

# Camera Control Pro 2 Reference Manual

## Overview

This section describes the structure of this manual, outlines the main functions of Camera Control Pro 2, and gives the system requirements and installation instructions.

## Using Camera Control Pro 2

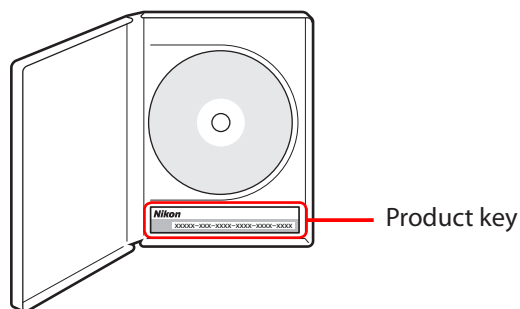
This section describes how to use Camera Control Pro 2.

## Appendices

This section lists preferences and describes how to uninstall the software.

### Important Information on the Product Key

The product key may be found on the CD-ROM case. ***Do not lose this key.*** It is required when installing or upgrading this software and cannot be replaced if lost.



# Overview

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Click a page number to view.

# Introduction

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To get the most from this software, be sure to read all instructions thoroughly and keep them where they will be read by all who use the product.

## Camera Control Pro 2

Camera Control Pro 2 can be used to control cameras connected via interface cables or (with wireless transmitters such as the WT-4, WT-5, WT-6, and WT-7) in a local-area network (LAN). Pictures can be downloaded to the computer or saved to the camera memory card and shared with applications such as ViewNX-i and Capture NX-D. Live view and movie recording are available with supported models.

### Conventions

This manual assumes basic knowledge of cameras and Windows or Finder operations. Refer to the documentation provided with your computer or camera for more information. Where the Windows and Mac OS X versions of the program use differing commands, the Windows menu name is listed first, followed by the OS X menu name in square brackets. Where multiple menu items or folders are selected in sequence, the menu items are separated by a ">".

Throughout this manual, Windows 10 Home, Pro, Enterprise, and Education editions are referred to as "Windows 10." Windows 8.1 Pro and Enterprise editions are referred to as "Windows 8.1." Windows 7 Home Premium, Professional, Enterprise, and Ultimate are referred to as "Windows 7." D4S and D4 cameras are referred to as "D4-series cameras," D3S, D3X, and D3 cameras as "D3-series cameras," and D300S and D300 cameras as "D300-series cameras." Except where necessary to distinguish it from older versions of Camera Control Pro, Camera Control Pro 2 is referred to as "Camera Control Pro."

### Illustrations

This manual is for use with both Windows and Mac. While the majority of the illustrations come from Windows 10, save where otherwise noted the operations described are the same in other operating systems. Depending on the operating system used, the dialogs and menus may differ from slightly from those shown here. Some illustrations are composites.

### Printing This Manual

To print this manual, select **Print** from the **File** menu in Adobe Reader. This manual is A5 size, allowing facing pages to be printed on a single sheet of A4 paper (to print facing pages, start printing from an even-numbered page).

### Installing/Uninstalling Camera Control Pro 2

Use an account with administrator privileges to install or uninstall Camera Control Pro 2.

# Introduction

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## Camera Control Pro

Changes made to settings in the Camera Control Pro window only apply to photographs taken after the changes are made, not to photographs that have already been taken. Camera Control Pro cannot be used to modify existing photographs.

The controls in the Camera Control Pro window vary with the type of camera connected. More information on camera settings may be found in the documentation provided with your camera.

## Illustrations

Save where otherwise noted, the illustrations in this section show the dialogs displayed when the D5 is connected.

# Introduction

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## Customer Support and Registration

To link to a Nikon customer support website, click **Link to Nikon** in the Camera Control Pro 2 installer window and click the link for your region. Click [here](#) for more information.



### Notices

- No part of the manuals included with this product may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form, by any means, without Nikon's prior written permission.
- Nikon reserves the right to change the specifications of the hardware and software described in these manuals at any time and without prior notice.
- Nikon will not be held liable for any damages resulting from the use of this product or errors in this manual.

### Note

Under copyright law, photographs or recordings of copyrighted works made with the camera cannot be used without the permission of the copyright holder. Exceptions apply to personal use, but note that even personal use may be restricted in the case of photographs or recordings of exhibits or live performances.

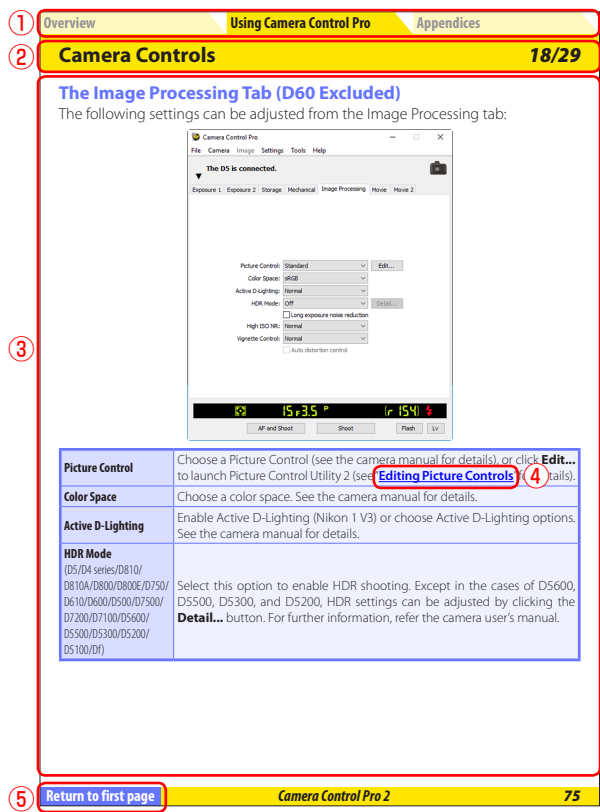
### Trademark Information


Windows is either a registered trademark or a trademark of Microsoft Corporation in the United States and/or other countries. Mac and OS X are registered trademarks of Apple Computer, Inc. in the United States and/or other countries. All other trade names mentioned in this manual or the other documentation provided with your Nikon product are trademarks or registered trademarks of their respective holders.

# About This Manual

## How to Use This Manual

The pages of this manual are structured as shown here:



- 1 Click here to go to the beginning of each of the three chapters. The chapter you are currently viewing is displayed in a darker color.
- 2 Page title
- 3 Description
- 4 **Blue underlined text** indicates a link to another part of this manual or the World Wide Web. Click the text to follow the link (note that a web browser and an Internet connection are required to link to the World Wide Web). To return to the previous topic, click the  button in Adobe Reader.
- 5 Click here to return to the first page.

System Requirements

Windows

Before installing Camera Control Pro, be sure that your system meets the following requirements:

OS	Preinstalled versions of Windows 10 Home/Pro/Enterprise, Windows 8.1 Pro/Enterprise or Windows 7 Home Basic/Home Premium/Professional/Enterprise/Ultimate (Service Pack 1). Camera Control Pro is compatible with both 64- and 32-bit operating systems and runs as a native application in 64-bit systems.
CPU	Intel Celeron, Pentium 4, or Intel Core series processor with a clock speed of 1 GHz or faster recommended
RAM	1 GB (1.5 GB or more recommended)
Hard-disk space	A minimum of 500 MB (1 GB or more recommended) of free disk space available on the system startup disk for installation and when Camera Control Pro is running.
Video resolution	1,024 × 768 pixels (XGA) or more with 24-bit color (True Color) or higher
Interface	Only built-in USB ports supported. Connect the camera directly to the computer; the camera may not function as expected when connected via a hub or other device.
Supported cameras	D5, D4-series, D3-series, D810, D810A, D800, D800E, D750, D700, D610, D600, D500, D300-series, D7500, D7200, D7100, D7000, D5600, D5500, D5300, D5200, D5100, D5000, D90, D60, Df, and Nikon 1 V3 cameras
Miscellaneous	<ul style="list-style-type: none"><li>• CD-ROM drive required when Camera Control Pro is installed from the Camera Control Pro 2 CD</li><li>• Internet connection required for Nikon Message Center 2</li></ul>

Use the latest version of Camera Control Pro 2. Check the support information at the website below for the latest on compatible cameras and operating systems.

- Europe, Africa: [www.europe-nikon.com/support/](http://www.europe-nikon.com/support/)
- Asia, Oceania, Middle East: [www.nikon-asia.com/](http://www.nikon-asia.com/)
- U.S.A.: [www.nikonusa.com/](http://www.nikonusa.com/)

Additional information may be available from the Nikon representative in your area. Visit <http://nikonimaging.com/> for contact information.

System Requirements

Mac

Before installing Camera Control Pro, be sure that your system meets the following requirements:

OS	macOS version 10.12.4 OS X version 10.11.6 or 10.10.5
CPU	Intel Core or Intel Xeon with a clock speed of 1 GHz or more
RAM	2 GB or more
Hard-disk space	A minimum of 500 MB (1 GB or more recommended) of free disk space available on the system startup disk for installation and when Camera Control Pro is running.
Video resolution	1,024 × 768 pixels (XGA) or more with 24-bit color (millions of colors) or higher
Interface	Only built-in USB ports supported. Connect the camera directly to the computer; the camera may not function as expected when connected via a hub or other device.
Supported cameras	D5, D4-series, D3-series, D810, D810A, D800, D800E, D750, D700, D610, D600, D500, D300-series, D7500, D7200, D7100, D7000, D5600, D5500, D5300, D5200, D5100, D5000, D90, D60, Df, and Nikon 1 V3 cameras
Miscellaneous	<ul style="list-style-type: none"><li>• CD-ROM drive required when Camera Control Pro is installed from the Camera Control Pro 2 CD</li><li>• Internet connection required for Nikon Message Center 2</li></ul>

Use the latest version of Camera Control Pro 2. Check the support information at the website below for the latest on compatible cameras and operating systems.

Europe, Africa: [www.europe-nikon.com/support/](http://www.europe-nikon.com/support/)

Asia, Oceania, Middle East: [www.nikon-asia.com/](http://www.nikon-asia.com/)

U.S.A.: [www.nikonusa.com/](http://www.nikonusa.com/)

Additional information may be available from the Nikon representative in your area. Visit <http://nikonimaging.com/> for contact information.



# Installing Camera Control Pro

Before installing Camera Control Pro:

- Confirm that the computer satisfies the [system requirements](#) for Camera Control Pro.
- Exit any other applications that may be running, including anti-virus software.

Follow the links below to view installation instructions for your operating system:

*Windows*

*Mac*

## Existing Versions of Camera Control Pro

If an existing copy of Camera Control Pro or Camera Control Pro 2 is detected during installation, a notification will be displayed. Follow the on-screen instructions. Note that because you will not be able to display images in earlier versions of Camera Control Pro after Camera Control Pro 2 is installed, we recommend that you download and install ViewNX 2.

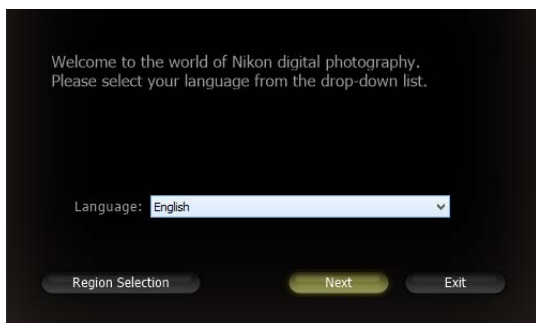
## Uninstalling Camera Control Pro

See "[Uninstalling Camera Control Pro](#)."

# Installing Camera Control Pro

**Windows 1/2**

Use an account with administrator privileges for installation. Insert the installer CD and launch the installer. A language-selection dialog will be displayed; select a language and click **Next** to display the “Welcome dialog”. If the desired language is not available, click **Region Selection** to choose a different region and then choose the desired language.



## The “Welcome” Dialog



**Install:** Install the minimum software needed to run Camera Control Pro.

**ViewNX-i Download:** Displays the download page for ViewNX-i in your web browser (Internet connection required). Camera Control Pro is not equipped with an image browser; download [ViewNX-i](#) to view pictures captured with Camera Control Pro.

**Link to Nikon:** Download Capture NX-D or Nikon NEF Codec or visit Nikon technical support websites (Internet connection required).

**Exit:** Close this dialog.

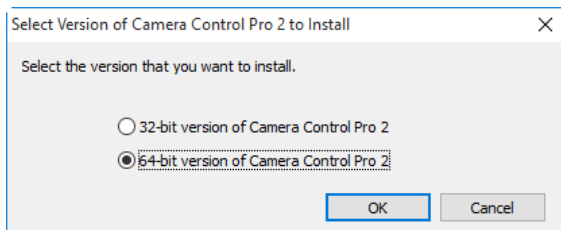
# Installing Camera Control Pro

## Windows 2/2

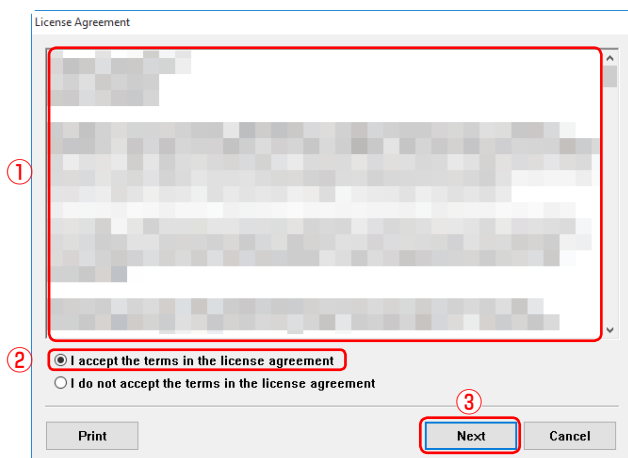
Follow the steps below to install Camera Control Pro:

- 1 Click **Install** in the "Welcome" window to launch the installer.

- 2 When prompted, choose the version appropriate to your operating system.



- 3 When prompted, read the license agreement (①), then select **I accept the terms in the license agreement** (②), click **Next** (③), and follow the on-screen instructions.

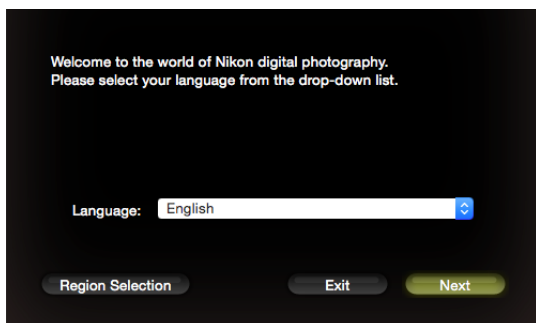


- 4 When prompted, click **Yes** and remove the installer CD.

# Installing Camera Control Pro

Mac 1/2

Use an account with administrator privileges for installation. Insert the installer CD and launch the installer. A language-selection dialog will be displayed; select a language and click **Next** to display the “Welcome dialog”. If the desired language is not available, click **Region Selection** to choose a different region and then choose the desired language.



## The “Welcome” Dialog



**Install:** Install the minimum software needed to run Camera Control Pro.

**ViewNX-i Download:** Displays the download page for ViewNX-i in your web browser (Internet connection required). Camera Control Pro is not equipped with an image browser; download [ViewNX-i](#) to view pictures captured with Camera Control Pro.

**Link to Nikon:** Download Capture NX-D or Nikon NEF Codec or visit Nikon technical support websites (Internet connection required).

**Exit:** Close this dialog.

# Installing Camera Control Pro

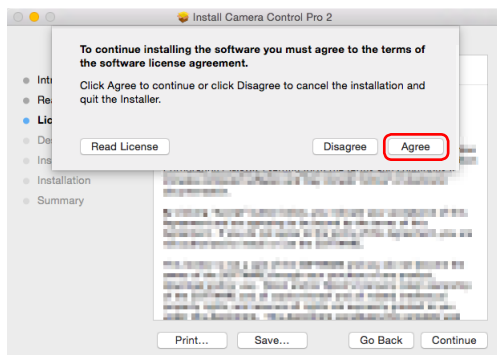
**Mac 2/2**

Follow the steps below to install Camera Control Pro:

- 1 Click **Install** and follow the on-screen instructions.



- 2 When prompted, read the license agreement, click **Agree**, and follow the on-screen instructions.



- 3 When prompted, click **OK** and remove the installer CD.

# Starting and Exiting Camera Control Pro

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## Starting Camera Control Pro

- 1 Turn the camera off and use the USB cable to connect the camera to the computer as described in the camera manual.
- 2 Turn the camera on. If Nikon Transfer starts, click the close button.
- 3 Start Camera Control Pro.

### LANs

See the wireless transmitter manual for information on connecting to cameras via local area networks (LANs) using wireless transmitters such as the WT-6 or WT-7. Note that under Mac OS X, the Image Capture application supplied with Mac OS will launch when the camera is connected via wireless LAN or Ethernet. Do not select the camera in the Image Capture "SHARED" list, as Camera Control Pro will subsequently be unable to connect to the camera.

### USB

If there is a **USB** option in the camera setup menu, select **PTP** or **MTP/PTP** before starting Camera Control Pro.

### Before Starting Camera Control Pro

If you are using a D3- or D300-series or D7000 camera, select a release mode other than **Mup** (mirror up).

### Product Key

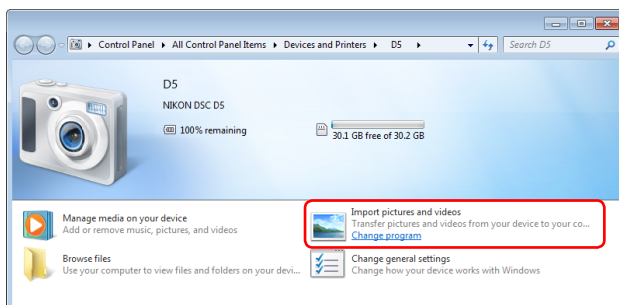
If prompted to supply a [product key](#), enter the key found on the product packaging and click **OK**. Users of the trial version will see a dialog listing the time remaining in the thirty-day trial period; click **Trial** to use the trial version or **Buy** (if available) to visit a website where you can purchase a product key (Internet connection required). Be sure not to lose the key or the key for any existing versions of Camera Control Pro, as they may be required when re-installing or upgrading the product.

# Starting and Exiting Camera Control Pro

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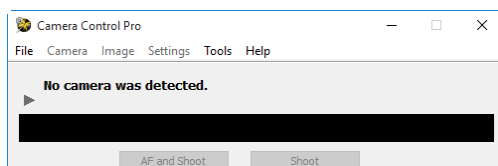
## Windows 7

If the following dialog is displayed, click **Change program** under "Import pictures and videos" and follow the on-screen instructions to select Camera Control Pro 2.



## No Camera Connected

Most features of Camera Control Pro are only available when a camera is connected and turned on. If no camera is detected, the message shown below will be displayed. Connect the camera and turn it on.



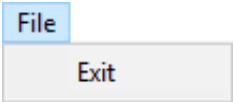
Starting and Exiting Camera Control Pro

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Exiting Camera Control Pro

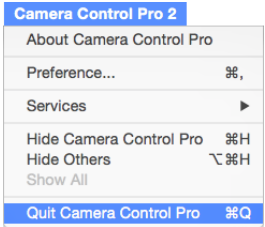
Windows

Select **Exit** from the **File** menu.



Mac

Select **Quit Camera Control Pro** from the application menu.



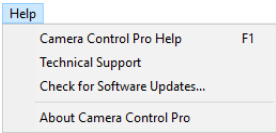
Terminating the Connection

To end the connection between camera and the computer, turn the camera off and disconnect the USB cable.

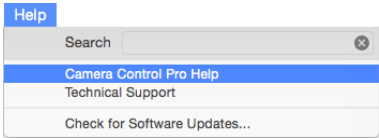


# Getting Help

To view help on Camera Control Pro, select **Camera Control Pro Help** from the **Help** menu.



*Windows*



*Mac*

# Software Updates

Camera Control Pro is equipped with an automatic update function known as Nikon Message Center 2. Nikon Message Center 2 checks for updates to a variety of Nikon digital products, including Camera Control Pro. If the computer is connected to the Internet, Nikon Message Center 2 will automatically check for updates and display an update dialog when an update is available. See the Nikon Message Center 2 **Help** menu for more information.

