

Logging In, The Project Manager, and Settings

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## Logging In, The Project Manager, and Settings

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This chapter covers three vital steps in the process of setting up to work in DaVinci Resolve: setting up a user within which you'll be saving your projects, creating and organizing your projects, and defining the settings of each project.

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It's a good idea to familiarize yourself with the information in this chapter prior to setting up your first project.

## Logging In and Creating New Users

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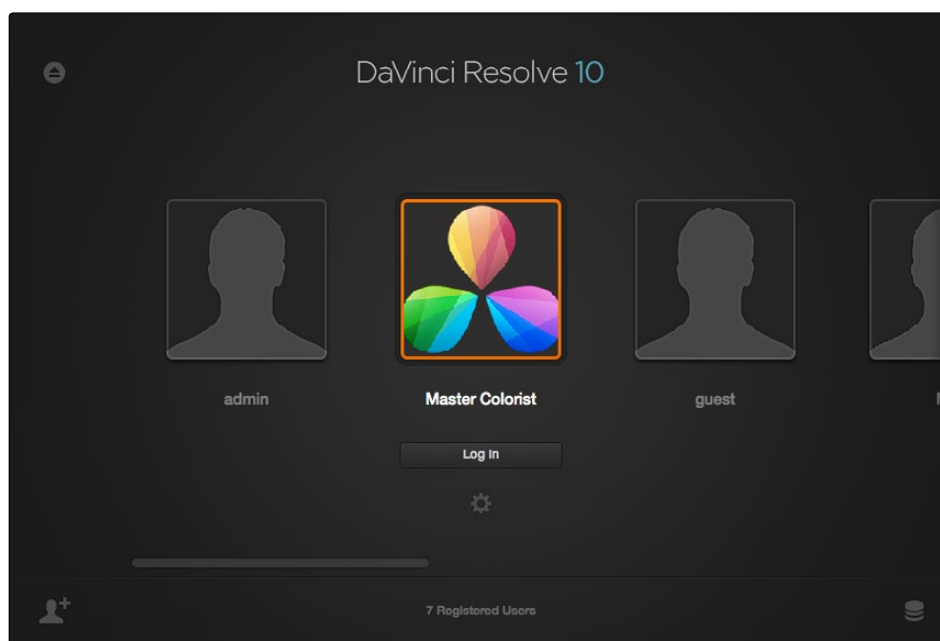
When you install DaVinci Resolve and then open it for the first time, there are a few things you're going to want to do before you begin working on your first project.

### Creating a User and Logging in

DaVinci Resolve was originally designed as a multi-user application for professional grading suites where an elaborately appointed room at a high-end facility was being shared among a stable of colorists. Resolve is still very much used in that capacity, and the login screen provides the interface that's used to create and manage multiple users on a single workstation.

Each login has individual settings, preferences, projects, and PowerGrades. Furthermore, if you set up multiple logins, each user's login can be password protected to keep it private.

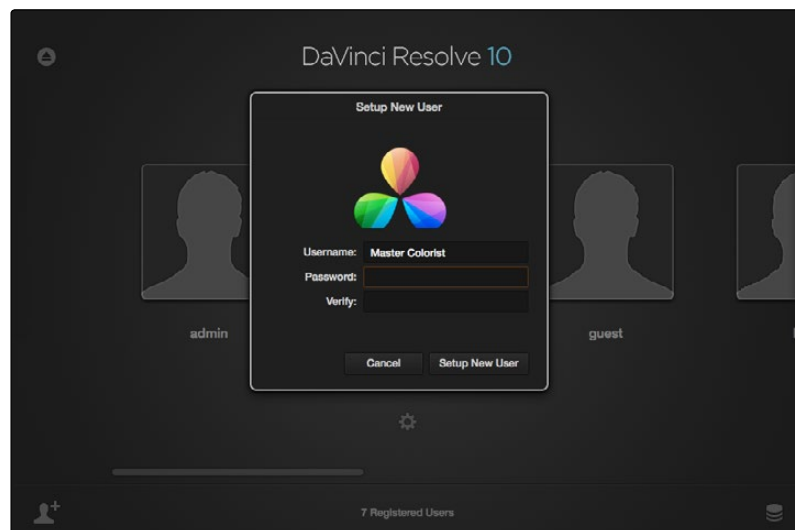
On the other hand, if you're in a single-user situation, this may be overkill. Regardless, whether you simply use the default admin login to do your work (which is fine), or you create your own individual login, there are several controls for creating and customizing user logins.



Login window

### To Create a New User:

1. Click the New User button at the bottom left, or double-click the New User icon in the middle of the login screen.
2. Enter the following information:



New user window

- **Name:** This is the only setting you really need to enter, to identify the user.
  - **Password:** (optional) If your login requires security, you can enter any password you like. You'll need to enter the same password into the Confirm Password field to make sure a typo doesn't cause you to create a password you didn't intend.
  - **Icon:** (optional) If you have a picture you'd like to use as the icon for this login, you can click the photo region and choose one.
3. Click Setup New User.

