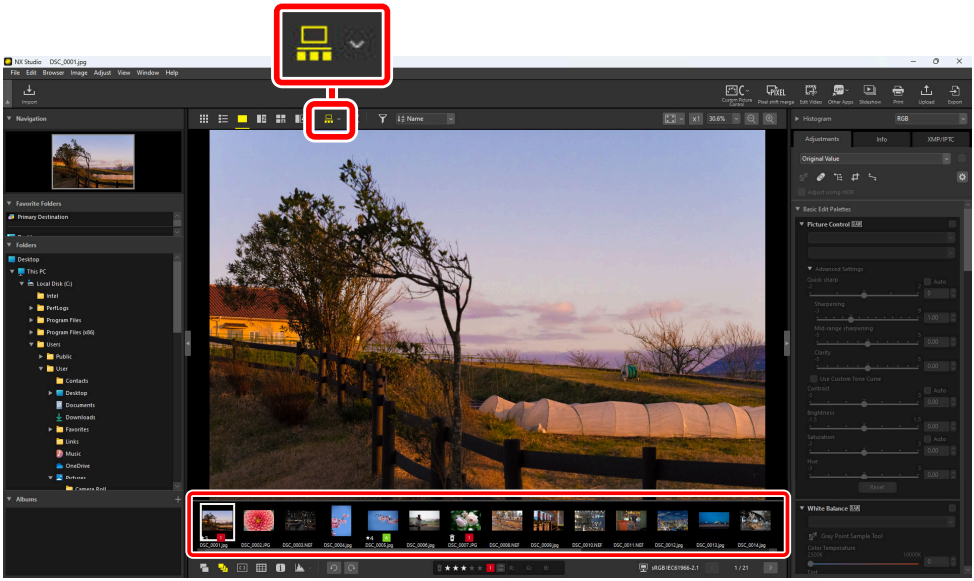
(4) Zoom in/zoom out: Zoom the picture in or out. Choose from zoom ratios of 6 to 400 percent.

Tip: 100% Zoom

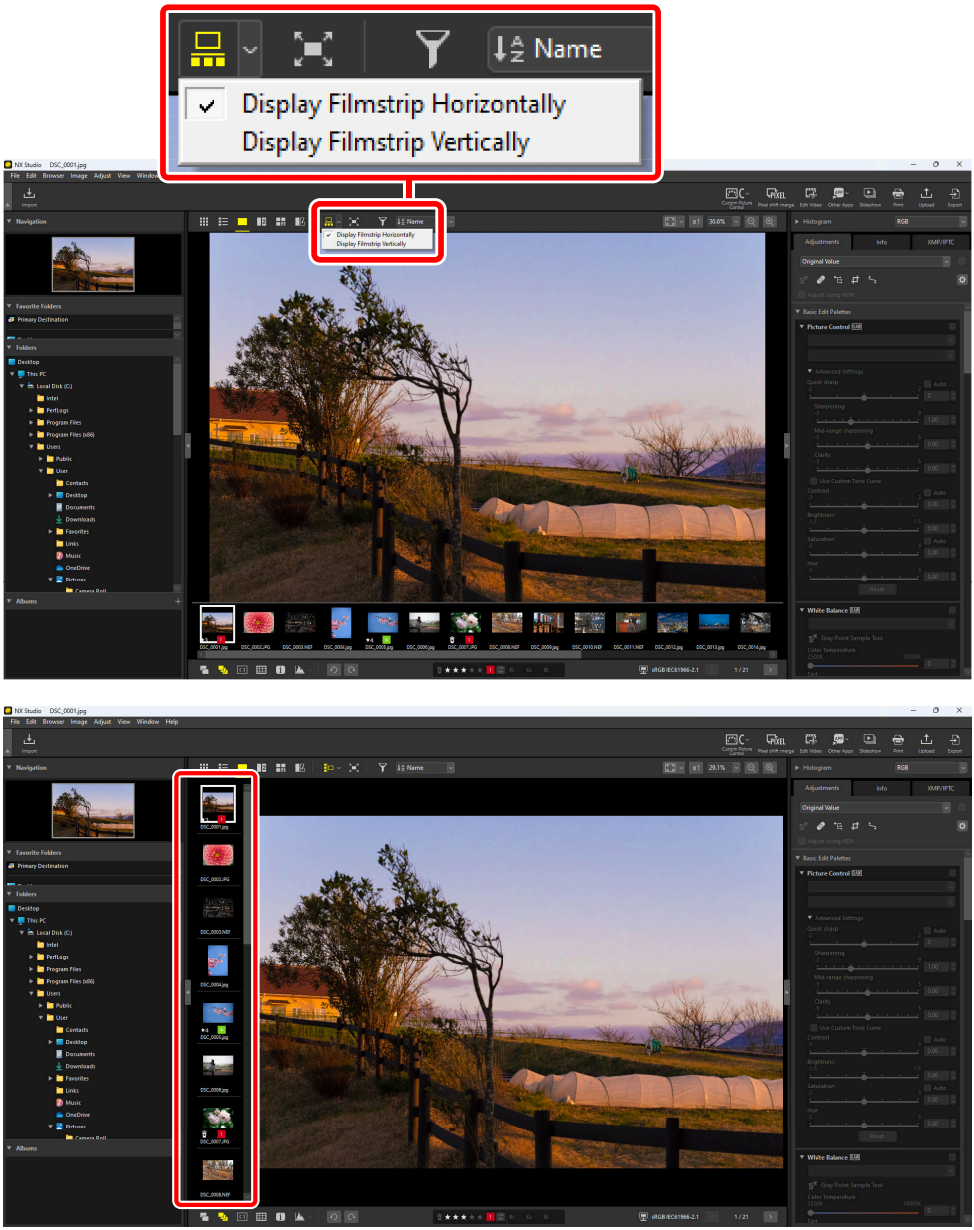
You can also click the picture in the viewer to display it at 100% zoom. You also have the option of mousing over the picture and holding the shift key to zoom temporarily to 100%.

Filmstrip View

Select () the  button in the top toolbar to view a row or column of thumbnails (the “filmstrip”) below or to the left of the viewer in the image viewer, “2/4 images”, and before-and-after displays.



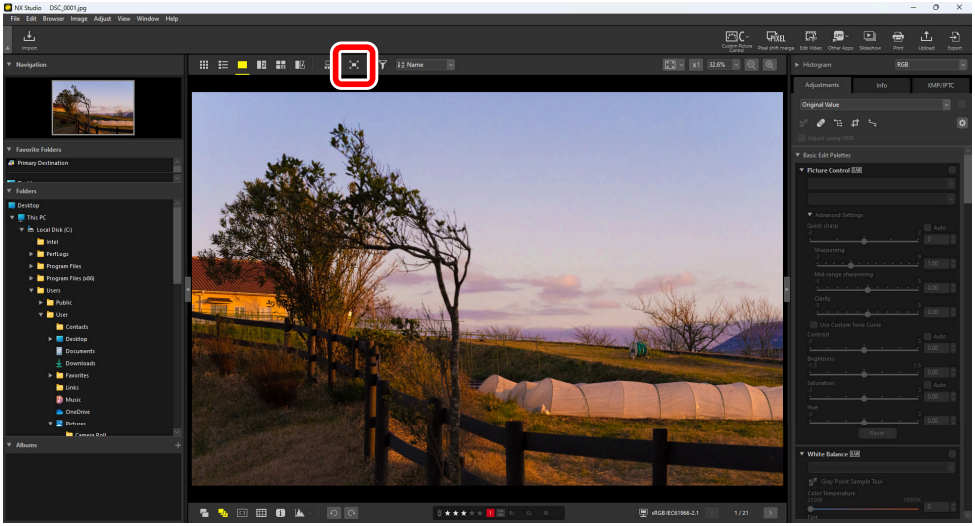
You can change the orientation of the filmstrip by clicking . The orientation is reflected in the icon for the filmstrip tool, which changes to when the filmstrip is displayed below the viewer and to  when it appears to the left.



Filmstrip displayed to left of viewer

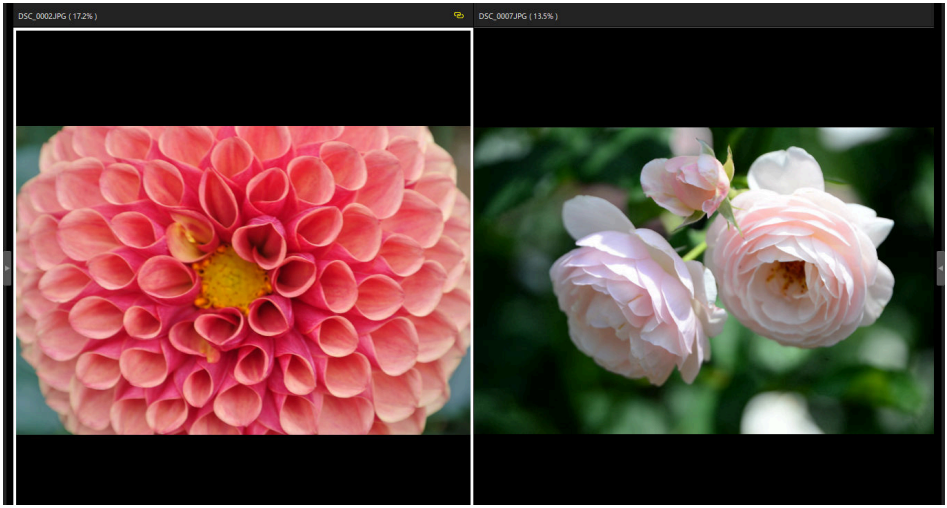
Full-Frame View

Select () the  button in the top toolbar to view the current picture full-screen.



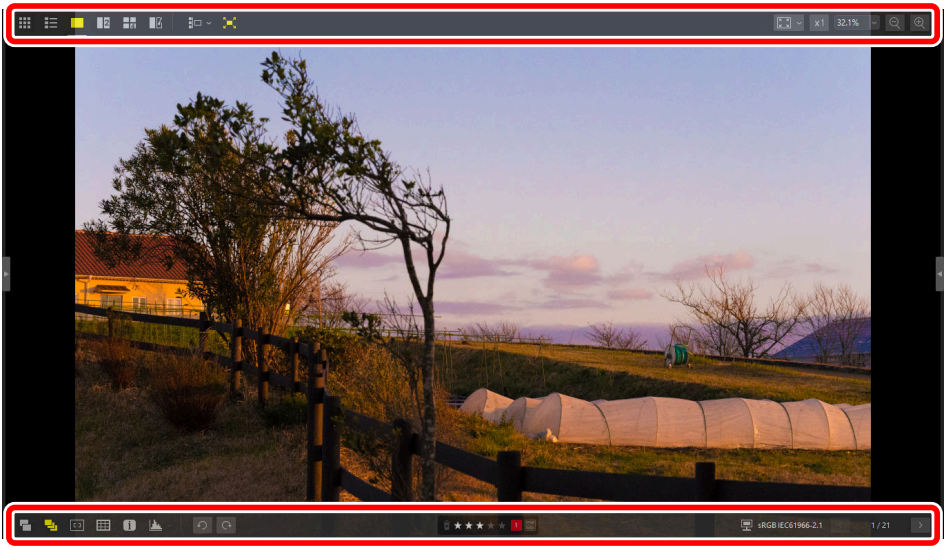


- Selecting full-frame view in the thumbnail grid or list view displays the current picture full-frame in the viewer.
- Selecting full-frame view in image viewer, “2/4 images” or before-and-after view displays the current pictures full-frame in the selected view.



Picture displayed full-frame in the “2 images” view

- The viewer toolbars can be displayed by mousing over the top or bottom of the screen. Click  to exit full-frame view (the button will change to ). You can also exit full-frame view by pressing the escape key.

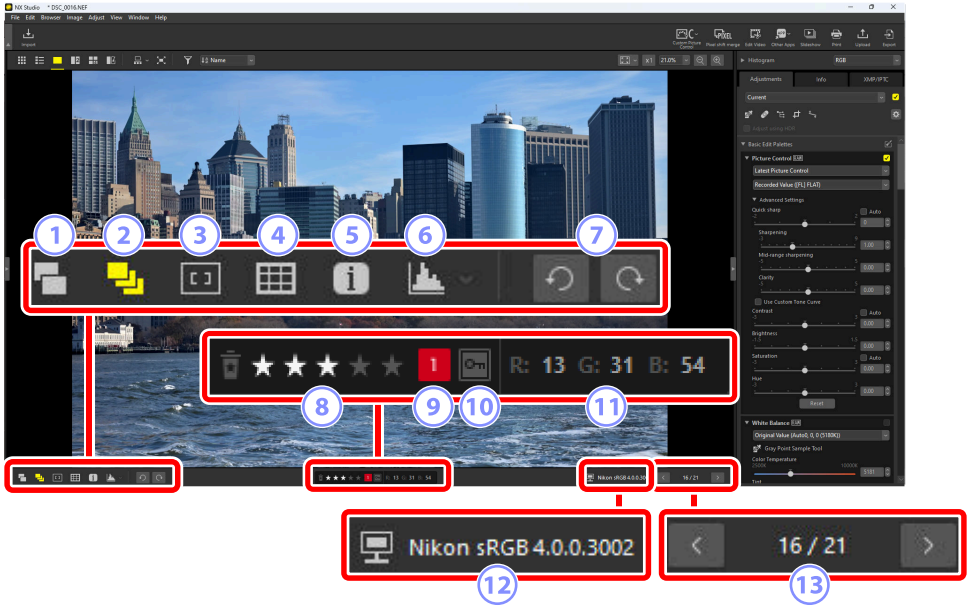


Viewing Videos

In NX Studio, videos can only be viewed as thumbnails. Double-clicking a video thumbnail launches the external software linked to your operating system.

The Bottom Toolbar

Use the toolbar at the bottom of the view area to display shooting data and rate or label pictures.



1 Show RAW and JPEG/HEIF Pairs as Single Images

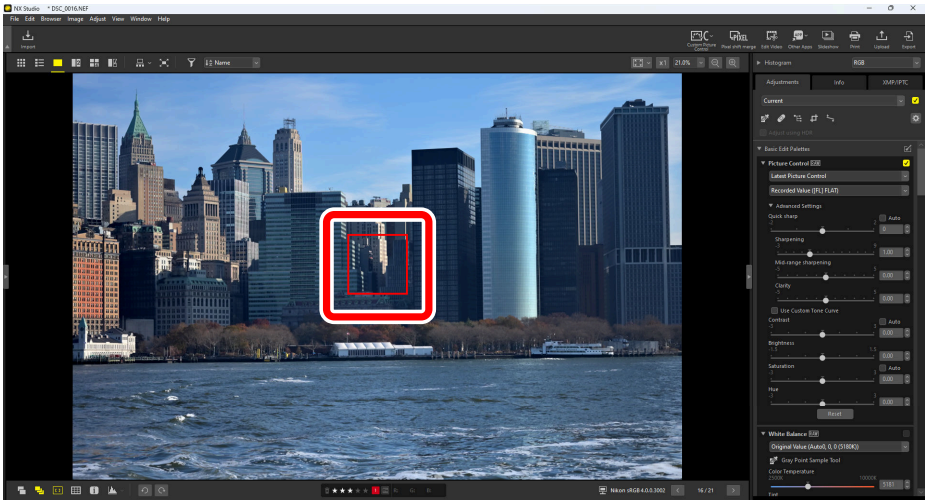
Select ( ) this tool to display each pair of pictures shot in RAW + JPEG or RAW + HEIF format as a single image in thumbnail and filmstrip views.

2 Show Sequences as Single Images

Select ( ) this tool to display each sequence of pictures shot using the Smart Photo Selector or in continuous release mode as a single image in thumbnail and filmstrip views.

③ Focus Point

Select ( ) this tool to display the location of the focus point for the current picture.



- The focus point can be displayed on any picture taken with a COOLPIX A or with a CPU lens attached to a Nikon digital SLR or mirrorless camera.
- It is displayed in thumbnail, single-frame, and multi-frame views.

The Focus Point Display

- The point shown may differ from the actual focus point if the composition was changed using focus lock after the camera had focused.
- The focus point may not be displayed at all if focus failed when the picture was taken.

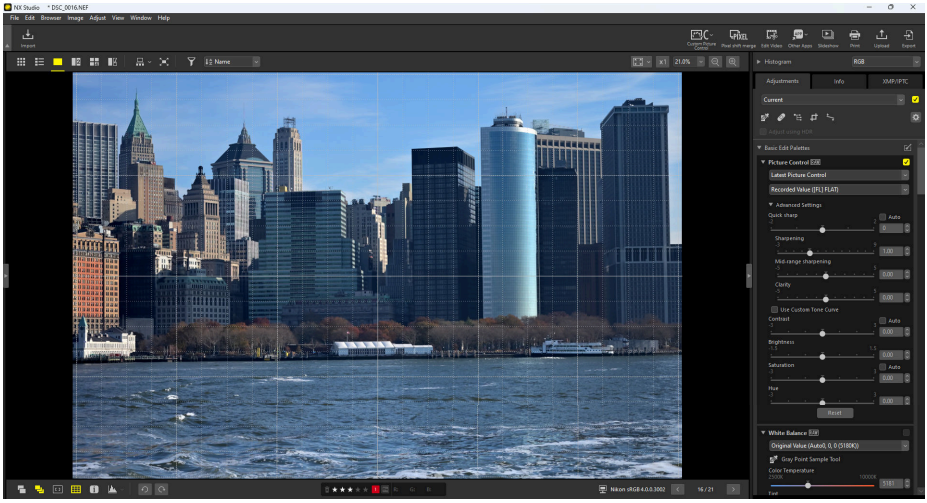
Tip: No Focus Point

The focus point is not displayed on pictures that:

- have been cropped or straightened,
- have been resized,
- have been saved after being rotated,
- have had their resolutions changed via pixel shift merge (213), or
- have been edited using other software.

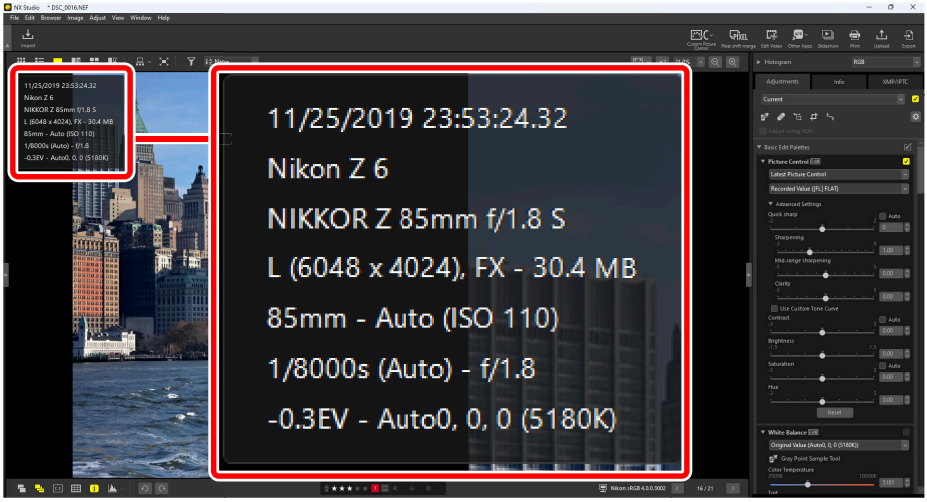
4 Show Grid

Select (▦) this tool to display a grid in the viewer.



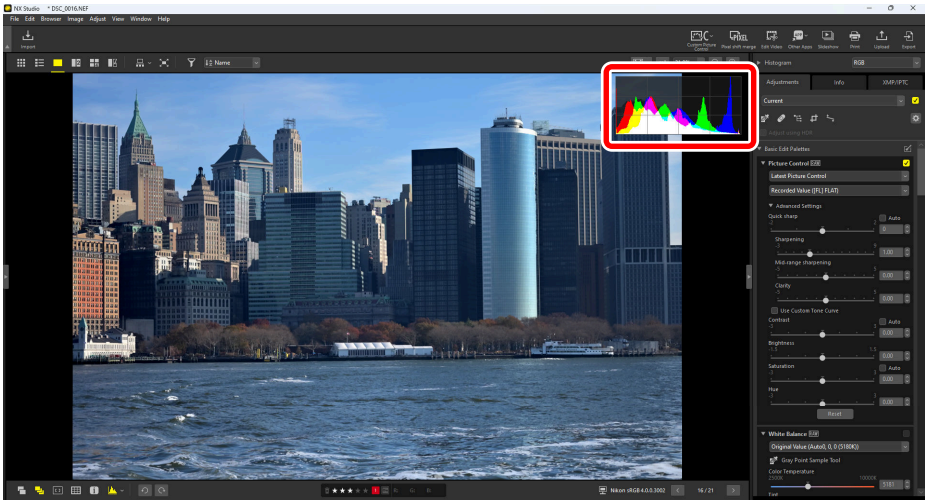
5 Image Information

Select (ⓘ) this tool to display the camera name, date of recording, and other image information in the viewer.



6 Histogram

Select ( ) this tool to display a histogram in the viewer. Click and choose a histogram from the pull-down menu.



7 Rotate

Click to rotate the pictures in the current selection clockwise or counterclockwise.

8 Rating

Rate pictures (62).

9 Label

Label pictures (67).

10 Protect

Protect or remove protection from pictures (72).

11 Current Color

The color of the pixel under the cursor. The current color is displayed in image viewer, “2/4 images” and before-and-after views.

12 Color Profile

The color profile for the current picture.

13 In-Folder Navigation

View the number of files in the current folder and the position of the current picture in the file list. Use the ‹ and › buttons to go from one picture to another.

Viewing Pictures Side-by-Side

View pictures side-by-side or compare enhanced pictures with the same pictures pre-enhancement.

2 Images/4 Images

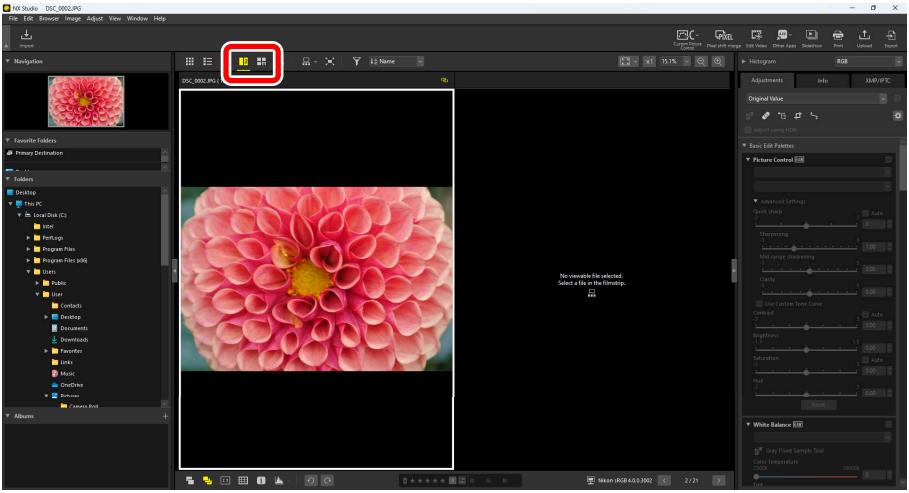
Compare pictures side-by-side. This can be used to compare pictures from a single burst or that are otherwise nearly identical and choose your favorite shot.

Tip: Comparing Pictures

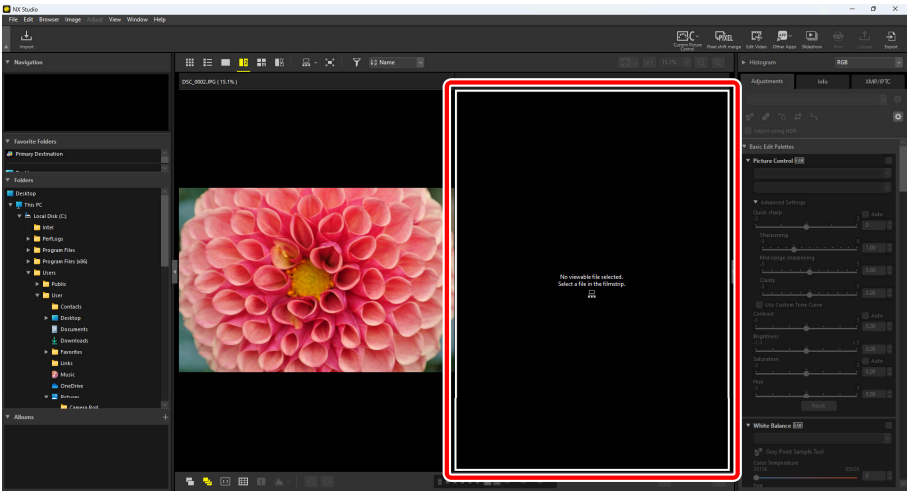
You can compare pictures from the same folder. To compare pictures from different folders, put them in the same album (21).

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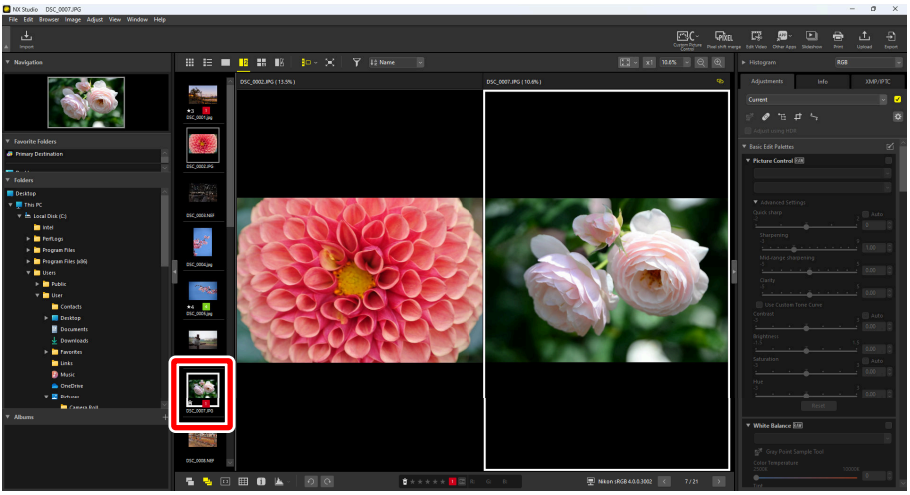
1 Select “2 images” ( ) or “4 images” ( ) in the top toolbar. The current picture will be displayed in the left or top left frame.



2 Click one of the other frames. The selected frame will be highlighted in white.

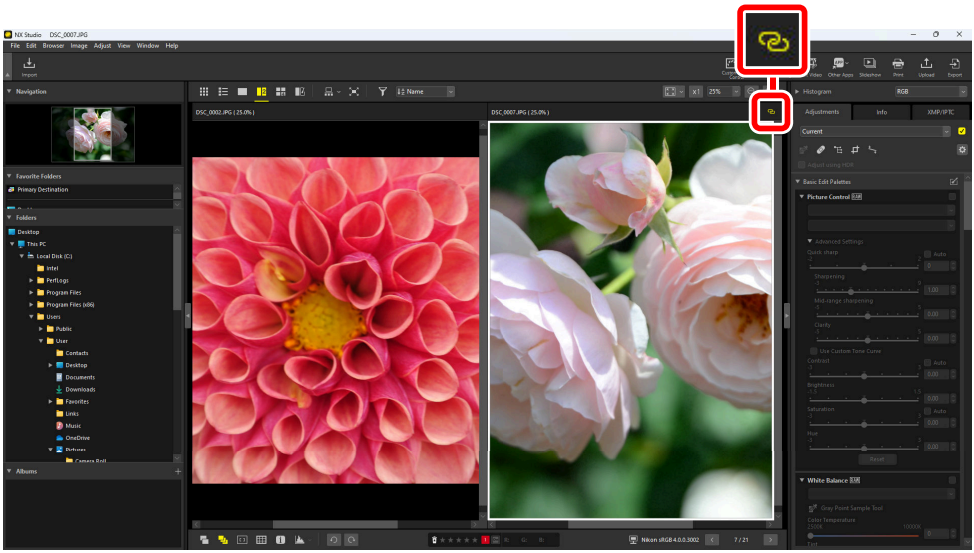


3 Display the filmstrip and select a picture to display it in the frame selected in Step 2 (45).



Tip: Linked Displays

To view all the pictures at the same zoom ratio, select the link icon ( ) at the top right corner of the current picture. Scrolling the current picture will also scroll the pictures in the remaining frames.



Tip: Image Adjustments

Image adjustments apply only to the current picture (the picture highlighted in white or black).

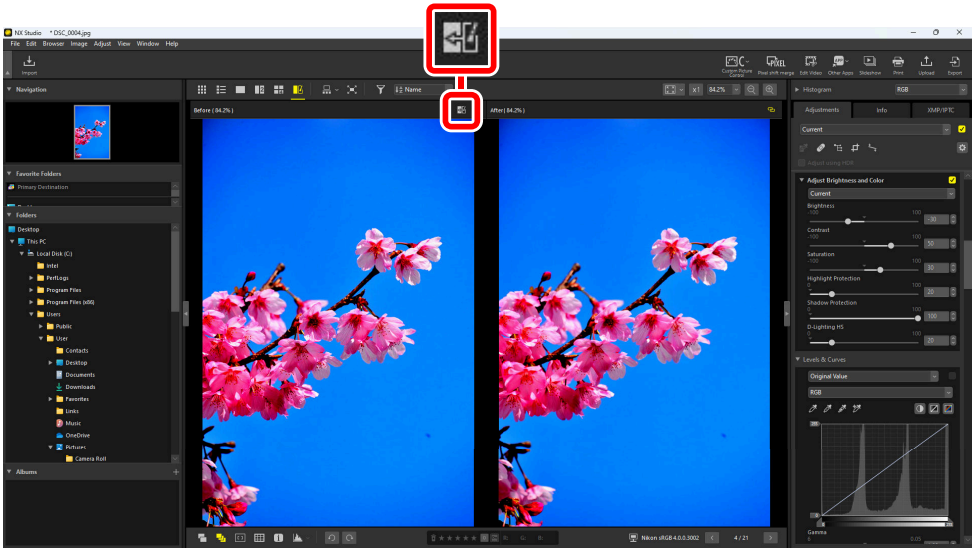
Before and After

Select to compare selected pictures with the same pictures pre-enhancement. Any changes to the current picture are reflected in the pane on the right (80).



Updating the “Before” Display

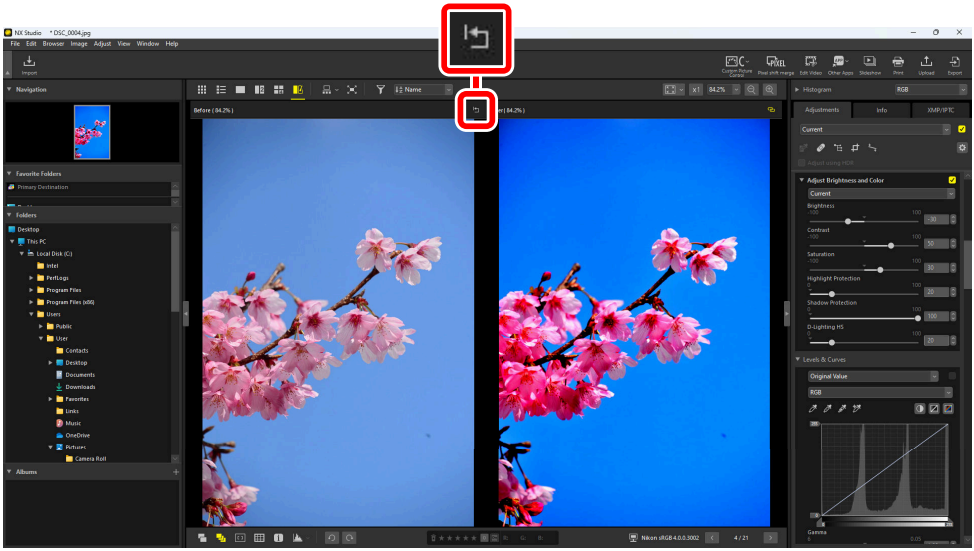
Clicking the “update” ( ) button in the “before” pane updates the display to show the picture’s current state. You may find this useful before going on to make additional adjustments.



Restoring the “Before” Display

Clicking the “restore original” ( ) button in the left (“before”) pane restores the display to show the original, unenhanced picture.

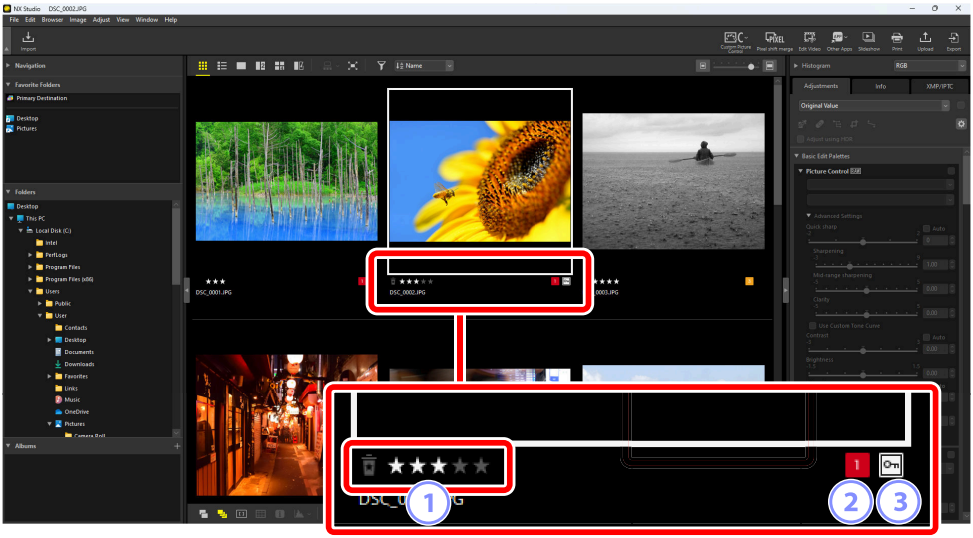
- Pictures exported in JPEG, HEIF, or TIFF format using NX Studio are restored to the settings in effect at the time the picture was exported.



Filters

Filter Options

There are a variety of marking options that can be used to filter pictures. The markings available are listed below.



1 Ratings

Rate pictures (62).

2 Labels

Label pictures. There are ten different labels to choose from (0 through 9, where 0 is “no label”), each with a different color (67).

3 Protection

Protect pictures from accidental deletion (72).

Rating Pictures

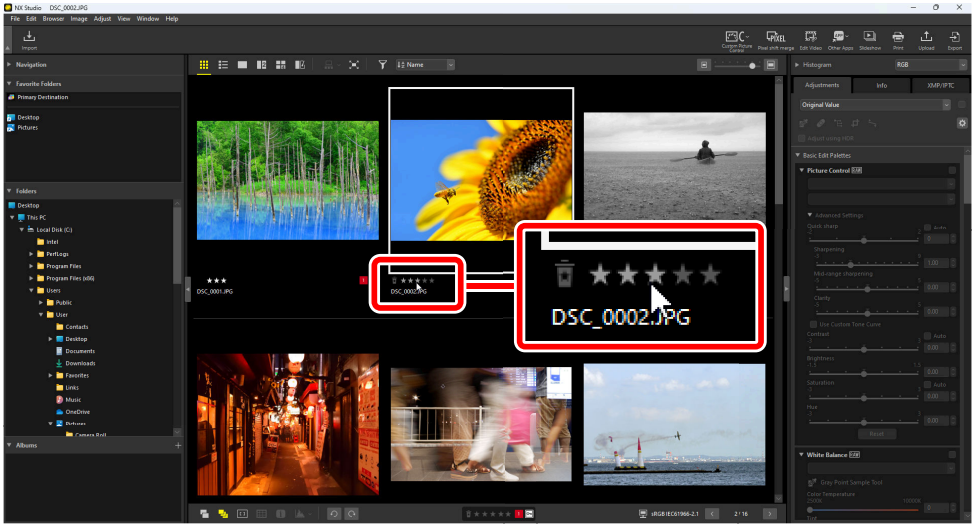
Assign pictures ratings of from zero to five stars or select 🗑 to mark pictures as candidates for later deletion. Ratings assigned on the camera are reflected in NX Studio.

Choosing a Rating

Ratings are displayed in a variety of locations.

On Thumbnails

Mouse over the thumbnails and choose the desired number of stars. To cancel, click the same number of stars again.

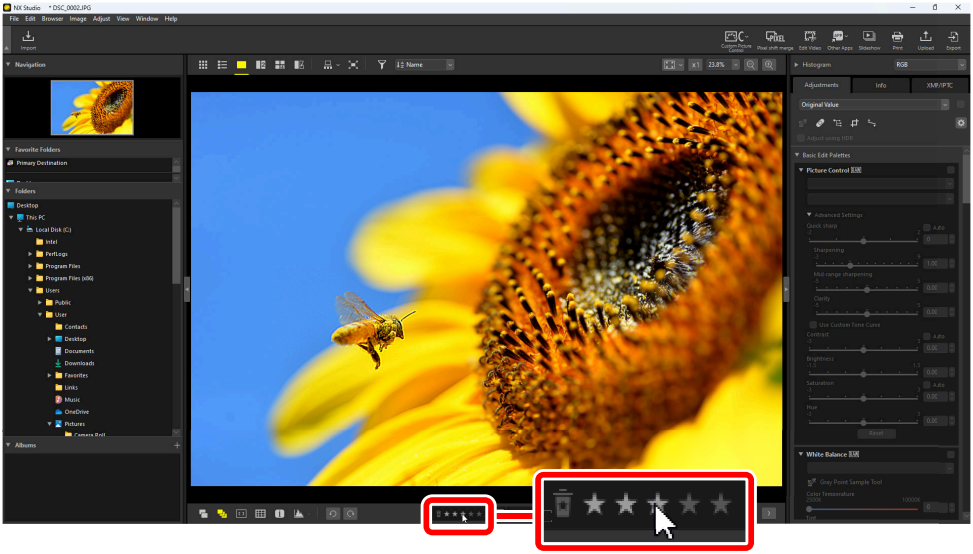


Tip: Assigning the Same Rating to Multiple Pictures

Ratings chosen after selecting multiple pictures using the control (or in macOS, the command) or shift key apply to all images in the selection.

On the Bottom Toolbar

The current picture can be rated by clicking the desired number of stars in the toolbar at the bottom of the view area. To cancel, click the same number of stars again (51).

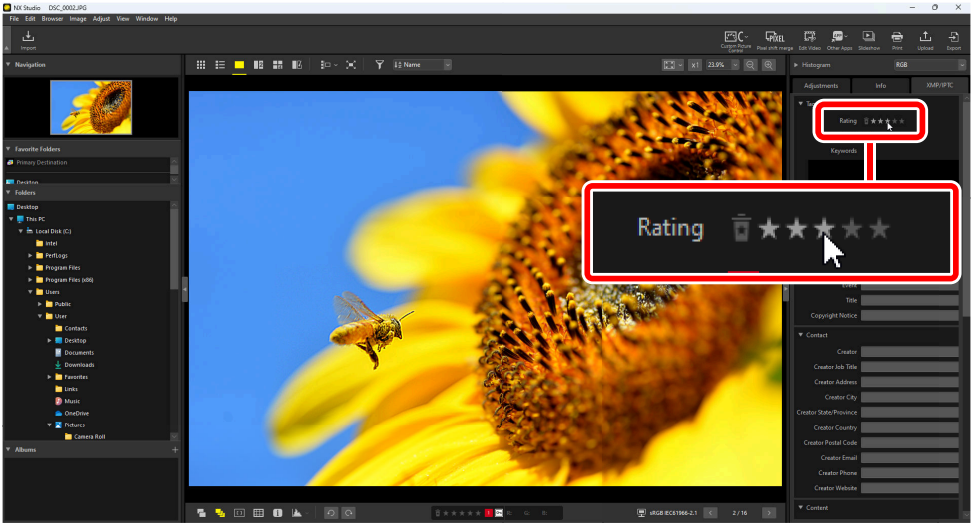


Tip: Rating Pictures in the “2/4 Images” Views

Ratings apply only to the current picture (the picture highlighted in white or black).

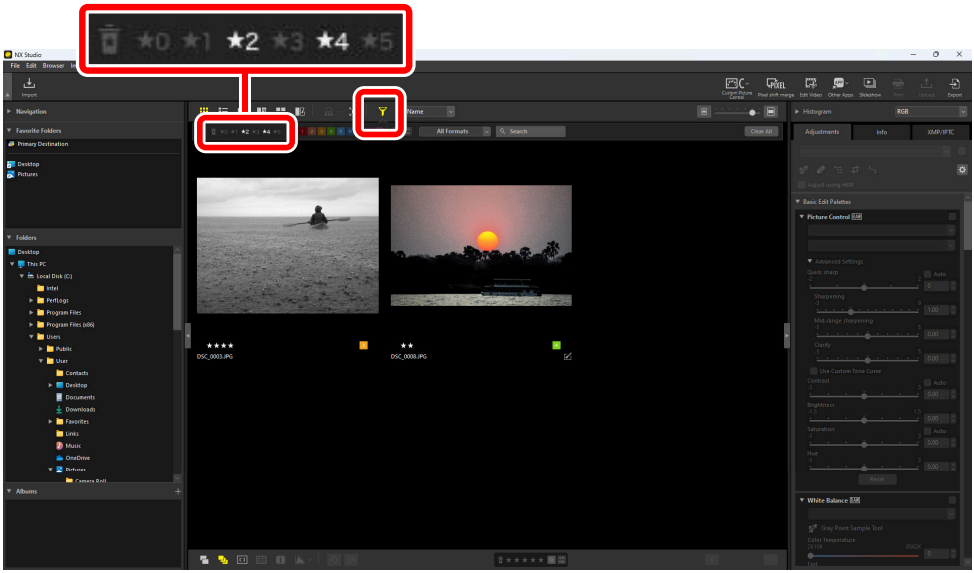
In the [XMP/IPTC] Tab

Rate pictures by clicking the desired number of stars under [**XMP/IPTC**] > [**Rating**] in the Adjustments/Info palette. To cancel, click the current number of stars (24).