## Downloading Updates

An Internet connection is required to download updates.

## Privacy

Information provided by the user as part of this service will not be given to third parties without the user's permission.

# Using Camera Control Pro

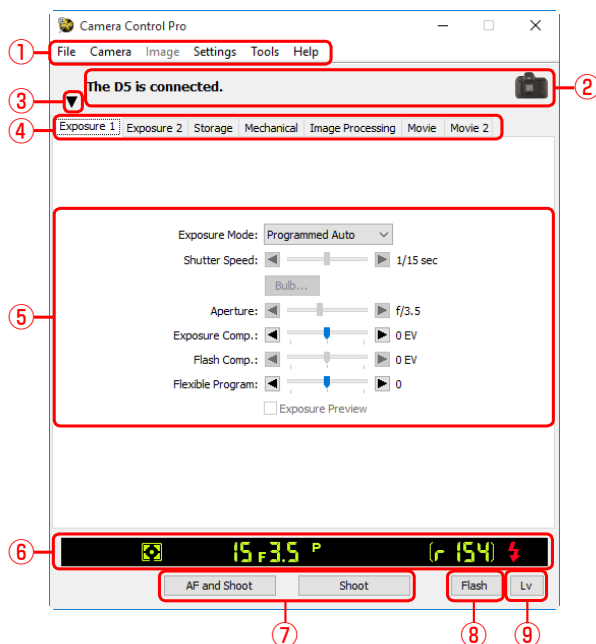
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# Screen Layout

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Camera Control Pro screen layout is described below using the D5 as an example.

## Windows

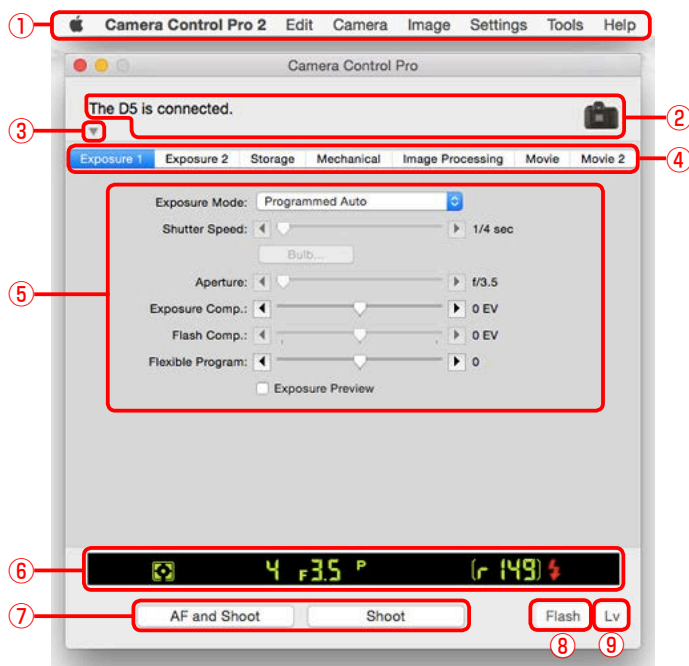


- ① **Menu bar**
- ② **Connection status:** Shows the status and name of any cameras connected.
- ③ **▼/▶:** View or hide camera controls. Camera controls can also be displayed or hidden by selecting **Show/Hide Camera Control Panels** in the **Tools** menu.
- ④ **Camera control tabs:** Click to view the associated camera controls.
- ⑤ **Camera controls:** Adjust camera settings.
- ⑥ **Simulated LCD panel:** Performs the same function as the information display in the camera viewfinder or monitor.
- ⑦ **Shoot buttons:** Click these buttons to take pictures. These buttons can also be assigned **keyboard shortcuts**.
- ⑧ **Flash button:** Opens the flash control window; available only when **Flash Control** is available in the camera photo shooting menu (D5/D500).
- ⑨ **Live view button:** Opens the live view window and/or starts live view.

# Screen Layout

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## Mac



- ① **Menu bar**
- ② **Connection status:** Shows the status and name of any cameras connected.
- ③ **▼/▶:** View or hide camera controls. Camera controls can also be displayed or hidden by selecting **Show/Hide Camera Control Panels** in the **Tools** menu.
- ④ **Camera control tabs:** Click to view the associated camera controls.
- ⑤ **Camera controls:** Adjust camera settings.
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- ⑦ **Shoot buttons:** Click these buttons to take pictures. These buttons can also be assigned **keyboard shortcuts**.
- ⑧ **Flash button:** Opens the flash control window; available only when **Flash Control** is available in the camera photo shooting menu (D5/D500).
- ⑨ **Live view button:** Opens the live view window and/or starts live view.

# Capturing Photographs to Disk

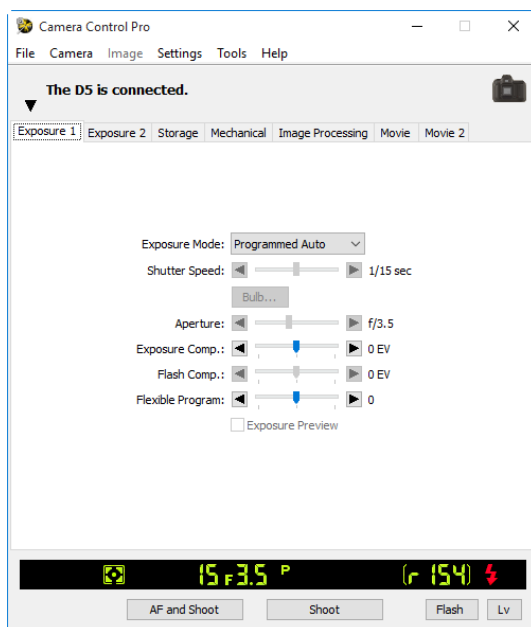
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If Camera Control Pro is running when a supported camera connected, pictures taken with the camera will be stored on your computer hard disk instead of (or, in some cases, in addition to) the camera memory card. Pictures can be taken using either the “shoot” buttons in the Camera Control Pro window or, if [Enable Controls on Camera Body](#) is selected in the **Camera** menu, using the camera shutter-release button.

**D5, D4-Series, D3S, D810, D810A, D800, D800E, D750, D610, D600, D500, D7500, D7200, D7100, D7000, D5600, D5500, D5300, D5200, D5100, Df, and Nikon 1 V3 Cameras**

If a D5, D4-series, D3S, D810, D810A, D800, D800E, D750, D610, D600, D500, D7500, D7200, D7100, D7000, D5600, D5500, D5300, D5200, D5100, Df, or Nikon 1 V3 camera is connected, photographs can be recorded simultaneously to both the computer hard disk and camera memory cards, or separately to either the computer hard disk or camera memory cards. See [Record to](#) for details.

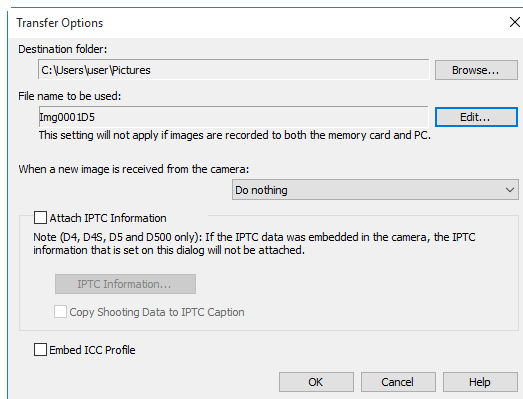
- 1 Start Camera Control Pro. If a Nikon 1 V3 is connected, the live view window will be displayed.



# Capturing Photographs to Disk

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2 Select **Transfer Options...** in the **Tools** menu to display transfer options.



# Capturing Photographs to Disk

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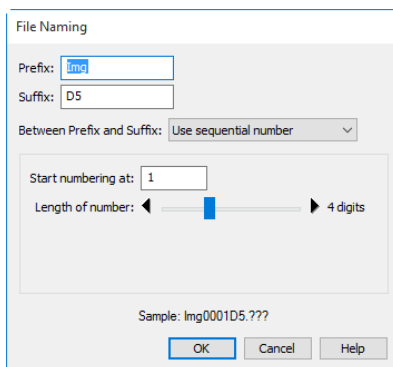
## 3 Adjust capture options:

### Destination folder

Select the folder to which photographs will be saved as they are taken.

### File name to be used

Shows how images saved to the computer will be named. To change how files are named, click **Edit...** The dialog shown below will be displayed. Using the sample file name as a guide, enter a prefix and suffix and choose the starting number and number of digits for automatic file numbering. You can also use the shooting date and time in the file name.



The image shows a 'File Naming' dialog box. It has a 'Prefix' field with 'img' entered, a 'Suffix' field with 'D5' entered, and a 'Between Prefix and Suffix' dropdown menu set to 'Use sequential number'. Below these is a 'Start numbering at' field with '1' entered, and a 'Length of number' slider set to '4 digits'. At the bottom, a 'Sample' field shows 'img0001D5.???'. There are 'OK', 'Cancel', and 'Help' buttons at the bottom right.

[Step 3 continues on the next page](#)

## File Naming Conventions

**Windows:** File names should contain no more than one hundred characters. File names may not contain quotes or any of the following characters: "\" "/" ":" "\*" "?" "<" ">" and "|". Periods (".") may not appear at the beginning or the end of file names.

**Mac:** The maximum length for OS X file names is twenty characters. Colons (":") are not allowed.

**Extensions:** Extensions are assigned automatically. The following extensions are used: ".JPG" (JPEG images), ".TIF" (TIFF images), ".NEF" (NEF/RAW images), and ".NDF" (Image Dust Off reference data).

**"PC+CARD"/"CARD" (D5/D4 Series/D3S/D810/D810A/D800/D800E/D750/D610/D600/D500/D7500/D7200/D7100/D7000/D5600/D5500/D5300/D5200/D5100/Df/Nikon 1 V3)**

The file name selected for **File name to be used** is not available when **PC+CARD** or **CARD** is selected for **Record to**. If **PC+CARD** is selected, file name saved to the computer will be assigned the same as the file name saved to the memory card. An underscore and a four-digit number will automatically be added if a file with the same name already exists.



# Capturing Photographs to Disk

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## When a new image is received from the camera

Choose the application that will be used to display captured photographs after they are saved to disk

- **Do nothing:** Photographs are not displayed after being saved to the computer hard disk.
- **Show it with ViewNX-i** (available only if ViewNX-i is installed): ViewNX-i starts automatically and displays the captured images. See ViewNX-i help for details. Use the latest version of ViewNX-i.
- **Show it with ViewNX 2** (available only if ViewNX 2 is installed): ViewNX 2 starts automatically and displays the captured images. See ViewNX 2 help for details. Use the latest version of ViewNX 2.
- **Show it with ViewNX** (available only if ViewNX is installed): ViewNX starts automatically and displays the captured images. See ViewNX help for details. Use the latest version of ViewNX.
- **Send it to Capture NX 2 watched folder** (available only if Capture NX 2 is installed and a “Watched folder” has been selected): If Capture NX 2 (available separately) is running, photographs will be saved in the folder currently selected as the “watched” folder in Capture NX 2 (see the Capture NX 2 manual for details; see the camera or Capture NX 2 manual for information on whether the camera is supported under Capture NX 2). Pictures will automatically be processed according to the batch settings in Capture NX 2.
- **Send it to Capture NX watched folder** (available only if Capture NX is installed and a “Watched folder” has been selected; if Capture NX 2 is installed, this item will not be displayed): If Capture NX (available separately) is running, photographs will be saved in the folder currently selected as the “watched” folder in Capture NX (see the Capture NX manual for details; see the camera or Capture NX manual for information on whether the camera is supported under Capture NX). Pictures will automatically be processed according to the batch settings in Capture NX.

[Step 3 continues on the next page](#)

# Capturing Photographs to Disk

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## Attach IPTC Information

Check this option to add IPTC information to captured images and enable the **Copy Shooting Data to IPTC Caption** option. Note that the IPTC information entered using Camera Control Pro will not be added to photographs taken with D5, D4-series, and D500 cameras when **Auto embed during shooting** is selected for **IPTC** in the camera setup menu, which will instead contain the IPTC information selected using the camera regardless of the option selected in Camera Control Pro.

## IPTC Information...

Clicking this button displays a dialog where you can select the IPTC information, including keywords and captions, that will be added to images as they are captured.

## Copy Shooting Data to IPTC Caption

Check this option to copy shooting data to the caption field of images as they are captured.

## Embed ICC Profile

Select this option to embed an ICC profile according to the camera Color Space settings. The ICC profile is embedded in JPEG and TIFF images as they are captured.

## Image Authentication (D3 series/D700/D300 series)

The **Attach IPTC Information** and **Embed ICC Profile** options do not apply to photographs taken with Image Authentication on. Image authentication information is not embedded in TIFF photographs when images are captured using Camera Control Pro. IPTC information and ICC color profiles are not embedded in images saved to the camera memory cards when **PC+CARD** or **CARD** is selected for **Record to** (D5/D4 series/D3S/D810/D810A/D800/D800E/D750/D610/D600/D500/D7500/D7200/D7100/D7000/D5600/D5500/D5300/D5200/D5100/Df/Nikon 1 V3).

## Capturing Photographs to Disk

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- 4 After adjusting options as described in Step 3, click **OK** to exit the dialog and apply settings to subsequent photographs. Note that if **On** or **Automatic** (the default setting) is selected for the auto image rotation option in the camera menus or during live view, the camera will detect camera orientation and automatically embed this information in photographs (note in the case of the D300, D90, D60, D5100, and D5000, the orientation for the first image in each burst taken in continuous mode applies to all images in the series, even if camera orientation is changed during shooting). If **Off** is selected, camera orientation will not be recorded. To add information on picture orientation during transfer, open the **Image** menu and select **Rotate images by 90 degrees CW** to mark pictures as being rotated 90° to the right, or **Rotate images by 90 degrees CCW** to mark pictures as being rotated 90° to the left.

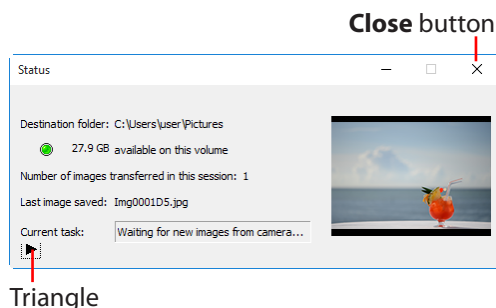
### Image Authentication (D3 series/D700/D300 series)

The “Rotate images...” options do not apply to photographs taken with Image Authentication on. Image authentication information is not embedded in TIFF photographs when images are captured using Camera Control Pro.

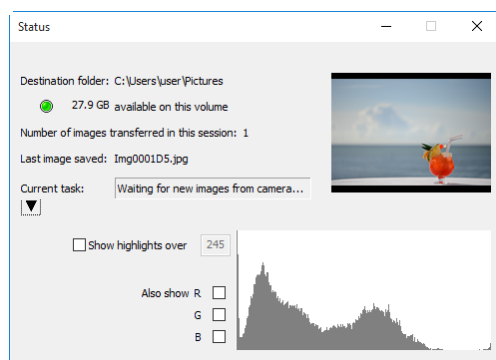
# Capturing Photographs to Disk

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- 5 Take pictures using the camera shutter-release button or the “shoot” buttons in Camera Control Pro. The Status dialog shown below will be displayed.



To display a histogram of the current image, click the triangle at the bottom of the Status dialog.



If the **Show highlights over** option is checked, any areas of the preview image with a brightness over the value entered in the neighboring text box will be indicated by a flashing border. To display **histograms** (graphs showing the distribution of pixels of different brightnesses in the image) for the red (**R**), green (**G**), and blue (**B**) channels, put a check in the corresponding box.

## Viewing Captured Photographs

If **Show it with ViewNX-i**, **Show it with ViewNX 2**, or **Show it with ViewNX** is selected for [When a new image is received from the camera](#) in the [“Transfer Options” dialog](#), pictures will automatically be displayed in the selected application after capture (for details, see the on-line help for the selected application; be sure to always use the latest version). The images displayed are those in the folder selected for **Destination folder** in the “Transfer Options” dialog.

### Viewing Pictures in ViewNX-i, ViewNX 2, or ViewNX

If **Show images captured by Camera Control Pro 2** is selected in the ViewNX-i, ViewNX 2, or ViewNX **File** menu, pictures captured using Camera Control Pro 2 will automatically be displayed in the image area.

# Live View

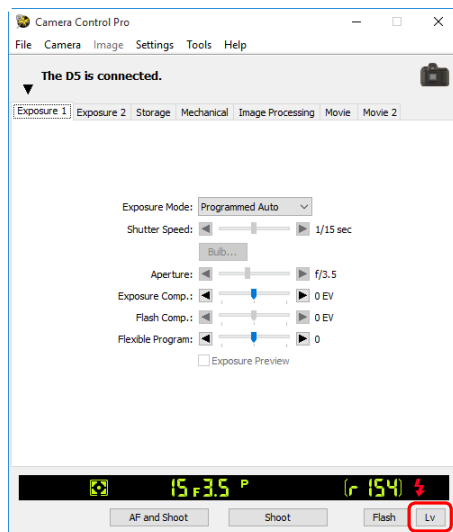
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Take pictures in the live view window.

## D-SLR Cameras

When a camera that supports live view is connected, photographs can be framed in the live view window.

- 1 Click the **Lv** (live view) button.



## Starting Live View (D750/D610/D600/D7500/D7200/D7100/D5600/D5500/D5300/D5200)

Live view photography can only be started in programmed auto, shutter-priority auto, aperture-priority auto, or manual exposure mode.


# Live View

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- 2 Adjust settings in the live view window as described in [“Live View for D3-Series, D700, and D300-Series Cameras: Hand-held,”](#) [“Live View for D3-series, D700, and D300-series Cameras: Tripod,”](#) [“Live View for D90, D7000, D5600, D5500, D5300, D5200, D5100, D5000, and Df Cameras”](#) or [“Live View for D5, D4-Series, D810, D810A, D800, D800E, D750, D610, D600, D500, D7500, D7200, and D7100 Cameras.”](#) Note that the controls on the camera body cannot be used while the live view window is displayed.
- 3 Take pictures using the **Shoot** or **AF and Shoot** buttons in the live view window. A [status dialog](#) will be displayed.
- 4 Click the **Lv** button to end live view (note that the live view window will close automatically if the camera is disconnected). Live view can be started again at any time by clicking the **Lv** button.

Live View for D3-Series, D700, and D300-Series Cameras: Hand-held




① Image area	Shows the view through the camera lens, updated in real time, with the current focus point (  ) superimposed.
② Navigation area	When the live view display is zoomed in, the navigation window shows the position of the area currently displayed in the monitor.
③ Magnification ratio	Choose a zoom ratio to zoom the view in the image area in or out.
④ “Zoom to fit”	Automatically fit the live view display to the image area.
⑤ Rotate buttons	Rotate the live view display in the image area.
⑥ “Auto rotate”	If this option is selected, the live view display will automatically be rotated with the camera.
⑦ Live view mode	Choose from <b>Hand-held</b> and <b>Tripod</b> .



⑧	<b>“Focus point”</b>	Click the arrows to move the focus point.
⑨	<b>AF button</b>	Set exposure and focus the camera using normal (phase-detection) AF.
⑩	<b>Framing grid button</b>	Display or hide a framing grid.
⑪	<b>AF area button</b>	Display or hide the focus area.
⑫	<b>Virtual horizon button</b>	Display or hide a virtual horizon. Available with the D3 from firmware version 2.00 and with the D3X, D3S, D700, and D300S.
⑬	<b>“Highlight display”</b>	Select this option to view highlights. Highlights are indicated by shading.
⑭	<b>“Shoot”</b>	Take a picture.
⑮	<b>“AF and Shoot”</b>	Focus and then take a picture.
⑯	<b>“Lv”</b>	Click to start or stop live view.