### To alter a user's settings:

- If you've already created a user, select that user's icon and click the gear icon to open the Account Settings dialog for that user, in which you can change all of the settings you originally defined.

### To delete a user:

- Right-click on a user you've created, choose Delete User, then click Yes to confirm when prompted.

**Warning:** Deleting a user also deletes all of the projects and PowerGrades associated with that user, so do this with care, and if necessary, back up all projects and/or databases associated with that user before deletion.

By default, every new installation of DaVinci Resolve starts out with two logins that cannot be deleted. The admin has special privileges for setting system configuration presets, while the guest login is useful for visitors to your suite who just need to log in quickly to get some work done.

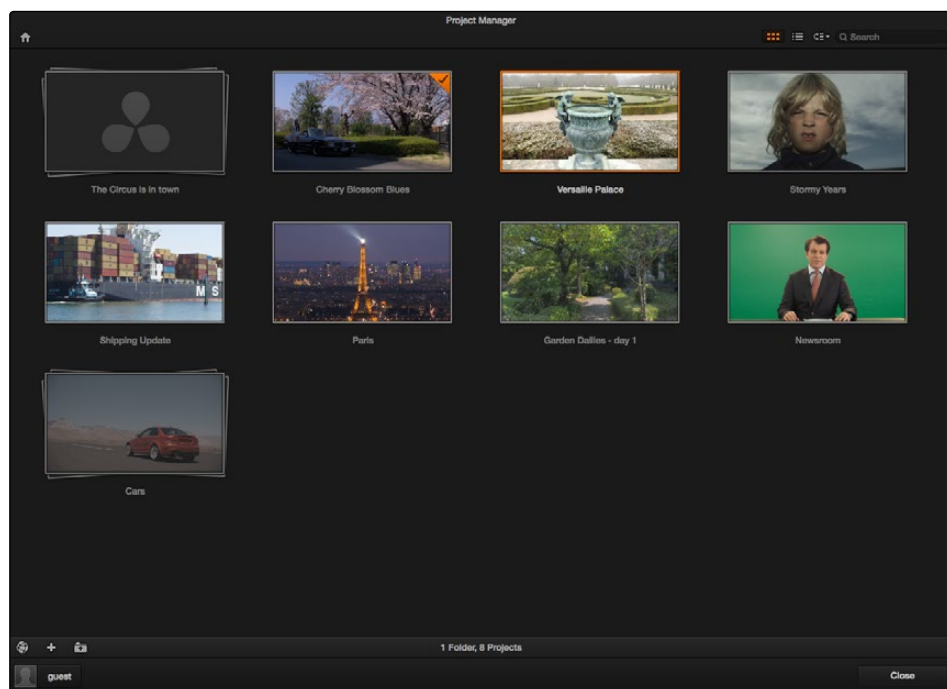
**To log in as a user:**

1. If necessary, use the scroll bar to find the login you want to use, and do one of the following:
  - Click to select a user's icon, then click Log In.
  - Double-click any user's icon to log in as that user.
  - Right-click on a user, and choose Login User.
2. If your login is password protected, you'll be prompted to enter it now.

Before you log in, if you've just installed DaVinci Resolve and have opened it for the first time, it's time to set the preferences.

## Making and Selecting Projects

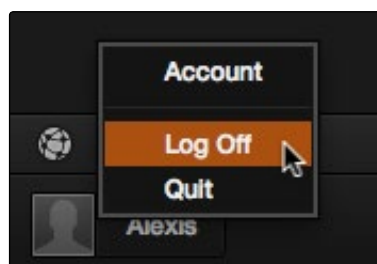
The Project Manager is a centralized interface for managing all projects belonging to the user who's currently logged in and whose name appears at the upper left-hand corner in a project title bar. This is the second window you'll see when opening DaVinci Resolve.



Project Manager

If you've already opened a project, you can open the Project Manager at any time by clicking the Home button at the bottom left-hand corner of the Resolve window.

If you need to return to the Log In screen, you can click the User Name pop-up menu at the lower left-hand corner.



Project Manager and Project Settings buttons

## The Project Manager Interface

The Project Manager's contents are different for each user. Once you've logged in, you can create, delete, and import projects, as well as organize and search for projects if the Project Manager is very full.