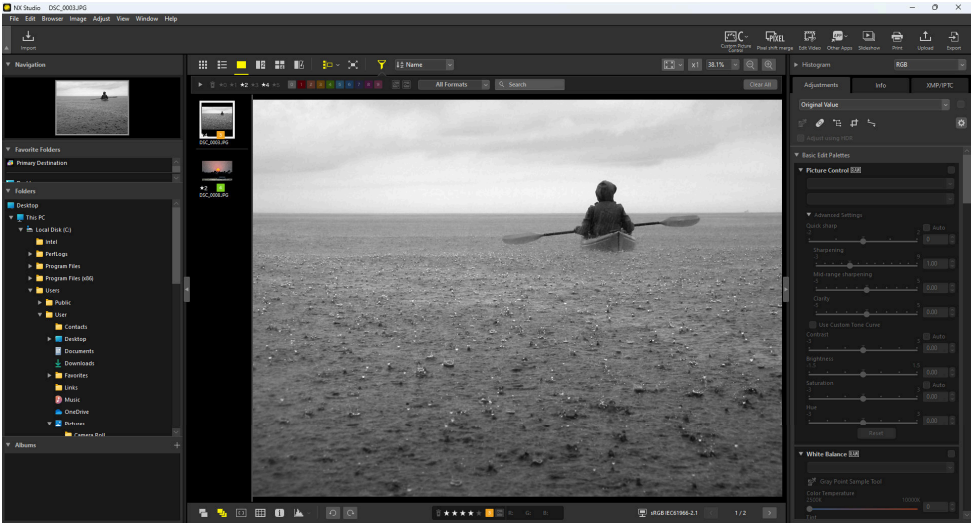


Filtering Pictures by Rating

Pictures can be filtered by rating. Click and choose the desired rating or ratings.



A filter showing two- and four-star pictures



Filmstrip view

Labeling Photos

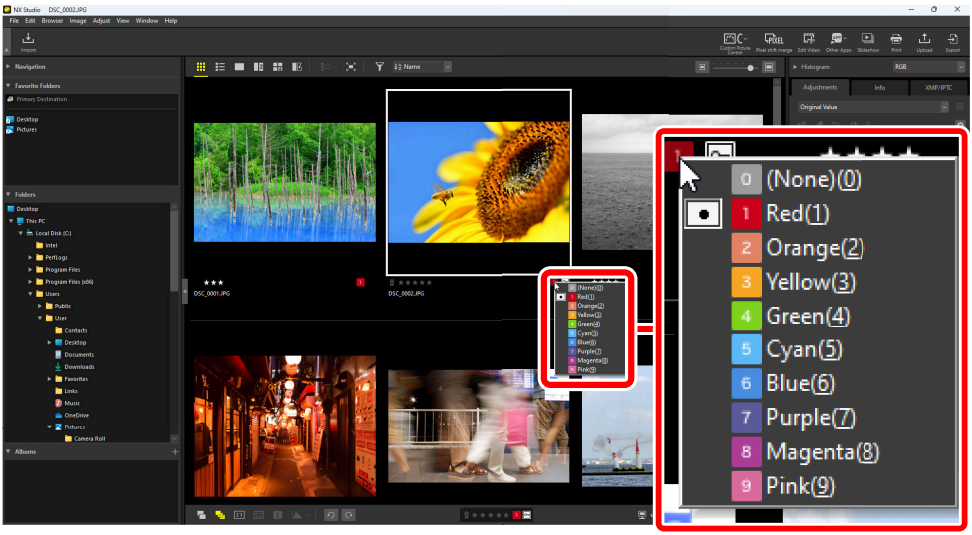
Choose from nine different labels (1 through 9). Labels cannot be applied to videos.

Choosing a Label

Labels are displayed in a variety of locations.

On Thumbnails

Mouse over thumbnails (if the picture is currently unlabeled, a “0” will be displayed) and click the desired labels.

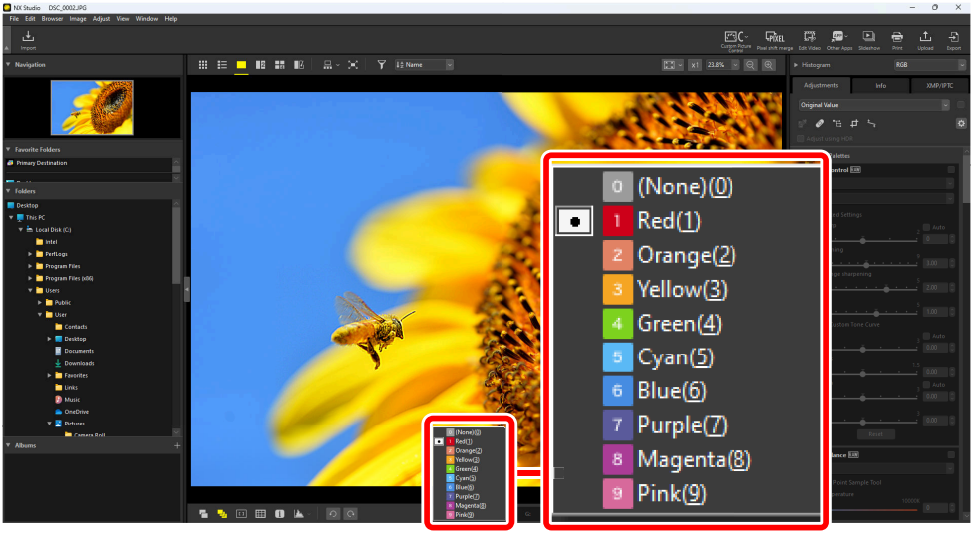


Tip: Assigning the Same Label to Multiple Pictures

Labels chosen after selecting multiple pictures using the control (or in macOS, the command) or shift key apply to all images in the selection.

On the Bottom Toolbar

Click the desired label in the toolbar at the bottom of the view area (51).

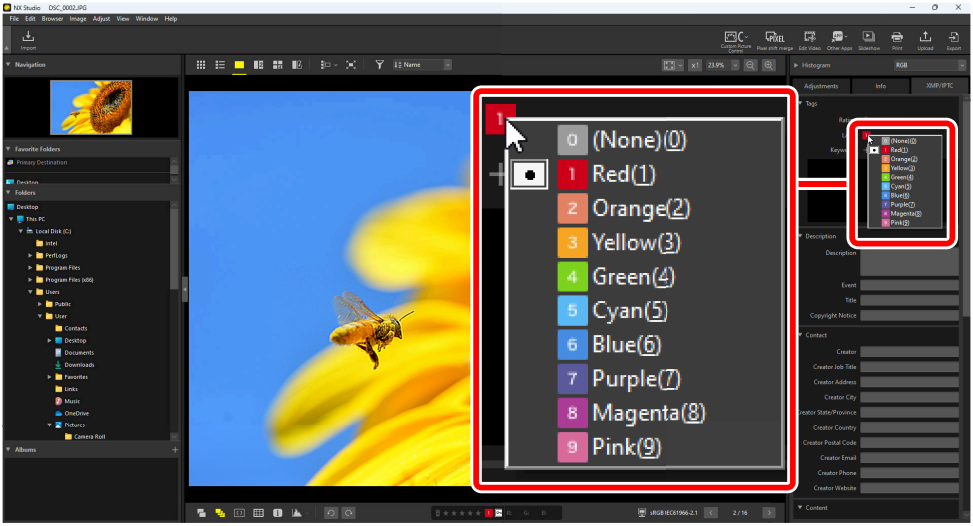


Tip: Labeling Pictures in the "2/4 Images" Views

Labels apply only to the current picture (the picture highlighted in white or black).

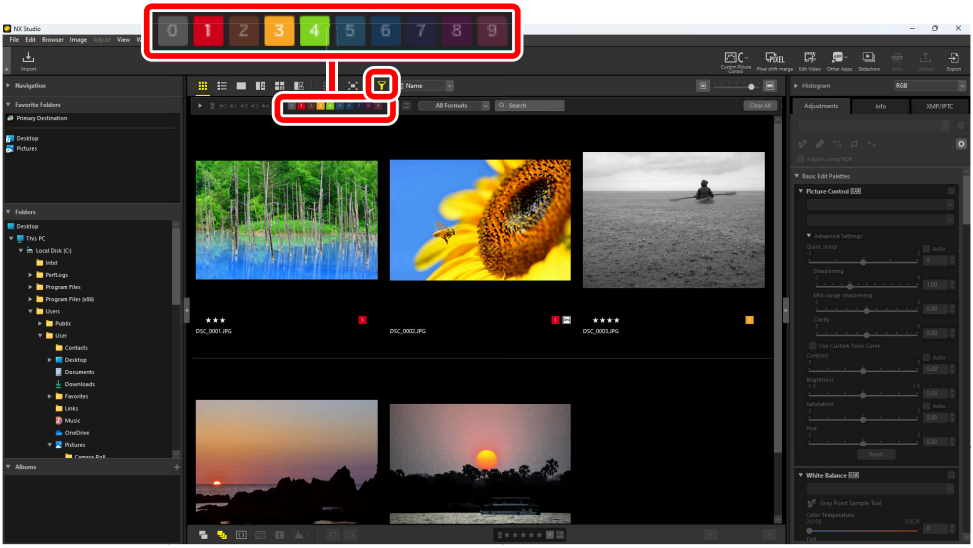
In the [XMP/IPTC] Tab

Click the desired label under [**XMP/IPTC**] > [**Label**] in the Adjustments/Info palette (24).

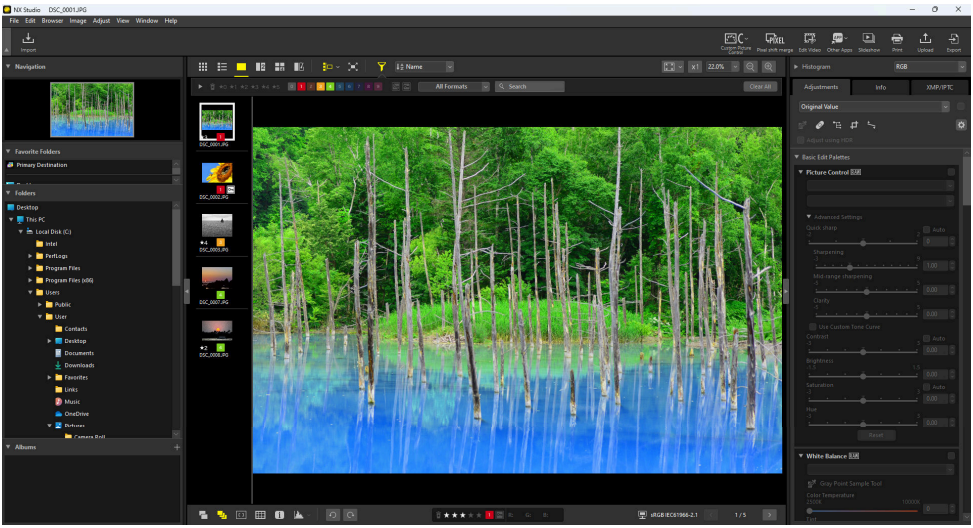


Filtering Pictures by Label

Pictures can be filtered by label. Click and choose the desired label or labels.



A filter showing pictures labeled 1, 3, and 4



Filmstrip view

Protecting Pictures

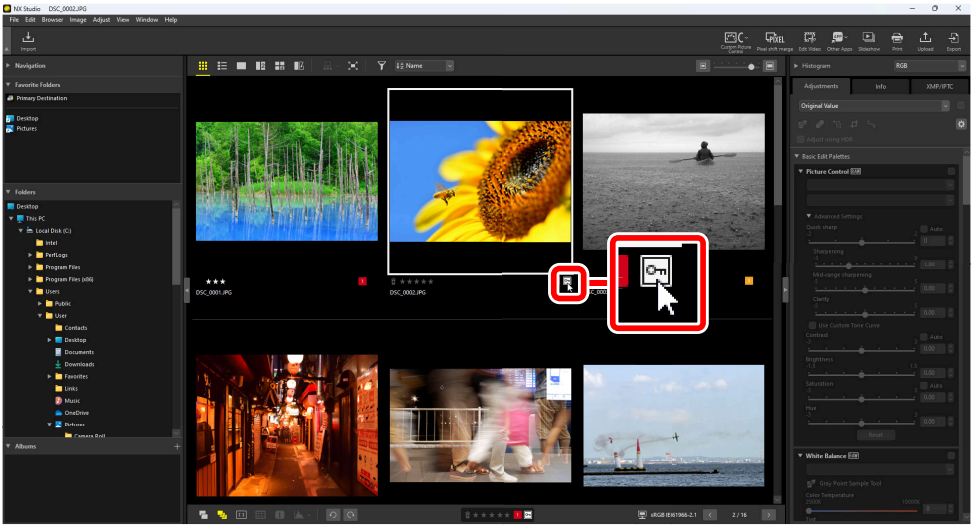
Protected pictures cannot be deleted or renamed. Pictures protected using the camera are protected in NX Studio.

Changing Picture Protection Status

Protection status is displayed in a variety of locations.

On Thumbnails

Mouse over unprotected pictures and click the protect icon to enable protection (). Click again to disable protection (). In the thumbnail list, protection can be applied or removed in the [**Name**] field.

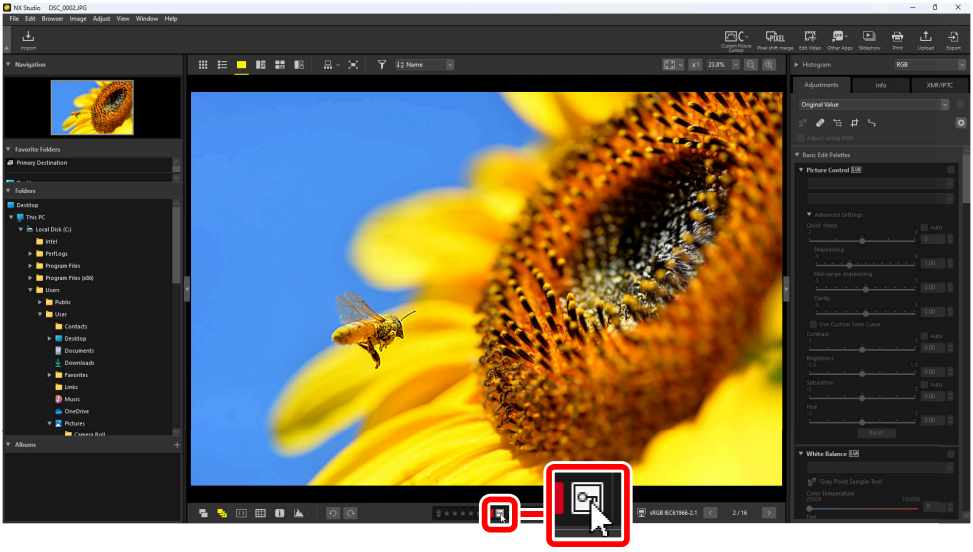


Tip: Protecting Multiple Pictures

Changes to protection made after selecting multiple pictures using the control (or in macOS, the command) or shift key apply to all images in the selection.

On the Bottom Toolbar

Enable ( ) or disable ( ) protection by clicking the protect icon in the toolbar at the bottom of the view area (51).

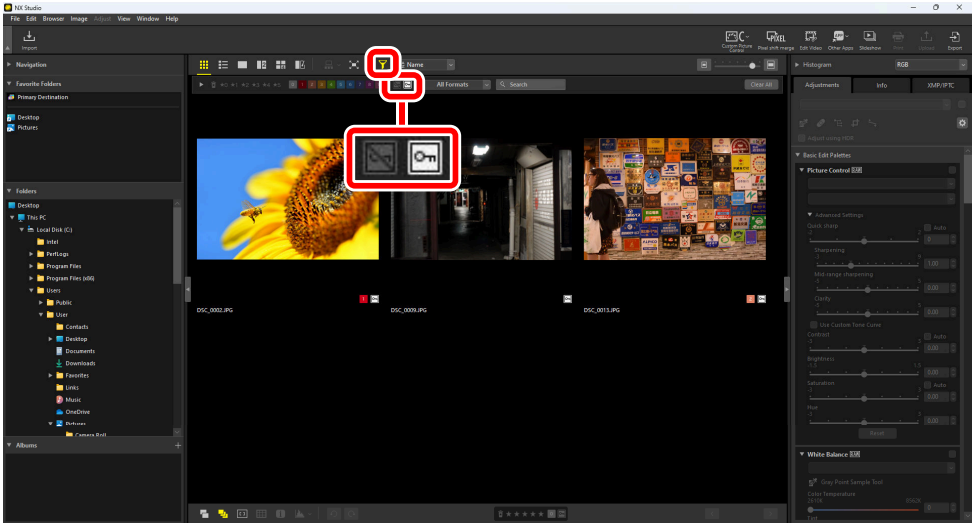


Tip: Pictures in the "2/4 Images" Views

Changes to protection status apply only to the current picture (the picture highlighted in white or black).

Filtering Pictures by Protection Status

Pictures can be filtered by protection status. Click and then filter pictures by their protection status by clicking the two protection filter buttons to toggle the “protected” button on ( ) or off ( ) and the “unprotected” button on ( ) or off ( ). Select both options (or neither option) to view all pictures.



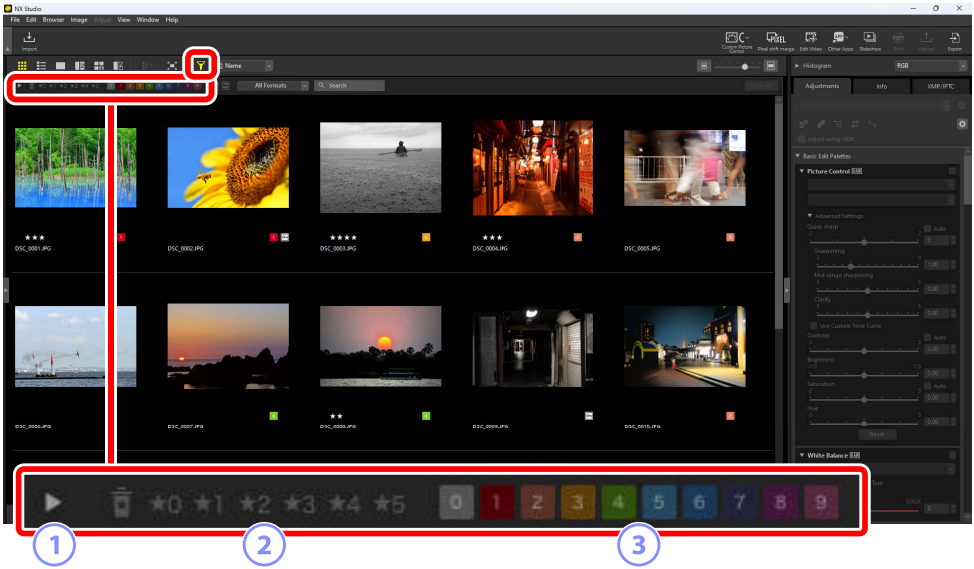
Viewing protected pictures only



Filmstrip view

Advanced Filters

Click to filter pictures by rating, label, protection status, shooting data, or other criteria.



1 View/Hide

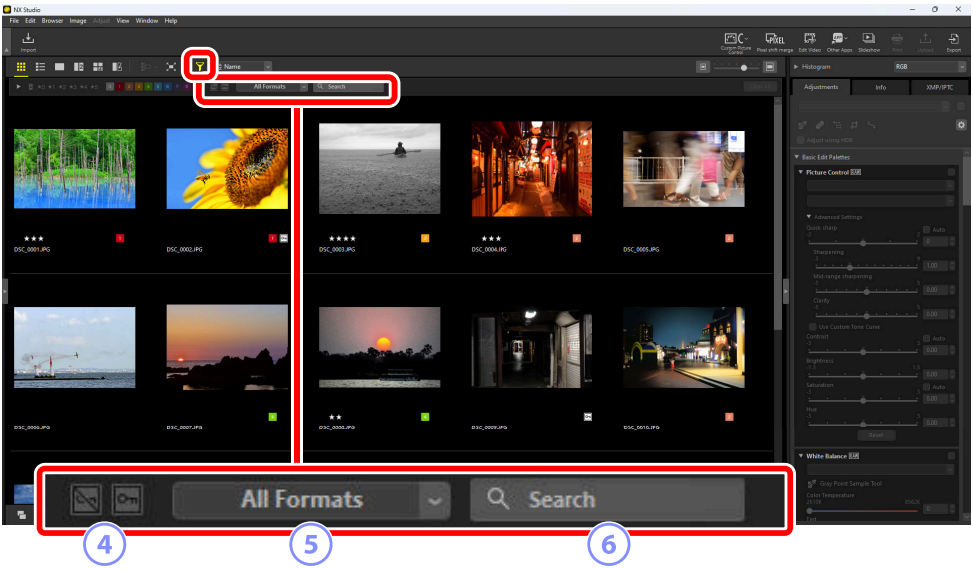
Click to view or hide the advanced filters palette (78).

2 Rating

Filter pictures by rating (62).

3 Label

Filter pictures by label (67).



4 Protection

Filter pictures by protection status (📖 72).

5 File Type

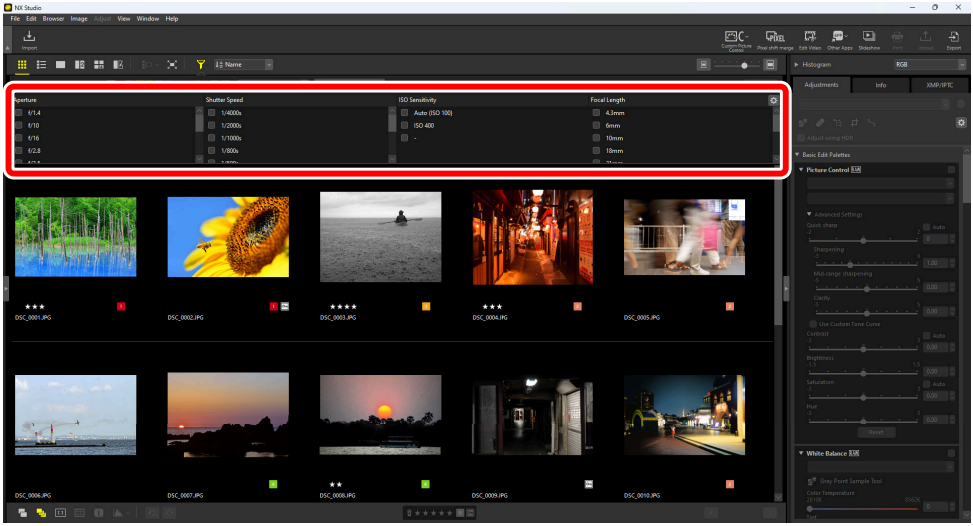
Filter pictures by file type.

6 Keyword Search

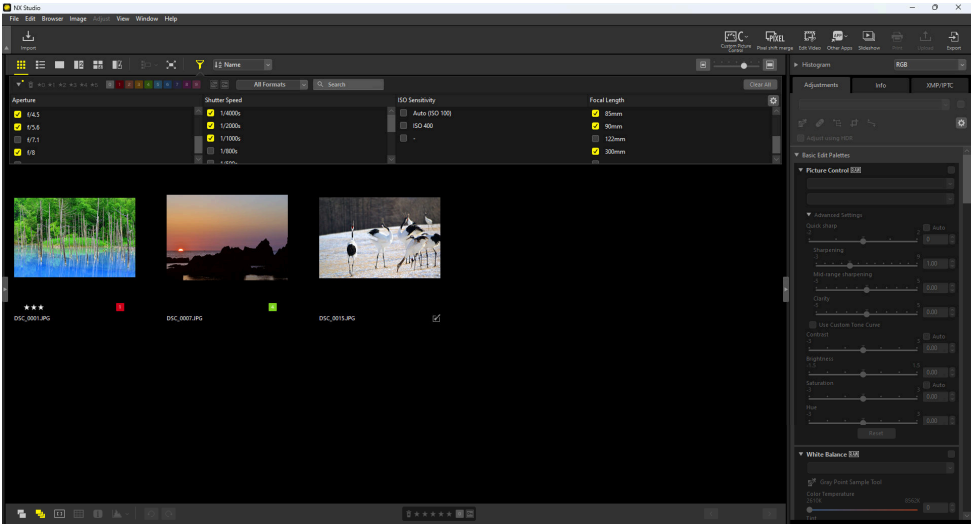
Filter pictures by file name or keywords in the XMP/IPTC metadata.

The Advanced Filters Palette

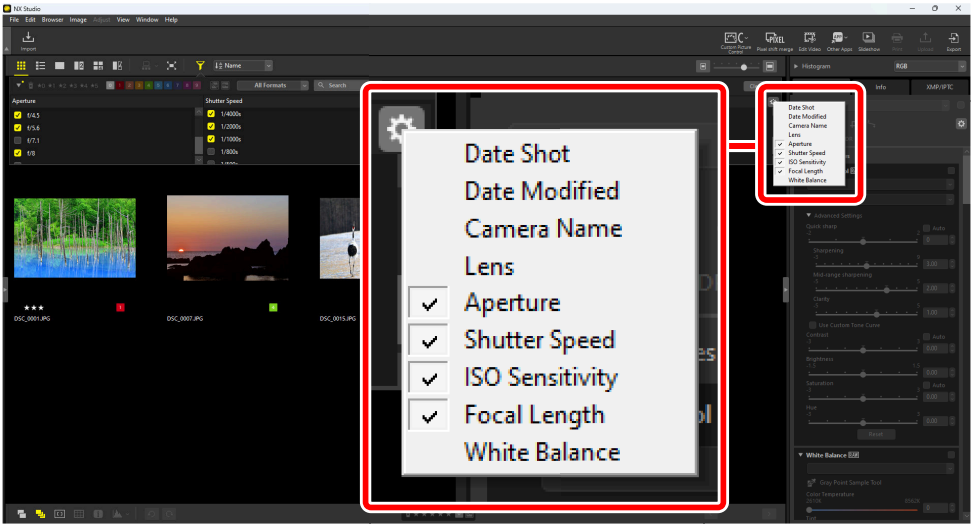
To view the advanced filters palette, click ▶ in the filter bar.



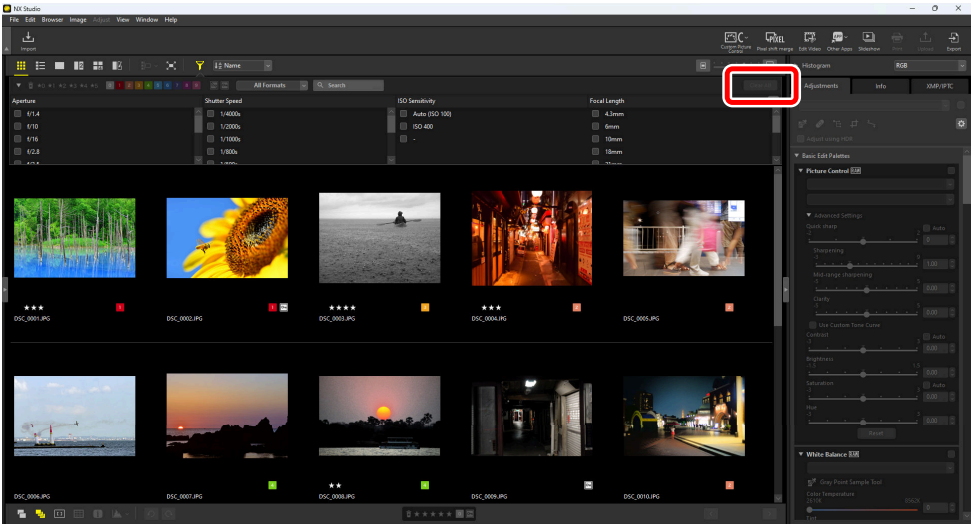
Only pictures that meet all the selected criteria will be displayed.



Criteria can be selected by clicking the icon in the filter bar.



Click [**Clear All**] to clear all criteria.



Enhancing Pictures

The Adjustments Tab

Enhance pictures using the tools in the adjustments/info palette [**Adjustments**] pane.



(1) Adjustments Manager

Copy adjustments from one picture to another or save current settings for later use. You can also cancel all changes and restore pictures to their original, unenhanced state (187).

(2) "Apply" Check Box

A check appears in this box whenever you make adjustments. Remove the check to hide adjustments.

(3) Gray Point Sample Tool

Activate the gray point sample tool. Click anywhere in the picture to adjust white balance so that the sampled pixel takes on a neutral gray color (120).

(4) Retouch Brush

Remove dust and scratches (150).

5 Color Control Point Tool

Enhance pictures using color control points (154).

6 Crop

Crop pictures (162).

7 Straighten Tool

Straighten pictures (168).

8 Palette Options

Choose the items displayed in the adjustments palette.

9 [Adjust using HDR]

Available only with RAW and merged pixel shift HLG pictures recorded on cameras that support tone-mode selection. Select this option to adjust pictures using the HDR tone range (85). Remove the check to use the SDR tone range (84).

10 Adjustments Palette

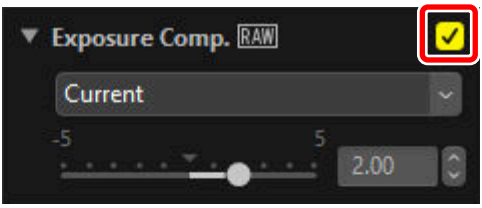
Enhance pictures.

The Adjustments Palette

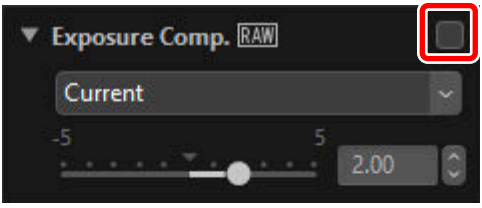
The tools in the image adjustments palette are grouped into categories. Click the ▼/▶ buttons or the category name to view or hide each tool. The tools available vary with whether [**Adjust using HDR**] is enabled. In addition, those among them that can be adjusted vary with the type of file selected (🕮 90).

Tip: Hiding Adjustments

With the exception of [**Versions**], edits are indicated by a check mark at each tool's top right corner. Removing the check hides the changes.







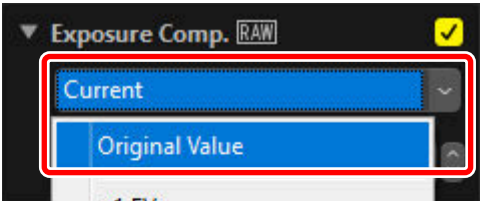


Tip: Reverting Adjustments

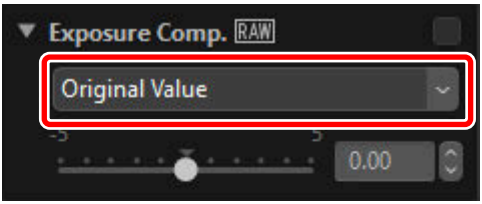
Each tool offers a pull-down menu that changes to [**Current**] when edits are made. Select [**Original Value**] to revert to the settings in effect when the picture was created.













“Adjust Using HDR” Disabled

Adjustments are made in the SDR tone range (🕮 30). HLG pictures recorded on cameras that support tone-range selection will be darkened due to this tone range being narrower than that of the original image.

[Basic Edit Palettes]

This category consists chiefly of tools for working with RAW and merged pixel shift pictures, such as [**Picture Control**], [**Exposure Comp.**], and [**White Balance**].

- [**Picture Control**]*: Adjust Picture Controls (🕮 95).
- [**White Balance**]*: Adjust white balance (🕮 120).
- [**Exposure Comp.**]*: Adjust exposure (🕮 123).
- [**Active D-Lighting**]*: Adjust Active D-Lighting (🕮 124).
- [**Adjust Brightness and Color**]: Adjust overall brightness, contrast, and saturation or reveal details in highlights and shadows (🕮 126).
- [**Dehaze**]: Adjust overall contrast and saturation to reduce haziness (🕮 125).

* This tool is only available with RAW pictures and merged pixel shift pictures.

[Levels & Curves]

Adjust contrast, tone curves (brightness), and color balance (🕮 128).

[Lightness, Chroma, and Hue Adjustment]

Adjust colors.

- [**LCH**]: Make adjustments to lightness, chroma, and hue channels (🕮 132).
- [**Color Booster**]: Optimize saturation to make colors more vivid (🕮 141).

[Portrait Enhancements]

Adjust skin softening, hue, and brightness for human portrait subjects.

- [**Skin softening**]*: Adjust skin softening (🕮 142).
- [**Portrait impression balance**]*: Adjust hue and brightness (🕮 143).

* This tool is only available with RAW pictures and merged pixel shift pictures.

[Adjust Details]

Reduce image noise and adjust sharpness.

- [**Noise Reduction**]: Reduce image noise (🕮 144).
- [**Sharpness Adjustment**]: Increase sharpness by making outlines more distinct (🕮 146).
- [**Film grain**]: Add a grainy texture to the image (🕮 149).

[Touch-up]

Target selected areas for dust removal or color enhancement.

- [**Retouch Brush**]: Remove dust and scratches (🕮 150).
- [**Color Control Point**]: Make targeted adjustments to color and brightness (🕮 154).

[Adjust Composition]

Crop and straighten pictures and correct for the effects of perspective.

- [**Crop**]: Crop pictures (🕮 162).
- [**Straighten**]: Straighten pictures (🕮 168).
- [**Perspective Control**]: Correct for the effects of perspective (🕮 173).

[Camera and Lens Corrections]

Correct for chromatic aberration and other artifacts.

- [**Camera Corrections**]: Correct for moiré, dust on the image sensor, and red-eye (🕮 174).
- [**Lens Corrections**]: Correct for axial and lateral color aberration and other artifacts originating with the lens (🕮 176).

[Versions]

Choose whether to apply changes made using Capture NX or Capture NX 2 (🕮 180).

"Adjust Using HDR" Enabled

Adjustments are made in the HDR tone range (🕮 30). We recommend that you use an HDR-compatible monitor to determine whether adjustments produce the desired results. Other monitors may fail to accurately reproduce highlights and saturated colors.

[Basic Edit Palettes]

This category consists chiefly of tools for working with RAW and merged pixel shift pictures, such as [**Set Picture Control (HLG)**], [**Exposure Comp.**], and [**White Balance**].

- [**Set Picture Control (HLG)**]*: Adjust Picture Controls (🕮 117).
- [**White Balance**]*: Adjust white balance (🕮 120).
- [**Exposure Comp.**]*: Adjust exposure (🕮 123).

* This tool is only available with RAW pictures and merged pixel shift pictures.

[Levels & Curves]

Adjust contrast, tone curves (brightness), and color balance (🕮 128).

[Portrait Enhancements]

Adjust skin softening, hue, and brightness for human portrait subjects.

- [**Skin softening**]*: Adjust skin softening (142).
- [**Portrait impression balance**]*: Adjust hue and brightness (143).

* This tool is only available with RAW pictures and merged pixel shift pictures.

[Adjust Details]

Reduce image noise.

- [**Noise Reduction**]: Reduce image noise (144).

[Touch-up]

Target selected areas for dust removal.

- [**Retouch Brush**]: Remove dust and scratches (150).

[Adjust Composition]

Crop and straighten pictures and correct for the effects of perspective.

- [**Crop**]: Crop pictures (162).
- [**Straighten**]: Straighten pictures (168).
- [**Perspective Control**]: Correct for the effects of perspective (173).

[Camera and Lens Corrections]

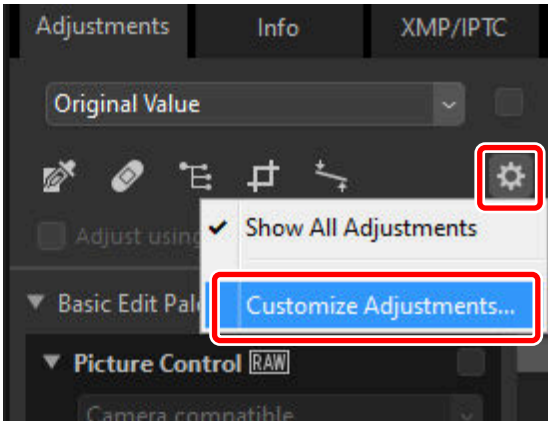
Correct for chromatic aberration and other artifacts.

- [**Lens Corrections**]: Perform auto distortion control or correct for chromatic aberration and other artifacts originating with the lens (176).

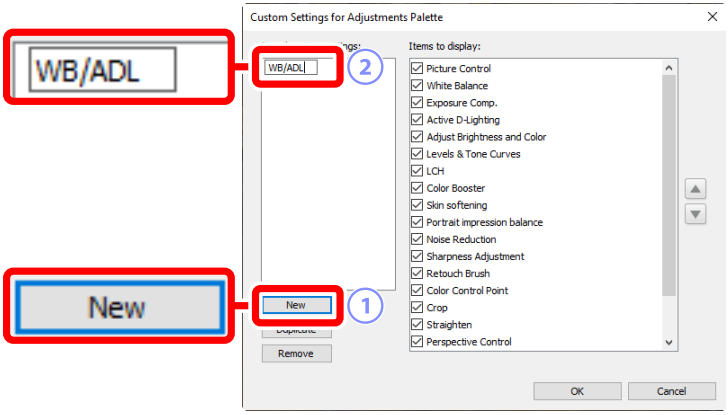
Customizing the Adjustments Palette

Choose the tools displayed in the adjustments palette to create custom workspaces. Custom workspaces can be recalled via the ⚙ menu.

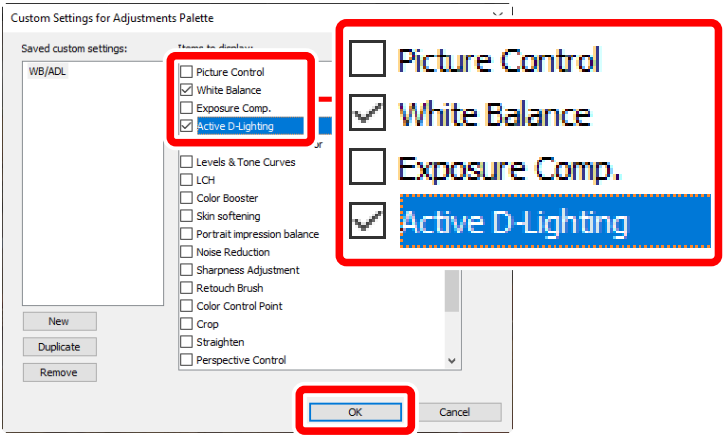
1 Click ⚙ in the [**Adjustments**] tab and select [**Customize Adjustments**].



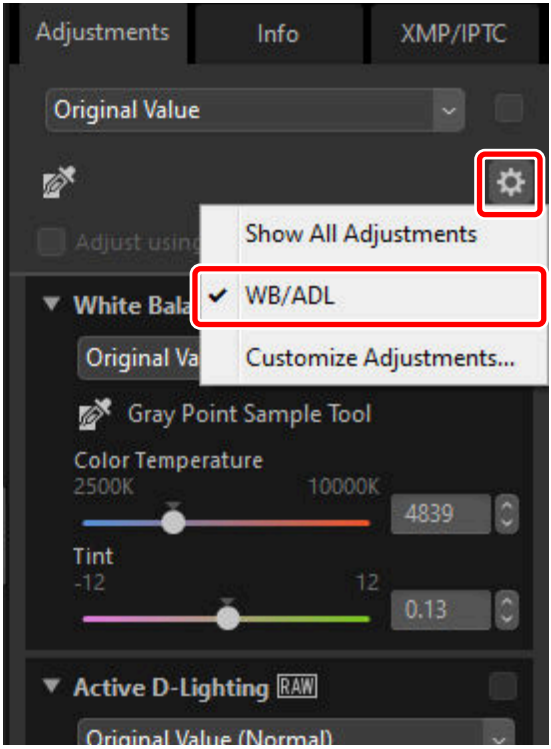
2 A dialog will be displayed, click [**New**] (①) and name the workspace (②).



3 Select the tools that will be displayed in the adjustments palette. You can change the order of the tools using the ▲ and ▼ buttons. Click [**OK**] to save the new workspace when changes are complete.



4 To display only the tools selected in Step 3, click ⚙ in the [**Adjustments**] tab and choose the workspace from the list.



Tools Available with HLG Photos

There are three formats for HLG still images: RAW images (.nef) and HEIF images (.hif) taken in HLG on cameras that support tone-mode selection, and NEFX images (.nefx) generated by merging images taken in HLG using pixel shift. The following tables list the tools available for each format in the various adjustment palettes.