Live View for D3-Series, D700, and D300-Series Cameras: Tripod






① Image area	Shows the view through the camera lens, updated in real time, with the focus point (  ) superimposed.
② Navigation area	When the live view display is zoomed in, the navigation window shows the position of the area currently displayed in the monitor.
③ Magnification ratio	Choose a zoom ratio to zoom the view in the image area in or out.
④ “Zoom to fit”	Automatically fit the live view display to the image area.
⑤ Rotate buttons	Rotate the live view display in the image area.
⑥ “Auto rotate”	If this option is selected, the live view display will automatically be rotated with the camera.
⑦ Live view mode	Choose from <b>Hand-held</b> and <b>Tripod</b> .

⑧ "Adjust focus"	Click these buttons to adjust focus by the amount selected with the slider. Click + to move the focal point away from the camera, – to bring it toward the camera.
⑨ AF button	Click to initiate contrast-detect autofocus; click again to end autofocus.
⑩ Framing grid button	Display or hide a framing grid.
⑪ Virtual horizon button	Display or hide a virtual horizon. Available with the D3 from firmware version 2.00 and with the D3X, D3S, D700, and D300S.
⑫ "Highlight display"	Select this option to view highlights. Highlights are indicated by shading.
⑬ "Shoot"	Take a picture.
⑭ "AF and Shoot"	Focus using contrast-detect AF and then take a picture. No picture will be taken if the camera is unable to focus.
⑮ "Lv"	Click to start or stop live view.

Live View for D90, D7000, D5600, D5500, D5300, D5200, D5100, D5000, and Df Cameras



① Image area	Shows the view through the camera lens, updated in real time, with the focus point (  ) superimposed. The focus point can be moved to a new location by clicking in the image area. In face-priority AF, faces detected by the camera are indicated by a border (  ) and the current focus point by a  icon.
② Navigation area	When the live view display is zoomed in, the navigation window shows the position of the area currently displayed in the monitor.
③ Magnification ratio	Choose a zoom ratio to zoom the view in the image area in or out.
④ “Zoom to fit”	Automatically fit the live view display to the image area.
⑤ Rotate buttons	Rotate the live view display in the image area.
⑥ “Auto rotate”	If this option is selected, the live view display will automatically be rotated with the camera.
⑦ Focus mode	Choose a focus mode for live view or movie recording (D7000, D5600, D5500, D5300, D5200, D5100, and Df only). In the cases of the D7000 and D5100, the focus mode is changed to <b>MF</b> (manual focus) from <b>AF-F</b> (full-time servo AF) automatically if the focus ring is rotated by manual during live view. Restart live view if you want to shoot in live view in AF-F mode.




## Live View

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⑧ <b>AF area mode</b>	Choose an AF area mode option for live view autofocus.
⑨ <b>“Adjust focus”</b>	Click these buttons to adjust focus by the amount selected with the slider. Click + to move the focal point away from the camera, – to bring it toward the camera.
⑩ <b>AF button</b>	Click to initiate contrast-detect autofocus; click again to end autofocus.
⑪ <b>Spot white balance button</b> (Df)	Click this button and then click the preview in the image area to set preset manual white balance to the sampled value (spot white balance).
⑫ <b>Framing grid button</b>	Display or hide a framing grid.
⑬ <b>Virtual horizon button</b>	Display or hide a virtual horizon (D7000, Df only).
⑭ <b>“Highlight display”</b>	Select this option to view highlights. Highlights are indicated by shading.
⑮ <b>“Shoot”</b>	Take a picture.
⑯ <b>“AF and Shoot”</b>	Focus using contrast-detect AF and then take a picture. No picture will be taken if the camera is unable to focus.
⑰ <b>“Lv”</b>	Click to start or stop live view.
⑱ <b>“REC” button</b>	Start or stop movie recording (D7000, D5600, D5500, D5300, D5200 and D5100 only). Movie recording ends automatically when you end live view, the maximum length is reached, or there is no additional space on the storage device.
⑲ <b>Time available</b>	The amount of additional movie footage that can be recorded (D7000, D5600, D5500, D5300, D5200 and D5100 only).
⑳ <b>Sound volume indicator</b>	Display the sound level during movie live view and movie recording (D5600, D5500, D5300, D5200 only).

Live View for D5, D4-Series, D810, D810A, D800, D800E, D750, D610, D600, D500, D7500, D7200, and D7100 Cameras



① Image area	Shows the view through the camera lens, updated in real time, with the focus point (  ) superimposed. The focus point can be moved to a new location by clicking in the image area. In face-priority AF, faces detected by the camera are indicated by a border (  ) and the current focus point by a  icon.
② Navigation area	When the live view display is zoomed in, the navigation window shows the position of the area currently displayed in the monitor.
③ Magnification ratio	Choose a zoom ratio to zoom the view in the image area in or out.
④ “Zoom to fit”	Automatically fit the live view display to the image area.
⑤ Rotate buttons	Rotate the live view display in the image area.
⑥ “Auto rotate”	If this option is selected, the live view display will automatically be rotated with the camera.
⑦ Focus mode	Choose a focus mode for live view or movie recording.

## Live View

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⑧ <b>AF area mode</b>	Choose an AF area mode option for live view autofocus.
⑨ <b>“Adjust focus”</b>	Click these buttons to adjust focus by the amount selected with the slider. Click + to move the focal point away from the camera, – to bring it toward the camera.
⑩ <b>AF button</b>	Click to initiate contrast-detect autofocus; click again to end autofocus.
⑪ <b>Spot white balance button</b> (D5/D4S/D810/D810A/D750/D500/D7500/D7200/D7100)	Click this button and then click the preview in the image area to set preset manual white balance to the sampled value (spot white balance).
⑫ <b>Framing grid button</b>	Display or hide a framing grid.
⑬ <b>Virtual horizon button</b>	Display or hide a virtual horizon.
⑭ <b>“Highlight display”</b>	Select this option to view highlights. Highlights are indicated by shading.
⑮ <b>“Shoot”</b>	Take a picture.
⑯ <b>“AF and Shoot”</b>	Focus using contrast-detect AF and then take a picture. No picture will be taken if the camera is unable to focus.
⑰ <b>“Live view selector” button</b>	Select <b>Photo live view</b> or <b>Movie live view</b> . In the case of the D4, this option is not available during live view or when <a href="#">Enable Controls on Camera Body</a> is selected.
⑱ <b>“Lv”</b>	Click to start or stop live view.
⑲ <b>“REC” button</b>	Start or stop movie recording. Movie recording ends automatically when live view ends, the maximum length is reached, or there is no additional space on the storage device.
⑳ <b>Time available</b>	The amount of additional movie footage that can be recorded.
㉑ <b>Sound volume indicator</b>	Display the sound level during movie live view and movie recording.

# Live View

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## Live View Autofocus (D3-series/D700/D300-series Excluded During Hand-Held Live View)

Double-clicking the live view display initiates contrast-detect autofocus or, if focusing is already in progress, cancels the focus operation.

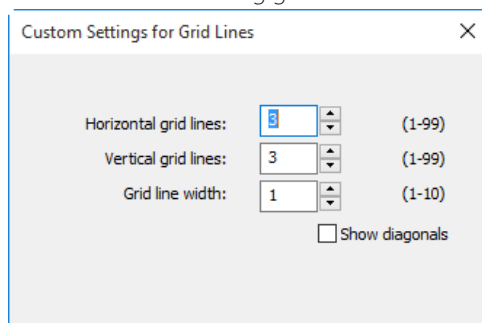
## The Live View Countdown Display

The camera's internal temperature may rise if live view is used for extended periods. To prevent damage to the camera's internal circuits, live view will end automatically before the camera overheats. A countdown display will appear 30 s before live view ends. At high ambient temperatures, this display may appear immediately when live view mode is selected. For more information on live view, see the camera manual.

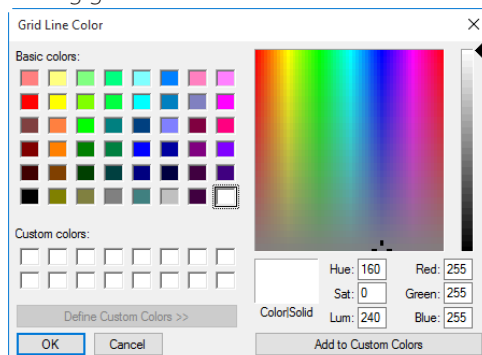
## The Framing Grid

Click the  button in the framing grid display to choose from the following framing grids:

- **Same as Camera** (D5/D4 series): The framing grid varies with the option selected for image area.
- **3 × 3**: A grid with three evenly spaced-vertical and horizontal lines.
- **Custom Settings...**: Selecting this option displays the following dialog, where you can choose the number and thickness of the lines in the framing grid.



- **Grid Line Color...**: Selecting this option displays the following dialog, where you can choose the color of the lines in the framing grid.





# Live View

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## Live View

Depending on the camera mode, some functions may be disabled during live view. In such a case, try again after finishing live view.

## Live Frame Grab (D5/D4 Series)

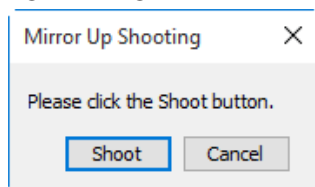
If the shutter-release button has been assigned the **Live frame grab** role for movie recording in the camera Custom Settings menu, the **Shoot** button can be used during movie recording to take up to 50 fine-quality JPEG photographs at the current movie frame size.

## Spot White Balance

Spot white balance is not available with movies or when an option other than preset manual is selected for white balance, an option other than **Off** is selected for **HDR Mode**, or the value currently selected for preset manual white balance is protected.

## Mirror Up Shooting (D5/D810A/D500/D7500)

In mirror-up release mode, the **AF and Shoot** and **Shoot** buttons change to **AF and Mup Shoot** and **Mup Shoot**, respectively. Both can be used to take pictures in mirror-up mode: in the former case, the picture will be taken after the camera focuses, while in the latter the picture will be taken when the button is pressed. If the flash is raised or an optional flash unit is attached, clicking either button displays the following message. Clicking **Shoot** releases the shutter and lowers the mirror.






Take pictures in the live view window.

The Nikon 1 V3

When Nikon 1 V3 is connected, photographs can be framed in the live view window.



① Image area	Shows the view through the camera lens, updated in real time (“live view”). If single-point AF is selected for AF-area mode, the focus point (  ) will be displayed and can be moved to a new location by clicking in the image area (the focus point is not displayed when auto-area AF is selected). If <b>Face detection</b> is selected in the “Mechanical” tab, faces detected by the camera will be indicated by a border (  ) and the current focus point by a  icon.
② “Zoom to fit”	Automatically fit the live view display to the image area.
③ Rotate buttons	Rotate the live view display in the image area.
④ “Auto rotate”	If this option is selected, the live view display will automatically be rotated with the camera.
⑤ “Adjust focus”	Click these buttons to adjust focus by the amount selected with the slider. Click + to move the focal point away from the camera, – to bring it toward the camera.

# Live View

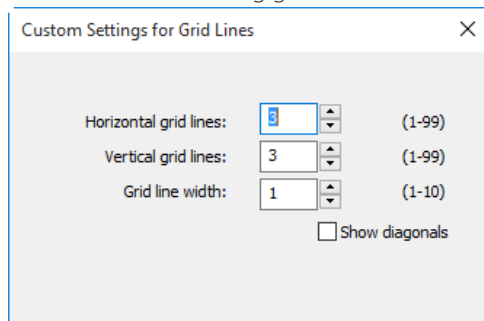
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⑥ <b>"AF"</b>	Click to initiate hybrid phase-detection/contrast-detect autofocus; click again to end autofocus.
⑦ <b>Framing grid button</b>	Display or hide a framing grid.
⑧ <b>Virtual horizon button</b>	Display or hide a virtual horizon.
⑨ <b>"Highlight display"</b>	Select this option to view highlights. Highlights are indicated by shading.
⑩ <b>"Shoot"</b>	The camera will take a picture after focusing using hybrid AF. No picture will be taken if the camera is unable to focus.
⑪ <b>Live view selector buttons</b>	Select photo or movie live view.
⑫ <b>"Lv"</b>	Click to start or stop live view.
⑬ <b>"REC" button</b>	Start or stop movie recording. Movie recording ends automatically when the maximum length is reached or there is no additional space on the storage device.
⑭ <b>Time available</b>	The amount of additional movie footage that can be recorded.

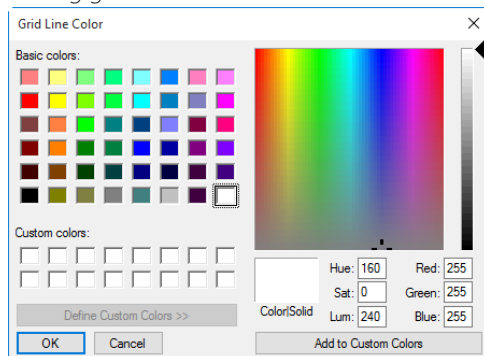
## The Framing Grid

Click the  button in the framing grid display to choose from the following framing grids:

- **3 × 3:** A grid with three evenly spaced-vertical and horizontal lines.
- **Custom Settings...:** Selecting this option displays the following dialog, where you can choose the number and thickness of the lines in the framing grid.



- **Grid Line Color...:** Selecting this option displays the following dialog, where you can choose the color of the lines in the framing grid.



## Live View

Some functions may not be available when live view is off. These functions will be re-enabled when live view starts.

## Active Selection (Nikon 1 V3)

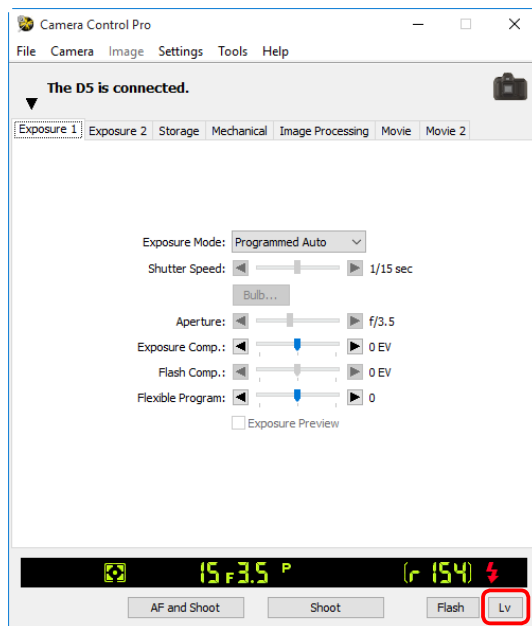
If **Active Selection** is enabled in best moment capture mode, the **Shoot** button will change to **Buffering**. Clicking the button starts buffering and changes the button label back to **Shoot**; click **Shoot** to record 40 photographs.

# Recording Movies

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When camera that supports movie recording using Camera Control Pro 2 is connected, movies can be recorded (with sound) in the live view window. Note that movies can only be recorded when a memory card is inserted in the camera. Be sure a memory card is inserted before proceeding.

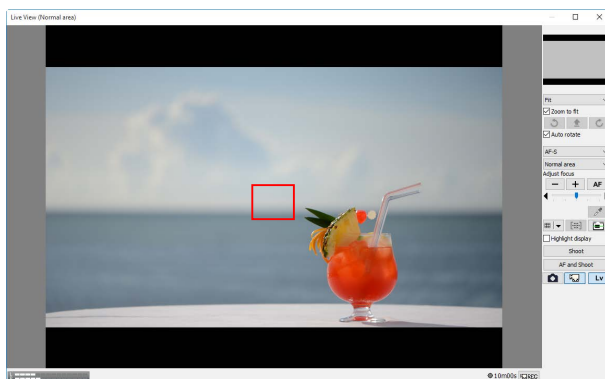
**1** Click the **Lv** (live view) button.



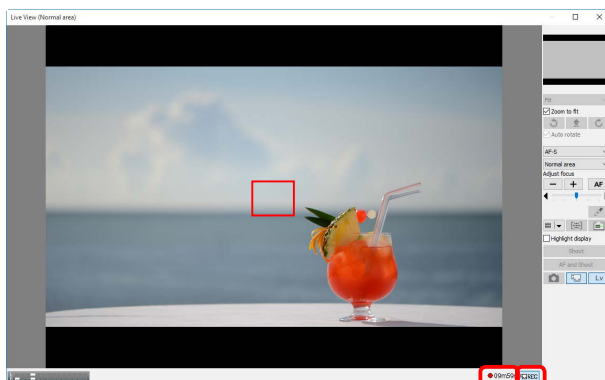
# Recording Movies

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2 Adjust settings in the live view window and the [Movie Tab](#).



3 Click **REC** to begin recording.

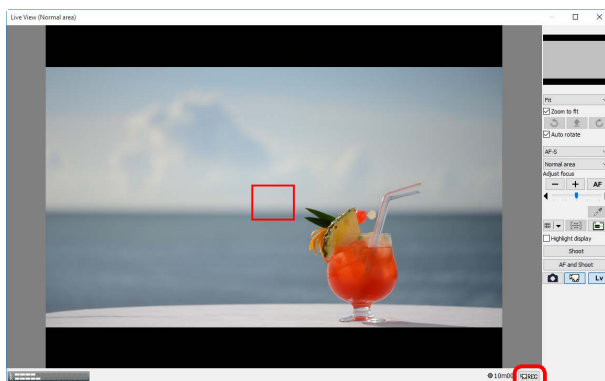


The time remaining is shown in the lower right corner of the live view window. If no memory card is inserted, a warning will be displayed and no movie will be recorded.

# Recording Movies

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- 4 To end recording, click **REC** again. Recording ends automatically when the time remaining expires or the memory card is full.



## The Live View Countdown Display

The camera's internal temperature may rise if live view is used for extended periods. To prevent damage to the camera's internal circuits, live view will end automatically before the camera overheats. A countdown display will appear 30 s before live view ends. At high ambient temperatures, this display may appear immediately when live view mode is selected. For more information on movie recording, see the camera manual.

## Copying Movies to the Computer

If **Transfer movie file to PC** is selected in the [Movie Tab](#), movies will automatically be copied to the computer after recording. If this option is not selected, movies will be saved only to the camera memory card.

## Taking Photos During Movie Recording (Nikon 1 V3)

When a Nikon 1 V3 is connected, photos can be taken by clicking the **Shoot** button during movie recording (note that this function is not available during slow-motion recording). You can take up to 20 shots; the photos are saved to the camera memory card as fine-quality JPEG images at the size selected in the [Movie Tab](#). If **Transfer movie file to PC** is selected in the "Movie" tab, the photos will be uploaded when the movie is copied to the computer.

# Interval Timer Shooting

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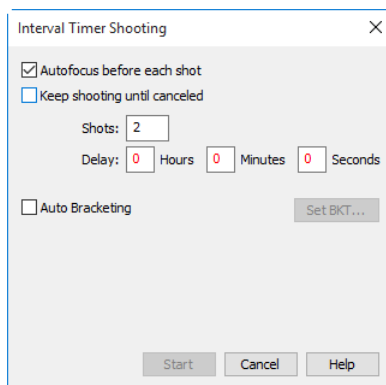
Using Camera Control Pro, you can take a series of photographs automatically at a time interval you select.

## Note:

The interval timer shooting is not available when:

- pictures are being transferred,
- live view shooting is in progress (Nikon 1 V3 excluded),
- a movie is being recorded,
- HDR mode is enabled (D5600/D5500/D5300/D5200/D5100) or set to **On (single photo)** (D5/D4 series/D810/D810A/D800/D800E/D750/D610/D600/D500/D7500/D7200/D7100/Df),
- **Time** is selected for **Shutter speed** in the “Exposure 1” tab (D5/D4S/D810/D810A/D750/D500/D7500/D7200/D7100/D5600/D5500/D5300/Df),
- **Active Selection** is chosen for **Best moment capture** in the “Exposure 1” tab (Nikon 1 V3), or
- **Slow motion** is chosen for **Advanced Movie Mode** in the “Movie” tab (Nikon 1 V3).

- 1 Select **Interval Timer Shooting...** from the **Camera** menu. The Interval Timer Shooting dialog will be displayed.





# Interval Timer Shooting

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**2** Before shooting starts, adjust the following settings:

## **Autofocus before each shot** (Nikon 1 V3 excluded)

If this option is checked, the camera will perform an autofocus operation before each shot. If the selected focus mode is AF-A (supported cameras only) or single-servo AF, an autofocus operation will be performed even when the check box is off. This option is not available when "Bulb" is selected for shutter speed.

