



Resolve Live

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# Resolve Live

The Color page has another mode available to aid you in using DaVinci Resolve in on-set grading workflows. Turning the Resolve Live option on puts Resolve into a live grading mode, in which an incoming video signal from a camera can be monitored and graded during a shoot.

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## More About Resolve Live

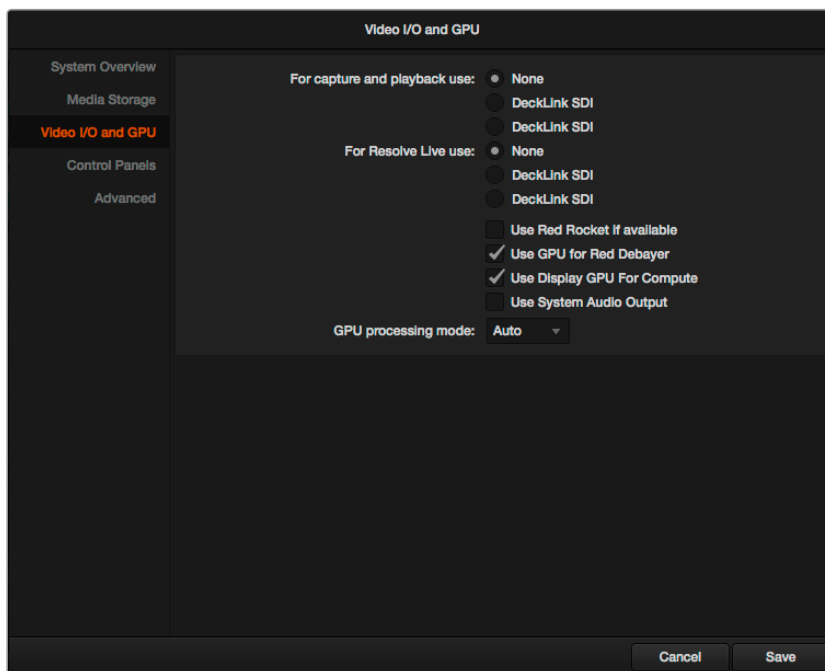
Resolve Live has been designed to let you use all of the features of DaVinci Resolve to grade these on-set video previews, in the process saving video snapshots that contain a captured image, your grade, and reference timecode from the camera. The idea is that, using Resolve Live, you can work with the cinematographer to develop looks and test lighting schemes on the footage being captured during the shoot, and then later you can use those looks to build dailies, and as a starting point for the final grade once the edit has been completed.

Additionally, you can use Resolve Live in conjunction with other Color page features such as the Alpha Output to build test composites to check check green screen shots, comparing them against imported background images in order to aid camera positioning and lighting adjustments. The built-in video scopes can also be used to monitor the signal levels of incoming video. Finally, you can use 1D and 3D LUTs to monitor and grade log-encoded media coming off the camera.

## Configuring Your System for Resolve Live

Setting up Resolve Live is straightforward. Whether your'e using a tower workstation or a laptop, any of the Blackmagic Design DeckLink or UltraStudio video interfaces can be used to connect your DaVinci Resolve workstation to a camera and external video display. The important thing to keep in mind is that, if you want to connect to a live incoming signal and output that signal for monitoring at the same time, you need to either use two separate DeckLink PCIe cards or UltraStudio Thunderbolt interfaces, or a single DeckLink Duo or DeckLink Studio card with multiple separate inputs and outputs on a single PCIe card.

The Preferences window has a Video I/O and GPU panel that provides two sets of options for configuring video interfaces connected to your computer, one for capture and playback, and one for Resolve Live input. If you only have a single video interface, you can only do one or the other. If you have two interfaces, then you can use these options to use one interface for playback, and the other interface for Resolve Live.



Screenshot of preferences

During the shoot, the digital cinema camera in use needs to be connected to your DaVinci Resolve workstation via HD-SDI, which must be configured to carry both the video image and timecode that mirrors the timecode being written to each recorded clip. Most cameras allow timecode output over HD-SDI, and both DeckLink and UltraStudio interfaces can pass this timecode to Resolve. Without a proper timecode reference, you won't be able to take the shortcut of automatically syncing your saved Snapshots to recorded camera original media using ColorTrace, although you can always apply grades manually.

