

# Nikon



# Z 9 Professional

## Technical Guide

— N-Log 3D LUT —



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## About This Guide

This guide is for users of N-Log.

### Trademark Information

DaVinci Resolve is a registered trademark of Blackmagic Design. Apple and Final Cut Pro are registered trademarks of Apple Inc. in the United States and other countries. Adobe and Adobe Premiere are trademarks or registered trademarks of Adobe Systems Incorporated in the United States and/or other countries.

## LUTs: A Primer

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A “LUT”, or “lookup table”, is an array of preselected values used in movie color-correction to map colors from the original input footage to the desired colors in the final output. Color correction is performed by looking up input colors and assigning them new RGB values based on the data in the table.

A lookup table that treats each of the red, green, and blue channels separately is a “1D LUT”, which cannot be used to correct saturation or hue. Such corrections require a “3D LUT”, in which each combined RGB value maps to a single combined value in the table.

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## ● Using LUTs with N-Log

Designed to take full advantage of sensor dynamic range, Nikon's unique "N-Log" logarithmic gamma curve offers excellent balance between highlights and shadows and is optimized for 10-bit movie recording. Information on filming N-Log footage can be found in the *Z 9 Reference Guide* available from the Nikon Download Center.

<https://downloadcenter.nikonimglib.com/>

Nikon's N-Log 3D LUT is specifically designed for color grading N-Log footage. Although the N-Log gamma curve captures a wide range of tones, the raw footage will seem to lack contrast. The 3D LUT can be applied post-production for pictures that display beautifully on monitors that support Rec. 709.



*No color grading*



*Footage color graded using  
N-Log 3D LUT*

To color grade N-Log footage using the N-Log 3D LUT, you will need third-party movie editing software. This guide shows how to apply the N-Log 3D LUT using Blackmagic Design's DaVinci Resolve 17.

### Compatible Applications

In addition to DaVinci Resolve, the following applications can be used with the N-Log 3D LUT:

- Adobe: Premiere Pro
- Apple: Final Cut Pro X

*Note that Nikon neither endorses this software nor guarantees its operation.*

Contact the publishers for information on using these applications.

## Using the N-Log 3D LUT

Before proceeding, you will need to install DaVinci Resolve and download the N-Log 3D LUT.

- **Installing DaVinci Resolve**

This guide assumes you are using DaVinci Resolve. Install the software after downloading it from the site below (link current as of October 2021).

<https://www.blackmagicdesign.com/products/davinciresolve/>

- **Downloading the N-Log 3D LUT**

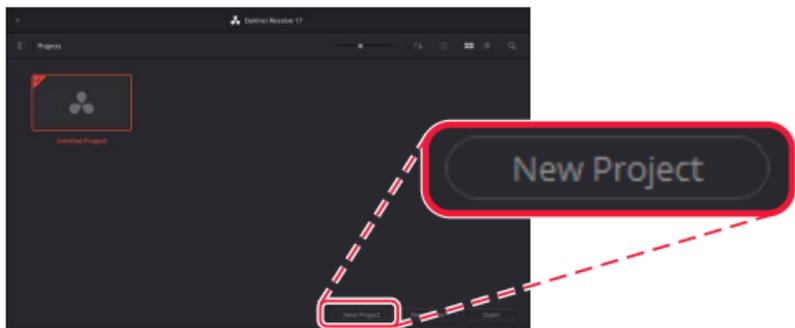
The N-Log 3D LUT is available from the Nikon Download Center at:

<https://downloadcenter.nikonimglib.com/>

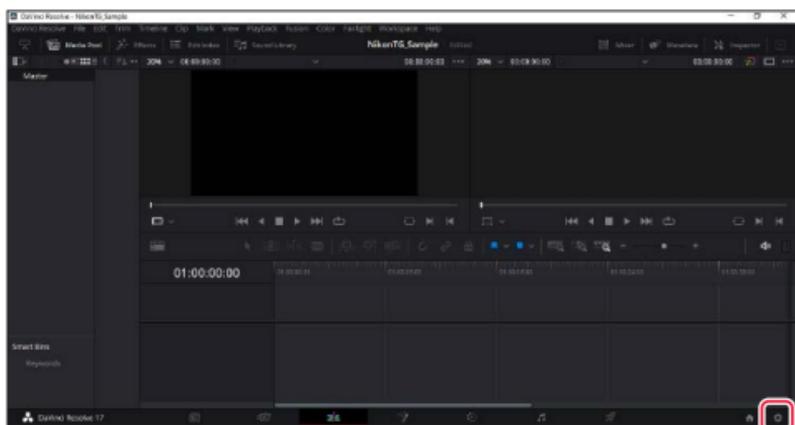
## ● Applying the N-Log 3D LUT

This information is current as of October 2021.