## **Keep shooting until canceled**

If this option is checked, the camera will continue to take photographs until you click **Stop Shooting** in the "Interval Timer Shooting" dialog.

## **"Shots"**

Choose a number of shots from 2 to 9,999. This option is not available when **Keep shooting until canceled** is selected.

## **"Delay"**

The delay between shots can be set to any value between one second and ninety-nine hours, fifty-nine minutes, and fifty-nine seconds.

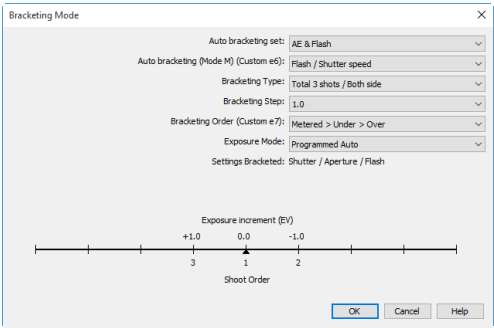
[Step 2 continues on the next page](#)

Interval Timer Shooting

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Auto bracketing (D60, Nikon 1 V3 excluded)

Select this option to perform exposure, flash, white balance, or ADL bracketing during shooting. To change bracketing options, click **Set BKT...** The dialog shown below will be displayed.



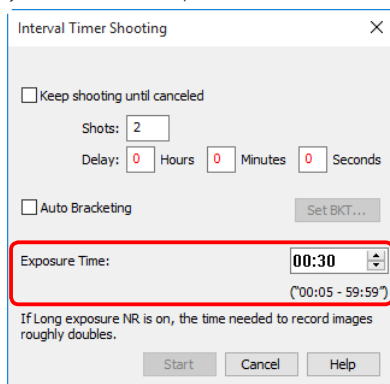
<b>Auto bracketing set</b>	Choose the type of bracketing performed.
<b>Auto bracketing (Mode M)</b> (D5/D4 series/D3 series/D810/ D810A/D800/D800E/D700/ D500/D300 series/Df)	Choose how bracketing is performed in manual exposure mode.
<b>Bracketing Type/ Bracketing Step/ Bracketing Order</b>	Adjust bracketing settings. Bracketing type and bracketing order are not available with the D5600, D5500, D5300, D5200, D5100 and D5000.
<b>Exposure Mode</b>	Choose an exposure mode.

# Interval Timer Shooting

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## Exposure Time

If "Bulb" is selected for shutter speed, the following dialog will be displayed (D5, D4-series, D810, D810A, D800, D800E, D750, D610, D600, D500, D7500, D7200, D7100, D5600, D5500, D5300, D5200, Df, and Nikon 1 V3 cameras only). Choose an exposure time.



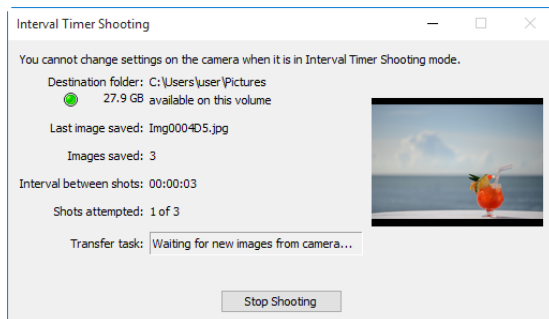
The dialog box titled "Interval Timer Shooting" contains the following settings:

- ☐ Keep shooting until canceled
- Shots: 2
- Delay: 0 Hours 0 Minutes 0 Seconds
- ☐ Auto Bracketing
- Exposure Time: 00:30 (00:05 - 59:59)
- If Long exposure NR is on, the time needed to record images roughly doubles.
- Buttons: Start, Cancel, Help

3 Click **Start**. New photographs will be processed according to the option selected for [When a new image is received from the camera](#) in the ["Transfer Options" dialog](#).

4 Follow the progress of interval timer shooting in the progress dialog.

Click **Stop Shooting** to end interval timer shooting at any time. If a number of shots was specified in the "Interval Timer Shooting" dialog, shooting will end when the specified number of shots has been taken.



The progress dialog box titled "Interval Timer Shooting" displays the following information:

- You cannot change settings on the camera when it is in Interval Timer Shooting mode.
- Destination folder: C:\Users\user\Pictures
- 27.9 GB available on this volume
- Last image saved: Img0004D5.jpg
- Images saved: 3
- Interval between shots: 00:00:03
- Shots attempted: 1 of 3
- Transfer task: Waiting for new images from camera...
- Stop Shooting button

# Interval Timer Shooting

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## Time Interval Settings

If the delay is shorter than the time required to record each photograph, the actual interval between photographs will be longer than that specified in the “Interval Timer Shooting” dialog.

## During Interval Timer Shooting

No operations can be performed in the “Camera Control Pro” window until the “Interval Timer Shooting” dialog is closed.

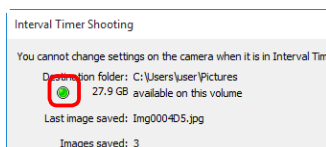
- 5 Once the specified number of shots has been taken, the **Stop Shooting** button will change to **Shooting Complete**. Click **Shooting Complete** to exit the “Interval Timer Shooting” dialog.

## Error Logs

If an error occurs during shooting, an error log will be displayed; click **OK** to close the log and return to the Camera Control Pro window.

## Hard Disk Full

The download folder indicator in the “Interval Timer Shooting” dialog changes from green to yellow to red as the destination fills. If necessary, suspend shooting and [change the destination drive](#).

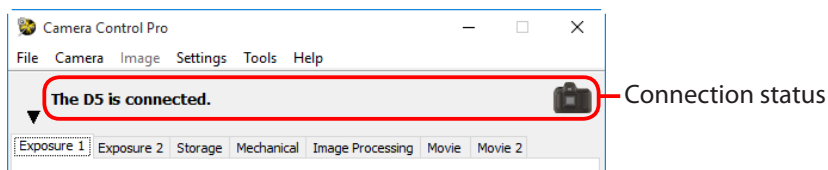


# The Camera Control Pro Window

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The Camera Control Pro window shows current camera settings, which may be viewed by clicking the page selection tabs. Camera settings can be altered using the controls in each tab as in [“Camera Controls.”](#) The other settings in this window are described below.

## Connection Status



This area shows the following information about the camera currently connected:

- **Camera name**
- **Camera orientation:** If **On** or **Automatic** is selected for the auto image rotation option in the camera menus, camera orientation will be indicated by an icon as shown below. No icon will be displayed if **Off** is selected.



Horizontal



Rotated 90°  
clockwise



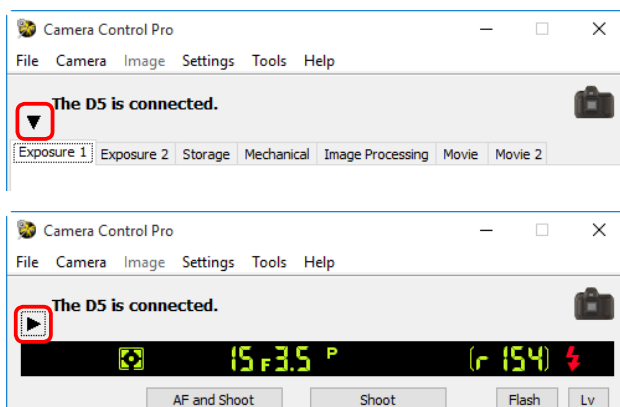
Rotated 90°  
counterclockwise

# The Camera Control Pro Window

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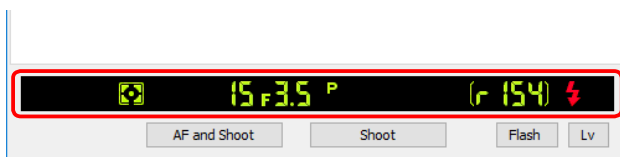
## The ▼/▶ Button

Click this button to view or hide camera controls.



## Simulated LCD Panel

This panel shows the information displayed in the camera's viewfinder or monitor, with the exception of camera errors.



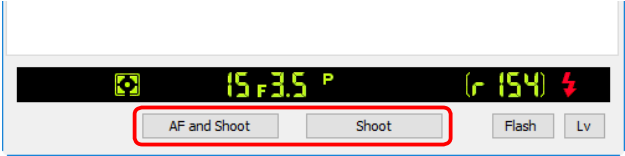
The amount of memory remaining in the camera memory buffer is displayed at the right edge of the simulated LCD panel. This information is updated at regular intervals, but temporary discrepancies may exist between the display and the actual amount of memory remaining in the buffer.

The Camera Control Pro Window

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The Shoot Buttons (Nikon 1 V3 Excluded)

Click either of these buttons to take a photograph at current settings. In continuous release modes, the **AF and Shoot** and **Shoot** buttons will instead be labeled **AF and Start** and **Start** and you can choose [the number of pictures that can be taken in a single burst](#).



AF and Shoot/ AF and Start	When this button is clicked, the camera will perform an autofocus operation and then release the shutter to take a photograph.
Shoot/Start	Click this button to take a photograph. If the selected focus mode is AF-A (supported cameras only) or single-servo AF, an autofocus operation will be performed before the shutter is released.

In mirror-up release mode, the **AF and Shoot** and **Shoot** buttons change to **AF and Mup Shoot** and **Mup Shoot**, respectively.

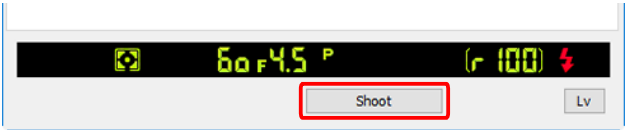
AF and Mup Shoot	The camera raises the mirror after focusing.
Mup Shoot	The camera raises the mirror when the button is clicked.

The Camera Control Pro Window

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### The Shoot Buttons (Nikon 1 V3)

Clicking the shoot buttons starts live view and takes a picture. The buttons displayed vary with camera settings.



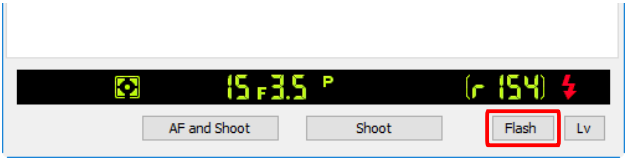
Shoot	The camera focuses and takes a picture (no autofocus operation is performed in manual focus mode).
Start	Displayed in continuous shooting mode. The camera focuses and begins shooting (no autofocus operation is performed in manual focus mode).
Buffering	Displayed when <b>Active Selection</b> is enabled in best moment capture mode. Click to start buffering. The button label will change to <b>Shoot</b> ; click <b>Shoot</b> to record 40 photographs.

Lenses with Retractable Lens Barrel Buttons

If you click **Shoot** with the lens retracted, a warning will be displayed and no picture will be taken.

### The Flash Button (D5/D500)

Clicking the **Flash** button displays the flash control window. See [“Flash Control”](#) for more information. The **Flash** button is available only when **Flash Control** is active in the camera photo shooting menu, namely when a compatible flash unit such as the SB-5000 is mounted on the accessory shoe or a WR-R10 is connected via the ten-pin terminal. For more information on connecting flash units, see the documentation for the camera and supported flash units.





The Camera Control Pro Window

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Camera Settings That Cannot Be Adjusted from Camera Control Pro

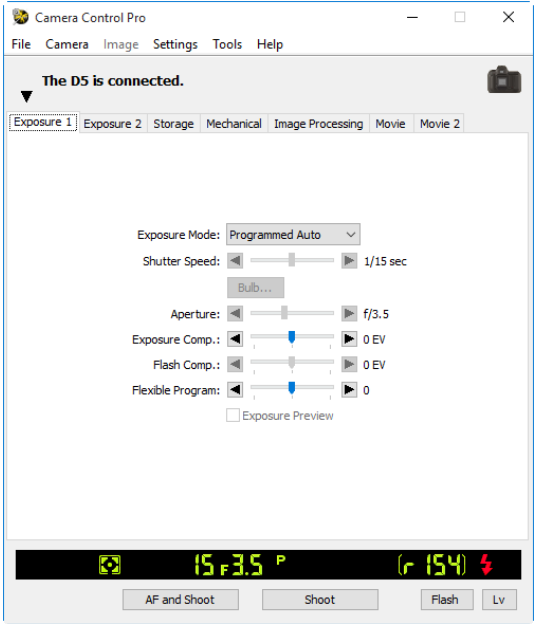
The following operations can only be performed using the controls on the camera body:

	Operation	Camera
Status not displayed	Continuous servo autofocus	All supported models
	Focus lock	All supported models
	Autofocus-only operation (use AF and Shoot to perform autofocus)	All supported models
	Manual aperture adjustment using the lens aperture ring (available via Custom Setting)	D5/D4 series/D3 series/D810/D810A/D800/D800E/D750/D700/D610/D600/D500/D300 series/D7200/D7100/D7000/Df
	Depth-of-field preview	All supported models
	Time-lapse photography	All supported models
	Operation assigned to FUNC./Fn button	All supported models
	Remote (D750, D610, D600, D60, D7000, D5500, D5300, D5200, D5100 and D5000 only) and self-timer mode selection	All supported models
Status displayed	Multiple exposure	All supported models
	Focus mode selection using camera focus-mode selector	All supported models
	Exposure mode (can be adjusted if <a href="#">Enable Controls on Camera Body</a> is not selected)	D750/D610/D600/D90/D60/D7500/D7200/D7100/D7000/D5600/D5500/D5300/D5200/D5100/D5000/Df
	Shutter-speed lock (shown in simulated LCD panel)	D5/D4 series/D3 series/D810/D810A/D800/D800E/D500
	Aperture lock (shown in simulated LCD panel)	D5/D4 series/D3 series/D810/D810A/D800/D800E/D500
	Autoexposure lock (shown in simulated LCD panel)	All supported models
	Flash compensation	D5/D4 series/D3 series/D500/Df
	M-up (mirror up) mode selection	D4 series/D3 series/D810/D800/D800E/D750/D700/D610/D600/D300 series/D7200/D7100/D7000/Df

Camera controls are described below using the D5 as an example:

The Exposure 1 Tab

The following settings can be adjusted from the Exposure 1 tab:



<b>Best moment capture</b> (Nikon 1 V3)	Choose <b>Active Selection</b> to record 40 photos taken shortly before and after the shutter-release button is pressed all the way down.
<b>Detail...</b> (Nikon 1 V3)	Displayed when <b>Active Selection</b> is enabled. Click to view Active Selection options and choose the <b>On release, record</b> and the <b>Capture 40 frames over</b> . <div><div>Active Selection</div><div>On release, record: Preceding and following</div><div>Capture 40 frames over: 2/3 sec</div><div>OKCancel</div></div>

Exposure Mode	Choose an exposure mode. If <a href="#">Enable Controls on Camera Body</a> is checked when a D750, D610, D600, D90, D60, D7500, D7200, D7100, D7000, D5600, D5500, D5300, D5200, D5100, D5000, or Df camera is connected, it will show the current exposure mode but the mode itself must be selected using the camera mode dial or function dial. See the camera manual for details.
Scene Mode (D750/D610/D600/D7500/ D7200/D7100/D7000/ D5600/D5500/D5300/ D5200/D5100/D5000)	Choose a scene when <b>Scene Mode</b> is selected for <b>Exposure Mode</b> . See the camera manual for details.
Effects Mode (D750/D7500/D7200/ D7100/D5600/D5500/ D5300/D5200/D5100)	If <b>Effects Mode</b> is selected for <b>Exposure Mode</b> , pictures can be shot with applying special effects. Please refer the camera user’s manual for details.
Shutter Speed	Shutter speed can only be adjusted in <b>Manual</b> and <b>Shutter Priority</b> modes, when it can be set to values between the maximum and minimum values supported by the camera. Use high shutter speeds to freeze motion, low shutter speeds to suggest motion by blurring moving objects. Note that the shutter speed cannot be adjusted if <b>On</b> is selected for <b>Shutter speed &amp; aperture lock &gt; Shutter speed lock</b> in the Custom Settings menu (D5/D4 series/D810/D810A/D800/D800E/D700/D500).
Bulb (D5/D4 series/D810/ D810A/D800/D800E/D750/ D610/D600/D500/D7500/ D7200/D7100/D5600/ D5500/D5300/D5200/Df / Nikon 1V3)	This function is available when <b>Manual</b> is selected for <b>Exposure Mode</b> and <b>Bulb</b> is selected for <b>Shutter Speed</b> . Click <b>Bulb</b> to display the dialog and <b>Exposure Time</b> can be specified for bulb shooting.
Aperture	Aperture can only be adjusted in <b>Manual</b> and <b>Aperture Priority</b> modes, when it can be set to values between maximum and minimum aperture (small apertures have high f-numbers, wide apertures low f-numbers; the actual apertures available depend on the lens used). Refer <a href="#">Non-CPU Lenses</a> for further information when connecting the camera with a non-CPU lens. Note that the aperture cannot be adjusted if <b>On</b> is selected for <b>Shutter speed &amp; aperture lock &gt; Aperture lock</b> in the Custom Settings menu (D5/D4 series/D810/D810A/D800/D800E/D700/D500).

Exposure Comp.	Exposure compensation is useful when shooting subjects containing sharp lighting contrasts, or on other occasions when you want to modify the exposure value determined by the camera. Depending on the camera, exposure compensation may not be available in some exposure modes; see the camera manual for details.
Flash Comp.	This option is used to adjust the level of the camera’s built-in flash.
Flexible Program	Flexible program can only be used in <b>Programmed Auto</b> mode, when it allows you to choose from predetermined combinations of shutter speed and aperture appropriate to current lighting conditions.
Exposure Preview (D5/D4 series/D810/ D810A/D800/D800E/D750/ D500/D7500/Df)	In photo live view, the effect of exposure can be previewed when <b>Exposure Preview</b> is <b>On</b> . <b>Exposure Preview</b> is not available when <b>Bulb</b> (D5/D4 series/D810/D800/D800E/D750/D500/D7500/Df) or <b>Time</b> (D5/D4S/D810/D750/D500/D7500/Df) is selected for shutter speed, <b>Silent</b> is selected for <b>Lv Photography</b> (D4 series), or the camera is ready to measure or is measuring spot white balance (D5/D4S/D810/D810A/D750/D500/D7500/Df).

# Camera Controls

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## Best moment capture (Nikon 1 V3)

**Active Selection** is not available in movie live view or when an FT1 is connected.

## "U1"/"U2" (D750/D610/D600/D7500/D7200/D7100/D7000)

Frequently-used camera settings, including scene mode, are assigned to the **U1** and **U2** positions on the camera mode dial. If **U1** or **U2** is selected for **Exposure Mode**, the scene mode will appear in the **Scene Mode** field. It cannot be changed using Camera Control Pro.

## Automatic Scene Selection (D5100)

**Automatic Scene Selection** is automatically enabled if live view is started with **Auto** or **Auto (flash off)** selected for **Exposure mode**. The camera chooses the scene automatically and displays it in the scene mode area. The scene cannot be selected using Camera Control Pro.

## Bulb

The bulb button is available when **Bulb** is selected for shutter speed in **Manual** exposure mode.

**D5/D4 series/ D810/ D810A/ D800/ D800E/ D750/ D610/ D600/ D500/ D7500/ D7200/ D7100/ D5600/ D5500/ D5300/ D5200/ Df/ Nikon 1 V3:** At a shutter speed of **Bulb**, the shutter remains open while the shutter release button is held down. The time required for processing is roughly equal to the current shutter speed. Click the bulb button to display the bulb dialog and then select an **Exposure Time**. Click the start button to begin the long time-exposure; the exposure ends when the selected time expires. To cancel, click the **Stop** button.

**Other cameras:** At a shutter speed of **Bulb**, the shutter remains open while the shutter release button is held down. Use the camera shutter-release button to take photos at this setting. Clicking either of the shoot buttons will display an error message.

**D5/D810A/D500/D7500:** In mirror-up mode, clicking **Start** in the "Bulb" dialog raises the mirror and displays the mirror-up dialog. Click **Shoot** to start the exposure.