Basic Edit Palettes

Tool	.nef/.nefx	.hif
[**Picture Control**]	—	—
[**Set Picture Control (HLG)**]	✓	—
[**White Balance**]	✓	—
[**Exposure Comp.**]	✓	—
[**Active D-Lighting**]	—	—
[**Adjust Brightness and Color**]		
[**Brightness**]	—	—
[**Contrast**]	—	—
[**Saturation**]	—	—
[**Highlight Protection**]	—	—
[**Shadow Protection**]	—	—
[**D-Lighting HS**]	—	—
[**Dehaze**]	—	—

Levels & Curves

Tool	.nef/.nefx	.hif
Tone curve	✓	✓

Lightness, Chroma, and Hue Adjustment

Tool	.nef/.nefx	.hif
[**LCH**]	—	—
[**Color Booster**]	—	—

Portrait Enhancements

Tool	.nef/.nefx	.hif
[**Skin softening**]	✓	—
[**Portrait impression balance**]	✓	—

Adjust Details

Tool	.nef/.nefx	.hif
[**Noise Reduction**]		
[**Noise Reduction**]	✓	—
[**Edge Noise Reduction**]	✓	—
[**Astro Noise Reduction**]	✓ (Not available with .nefx files)	—
[**Sharpness Adjustment**]		
[**Sharpness**]	—	—
[**Unsharp Mask**]	—	—
[**Film grain**]	—	—

Touch-up

Tool	.nef/.nefx	.hif
[**Retouch Brush**]		
Retouch brush settings	✓	✓
[**Color Control Point**]		
Color control point settings	—	—

Adjust Composition

Tool		.nef/.nefx	.hif
[**Crop**]			
	Crop settings	✓	✓
[**Straighten**]			
	Straighten settings	✓	✓
[**Perspective Control**]			
	Perspective control settings	✓	✓

Camera and Lens Corrections

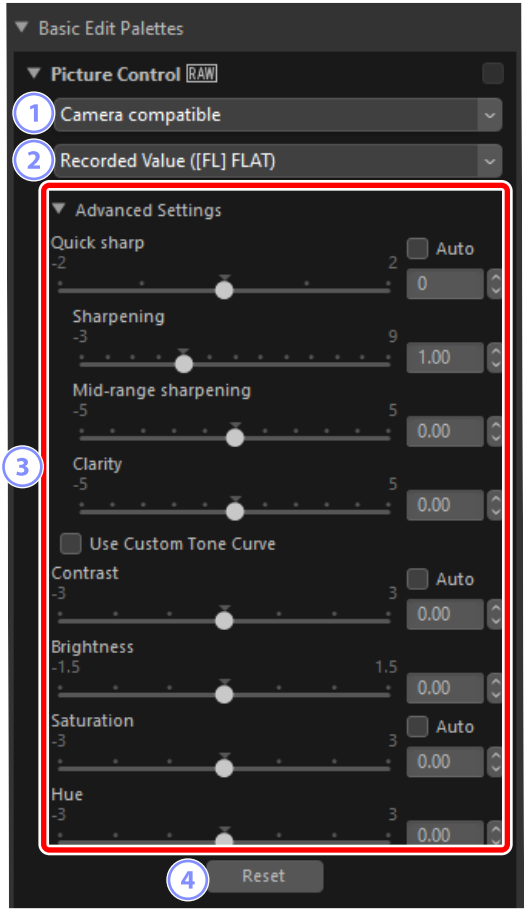
Tool	.nef/.nefx	.hif
[**Camera Corrections**]		
[**Color Moiré Reduction**]	—	—
[**Image Dust Off**]	—	—
[**Auto Red-Eye**]	—	—
[**Lens Corrections**]		
[**Lateral Color Aberration**]	✓ (Not available with .nefx files)	✓
[**Axial Color Aberration**]	—	—
[**Auto Distortion Control**]	✓	✓
[**Vignette Control**]	✓	✓
[**Diffraction Compensation**]	✓	—
[**PF Flare Control**]	—	—
[**Fisheye**]	✓	✓

Versions

Tool	.nef/.nefx	.hif
[**Apply adjustment steps**]	—	—

The Picture Controls Tool

Adjust Picture Control settings for the SDR tone range. Note that this tool is only available with RAW pictures and merged pixel shift pictures.



1 Color Reproduction Process

Choose a color reproduction process. The choice of Picture Controls varies with the option selected. For RAW pictures in NRW format or pictures that were taken with a camera that supports the latest Picture Controls, this setting cannot be selected because it is fixed at the same setting for [**Color Reproduction Process**] under [**NEF (RAW) Processing**] in the options dialog (240, 253).

- [**Latest Picture Control**]: Colors are processed using the latest Picture Controls, including those identified as [**Creative Picture Control**]. Picture Controls and parameters added with recent cameras can be applied to RAW pictures taken with models that do not offer these options.
- [**Camera compatible**]: Colors are processed using the Picture Controls for the camera that took the picture. Choose this option for color reproduction matching that used on the camera.

Tip: Color Reproduction Process

The option selected by default in the case of pictures for which two color reproduction options are available can be chosen using [**NEF (RAW) Processing**] > [**Color Reproduction Process**] in the options dialog (🕮 240, 🕮 253).

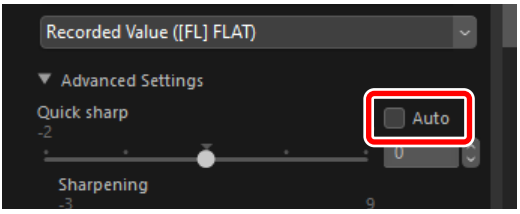
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② Picture Control

Choose a Picture Control for the pictures in the current selection. Select [**Add to Custom Picture Controls**] to save the adjusted picture control as a separate picture control (Custom Picture Control) in NX Studio (🕮 199).

③ [Advanced Settings]

Adjust Picture Control parameters (🕮 97). Where available, parameters can be adjusted automatically by selecting [**Auto**]. Note that even in the case of pictures taken under similar conditions, the results may vary with exposure and the position and size of the subject in the frame.



Caution: Enabling or Disabling "Adjust Using HDR"

Enabling or disabling [**Adjust using HDR**] resets all Picture Control settings.

- Enabling [**Adjust using HDR**] after choosing [**Monochrome**] or [**Flat**] for [**Picture Control**] changes the selection to the corresponding [**Set Picture Control (HLG)**] option, respectively [**[HLG MC] Monochrome**] or [**[HLG FL] Flat**]. If an option other than [**Monochrome**] or [**Flat**] is selected, the Picture Control will change instead to [**[HLG SD] Standard**].

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④ **[Reset]**

Reset all parameters to their default values.

"Advanced Settings"

Adjust the values for each parameter in [**Advanced Settings**] to fine-tune the selected Picture Control. Parameters displayed depend on whether or not the latest Picture Control has been applied to the picture.

Images with the Latest Picture Controls Applied

Selecting pictures taken with a camera using the latest Picture Controls (the color reproduction process option fixed to [**Camera compatible**]) or pictures with the color reproduction process set to [**Latest Picture Control**] displays the following parameters. If you select [**Flexible Color**] as the Picture Control option, see "The Picture Controls (Flexible Color) Tool" (📖 105).

[Quick sharp]

Apply sharpening to areas of contrast within the picture.

- Adjusting [**Quick sharp**] simultaneously adjusts [**Sharpening**], [**Mid-range sharpening**], and [**Clarity**] for well-balanced results. Choose higher values for heightened sharpness and lower values for greater softness.
- [**Sharpening**], [**Mid-range sharpening**], and [**Clarity**] each apply to different areas within the picture. Each can be adjusted individually.
  - [**Sharpening**]: Apply sharpening to small areas of contrast.
  - [**Mid-range sharpening**]: Apply sharpening to areas of contrast larger than those affected by [**Sharpening**] and smaller those affected by [**Clarity**].
  - [**Clarity**]: Apply sharpening to large areas of contrast. Fine outlines and the brightness and contrast of the picture as a whole are unaffected.

[Use Custom Tone Curve]

Select this option to display a custom tone curve, allowing you to adjust the contrast and tone curves (brightness) of the currently selected Picture Control (📖 102). These parameters cannot be adjusted when [**Auto**] or [**Creative Picture Control**] is selected for Picture Control.

[Contrast]

Adjust the contrast of the overall image. Choose lower values for less contrast, higher values for more contrast. This parameter cannot be adjusted if the image has been adjusted with a custom tone curve.

[Brightness]

Brighten or darken mid-tones (tones that fall in the range between highlights and shadows). The effect does not extend to highlights and shadows, ensuring that details in these areas of the image

are preserved. This parameter is not available with the [**Auto**] or [**Creative Picture Control**] Picture Controls. It cannot be adjusted if the image has been adjusted with a custom tone curve.

[Saturation]

Control the vividness of colors. Choose lower values for more muted colors and higher values for more vivid colors. This parameter is not available with the [**Monochrome**], [**Flat Monochrome**], [**Deep Tone Monochrome**], [**Sepia**], [**Blue**], [**Red**], [**Pink**], [**Charcoal**], [**Graphite**], [**Binary**], or [**Carbon**] Picture Controls.

[Hue]

Adjust hue. This parameter is available only with the [**Standard**], [**Neutral**], [**Vivid**], [**Portrait**], [**Rich Tone Portrait**], [**Landscape**], [**Flat**], [**Dream**], [**Morning**], [**Pop**], and [**Sunday**] Picture Controls.

[Filter Effect]

Simulate the effects of color filters on monochrome pictures. This parameter is available only with the [**Monochrome**], [**Flat Monochrome**], [**Deep Tone Monochrome**], [**Sepia**], [**Blue**], [**Red**], [**Pink**], [**Charcoal**], [**Graphite**], [**Binary**], and [**Carbon**] Picture Controls.

[Toning]

Choose a tint for monochrome pictures. Choose from nine different tints including cyanotype and old-fashioned sepia, as well as [**B&W**] (black and white). This parameter is available only with the [**Monochrome**], [**Flat Monochrome**], [**Deep Tone Monochrome**], [**Charcoal**], [**Graphite**], [**Binary**], and [**Carbon**] Picture Controls.

[Adjust Saturation]

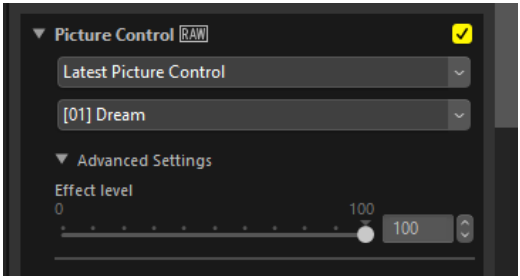
Adjust the saturation of the tint selected for [**Toning**]. This parameter is available only with the [**Monochrome**], [**Flat Monochrome**], [**Deep Tone Monochrome**], [**Charcoal**], [**Graphite**], [**Binary**], and [**Carbon**] Picture Controls. Note, however, that saturation cannot be adjusted when [**B&W**] is selected for [**Toning**].

[Toning]

Choose the shade of color used. This parameter is available only with the [**Sepia**], [**Blue**], [**Red**], and [**Pink**] Picture Controls.

Tip: "Auto"
When the [**Auto**] Picture Control is selected, settings can be adjusted in the range [**A−2**] to [**A+2**].

Tip: Creative Picture Controls
An [**Effect level**] slider is displayed when a [**Creative Picture Control**] such as [**Dream**], [**Morning**], or [**Pop**] is selected. Use the slider to choose the effect level.



Images with Earlier Picture Controls Applied

Selecting pictures with the color reproduction process set to [**Camera compatible**] displays the following parameters.

[Quick Adjust]/[Quick sharp]

Either [**Quick Adjust**] or [**Quick sharp**] will be displayed depending on the selected picture.

- [**Quick Adjust**] allows you to perform across-the-board adjustments to Picture Control parameters. The effect of the selected Picture Control can be muted by dragging the slider left or heightened by dragging the slider right. [**Quick Adjust**] affects all Picture Control settings simultaneously and cancels any changes made separately to the individual parameters.
- [**Quick sharp**] allows you to apply sharpening to areas of contrast within the picture.
  - Adjusting [**Quick sharp**] simultaneously adjusts [**Sharpening**], [**Mid-range sharpening**], and [**Clarity**] for well-balanced results. Choose higher values for heightened sharpness and lower values for greater softness.
  - [**Sharpening**], [**Mid-range sharpening**], and [**Clarity**] each apply to different areas within the picture. Each can be adjusted individually.
    - [**Sharpening**]: Apply sharpening to small areas of contrast.
    - [**Mid-range sharpening**]: Apply sharpening to areas of contrast larger than those affected by [**Sharpening**] and smaller those affected by [**Clarity**].
    - [**Clarity**]: Apply sharpening to large areas of contrast. Fine outlines and the brightness and contrast of the picture as a whole are unaffected.

[Use Custom Tone Curve]

Select this option to display a custom tone curve, allowing you to adjust the contrast and tone curves (brightness) of the currently selected Picture Control (🕮 102). These parameters cannot be adjusted with the [**Auto**] or [**Creative Picture Control**] Picture Controls, or for pictures taken with some cameras.

[Sharpening]

Control the sharpness of outlines. Choose higher values for more sharpening.

[Clarity]

Adjust clarity. This option is available only with pictures taken using cameras that support the [**Clarity**] parameter.

[Contrast]

Adjust the contrast of the overall image. Choose lower values for less contrast, higher values for more contrast.

[Brightness]

Brighten or darken mid-tones (tones that fall in the range between highlights and shadows). The effect does not extend to highlights and shadows, ensuring that details in these areas of the image are preserved. This parameter is not available with the [**Auto**] or [**Creative Picture Control**] Picture Controls.

[Saturation]

Control the vividness of colors. Choose lower values for more muted colors and higher values for more vivid colors. This parameter is not available with the [**Monochrome**], [**Sepia**], [**Blue**], [**Red**], [**Pink**], [**Charcoal**], [**Graphite**], [**Binary**], or [**Carbon**] Picture Controls.

[Hue]

Adjust hue. This parameter is available only with the [**Standard**], [**Neutral**], [**Vivid**], [**Portrait**], [**Landscape**], [**Flat**], [**Dream**], [**Morning**], [**Pop**], and [**Sunday**] Picture Controls.

[Filter Effect]

Simulate the effects of color filters on monochrome pictures. This parameter is available only with the [**Monochrome**], [**Sepia**], [**Blue**], [**Red**], [**Pink**], [**Charcoal**], [**Graphite**], [**Binary**], and [**Carbon**] Picture Controls.

[Toning]

Choose a tint for monochrome pictures. Choose from nine different tints including cyanotype and old-fashioned sepia, as well as [**B&W**] (black and white). This parameter is available only with the [**Monochrome**], [**Charcoal**], [**Graphite**], [**Binary**], and [**Carbon**] Picture Controls.

[Adjust Saturation]

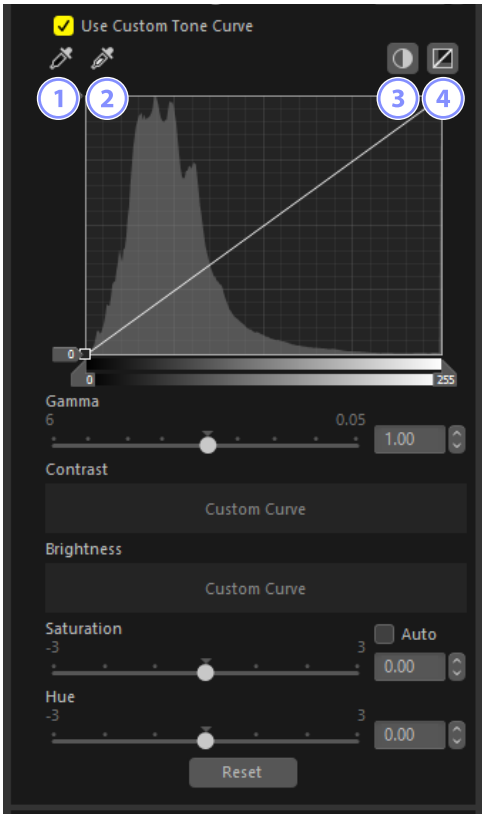
Adjust the saturation of the tint selected for [**Toning**]. This parameter is available only with the [**Monochrome**], [**Charcoal**], [**Graphite**], [**Binary**], and [**Carbon**] Picture Controls. Note, however, that saturation cannot be adjusted when [**B&W**] is selected for [**Toning**].

[Toning]

Choose the shade of color used. This parameter is available only with the [**Sepia**], [**Blue**], [**Red**], and [**Pink**] Picture Controls.

Using a Custom Tone Curve

Adjust the contrast and tone curves (brightness) of the currently selected Picture Control. Adjustments can be made to specific portions of the tone range, enhancing pictures without sacrificing detail. These parameters cannot be adjusted with the [**Auto**] or [**Creative Picture Control**] Picture Controls, or for pictures taken with some cameras.



(1) Set Black Point

Click this button and then click the picture to automatically adjust the black point slider so that the pixel under the cursor becomes the darkest tint (black).

(2) Set White Point

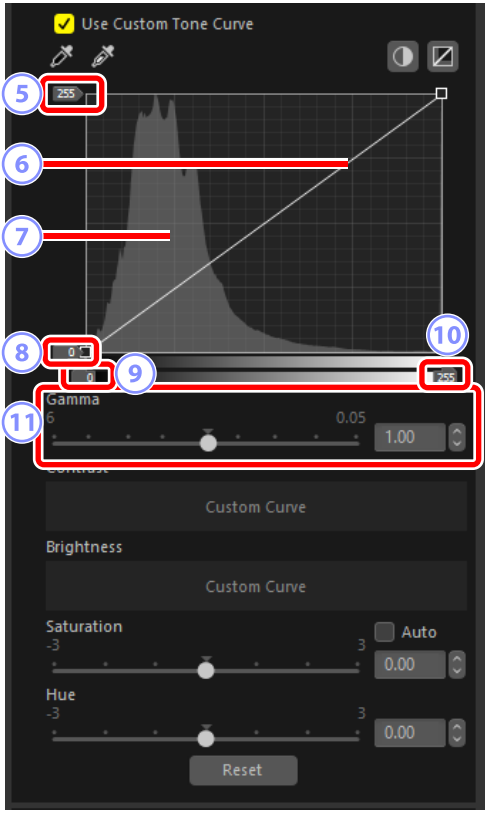
Click this button and then click the picture to automatically adjust the white point slider so that the pixel under the cursor becomes the brightest tint (white).

③ Auto Contrast

Automatically adjust black and white points so that the brightest pixel in the image becomes white, and the darkest pixel in the image becomes black. The tones are shifted accordingly to adjust the contrast of the overall image.

④ [Reset]

Restore the default curve.



⑤ White-Point Output-Level Slider

Choose the maximum output level for the current picture. Dragging the slider down lowers the brightness of the brightest pixels.

6 Tone Curve

The slope and shape of the curve determines the brightness of the picture in the corresponding portion of the tone range. Anchor points added to the curve can be deleted by pressing the delete key or dragging them out of the palette.

7 Histogram

View how the pixels in the picture are distributed with respect to brightness.

8 Black-Point Output-Level Slider

Choose the minimum output level for the current picture. Dragging the slider up increases the brightness of the darkest pixels.

9 Black-Point Input Slider

Dragging the slider to the right sets the pixels in the portion of the tone range to its left to the minimum output level (black); the remaining pixels are fitted to the new tone range.

10 White-Point Input Slider

Dragging the slider to the left sets the pixels in the portion of the tone range to its right to the maximum output level (white); the remaining pixels are fitted to the new tone range.

11 [Gamma]

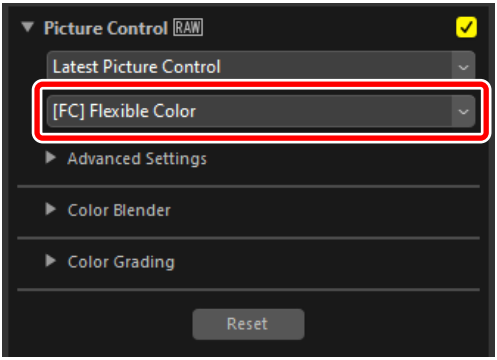
Dragging the slider to the left increases the brightness of mid-tones, while dragging it to the right makes mid-tones darker.

Tip: Applying Picture Controls with Custom Tone Curves to Existing Pictures
Picture Controls with custom tone curves can be saved as Custom Picture Controls and applied to existing pictures (🕮 199).

Tip: Applying Picture Controls with Custom Tone Curves While Shooting
Picture Controls with custom tone curves can be saved as Custom Picture Controls and exported as Picture Control files (🕮 210). Custom Picture Controls can be applied while shooting by importing Custom Picture Control files on the camera.

The Picture Control (Flexible Color) Tool

Selecting [**Flexible Color**] for Picture Control allows you to make a variety of adjustments with a high degree of freedom. Using NX Studio to create your preferred image processing settings, saving them as Custom Picture Controls, and importing them to your camera allows you to take pictures with a unique atmosphere. [**Flexible Color**] has [**Color Blender**] and [**Color Grading**] options in addition to the [**Advanced Settings**] parameters, allowing you to intuitively adjust the tint.



"Flexible Color"

All the following conditions must be met to use [**Flexible Color**] for Picture Control.

- Pictures taken in SDR tone mode.
- Pictures taken with a camera that supports the latest Picture Controls (pictures with the color reproduction process option fixed to [**Camera compatible**]) or pictures with the color reproduction process set to [**Latest Picture Control**].

Cautions: Custom Picture Controls Based on "Flexible Color"

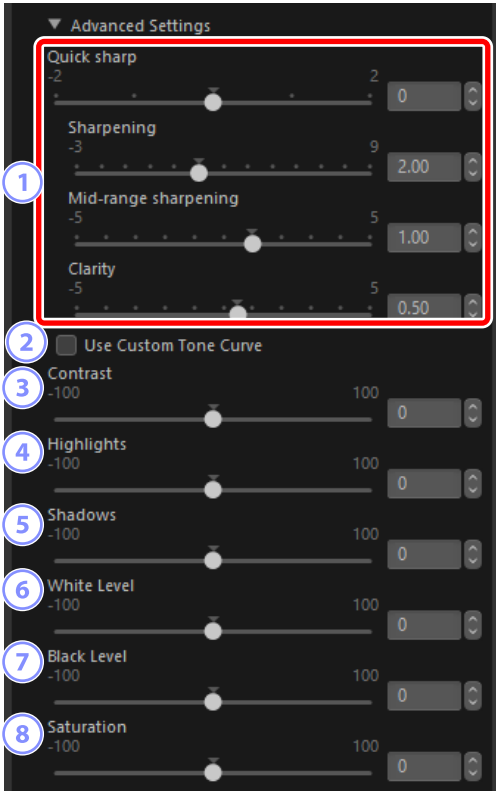
- Only cameras that support [**Flexible Color**] can import these Custom Picture Controls.
- Custom Picture Controls based on [**Flexible Color**] cannot be adjusted on the camera.

"Reset" Button

Click the [**Reset**] button to reset [**Advanced Settings**], [**Color Blender**], and [**Color Grading**] to their default values.

“Advanced Settings”

Adjust Picture Control parameters.



(1) [Quick sharp]

Apply sharpening to areas of contrast within the picture.

- Adjusting [**Quick sharp**] simultaneously adjusts [**Sharpening**], [**Mid-range sharpening**], and [**Clarity**] for well-balanced results. Choose higher values for heightened sharpness and lower values for greater softness.
- [**Sharpening**], [**Mid-range sharpening**], and [**Clarity**] each apply to different areas within the picture. Each can be adjusted individually.
  - [**Sharpening**]: Apply sharpening to small areas of contrast.
  - [**Mid-range sharpening**]: Apply sharpening to areas of contrast larger than those affected by [**Sharpening**] and smaller those affected by [**Clarity**].
  - [**Clarity**]: Apply sharpening to large areas of contrast. Fine outlines and the brightness and contrast of the picture as a whole are unaffected.

2 [Use Custom Tone Curve]

Select this option to display a custom tone curve, allowing you to adjust the contrast and tone curves (brightness) of the currently selected Picture Control (📖 102).

3 [Contrast]

Adjust the contrast of the overall image. Choose lower values for less contrast, higher values for more contrast. This parameter cannot be adjusted if the image has been adjusted with a custom tone curve.

4 [Highlights]

Adjust brightness in the bright areas of the picture (highlights). Choose higher values to make highlights brighter or lower values to make them darker. Reduce the brightness of bright areas or make them even brighter. This parameter cannot be adjusted if the image has been adjusted with a custom tone curve.

5 [Shadows]

Adjust brightness in the dark areas of the picture (shadows). Choose higher values to make shadows brighter, lower values to make shadows darker. Brighten the dark areas or make them even darker. This parameter cannot be adjusted if the image has been adjusted with a custom tone curve.

6 [White Level]

Adjust the brightness of the brightest area of the image. Choose higher values to make highlights brighter, lower values to make highlights darker. Reduce the brightness of white areas or emphasize their transparency. This parameter cannot be adjusted if the image has been adjusted with a custom tone curve.

7 [Black Level]

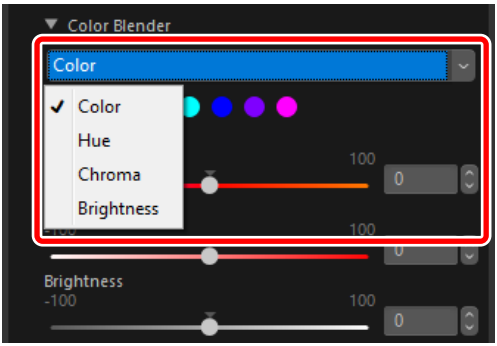
Adjust the brightness of the darkest area of the image. Choose higher values to make shadows brighter, lower values to make shadows darker. Brighten the dark areas or emphasize the darkness of the shadows. This parameter cannot be adjusted if the image has been adjusted with a custom tone curve.

8 [Saturation]

Control the vividness of colors. Choose lower values for more muted colors and higher values for more vivid colors.

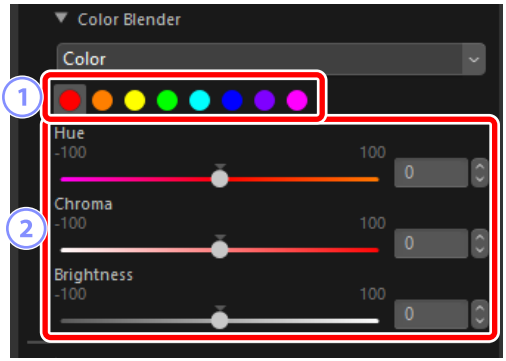
“Color Blender”

Adjust the tint for eight different colors in the image. Adjustments can be made in the [**Color**], [**Hue**], [**Chroma**], and [**Brightness**] channels. Available options vary with the selected channel.



[Color]

Click one of the eight colors to adjust the [**Hue**], [**Chroma**], and [**Brightness**].



1 Color Selection

Click the color you want to adjust in the image. A yellow mark will appear in the upper right corner for the adjusted color.

2 [Hue]/[Chroma]/[Brightness]

Adjust the hue, chroma (saturation), and brightness of the selected color.

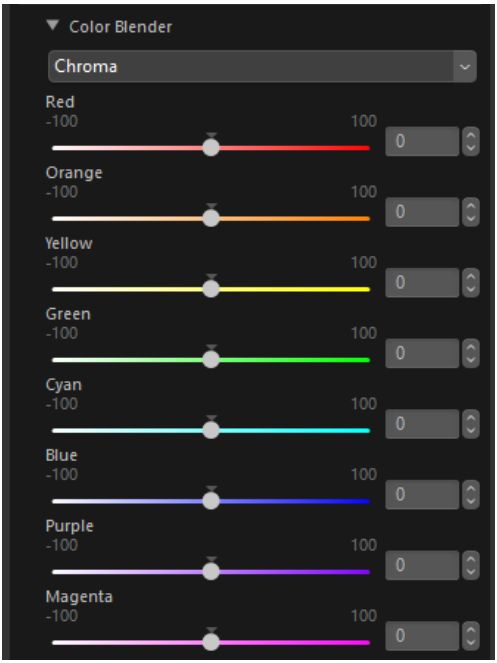
[Hue]

Adjust hue for each color. This also reflects the result of that adjustment if the [**Hue**] parameter under [**Color**] was adjusted.



[Chroma]

Adjust chroma (saturation) for each color. This also reflects the result of that adjustment if the [**Chroma**] parameter under [**Color**] was adjusted.



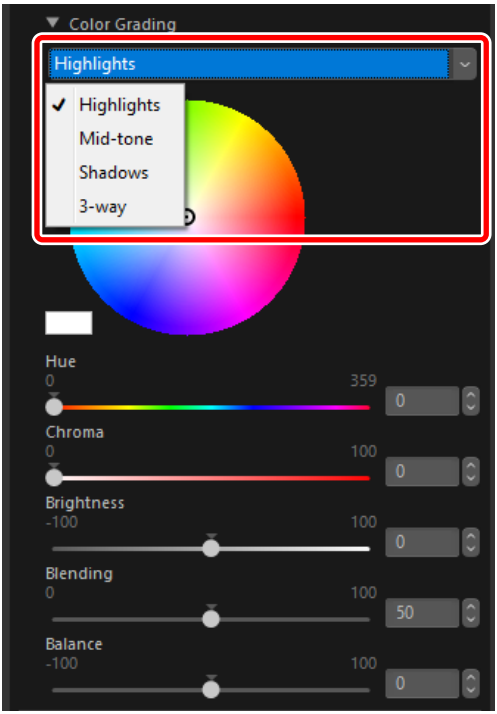
[Brightness]

Adjust brightness for each color. This also reflects the result of that adjustment if the [**Brightness**] parameter under [**Color**] was adjusted.



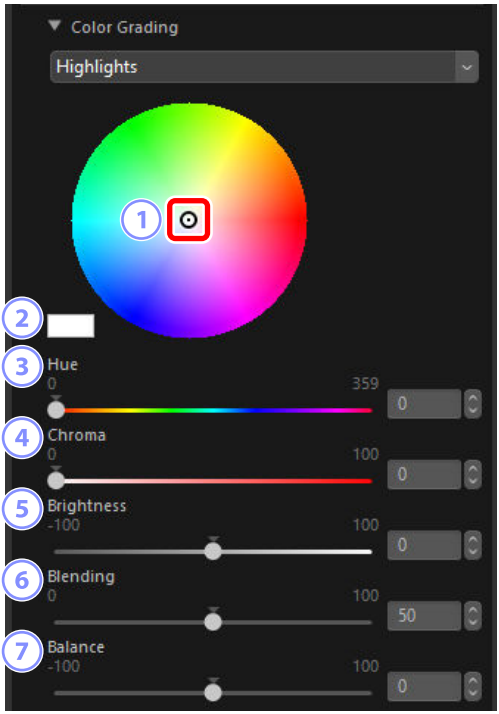
“Color Grading”

Adjust the tints of highlights, mid-tones, and shadows with [**Hue**] and [**Chroma**], or brightness with [**Brightness**]. Select colors intuitively with the color wheel.



[Highlights]/[Mid-tone]/[Shadows]

Adjust the tint and brightness for highlights, mid-tones, and shadows. Select the color to be applied from the color wheel and the [**Hue**] and [**Chroma**] sliders.



1 Wheel Handle

To apply a color to the image, click inside the color wheel or drag the wheel handle. The [**Hue**] and [**Chroma**] sliders will move with the wheel handle.

2 Selected Color

Display the color currently selected on the wheel handle or the [**Hue**] and [**Chroma**] sliders. The brightness is fixed at 100 and will not change even if you adjust the [**Brightness**] slider.

3 [Hue]

Select a color. The wheel handle will move with the slider.

4 [Chroma]

Adjust chroma for the selected hue. The wheel handle will move with the slider.

5 [Brightness]

Adjust brightness.

6 [Blending]

Adjust the degree of overlap of [**Highlights**], [**Mid-tone**] and [**Shadows**]. Increase the [**Blending**] value to blend the color set for each area. If the value is reduced, the color set for each area will be less affected by the colors of other areas.

- The [**Blending**] value is a common value among [**Highlights**], [**Mid-tone**], [**Shadows**] and [**3-way**]. Adjusting the [**Highlights**] value also adjusts the [**Mid-tone**], [**Shadows**], and [**3-way**] values.

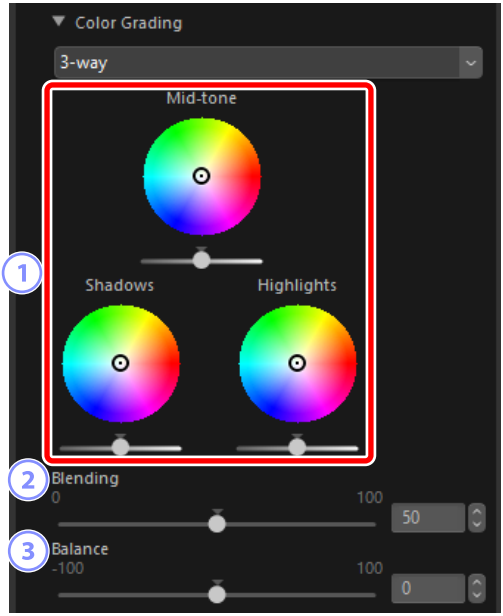
7 [Balance]

Adjust the balance between highlights and shadows. Choose higher (positive) values to widen the range of highlights, lower (negative) values to widen the range of shadows.

- The [**Balance**] value is a common value among [**Highlights**], [**Mid-tone**], [**Shadows**] and [**3-way**]. Adjusting the [**Highlights**] value also adjusts the [**Mid-tone**], [**Shadows**], and [**3-way**] values.

[3-Way]

Simultaneously adjust the tint for [**Highlights**], [**Mid-tone**], and [**Shadows**].



1 Color Wheel/Brightness Slider

Color wheels for [**Highlights**], [**Mid-tone**], and [**Shadows**].

- Move the wheel handle to select a color.
- Adjust the brightness with the slider beneath each color wheel.

2 [Blending]

Adjust the degree of overlap of [**Highlights**], [**Mid-tone**] and [**Shadows**]. Increase the [**Blending**] value to blend the color set for each area. If the value is reduced, the color set for each area will be less affected by the colors of other areas.

- The [**Blending**] value is a common value among [**Highlights**], [**Mid-tone**], [**Shadows**] and [**3-way**]. Adjusting the [**3-way**] value also adjusts the [**Highlights**], [**Mid-tone**] and [**Shadows**] values.

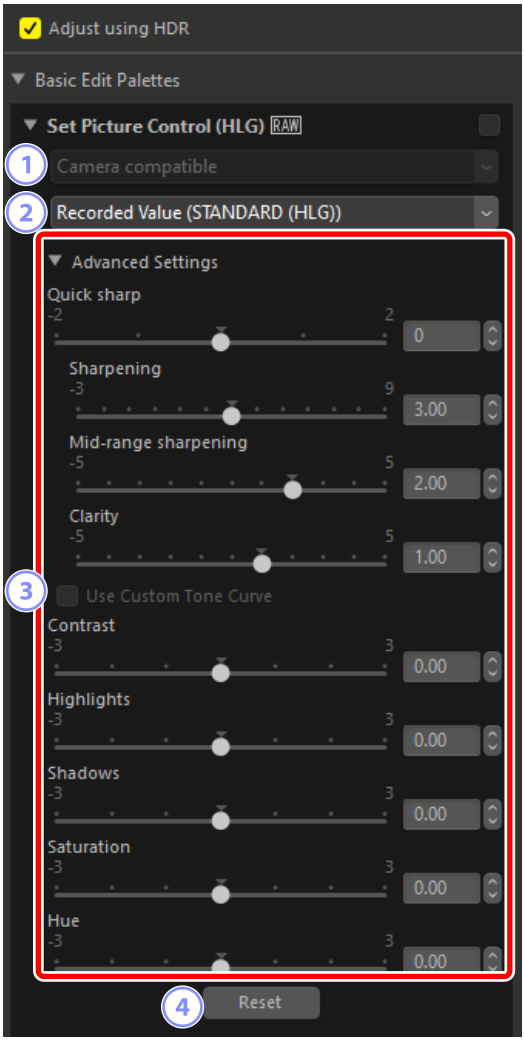
3 [Balance]

Adjust the balance between highlights and shadows. Choose higher (positive) values to widen the range of highlights, lower (negative) values to widen the range of shadows.

- The [**Balance**] value is a common value among [**Highlights**], [**Mid-tone**], [**Shadows**] and [**3-way**]. Adjusting the [**3-way**] value also adjusts the [**Highlights**], [**Mid-tone**], and [**Shadows**] values.

The Picture Controls (HLG) Tool

Adjust Picture Control settings for the HDR tone range. Note that this tool is available only with RAW pictures or merged pixel shift pictures taken with HLG enabled on cameras that support tone-mode selection.



1 Color Reproduction Process

This setting cannot be selected because it is fixed at the same setting for [**Color Reproduction Process**] under [**NEF (RAW) Processing**] in the options dialog (📖 240, 📖 253).

2 Picture Control

Choose a Picture Control for the pictures in the current selection.

3 [Advanced Settings]

Adjust Picture Control parameters (📖 118). Note that even in the case of pictures taken under similar conditions, the results may vary with exposure and the position and size of the subject in the frame.

Caution: Enabling or Disabling "Adjust Using HDR"

Enabling or disabling [**Adjust using HDR**] resets all Picture Control settings.

- Disabling [**Adjust using HDR**] after choosing [**[HLG SD] Standard**], [**[HLG MC] Monochrome**], or [**[HLG FL] Flat**] for [**Set Picture Control (HLG)**] changes the selection to the corresponding [**Picture Control**] option, respectively [**Standard**], [**Monochrome**], or [**Flat**].

4 [Reset]

Reset all parameters to their default values.

"Advanced Settings"

Adjust Picture Control parameters. The parameters available vary with the Picture Control selected.

[Quick sharp]

Quickly adjust levels for balanced [**Sharpening**], [**Mid-range sharpening**], and [**Clarity**]. The various sharpening parameters can also be adjusted manually.

- [**Sharpening**]: Control the sharpness of details and outlines.
- [**Mid-range sharpening**]: Adjust the sharpness of patterns and lines at levels of detail between those to which [**Sharpening**] and [**Clarity**] apply.
- [**Clarity**]: Adjust overall sharpness and the sharpness of thicker outlines without affecting brightness or dynamic range.

[Contrast]

Adjust contrast. Choose lower values for less contrast, higher values for more contrast.

[Highlights]

Adjust brightness in bright areas of the picture (highlights). Choose higher values for greater brightness.

[Shadows]

Adjust brightness in dark areas of the picture (shadows). Choose higher values for greater brightness.

[Saturation]

Control the vividness of colors. Choose lower values for more muted colors and higher values for more vivid colors.

[Hue]

Adjust hue.

[Filter Effect]

Simulate the effects of color filters on monochrome pictures. This parameter is available only with the [**[HLG MC] Monochrome**] Picture Control.

[Toning]

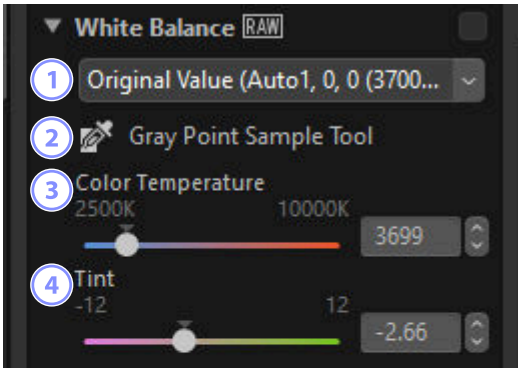
Choose a base tint for results that mimic the effects of printing pictures on tinted paper. This parameter is available only with the [**[HLG MC] Monochrome**] Picture Control.

[Adjust Saturation]

Choose the saturation of the tint selected for [**Toning**]. This parameter is available only with the [**[HLG MC] Monochrome**] Picture Control. Note, however, that saturation cannot be adjusted when [**B&W**] is selected for [**Toning**].

The White Balance Tool

Adjust white balance. Note that this tool is only available with RAW pictures and merged pixel shift pictures.



1 **White Balance Menu**

Choose a white balance setting.

2 **[Gray Point Sample Tool]**

Click anywhere in the picture to adjust white balance so that the sampled pixel takes on a neutral gray color.

3 **[Color Temperature]**

Choose a color temperature.

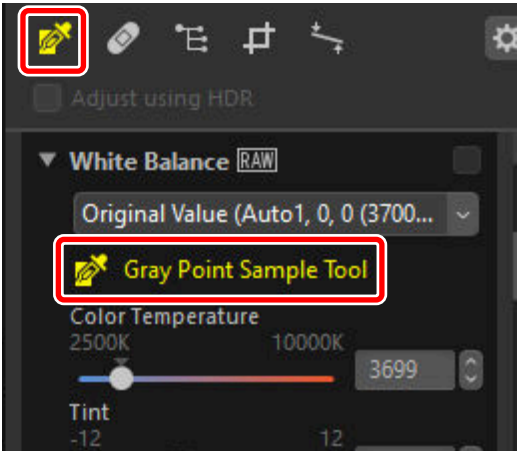
4 **[Tint]**

Choose lower values for less green and more magenta, higher values for the opposite effect.

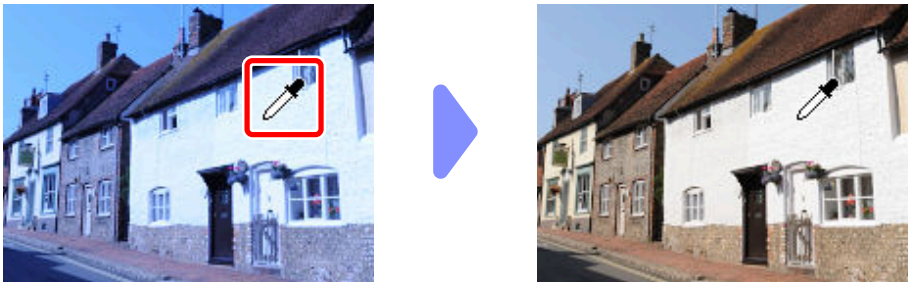
The Gray Point Sample Tool

Using the gray point sample tool, you can click anywhere in the picture to adjust white balance so that the sampled pixel takes on a neutral (white or gray) color. Color casts can be eliminated with a single click.