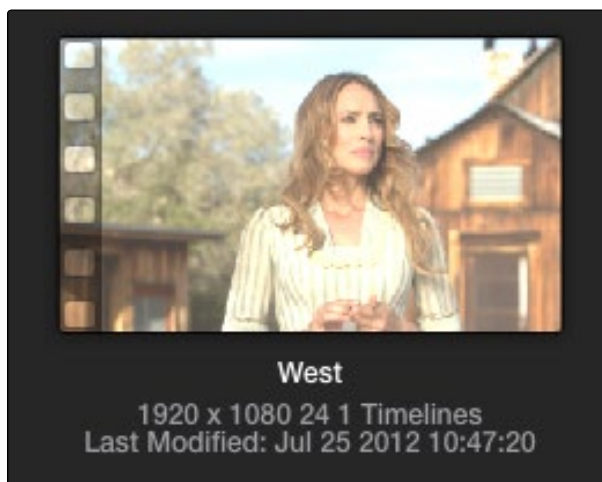
### Project View

Two buttons at the top right let you switch the Project Manager between Icon and List View. You can freely change views at any time.



Select Icon or List view

In Icon View, each project is represented by a large image that can be hover-scrubbed to reveal five representative images from that project, with a brief description underneath that includes the frame size, number of timelines, and when that project was last modified.



Hover-scrub over project icon

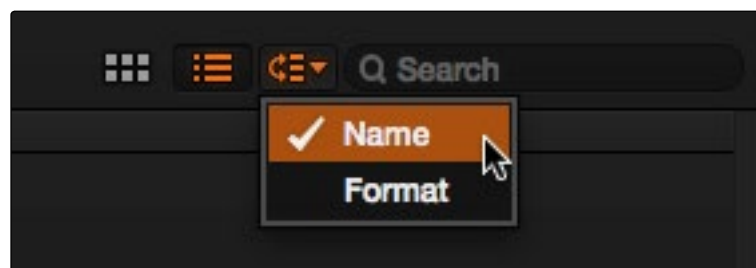
In List View, every project appears as an item on a list that has six columns: Name, Last Modified, Timelines, Format, Frame Rate, and Date Created. You can click any column header to sort the contents of the Project Manager by that criteria; clicking the header a second time toggles that column between ascending and descending sorting.

Project Manager					
Last Modified	Timelines	Format	Frame Rate	Date Created	
Aug 15 2013 22:08...	0	1920 x 1080	24	Jul 25 2012 10:31:21	
Aug 15 2013 22:08...	1	1920 x 1080	24	Aug 15 2013 12:07:22	
Aug 15 2013 18:29...	1	1920 x 1080	24	Jul 25 2012 10:31:21	
Aug 15 2013 12:11...				Aug 15 2013 12:11:16	
Aug 15 2013 12:08...	1	1920 x 1080	23.976	Aug 15 2013 12:08:03	
Aug 15 2013 12:06...	1	1920 x 1080	23.976	Aug 15 2013 11:59:01	

Project List view

## Searching For Projects

A pop-up menu and search field at the upper right-hand corner of the Project Manager lets you search for specific projects.



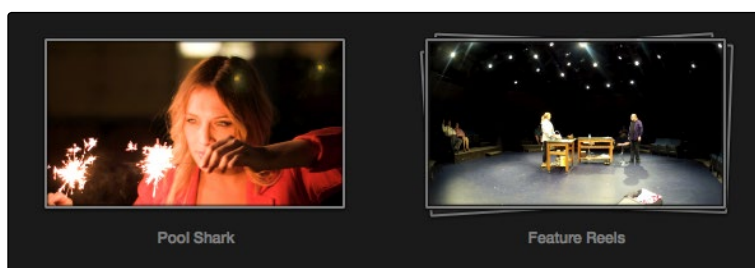
Focus search criteria

Using the pop-up menu, you can choose to search by name, or by project format. Once you've chosen a criteria, begin typing into the search field, and the Project Manager will immediately and dynamically begin to be filtered by your search text.



## Creating Folders

If you're organizing a lot of projects, you can create folders to put them into.



A Project and a folder in the Project Manager

### Methods of working with project folders:

- **To create a folder:** Click the Folder button at the bottom left area of the Project Manager, then enter a name into the Create New Folder dialog and click Create.
- **To delete a folder:** Right-click a folder, choose Delete, and click Yes when prompted. All projects inside a deleted folder will be deleted as well.
- **To rename a folder:** Right-click a folder, choose Rename, then enter a new name and click OK.