If you're shooting with any of the Blackmagic Design cameras, you also have the option of connecting the camera directly to your Resolve Live workstation using Thunderbolt, eliminating the need for a second video interface. In this configuration, Thunderbolt carries both video and timecode for easy capture by Resolve.

## Grading Live

Once your camera and computer are appropriately connected and configured, using Resolve Live is straightforward. This section describes the live grading workflow as it was designed to be used. Once you're familiar with the capabilities of Resolve Live, you may find your own ways of working that are more in tune to the needs of your particular project.

### Getting Started

When working with Resolve Live on a new shoot, you should begin with an empty project and a new empty timeline, since the live grading workflow involves capturing live graded snapshots to an otherwise unoccupied timeline. One recommended way of organizing the live grades of a shoot is to create one new project per day of shooting. This way, snapshots captured during shoots using all 24 hours of time-of-day timecode won't conflict with one another. Also, separate projects can make it easier to use ColorTrace to copy grades from your live grade snapshots to the camera original media you'll be creating dailies from, eventually.

**TIP:** Having an empty Media Pool and timeline doesn't mean you can't install useful LUTs and pre-import reference stills and saved grades to the Gallery, as these can be valuable tools for expediting your on-set grading.

Once you've created your new project, you also need to choose the disk where all snapshots you take will be saved. By default, snapshots are saved on the scratch disk at the top of the Scratch Disks list in the Media Storage panel of the Preferences window. They're automatically saved in a folder named identically to the current project.

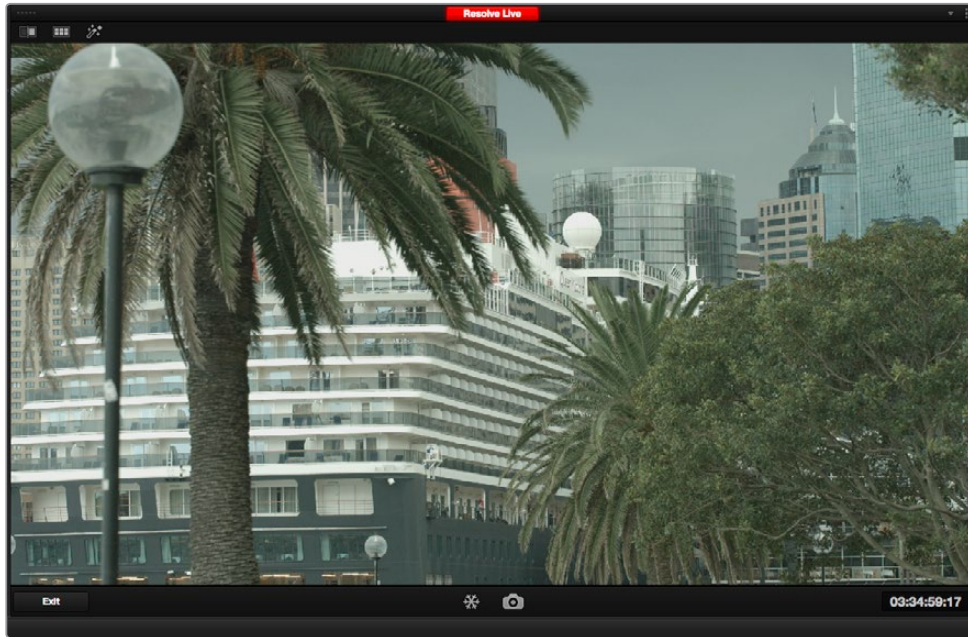
### Going Live

Once you've created your day's project, you need to turn on Resolve Live to begin work.

#### To turn on Resolve Live:

- 1 Open the Color page.
- 2 Choose Color > Resolve Live (Command-R).

A red Resolve Live badge at the top of the Viewer indicates that Resolve Live is turned on, and the transport controls are replaced by the Freeze and Snapshot buttons.



A red badge shows that Resolve Live is active and showing incoming video from the camera

At this point, the video from the connected camera should become visible within the Viewer, the camera timecode should be displayed in the Viewer's timecode window, and you can begin using all of the capabilities of the Color page to begin grading whatever is onscreen, including Gallery split-screens for matching and comparing. The current color adjustments in all palettes are automatically applied to both the image in the Viewer and the video output to an external display (if there is one).

While Resolve Live is on, much of Resolve's non-grading functionality is disabled, so when you're finished, be sure to turn Resolve Live off.