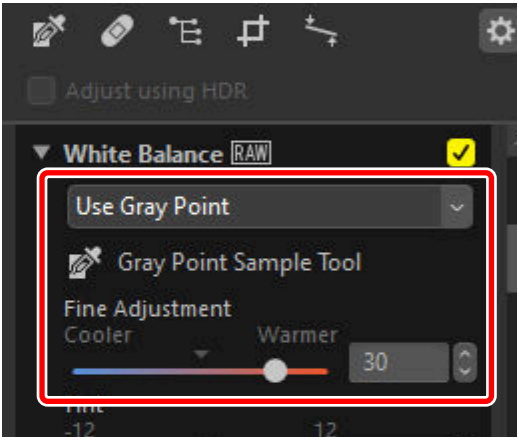
1 Activate ( ) the gray point sample tool. You can also click the icon for the tool at the top of the adjustments palette.



2 Click a point in the picture that you think should be a neutral color. [**Use Gray Point**] will appear in the white balance menu and the colors in the picture will be adjusted. In this example, clicking what in the actual subject was a white wall eliminates the blue color cast. You can sample the picture multiple times while the gray point sample tool is active. You can also drag the cursor over the image to use the average color value for the selected area.

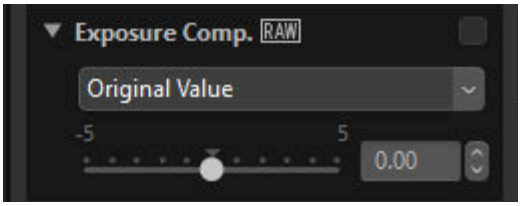


3 When [**Use Gray Point**] appears in the white balance menu, [**Color Temperature**] changes to [**Fine Adjustment**] and white balance can be fine-tuned using the slider.



The Exposure Compensation Tool

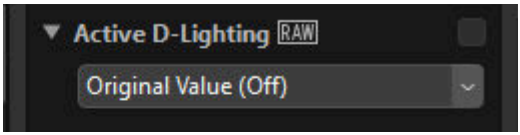
Adjust overall exposure, making pictures lighter or darker. Note that this tool is only available with RAW pictures and merged pixel shift pictures.



Exposure can be fine-tuned in the range +5 and −5 EV in increments of 0.01 EV.

The Active D-Lighting Tool

Bring out details in highlights and shadows. Note that this tool is only available with RAW pictures and merged pixel shift pictures. This option is not displayed when [**Adjust using HDR**] is enabled.

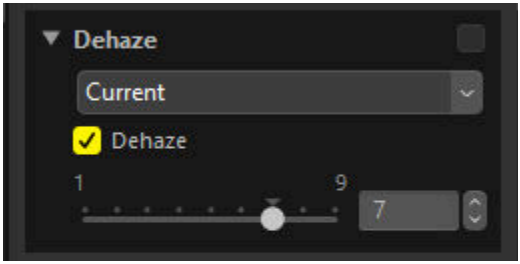


The strength of the effect can be chosen from the pull-down menu.

Caution: "Dehaze"
Enabling [**Dehaze**] disables [**Active D-Lighting**] and [**Skin softening**].

The Dehaze Tool

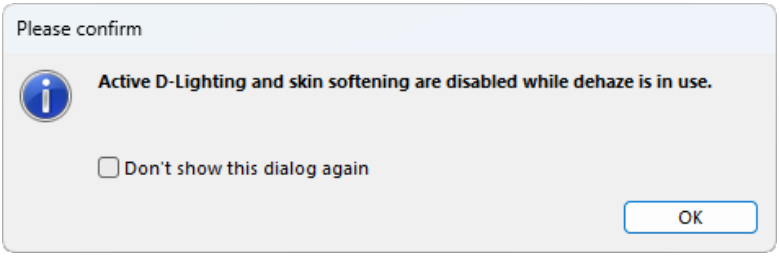
Selecting [**Dehaze**] adjusts overall contrast and saturation to reduce haziness.



Choose higher values for more dehazing effect.

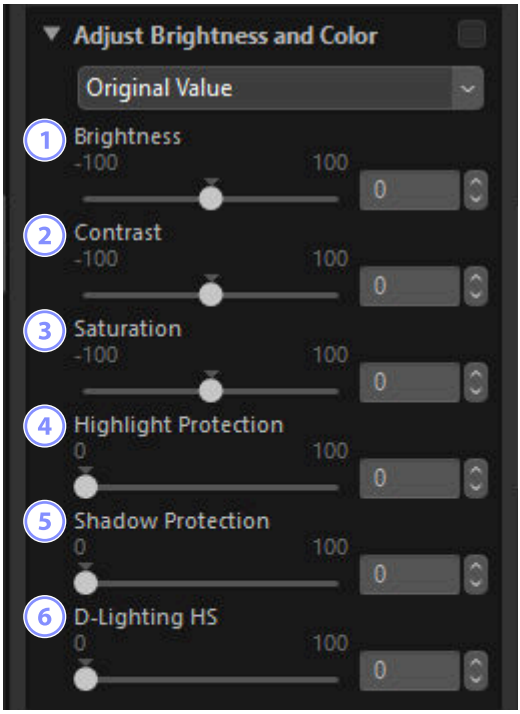
Caution: "Dehaze"

Enabling [**Dehaze**] disables [**Active D-Lighting**] and [**Skin softening**].



The Adjust Brightness and Color Tool

Adjust overall brightness and contrast, or make adjustments that affect highlights and shadows. This tool is not displayed when [**Adjust using HDR**] is enabled.



1 **[Brightness]**

Adjust overall brightness. The higher the value, the brighter the result.

2 **[Contrast]**

Adjust overall contrast. Choose lower values for less contrast, higher values for more contrast.

3 **[Saturation]**

Adjust the vividness of colors throughout the picture. Choose lower values for more muted colors and higher values for more vivid colors.

4 **[Highlight Protection]**

Adjust brightness in bright areas of the picture (highlights). Choose higher values to reduce highlight brightness.

5 **[Shadow Protection]**

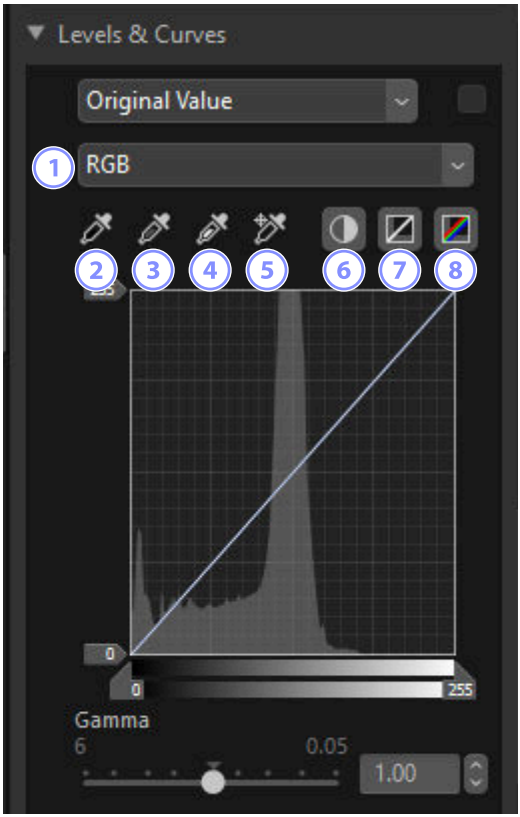
Adjust brightness in dark areas of the picture (shadows). Choose higher values for greater brightness.

6 **[D-Lighting HS]**

Brighten shadows in backlit or poorly-lit pictures or reduce loss of detail in highlights. Higher values reduce the contrast between shadows and highlights.

The Levels and Tone Curves Tool

Adjust contrast, tone curves (brightness), and color balance. Adjustments can be made to specific portions of the tone range, enhancing pictures without sacrificing detail. This can be used to exploit the gamut and dynamic range of specific printers, monitors, or other devices to the full.



1 Channel

Choose the channel to which changes will apply.

2 Set Black Point

Click this button and then click the picture to sample the colors for the pixel under the cursor. The black point sliders for the [**Red**], [**Green**], and [**Blue**] channels will be set to the values for the selected pixel.

3 **Set Neutral Point**

Click this button and then click the picture to sample the colors for the pixel under the cursor. Gamma for the [**Red**], [**Green**], and [**Blue**] channels will be adjusted to equalize the RGB values for the selected pixel.

4 **Set White Point**

Click this button and then click the picture to sample the colors for the pixel under the cursor. The white point sliders for the [**Red**], [**Green**], and [**Blue**] channels will be set to the selected pixel.

5 **Add Anchor Point**

Click this button and then click the picture to add points to the curves for all channels corresponding to the values of the pixel under the cursor.

6 **Auto Contrast**

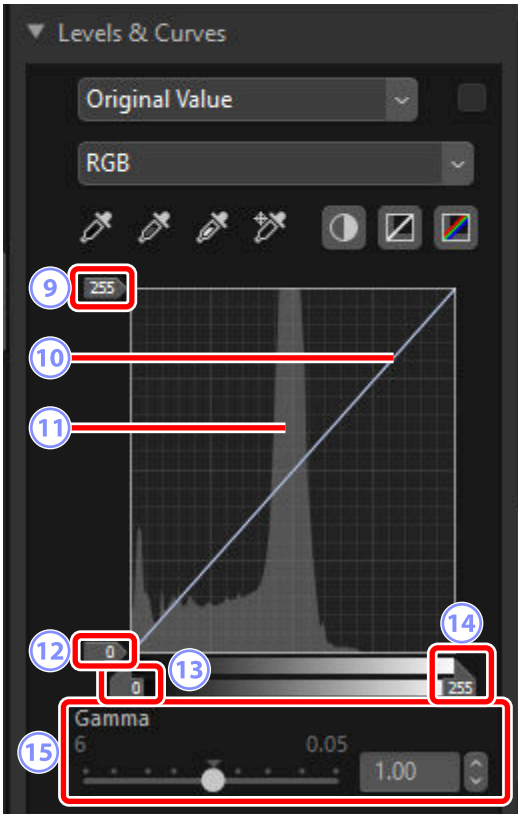
Set white and black points automatically to adjust the distribution of colors for each channel.

7 **Reset Current Channel**

Restore the default curve for the current channel.

8 Reset All Channels

Restore the default curves for all channels.



9 White-Point Output-Level Slider

Choose the maximum output level for the current picture. Dragging the slider down lowers the brightness of the brightest pixels.

10 Tone Curve

The slope and shape of the curve determines the brightness of the picture in the corresponding portion of the tone range. Anchor points added to the curve can be deleted by pressing the delete key or dragging them out of the palette.

11 Histogram

View how the pixels in the picture are distributed with respect to brightness.

12 Black-Point Output-Level Slider

Choose the minimum output level for the current picture. Dragging the slider up increases the brightness of the darkest pixels.

13 Black-Point Input Slider

Dragging the slider to the right sets the pixels in the portion of the tone range to its left to the minimum output level (black, or when a specific color channel is selected, no color); the remaining pixels are fitted to the new tone range.

14 White-Point Input Slider

Dragging the slider to the left sets the pixels in the portion of the tone range to its right to the maximum output level (white, or when a specific color channel is selected, the maximum value for that channel); the remaining pixels are fitted to the new tone range.

15 [Gamma]

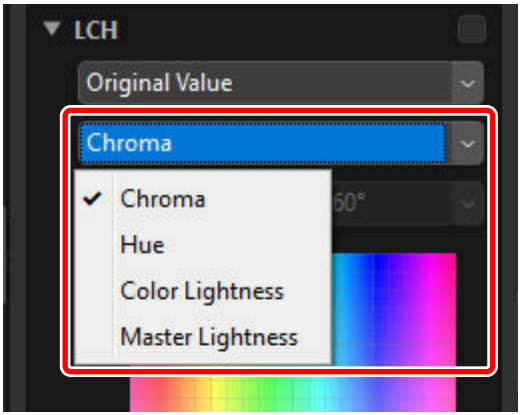
Dragging the slider to the left increases the brightness of mid-tones, while dragging it to the right makes mid-tones darker.

Tip: Sampling the Current Channel

To apply the auto contrast, black point, white point, and add anchor point tools only to the current channel, click the tool while pressing the control (or in macOS, the option) key.

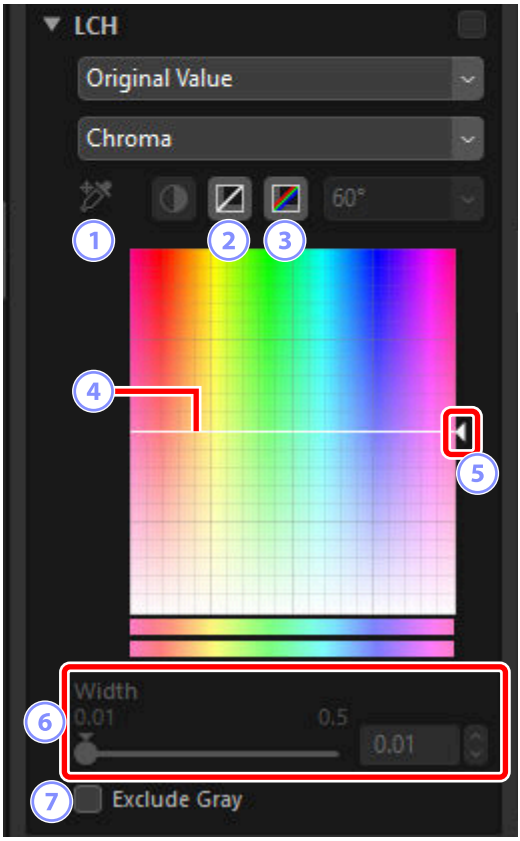
The LCH Tool

Make adjustments to lightness, chroma, and hue channels. Choose a channel using the menu in the LCH tool. The options available vary with the channel selected. The LCH tool is not displayed when [**Adjust using HDR**] is enabled.



Chroma

Adjust color saturation (vividness). Increase or decrease color saturation over the entire picture or a portion of the color range, making colors more or less vivid.



1 Add Anchor Point

Click this button and then click the picture to add a point to the chroma curve corresponding to the value of the pixel under the cursor.

2 Reset Current Channel

Reset the chroma curve to linear.

3 Reset All Channels

Reset the [**Chroma**], [**Hue**], [**Color Lightness**], and [**Master Lightness**] curves to linear.

4 **Chroma Curve**

Moving an anchor point on the curve upwards makes colors in the affected portion of the color range more vivid, while moving it downward makes the affected colors less vivid (grayer). Anchor points added to the curve can be deleted by pressing the delete key or dragging them out of the palette.

5 **Output Slider**

Increase or decrease the saturation of all colors in the image. Overall saturation can be increased by moving the slider up or decreased by moving it down.

6 **[Width]**

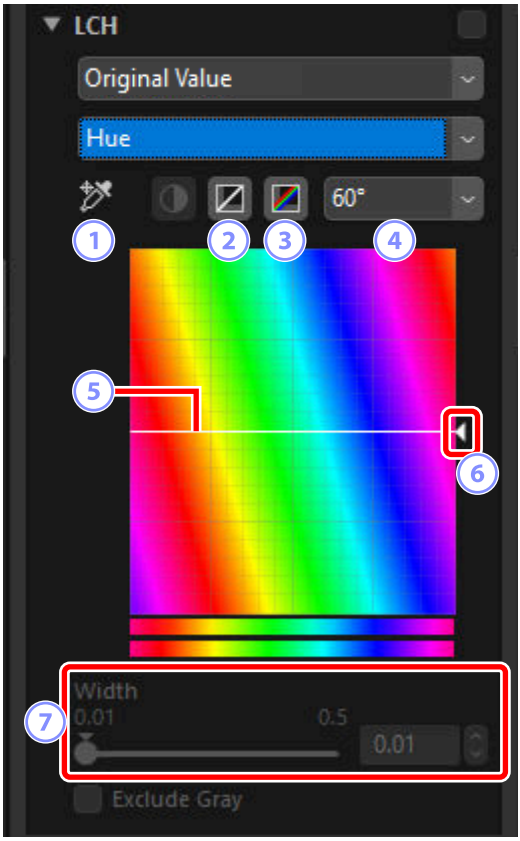
Adjust the width of the chroma curve. Move the slider right to increase the range of colors affected by changes to chroma, centered on the currently-selected point. Move the slider left to decrease the range of colors affected.

7 **[Exclude Gray]**

Select this option to adjust chroma without affecting grays. This allows chroma to be increased without introducing a cast to neutral colors.

Hue

Adjust hue over the entire picture or a portion of the color range. One application might be to deepen the colors in a pale blue sky.



1 Add Anchor Point

Click this button and then click the picture to add a point to the hue curve corresponding to the value of the pixel under the cursor.

2 Reset Current Channel

Reset the hue curve to linear.

3 Reset All Channels

Reset the [**Chroma**], [**Hue**], [**Color Lightness**], and [**Master Lightness**] curves to linear.

④ **Scale**

Click to change the vertical scale from 60 ° through 120 ° to 180 ° and back again. The degrees in this case refer to a 360 ° color wheel. Increasing the scale increases the range of hues visible in the display, while decreasing the scale increases precision.

⑤ **Hue Curve**

Select an anchor point on the curve that corresponds to the desired input color and drag it up or down until it intersects with the desired output color. Anchor points added to the curve can be deleted by pressing the delete key or dragging them out of the palette.

⑥ **Output Slider**

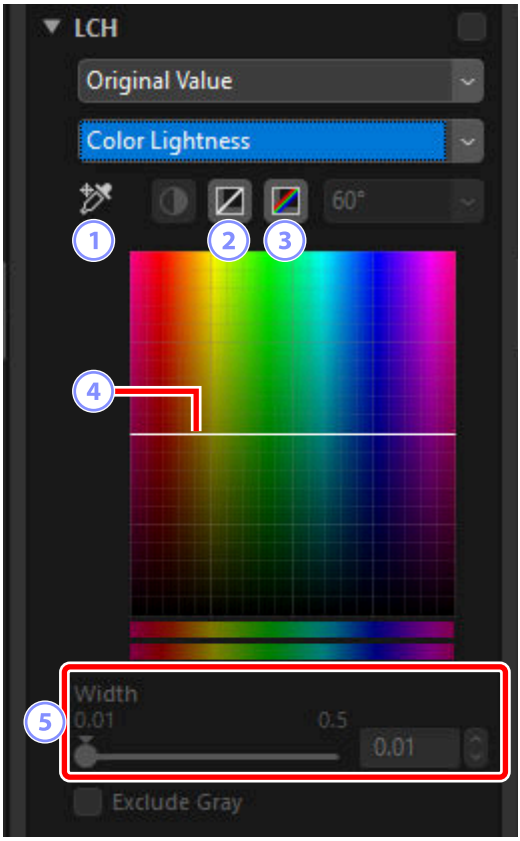
Drag the slider up or down to modify the hue of all colors in the picture. The range of hues available varies with the option selected for scale (④): ±60° when 60° is selected, ±120° when 120° is selected, or ±180° when 180° is selected.

⑦ **[Width]**

Adjust the width of the hue curve. Move the slider right to increase the range of colors affected by changes to hue, centered on the currently-selected point. Move the slider left to decrease the range of colors affected.

Color Lightness

Adjust the lightness of selected colors. This can be used, for example, to brighten the blue of a dark sky without affecting chroma or hue.



1 Add Anchor Point

Click this button and then click the picture to add a point to the color lightness curve corresponding to the value of the pixel under the cursor.

2 Reset Current Channel

Reset the color lightness curve to linear.

3 Reset All Channels

Reset the [**Chroma**], [**Hue**], [**Color Lightness**], and [**Master Lightness**] curves to linear.

4 **Color Lightness Curve**

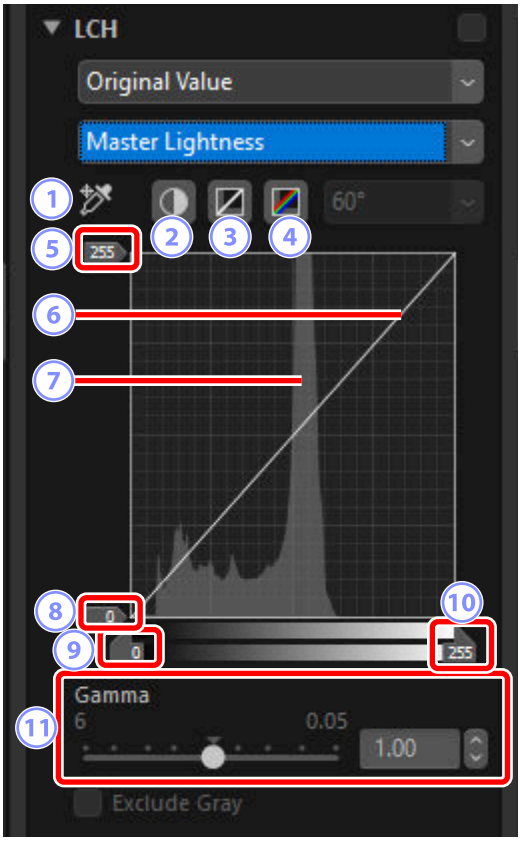
The vertical axis corresponds to lightness, the horizontal axis to color. Moving an anchor point on the curve upwards makes colors in the affected portion of the color range brighter, while moving it downward makes the affected colors darker. Anchor points added to the curve can be deleted by pressing the delete key or dragging them out of the palette.

5 **[Width]**

Adjust the width of the color lightness curve. Move the slider right to increase the range of colors affected by changes to color lightness, centered on the currently-selected point. Move the slider left to decrease the range of colors affected.

Master Lightness

Adjust overall lightness without affecting chroma or hue. Settings can be adjusted using sliders or by directly editing the lightness curve.



1 Add Anchor Point

Click this button and then click the picture to add a point to the master lightness curve corresponding to the value of the pixel under the cursor.

2 Auto Contrast

Increase contrast by setting the white and black points to exclude a set proportion of the brightest and darkest pixels in the image.

3 Reset Current Channel

Reset the master lightness curve to linear.

4 **Reset All Channels**

Reset the [**Chroma**], [**Hue**], [**Color Lightness**], and [**Master Lightness**] curves to linear.

5 **White-Point Output-Level Slider**

Choose the maximum output level (white point).

6 **Luminosity Curve**

The slope and shape of the curve determines the lightness of the picture in the corresponding portion of the tone range. Anchor points added to the curve can be deleted by pressing the delete key or dragging them out of the palette.

7 **Histogram**

View how the pixels in the picture are distributed with respect to lightness. The horizontal axis corresponds to lightness (in the range 0–255), the vertical axis to the number of pixels.

8 **Black-Point Output-Level Slider**

Choose the minimum (black point) output level.

9 **Black-Point Input Slider**

Choose the minimum (black point) input level.

10 **White-Point Input Slider**

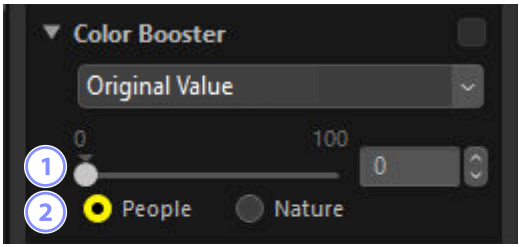
Choose the maximum (white point) input level.

11 **[Gamma]**

Choose the midpoint (gamma value).

The Color Booster Tool

Optimize saturation to make colors more vivid. This tool is not displayed when [**Adjust using HDR**] is enabled.



1 Level

Choose higher values to increase saturation.

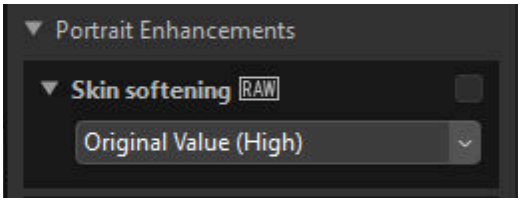
2 Subject Type

Choose from [**People**] and [**Nature**].

- [**People**]: Boost colors without affecting skin tones.
- [**Nature**]: Boost colors throughout the spectrum, including skin tones.

The Skin Softening Tool

Adjust skin softening. Note that this tool is available only with RAW and merged pixel shift pictures shot with an option other than [**Off**] selected for skin softening in the camera menus.

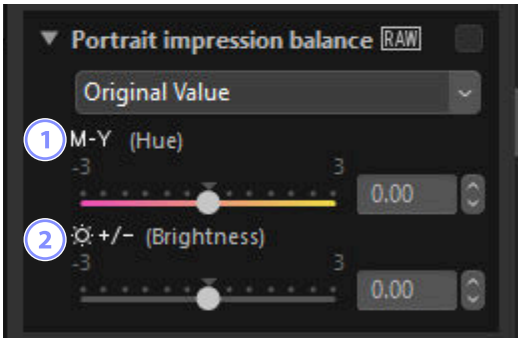


Choose the softening amount from the pull-down menu.

Caution: "Dehaze"
Enabling [**Dehaze**] disables [**Active D-Lighting**] and [**Skin softening**].

The Portrait Impression Balance Tool

Adjust hue and brightness for human portrait subjects. Note that this tool is available only with RAW pictures taken using D6, D850, D780, and Nikon Z-series cameras and merged pixel shift pictures.



1 [Hue]

Move the slider left for increased magenta, right for increased amber (yellow).

2 [Brightness]

Increase or reduce brightness by moving the slider in the "+" or "−" direction.

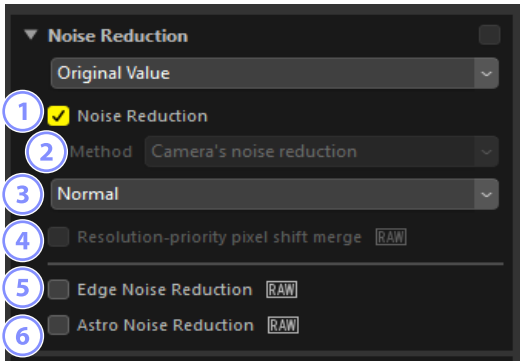
"Portrait Impression Balance"

[**Portrait impression balance**] will not be available if:

- [**Monochrome**], [**Flat Monochrome**], [**Deep Tone Monochrome**], [**Flexible Color**], or [**Creative Picture Control**] is selected for [**Picture Control**], or
- [**[HLG MC] Monochrome**] is selected for [**Set Picture Control (HLG)**].

The Noise Reduction Tool

Process pictures to reduce the effects of image noise. Noise reduction is not available with HEIF pictures.



① [Noise Reduction]

Select this option to enable noise reduction. You can then choose an option for [**Method**] and a noise-reduction amount. A small amount of noise reduction is applied even when this option is not selected.

② [Method]

The options available vary with the camera used to create the current picture.

- [**Camera's noise reduction**] (RAW and merged pixel shift pictures only): This option is displayed only if no other options are available. Select the amount (③) from the pull-down menu.
- [**Faster**]/[**Better Quality**]/[**Better Quality 2013**] (RAW pictures only): Choose [**Faster**] for faster processing, [**Better Quality**] or [**Better Quality 2013**] for higher-quality results.
  - [**Intensity**]: The higher the value, the smoother the results and the less visible the artifacts caused by image "noise".
  - [**Sharpness**]: Choosing higher values for [**Intensity**] may smooth the image to the point that details are lost. This can be countered by increasing [**Sharpness**].

Tip: [Better Quality 2013]

This option excels in reducing color noise at short wavelengths and over evenly-colored areas of the image. Selecting [**Better Quality 2013**] displays additional [**Luminance**] and [**Color**] items, allowing intensity and sharpness to be adjusted separately for each of these parameters.

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3 Amount

Choose the amount of noise reduction performed when [**Camera's noise reduction**] is the only option available in the [**Method**] menu.

4 [Resolution-priority pixel shift merge] (Merged Pixel Shift Pictures Only)

Select this option to completely disable [**Noise Reduction**].

5 [Edge Noise Reduction] (RAW and Merged Pixel Shift Pictures Only)

Select this option to make outlines more distinct by reducing the occurrence of noise artifacts around edges.

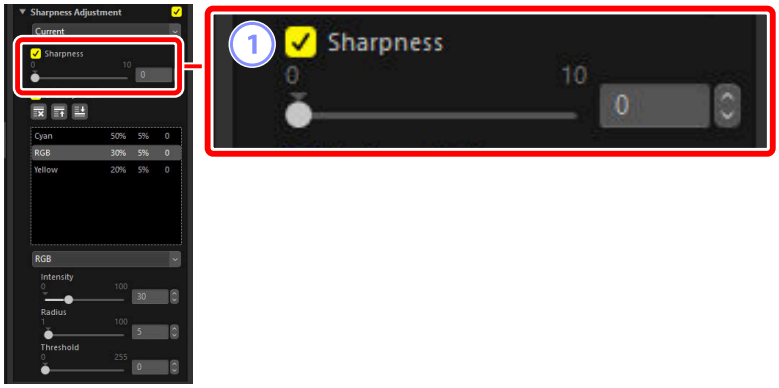
6 [Astro Noise Reduction] (RAW Pictures Only)

Select this option to reduce the occurrence of randomly-spaced bright pixels in long exposures.

[Astro Noise Reduction]
This option cannot be applied to small RAW pictures taken with the D4S, D810, or D810A.

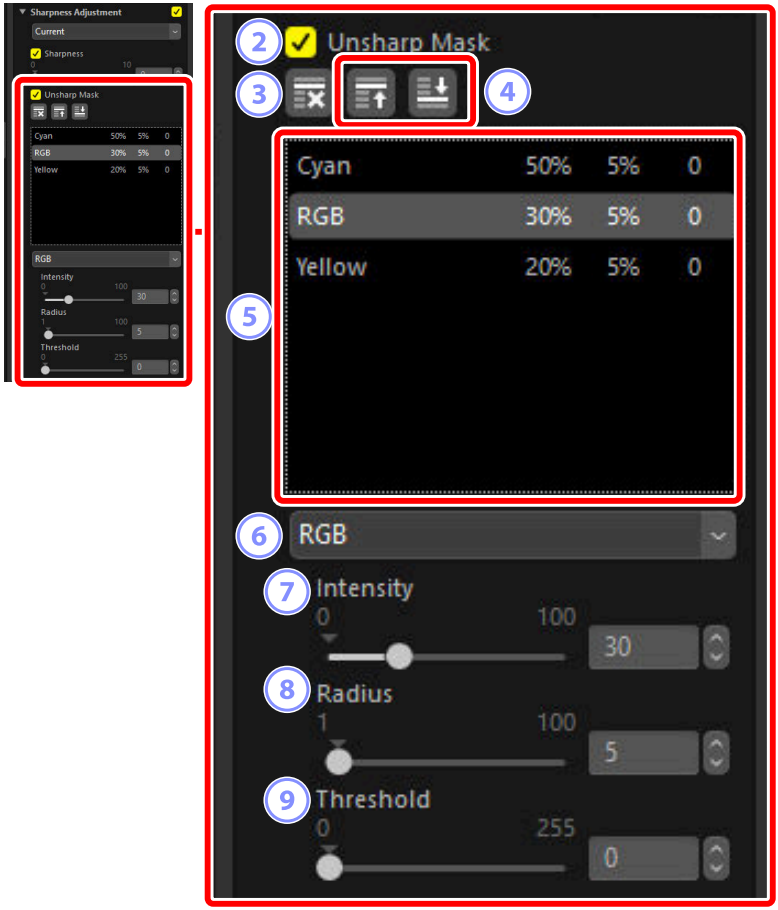
The Sharpness Adjustment Tool

Increase sharpness by making edges more distinct. Use [**Unsharp Mask**] to increase the contrast of edges while leaving other areas untouched. This tool is not displayed when [**Adjust using HDR**] is enabled.



① **[Sharpness]**

Choose higher values to increase the sharpness of outlines throughout the picture.



② **[Unsharp Mask]**

Select this option to sharpen pictures using unsharp mask.

③ **Delete**

Delete the currently-selected mask from the unsharp mask list.

4 Move Up/Move Down

Move the currently selected mask up or down in the unsharp mask list.

5 Unsharp Mask List

A list of unsharp masks. Masks are identified by color channel, intensity, radius (edge width), and threshold (e.g., “Red, 50%, 10%, 0”). They apply in the order listed; to change the order, use the up/down buttons.

6 Color

Choose the color channel to which the unsharp mask applies.

7 [Intensity]

Choose a sharpening amount. The higher the value, the more edge contrast will be increased.

8 [Radius]

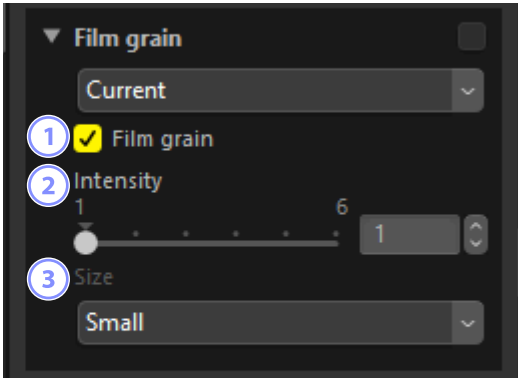
Edge width. The greater the radius, the wider the edges in the sharpened image will appear.

9 [Threshold]

The limit at which sharpening will be applied. If the threshold is zero, sharpening will apply to all pixels in the image. Increasing the threshold increases the amount of contrast that must be present between pixels before the mask will be applied, with the result that only more distinctly contrasting edges will be affected.

The Film Grain Tool

Add a grainy texture to the image.



1 [Film grain]

Add a grainy texture that evokes the look of traditional film photography.

2 [Intensity]

Adjust the strength of the grainy texture. Choose higher values for a rougher and grainier effect.

3 [Size]

Choose a grain size from [**Small**], [**Medium**], and [**Large**]. Smaller sizes create a finer texture, while larger sizes emphasize the grainy texture.

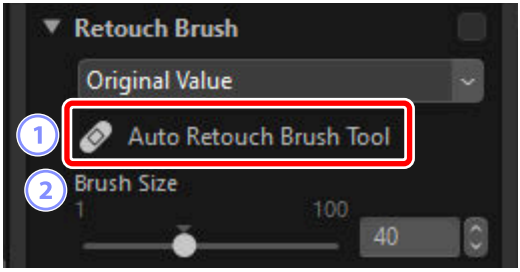
Caution: "Film Grain"

The grain effect appears randomly.

- The grain pattern appears differently each time you select or deselect the [**Film grain**] item even when setting [**Intensity**] and [**Size**] to the same value. The film grain pattern appears differently on RAW and JPEG images when [**Film grain**] is applied to pictures taken in RAW + JPEG format.
- [**Film grain**] cannot be used on JPEG images that already have a grain effect added with the camera or [**Film grain**] applied and exported in NX Studio.

The Retouch Brush

Remove dust and scratches.



1 **[Auto Retouch Brush Tool]**

Selecting ( ) this tool enables the retouch brush.

2 **[Brush Size]**

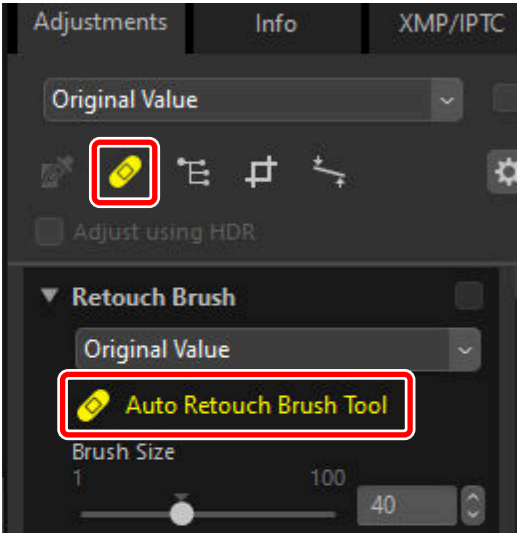
Choose the brush size.

Using the Retouch Brush

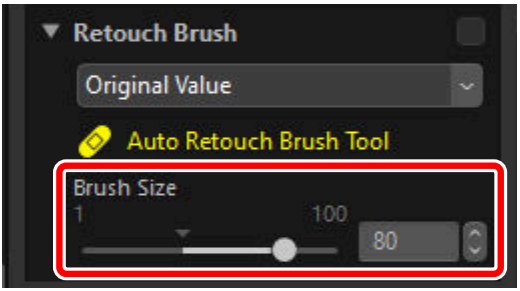
1 Display one or more pictures in single- or multi-frame view. This option cannot be used with thumbnails.



2 Activate ( ) the retouch brush. You can also click the icon for the tool at the top of the adjustments palette.

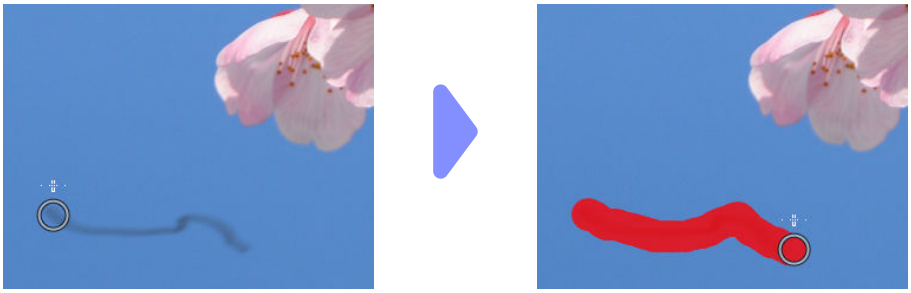


3 Choose the brush size.

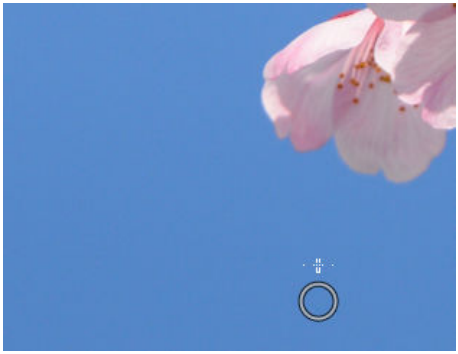


Tip: Brush Size
A brush larger than the defect you are attempting to correct may affect neighboring areas of the picture.

4 Keeping the mouse button pressed, drag the brush over the defect; the selected area will be shown by a translucent red line. Continue until the defect is completely covered.



5 Release the mouse button. The defect will be blended with the surrounding areas of the picture, removing it.



Tip: The Retouch Brush

The retouch brush copies data from surrounding areas of the picture automatically and pastes them over the defect.

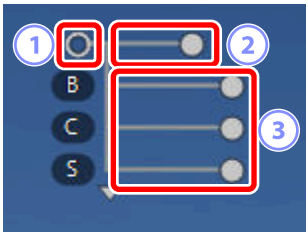
- It may not produce the desired results if defects are widespread, the tool is dragged a long distance, or the affected area is very large.
- The time required to complete processing varies with the picture.

The Color Control Point Tool

Selectively brighten, darken, or modify colors. NX Studio automatically detects the colors at a point of your choosing and applies adjustments only to similar colors in the surrounding area. This tool is not displayed when [**Adjust using HDR**] is enabled.

Color Control Points

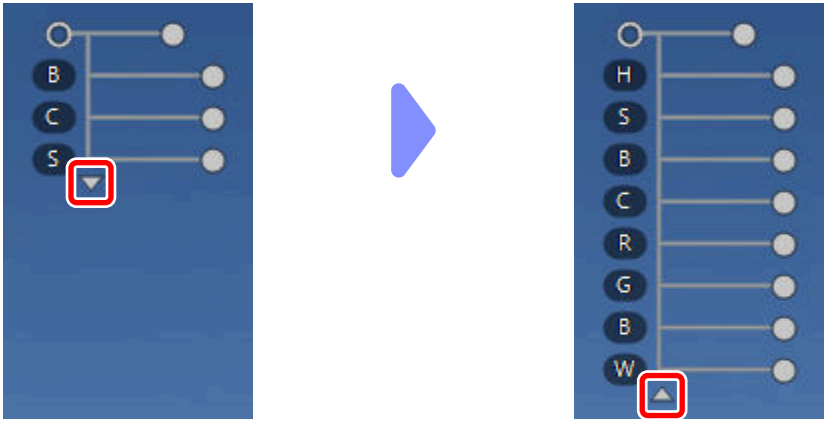
When you place a color control point (①), NX Studio automatically detects the color at the chosen point and selects all similar colors in the surrounding area. The effect is controlled by sliders: a single size slider (②) used to choose the size of the area affected and multiple adjustment sliders (③). These sliders are used to adjust colors and choose the area to which the adjustments apply.



- Changes are made by dragging the slider handles ( ).
- The default adjustment sliders are [**B**] (brightness), [**C**] (contrast), and [**S**] (saturation).

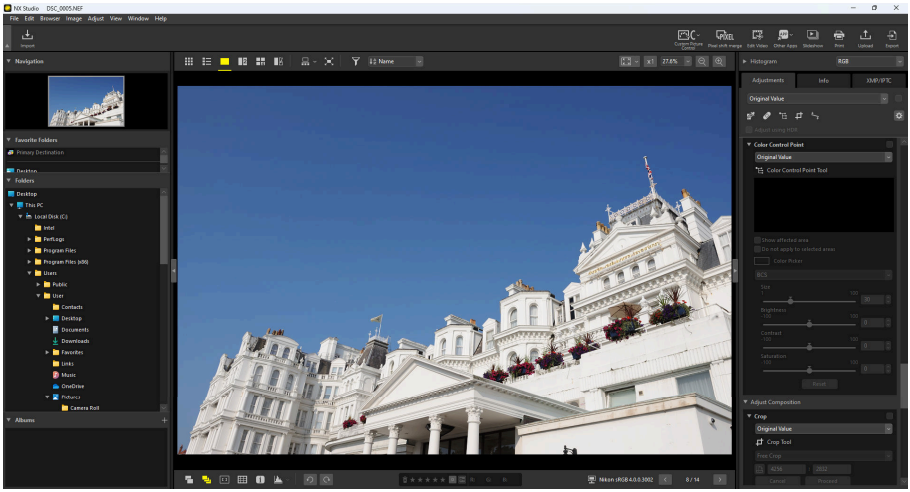
Tip: Color Model

You can click the triangle at the bottom or top of the sliders to switch between the current color model ([**BCS**], [**RGB**], or [**HSB**]) and [**All**].