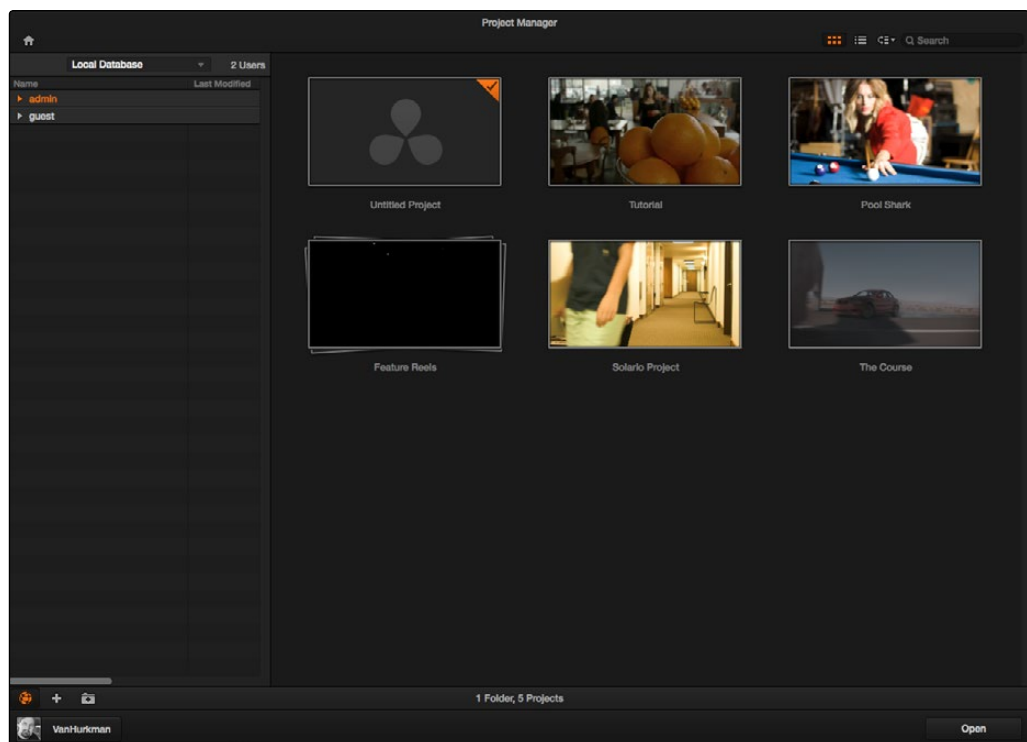
## Group Projects

The Group Projects button at the bottom left-hand corner of the Project Manager opens up the Group Projects browser. This browser lets you import projects from other users into the Project Manager for the current user that's logged in.



Group Projects browser button

Furthermore, if you're on a system that's configured to use databases for project management, a pop-up menu at the top of the Group Projects browser lets you open up another database entirely to browse its users and projects.



Project manager with group and your projects displayed

#### To use the Group Projects browser:

1. Click the Group Projects button to open the browser. It always appears in List view.
2. Choose a disk or database from the pop-up menu at the top of the browser to reveal that disk or database's users in the browser
3. Click the disclosure triangle to the left of any user to reveal that user's projects in a hierarchical list.
4. To import a project into the current user, right-click it and choose Import.
5. A dialog appears that lets you change the name of the project being imported. If you like, change the name, then click OK.

That project should now appear in the Project browser to the right. When you're done importing projects, click the Group Projects button again to close the browser.

**Note:** For more detail on shared database setup and operation refer to "Using the Shared Database" in Chapter 13.

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## Project Management

By default, new installations of DaVinci Resolve manage projects on an independent, project-by-project basis. Each project is a self-contained file that's saved to the system drive by default. The Project Manager provides an in-application interface for creating, renaming, and deleting projects.

### Methods of project management:

- **To create a new project:** Double-click the Default Project, or click the Plus button at the bottom left of the Project Manager. A new project is created, and Resolve opens up the Media page. To alter the project settings, open the Project Settings by clicking the gear icon.
- **To load a previously saved project:** Double-click any Project icon, or Item if you're in List view. Or, select a project and click the Open button in the lower right-hand corner.
- **To load a project in Read-Only-Mode:** Right-click a Project icon or Item, and choose Load in Read Only Mode. This lets you open a project, and even make changes, but those changes won't be saved. Any changes you make that you want to preserve must be saved as a new project file using a new name.
- **To rename a project:** Right-click a Project icon or Item, choose Rename, and type a new name in the dialog that appears, clicking OK when you're finished.
- **To load a config from another project to the currently open project:** Right-click a Project icon or Item (other than the currently open project), and choose "Load config to current project."
- **To delete a project:** Right-click a Project icon or Item, and choose Delete. Click OK when a dialog asks you to confirm the operation.

**Note:** You cannot move or delete the currently loaded project.

Another set of commands let you import and export projects independently. Because all projects are managed by a Resolve database, this is the only recommended way to export and import individual projects, even for file-based projects.

### Methods of importing and exporting projects

- **To export a project:** If you need to export a project to another location, such as to copy it to the disk of a client you're delivering the project to, you can right-click a Project icon or Item, choose Export, then in the Save dialog choose a location, enter a name, and click Save. This can also be done from the File menu in the main Resolve interface.
- **To import a project:** Right-click any empty area of the Project Manager and choose Import, then find and select a project file using the Import Project File dialog, and click Open.