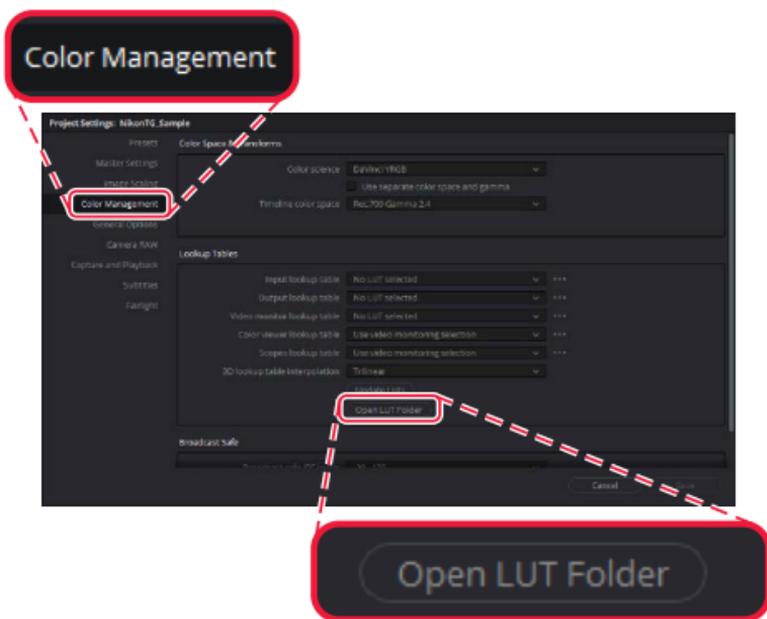
- 1** Launch DaVinci Resolve 17 and start a new project. In the Project Manager, click [New Project] and name the new project as desired.



- 2** Click the "Project Settings" (⚙️) icon.



- 3** Open the LUT folder.  
Select [Color Management] in the project settings window and click [Open LUT Folder].

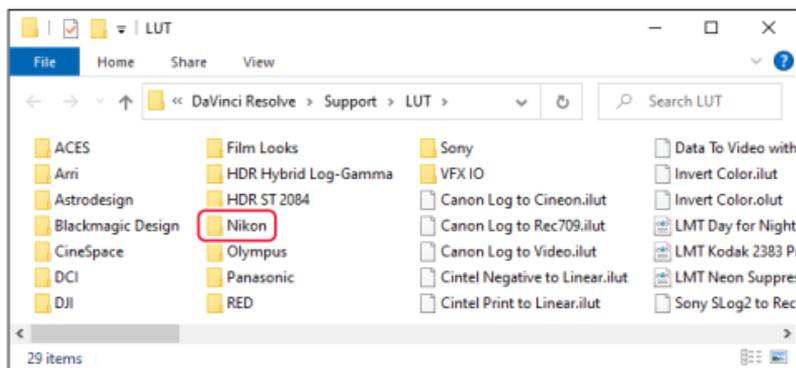
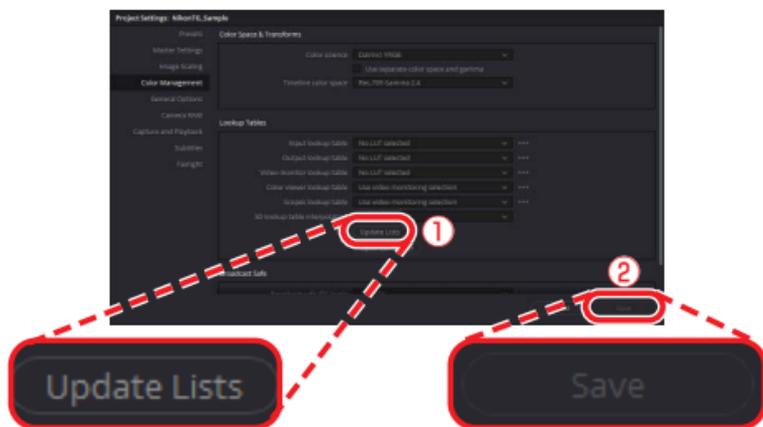


The DaVinci Resolve 17 LUT folder will open. The folder path is:

- **Windows:**  
C:\ProgramData\Blackmagic Design\DaVinci Resolve\Support\LUT
- **macOS:**  
Library/Application Support/Blackmagic Design/DaVinci Resolve/LUT