**To turn off Resolve Live, do one of the following:**

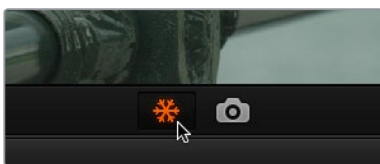
- Click the Exit button at the bottom left-hand corner of the Viewer.
- Choose Color > Resolve Live (Command-R).

## Using Freeze

In Resolve Live mode, the Freeze button (it looks like a snowflake) freezes the current incoming video frame, so you can grade it without being distracted by motion occurring during the shoot. When you've made the adjustment you need, you can unfreeze playback in preparation for grabbing a snapshot.

**To freeze incoming video:**

- Click the Freeze button (that looks like a snowflake).
- Choose Color > Resolve Live Freeze (Shift-Command-R).



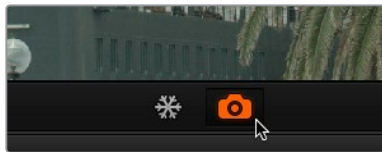
The snowflake button freezes the image so you can grade a particular frame

## Using Snapshot

Once you're happy with a grade, clicking the Snapshot button saves a snapshot of the current still in the Viewer, the incoming timecode value, and your grade into the Timeline. Snapshots are simply one-frame clips. They use grades and versions just like any other clip. In fact, ultimately there's no difference between the timeline created by a Resolve Live session and any other timeline, other than that the Resolve Live timeline only has a series of one frame clips, which appear in the Timeline of the Edit page as a series of 1-frame stills.

**To save a Snapshot, do one of the following:**

- Click the snapshot button (with a camera icon).
- Choose Color > Resolve Live Snapshot (Command-Option-R).



The snapshot button saves a frame and the grade for future use

For example, you may begin the process of building and refining a grade for a particular scene during an unrecorded run-through. Then, once shooting starts, you may take snapshots of each shot's slate, and then of significant takes that follow, tweaking where necessary and in conjunction with the DP's feedback once things get going. New camera setups may require further tweaks, which you'll save as snapshots for those shots, and as you work in this way you'll find yourself building up a timeline of snapshots that correspond to that day's shoot.

As you work, keep in mind that you must temporarily turn Resolve Live off in order to open a grade from a previous snapshot in the Timeline, in order to use it as a starting point for another shot. You can also save grades into the Gallery.

## Using Resolve Live Grades Later

Since each Snapshot you capture during a Resolve Live session contains timecode that was captured from the camera, grades from snapshots with timecode that overlaps recorded camera original media can be synced using ColorTrace when the time comes to start making dailies.

Keep in mind that snapshot grades correspond to the monitored output of the camera during the shoot. If you shot using a raw format, you'll need to use whatever in-camera debayering settings were used for monitoring during the shoot if you want the grades from your snapshots to produce the same result.

For more information on using ColorTrace, see Chapter 32, "Copying Grades Between Timelines Using ColorTrace."

## Using LUTs in Resolve Live Workflows

Many on-set workflows use Look Up Tables (LUTs) to calibrate displays, normalize log-encoded media for monitoring, and preview looks in the video village to test how the current lighting scheme will work with the intended grade. You can apply LUTs using the Look Up Table panel of the Settings window, or within a grade as part of a node tree.

However, you can also export LUTs, if necessary for monitor previewing, that you can apply by loading them into a compatible LUT box of some kind, connected in-between the camera's video output and a display, or using a display capable of loading LUTs internally.

If you're exporting LUTs using the Generate 3D LUT command of the Thumbnail timeline's contextual menu, you should limit yourself to using only Primaries palette and Custom Curves palette controls within a single node. These are the only grading controls that can be mathematically converted into a LUT.

When exporting a LUT, any nodes that use Windows or OpenFX will be ignored along with all corrections made within these nodes. All other nodes with Primaries palette and Custom Curves palette adjustments that can be translated into a LUT will have their combined result translated into a LUT. For any nodes that mix supported and unsupported adjustments for LUT export (such as sharpening or blur filtering operations), the unsupported adjustments will simply be ignored. For more information on exporting LUTs, see "Exporting Grades and LUTs" in Chapter 28, "The Gallery and Grade Management."

**NOTE:** DaVinci Resolve exports LUTs in the .cube format, which is a DaVinci-developed LUT format, with no relation to the Adobe SpeedGrade .cube format.