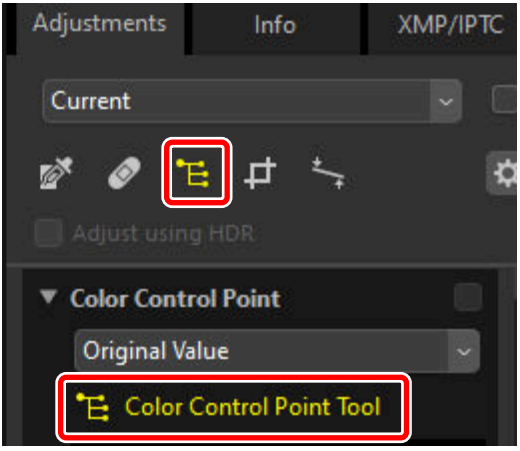


Using Color Control Points

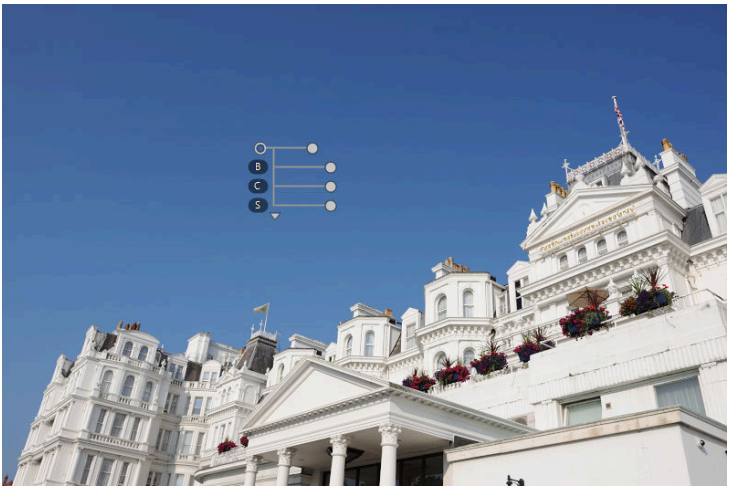
1 Display one or more pictures in single- or multi-frame view. Color control points cannot be used with thumbnails.



2 Activate () the color control point tool. You can also click the icon for the tool at the top of the adjustments palette.



3 Click the picture to add a color control point. Drag it to the area you want to modify.



4 Adjust the size of the control point by dragging the handle of the size slider left or right. The effect applies in a circle (shown by a dotted line) centered on the control point. It diminishes with the distance from the control point. The longer the slider, the greater the area affected.



5 Drag the handles of the adjustment sliders left or right to adjust the selected color. The illustration shows the [**B**] (brightness) slider being used to adjust the brightness of the sky. The effect applies only to the blue of the sky, leaving the color of the building unaffected, and diminishes with the distance from the control point.



6 Multiple control points can be added to each picture. Repeat Steps 3 through 5 to add color control points as needed.

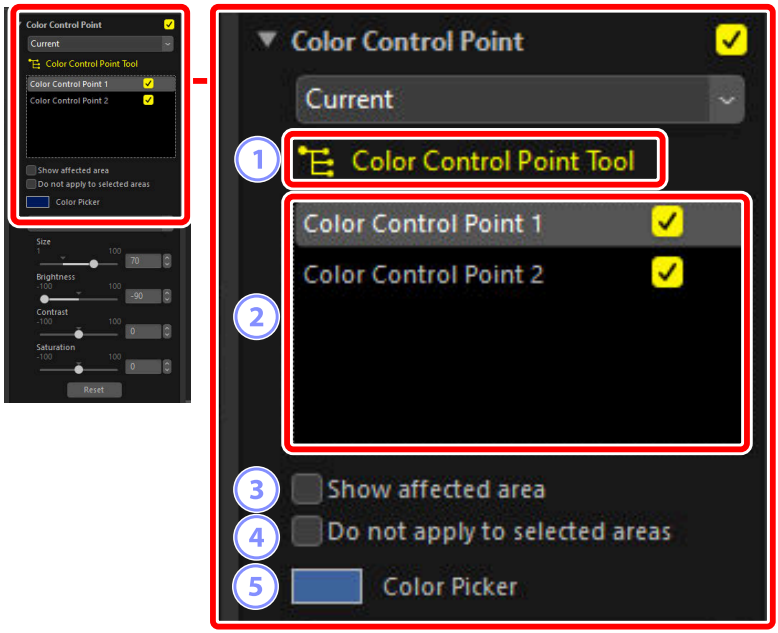
Tip: Adding Control Points

The practical maximum for the number of control points that can be added to a single picture is about 100.

Tip: Copying Color Control Points

Selected control points can be copied using the [**Copy**] and [**Paste**] commands in the [**Edit**] menu.

The Adjustments Palette [Color Control Point] Tool



1 [Color Control Point Tool]

Select ( ) to enable the color control point tool.

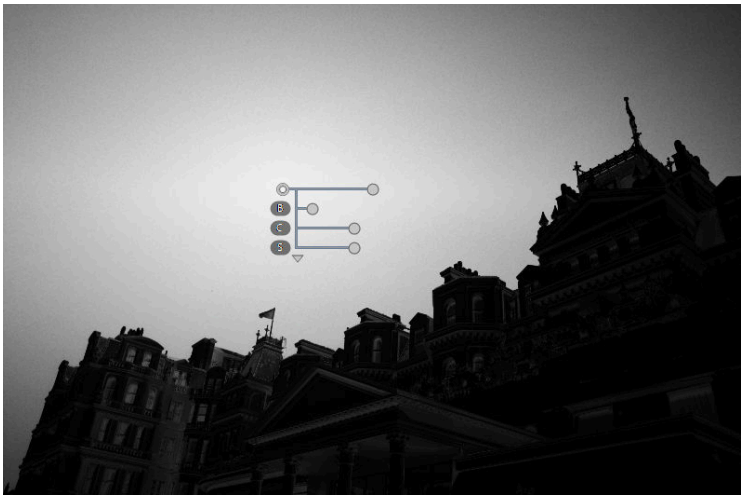
2 Color Control Points

Select from a list of existing color control points in the current picture.

- To hide the effects of a selected control point, remove the check from the adjacent box.
- To delete the point altogether, click the button.

3 [Show affected area]

View the area affected by the selected control point, with the area in which the effects are most noticeable shown in white.

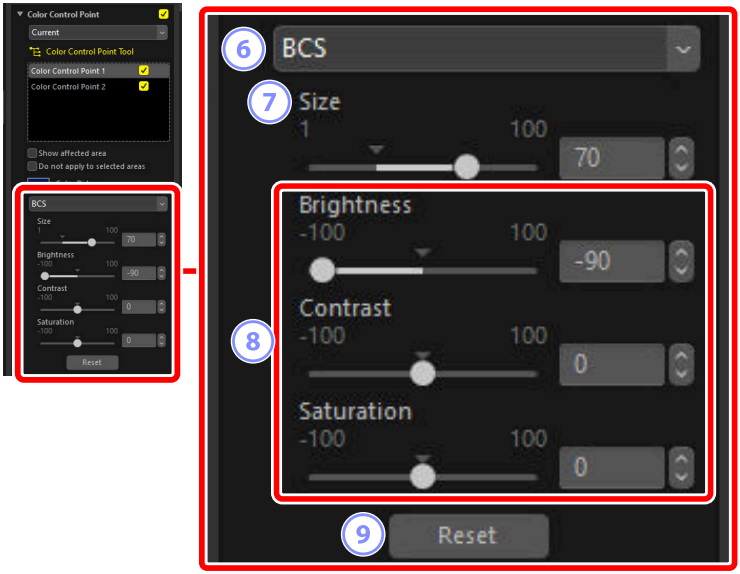


4 [Do not apply to selected areas]

Disable the adjustment sliders for the selected control point. This also prevents changes to other control points affecting colors in the selected area. The size of the area protected can be adjusted using the size slider.

5 Color Picker

Use a color picker to choose the target color for the selected control point. Objects affected by the control point will be converted to the selected color.



6 Color Model

Choose a color model for the selected control point. This determines the adjustment sliders displayed on the control point and in the color control point tool.

- [**All**]: Display sliders for [**Hue**] ([H]), [**Saturation**] ([S]), [**Brightness**] ([B]), [**Contrast**] ([C]), [**Red**] ([R]), [**Green**] ([G]), [**Blue**] ([B]), and [**Warmth**] ([W]).
- [**BCS**]: Display sliders for [**Brightness**] ([B]), [**Contrast**] ([C]), and [**Saturation**] ([S]).
- [**HSB**]: Display sliders for [**Hue**] ([H]), [**Saturation**] ([S]), and [**Brightness**] ([B]).
- [**RGB**]: Display sliders for [**Red**] ([R]), [**Green**] ([G]), and [**Blue**] ([B]).

7 [Size]

Adjust the size of the selected control point.

8 Adjustment Sliders

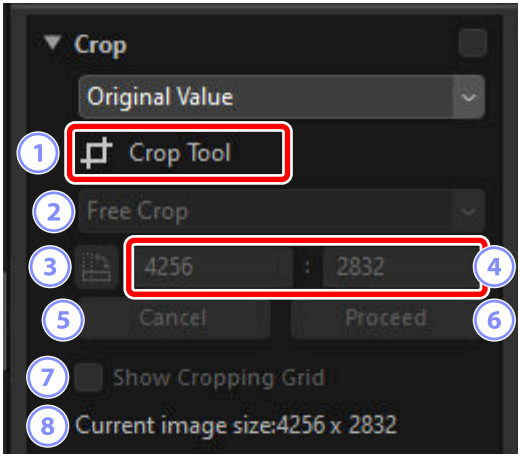
Use the sliders to make adjustments to colors in the area affected by the selected control point. The sliders displayed vary with the color model selected.

9 [Reset]

Reset values for the selected control point to those in effect before any changes were made.

Cropping Pictures

Crop unwanted elements from pictures.



1 [Crop Tool]

Selecting ( ) this tool enables cropping.

2 Aspect Ratio

Choose the crop aspect ratio. To select a crop with no fixed aspect ratio, choose [**Free Crop**].

3 Rotate Crop

Rotate the crop 90°.

4 Crop Dimensions

The dimensions of the current crop. To enter the dimensions directly in the text boxes, select [**Custom**] in the aspect-ratio pull-down menu.

5 [Cancel]

Cancel the current crop.

6 [Proceed]

Apply the current crop.

7 [Show Cropping Grid]

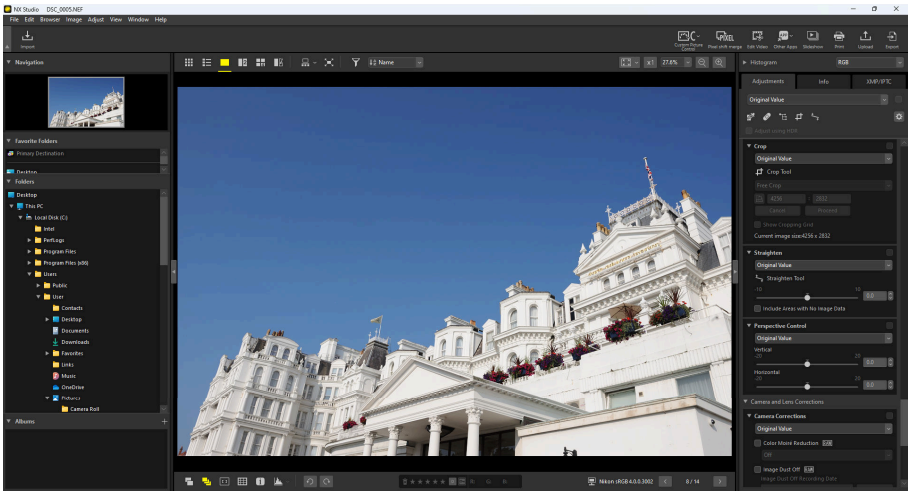
Display an evenly-spaced 3 × 3 grid inside the crop.

8 [Current image size]

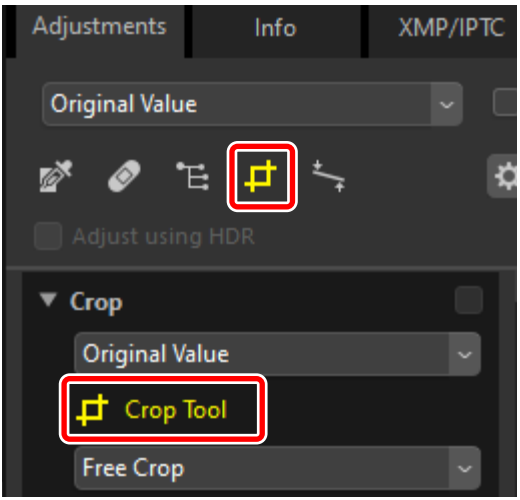
The picture's current size. The value is updated to reflect the new size after the picture is cropped.

Using the Crop Tool

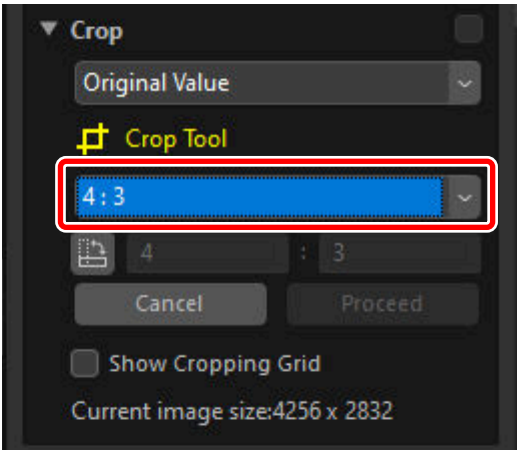
1 Display one or more pictures in single- or multi-frame view. This option cannot be used with thumbnails.



2 Activate ( ) the crop tool. You can also click the icon for the tool at the top of the adjustments palette.



3 Choose an aspect ratio.



Tip: Aspect Ratio
The aspect ratio can be changed after you have resized and positioned the crop.

4 Drag the cursor over the picture to select the crop. The area outside the crop is shown in gray.



5 Resize the crop by dragging the corners. You can also place the cursor in the crop and drag the entire crop to a new location.

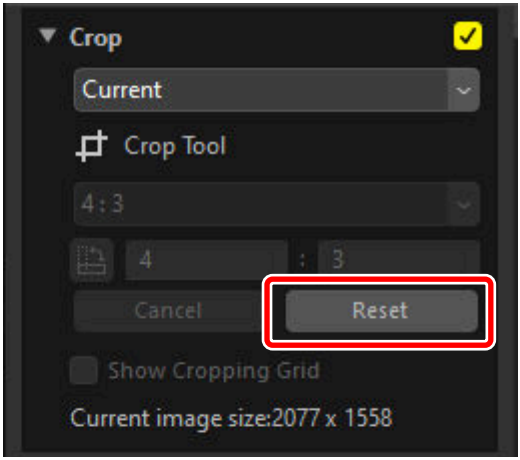


6 Double-click inside the crop or click the [**Proceed**] button in the adjustments palette to crop the picture.



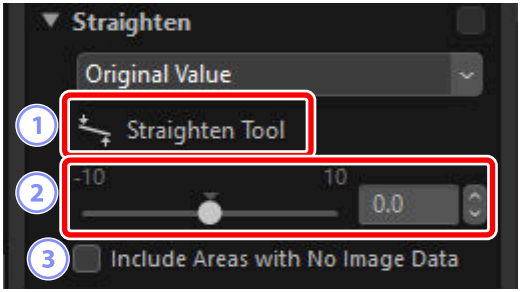
Tip: Resetting the Crop

When the picture is cropped, [**Proceed**] changes to [**Reset**]. Click [**Reset**] to reset the crop.



The Straighten Tool

Straighten pictures by up to ±10°.



1 [Straighten Tool]

Select ( ) the straighten tool to straighten pictures by dragging.

2 Straighten

Straighten pictures by from −10 to +10 degrees. Choose lower values to rotate pictures to the left, higher values to rotate them to the right.

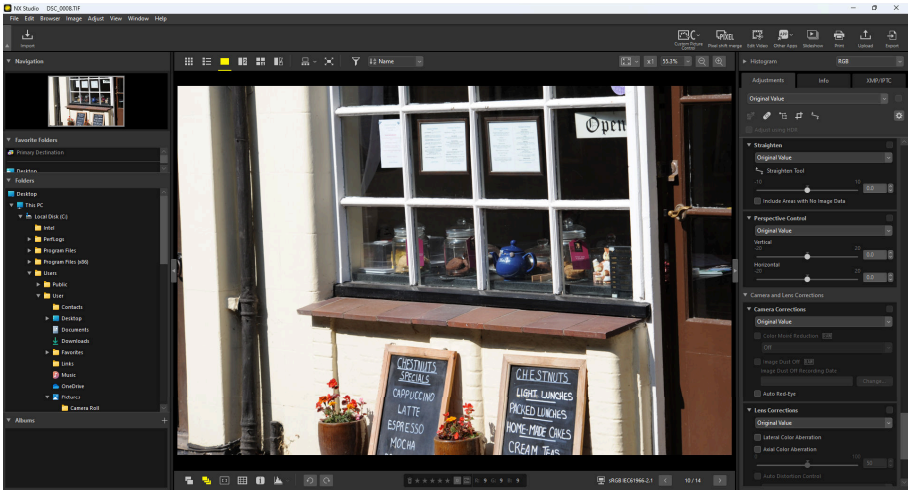
3 [Include Areas with No Image Data]

Select this option to fill empty corners with black.

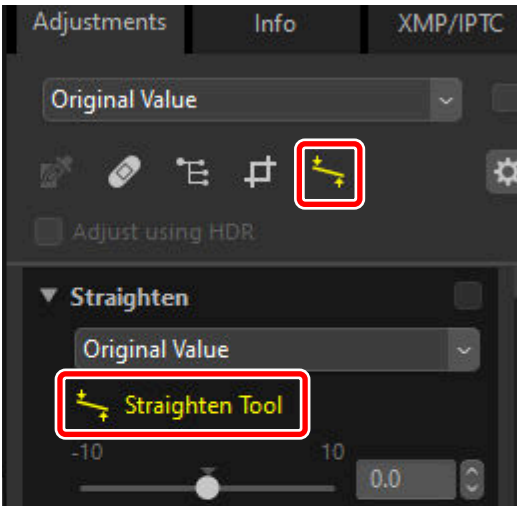
Straightening Pictures

Pictures can be straightened by dragging the cursor parallel to lines you want to be horizontal or vertical.

1 Display one or more pictures in single- or multi-frame view. This option cannot be used with thumbnails.



2 Activate ( ) the straighten tool. You can also click the icon for the tool at the top of the adjustments palette.

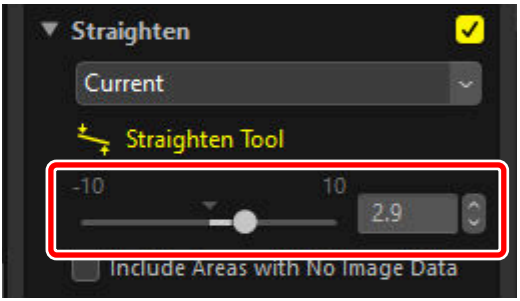


3 Drag the cursor parallel to a reference line in the picture. In this example, the window frame serves as a reference line.



4 The picture will be rotated by up to ±10 ° to make the reference line horizontal or vertical. The degree of rotation will be displayed in the text box in the adjustments palette.





Include Areas with No Image Data

Straightening pictures adds areas that contain no image data. At default settings, pictures will automatically be cropped to remove empty corners. Selecting [**Include Areas with No Image Data**] instead fills the empty corners with black.



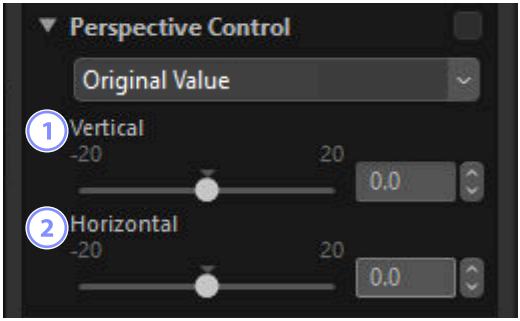
"Include Areas with No Image Data" disabled



"Include Areas with No Image Data" enabled

The Perspective Control Tool

Adjust perspective horizontally or vertically by amounts of from −20 to +20.



1 [Vertical]

Choose lower values to stretch pictures at the bottom, higher values to stretch them at the top.



−20



0



20

2 [Horizontal]

Choose lower values to stretch pictures at the left edge, higher values to stretch them at the right.



−20



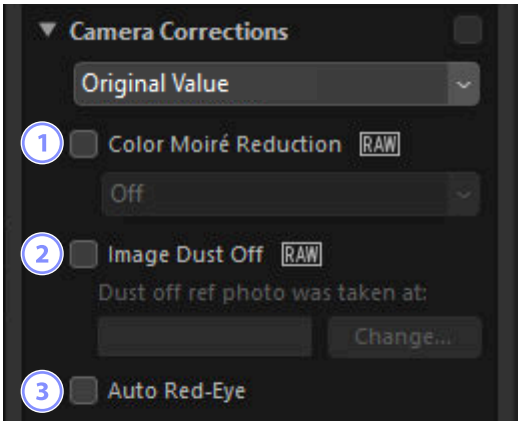
0



20

The Camera Corrections Tool

Correct for moiré, dust on the image sensor, and red-eye. This tool is not displayed when [**Adjust using HDR**] is enabled.



(1) [Color Moiré Reduction] (RAW and merged pixel shift pictures only)

Reduce color moiré (an image artifact visible where regular patterns overlap). The amount of reduction can be selected from the pull-down menu.

(2) [Image Dust Off] (RAW Pictures Only)

Image Dust Off reference data (NDF files, extension ".ndf") recorded using the camera can be used to determine the location of dust in front of the image sensor. Selecting this option allows pictures to be compared with these data to mitigate the dust's effects.

- If no reference data are currently selected when you enable this option, you will be prompted to choose an NDF file.
- If the current folder contains an Image Dust Off reference file, a message will be displayed asking if you want to use the file for Image Dust Off. If you select [**No**] or if the current folder does not contain an Image Dust Off reference file, you will be prompted to choose the file manually.
- To switch to a different NDF file, click [**Change**] and choose a file.

(3) [Auto Red-Eye]

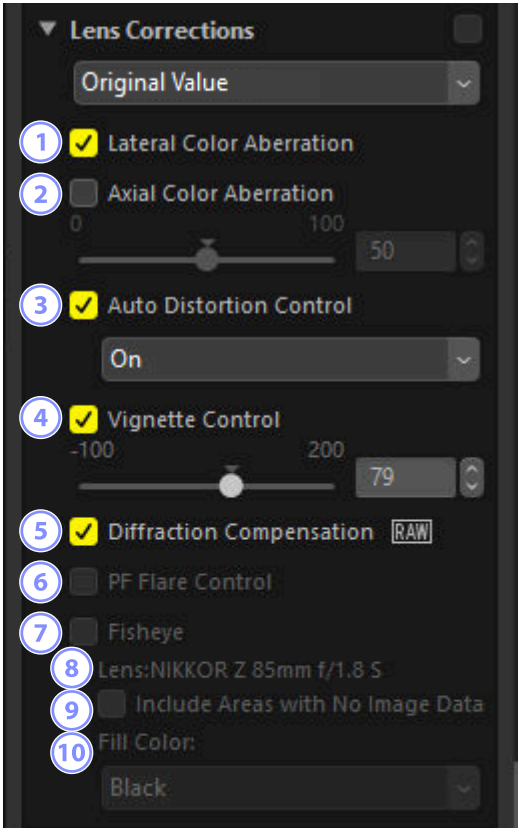
Automatically detect and remove "red-eye".

Tip: Image Dust Off

- The position and amount of dust in front of the image sensor changes from day to day. If possible, use reference data recorded in the last 24 hours.
- If the camera offers an [**Clean image sensor**] option, [**Image Dust Off**] will not be able to correctly apply data recorded before cleaning to pictures shot at a later date, as the position of the dust will have changed. If you plan on combining Image Dust Off with image sensor cleaning, we recommend that you not take pictures for use with Image Dust Off until you have recorded new reference data after using [**Clean sensor and then start**] in the camera menus.
- This feature is not available with RAW pictures shot with [**Medium**] or [**Small**] selected for image size.
- For more information on Image Dust Off, see the documentation provided with your camera.

The Lens Corrections Tool

Correct for axial and lateral color aberration and other artifacts originating with the lens.



(1) **[Lateral Color Aberration]**

Reduce lateral color aberration (colored fringes and halos). In the case of RAW pictures, this option is selected automatically. Lateral color aberration is not available with merged pixel shift pictures.

(2) **[Axial Color Aberration]**

Reduce blurred colors caused by axial color aberration. The higher the value, the greater the effect. This option is not displayed when [**Adjust using HDR**] is enabled.

③ [Auto Distortion Control]

Select this option to use the lens information recorded with photographs to reduce the barrel distortion associated with wide-angle lenses and the pin-cushion distortion associated with telephoto lenses.

- Auto distortion control can be enabled by selecting [**On**] in the pull-down menu.
- If the photograph was taken with using a waterproof lens, you will also be offered an [**Auto (Underwater)**] option. This last-named option can be used for reducing pin-cushion distortion in photos taken underwater.

④ [Vignette Control]

Adjust for variations in peripheral illumination that occur with some lenses. The higher the value, the brighter the result.

⑤ [Diffraction Compensation]

Reduce diffraction in pictures taken at small apertures (high f/-numbers). This option is available only with RAW pictures and merged pixel shift pictures shot using compatible cameras.

⑥ [PF Flare Control]

Bright light sources in the frame may give rise to ring flare, circular flare, or other flare effects. Select this option to reduce flare. It is available only with pictures taken using compatible lenses. It is not displayed when [**Adjust using HDR**] is enabled.

- Depending on the type and shape of the light source, the desired effects may not be achieved.
- Undesired results can be corrected by deselecting this option.

⑦ [Fisheye]

Process photos taken with fisheye lenses so that they appear to have been taken with a wide-angle rectilinear lens (🕮 178). This option is available only with photos taken using AF DX Fisheye-Nikkor 10.5mm f/2.8G ED, AF Fisheye-Nikkor 16mm f/2.8D, or AF-S Fisheye NIKKOR 8–15mm f/3.5–4.5E ED lenses. It cannot be used with other lenses.

⑧ [Lens]

The lens name provided in the lens data recorded with the picture, if any.

⑨ [Include Areas with No Image Data]

Fill empty areas with a solid color.

⑩ [Fill Color]

The color used to fill empty areas when [**Include Areas with No Image Data**] is selected.

Fisheye

Select [**Fisheye**] to process photos taken with fisheye lenses so that they appear to have been taken with a wide-angle rectilinear lens.

- Pictures taken with full-frame fisheye lenses will be cropped to match the camera picture angle, leaving an area centered around a line drawn vertically through the center of the image.



"Fisheye" disabled



"Fisheye" enabled

- Pictures taken with circular fisheye lenses will also be cropped to match the camera picture angle, but in this case what remains is the area at the center of the image.



"Fisheye" disabled



"Fisheye" enabled

Include Areas with No Image Data

Fisheye correction stretches pictures to create bends containing no image data. At default settings, pictures will automatically be cropped to remove empty portions. If [**Include Areas with No Image Data**] is selected, the image will not be cropped; instead, the empty portions will be filled with a solid color.



"Include Areas with No Image Data" disabled



"Include Areas with No Image Data" enabled

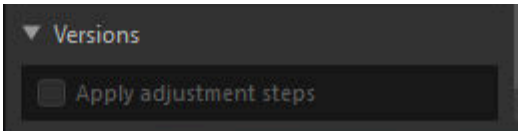
The color can be selected from the [**Fill Color**] menu.



"Fill Color": Red

The Versions Tool

Changes made in the Capture NX [**Enhancement Steps**] or Capture NX 2 [**Adjust**] section can be applied to pictures in NX Studio by selecting [**Apply adjustment steps**]. This tool is not displayed when [**Adjust using HDR**] is enabled.



- Note that this applies only to RAW (NEF) pictures edited in Capture NX or Capture NX 2.
- For example, changes made in Capture NX 2 using the [**Gaussian Blur**] and [**Photo Effects**] tools will not be displayed when the pictures are opened in NX Studio if [**Apply adjustment steps**] is not selected. Selecting [**Apply adjustment steps**] applies both the [**Gaussian Blur**] and [**Photo Effects**] tools, rendering their effects visible. The effects cannot be adjusted, nor can they be viewed or hidden separately.



"Apply adjustment steps" disabled



"Apply adjustment steps" enabled

- Some edits, including changes to [**Picture Control**] and [**White Balance**], are preserved when pictures are opened in NX Studio. In these cases, NX Studio can be used to make further modifications.

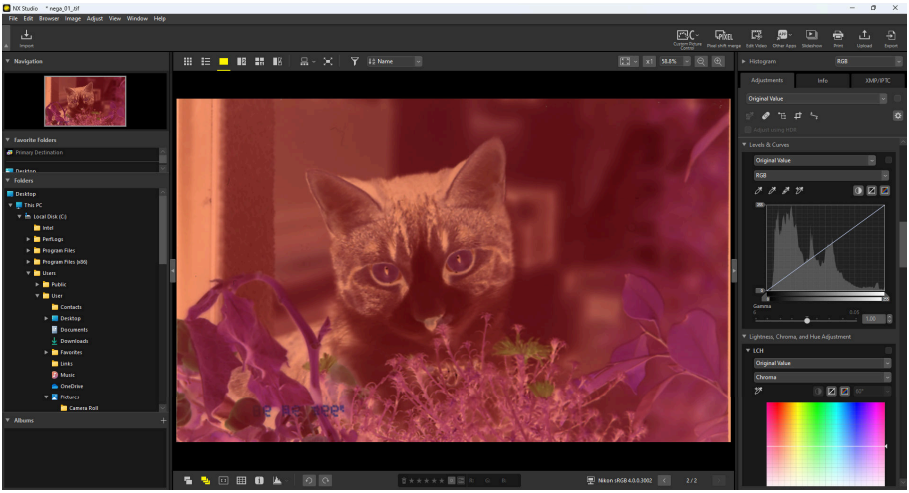
Tip: Capture NX/Capture NX 2

- NX Studio cannot be used to edit pictures converted from JPEG or TIFF to NEF in Capture NX or Capture NX 2.
- NX Studio cannot be used to edit pictures modified using Color Efex Pro in Capture NX or Capture NX 2.

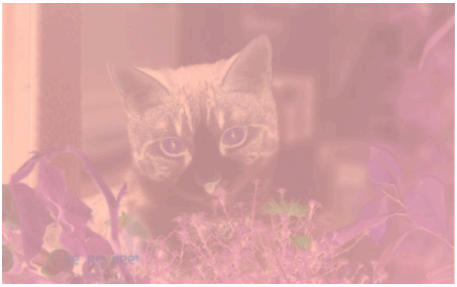
Converting Digitized Film Negatives to Positives

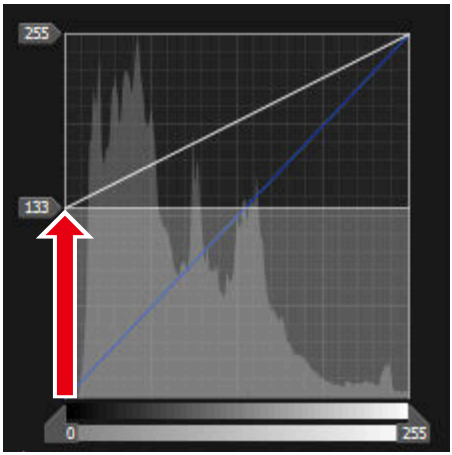
Digitized film negatives can be converted to positives using the [**Levels & Curves**] tool in the [**Adjustments**] tab.

1 Display the desired negative. You can also select negatives in thumbnail or multi-frame view.

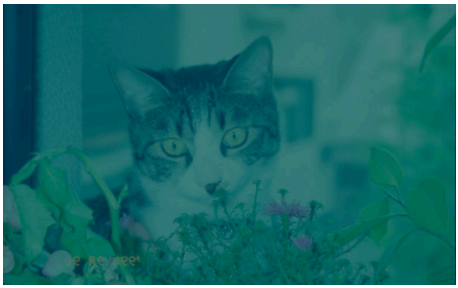


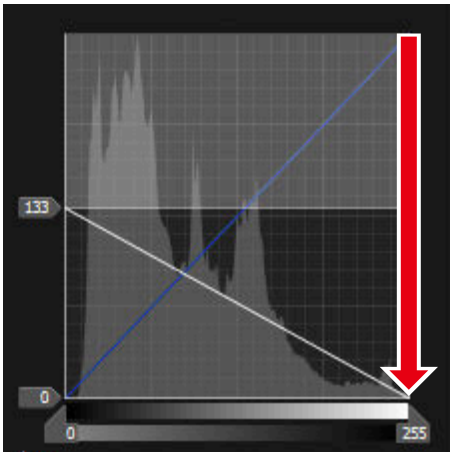
2 Drag the bottom anchor of the tone curve up to the middle region of the graph in the [**Levels & Curves**] display.





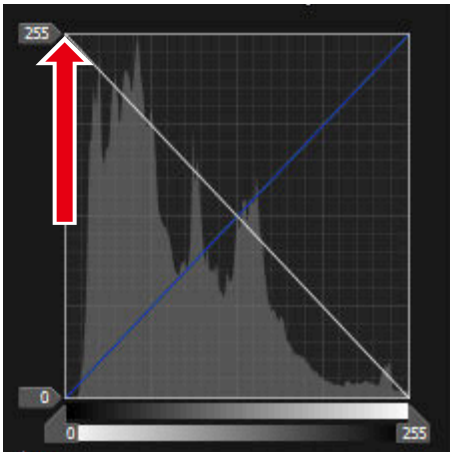
3 Drag the top anchor down to the bottom of the graph.





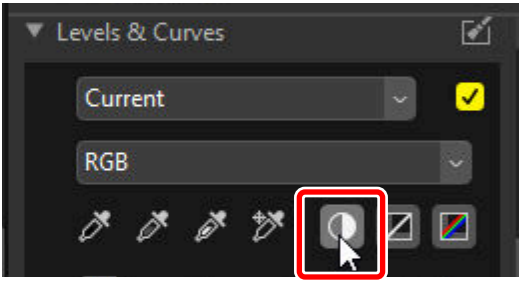
4 Drag the anchor you moved halfway in Step 2 up to the top of the graph.



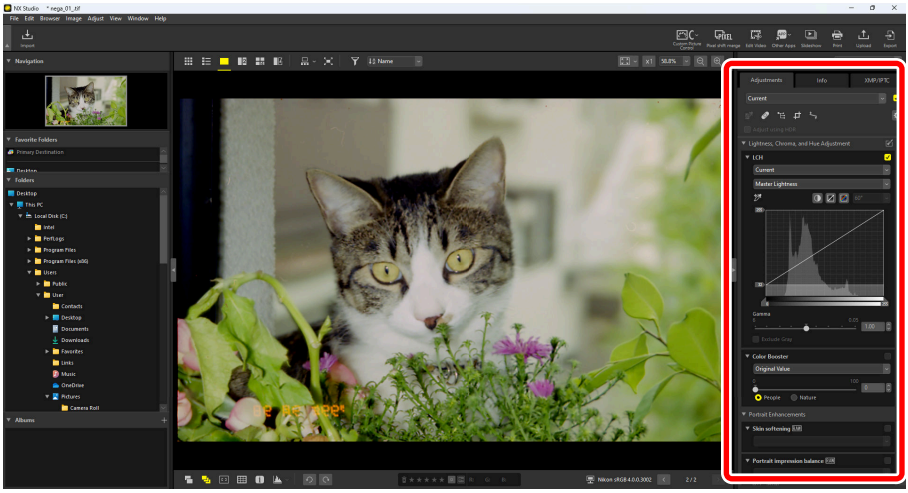


5 Click the “auto contrast” ( ) button.





6 Adjust [**LCH**], [**Retouch Brush**], and [**Straighten**] settings as required.



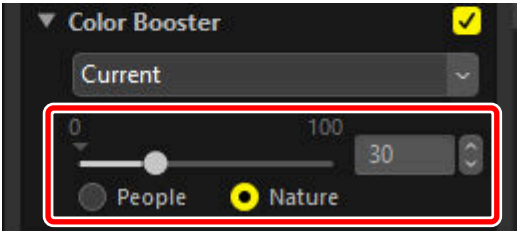
Copying Adjustments

In NX Studio, you can apply any given set of adjustments to multiple pictures. Adjustments can be saved and recalled for application to other pictures via either the adjustments manager or an adjustments menu in each tool.

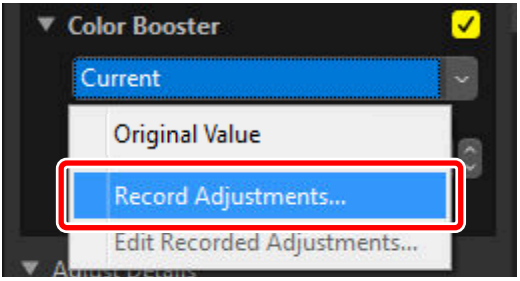
Tool Adjustments Menus

Current settings can be added to menus in each tool. The settings can then be selected from the menu and applied to other pictures. The text that follows uses the [**Color Booster**] tool for illustrative purposes.

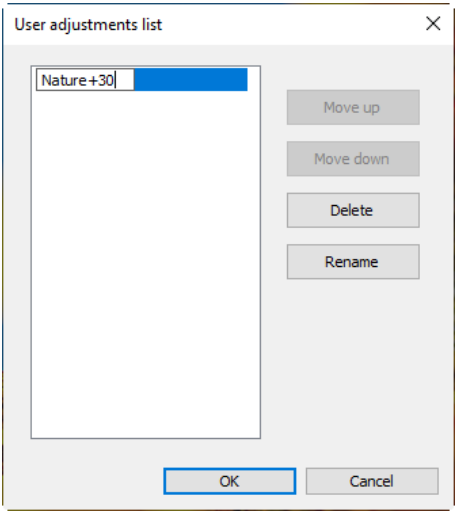
1. Select a tool and adjust settings in the adjustments palette. Here we have selected [**Nature**] and set the slider to +30.



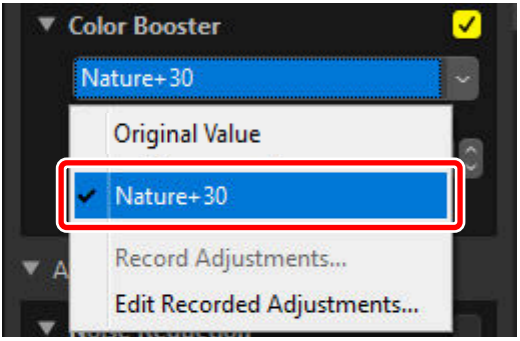
2. Select [**Record Adjustments**] from the pull-down menu.



3 In the [**Record Adjustments**] dialog, enter a name for the new setting. In this example, we have named the setting “Nature +30”. After entering the name, click [**OK**].



4 The new settings are added to the pull-down menu and can now be applied to other pictures.

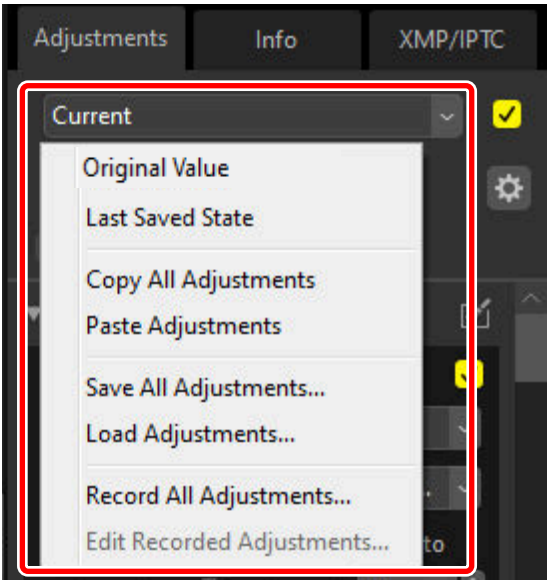


Tip: The Adjustments Menu

- Some tools may offer preset adjustments.
- Settings for some tools, such as [**Retouch Brush**], cannot be saved.
- Selecting [**Edit Recorded Adjustments**] from the pull-down menu displays a dialog where you can rename or delete previously-saved settings.

The Adjustments Manager

The adjustments manager tool in the adjustments tab can be used to copy or save adjustments and apply them to other pictures. Multiple adjustments can be applied simultaneously (🕮 195).



[Original Value]

Revert all changes and restore pictures to their original state.

[Last Saved State]

Restore pictures to a previous state. The state to which pictures are restored varies with the option selected in the [**Save**] category of the options dialog (🕮 240, 🕮 255).

- If [**Save adjustments, labels, and ratings to an adjustments (sidecar) file**] is selected, the sidecar files for the selected pictures will be deleted and any adjustments or metadata saved to the sidecar files will be discarded.
- If [**Save adjustments, labels, and ratings to the original image file**] is selected, the pictures will be restored to the state in which they were last saved in NX Studio.

[Copy All Adjustments]

Copy all adjustments.

[Paste Adjustments]

Apply adjustments copied using [**Copy All Adjustments**].