**4** Add the N-Log 3D LUT.

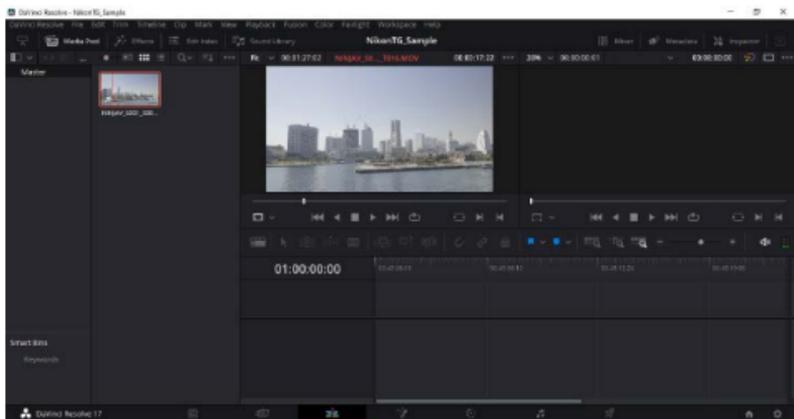
Create a sub-folder under the LUT folder, name it as desired, and copy the N-Log 3D LUT to the new sub-folder (named “Nikon” in this example).

**5** Click [Update Lists] and then click [Save].

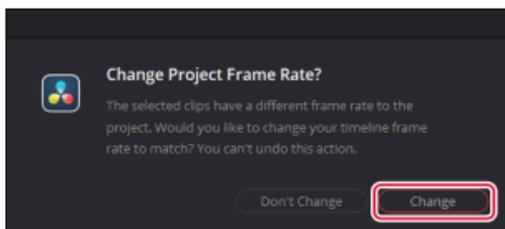
DaVinci Resolve will load the new LUT.

## 6 Load N-Log footage.

Drag N-Log footage from the operating system file navigation window into DaVinci Resolve 17.

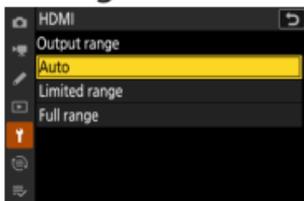


If the frame rates of the footage and project do not match, a message will be displayed. Click **[Change]** to update the project frame rate to match the footage.

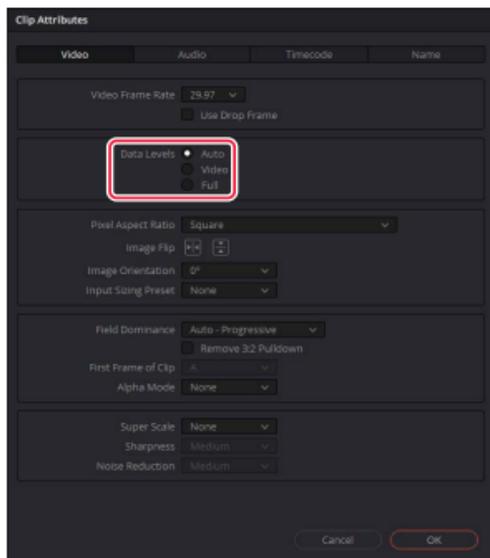


## 7 Match the data level to the output range.

When recording footage to an external HDMI recorder, check that the **[Data Levels]** option in DaVinci Resolve 17 matches the option selected for **[HDMI]>[Output range]** in the camera setup menu.

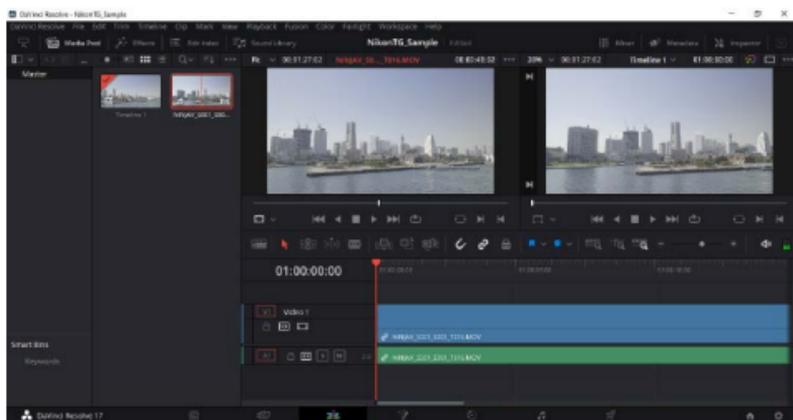
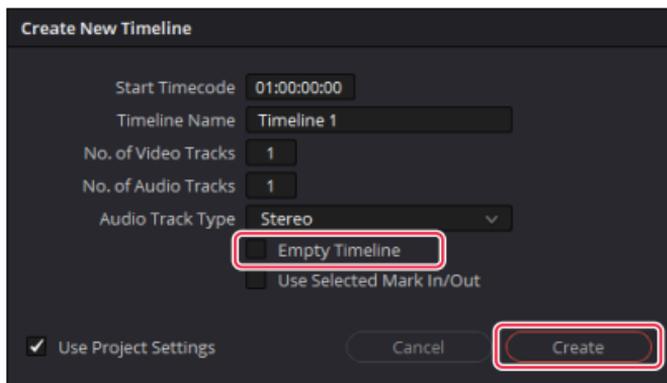