## Project Settings

Once you've opened a project, all of the various project settings, deck capture and playback settings, LUT settings, and application preferences that are available in DaVinci Resolve can be found in the Project Settings window.

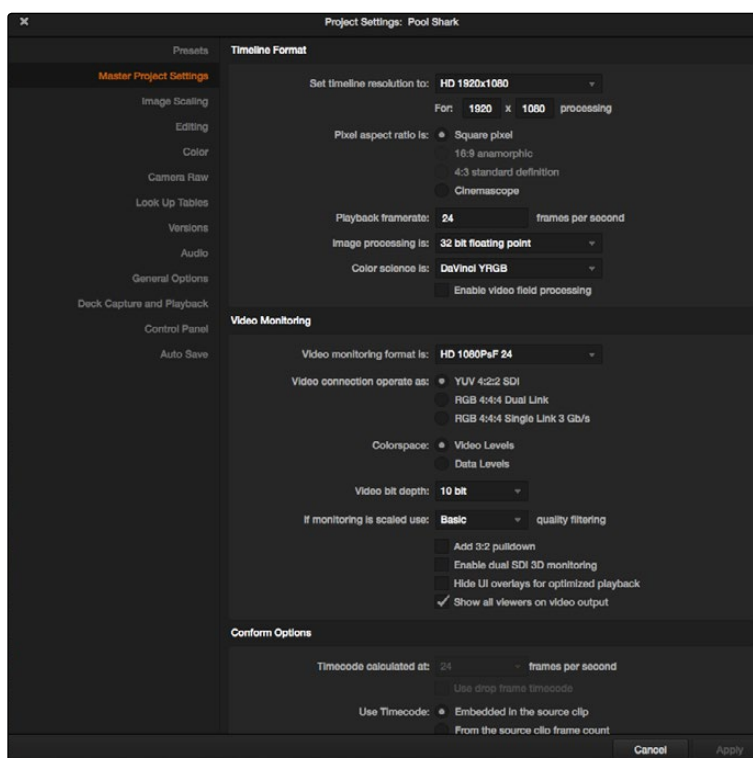
To open the Project Settings window:

→ Click the gear button at the bottom left on any page.



Project Manager and Project Settings buttons

→ The Project Settings open in the middle of the screen.



Project Settings window

The Project Settings window is divided into a series of panels which can be selected from a sidebar to the left. Each panel contains a collection of related settings that affects some category of Resolve functionality.

Click on the name of any group of settings in the sidebar at the left to open that panel.

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## Presets

The Presets panel lets you save customized collections of Project Settings for future recall. Presets can save the state of nearly every parameter and setting in every panel of the Project Settings window, and make it easy to switch among different setups for different tasks, or to accommodate different types of projects.

There are three default items in the Presets list:

- **Current Project:** This is the current project's settings. After you've loaded a preset, the current project becomes selected, showing that the preset you loaded has been applied to the current project.
- **System Config:** The default configuration that's applied as the User Default Config for all new users that are added to the Login screen.
- **User default config:** The default configuration for all new projects created by the currently logged in user.

If you like, you can add your own presets, as many as you need to accommodate the kind of work you do.

### To Create a New Preset:

1. Alter whichever settings in whatever panels you need to, using the different panels of the Project Settings window. In each panel you alter, click the Apply button to retain your changes.
2. Open the Presets panel and click Save As.
3. When a dialog appears asking "Apply Current Configuration to System?", click Yes to apply these changes to the current project.
4. When the Preset Name dialog appears, type a name into the field and click OK.

The new preset appears as an item in the Presets list.

Once you've created one or more custom presets, you can load them at any time.

### To Load and Use a Preset:

1. Click an item in the Presets list.
2. Click Load.

If a dialog appears saying either "Do you want to replace current project's config with this selected Preset" or "Apply Current Configuration to System?", click Yes.

If you want to change the default configuration that new users and new projects are automatically created with, you can edit the System Config or the User Default Config.

**To modify a System or User Configuration:**

1. Exit to the Login Window, and do one of the following:
  - Log in as admin to modify the System Configuration.
  - Log in as a user to modify the User Default Configuration.
2. Open a new or existing project, then open the Project Settings.
3. Open the Presets panel, and do one of the following:
  - If you're logged in as admin, select "System Config" in the Presets list.
  - If you're logged in as a user, select "User default config" in the Presets list.
4. Make whatever changes you need in the different panels of the Project Settings. Click the Apply button for each panel to keep your changes.
5. When you're finished making changes, open the Presets panel again, and click the Save button immediately underneath the Presets list.

If you edited the System Config, then all new users that are added to the system automatically inherit these settings. If you edited the User Default Config, then all new projects created by that user will inherit those settings.

Finally, if there's a custom preset that you've created that has outlasted its usefulness, you can delete it.