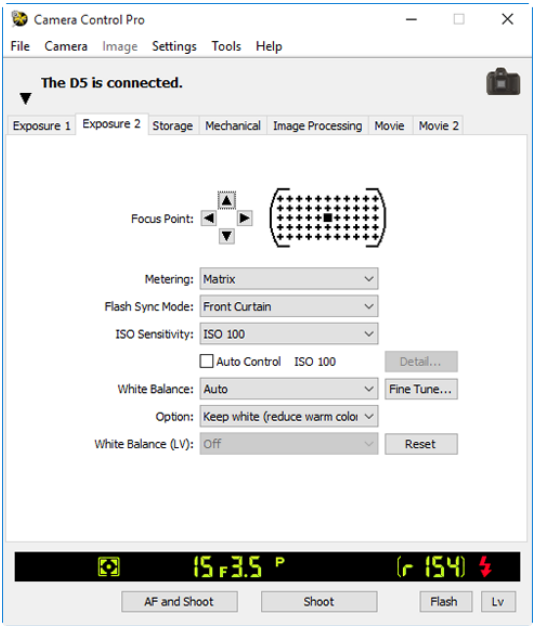
## Image Quality in Effects Mode (D750 / D7500 / D7200 / D7100 / D5600 / D5500 / D5300 / D5200 / D5100)

Some of the **Image Quality** options in the "Storage" tab are not available when **Effects mode** is selected for **Exposure mode**.

Camera Controls

The Exposure 2 Tab

The following settings can be adjusted from the Exposure 2 tab.



<b>Focus Point</b> (Nikon 1 V3 excluded)	The focus point can be selected using the arrow buttons; see the camera manual for details. For information on AF-area mode and focus mode, see <a href="#">“The Mechanical Tab.”</a>
<b>Metering</b>	Choose the metering mode. See the camera manual for details. If <a href="#">Enable Controls on Camera Body</a> is selected with a D3-series, D800, D800E, D700, D300-series, or Df camera, the metering mode is displayed but can only be selected from the camera; with D5, D4-series, D810, D810A, D750, D610, D600, D90, D60, D500, D7500, D7200, D7100, D7000, D5600, D5500, D5300, D5200, D5100, D5000, and Nikon 1 V3 cameras, the metering mode can be selected in Camera Control Pro regardless of the option chosen for <a href="#">Enable Controls on Camera Body</a> .
<b>Flash Sync Mode</b>	This option controls the camera flash mode. See the camera manual for details.
<b>Flash Control Mode</b> (D7500)	Choose the flash control mode for programmed auto (mode <b>P</b> ), shutter-priority auto (mode <b>S</b> ), aperture-priority auto (mode <b>A</b> ), manual mode (mode <b>M</b> ). See the camera manual for more information.

ISO Sensitivity	ISO sensitivity can be raised when taking photographs in low light conditions. See the user's manual provided with your camera for details.
Auto Control	When this option is checked, the camera will adjust ISO sensitivity automatically (in the cases of the D5, D4S, D810, D810A, D750, D500, D7500, D7200, D5600, D5500, D5300, or Df, and Nikon 1 V3, Camera Control Pro 2 will display the ISO sensitivity selected by the camera). The maximum sensitivity and minimum shutter speed can be set by clicking the <b>Detail...</b> button (the <b>Detail...</b> option is not available with the D60, while in the case of the Nikon 1 V3 it can be used to adjust maximum sensitivity only). In the case of the D5, D500, and D7500, a <b>Maximum Sensitivity with Flash</b> option is available for choosing the maximum ISO sensitivity available when a flash is used.
White Balance	White balance is used to ensure that colors which appear white when viewed directly are white in the final photograph. It can also be used to produce an intentionally unbalanced rendering of a scene. Selecting <b>Fluorescent</b> displays a menu of bulb types. If <b>Choose color temp.</b> is selected when a D3-series, D700, D610, D600, D300-series, D90, D7100, or D7000 camera is connected, a menu of color temperatures will be displayed. If <b>Auto</b> is selected when a D5, D4-series, D810, D810A, D800, D800E, D750, D610, D600, D500, D7500, D7200, D7100, D7000, or Df camera is connected, a menu of auto white balance types will be displayed. See the camera manual for details.

Camera Controls

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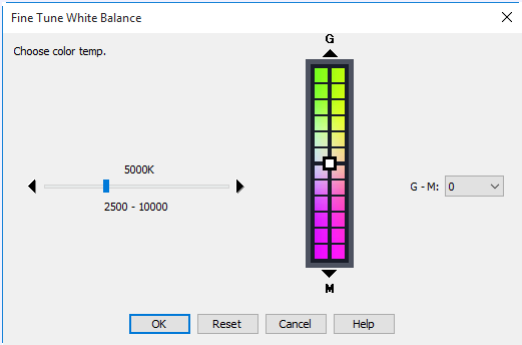
Fine Tune...

Click **Fine Tune...** to make fine adjustments to white balance. Fine tuning is not available with preset white balance. White balance can be fine-tuned in six steps on each of the **Amber-Blue** and the **Green-Magenta** axes (in the case of the D5, D4S, D810, D810A, D750, D500, D7500, D7200, D5600, and D5500, in increments of 0.5 on the **Amber-Blue** axis and in increments of 0.25 on the **Green-Magenta** axis). The horizontal (**Amber-Blue**) axis corresponds to color temperature, while the vertical (**Green-Magenta**) axis has the similar effects to the corresponding color compensation (CC) filters. See the camera manual for details. To restore default settings, click **Reset**.



Fine Tune...

A different dialog is displayed for D5, D4-series, D810, D810A, D800, D800E, D750, D500, D7500, D7200, and Df cameras when **Choose color temp.** is selected for white balance. Color temperature can be set to values between 2500 K and 10,000 K in increments of 10 K, with six steps available on the **Green–Magenta** axis (in the case of the D5, D4S, D810, D810A, D750, D500, D7500, and D7200, color temperature can be adjusted in increments of 0.25). Click **Reset** to restore default settings or **OK** to copy the settings to the camera.



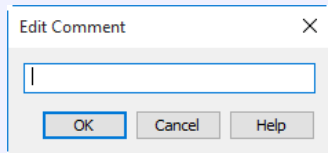
**Fine-Tuning White Balance (D5/D4 Series/D810/D810A/D800/D800E/D750/D610/D600/D500/D7500/D7200/D7100/Df)**

If selected white balance preset is protected, the **Fine tune...** button and the **Edit...** button are disabled.

Comment

(D60/D5600/D5500/  
D5300/D5200/D5100/  
D5000/Nikon 1 V3  
excluded)

This field lists the comments for all white balance presets. Clicking **Edit...** when **Preset** is selected for white balance displays the dialog shown below, where the comments for each of the white balance presets can be edited.



Click **OK** to copy the comments to the camera. Comments can be up to thirty-six characters long and contain letters, numbers, quotes, apostrophes, spaces, and any of the following characters: `","'!"?""#""$""%""&""( "" )""["" ]""{"" }""*"" +"" _""/"" ."" ;"" <"" ="" >"" _ ""` and `@`.

White Balance (LV)

(D5/D4 series/D810/  
D810A/D800/D800E/D500)

Adjust the white balance of the computer monitor for purposes of photo live view. The selected white balance has no effect on photographs.

### The Storage Tab

The following settings can be adjusted from the Storage tab:

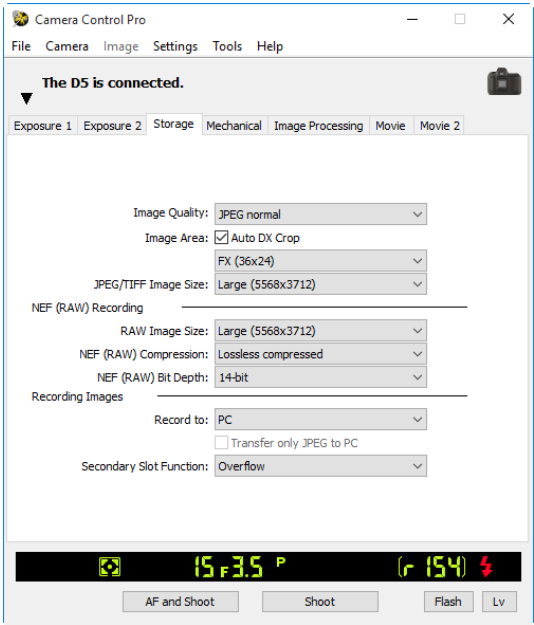


Image Quality	Choose from the file types supported by the camera (see the camera manual for details). This setting determines pixel bit depth and file size. If an option that includes JPEG is selected, the compression ratio can be selected from the <b>Image Quality</b> menu and other compression options (D5/D90/D60/D500/D7500/D5600/D5500/D5300/D5200/D5100/D5000/Nikon 1 V3 excluded) from the <b>JPEG Compression</b> menu.
Image Area (D5/D4 series/D3 series/ D810/D810A/D800/D800E/ D750/D700/D610/D600/ D500/D7500/D7200/ D7100/Df)	Choose an image area. In the case of D5, D4-series, D3-series, D810, D810A, D800, D800E, D750, D700, D610, D600, and Df cameras, you can select <b>Auto DX Crop</b> to use a DX format whenever a DX lens is attached; if this option is not selected, the chosen image area will be used instead.

<b>Image Size</b> (D5/D4S/D810/D810A/ D500 excluded)	Choose image size. See the camera manual for details.
<b>JPEG/TIFF Image size</b> (D5/D4S/D810/D810A/ D500)	Choose the size at which JPEG and TIFF images are recorded. See the camera manual for details.
<b>RAW Image Size</b> (D5/D4S/D810/D810A/ D500)	Choose the size at which NEF (RAW) images are recorded. See the camera manual for details.
<b>NEF (RAW) Compression</b> (D90/D60/D5600/ D5500/D5300/D5200/ D5100/D5000/Nikon 1 V3 excluded)	Choose a compression type for NEF (RAW) images.
<b>NEF (RAW) Bit Depth</b> (D90/D60/D5200/ D5100/D5000/Nikon 1 V3 excluded)	Choose a bit depth for NEF (RAW) images.
<b>Record to</b> (D5/D4 series/D3S/D810/ D810A/D800/D800E/ D750/D610/D600/D500/ D7500/D7200/D7100/ D7000/D5600/D5500/ D5300/D5200/D5100/Df/ Nikon 1 V3)	Choose a destination: <b>PC</b> (photographs are recorded only to the computer), <b>PC+CARD</b> (photographs are recorded to both the computer and to a camera memory card), or <b>CARD</b> .
<b>Transfer only JPEG to PC</b> (D5/D4S/D810/D810A/ D750/D500/D7500/D7200/ D5600/D5500)	When taking photographs with a “RAW +” option selected for <b>Image Quality</b> and <b>PC + CARD</b> selected for <b>Record to</b> , enable this option to save only the JPEG copies to the computer. The NEF (RAW) copies are recorded to the camera.
<b>Primary Slot Selection</b> (D4 series/D810/D810A/ D800/D800E/D500)	Choose one of the two card slots as the primary card slot.

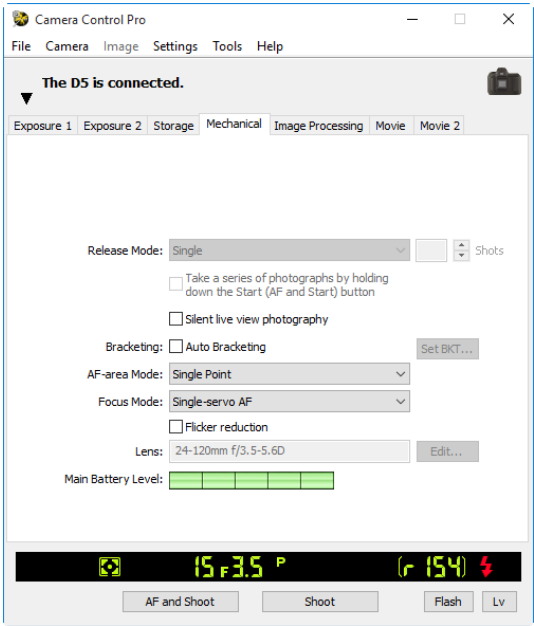
<b>Secondary Slot Function</b> (D5/D4 series/D3S/D810/D810A/D800/D800E/D750/D610/D600/D500/D7200/D7100/D7000)	Choose the role played by the card in the secondary slot (D4 series/D810/D810A/D800/D800E/D500)/Slot 2 (D5/D3S/D750/D610/D600/D7200/D7100/D7000) when <b>PC+CARD</b> or <b>CARD</b> is selected for <b>Record to: Overflow</b> (the secondary slot/Slot 2 is used only after the card in the primary slot/Slot 1 is full), <b>Backup</b> (each photograph is recorded twice, once to each card), or <b>RAW Primary, JPEG Secondary/RAW Slot1 - JPEG Slot2</b> (as for <b>Backup</b> , except that the NEF/RAW copies recorded at image qualities of NEF/RAW+JPEG are recorded to the primary slot/Slot 1, the JPEG copies to the secondary slot/Slot 2).
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**“PC+CARD”/“CARD” (D5/D4 Series/D3S/D810/D810A/D800/D800E/D750/D610/D600/D500/D7500/D7200/D7100/D7000/D5600/D5500/D5300/D5200/D5100/Df/Nikon 1 V3)**

IPTC data and ICC profiles are not embedded in the photographs stored on the camera memory cards. Photographs cannot be taken if the memory cards are full, while a memory card is being formatted, or if no memory card is inserted in the camera. Exchange or insert memory cards as appropriate or select **PC**. If the space on the computer destination drive is insufficient to record additional photographs, a warning will be displayed; follow the on-screen instructions to [choose a new destination](#).

## The Mechanical Tab

The following settings can be adjusted from the Mechanical tab:



Release Mode	Choose the release mode. See the camera manual for details. If <a href="#">Enable Controls on Camera Body</a> is selected with a D5, D4-series, D3-series, D810, D810A, D800, D800E, D750, D700, D610, D600, D500, D300-series, D7500, D7200, D7100, D7000, or Df camera, the release mode is displayed but can only be selected from the camera (but note that this does not apply if the release mode dial for the D5 is rotated to  ). <b>Single frame</b> will be selected if self-timer, delayed remote, or quick-response remote mode is chosen using the controls on the D90, D60, D5500, D5300, D5200, D5100, or D5000 or if self-timer mode is chosen with the controls on the D5600.
Shots	Use the arrows to choose the maximum number of shots that can be taken in a single burst in continuous mode, or enter a value directly in the text box. The maximum permitted value varies with the current image-quality setting; the value chosen should not, however, exceed the capacity of the camera memory buffer as shown at the right edge of the LCD display. Values larger than the capacity of the camera memory buffer will be shown in red.

**AF and Shoot/Shoot**

If a continuous release mode is selected, the **AF and Shoot** and **Shoot** buttons will instead be labeled **AF and Start** and **Start**. In mirror-up mode, the buttons are labeled **AF and Mup Shoot** and **Mup Shoot**.

Camera Controls

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<b>Take a series of photographs by holding down the Start (AF and Start) button</b> (D5/D500/D7500)	If this option is selected, the camera will only take pictures while the <b>Start</b> or <b>AF and start</b> button is pressed. This option takes effect only in continuous release modes. The value for <b>Shots</b> is automatically adjusted to match the capacity of the camera memory buffer as shown at the right edge of the LCD display.
<b>Lv Photography</b> (D4 series)	Choose how photographs are taken during live view photography.
<b>Silent live view photography</b> (D5)	Select this option to enable silent live view photography.
<b>Silent photography</b> (Nikon 1 V3)	Select this option for reduced camera noise during shooting.
<b>Bracketing</b> (D60/Nikon 1 V3 excluded)	Select this option to perform exposure, flash, white balance, or ADL bracketing during shooting. See <a href="#">“Interval Timer Shooting”</a> for details.
<b>Continuous shooting speed</b> (Nikon 1 V3)	Choose a frame rate for continuous shooting. Available only in continuous mode.
<b>AF-Area Mode</b>	Choose the AF-area mode. If <a href="#">Enable Controls on Camera Body</a> is checked (D3-series, D700, and D300-series only), the current AF-area mode will be shown, but changes can only be made using camera controls. See the camera manual for details.
<b>Face detection</b> (Nikon 1 V3)	Select this option to enable face priority. When face priority is enabled, the camera detects and focuses on faces. This option has no effect in manual focus mode.
<b>Focus Mode</b>	Choose the focus mode (see the camera manual for details). The focus mode for D3-series, D700, and D300-series cameras is displayed but can only be changed using the controls on the camera body.
<b>Flicker reduction</b> (D5 firmware version 1.10 or later/D500/D7500)	Select this option to reduce flicker in photos taken under fluorescent, mercury-vapor, or similar lighting during viewfinder photography.

Camera Controls

Lens	Displays the focal length and maximum aperture of the lens currently attached to the camera. Depending on the lens type, some information may not be displayed. If a D5, D4-series, D3-series, D810, D810A, D800, D800E, D700, D750, D610, D600, D500, D300-series, D7200, D7100, D7000, or Df camera is connected with a non-CPU (including, in the case of the Df, non-AI) lens attached, lens data can be selected.
Edit... (D90/D60/D7500/D5600/ D5500/D5300/D5200/ D5100/D5000/Nikon 1V3 excluded)	<p>This button is only available when a non-CPU lens is mounted on the camera. Clicking <b>Edit...</b> displays the dialog shown at below, where the lens focal length and maximum aperture can be entered. Click <b>OK</b> to copy the values to the camera.</p> <div><div>Lens No.1</div><div><div>Focal Length: N/A</div><div>Maximum Aperture: N/A</div><div>OKCancelHelp</div></div></div> <p>The Df offers an <b>Exposure Meter Coupling</b> option used to specify whether the lens is an <b>AI lens</b> or <b>Non-AI lens</b>.</p> <div><div>Lens No.1</div><div><div>Focal Length: N/A</div><div>Maximum Aperture: N/A</div><div>Exposure Meter Coupling: AI lens</div><div>OKCancelHelp</div></div></div>
Zoom (Nikon 1V3)	Use the slider to adjust zoom in the live view display (PD zoom lenses only).
Optical VR (Nikon 1V3)	Adjust settings for 1 NIKKOR lenses with vibration reduction (see the camera manual for details).
Main Battery Level	Displays the level of the main camera battery. Green indicates that the battery has enough charge for continued operation. Yellow indicates that battery level is low; ready a fully charged spare battery. Red indicates that the battery is exhausted, and that no further photographs can be taken until the battery has been replaced. You may not be able to control the camera from Camera Control Pro when the battery is exhausted. Replace with a fully charged spare battery or use an AC adapter (available separately).



# Camera Controls

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## Self-Timer and Remote Modes

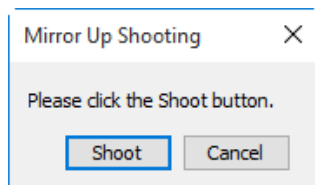
When the camera is set to self-timer mode or to delayed remote or quick-response remote mode (supported cameras only), the Mechanical tab will show a shooting mode of **Single**, and any photographs taken with the Camera Control Pro shoot buttons will be taken in single-frame mode with no shutter-release delay. To take pictures in self-timer or remote mode, use the shutter-release button on the camera or remote control.

## Continuous Mode

The amount of memory remaining in the camera memory buffer is displayed at the right edge of the simulated LCD panel. This information is updated at regular intervals, but temporary discrepancies may exist between the display and the actual amount of memory remaining in the buffer.

## Mirror Up Shooting

Clicking **AF and Mup Shoot** or **Mup Shoot** displays the following message. Clicking **Shoot** releases the shutter and lowers the mirror.