Right-click the thumbnail for the footage in the Media Pool, select **[Clip Attributes]**, and check the option selected for **[Data Levels]**. If the footage was recorded with **[Limited range]** selected on the camera, choose **[Video]**; if it was recorded with **[Full range]** selected, choose **[Full]**.

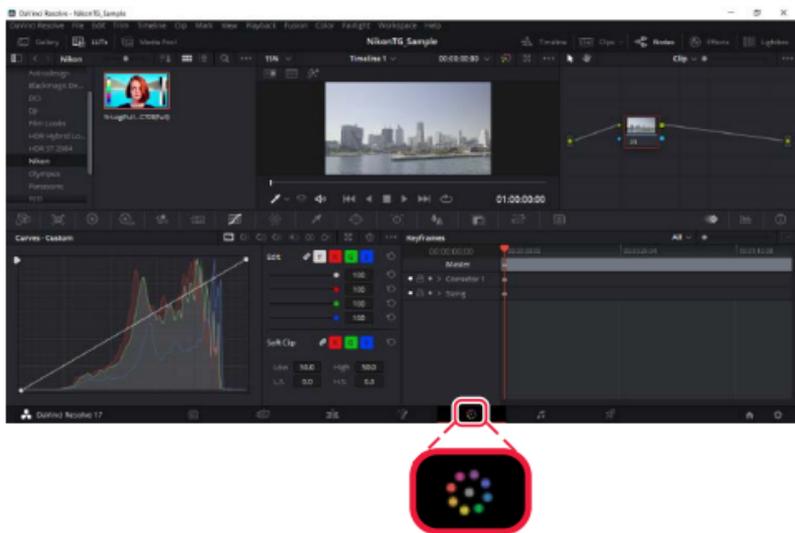


## 8 Create a timeline.

Select **[New Timeline]** in the **[File]** menu, then deselect the **[Empty Timeline]** check box and click **[Create]** to create a new timeline using the selected footage.

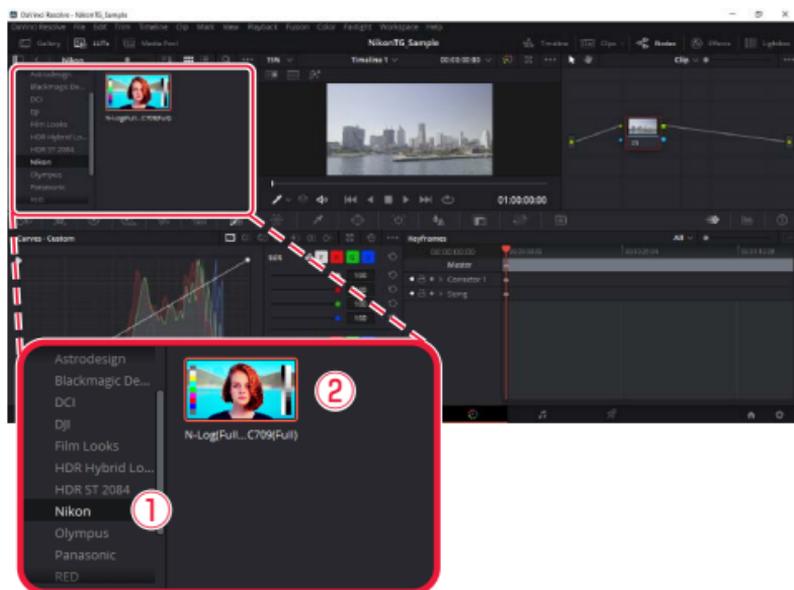


- 9** Open the “Color” page.  
Click the “Color” button (🎨) at the bottom of the window to open the “Color” page.



**10** Apply the N-Log 3D LUT.

In the LUT browser at the left side of the window, open the folder you created in Step 4 and double-click the N-Log 3D LUT to apply it to the current node.



For information on adjusting the LUT once it has been applied, see online help for DaVinci Resolve or visit the Blackmagic Design website.