**To Delete a Preset:**

1. Click an item in the Presets list to select it.
2. Click Delete.
3. When the Confirm Delete dialog appears, click Yes.

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## Master Project Settings

This panel is project specific, and lets you set up and adjust the most essential properties of a clip, including the timeline format, video monitoring method, and conform options. In many workflows, you'll want to adjust these settings before getting started with your project.

### Timeline Format

This group of settings affects the geometry and image processing of the current project.

- **Timeline resolution:** A pop-up menu that lets you choose a frame resolution preset to use for image processing while grading. DaVinci Resolve is resolution independent, so you can change the resolution at any time and all windows, tracks, sizing changes, and keyframe data will be automatically recalculated to fit the new size. For example, you can work on a 4K project while monitoring at HD resolutions if your room is only set up with an HD monitor, and then render the finished project at 4K resolution for final delivery. Alternately, you can downsize an HD project to an SD resolution to create another set of deliverables. For more information on Resolve's resolution independence, see Chapter 6, "2D Transforms."
- **Frame size:** Lets you set resolutions not found in the "Set timeline resolution to" pop-up menu.
- **Pixel aspect ratio:** Used to select PAR settings for image formats that don't use the default square pixel format. You can apply a 16:9 anamorphic PAR, a 4:3 PAR for SD projects, or a Cinemascope ratio.
- **Timeline frame rate:** Determines the primary frame rate used by the project. If you're importing an AAF or XML file, this setting is automatically set via an option in the Project Import dialog. Ideally, you should choose a frame rate before importing media into the Media Pool. However, the first time you import media into an empty Media Pool, you're prompted if the incoming media frame rate doesn't match the Timeline frame rate set here, and you have the option of automatically updating this setting to match that of the media you're importing. Once one or more files have been added to the Media Pool, this setting cannot be changed.
- **Use drop frame timecode:** Enables or disables drop frame timecode for the current project. Off by default.
- **Playback frame rate:** Usually based on the frame rate of the external display connected to your video interface and the "Timecode calculated at" setting. For example, a 50Hz monitor requires a 25 fps playback frame rate for synchronous display without dropped frames. If you want to see the playback at a slower rate, type the frame rate in this field and DaVinci Resolve will make the appropriate calculations to drop or repeat frames as necessary to match it. This can be useful for seeing how clips look in slow motion.

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- **Image processing:** The only option is 32-bit floating point, which is how all image data is processed within DaVinci Resolve's image processing pipeline.
  - **Color science:** There are three options. The default is the well established DaVinci YRGB color science. Alternately, you can choose the newer DaVinci ACES, or DaVinci ACES Log color science, available for facilities requiring ACES workflows. For more information about ACES, see Chapter 4, "Before You Conform."
  - **Enable video field processing:** Interlaced media is supported throughout DaVinci Resolve. A checkbox in the Master Project Settings, "Enable video field processing," forces Resolve to process all operations using fields. A corresponding checkbox in the Format settings of the Deliver page, "Field rendering," lets you enable and disable field rendering when setting up file-based output.

Whether or not it's necessary to turn field processing on depends on what kinds of corrections you're applying to your clips. If you're applying any filtering or sizing operations such as blur, sharpen, pan, tilt, zoom, or rotate, then you should turn on field processing. On the other hand, if you're only applying adjustments to color and contrast, it's not necessary to turn on field processing, and in fact leaving it off may shorten your rendering time somewhat.

## Video Monitoring

The settings available in this group control the signal that's output by the video output interface that's connected to your workstation, and lets you specify what standard of signal is output, and via which signal path.

By default, the frame size and frame rate match those in the Timeline format and Conform options. However, if necessary you can change these settings to match those of the external display you're using to monitor your work. For example, if you're working with 2K files for 2K output, but you're color correcting using a high definition monitor set to 1080 resolution, you can select the appropriate HD standard for that monitor without changing the Timeline Resolution settings.

- **Video format:** Lets you choose a video standard combination of frame size and frame rate to be output via your connected video output interface.
- **Video connection:** Lets you choose the signal standard to output from your connected video output interface to the video monitor. Make sure to choose a standard that's supported by both your video interface, and your monitor. The options are:
  - **YUV 4:2:2 SDI:** Typical for monitoring Rec. 709 video for broadcast.
  - **RGB 4:4:4 Dual Link:** A signal path for monitoring RGB image data to monitors that support 4:4:4 chroma sampling via dual SDI connections.
  - **RGB 4:4:4 Single Link 3 Gb/s:** A signal path for monitoring RGB image data to monitors that support 4:4:4 chroma sampling via a single 3Gb/s SDI connection.