Non-CPU Lenses

The following restrictions apply to Camera Control Pro when a non-CPU lens is mounted on the camera (the operations listed can still be performed using the controls on the camera body; see the camera manual for details):

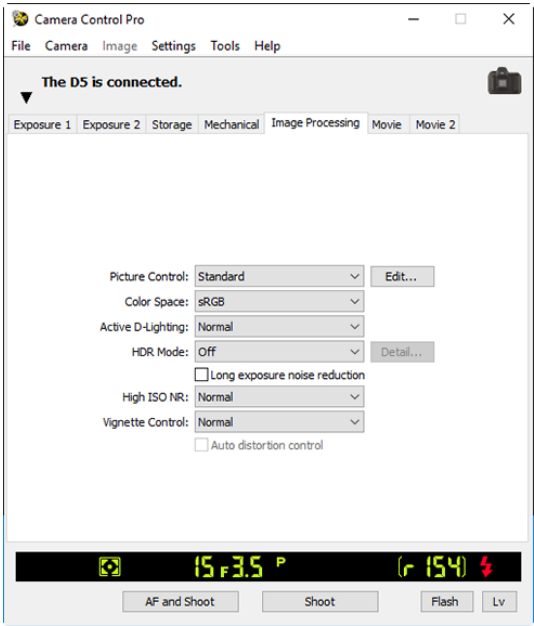
	D5/D4 series/D3 series/D810/ D810A/D800/D800E/D700/ D500/D300 series/Df		D750/D610/D600/D7200/ D7100/D7000		D90/D60/D7500/ D5600/D5500/D5300/ D5200/D5100/D5000
	With lens data	No data	With lens data	No data	
Exposure Mode	Can be selected from <b>Aperture Priority</b> and <b>Manual</b> .		Can only be adjusted if <a href="#">Enable Controls on Camera Body</a> is not checked. Photos can be taken in modes A and M only (D750/D610/D600/D7200/D7100/D7000) or mode M only (other cameras).		
Shutter Speed	Can only be adjusted in manual exposure mode.				
Aperture	Shown with asterisk.	Aperture shown as "f/--". Cannot be adjusted.	Shown with asterisk.	Aperture shown as "f/--". Cannot be adjusted.	
AF and Shoot	Cannot be used.				
Shoot	Can be used.		Can be used.*		Can be used.**

\* Warning will be displayed in exposure modes other than Aperture Priority or Manual.

\*\*Warning will be displayed in exposure modes other than Manual.

### The Image Processing Tab (D60 Excluded)

The following settings can be adjusted from the Image Processing tab:



Picture Control	Choose a Picture Control (see the camera manual for details), or click <b>Edit...</b> to launch Picture Control Utility 2 (see " <a href="#">Editing Picture Controls</a> " for details).
Color Space	Choose a color space. See the camera manual for details.
Active D-Lighting	Enable Active D-Lighting (Nikon 1 V3) or choose Active D-Lighting options. See the camera manual for details.
HDR Mode (D5/D4 series/D810/ D810A/D800/D800E/D750/ D610/D600/D500/D7500/ D7200/D7100/D5600/ D5500/D5300/D5200/ D5100/Df)	Select this option to enable HDR shooting. Except in the cases of D5600, D5500, D5300, and D5200, HDR settings can be adjusted by clicking the <b>Detail...</b> button. For further information, refer the camera user's manual.

Long exposure noise reduction	Select this option to reduce noise at slow shutter speeds. See the camera manual for details.
High ISO NR	Enable noise reduction (Nikon 1 V3) or choose a noise reduction option for high ISO sensitivities. See the camera manual for details.
<b>Vignette Control</b> (D5/D4 series/D3 firmware version 1.10 or later/D3X/D3S/D810/D810A/D800/D800E/D750/D700/D610/D600/D500/D7500/D7200/D5600/D5500/Df)	Reduce vignetting. See the camera manual for details.
<b>Auto distortion control</b> (D3 series/D700/D300 series/D90/D60 excluded)	Enable or disable auto distortion control. See the camera manual for details.

HDR

In the following instances, HDR mode ends automatically after an HDR image is recorded: the connected camera is a D5600, D5500, D5300, D5200 or D5100; a D5, D4-series, D810, D810A, D800, D800E, D750, D610, D600, D500, D7500, D7200, D7100, or Df camera is connected with **On (single photo)** selected for **HDR Mode**.

# Camera Controls

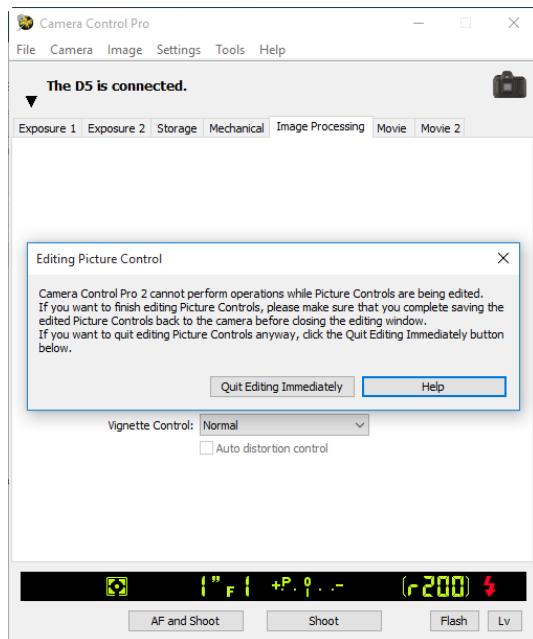
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## Editing Picture Controls

Clicking the **Edit...** button next to **Picture Control** launches Picture Control Utility 2, where you can edit Picture Controls.

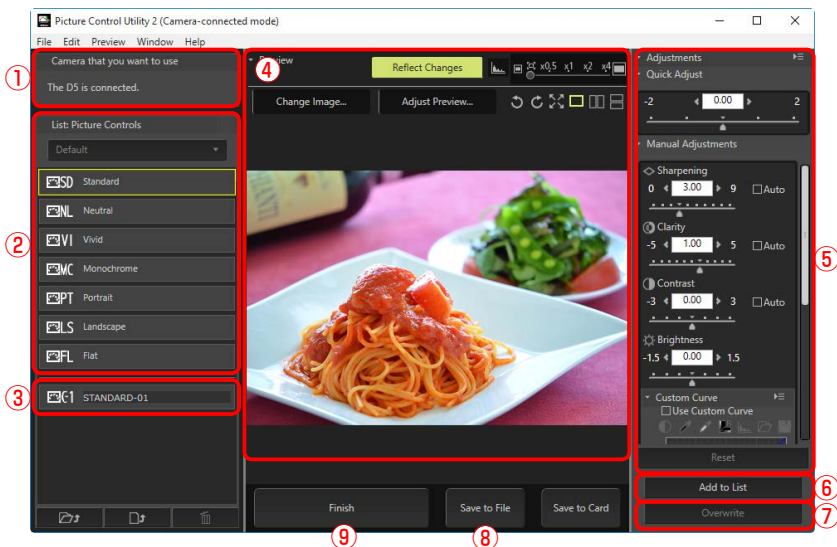
### Picture Control Utility 2

For information on using Picture Control Utility 2, see the online help for Picture Control Utility 2. During editing, the controls in Camera Control Pro cannot be used; to abandon changes and exit Picture Control Utility 2, click **Quit Editing Immediately**.



# Camera Controls

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① "Camera that you want to use"	The current camera.
② "List: Picture Controls"	The Picture Controls available on the current camera. Click a Picture Control to edit it.
③ Custom Picture Controls	A list of the custom Picture Controls on the current camera or created using Picture Control Utility 2. Click a custom Picture Control to rename it.
④ "Preview"	Preview changes to the selected Picture Control. The preview image can be changed and the zoom ratio adjusted.
⑤ "Adjustments"	Edit the selected Picture Control. See the camera manual or Picture Control Utility 2 online help for details.

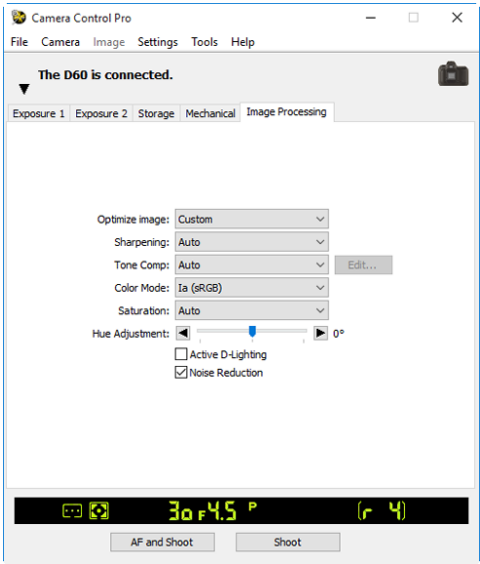
Camera Controls

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⑥ "Add to List"	Click to add the Picture Control to the custom Picture Control list. Enter a name, navigate to the desired destination, and click <b>OK</b> to create a new custom Picture Control.
⑦ "Overwrite"	Save changes to a custom Picture Control under the existing name.
⑧ "Save to File"	Save the Picture Control to your computer.
⑨ "Finish"	Exit Picture Control Utility 2.

# The Image Processing Tab (D60)

The following settings can be adjusted from the Image Processing tab:

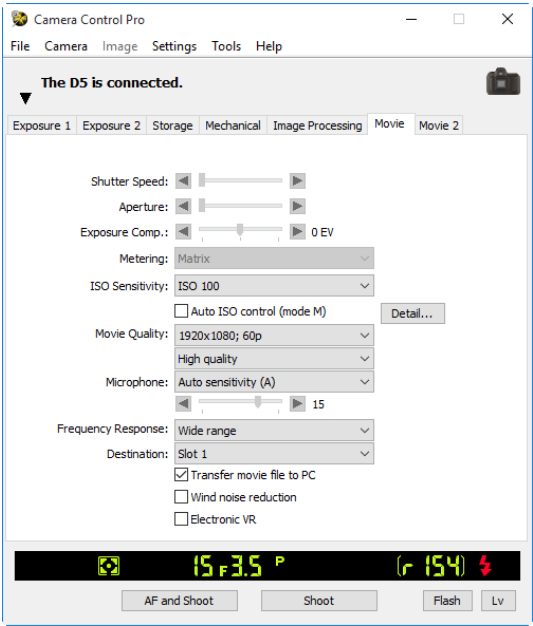


Optimize image	Choose the type of image optimization performed. See the camera manual for details.
Sharpening	Choose how much the camera sharpens outlines. See the camera manual for details.
Tone Comp	Adjust contrast. See the camera manual for details.
Color Mode	Choose a color mode. See the camera manual for details.
Saturation	Adjust color saturation. See the camera manual for details.
Hue Adjustment	Modify hue. If red is taken as the starting point, rasing hue above 0° would introduce a yellow cast, making colors that would appear red at 0° appear more orange. Lowering hue below 0° would introduce a blue cast, making colors that would appear red at 0° appear increasingly purple.
Active D-Lighting	Enable Active D-Lighting.
Noise Reduction	Select this option to reduce noise at slow shutter speeds and high ISO sensitivities. See the camera manual for details.



The Movie Tab (Cameras That Support Movie Recording)

The “Movie” tab is displayed if the camera which supports movie recording is connected.



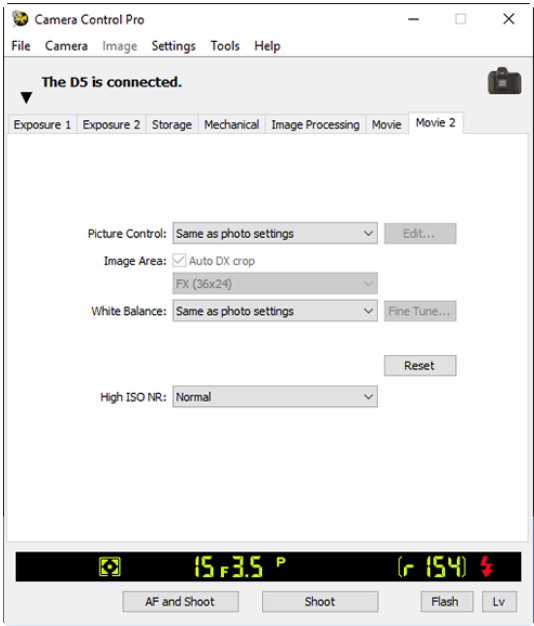
<b>Advanced Movie Mode</b> (Nikon 1 V3)	Choose HD or slow-motion recording.
<b>Shutter Speed</b> (D5/D4 series/D810/ D810A/D800/D800E/D750/ D610/D600/D500/D7500/ D7200/D7100)	Select the shutter speed for movie recording.
<b>Aperture</b> (D5/D4 series/D810/ D810A/D800/D800E/D750/ D610/D600/D500/D7500/ D7200/D7100)	Select the aperture for movie recording. In the case of the D610/D600/ D7200, the aperture will be displayed but cannot be adjusted.

<b>Exposure Comp.</b> (D5/D4 series/D810/ D810A/D800/D800E/D750/ D610/D600/D500/D7500/ D7200/D7100)	Adjust exposure for movie recording.
<b>Metering</b> (D5/D810/D810A/D750/ D500/D7500/D7200)	Choose a metering method for movie recording.
<b>ISO Sensitivity</b> (D5/D4 series/D810/ D810A/D800/D800E/D750/ D610/D600/D500/D7500/ D7200/D7100)	Choose the ISO sensitivity used to record movies in manual exposure mode. In other exposure modes, ISO sensitivity is adjusted automatically.
<b>ISO sensitivity range</b> (D4)	Choose the range of ISO sensitivities available when auto ISO sensitivity control is used during movie recording.
<b>Auto ISO control (mode M)</b> (D5/D4S/D810/D810A/ D750/D500/D7500/D7200)	If this option is selected, auto ISO sensitivity control will be used when movies are recorded in manual exposure mode. The upper limit for auto ISO sensitivity control can be selected by clicking <b>Detail...</b>
<b>Movie Quality</b>	Choose movie image quality and frame size and rate (in the case of the Nikon 1 V3, these options are available only with HD movies).
<b>Slow motion</b> (Nikon 1 V3)	Choose the frame rate for slow-motion movies. Available only in slow-motion movie mode.
<b>Microphone</b>	Adjust microphone sensitivity. Choose <b>Off</b> to disable audio recording (in the case of the Nikon 1 V3, this option is available only with HD movies). Select <b>Manual sensitivity</b> (D5/D4 series/D810/D810A/D800/D800E/D750/D610/D600/D500/D7500/D7200/D7100/D5600/D5500/D5300/D5200) to adjust microphone sensitivity manually using a slider.
<b>Frequency Response</b> (D5/D4S/D810/D810A/ D750/D500/D7500/D7200)	Adjust the frequency response of the camera's built-in microphone or optional stereo microphones.
<b>Destination</b> (D7500/D5600/D5500/ D5300/D5200/D5100/ Nikon 1 V3 excluded)	Choose the card slot to which movies are recorded.

<b>Transfer movie file to PC</b>	Select this option to copy movies to the computer when recording is complete. In the case of the Nikon 1 V3, any photos taken with the movie will also be uploaded.
<b>Wind noise reduction</b> (D5/D4S/D810/D810A/ D750/D500/D7500/D7200/ D5600/D5500/D5300/ Nikon 1 V3)	Select this option to enable the low-cut filter, reducing noise produced by wind blowing over the built-in microphone (note that other sounds may also be affected).
<b>Manual movie settings</b> (D7000/D5600/D5500/ D5300/D5200)	If this option is selected, <a href="#">Shutter Speed</a> and <a href="#">ISO sensitivity</a> can be adjusted during recording in <b>Manual exposure mode</b> (with the D5600, D5500, D5300 and D5200, ISO sensitivity can only be adjusted during live view).
<b>Electronic VR</b> (D5 firmware version 1.10 or later/D500/D7500/ Nikon 1 V3)	Select this option to enable electronic vibration reduction during movie recording. This option is not available at frame sizes of 1920 × 1080 crop (D5) or 3840 × 2160 (D5, D500, and D7500) or with slow motion movies or movies recorded at 60p (Nikon 1 V3).

The Movie 2 Tab (D5/D750/D500/D7500/D7200)

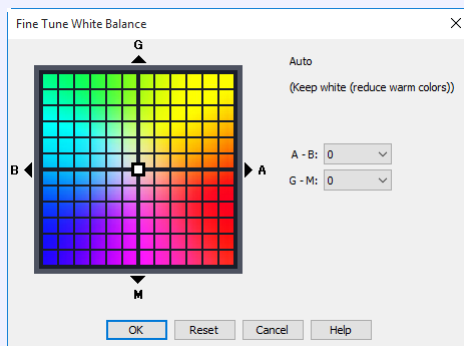
The following settings can be adjusted from the Movie 2 tab:



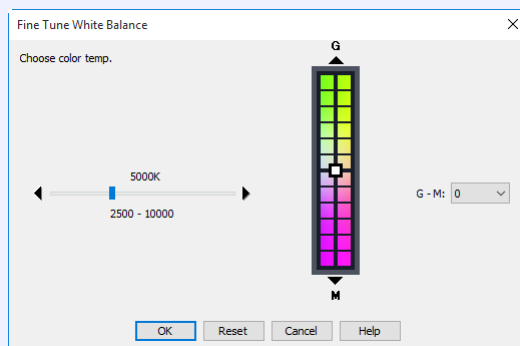
Picture Control	Choose a Picture Control (see the camera manual for details), or click <b>Edit...</b> to launch Picture Control Utility 2 (see " <a href="#">Editing Picture Controls</a> " for details).
Active D-Lighting (D500/D7500)	Adjust Active D-Lighting (see the camera manual for details). Not available in exposure modes P, S, A, or M (D7500).
Image Area	Choose an image area. In the case of D5 and D750, you can select <b>Auto DX Crop</b> to use a DX-based movie format whenever a DX lens is attached; if this option is not selected, the chosen image area will be used instead.
White Balance	White balance is used to ensure that colors which appear white when viewed directly are white in the final movie. It can also be used to produce an intentionally unbalanced rendering of a scene. Selecting <b>Fluorescent</b> displays a menu of bulb types. If <b>Auto</b> is selected, a menu of auto white balance types will be displayed. See the camera manual for details.

Fine Tune...

Click **Fine Tune...** to make fine adjustments to white balance. Fine tuning is not available with preset white balance. White balance can be fine-tuned in six steps on each of the **Amber-Blue** and the **Green-Magenta** axes; in increments of 0.5 on the **Amber-Blue** axis and in increments of 0.25 on the **Green-Magenta** axis). The horizontal (**Amber-Blue**) axis corresponds to color temperature, while the vertical (**Green-Magenta**) axis has the similar effects to the corresponding color compensation (CC) filters. See the camera manual for details. To restore default settings, click **Reset**.



A different dialog is displayed when **Choose color temp.** is selected for white balance. Color temperature can be set to values between 2500 K and 10,000 K in increments of 10 K, with six steps available on the **Green-Magenta** axis, adjustable in increments of 0.25. Click **Reset** to restore default settings or **OK** to copy the settings to the camera.



### Fine-Tuning White Balance

If selected white balance preset is protected, the **Fine tune...** button and the **Edit...** button are disabled.

Camera Controls

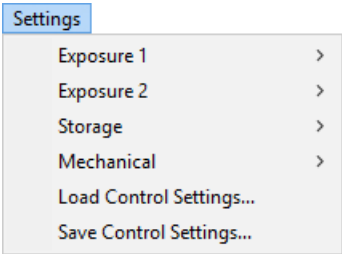
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Comment	<p>This field lists the comments for all white balance presets. Clicking <b>Edit...</b> when <b>Preset</b> is selected for white balance displays the dialog shown below, where the comments for each of the white balance presets can be edited.</p> <div><div>Edit Comment</div><div></div><div><div>OK</div><div>Cancel</div><div>Help</div></div></div> <p>Click <b>OK</b> to copy the comments to the camera. Comments can be up to thirty-six characters long and contain letters, numbers, quotes, apostrophes, spaces, and any of the following characters: <code>","!"?""#" "\$""%""&amp;""( "" )""[" "]"""{" "}" ""*"" +"" _""/""."";""&lt;""="""&gt;"" _"" and "@".</code></p>
High ISO NR	Choose a noise reduction option for high ISO sensitivities. See the camera manual for details.
Movie File Type (D7500)	Choose a file format for movie recording.

Saving and Loading Camera Control Settings

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The Camera Control Pro option in the **Settings** menu is used to save Camera Control Pro settings and to load and apply previously saved settings. In the case of the Nikon 1 V3, these options are only available when the live view window is displayed.



Exposure 1	Access to some of the settings in the “Exposure 1” tab.
Exposure 2	Access to some of the settings in the “Exposure 2” tab.
Storage	Adjust image quality settings.
Mechanical	Access to some of the settings in the “Mechanical” tab.
Load Control Settings...	Select this item to load camera settings previously saved using <b>Save Control Settings...</b> (see below). A dialog will be displayed where you can navigate to the drive (volume) and directory containing the desired settings file (only files with the extension “.ncc” will be displayed; choose settings created with the camera currently connected). The settings in the Camera Control Pro window will instantly revert to the saved settings. Bracketing settings are not affected.