[Save All Adjustments]

Save the current settings for all adjustments to an adjustments file (extension ".nka").

[Load Adjustments]

Load saved adjustments from an adjustments file and apply them to the pictures in the current selection.

[Record All Adjustments]

All current adjustments are saved and added as an option to the [**Adjustments**] pull-down menu.

[Edit Recorded Adjustments]

Reorder, rename, or delete adjustments previously added to the adjustments manager pull-down menu.

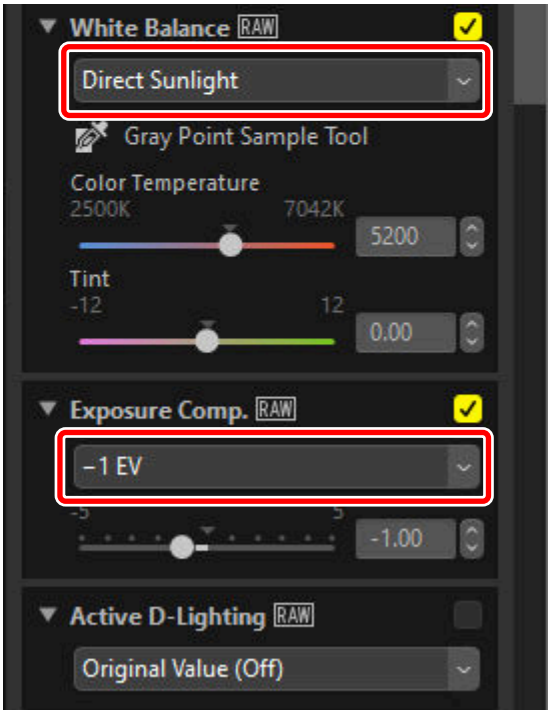
Tip: Copying Adjustments from RAW or Merged Pixel Shift to JPEG, HEIF, or TIFF Images
When adjustments are copied from RAW images or merged pixel shift images to JPEG, HEIF, or TIFF images, [**Exposure Comp.**], [**Picture Control**], and other settings that are available only with RAW and merged pixel shift images will not be applied.

Tip: Adjustments May Not Apply to Other RAW or Merged Pixel Shift Images
Adjustments copied to other RAW images or merged pixel shift images may not be applied due to variations between adjustable options on different cameras.

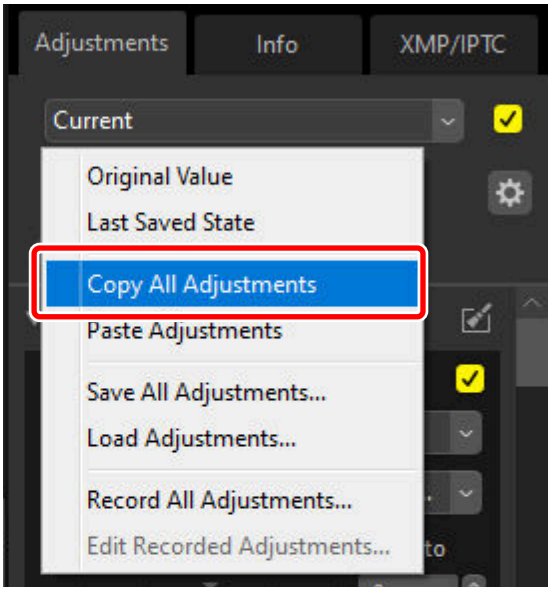
Copying Adjustments to Other Pictures

Copy adjustments from one picture to another or save current settings for later use.

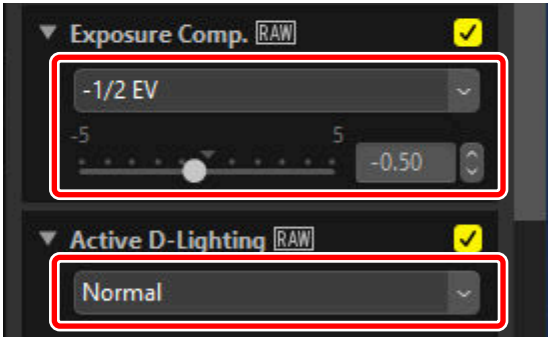
1 Adjust settings in the adjustments palette. Here we have set [**White Balance**] to [**Direct Sunlight**] and [**Exposure Comp.**] to [**−1 EV**].



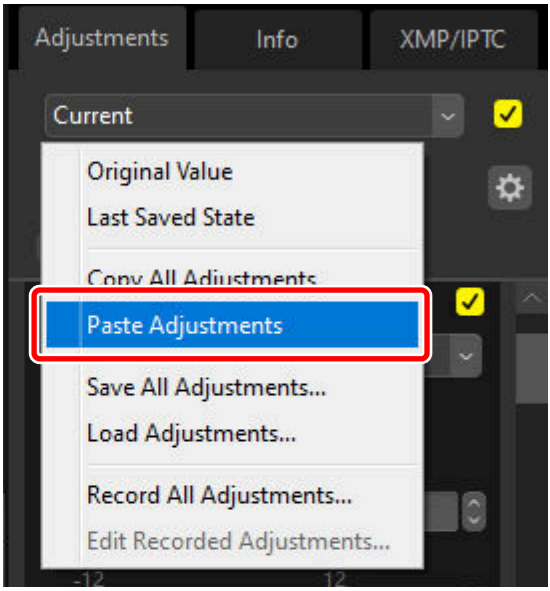
2 Select [**Copy All Adjustments**] in the adjustments manager.



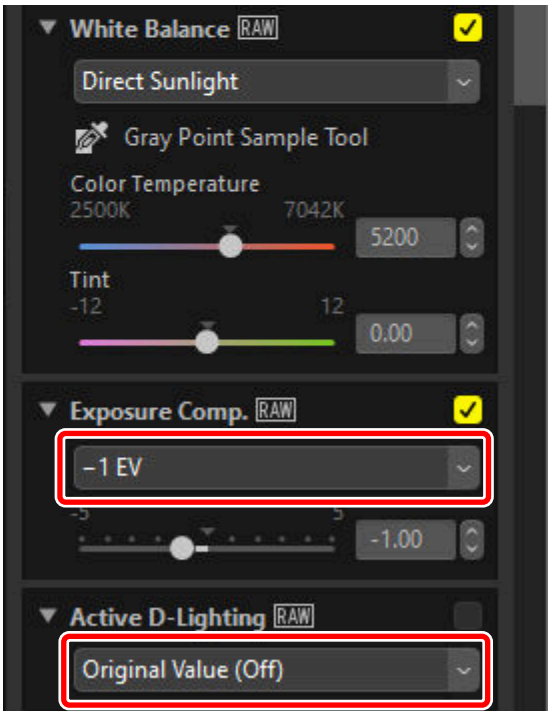
3 Select pictures. In this example, the selected picture has already been adjusted using the [**Exposure Comp.**] and [**Active D-Lighting**] tools.



4 Select [**Paste Adjustments**] in the adjustments manager.



5 The adjustments are applied to the selected pictures. [**Exposure Comp.**] changes to the value selected in Step 1 while [**Active D-Lighting**] reverts to [**Original Value (Off)**].

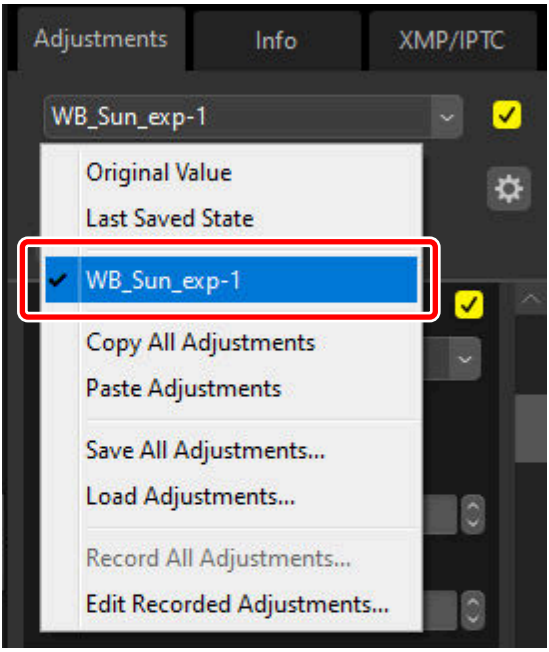


Adjustment Files

Use [**Save All Adjustments**] to save all adjustments to an adjustments file. The file can subsequently be loaded and applied to the pictures in the current selection using [**Load Adjustments**]. Adjustment files can also be copied for use on other computers.

Adding Adjustments

Selecting [**Record All Adjustments**] displays a [**Record Adjustments**] dialog where adjustments can be added to the adjustments manager pull-down menu.



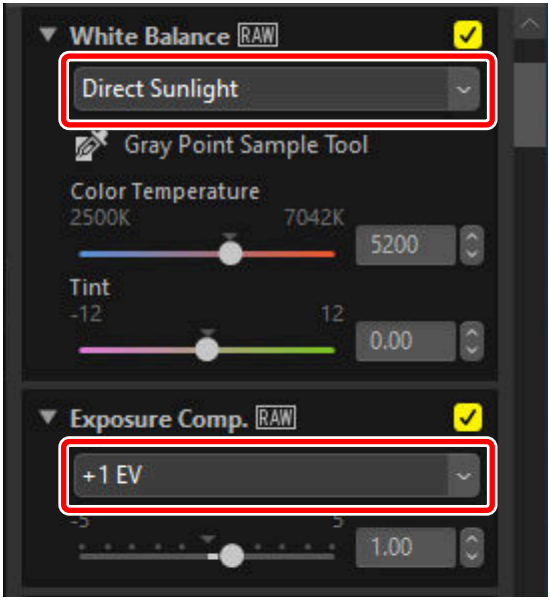
Applying Adjustments to Multiple Pictures Simultaneously

To apply adjustments to multiple pictures simultaneously, select the pictures before:

- pasting (🕮 191),
- loading (🕮 196), or
- choosing (🕮 195) the adjustments.

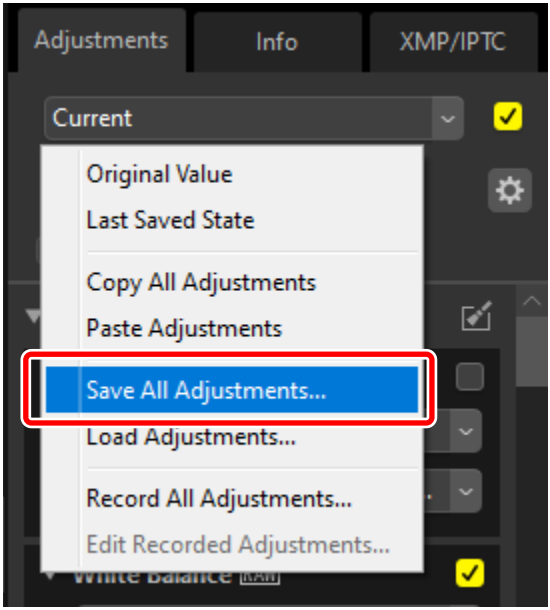
Applying Saved Adjustments to Multiple Pictures

1 Adjust settings in the adjustments palette. Here we have set [**White Balance**] to [**Direct Sunlight**] and [**Exposure Comp.**] to [**+1 EV**].

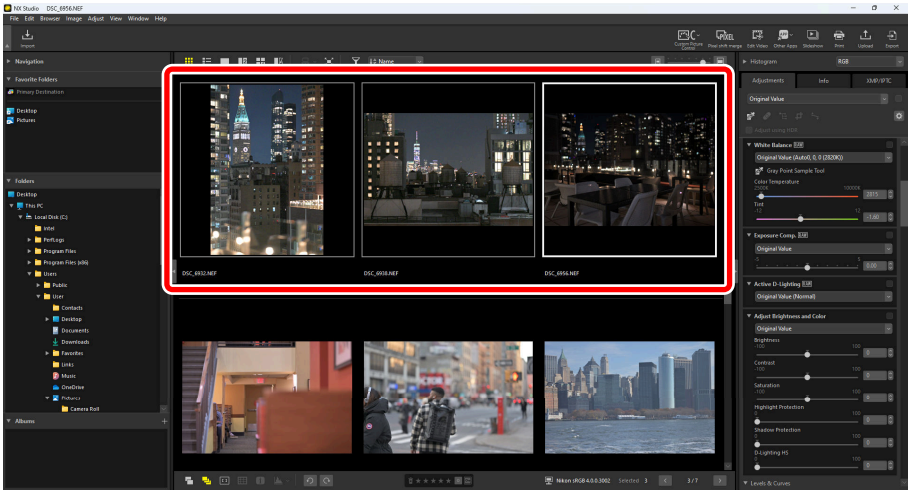




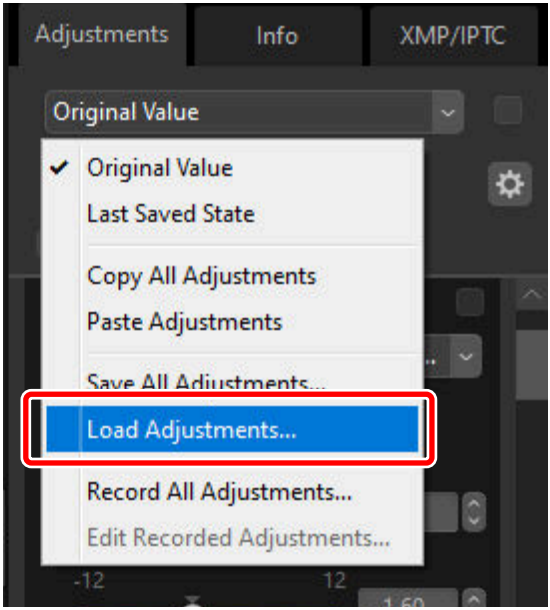
2 Select [**Save All Adjustments**] in the adjustments manager, choose a destination, and click [**Save**] to save the adjustments to an adjustments file.

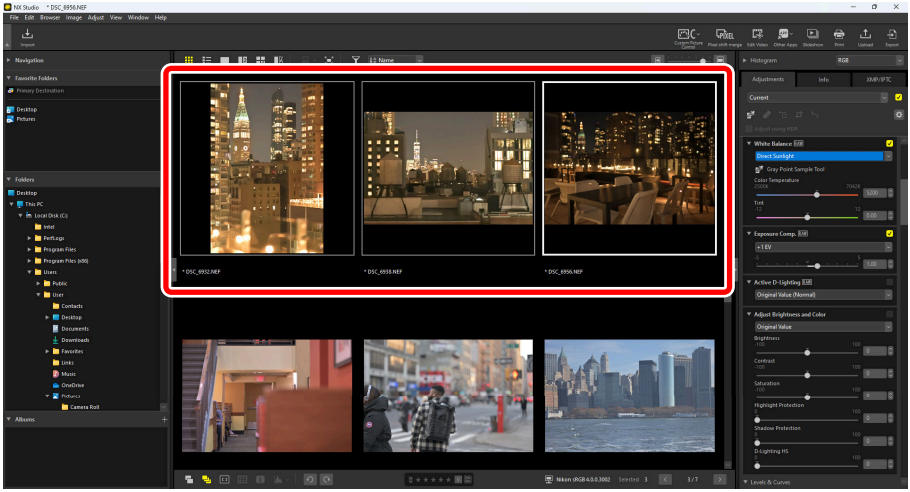


3 Select pictures in thumbnail or filmstrip view.



4 Select [**Load Adjustments**] in the adjustments manager, choose the file you created in Step 2, and click [**Open**] to apply the chosen adjustments to all the pictures in the current selection.





Custom Picture Controls

Custom Picture Controls

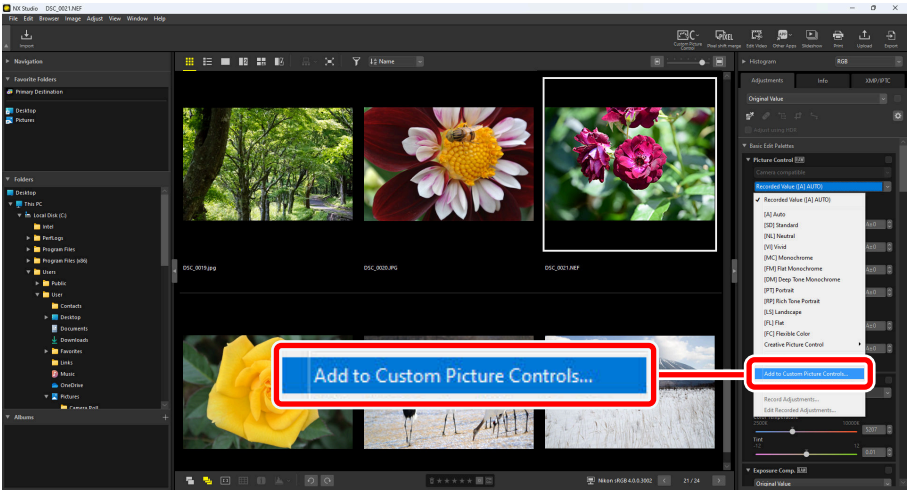
Picture Controls adjusted in [**Picture Control**] in the adjustments palette can be saved in NX Studio as Custom Picture Controls. Saved Custom Picture Controls can be applied to images by selecting them from the [**Picture Control**] pull-down menu.

Maximum Number of Custom Picture Controls

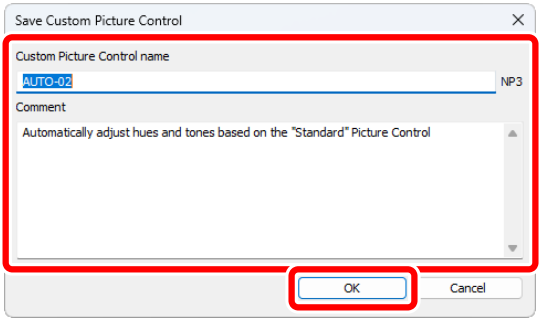
Up to 150 Custom Picture Controls can be added to NX Studio.

Saving Custom Picture Controls

1 Under [**Picture Control**] in the adjustments palette, select [**Add to Custom Picture Controls**] from the pull-down menu.

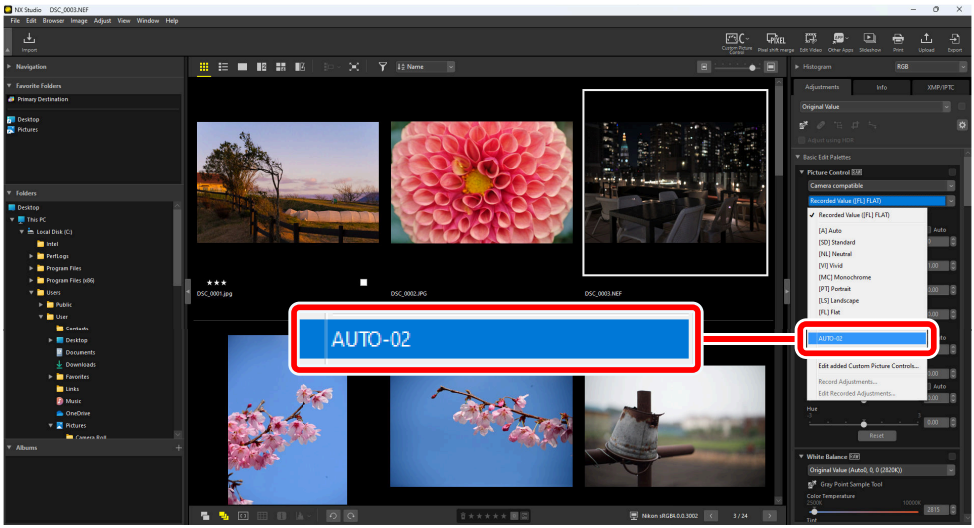


2 In the [**Save Custom Picture Control**] dialog, name the Custom Picture Control, and add a comment, then click [**OK**].



Tip: Applying Saved Custom Picture Controls

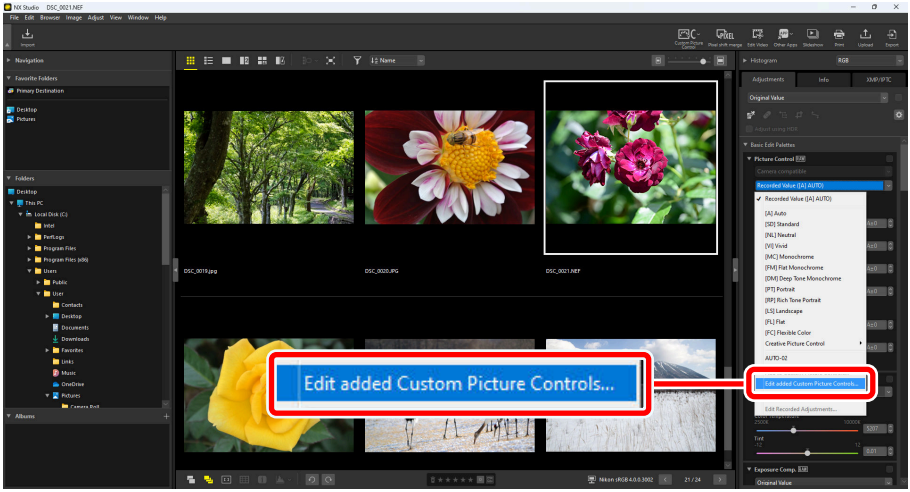
Saved Custom Picture Controls can be applied to images by selecting them from the [**Picture Control**] pull-down menu in the adjustments palette.



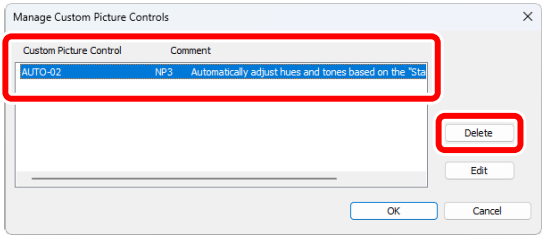
Editing Custom Picture Controls

Deleting Custom Picture Controls

1 Under [**Picture Control**] in the adjustments palette, select [**Edit added Custom Picture Controls**] from the pull-down menu.



2 In the [**Manage Custom Picture Controls**] dialog, select a Custom Picture Control and click [**Delete**].

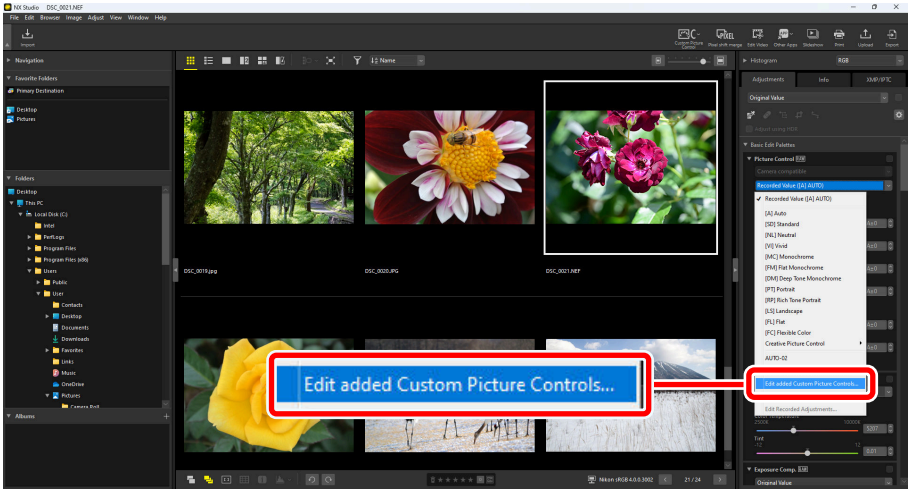


Tip: Deleting Custom Picture Controls

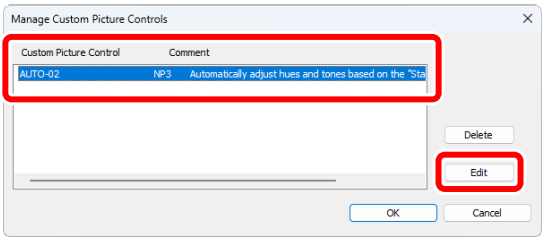
Deleting Custom Picture Controls from NX Studio does not affect adjustments that have already been applied to images.

Editing Custom Picture Controls

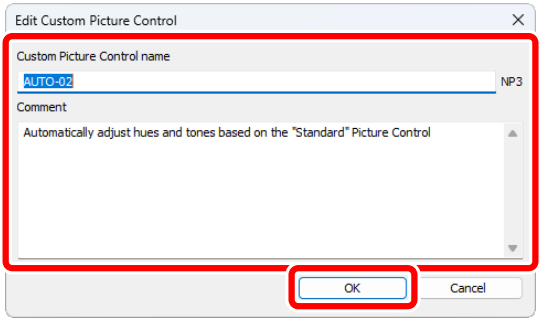
1 Under [**Picture Control**] in the adjustments palette, select [**Edit added Custom Picture Controls**] from the pull-down menu.



2 In the [**Manage Custom Picture Controls**] dialog, select a Custom Picture Control and click [**Edit**].

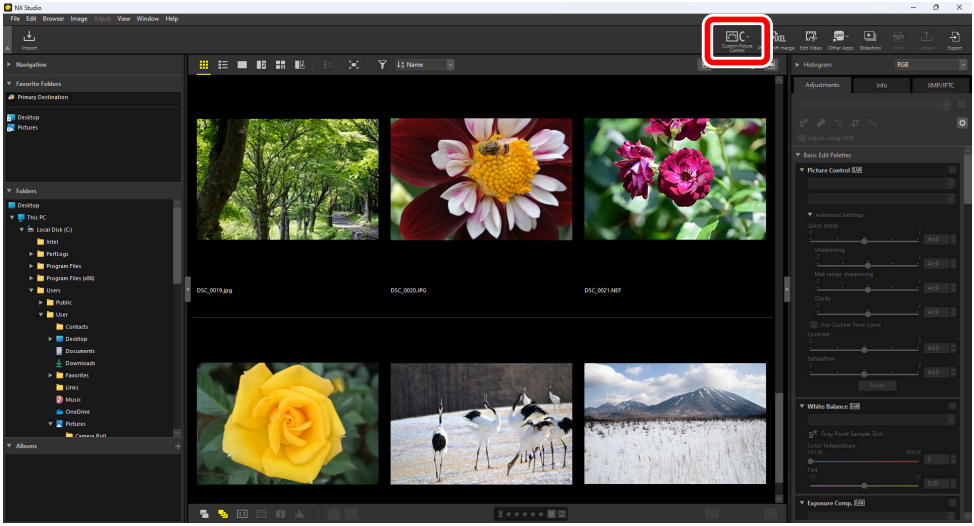


3 In the [**Edit Custom Picture Control**] dialog, name the Custom Picture Control, and add a comment, then click [**OK**].



Importing/Exporting Custom Picture Control Files

By clicking the [**Custom Picture Control**] button in the toolbar, you can import Custom Picture Control files from the camera or software and save them in NX Studio, as well as use [**Picture Control**] in the adjustments palette in NX Studio to export saved Custom Picture Controls as files.



Types and Features of Custom Picture Control Files

There are three types of Custom Picture Control files: [**NCP**], [**NP2**], and [**NP3**]. The types of Custom Picture Control files that you can use varies depending on your camera.

- NP3: A Custom Picture Control file compatible with Z-mount mirrorless cameras, D6, and D780.
  - [**Creative Picture Control**] allows you to apply effects to images through fine adjustments to color, tone, and saturation to produce a wide range of atmospheres.
  - The [**Sharpness Adjustment**] tool can be used. Perform easy adjustments using [**Quick sharp**], or use [**Mid-range sharpening**] for more detailed adjustments.
  - The range for [**Sharpening**] has been expanded from [0–9] to [-3–9], enabling soft to sharp contours.

- NP2: A Custom Picture Control file compatible with the D810 and later models.
  - [**Flat**] and [**Auto**] can be selected for Picture Control. [**Auto**] can only be selected for the D850, D7500, and NP3-compatible cameras.
  - The [**Clarity**] tool can be used.
  - The sliders for each tool can be moved in increments of 0.25, enabling finer adjustments compared to NCP files.
  - The range for [**Brightness**] has been expanded from [-1–1] to [-1.5–1.5].
- NCP: A Custom Picture Control file compatible with all cameras that support Custom Picture Control.

Tip: Compatible Cameras

- NP3, NP2, NCP: Z-mount mirrorless cameras, D6, D780
- NP2, NCP: Z-mount mirrorless cameras, D6, D5, D500, D850, D810/D810A, D780, D750, D7500, D7200, D5500/D5600
- NCP: D3/D3X/D3S/D4/D4S, Df, D800/D800E, D700, D600/D610, D300/D300S, D7000/D7100, D5000/D5100/D5200/D5300, D90, Nikon 1 series cameras (excluding J5), COOLPIX A

Importing Custom Picture Control Files

You can save Custom Picture Control files created with compatible cameras and software by importing them into NX Studio.

File Limit

Up to 150 Custom Picture Controls can be saved in NX Studio.

Import from Memory Card

1 Insert a memory card containing copied Custom Picture Control files into a third-party card reader or the card slot on your computer.

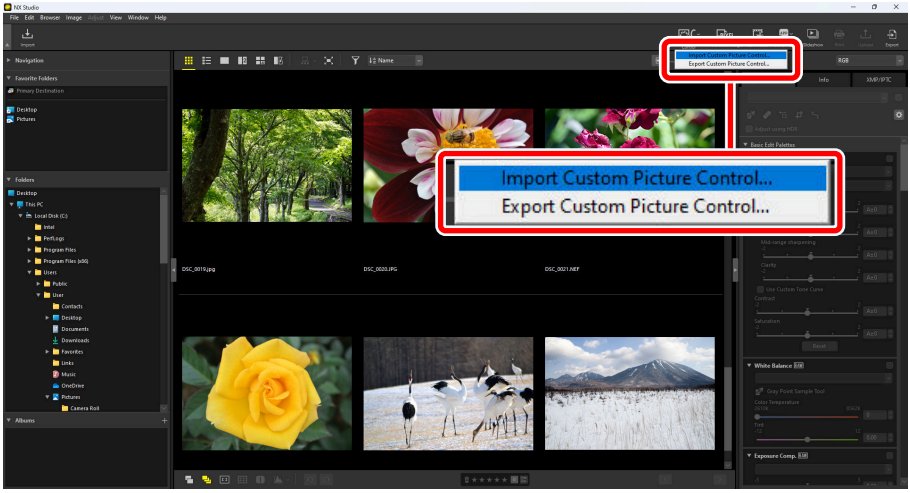
Memory Card Files

- When using a computer to copy Custom Picture Controls to a memory card, copy them to the card's root (top) directory or to the "CUSTOMPC" folder under the "NIKON" folder.
- If the "DCIM" folder and the "NIKON001.DSC" file are not in the root directory of the memory card, NX Studio will not be able to load Custom Picture Controls.

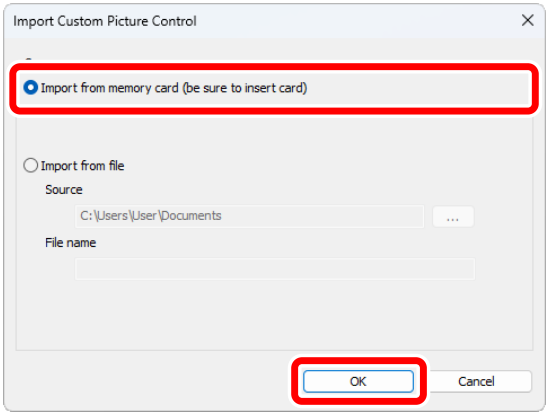
Formatting Memory Cards

The memory card used to import and export Custom Picture Controls must be formatted with a compatible camera in advance.

2 Click [**Custom Picture Control**] in the toolbar and select [**Import Custom Picture Control**].



3 In the [**Import Custom Picture Control**] dialog, choose [**Import from memory card (be sure to insert card)**] and click [**OK**].

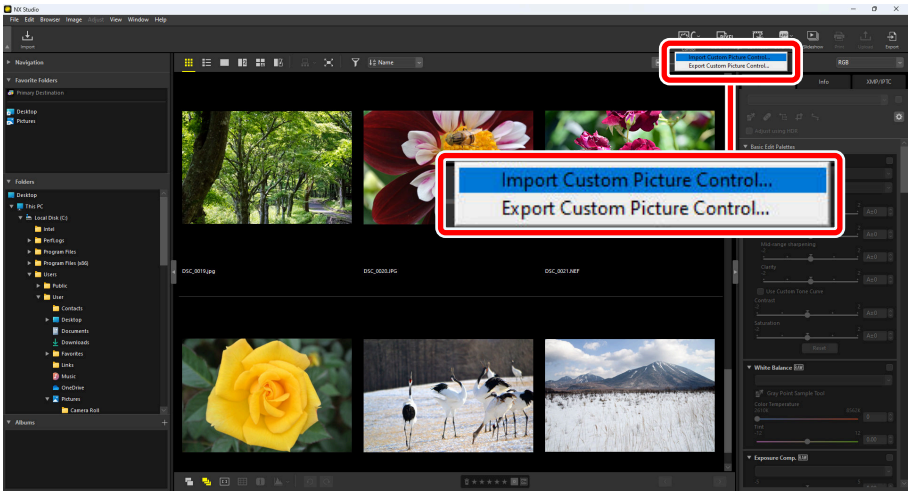


Tip: Multiple Memory Cards

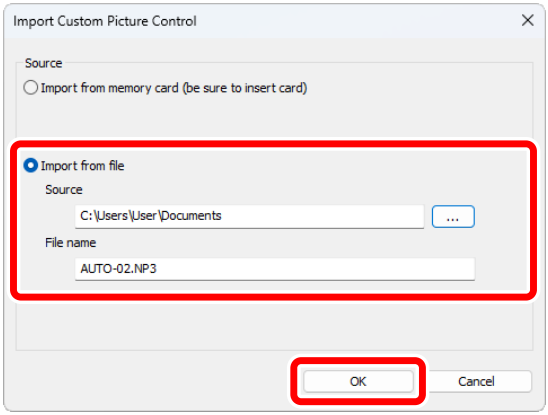
You will be prompted to select a memory card if more than one is available. Select the memory card that contains the desired Custom Picture Control, then click [**OK**].

Import from File

1 Click [**Custom Picture Control**] in the toolbar and select [**Import Custom Picture Control**].



2 In the [**Import Custom Picture Control**] dialog, select [**Import from file**], choose a file to import, and click [**OK**].



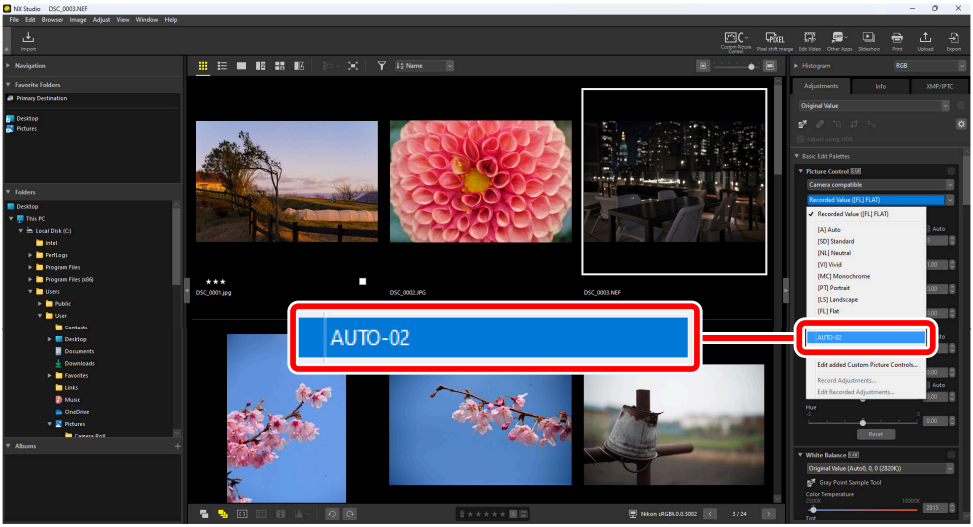
Tip: Choosing Files to Import

There are two ways to choose a file to import: enter the location of the Custom Picture Control file in [**Source**], then enter the file name in [**File name**], or click the ... icon and choose a file directly from your computer.

3 The imported Custom Picture Control is displayed in a dialog.

Tip: Applying Imported Custom Picture Controls

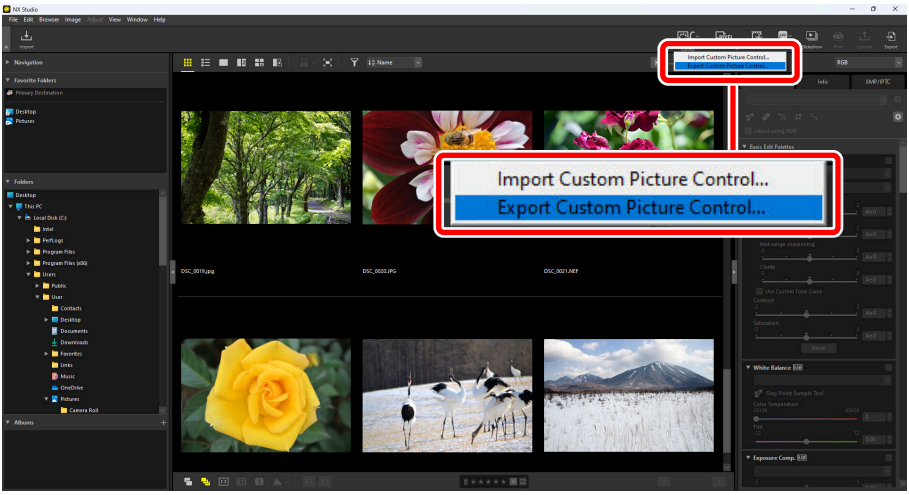
Imported Custom Picture Controls that have been saved in NX Studio can be applied to images by selecting the Custom Picture Control from the pull-down menu under [**Picture Control**] in the adjustments palette (95).



Exporting Custom Picture Control Files

Custom Picture Controls saved in NX Studio can be exported as files.

1 Click [**Custom Picture Control**] in the toolbar and select [**Export Custom Picture Control**].



2 In the [**Export Custom Picture Control**] dialog, choose a Custom Picture Control and click [**Export to file**] or [**Export to card**].

[**Export to file**]: Choose a location on your computer and export the Custom Picture Control file.

[**Export to card**]: A Custom Picture Control file will be exported to the "CUSTOMPC" folder under the “NIKON” folder on the memory card. If the memory card cannot be recognized, an error dialog will appear.

Cautions: Exporting to a Memory Card

- The memory card used to import and export Custom Picture Controls must be formatted with a compatible camera in advance.
- The maximum number of Custom Picture Controls that can be stored on a single memory card is 297, with files ranging from 01 to 99 for each file type: NCP, NP2, and NP3.

Tip: Editing Comments for Custom Picture Controls

- The comment can be edited when exporting a Custom Picture Control file via the “Export to file” option. If multiple Custom Picture Controls are exported, they will share the edited comment.
- Existing comments on Custom Picture Controls cannot be changed when exported via the “Export to card” option. You can edit the comments by selecting [**Picture Control**] > [**Edit added Custom Picture Controls**] in the adjustments palette before exporting Custom Picture Control files (🕮 202).

3 The exported Custom Picture Control is displayed in a dialog.

Tip: Saving Exported Custom Picture Controls on the Camera

Exported Custom Picture Controls can be imported and saved on your camera via camera menus. For more details on importing Custom Picture Controls to the camera, refer to the documentation provided with your camera.

Merge Pictures Taken Using Pixel Shift

Pixel Shift Shooting

When using pixel shift on the camera, multiple RAW pictures are automatically taken while changing the position of the image sensor. These RAW pictures can be merged in NX Studio to generate high-resolution images.

- Pictures taken using pixel shift have thumbnails marked .
- When using pixel shift, pictures taken together in a series are recorded as images of the same pixel shift sequence.
- For more information on taking pictures using pixel shift, see the documentation provided with your compatible camera.

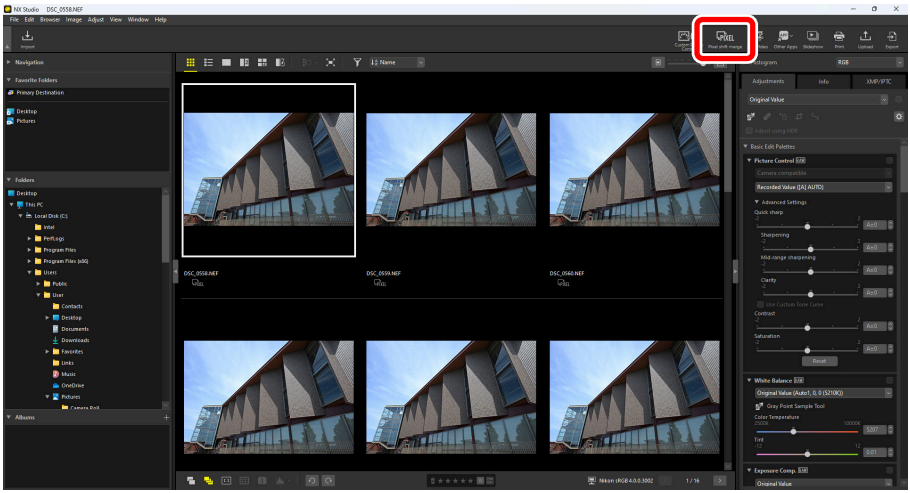
Merge Pictures Taken Using Pixel Shift

If you choose an image taken using pixel shift and click [**Pixel shift merge**] in the toolbar, the software will detect the sequence and merge those images into a single file (Pixel Shift Merge).