Saving and Loading Camera Control Settings

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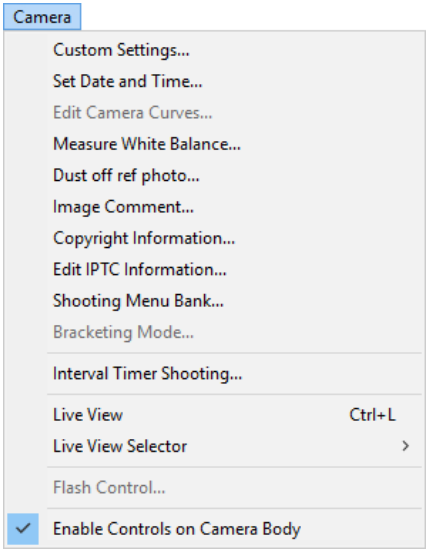
Save Control Settings...	<p>Select this item to save the settings in the Camera Control Pro window to a named file. These settings can later be recalled using <b>Load Control Settings...</b> Choosing <b>Save Control Settings...</b> displays a dialog where you can choose a destination and file name for current camera settings. Camera Control Pro settings are saved with the extension “.ncc”. The following are not saved: the state of the exposure preview check box in the “Exposure 1” tab; the white balance comment and setting chosen for <b>White Balance (Lv)</b> in the “Exposure 2” tab; bracketing settings, non-CPU lens settings, and the state of the <b>Take a series of photographs by holding down the Start (AF and Start) button</b> check box in the “Mechanical” tab; and the shutter speed, aperture, exposure compensation, metering, and <b>Transfer movie file to PC</b> options in the “Movie” tab.</p>
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The Camera Menu

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The **Camera** menu contains the following options:



<b>Custom Settings...</b> (D750/D610/D600/D7500/ D7200/D7100/D5600/ D5500/D5300/D5200/ D5100/Df /Nikon 1 V3 excluded)	Selecting this option opens the <a href="#">Custom Settings dialog</a> , where camera Custom Settings can be adjusted.
<b>Set Date and Time...</b>	Selecting this option opens the dialog shown below, where you can set the camera's clock calendar to the current date and time. Select <b>Synchronize camera date and time to PC</b> to synchronize the camera clock with the computer, or <b>Specify camera date and time</b> to set the camera clock manually. Click <b>OK</b> to set the clock calendar to the time and date shown. <div><div>Camera Date and Time</div><div><div><div><div><div></div><div>Synchronize camera date and time with PC</div></div><div><div><div></div><div>Specify camera date and time</div></div></div></div><div><div>Date (Y/M/D):</div><div>Time (H:M:S):</div></div><div><div>11/ 9/2015</div><div>3:30:00 PM</div></div><div><div>OK</div><div>Cancel</div><div>Help</div></div></div></div></div>

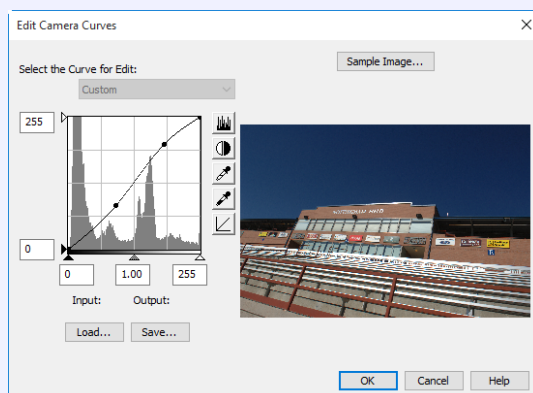
# The Camera Menu

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## Edit Camera Curves...

(D60)

This option is used to create a custom tone compensation curve and download it to the camera, where it applies when "Custom" is selected for the camera tone compensation option.



The controls in the Edit Camera Curves window are similar to those used to edit tone curves in Adobe Photoshop and other imaging software, except in the following respects: (1) only the master channel, not individual RGB channels, may be edited; (2) there is a limit of 20 spline points; (3) the gray point cannot be defined; (4) a user-defined sample image can be selected by clicking **Sample Image...** (the sample image must be a RAW image created with the camera). Any changes to curves are reflected in the sample image. To copy the edited curve to the camera, click **OK**.

The Edit Camera Curves window contains **Load...** and **Save...** buttons. Click **Load...** to load previously stored curves created with Camera Control Pro, Nikon Capture (available separately), or Capture NX 2 or Capture NX (available separately; settings must include "Levels and Tone Curves" data). Look for files with the ".ntc", ".ncv", or ".set" extension.

The **Save...** button opens the "Save As" dialog, where you can save the current curve.

The Camera Menu

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Measure White Balance...

Use this option to measure preset white balance. If the camera currently connected supports multiple values for preset white balance, settings can be protected and the setting that will be used to store the measured value can be chosen from the pop-up menu at the top of the dialog (D60, D5600, D5500, D5300, D5200, D5100, D5000, and Nikon 1 V3 excluded). Adjust camera settings as described in the section on preset white balance in the camera user's manual and click **OK** to measure a value for white balance.

Measure White Balance

Photograph a white or gray object, composing the shot so that it fills the frame.  
When you click the "OK" button, the camera will measure a value for white balance and store it in the selected preset.

OKCancelHelp

Nikon 1 V3 (dialogs for other cameras may differ)

Measure White Balance

Select a preset.  

Preset manual d-1

☐ Protect  
Photograph a white or gray object, composing the shot so that it fills the frame.  
When you click the "OK" button, the camera will measure a value for white balance and store it in the selected preset.

OKCancelHelp

D5 (dialogs for other cameras may differ)

Choosing a Mode (D750/D610/D600/D90/D60/D7500/D7200/D7100/D7000/D5600/D5500/D5300/D5200/D5100/D5000)

The **Measure White Balance...** option is only available in P, S, A, and M modes.

The Camera Menu

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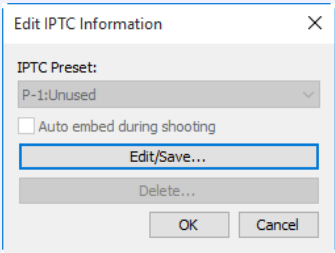
<div>Dust off ref photo... (Nikon 1 V3 excluded)</div>	<p>Choose this option to take a reference photo for the Image Dust Off option in Capture NX-D and other Nikon software. The dialog shown below will be displayed. With the camera lens ten centimeters (four inches) from a featureless white object, frame the object so that it fills the viewfinder and click <b>OK</b> to record an Image Dust Off reference photo. See the camera manual for details.</p> <div><div>Dust off ref photo</div><div>Click OK to acquire Image Dust Off reference data. Take photo of featureless white object 10 cm from lens. Focus will be set to infinity. The reference data may be used by Capture NX-D for Image Dust off.</div><div>OKCancelHelp</div></div>
<div>Image Comment... (Nikon 1 V3 excluded)</div>	<p>Selecting this option displays the dialog shown below, where you can enter a comment or title for subsequent photographs. The title will be used for all subsequent photographs taken while the camera is connected. When the camera is connected, the title is stored in the camera as an image comment of thirty-six characters or less which is appended to photographs only when the <b>Attach comment</b> box is checked.</p> <div><div>Image Comment</div><div></div><div><input type="checkbox"/> Attach comment</div><div>OKCancelHelp</div></div>
<div>Edit Copyright Information... (D5/D4 series/D3 firmware version 2.00 or later/D3X/D3S/D810/D810A/D800/D800E/D750/D700/D610/D600/D500/D300 firmware version 1.10 or later/D300S/D7500/D7200/D7100/D7000/D5600/D5500/Df)</div>	<p>Selecting this option displays the dialog shown below, where you can enter photographer and copyright holder names for subsequent photographs. This information is appended to photographs only when <b>Attach copyright information</b> is selected.</p> <div><div>Edit Copyright Information</div><div>Artist:  </div><div>Copyright: </div><div><input type="checkbox"/> Attach copyright information</div><div>OKCancel</div></div>

The Camera Menu

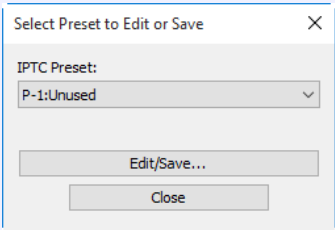
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Edit IPTC  
Information...  
(D5/D500)

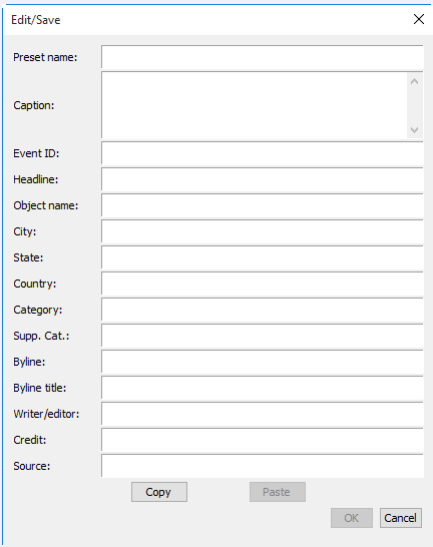
Selecting this option displays a dialog where you can edit, save, or delete IPTC presets. To embed the IPTC information stored in the preset selected in the **IPTC Preset** field, select **Auto embed during shooting**.



To edit or save IPTC presets, click **Edit/Save...** and choose a preset in the “Select Preset to Edit or Save” dialog.

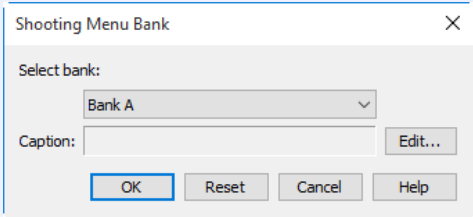
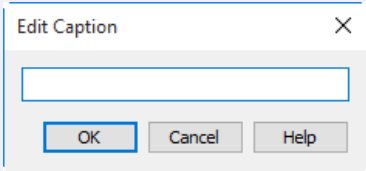


After choosing a preset, click **Edit/Save...** and enter IPTC information.



The Camera Menu

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<div>Shooting Menu Bank...</div> <div>(D750/D610/D600/D90/D60/D7500/D7200/D7100/D7000/D5600/D5500/D5300/D5200/D5100/D5000/Nikon 1 V3 excluded)</div>	<div>Selecting this option displays the dialog shown below, where you can choose the shooting menu bank in which changes to settings will be stored while the camera is controlled from Camera Control Pro. See the camera manual for details.</div> <div></div> <div>A descriptive comment can be added to the name of each shooting menu bank. Clicking <b>Edit...</b> displays the dialog shown below, where the comments for each bank can be edited. Click <b>OK</b> to copy the comments to the camera. Comments can contain letters, numbers, quotes, apostrophes, spaces, and any of the following characters: <code>","!""?""#""\$""%""&amp;""('""["""{""}""*""+""-""/"":","&lt;""="""&gt;""_"" and "@".</code></div> <div></div> <div>Edit Comment dialog</div>
<div>Bracketing Mode...</div> <div>(D60/Nikon 1 V3 excluded)</div>	<div>Selecting this option displays the BKT Mode dialog. See <a href="#">"Interval Timer Shooting"</a> for details.</div>
<div>Interval Timer Shooting...</div>	<div>Selecting this option opens the <a href="#">"Interval Timer Shooting" dialog</a>.</div>
<div>Live View</div> <div>(D60 excluded)</div>	<div>Selecting this option opens the live view window and enables live view. Select this option again to close the live view window.</div>
<div>Live View Selector</div> <div>(D5/D4 series/D810/D810A/D800/D800E/D750/D610/D600/D500/D7500/D7200/D7100/Nikon 1 V3)</div>	<div>Choose from live view photography and movie live view. In the case of the D4, this option is not available during live view or when <b>Enable Controls on Camera Body</b> is selected.</div>

<b>Flash Control...</b> (D5/D500)	Selecting this option displays the flash control window. See <a href="#">“Flash Control”</a> for more information. This option is available only when <b>Flash Control</b> is active in the camera photo shooting menu, namely when a compatible flash unit such as the SB-5000 is mounted on the accessory shoe or a WR-R10 is connected via the ten-pin terminal. For more information on connecting flash units, see the documentation for the camera and supported flash units.
<b>Enable Controls on Camera Body</b> (Nikon 1 V3 excluded)	Check this option to enable camera controls, allowing settings to be adjusted and photographs taken directly from the camera. If this option is not checked, only the power switch and focus-mode selector can be used.

**IPTC Presets**

IPTC preset names can be up to 18 characters long. The maximum number of characters that can be entered in each field is shown below.

Field	Maximum length
Caption	2000
Event ID	64
Headline	256
Object name	256
City	256
State	256
Country	256

Field	Maximum length
Category	3
Supp. Cat.	256
Byline	256
Byline title	256
Writer/editor	256
Credit	256
Source	256

# Custom Settings

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Most of the custom settings stored in camera memory can be viewed and adjusted from the Custom Settings window in Camera Control Pro. For more information on Custom Settings, see the documentation provided with your camera.

**D750/D610/D600/D7500/D7200/D7100/D5600/D5500/D5300/D5200/D5100/Df/Nikon 1 V3 Custom Settings** are not available with these cameras.

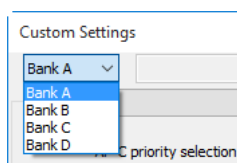
**1** Select **Custom Settings...** from the **Camera** menu.

The Custom Settings dialog for the current camera will be displayed.

## Changes to Custom Settings

Changes made to settings in the Custom Settings dialog are stored in the camera, not on the computer hard disk. This means that changing settings in the Custom Settings dialog has the same effect as changing Custom Settings using camera controls.

**2** Choose a Custom Settings bank (Custom Settings set) from the pop-up menu of the Custom Settings dialog (see the camera manual for details).



**3** After making any changes to Custom Settings, click **OK** to save changes in the camera Custom Settings bank and exit the Custom Settings dialog.

## Custom Settings

Custom Settings cannot be saved to a separate file. Clicking the **Reset** button resets all Custom Settings to their default values.

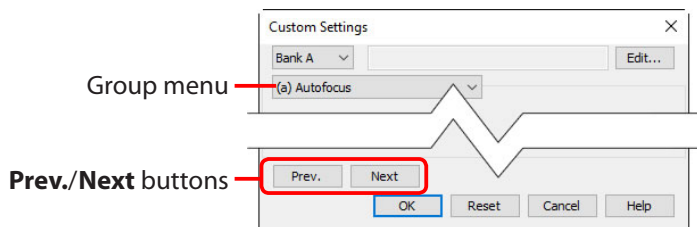


# Custom Settings

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## Custom Settings for Cameras other than the D60

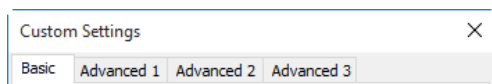
The group can be chosen from the group menu or by clicking the **Next** and **Prev.** buttons.



With the exceptions of the D90, D7000, and D5000, a descriptive comment can be added to the name of each Custom Settings bank. Clicking **Edit...** displays an “Edit Custom Settings Comment” dialog, where the comments for each bank can be edited. Click **OK** to copy the comments to the camera. Comments can be up to twenty characters long and contain letters, numbers, quotes, apostrophes, spaces, and any of the following characters: “ ” ‘ ’ “ ” # \$ % & “ ” ( ) “ ” [ ] “ ” { } “ ” \* “ ” + “ ” - “ ” / “ ” . “ ” , “ ” < “ ” = “ ” > “ ” \_ “ ” and “@”.

## Custom Settings for D60 Cameras

Custom Settings for the D60 cameras are divided among four tabs: Basic, Advanced 1, Advanced 2, and Advanced 3. See the camera manual for details.

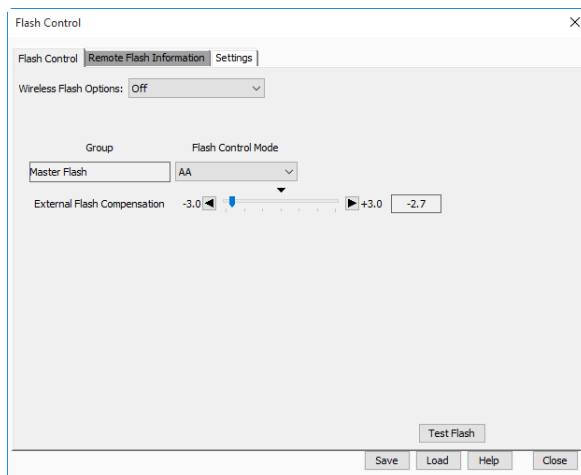


# Flash Control (D5/D500)

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## The “Flash Control” Tab

Choose a flash control mode and adjust flash level and other settings for flash units mounted on the camera or for off-camera flash units operated via wireless remote control.



### Wireless Flash Options





Choose a remote control mode for remote flash units that support Advanced Wireless Lighting (AWL) when an SB-5000, SB-500, or WR-R10 is connected to the camera. Select **Off** to choose a flash control mode and adjust flash level and other settings for a flash unit mounted on the camera accessory shoe.

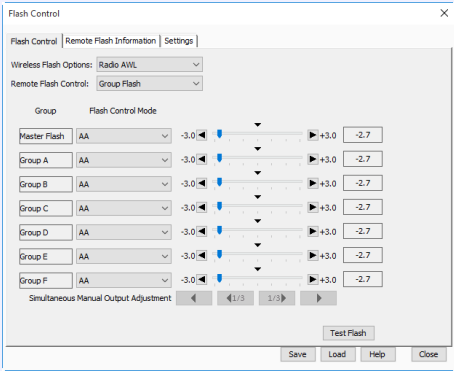
Flash Control (D5/D500)

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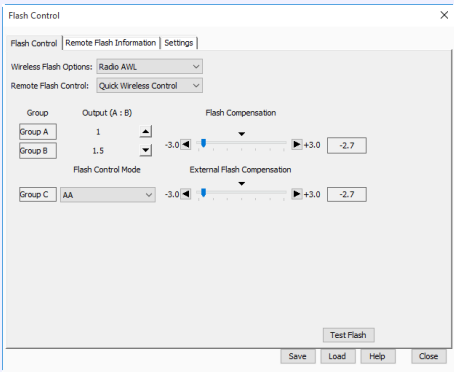
Remote Flash Control

Adjust settings for remote flash photography.

- **Group Flash:** Choose a flash control mode and adjust flash level separately for each of the following groups: the master flash and groups A through C (**Optical AWL** selected for **Wireless Flash Options**), or the master flash and groups A through F (**Radio AWL** or **Optical/Radio AWL**). If Optical/Radio AWL is selected, optical control will be used for the master flash and flash units in groups A through C, radio control for the flash units in groups D through F. If **Simultaneous Manual Output Adjustment** is selected, flash output for all groups using manual flash control can be adjusted in steps of 1/3 EV by clicking the   buttons, or in steps of 1 EV by clicking the   buttons.



- **Quick Wireless Control:** Adjust the relative balance between the outputs of groups A and B. The output of group C can be adjusted manually when **Manual** is selected for flash control mode.