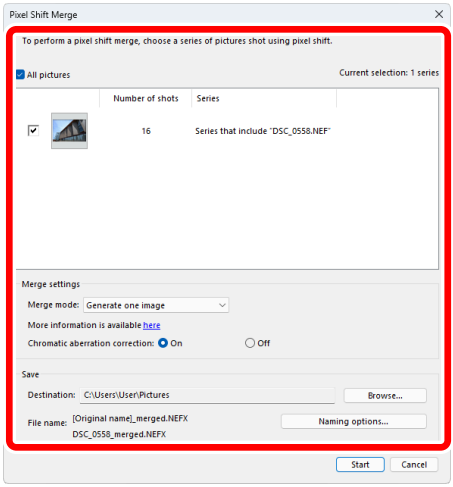
- The resolution of merged pixel shift images may change depending on the shooting conditions and the number of images generated after the merge.

Using Pixel Shift Merge

1. Display the folder containing the sequence to merge, then click [**Pixel shift merge**] in the toolbar.



2 In the [**Pixel Shift Merge**] dialog, adjust settings such as "Merge mode" (number of generated images) and "Chromatic aberration correction".



Pixel shift sequence

Select the sequence to merge. If there are multiple sequences in the view area, they can be selected and merged at the same time.

[Merge mode]

Select the number of images to generate after merging. The number of images that can be generated depends on the number of images to be merged (216).

[Chromatic aberration correction]

Select [**On**] to reduce lateral color aberration.

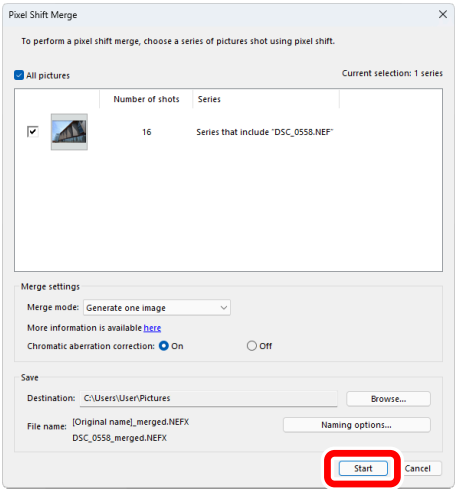
[Destination]

Choose the destination folder for the generated images.

[File name]

Name the generated files. Click [**Naming options**] to select how files are named.

3 Click [**Start**] to save the combined image (merged pixel shift image) in the destination folder.



Number of Images Generated

- The table below indicates the number of images that can be generated according to the number of images to be merged.

Original Images	Generated Images	Details
4	1	Merging is performed once to generate 1 image from 4 images.
8	1	Merging is performed once to generate 1 image from 8 images.
	2	Merging is performed twice to generate 2 images from 4 images.
16	1	Merging is performed once to generate 1 image from 16 images. • The resulting height and width are double that of the original image.
	4	Merging is performed four times to generate 4 images from 4 images.
32	1	Merging is performed once to generate 1 image from 32 images. • The resulting height and width are double that of the original image.
	2	Merging is performed twice to generate 2 images from 16 images. • The resulting height and width are double that of the original image.
	4	Merging is performed four times to generate 4 images from 8 images.
	8	Merging is performed eight times to generate 8 images from 4 images.

- When multiple sequences of images taken using pixel shift are selected at the same time, it is only possible to generate numbers of images that are available to all selected sequences. For example, if a sequence of 8 images and a sequence of 16 images are selected at the same time, only 1 image can be generated. If a sequence of 8 images and a sequence of 32 images are selected at the same time, you can select whether 1 or 2 images will be generated.

Bright Pixels

Pixel shift merges may cause bright spots in the generated image.

- We recommend that you perform [**Pixel mapping**] in the camera menu before taking pictures using pixel shift.
- If unwanted bright pixels appear in the image, you can remove them with [**Retouch Brush**] in the adjustments palette (📖 150).

Caution: Merged Pixel Shift Images

Image files generated using pixel shift merge cannot be used for the following purposes.

- Slide show playback
- Uploading to NIKON IMAGE SPACE

Tip: Merged Pixel Shift Images

- Merged pixel shift images are saved in NEFX format (extension ".nefx").
- The thumbnail is marked PIXEL.

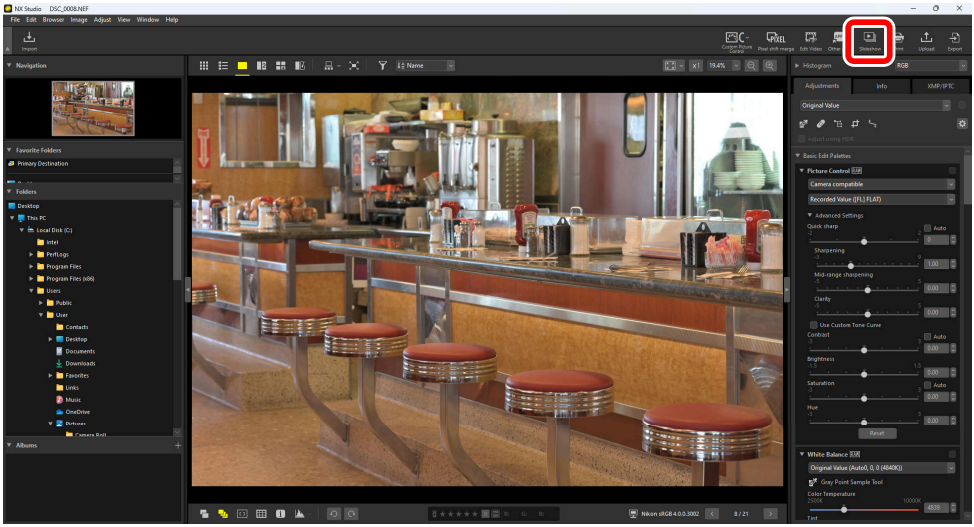
Tip: Merging HLG-Enabled Images

When a picture taken using pixel shift with HLG selected for tone mode is merged using NX Studio, the tone mode of the merged pixel shift image (.nefx) that is generated will also be HLG.

Slide Shows

Viewing Selected Pictures

To view the current selection or the pictures in the current folder in a slide show, click [**Slideshow**] in the toolbar.



When prompted, adjust settings and click [**OK**] to start the show.

Video Files

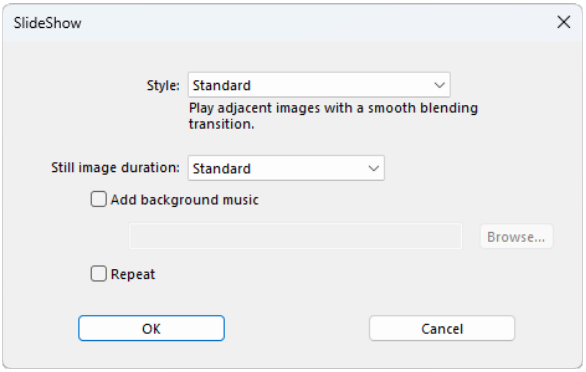
Video files cannot be played in slide shows.

NEFX Format Pictures

Pictures in NEFX format (merged pixel shift pictures) cannot be played in slide shows.

Slide Show Settings

The options in the [**SlideShow**] dialog control how long pictures are displayed, the transitions between slides, and other slide show settings. After adjusting settings, click [**OK**] to start the show.



[Style]

Choose the transitions between slides.

[Still image duration]

Choose how long each of the photos in the slide show is displayed; your options are [**Short**], [**Standard**], and [**Long**] (equivalent to about 3, 5, or 10 seconds, respectively).

[Add background music]

Select this option to add background music in the form of an audio file. To choose the file, click [**Browse**]. Only one background track can be used at a time.

[Repeat]

If this option is selected, the slide show will repeat until stopped.

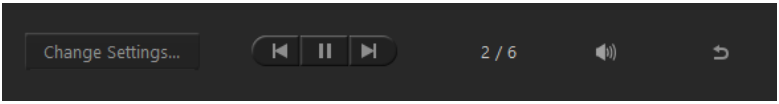
Slide Show Controls

The controls displayed during the show differ from those that appear at its end.

During the Show

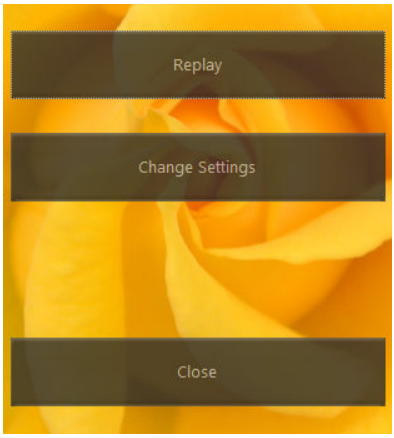
Click anywhere on the current picture to end the show. The control can also be used to end the show. Moving the mouse during the show displays playback controls.

- The effect selected for [**Style**] will not be applied when using the or button to navigate between slides.
- Using [**Change Settings**] restarts the slide show.



After the Show

A list of options will be displayed when the slide show ends. You can repeat the show or change settings.



Uploading Pictures to the Web

Web Services

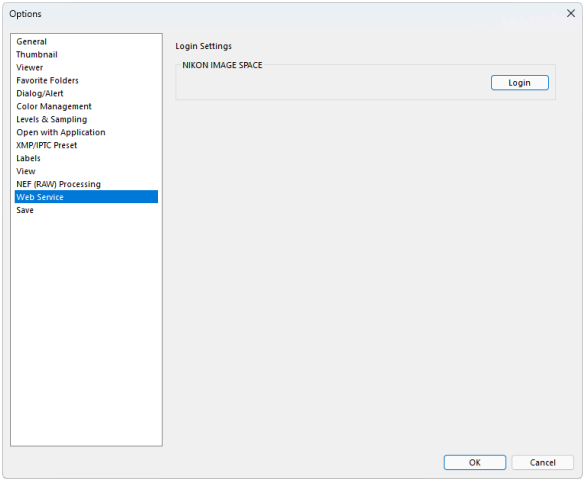
Photos and videos can be uploaded directly from NX Studio to NIKON IMAGE SPACE.

Tip: NIKON IMAGE SPACE
NIKON IMAGE SPACE is an online service for storing, sharing, and organizing photos, videos, and other files. Special privileges are granted to owners of Nikon digital cameras. For more information, visit the NIKON IMAGE SPACE website.

https://www.nikonimagespace.com/

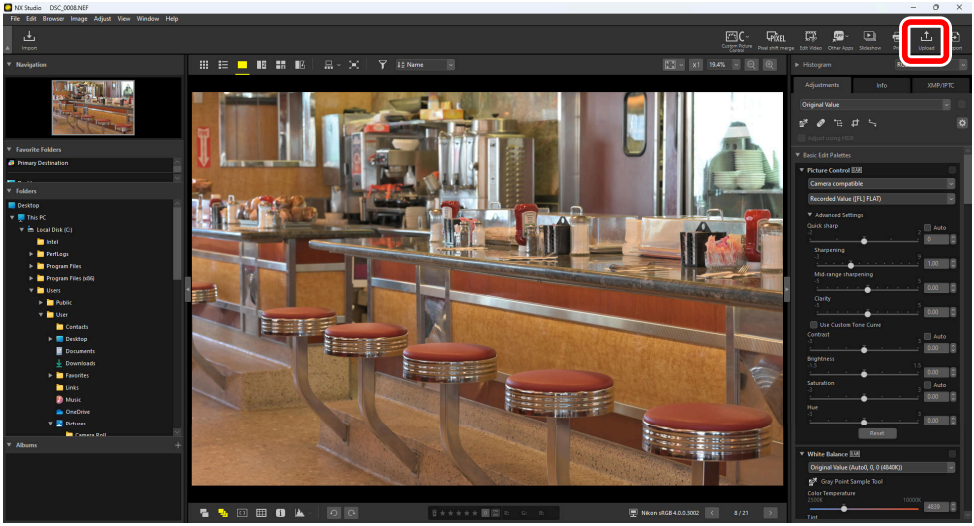
Logging In to NIKON IMAGE SPACE

In order to upload pictures you must first log in to NIKON IMAGE SPACE. Enter your login information in the [**Web Service**] section of the options dialog (📖 240, 📖 254).



NIKON IMAGE SPACE

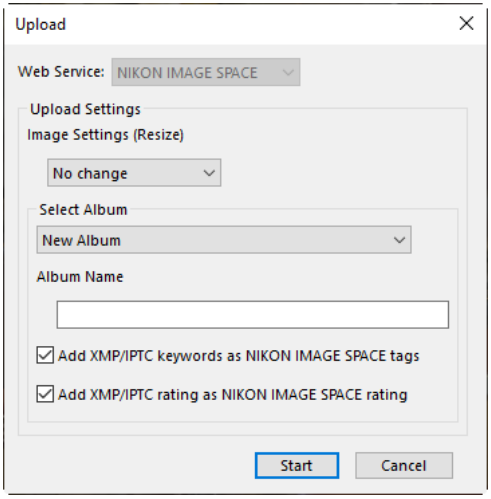
Select pictures and click [**Upload**] in the toolbar to initiate upload.



You will be prompted to log in to NIKON IMAGE SPACE if you have not already done so. Clicking [**Sign in**] displays the Nikon ID login dialog.

Upload Settings

Clicking [**Upload**] displays upload settings.



[Upload Settings]

Adjust settings for pictures uploaded from NX Studio.

- [**Image Settings (Resize)**]: Choose the size at which pictures will be uploaded.
  - Edits will not be applied if RAW pictures are uploaded with [**No change**] selected.
- [**Select Album**]: Choose a destination for the uploaded pictures. To upload pictures to a new album, select [**New Album**] and enter the album name.
  - [**Add XMP/IPTC keywords as NIKON IMAGE SPACE tags**]: Select this option to add image tags for the [**Keywords**] in the [**XMP/IPTC**] tab of the adjustments/info palette (📖 24). Tags can be used for keyword searches in NIKON IMAGE SPACE.
  - [**Add XMP/IPTC rating as NIKON IMAGE SPACE rating**]: Select this option to keep the currently-selected ratings when pictures are uploaded (📖 62).

[Start]

Upload the pictures to NIKON IMAGE SPACE at the selected settings.

[Cancel]

Exit without uploading the pictures.

Tip: Supported File Types

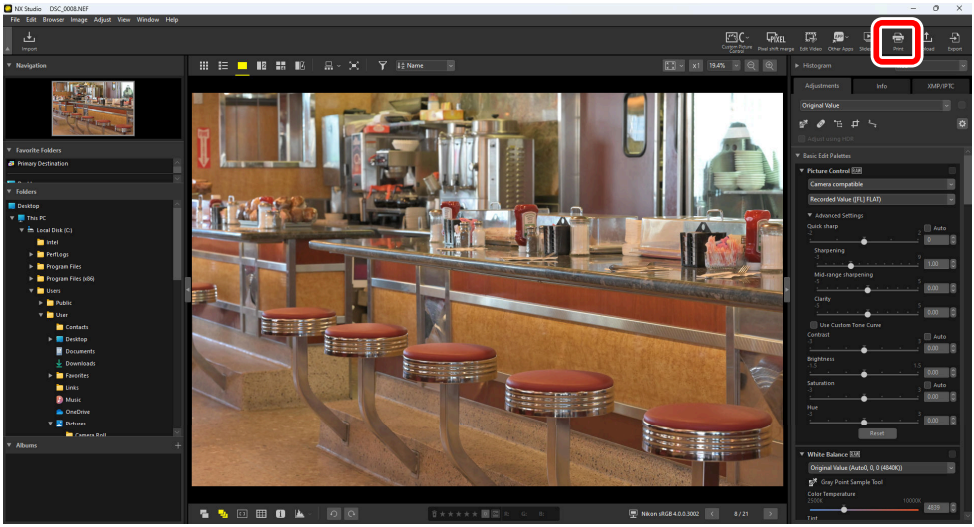
JPEG, TIFF, RAW (NEF and NRW), MOV, AVI, MP4, WAV, NMS, and MPO file types are supported for upload.

- Files with thumbnails marked HLG or PQ and NEFX format images (merged pixel shift pictures) cannot be uploaded (35, 213).
- ProRes RAW videos in MOV format cannot be uploaded.
- Upload is supported only for WAV format audio files that are either voice memos appended to pictures or voice recordings created with COOLPIX cameras.

Printing

Printing Pictures

To print pictures on a printer connected to the computer, select the pictures and click [**Print**] in the toolbar.



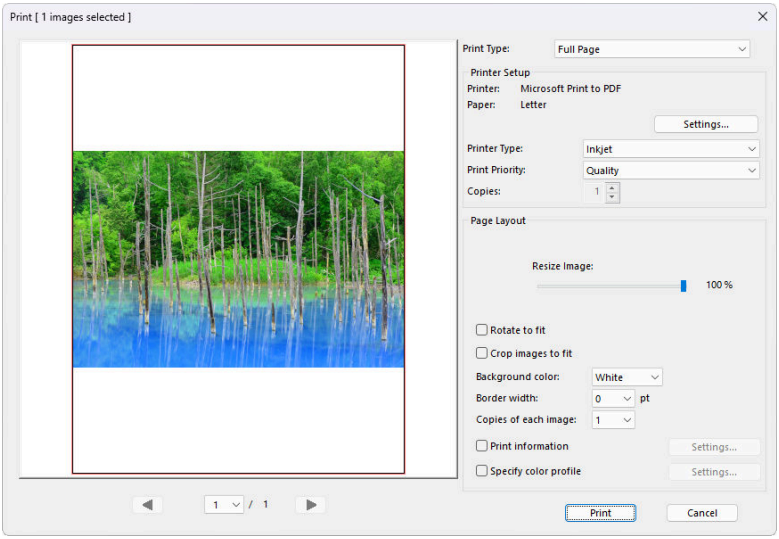
The [**Print**] dialog will be displayed.

Tip: Note on Printing
The most recently-used settings are recalled when the print dialog is next displayed.

Tip: Epson Printers
If installed, the Epson Easy Photo Print utility or Epson Print Layout plugin can be launched from NX Studio by clicking the [**E-Photo**] or [**Epson Print Layout**] icon in the toolbar. For more information on Easy Photo Print or Epson Print Layout, see the documentation provided by Epson or visit the Epson website.

The “Print” Dialog

Adjust printer and layout settings.



[Print Type]

Choose the number of pictures printed per page.

- [**Full Page**]: Print one picture per page.
- [**Index Print**]: Print multiple pictures per page (233).
- [**Standard Photo Sizes**]: Print pictures at a standard photo size. The size can be selected from the [**Photo Size**] menu in the [**Page Layout**] panel. NX Studio automatically chooses the number of pictures printed per page.

[Printer Setup]

Choose the printer and adjust other printer settings, including print quality and the number of copies of each page printed.

- [**Printer**]: Click [**Settings**] to adjust printer settings. The dialog lists the printer and the option currently selected for paper size.
- [**Printer Type**]: Choose [**Inkjet**] when printing on an inkjet printer.
- [**Print Priority**]: A print quality option for printing RAW (NEF/NRW) or merged pixel shift (NEFX) pictures. Choose [**Speed**] to use the preview data embedded in the RAW image for faster printing, or [**Quality**] to use the original image data for higher quality output. The only option available when [**Index Print**] is selected for [**Print Type**] is [**Speed**].
- [**Copies**]: Choose the number of copies of each page printed.

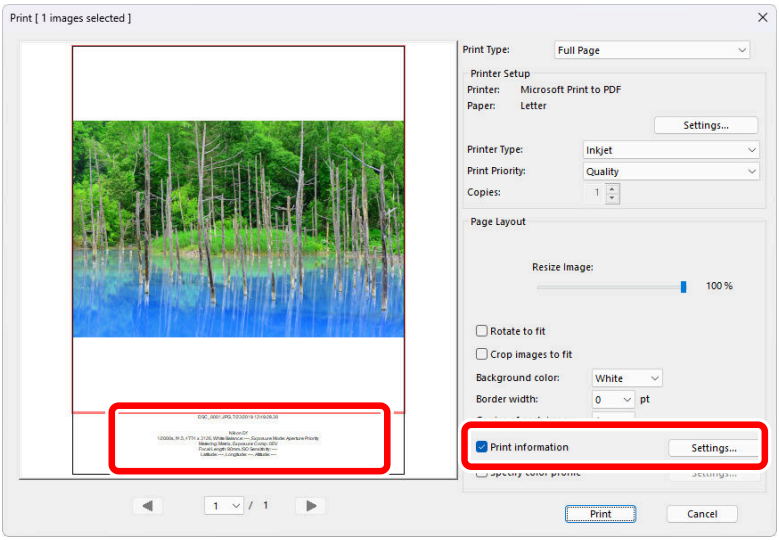
[Page Layout]

Adjust the layout of the pictures printed on each page.

- [**Resize Image**]: When printing one picture per page, use the slider to adjust picture size.
- [**Rotate to fit**]: Rotate pictures to print them at the largest possible size.
- [**Crop images to fit**]: Pictures are enlarged to fill the print area. Portions that do not fit in the print area are cropped out.
- [**Background Color**]: Choose the background color. Choose [**White**] to print with no background.
- [**Border width**]: Choose the width of the borders printed around the image. The color of the borders (black or white) varies with the option selected for [**Background color**]. Choose [**0**] to print without borders.
- [**Copies of each image**]: Choose the number of copies of each photo printed.
- [**Print information**]: Print the file name, date of recording, or photo information under each picture (229).
- [**Specify color profile**]: Print using a specified color profile. To choose a color profile, click [**Settings**].
  - [**Print profile**]: Select a color profile for printing.
  - [**Intent**]: Choose from [**Perceptual**] and [**Relative colorimetric**] (247).

Printing Image Information

To choose the information printed under each picture, select [**Print information**] in the “Print” dialog and click [**Settings**].



Print Information

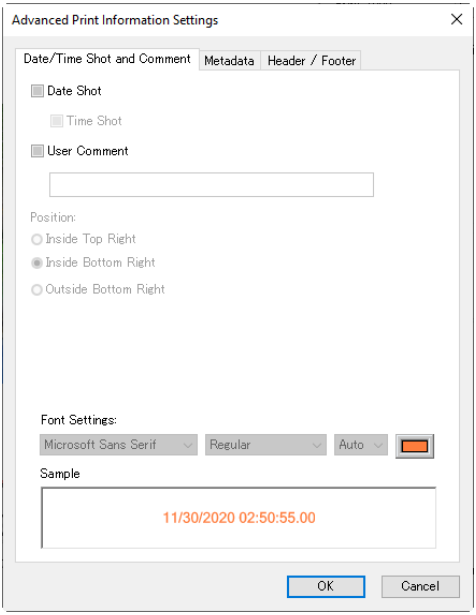
Print information is not rotated when [**Rotate to fit**] is selected in the “Print” dialog.

Advanced Print Information Settings

Choose the information to be printed in the [**Date/Time Shot and Comment**], [**Metadata**], and [**Header/Footer**] tabs of the “Advanced Print Information Settings” dialog.

The [Date/Time Shot and Comment] Tab

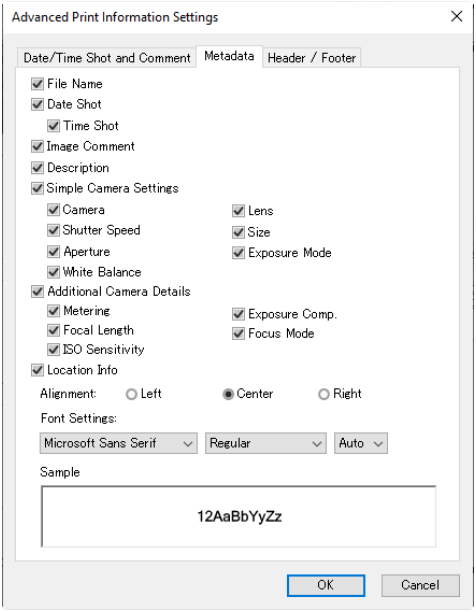
Choose whether to print the date and/or time of recording and user comments.



- [**Date Shot**]: Print the date of recording in the position selected for [**Position**].
- [**Time Shot**]: Print the time of recording.
- [**User Comment**]: Print the comment entered in the text box.
- [**Font Settings**]: Choose the font, style, font point size, and color used to print the date/time stamp.
- The results can be previewed in the [**Sample**] area.

The [Metadata] Tab

Choose the metadata printed with each picture. The options available are limited to a portion of the shooting information.



- [**Font Settings**]: Choose the font, style, and point size used to print metadata.
- The results can be previewed in the [**Sample**] area.

Metadata

Some of the fields selected in the [**Metadata**] tab may not be printed depending on the space available.

The [Header/Footer] Tab

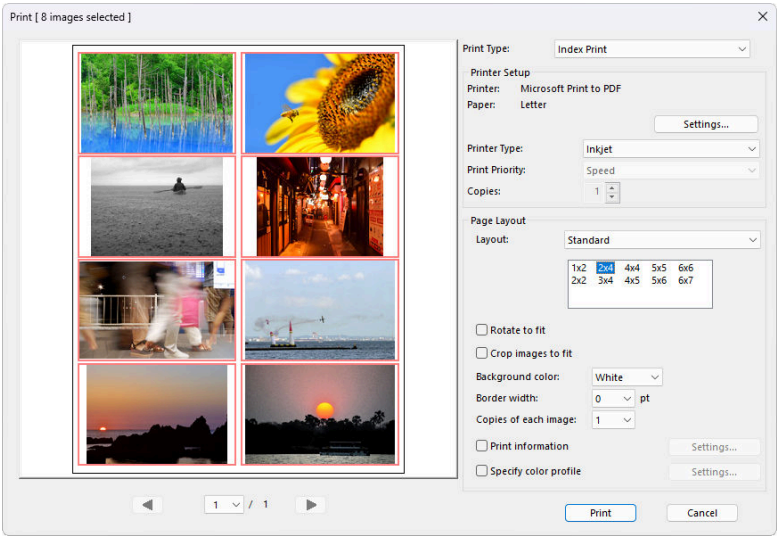
Choose the information printed at the top and bottom of each page.



- [**Header**]: Enter the text and choose the alignment for the header that will be printed at the top of each page.
- [**Page Number**]: Choose whether to print the page number. The page number can be printed at the top or bottom of the page. It will appear in the header if printed at the top and in the footer if printed at the bottom. To print page number as "Page <current page> of <total number of pages>", select [**Page Total (1 of 2)**].
- [**Footer**]: Enter the text and choose the alignment for the footer that will be printed at the bottom of each page.
- [**Font Settings**]: Choose a font, style, and point size for the header, footer, and page number.
- The results can be previewed in the [**Sample**] area.

Index Prints

To print multiple images per page, select [**Index Print**] for [**Print Type**]. You can choose the image size and number of pictures printed per page.



[Layout]

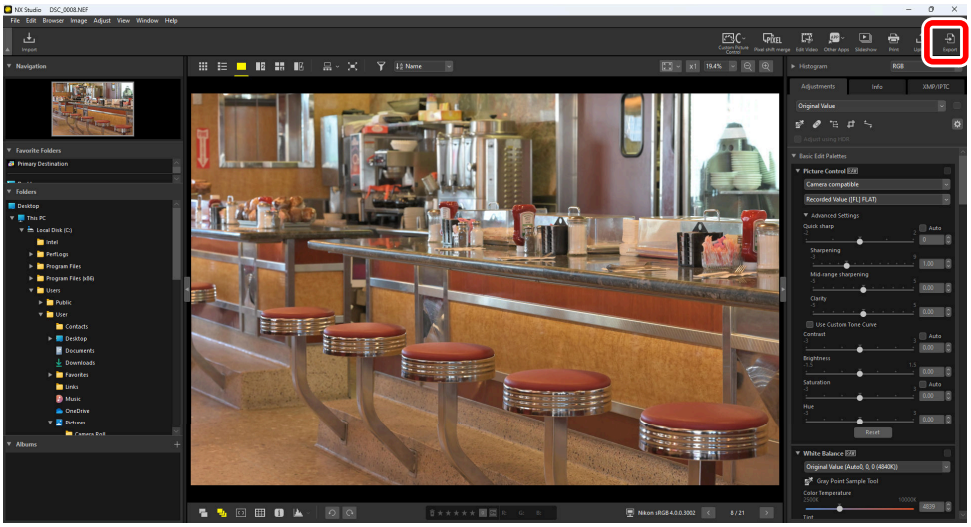
Choose a layout.

- [**Standard**]: Choose the number of pictures per page from a list box. The size of the pictures is automatically adjusted according to the option selected.
- [**Image Size**]: Pictures are printed at the size entered for [**Width**] and [**Height**]. The number of pictures per page is automatically adjusted according to the size selected.
- [**Column and Row**]: Choose the numbers of [**Column**] and [**Row**] printed per page. The size of the pictures is automatically adjusted according to the options selected.
- [**Images Per Page**]: Choose the number of images printed per page. Pictures are automatically resized to fit the selected number of pictures to the page.

Exporting Pictures (Saving Pictures in Other Formats)

Saving Pictures in Other Formats

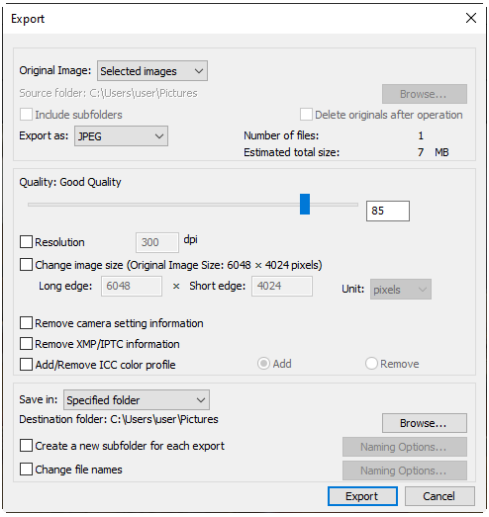
To export the pictures in the current selection in JPEG, HEIF, or TIFF format, click [**Export**] in the toolbar. Exporting RAW (NEF/NRW) pictures and NEFX (merged pixel shift) pictures as JPEG, HEIF, or TIFF files allows them to be used with other software. If desired, entire folders can be selected for export.



Exporting RAW or Merged Pixel Shift Pictures

[**Export**] can be used to save RAW pictures and merged pixel shift pictures in other formats. To save pictures without changing the file format, use [**Save**] or [**Save As**] in the [**File**] menu. More options for use when saving pictures can be found in the [**Save**] section of the options dialog (240, 255).

Choose a format, adjust image quality, size, and other settings, and click [**Export**] to export the files to a selected folder.



[Original Image]

Export the pictures in the current selection or in selected folders.

- [**Selected images**]: Export the pictures in the current selection.
- [**Selected folder**]: Export all pictures in a selected folder. To choose the folder, click [**Browse**].
  - [**Include subfolders**]: Include pictures in all sub-folders under the selected folder.
  - [**Delete originals after operation**]: Delete the original pictures from the folder once export is complete.

[Export as]

Choose a format for the exported files from [**JPEG**], [**TIFF (8 Bit)**], [**TIFF (16 Bit)**], [**HEIF (HLG)**], and [**HEIF (PQ)**].

- Files with thumbnails marked PQ cannot be saved in other formats (📖 35).
- [**HEIF (HLG)**] and [**HEIF (PQ)**] will be available only if the thumbnail for the source file is marked HLG (📖 35).
- The estimated total size is not displayed when an HEIF option is selected.
- [**Quality**]: Choose the compression ratio for pictures exported in JPEG or HEIF format. The JPEG compression ratio can be selected by dragging the slider or entering the desired value. In the case of HEIF, Windows offers a choice of [**Highest Compression Ratio**], [**Good Compression Ratio**], [**Good Balance**], [**Good Quality**], and [**Excellent Quality**]. macOS does not offer a choice of HEIF compression settings.
- [**Use LZW Compression**]: Compress TIFF files using a lossless LZW compression algorithm.

LZW Compression

Enabling LZW compression when converting pictures to 16-bit TIFF may increase file size.

Caution: Converting Pictures to PQ HEIF

Pictures converted to PQ HEIF using the [**HEIF (PQ)**] option have thumbnails marked PQ and can no longer be edited in NX Studio (35).

[Resolution]

Export pictures at new resolutions.

[Change image size]

Resize pictures during export. Entering a value for [**Long edge**] automatically updates [**Short edge**] to maintain aspect ratios. The units can be selected from [**pixels**], [**inch**] (inches), and [**cm**] (centimeters).

[Remove camera setting information]

Strip shooting data from pictures during export.

[Remove XMP/IPTC information]

Strip XMP/IPTC information from pictures during export.

[Add/Remove ICC color profile]

To add or remove color profiles, select this option and choose [**Add**] or [**Remove**]. The profiles added when [**Add**] is selected vary with the option selected for [**Color Management**] in the options dialog (240, 246):

- If only [**Use this instead of an embedded profile when opening images**] is selected, the [**Default RGB color space**] profile (or in macOS, [**RGB Default Profile**]) will be embedded in pictures during export.
- If only [**Convert images to sRGB color space when they are converted into JPEG/TIFF format**] is selected, the sRGB color profile will be embedded in pictures during export.
- If both are selected, the sRGB color profile will be embedded in pictures during export.
- If neither is selected, the original color profile will be embedded in pictures during export.
- This item is not displayed when an HEIF option is selected for [**Export as**].

[Save in]

Choose the destination folder for the exported pictures.

- [**Same folder as originals**]: Save the exported pictures to the same folders as the original files.
- [**Specified folder**]: Save the exported pictures to a selected folder. To choose the destination, click [**Browse**].
  - [**Create a new subfolder for each export**]: Automatically create a new sub-folder within the chosen folder each time pictures are exported. To choose how the folders are named, click [**Naming Options**].

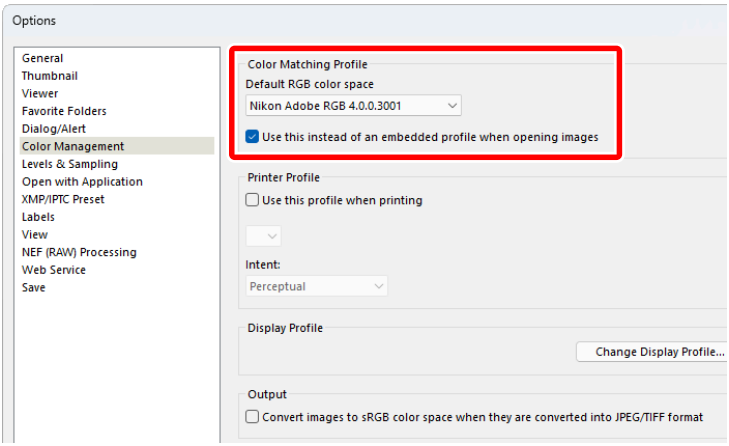
[Change file names]

Rename files during export. To choose how the files are named, click [**Naming Options**].

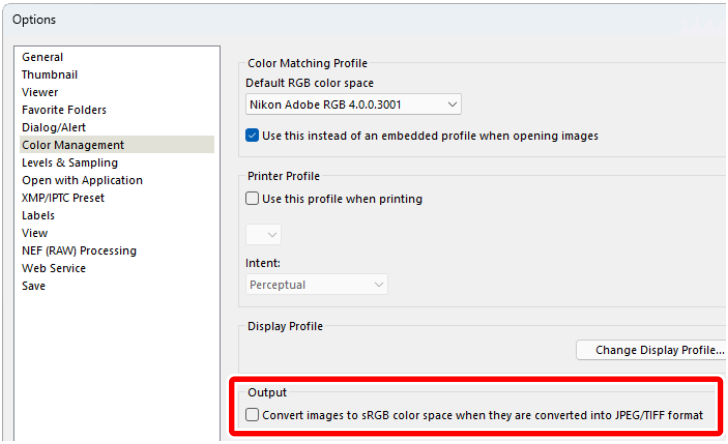
Converting Pictures to Color Spaces Other than sRGB

RAW and merged pixel shift pictures taken in the sRGB color space can be converted to other color spaces during export. Note, however, that the color space for RAW and merged pixel shift pictures recorded in HLG on cameras that support tone-mode selection is fixed at BT.2100, regardless of the color space selected at export or in the options dialog.

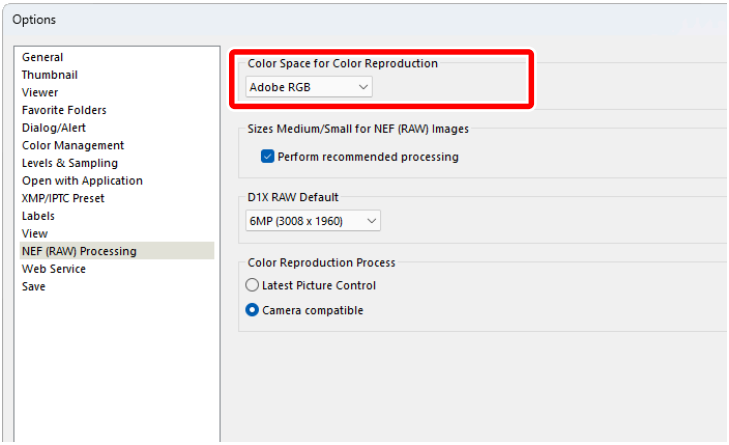
1. Choose the desired default RGB color space for [**Color Management**] > [**Color Matching Profile**] in the options dialog and select [**Use this instead of an embedded profile when opening images**] (240, 246).



2 Remove the check from [**Convert images to sRGB color space when they are converted into JPEG/TIFF format**] under [**Output**] in the [**Color Management**] panel.



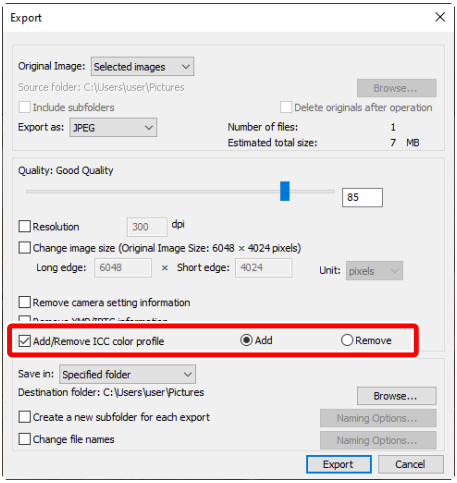
3 Select the desired option for [**NEF (RAW) Processing**] > [**Color Space for Color Reproduction**] in the options dialog (240, 253).



Tip: "Color Space for Color Reproduction"

The current color space for color reproduction can be viewed using the **i** button on the camera.

4 Select [**Export**] > [**Add/Remove ICC color profile**] and choose [**Add**].



5 Click [**Export**] to export the pictures in the selected color space.

Tip: Restoring the sRGB Color Space

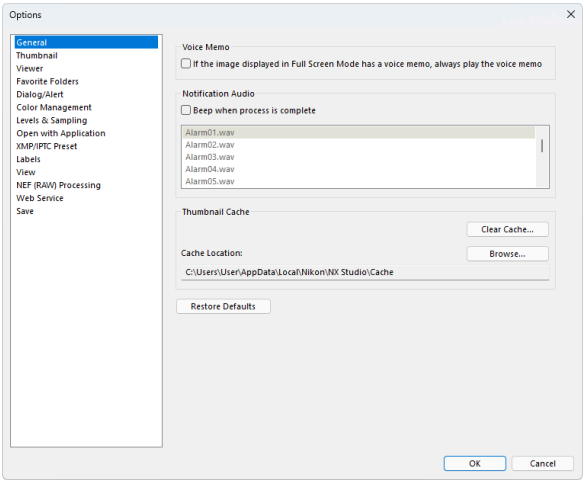
To restore pictures to the sRGB color space:

- select [**sRGB**] for [**NEF (RAW) Processing**] > [**Color Space for Color Reproduction**] in the options dialog (240, 253),
- select [**Convert images to sRGB color space when they are converted into JPEG/TIFF format**] for [**Color Management**] > [**Output**] in the options dialog (240, 246), then
- select [**Nikon sRGB 4.0.0.3002**] for > [**Color Management**] > [**Color Matching Profile**] in the options dialog and remove the check from [**Use this instead of an embedded profile when opening images**] (240, 246).

Options

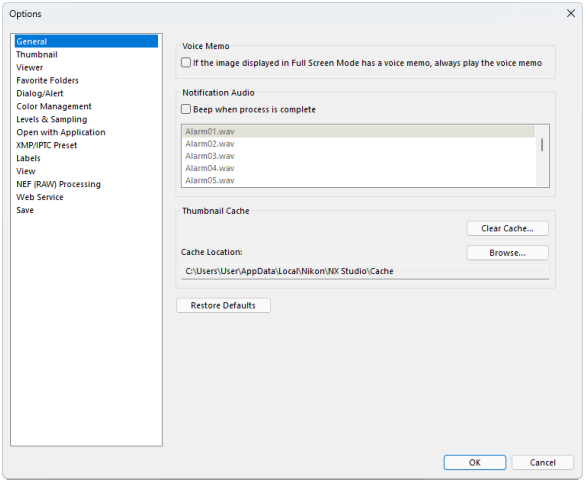
The Options Dialog

The settings in this dialog are used to tailor the default behavior of NX Studio to your taste. They can be accessed by selecting [**Options**] from the [**Edit**] menu (Windows) or by choosing [**Options**] in the [**NX Studio**] menu (macOS).



[General]

A catch-all category for options pertaining to general NX Studio operations.



[Voice Memo]

Select [**If the image displayed in Full Screen Mode has a voice memo, always play the voice memo**] to automatically play voice memos appended to pictures displayed full-screen.

[Notification Audio]

If [**Beep when process is complete**] is selected, NX Studio will make a sound when processing is complete. The sound can be selected from the list.

[Thumbnail Cache]

Adjust thumbnail cache settings as described below.