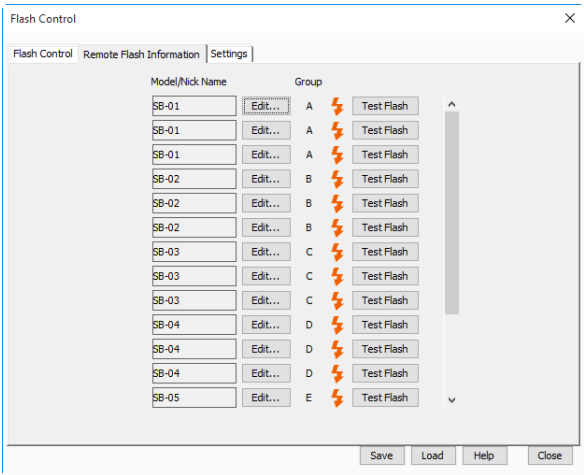
Flash Control (D5/D500)

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Remote Flash Control	<div><div><div><div><div>Flash Control</div><div>Remote Flash Information</div><div>Settings</div></div><div><div>Wireless Flash Options: Radio AWL</div><div>Remote Flash Control: Remote Repeating</div></div><div><table><thead><tr><th>Group</th><th>ON/OFF</th></tr></thead><tbody><tr><td>Master Flash</td><td>ON</td></tr><tr><td>Group A</td><td>ON</td></tr><tr><td>Group B</td><td>ON</td></tr><tr><td>Group C</td><td>ON</td></tr><tr><td>Group D</td><td>ON</td></tr><tr><td>Group E</td><td>ON</td></tr><tr><td>Group F</td><td>ON</td></tr></tbody></table><div><div>Output</div><div>1/256</div><div>1/1</div><div>1/4 -0.7</div></div><div><div>Times</div><div>2</div><div>5</div><div>2 times</div></div><div><div>Frequency</div><div>1</div><div>100</div><div>8 Hz</div></div></div><div>Test Flash</div><div>SaveLoadHelpClose</div></div></div></div> <div><div>• <b>Remote Repeating:</b> Groups can be turned on and off using the <b>ON/OFF</b> option. If <b>ON</b> is selected, you can choose group flash output, the number of times the flash units in the selected group fire, and the number of times the units fire per second. Settings can be adjusted for each of the following groups: the master flash and groups A through C (<b>Optical AWL</b> selected for <b>Wireless Flash Options</b>), or the master flash and groups A through F (<b>Radio AWL</b> or <b>Optical/Radio AWL</b>). If <b>Optical/Radio AWL</b> is selected, optical control will be used for the master flash and flash units in groups A through C, radio control for the flash units in groups D through F.</div></div>	Group	ON/OFF	Master Flash	ON	Group A	ON	Group B	ON	Group C	ON	Group D	ON	Group E	ON	Group F	ON
Group	ON/OFF																
Master Flash	ON																
Group A	ON																
Group B	ON																
Group C	ON																
Group D	ON																
Group E	ON																
Group F	ON																
Test Flash	Click to test-fire flash units in all groups.																
Save	Save current settings for the “Flash Control” and “Settings” tabs in a file with the extension “nsb”.																
Load	Load settings stored in an “nsb” file and apply them to the current flash units. Settings can be applied only if the current group makeup is the same as that in effect when the file was created.																

The “Remote Flash Information” Tab

View flash information, including models and nicknames, for flash units controlled via radio AWL.



Model/Nick Name	A list of nicknames (if any) and model names for up to 18 remote flash units.
Edit	Displays the following dialog, where you can enter a model name/nickname of up to eight characters. <div><div>Edit Model/Nick Name</div><div></div><div>OKCancelHelp</div></div>
Group	The group to which the flash unit is assigned.
Status	Flash status is shown by the following icons: <div><div>⚡</div> : Standby<div><div></div></div> : Battery warning<div><div></div></div> : Temperature warning</div>

Test Flash	Click to test-fire the selected flash unit.
Save	Save current settings for the “Flash Control” and “Settings” tabs in a file with the extension “nsb”.
Load	Load settings stored in an “nsb” file and apply them to the current flash units. Settings can be applied only if the current group makeup is the same as that in effect when the file was created.

**Model Names/Nicknames**

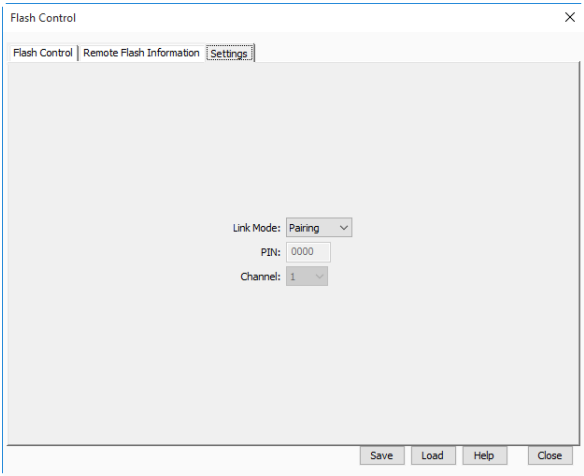
In addition to letters and numbers, the “Model/Nick Name” dialog accepts the following characters:  
\_ " ' - " # " ( " ) " " + " : " ; " and "@".

Flash Control (D5/D500)

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The “Settings” Tab

Adjust settings for wireless flash control.



Link Mode	Choose a link mode for radio AWL.
PIN	Enter the PIN used when <b>PIN</b> is selected for <b>Link Mode</b> .
Channel	Choose the channel for optical AWL.
Save	Save current settings for the “Flash Control” and “Settings” tabs in a file with the extension “nsb”.
Load	Load settings stored in an “nsb” file and apply them to the current flash units. Settings can be applied only if the current group makeup is the same as that in effect when the file was created.

# Appendices

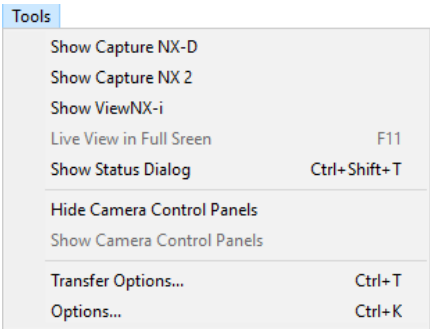
Camera Control Pro Preferences		105
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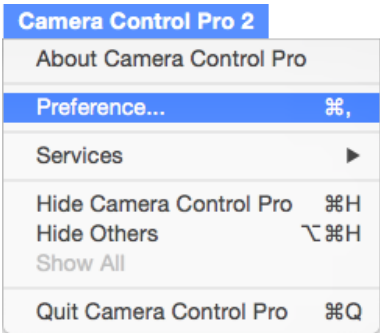
Camera Control Pro Preferences

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To view the Preferences (Options) dialog for Camera Control Pro, select **Options...** from the **Tools** menu (*Windows*) or select **Preferences...** from the application menu (*Mac*).



*Windows*



*Mac*

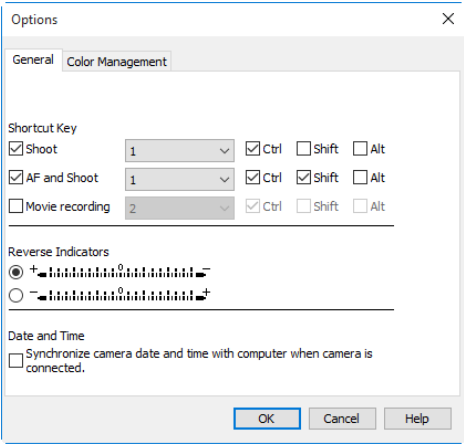
The Preferences dialog contains [General](#) and Color Management ([Windows](#), [Mac](#)) tabs.

Camera Control Pro Preferences

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### The General Tab

The General tab is used to assign keyboard shortcuts to the “shoot” buttons and to choose the orientation of the indicators. Changes to keyboard shortcuts take effect immediately.



Shoot	If this option is selected, the keyboard shortcut chosen in the pop-up menu can be used in place of clicking the <b>Shoot</b> button. Key combinations can include the <b>Ctrl</b> , <b>Shift</b> , and <b>Alt</b> keys ( <i>Windows</i> ) or <b>control</b> , <b>shift</b> , <b>option</b> , and <b>command</b> keys ( <i>Mac</i> ).
AF and Shoot	If this option is selected, the keyboard shortcut chosen in the pop-up menu can be used in place of clicking the <b>AF and Shoot</b> button. Key combinations can include the <b>Ctrl</b> , <b>Shift</b> , and <b>Alt</b> keys ( <i>Windows</i> ) or <b>control</b> , <b>shift</b> , <b>option</b> , and <b>command</b> keys ( <i>Mac</i> ).
Movie recording	Select this option to enable the movie recording keyboard shortcut. Choose a shortcut from the menu; shortcuts can include the <b>Ctrl</b> , <b>Shift</b> , <b>Alt</b> ( <i>Windows only</i> ), and <b>option</b> and <b>command</b> keys ( <i>Mac only</i> ).

Camera Control Pro Preferences

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Keyboard Shortcuts

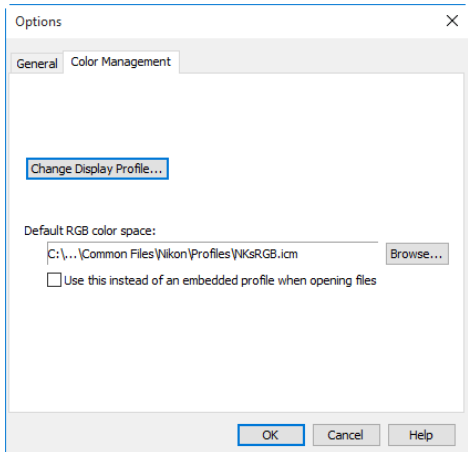
Keyboard shortcuts cannot be used when a dialog is displayed or images are being transferred to a computer. Keyboard shortcuts that are the same as those used in the operating system or other applications may fail to function and are not recommended. If you attempt to assign identical shortcuts to both the **Shoot** and **AF and Shoot** buttons, a message will be displayed. Choose a different shortcut for the remaining button.

Reverse indicators	Choose whether the indicator in the simulated LCD panel and the “Exposure increment (EV)” in the “Bracketing Mode” dialog are displayed with positive values on the left and negative values on the right or vice-versa.
Date and Time	If <b>Synchronize camera date and time to computer when camera is connected</b> is selected, Camera Control Pro will synchronize the camera clock with the computer clock whenever the camera is connected.

## The Color Management Tab (Windows)

The Color Management tab is where you specify the color management profiles used for displaying images on your monitor and for editing and saving RGB images.

► [Mac](#)



Change Display Profile	To choose a display profile, click <b>Change Display Profile...</b> The “Color Management” window will be displayed. Select <b>Use my settings for this device</b> and click <b>Add</b> .
Default RGB color space	The output color-space profile used when working with RGB images is displayed here. Click <b>Browse...</b> to choose a new default RGB profile. If <b>Use this instead of an embedded profile when opening files</b> is checked, this RGB color space profile will be used for all images. If it is not checked, the profile embedded in each image will be used.

### Multiple Displays

In a multiple display environment, choose a single profile suited to the main display for viewing images.

### Default Display Profile

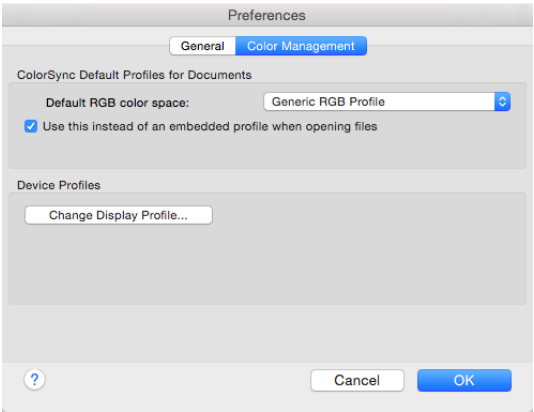
The default Windows display profile is “NKMonitor\_win.icm.” This profile is sRGB color profile.

### The Color Management Tab

Changes to settings in the Color Management tab also apply to ViewNX-i, ViewNX 2, ViewNX, Nikon Capture (available separately), Nikon View, and PictureProject. They are not reflected in Capture NX 2 or Capture NX (available separately) or in Capture NX-D.

### The Color Management Tab (Mac)

The Mac version displays the following options. (► [Windows](#))



ColorSync Default Profiles for Documents	<p>Lists the ICC color-space profile used to display images.</p> <p><b>Default RGB color space:</b> Choose the output color-space profile used when working with RGB images. If <b>Use this instead of an embedded profile when opening files</b> is checked, this RGB color space profile will be used for all images. If it is not checked, the profile embedded in each image will be used.</p>
Device Profiles	<p>Lists the default color-space profiles for monitors.</p> <p><b>Change Display Profile...:</b> If this button is displayed, you can click it to open the Displays section of the System Preferences dialog. Open the Color panel (Mac) to choose a display profile.</p>

### Input Profiles

If an input profile is selected for the default RGB color space, images will be displayed in the sRGB color space.

### The Color Management Tab

Changes to the display profile apply system wide. Changes to other settings in the Color Management tab apply to ViewNX-i, ViewNX 2, and ViewNX but are not reflected in Capture NX 2, Capture NX, or Nikon Capture (available separately) or in Capture NX-D, Nikon View, or PictureProject.

### Multiple Displays

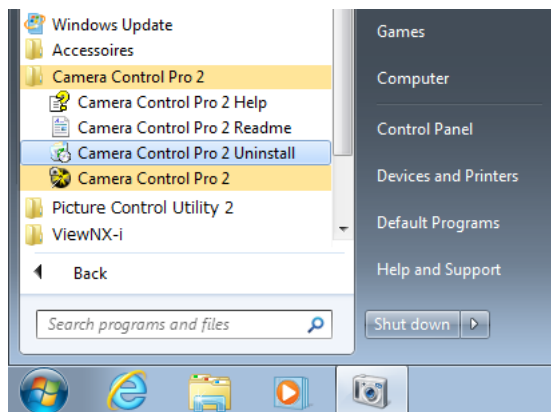
Camera Control Pro will identify and list the profiles for all monitors in an extended desktop display, allowing you to choose a separate profile for each monitor.

# Uninstalling Camera Control Pro

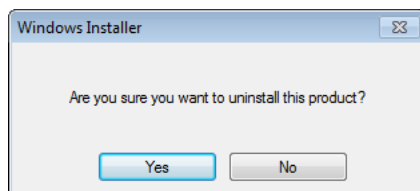
## Windows

Use an account with administrator privileges to perform the uninstall.

- 1 Click **Start** and select **Camera Control Pro 2 > Camera Control Pro 2 Uninstall** from the program list.



- 2 Click **Yes** to begin removing Camera Control Pro and all of its components.



- 3 If the uninstaller encounters read-only files or components shared by another application, a confirmation dialog will be displayed. Read the information displayed carefully before deciding what to do with the affected components.

- 4 Restart the computer if so directed.

### Windows 10/Windows 8.1

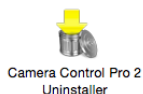
Uninstall Camera Control Pro from the "Uninstall or change a program" control panel.

# Uninstalling Camera Control Pro

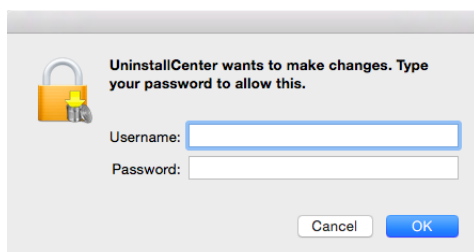
*Mac*

Use an account with administrator privileges to perform the uninstall.

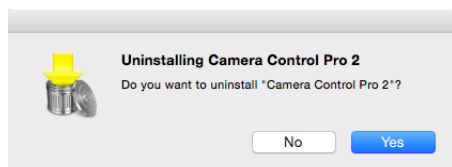
- 1 Open the "Applications:Nikon Software:Camera Control Pro 2" folder and double-click the **Camera Control Pro 2 Uninstaller** icon.



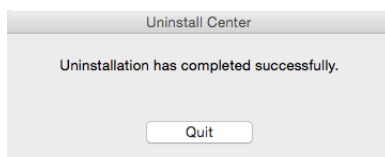
- 2 Enter the administrator name and password and click **OK**.



- 3 Click **Yes**.



- 4 Click **Quit** to exit the uninstaller once Camera Control Pro has been removed.



RGB Color Space Profiles

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Profiles with a Gamma Value of 1.8

Profile	Windows	Mac	Description
Apple RGB	NKApple.icm	Nikon Apple RGB 4.0.0	This profile is used in desk-top publishing applications and in Adobe Photoshop versions 4.0 or earlier, and is the typical RGB profile for Mac monitors. The corresponding RGB setting in Adobe Photoshop is "Apple RGB." This profile is suitable for working with images displayed on the Mac.
ColorMatch RGB	NKCMatch.icm	Nikon ColorMatch RGB 4.0.0	The ColorMatch profile is native to Radius PressView monitors. It has a wider gamut than Apple RGB, with a particularly wide area devoted to the reproduction of blues. The corresponding RGB setting in Adobe Photoshop is "Color Match RGB."

Profiles with a Gamma Value of 2.2

Profile	Windows	Mac	Description
sRGB	NKsRGB.icm	Nikon sRGB 4.0.0	This RGB profile is used in the majority of Windows monitors. It closely resembles the RGB commonly used in color television, and is also used in the digital television broadcasting system that is on its way to becoming the industry standard in the United States of America. Software and hardware manufacturers use it as a default color profile and guarantee operation when it used. It is also on its way to becoming the standard for images on the web. This profile is suited to users who plan to use their digital images "as is," without editing or printing them. It however suffers from the drawback of a narrow gamut with a limited area available for reproducing blues. The corresponding RGB setting in Adobe Photoshop 5.0 and 5.5 is "sRGB," the corresponding setting in Adobe Photoshop 6.0 "sRGB IWC61966-2.1."
Bruce RGB	NKBruce.icm	Nikon Bruce RGB 4.0.0	This color profile attempts to expand on the ColorMatch RGB gamut by defining the chromaticity for G as lying between the values for G in the Adobe RGB and ColorMatch color-space profiles. It was proposed by Bruce Fraser, who claims that it includes most of the colors in the SWOP CMYK gamut. The R and B used in the Bruce RGB and Adobe RGB color-space profiles match.
NTSC (1953)	NKNTSC.icm	Nikon NTSC 4.0.0	This is the color space for video defined by the National Television Standards Committee (NTSC) in 1953 and used in early color televisions. This color space is also used in some Far-East newspaper and printing organizations. The corresponding RGB setting in Adobe Photoshop is "NTSC (1953)."



RGB Color Space Profiles

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Profile	Windows	Mac	Description
Adobe RGB (1998)	NKAdobe.icm	Nikon Adobe RGB 4.0.0	A color-space profile defined in Adobe Photoshop 5.0. It has a wider gamut than sRGB and includes the colors found in most CMYK gamuts, making it suitable for users involved in desktop publishing. The corresponding RGB setting in Adobe Photoshop 5.0 is "SMPTE-240M," the corresponding setting in Adobe Photoshop 5.5 or later "Adobe RGB (1998)."
CIE RGB	NKCIE.icm	Nikon CIE RGB 4.0.0	A video color-space profile established by the <i>Commission Internationale de l'Éclairage</i> (CIE). While it boasts a fairly wide gamut, it suffers from the drawback that the area devoted to the reproduction of cyan is relatively small. The corresponding RGB setting in Adobe Photoshop is "CIE RGB."
Adobe Wide RGB	NKWide.icm	Nikon AdobeWide RGB 4.0.0	This color-space profile, designed by Adobe, incorporates most of the visible colors. This however has the consequence that most of the colors it can express cannot be reproduced on standard monitors and printers. The corresponding RGB setting in Adobe Photoshop 5.0 or later is "Adobe Wide RGB."

# Troubleshooting

## Captured Images Are Not Displayed

Captured images will not be displayed if **Do nothing** or **Send it to Capture NX 2** (or **Capture NX**) **watched folder** is selected for [When a new image is received from camera](#) in the “Transfer Options” dialog. Select **Show it with ViewNX-i** (or **ViewNX 2** or **ViewNX**).

## Camera Controls Cannot Be Used

Select [Enable Controls on Camera Body](#) in the **Camera** menu. Note that camera controls cannot be used in live view.

## The Camera Cannot Be Controlled from Camera Control Pro 2

Deselect [Enable Controls on Camera Body](#) in the **Camera** menu.

## Life-Long Learning

As part of Nikon's "Life-Long Learning" commitment to ongoing product support and education, continually-updated information is available online at the following sites:

- **For users in the U.S.A.:** <http://www.nikonusa.com/>
- **For users in Europe and Africa:** <http://www.europe-nikon.com/support/>
- **For users in Asia, Oceania, and the Middle East:** <http://www.nikon-asia.com/>

Visit these sites to keep up-to-date with the latest product information, tips, answers to frequently-asked questions (FAQs), and general advice on digital imaging and photography. Additional information may be available from the Nikon representative in your area. See the following URL for contact information: <http://imaging.nikon.com/>