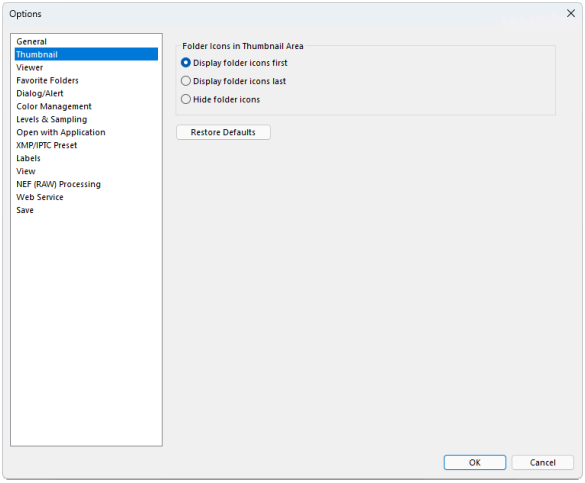
- [**Clear Cache**]: Delete the display cache.
- [**Cache Location**]: The current cache location. To choose a different location, click [**Browse**] and navigate to the desired folder.

[Restore Defaults]

Reset all items in the [**General**] category to their default values.

[Thumbnail]

Adjust thumbnail-related settings.



[Folder Icons in Thumbnail Area]

Choose whether and in what order sub-folders appear in the thumbnail grid, thumbnail list, and filmstrip displays.

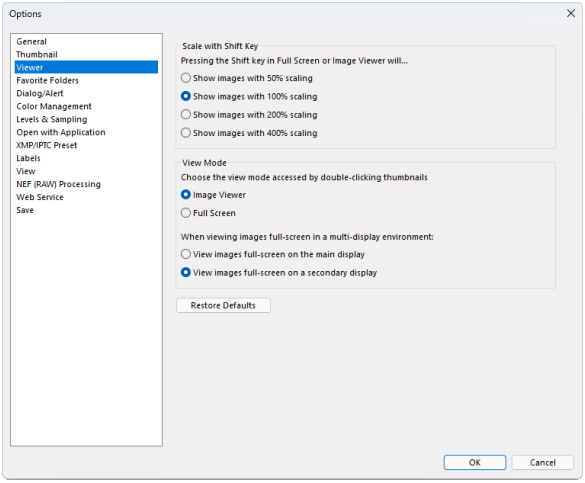
- [**Display folder icons first**]: Sub-folders are listed first, before pictures.
- [**Display folder icons last**]: Sub-folders are listed last, after pictures.
- [**Hide folder icons**]: Sub-folders not listed.

[Restore Defaults]

Reset all items in the [**Thumbnail**] category to their default values.

[Viewer]

Adjust viewer settings.



[Scale with Shift Key]

In the viewer, "2/4 images", and before-and-after displays, you can quickly zoom in by clicking pictures or holding the shift key. The zoom ratio can be selected from options listed.

[View Mode]

Choose view-mode-selection options for the viewer, "2/4 images", and before-and-after displays.

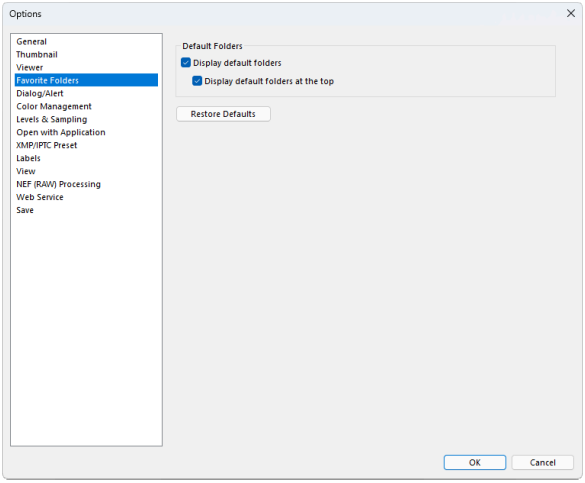
- [**Choose the view mode accessed by double-clicking thumbnails**]: Choose whether double-clicking a thumbnail in the thumbnail grid or thumbnail list displays the picture full-screen or in the image viewer.
- [**When viewing images full-screen in a multi-display environment**]: Choose the monitor used to display the selected image when you double-click a thumbnail with [**Full Screen**] selected for [**Choose the view mode accessed by double-clicking thumbnails**] in a multi-display environment.

[Restore Defaults]

Reset all items in the [**Viewer**] category to their default values.

[Favorite Folders]

Choose whether default folders are included in the [**Favorite Folders**] list.



[Default Folders]

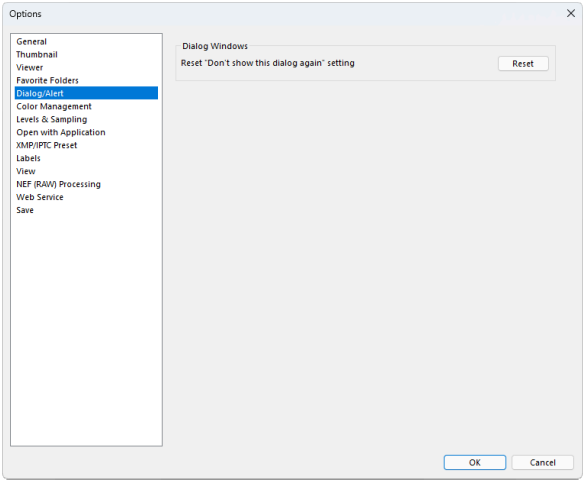
Select [**Display default folders**] to include default folders in the folders listed under [**Favorite Folders**] in the browser palette. To list the default folders first, select [**Display default folders at the top**].

[Restore Defaults]

Reset all items in the [**Favorite Folders**] category to their default values.

[Dialog/Alert]

Choose whether to reset the [**Don't show this dialog again**] check boxes for all dialogs.

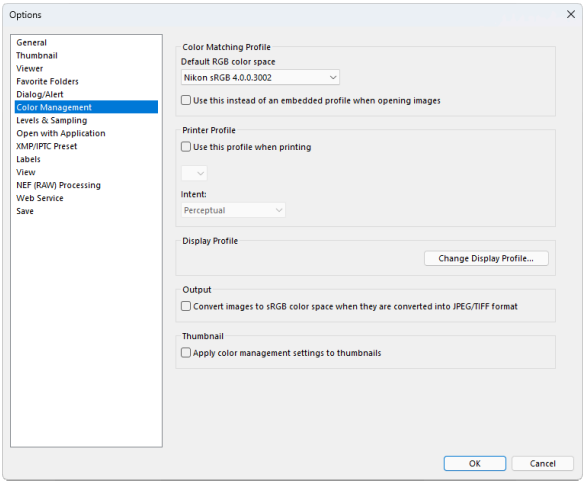


[Dialog Windows]

Click [**Reset**] to reset the [**Don’t show this dialog again**] check boxes for all dialogs.

[Color Management]

Adjust color management settings.



[Color Matching Profile] (Windows)/[Default Profiles for images] (macOS)

Adjust color space (color profile) settings.

- [**Default RGB color space**] (Windows)/[**RGB Default Profile**] (macOS): Choose the default RGB profile.
  - [**Use this instead of an embedded profile when opening images**]: When opening pictures, replace the embedded color profile with the profile selected for [**Default RGB color space**] (or in macOS, [**RGB Default Profile**]).

[Printer Profile]

[**Use this profile when printing**]: Select this option to choose a color profile for printing.

- Choose the printer profile used for printing.
- Choose the intent from the [**Intent**] menu.

[Display Profile] (Windows)/[Device Profiles] (macOS)

Click [**Change Display Profile**] to choose a monitor profile. Options for your operating system will be displayed.

[Output]

Select [**Convert images to sRGB color space when they are converted into JPEG/TIFF format**] to embed the sRGB color profile in pictures converted to other formats during export. The original color profile is overwritten.

[Thumbnail]

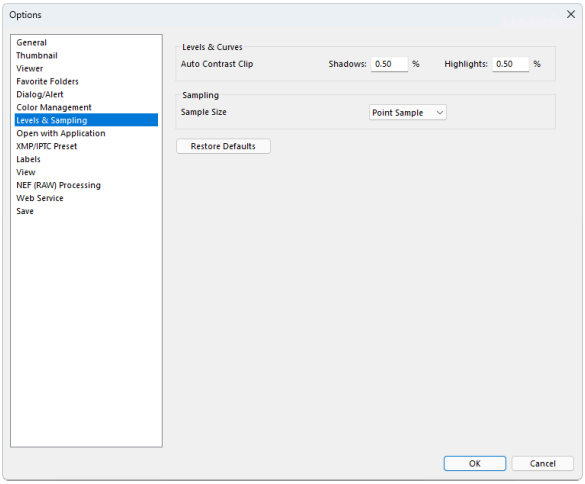
Select [**Apply color management settings to thumbnails**] to apply color management settings to the thumbnails in the thumbnail grid, thumbnail list, and filmstrip.

Tip: Intent

- [**Perceptual**] maintains the relations between colors to produce results that seem natural to the human eye. The colors may however not be true to the original image data.
- [**Relative colorimetric**] maps colors not in the selected profile to the nearest available color. All colors in the gamut of the printer will be reproduced accurately.

[Levels & Sampling]

The settings in this category apply to the [**Levels & Curves**] and sampling tools.



[Levels & Curves]

[**Auto Contrast Clip**]: The auto-contrast clip option in the [**Adjustments**] tab [**Levels & Curves**] tool increases contrast by setting the shadow and highlight points to exclude a set proportion of the darkest and brightest pixels in the image. Choose the percentage of pixels excluded by the new [**Shadows**] and [**Highlights**] points (🕮 128).

[Sampling]

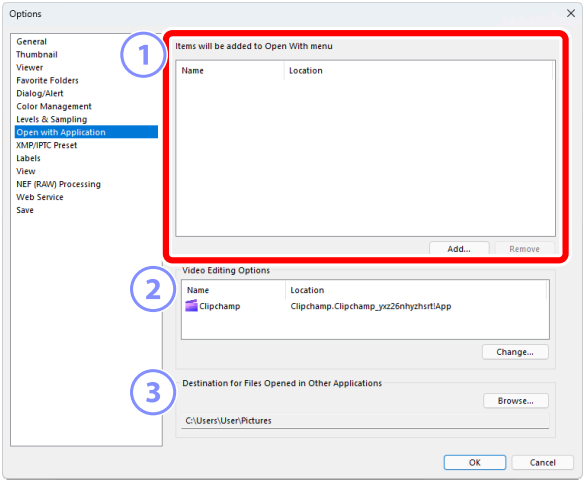
[**Sample Size**]: Select the size of the area sampled by the [**White Balance**] gray point and [**Levels & Curves**] sampling controls in the [**Adjustments**] tab (🕮 120, 🕮 128).

[Restore Defaults]

Reset all items in the [**Levels & Sampling**] category to their default values.

[Open with Application]

Edit the list of software that can be accessed via the [**Other Apps**] button in the toolbar.



1 Application List

Click [**Add**] to add software to the list.

2 [Video Editing Options]

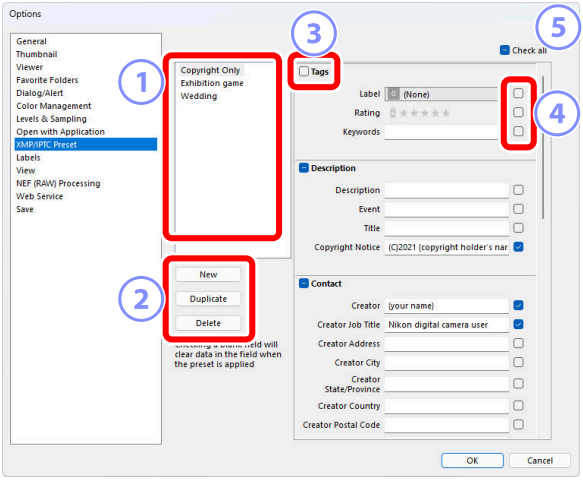
Choose software used to edit videos. The software included in your operating system is set by default. Click [**Change**] to select the software you will use to play or edit videos. Only one software application can be used at a time.

3 [Destination for Files Opened in Other Applications]

When requested to open pictures in other applications, NX Studio creates copies for use in the destination application. To choose the folder to which the copies are saved, click [**Browse**]. The format in which the copies are saved can be chosen in a dialog displayed when you choose the destination application for [**Other Apps**].

[XMP/IPTC Preset]

Manage XMP/IPTC presets.



1 Preset List

A list of existing presets.

2 [New]/[Duplicate]/[Delete]

Create, duplicate, or delete XMP/IPTC presets.

3 Category Check Boxes

Select or deselect all items in the chosen category.

4 Item Check Boxes

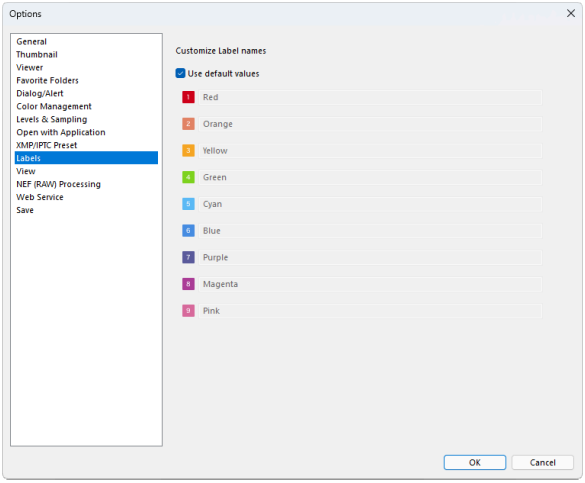
The selected items will be added to picture metadata during download. Selecting an item while leaving the field blank sets the field to "Clear". Any previously-chosen values for the selected item will be deleted when the pictures are downloaded.

5 [Check all]

Select or deselect all items in the XMP/IPTC preset.

[Labels]

Name labels.

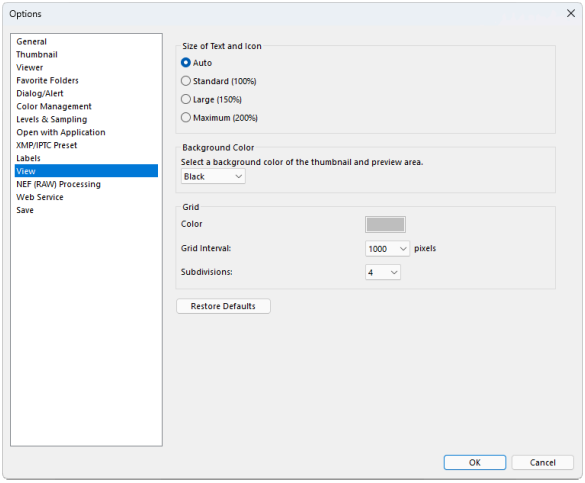


[Customize Label names]

Select [**Use default values**] to use the default label names. Deselect this option to choose custom label names.

[View]

Adjust NX Studio display options.



[Size of Text and Icon]

Choose the size of the letters and icons in the user interface.

[Background Color]

Choose the background color for the image viewer and for the filmstrip, "2/4-images", and before-and-after views.

[Grid]

Choose options for the reference grid.

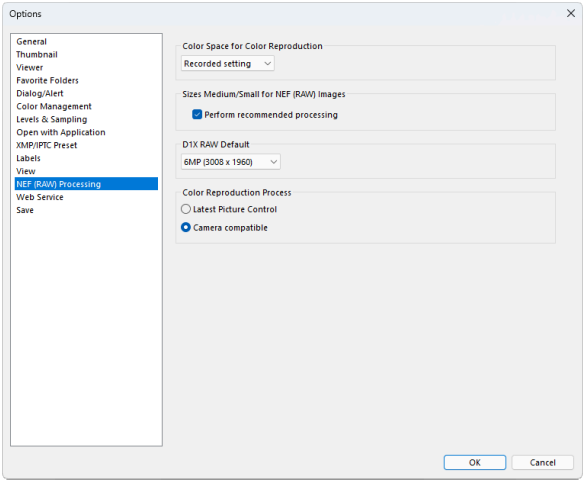
- [**Color**]: Choose the grid color.
- [**Grid Interval**]: Choose the grid spacing.
- [**Subdivisions**]: Choose the number of subdivisions in each square.

[Restore Defaults]

Reset all items in the [**View**] category to their default values.

[NEF (RAW) Processing]

Adjust settings for processing RAW pictures.



[Color Space for Color Reproduction]

Choose the color space used for adjustments to RAW pictures.

[Sizes Medium/Small for NEF (RAW) Images]

Select [**Perform recommended processing**] for optimal processing when editing [**Small**] and [**Medium**] RAW pictures.

[D1X RAW Default]

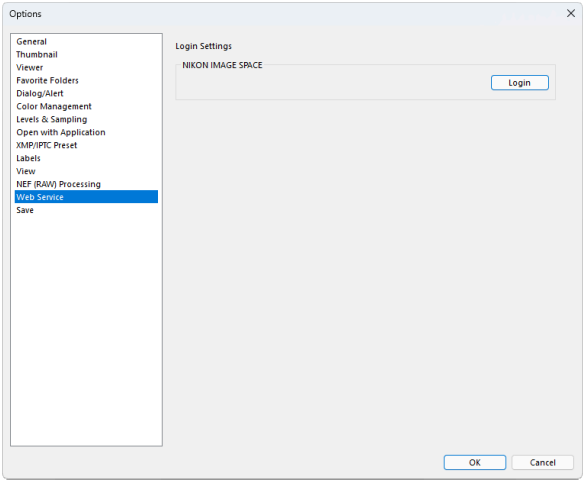
Choose the default display size for RAW photos taken with the D1x.

[Color Reproduction Process]

Choose a color reproduction process.

[Web Service]

Enter login settings for web services. Log in before uploading pictures (222, 223).

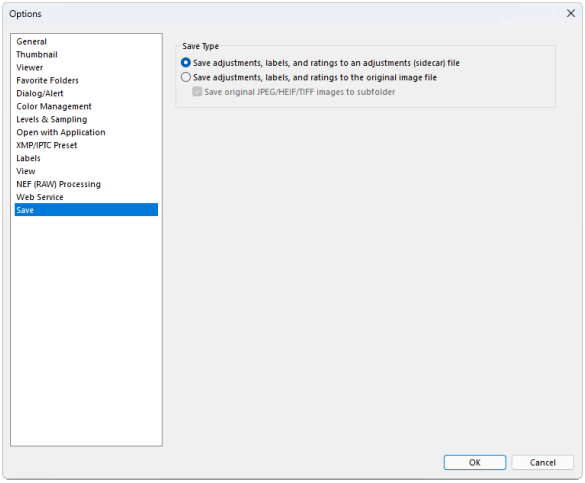


[NIKON IMAGE SPACE]

Click [**Login**] to display the Nikon ID login dialog. Enter your Nikon ID and password to log in to NIKON IMAGE SPACE. If you don't have an ID for NIKON IMAGE SPACE, follow the on-screen instructions to obtain one.

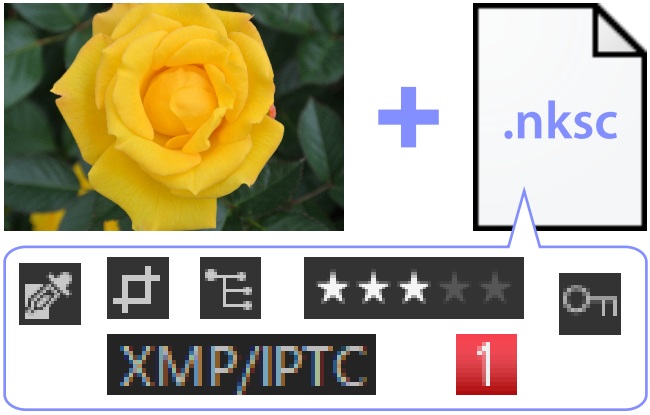
[Save]

Choose how pictures are saved. Image adjustments in NX Studio can be saved to “sidecar” files or applied directly to the pictures.



“Sidecar” Files

To save image adjustments to “sidecar” files, choose [**Save adjustments, labels, and ratings to an adjustments (sidecar) file**] for [**Save Type**]. Any changes to pictures will be saved in image adjustment (sidecar) files (extension “.nksc”) separate from the original image data. Because changes are not applied directly to the original image data, pictures can be edited repeatedly with no loss in quality. Sidecar files are also used to store labels, ratings, XMP/IPTC metadata, and other data in addition to image adjustments. Pictures can be restored to their original states at any time by deleting the sidecar files.

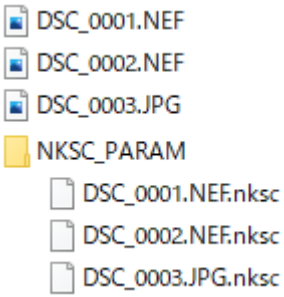


Use of sidecar files has the following advantages:

- Sidecar files are updated as pictures are edited.
- Edits apply only to the sidecar files, allowing large RAW images and merged pixel shift images to be processed quickly and efficiently.
- Edits can be hidden and restored at any time. Individual adjustments can be saved separately.
- Adjustments can be applied to other pictures, saving users the trouble of making the same edits over and over again.
- Pictures can be exported as JPEG, HEIF, or TIFF files for use with software that does not support sidecar files (🕮 234).

Tip: Adjustment Files

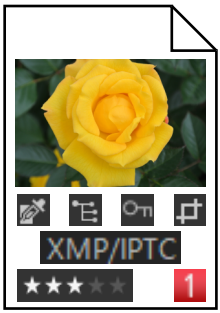
Image adjustments are saved to sidecar files in an “NKSC_PARAM” folder within the same folder as the original image.



- All changes will be lost if the sidecar file or “NKSC_PARAM” folder is deleted.
- Pictures and sidecar files are linked via the file name. Changes will consequently be lost or applied to another picture if the files are renamed. Use the file management features in NX Studio to rename, move, copy, or delete files or folders.
- To apply adjustments after transferring pictures to a different device, you will need copy both the pictures and the associated sidecar files and open the pictures in NX Studio. Note that you will need to copy the entire “NKSC_PARAM” folder.

Original Files

To save adjustments to the same file as the original image data, choose [**Save adjustments, labels, and ratings to the original image file**] for [**Save Type**]. Adjustments and metadata are variously applied directly to or stored together with the original image data. The absence of sidecar files means that pictures can easily be handled on other devices or using other software. Adjustments are handled in one of two ways, depending on the file type.



RAW Image (NEF, NRW Format)/Merged Pixel Shift Image (NEFX Format)

The files contain a record of all image adjustments, allowing previous changes to be edited the next time the file is opened. You can also undo any or all adjustments and restore the original file at will.

- Files must be saved in JPEG, HEIF, or TIFF format before they can be opened using other software (🕮 234).
- Edits will not be visible if the files are copied to a memory card and viewed on the camera. You cannot view pictures in NEFX format on the camera.

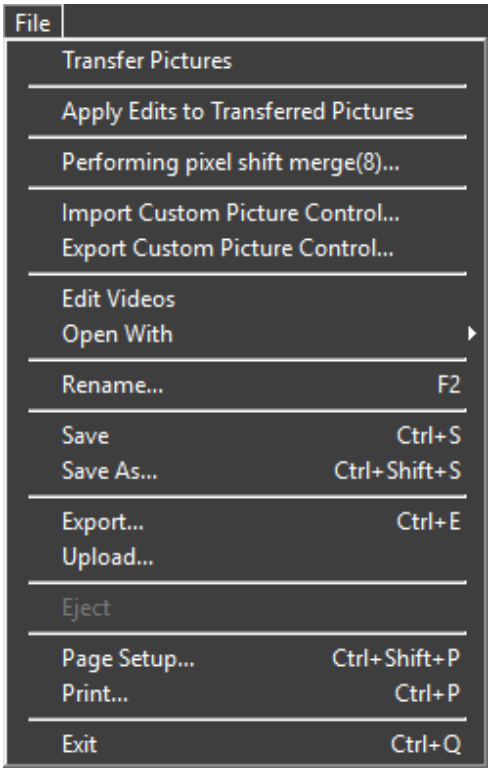
JPEG, HEIF, and TIFF Files

Image adjustments are applied directly to the original image data when the pictures are saved. Any previous changes are overwritten, meaning that the pictures cannot be restored to their original states.

- Any changes made in NX Studio will be visible when the files are opened using other software.
- If desired, you can select [**Save original JPEG/HEIF/TIFF images to subfolder**] to save a backup copy of the original, unedited image data. The backup copy will be stored in an "_Original" folder in the same folder as the edited picture.

Menu List

The [File] Menu



[Transfer Pictures]

Launch Nikon Transfer 2.

[Take Pictures Remotely Using Camera Control Pro 2]

Launch Camera Control Pro 2. This option is displayed only if Camera Control Pro 2 is installed.

[Take Pictures Remotely with NX Tether]

Launch NX Tether. This option is displayed only if NX Tether is installed.

[Show Image Immediately After Shooting]

If this option is enabled, pictures will automatically be displayed in NX Studio after being downloaded to the computer using other applications.

- This option is displayed only if supported applications are installed.
- This option takes effect only if the corresponding option is enabled in the application used to download the pictures (for more information, see the online help for the application in question):
  - Wireless Transmitter Utility: Select [**NX Studio**] for [**Open images with this application after transfer**].
  - Camera Control Pro 2: Select [**Show it with NX Studio**] for [**When a new image is received from the camera**].
  - NX Tether: Select [**NX Studio**] for [**Software to View Pictures After Transfer**].

[Apply Edits to Transferred Pictures]

Enable this option to automatically apply the adjustments last selected in the [**Adjustments**] tab to new pictures downloaded to the same folder.

[Performing pixel shift merge]

Merge pictures taken using pixel shift on the camera and save them as separate files (📖 213).

[Import Custom Picture Control]

Import Custom Picture Control files created with compatible cameras and software (📖 205).

[Export Custom Picture Control]

Export Custom Picture Controls saved on NX Studio as files (📖 210).

[Launch Picture Control Utility 2]

Launch Picture Control Utility 2. This option is displayed only if Picture Control Utility 2 is installed.

[Edit Videos]

Launch the preset video editing software. The software included in your operating system is set by default. You can change the software via [**Open with Application**] in the options dialog (📖 240, 📖 249).

[Open With]

Open the current picture using other software. Software can be added to the menu using [**Register**].

[Rename]

Rename the current picture.

[Save]

Save changes to image adjustments or XMP/IPTC metadata (📖 255).

[Save As]

Save the current picture under a new name.

[Export]

Export the current picture in a selected format (📖 234).

[Upload]

Upload photos and videos to NIKON IMAGE SPACE (📖 222, 📖 223).

[Eject] or [Disconnect](Windows)/[Eject] (macOS)

Eject removable media. In Windows, this option can also be used to disconnect a selected network drive.

[Page Setup]

Adjust printer settings.

[Print]

Print the current picture (📖 226).

[Exit] (Windows Only)

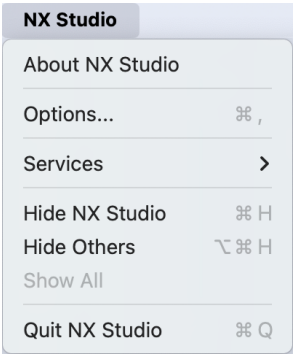
Exit NX Studio.

Tip: Epson Printers

If installed, the Epson Easy Photo Print utility or Epson Print Layout plugin can be launched from NX Studio.

- Installing Epson Easy Photo Print adds a [**Print with E-Photo**] option to the [**File**] menu.
- Likewise, installing Epson Print Layout adds a [**Print with Epson Print Layout**] option to the [**File**] menu.
- [**E-Photo**] and [**Epson Print Layout**] icons are also added to the toolbar and can be used to launch the corresponding software.

The [NX Studio] Menu (macOS Only)



[About NX Studio]

View version information.

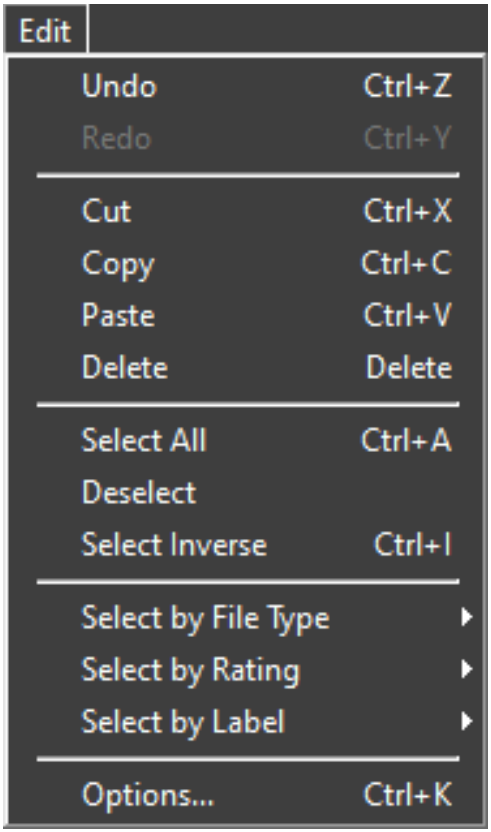
[Options]

Open the NX Studio options dialog (240).

[Quit NX Studio]

Quit NX Studio.

The [Edit] Menu



[Undo]

Go back one step, undoing the most recent change to the current picture or in the current dialog. Changes cannot be undone if the picture is deleted in the Explorer or another application during editing.

[Redo]

Redo an operation after performing [**Undo**].

[Cut]

Remove the selection from its current location and copy it to the clipboard.

[Copy]

Copy the current selection to the clipboard.

[Paste]

Paste the contents of the clipboard in the current location.

[Delete]

Move the current picture or folder to the Recycle Bin (or in macOS, the Trash). Choosing this option when a folder is selected in the browser palette [**Favorite Folders**] list removes the selected folder from the favorites list.

[Select All]

Select all pictures or folders.

[Deselect]

Deselect the currently-selected pictures or folders.

[Select Inverse]

Select all pictures or folders that are not currently selected and deselect any pictures or folders that are currently selected.

[Select by File Type]

Select all photos or videos or photos or videos of a chosen file type or types.

[Select by Rating]

Select all photos or videos with a chosen rating or ratings (🕮 62).

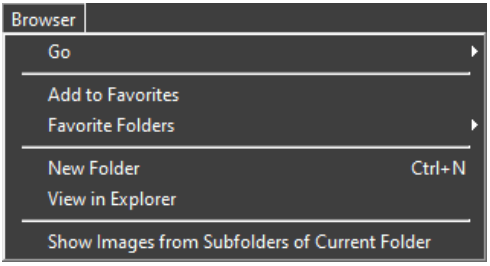
[Select by Label]

Select all photos with a chosen label or labels (🕮 67).

[Options] (Windows Only)

Open the NX Studio options dialog (🕮 240).

The [Browser] Menu



[Go]

Navigate the folder hierarchy.

[Add to Favorites]

Add the current folder to [**Favorite Folders**] in the browser palette (📖 17).

[Favorite Folders]

Choose a folder from those listed under [**Favorite Folders**] in the browser palette.

[New Folder]

Create a new folder in the current folder.

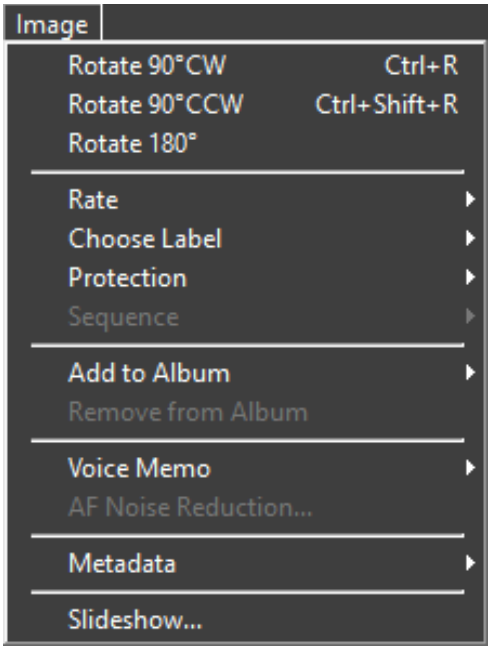
[View in Explorer] (Windows)/[View in Finder] (macOS)

Open the current folder in Windows Explorer (Windows) or the Finder (macOS).

[Show Images from Subfolders of Current Folder]

Include pictures in folders under the current folder in thumbnail and filmstrip views.

The [Image] Menu



[Rotate 90° CW]/[Rotate 90° CCW]/[Rotate 180°]

Rotate pictures.

[Rate]/[Choose Label]/[Protection]

Rate, label, and protect or unprotect pictures.

[Sequence]

Perform the following operations on the current sequence.

- [**Change Key Image**]: Choose the current picture as the key image for the sequence.
- [**Unsequence**]: Remove pictures from the sequence.

[Add to Album]

Add the current picture to a selected album (21).

[Remove from Album]

Remove the current picture from an album.

[Voice Memo]

Start and stop voice memo playback. You can also delete voice memos from pictures.

[AF Noise Reduction]

Process MP4 or MOV files to reduce the sound made by the camera focusing and save the results as a separate file.

[Metadata]

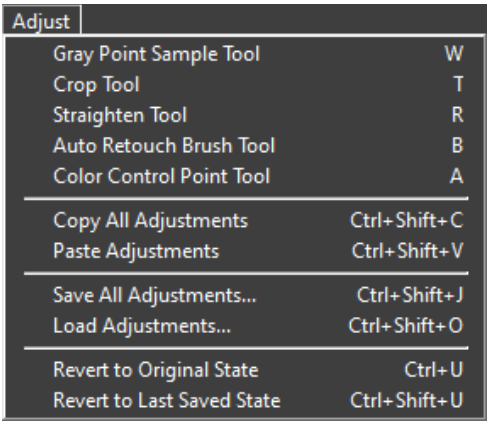
Perform the following operations on metadata.

- [**Export File/Photo Info**]: Export shooting data for the current picture to a text file.
- [**Copy File/Photo Info**]: Copy shooting data for the current picture to the clipboard.
- [**Copy IPTC Data**]/[**Paste IPTC Data**]: Copy or paste IPTC data from or to the current picture.
- [**Import XMP/IPTC Preset**]: Import XMP/IPTC presets.
- [**Copy Location Data**]/[**Paste Location Data**]: Copy or paste location data from or to the current picture.
- [**Delete Location Data**]: Delete location data from the current picture.
- [**Delete Heading Data**]: Delete the compass heading from the current picture.

[Slideshow]

View the pictures in the current selection or current folder as a slide show (🕮 218).

The [Adjust] Menu



[Gray Point Sample Tool]

Click anywhere in the picture to adjust white balance so that the sampled pixel takes on a neutral gray color (120).

[Crop Tool]

Crop pictures (162).

[Straighten Tool]

Straighten pictures (168).

[Auto Retouch Brush Tool]

Remove dust and scratches (150).

[Color Control Point Tool]

Enhance pictures using color control points (154).

[Copy All Adjustments]

Copy all adjustments.

[Paste Adjustments]

Paste adjustments from the clipboard.

[Save All Adjustments]

Save the current settings for all adjustments in an adjustments file (📖 194).

[Load Adjustments]

Load adjustments from an adjustments file and apply them to the pictures in the current selection (📖 189).

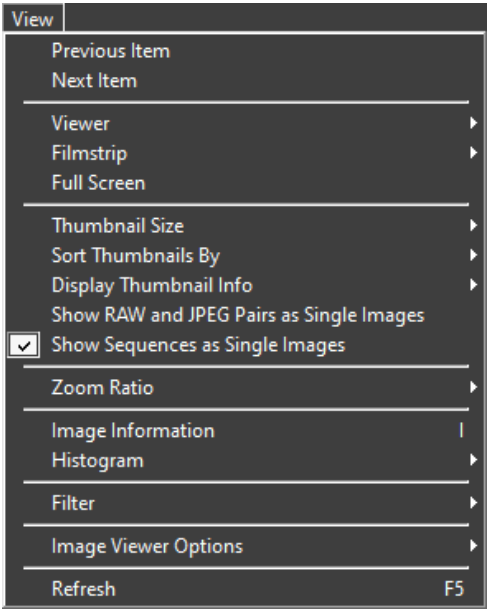
[Revert to Original State]

Revert all changes and restore pictures to their original state.

[Revert to Last Saved State]

Initialize the adjustments file, cancelling all changes made in NX Studio.

The [View] Menu



[Previous Item]/[Next Item]

Display the next or previous picture in the current folder.

[Viewer]

Choose how pictures are displayed in the view area (33).

[Filmstrip]

Change the orientation of the filmstrip (45).

[Full Screen]

Display pictures full-screen (47).

[Thumbnail Size]

Choose the size of the thumbnails displayed in thumbnail and filmstrip views.

[Sort Thumbnails By]

Sort thumbnails.

[Display Thumbnail Info]

Choose whether file names, labels, ratings, icons, and other data are displayed on pictures in thumbnail or filmstrip view.

[Show RAW and JPEG Pairs as Single Images]

Display each pair of pictures shot in RAW + JPEG or RAW + HEIF format as a single image in thumbnail and filmstrip views.

[Show Sequences as Single Images]

Display each sequence of pictures shot using the Smart Photo Selector or in continuous release mode as a single image in thumbnail and filmstrip views.

[Zoom Ratio]

Zoom in or out on pictures displayed in the viewer or in "2/4-images" or before-and-after views.

[Image Information]

Display the camera name, date and time of recording, and other image information in the viewer.

[Histogram]

Display a histogram in the viewer. You can also select channels or adjust histogram settings.

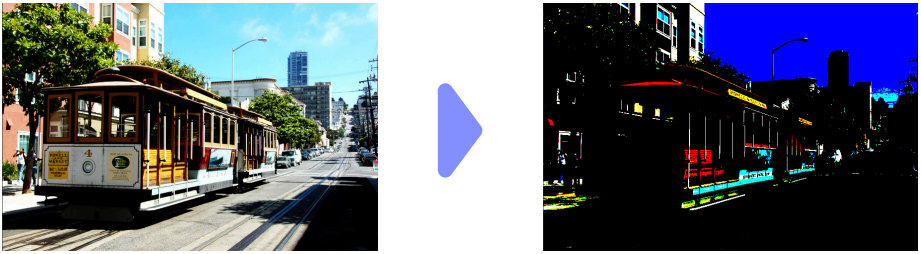
[Filter]

Filter pictures by label, rating, protection status, or file type.

[Image Viewer Options]

Adjust viewer display settings.

- [**Show Grid**]: Display a grid in the viewer.
- [**Show Focus Point**]: Show the focus point for the current picture.
- [**Show Highlights**]: Display areas of the picture with the maximum value for brightness (255) in any channel and in which details may have been lost due to overexposure; different colors are used to indicate highlights for each channel (RGB).



- [**Show Shadows**]: Display areas of the picture with the minimum value for brightness (0) in any channel and in which details may have been lost due to underexposure; different colors are used to indicate shadows for each channel.

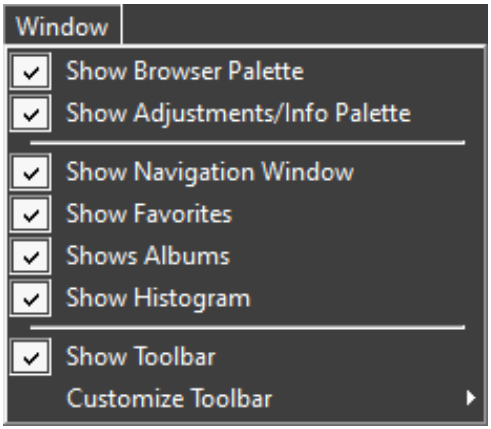


- [**Show RAW Images**]: Display RAW image data in the viewer when NEF/NRW pictures are selected. A preview is displayed when this option is not selected. Note that regardless of the option selected, the image viewer always displays the RAW image data for RAW pictures recorded with HLG selected for tone mode on cameras that support tone-mode selection and for pictures that have been altered using the tools in the [**Adjustments**] tab.

[Refresh]

Update the display in the viewer or filmstrip.

The [Window] Menu



[Show Browser Palette]/[Show Adjustments/Info Palette]/[Show Navigation Window]/[Show Favorites]/[Shows Albums]/[Show Histogram]

View or hide palettes.

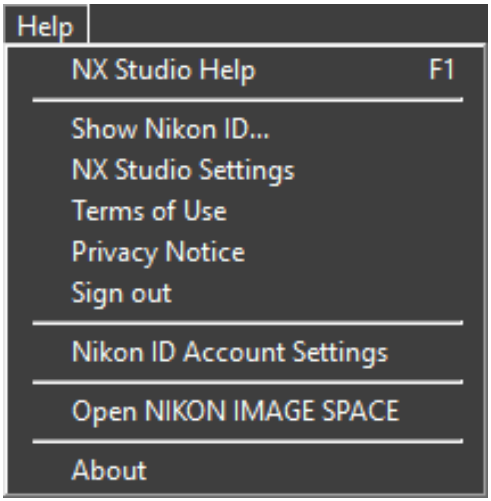
[Show Toolbar]

View or hide the toolbar.

[Customize Toolbar]

Choose the tools displayed in the toolbar. Selected items are displayed.

The [Help] Menu



[NX Studio Help]

View help.

[Show Nikon ID]

View the currently signed-in Nikon ID.

[NX Studio Settings]

Open the NX Studio settings screen in a web browser.

[Terms of Use]

Open the Terms of Use in a web browser.

[Privacy Notice]

Open the Privacy Notice in a web browser.

[Sign out]

Sign out of Nikon ID.

[Nikon ID Account Settings]

Open the Nikon ID account settings screen in a web browser.

[Open NIKON IMAGE SPACE]

Open NIKON IMAGE SPACE in a web browser.

[About] (Windows Only)

View version information.