→ **Colorspace:** This setting only affects the data levels being output via the video interface that connects the Resolve workstation to your external display. It has no effect on the data that's processed internally by Resolve, or on the files written when you render in the Deliver page. It is imperative that the option you choose in Resolve matches the data range to which your external display is set. Otherwise, the video signal will appear to be incorrect, even though the internal data is being processed accurately by DaVinci Resolve. There are two options:

→ **Video Levels:** This is the correct option to use when using a broadcast display set to the Rec. 709 video standard.

→ **Data Levels:** If your monitor or projector is capable of displaying "full range" video signals, and you wish to monitor the full 10-bit data range (0- 1023) while you work, then this is the correct option to use.

For more information about data levels in DaVinci Resolve, see Chapter 4, "Before You Conform."

→ **Video bit depth:** Choose the bit depth that corresponds to the capability of your display. You can choose between 8-bit and 10-bit. Monitoring in 10-bit is more processor intensive, but preferable to avoid the appearance of banding that may not in fact be in the image data being processed by Resolve.

→ **Video output sync source:** This setting, when displayed, lets you select between internal and external bi-level or tri-level synchronization, which is used with some video interfaces, but not required by all.

→ **Monitor scaling:** Defaults to basic, and is only enabled to smooth the edges of video being viewed on a projector with very large screens. These settings minimize high frequency artifacts that may be seen. This may also be noticeable if you have a 2K or HD project but are monitoring on an SD monitor. The other option, Bilinear, has different effects on the monitored image depending on your display device, so you may need to check to verify that it's appropriate for your environment.

→ **Add 3:2 pulldown:** When outputting 23.98 or 24 fps media to an external display that can only sync to 29.97, 59.94, or 60 fps signals, this option lets you output with a 3:2 pulldown pattern inserted into the signal.

→ **Use left and right eye SDI output:** All DaVinci Resolve systems can generate a side-by-side display that can be sent to a Stereoscopic monitor via the HD-SDI output of an UltraStudio 4K or DeckLink card. When dual SDI 3D monitoring is enabled, each eye is output separately at full resolution. In this mode, split-screen wipes and cursors will not be visible on the grading monitor, nor will you be able to view image resizing.

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- **Hide UI overlays for optimized playback:** When using a single GPU for both display and CUDA or OpenCL processing, or if your display GPU is underpowered, or if you lack the PCIe bandwidth required for the currently specified resolution or frame rate, you may be able to improve real-time performance by turning this option on. When enabled, on-screen controls such as the cursor, Power Window outlines, and split-screen views are disabled and hidden during playback. When playback is paused, all onscreen controls reappear.
  - **Show all viewers on video output:** When this setting is disabled, video output is locked to the Color page viewer. When this setting is turned on, other elements of the GUI that have focus in the Media, Edit, and Deliver pages are also output to video.

## Conform Options

The settings in this group determine how clips are conformed to match imported project files with source media on disk by extracting timecode, reel names, file names, file paths, and so on.

- **Use Timecode:** Determines how DaVinci Resolve extracts timecode from referenced media files. There are two options:
  - **Embedded in the source clip:** The preferred setting for most projects to conform automatically and apply grades to the resulting clips. As long as DaVinci Resolve can reference the timecode in either a media file's timecode track, or in the header metadata of the frames in a DPX sequence, you can use timecode to re-conform clips, or even completely change the media file to which a clip refers.
  - **From the source clip frame count:** This setting is useful if the source media lacks timecode metadata, and all that's available is a frame count that identifies frames via sequentially numbered integer values.
- **Conform partial clips with black gaps:** Inserts black frames whenever you conform a clip that doesn't contain all the required frames. When this option is selected, partial clips are flagged in the Edit page with a P, in the thumbnail of the clip that it is lacking frames.
- **Assist using reel numbers from the:** When this checkbox is turned on, DaVinci Resolve uses reel numbers when conforming clips to match any imported project. Turning this checkbox off forces DaVinci Resolve to identify clips using file names when conforming XML and AAF projects. File names can only be used for conforming XML or AAF files, or when importing a DaVinci project. There are four options:

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- **Source clip file pathname:** Obtains the reel number by extracting it from each media file's path. This makes it possible to extract a reel number from all or part of the file name, or from all or part of the name of any folder in the path that encloses that file. This extraction is defined using the Pattern field.
  - **Pattern:** A code that defines how a reel number should be extracted from the source clip path name. For more information about creating patterns, see Chapter 5, "Using the Pattern Field."
  - **Media Pool folder name:** The reel number is obtained from the name of the bin in the Media Pool that encloses that clip. This option is often used for stereo projects, deriving the reel number from "Left" and "Right" named directories. It's also useful for projects that are inheriting new VFX clips on a daily basis.
  - **Embedding in source clip file:** Useful for file formats where the reel number is embedded within the media file itself. QuickTime files created by Final Cut Pro, DPX frame files, and CinemaDNG files are all formats that are capable of containing reel number header data.
  - **Source clip filename:** If there is no defined reel number, often it's easy to just use the source clip filename.
  - **Extract reel names from EDL comments:** Media file formats such as R3D have reel names, obtained from the file names, that are longer than the eight characters that are allowable in a standard EDL. This option allows DaVinci Resolve to extract reel names from appropriately formatted EDL comments, such as those output from Final Cut Pro 7.
  - **Show offline clips through conform gaps:** If there's a missing clip in a conformed timeline, the position of the clip is shown on the thumbnail and Viewer as black. Turning this option on permits offline media, if available and with the appropriate timecode synchronization, to be used in lieu of the online media when such holes in the Timeline appear, on the premise that offline media may be better than no media at all in an emergency.
  - **Sort timeline using reel number and timecode:** Lets you change the behavior of C mode sorting in the Timeline. With this checkbox turned on (the default), all clips in the Timeline are sorted by reel number first, and then by source timecode. This way, clips with similar timecode from the same reel will appear next to one another in C mode. If you turn this checkbox off, reel number is ignored, and all clips in the Timeline are sorted only by source timecode. This may result in clips from multiple sources being mixed together, but it is useful in specific situations.

→ **Mixed frame rate format:** This pop-up menu lets you choose the method used to conform mixed frame rates for rendering and playback. When none is selected, Resolve conforms and processes all clips in the Timeline to play at the frame rate that's selected in the "Timeline frame rate" pop-up menu. For example, 23.98, 29.97, 30, 50, 59.94 and 60 fps clips will all play at 24 fps if that's what "Timeline frame rate" is set to in the Master Project Settings. How clips in mixed frame rate timelines are rendered out depends on whether the Render Settings are set to render individual source clips or one single clip. When you render the Timeline as individual source clips, all clips are rendered individually at their original frame rate. If you select 'single clip,' all clips are converted to the "Timeline frame rate" frame rate and rendered as a single media file.

You can choose the "Final Cut Pro 7" or "Final Cut Pro X" methods of conform, while for projects imported from Premiere Pro, Smoke, or other NLEs, you should choose "Resolve." You should also choose "Resolve" if your source clips are at different rates than the timeline rate and you would like each of the clips to be speed changed to the timeline rate by default. This uses the Retime selection you can find on the editing tab. This pop-up menu also appears in the Load AAF or XML dialogs when you import a project.

## Image Scaling

The Image Scaling panel contains settings that determine how and when clips are resized for various reasons.

### Image Scaling

These settings affect the methods used to resize clips in various situations.

- **Resize Filter:** The first group of settings lets you choose the mathematical method used to resize clips:
  - **Optimize for playback:** When this option is enabled, bilinear image scaling will be used during playback and sharper image scaling will be used while playback is paused, enabling low-performance workstations to play with better frame rates, albeit not at full quality.
  - **Uses sharper filter:** Usually provides the best quality in projects using clips that must be scaled up to fill a larger frame size, or scaled down to HD resolutions.
  - **Uses smoother filter:** May provide higher quality for projects using clips that must be scaled down to fit an SD resolution frame size.
  - **Uses Bilinear filter:** A lower quality setting that is less processor intensive. Useful for previewing your work on a low-performance computer before rendering, when you can switch to one of the higher quality options.

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- **Override input scaling:** Checking this box lets you choose an Input Sizing preset to apply to the project.
  - **Override output scaling:** Checking this box lets you choose an Output Sizing preset to apply to the project.
  - **Anti-alias edges:** A second group of settings lets you choose how to handle edge anti-aliasing for source blanking.
    - **Auto:** Adds anti-aliasing when any of the Sizing controls are used to transform the image. Otherwise, anti-aliasing is disabled.
    - **On:** Forces anti-aliasing on at all times.
    - **Off:** Disables anti-aliasing.
  - **Debayer quality:** A third group of settings lets you choose whether to apply sharpening when debayering raw media formats such as CinemaDNG.
    - **Optimize for playback:** When this option is enabled, a simple debayer will be used during playback and a sharper debayer will be used while playback is paused, enabling low-performance workstations to play with better frame rates, albeit not at full quality.
    - **Uses sharper filter:** The default setting. Uses a debayer-specific, high-quality sharpening operation to improve the appearance of debayered media.
    - **Uses smoother filter:** Choosing this setting disables sharpening, providing access to the unaltered debayering result.

## Input Scaling Preset

Contains one setting, Mismatched resolution files, that lets you choose how clips that don't match the current project resolution are handled. There are four options:

- **Center crop with no resizing:** Clips of differing resolution are not scaled at all. Clips that are smaller than the current frame size are surrounded by blanking, and clips that are larger than the current frame size are cropped.
- **Scale full frame with crop:** Clips of differing resolution are scaled so that the clip's shortest dimension is fit to match the frame. Excess pixels are cropped.
- **Scale entire image to fit:** The default setting. Clips of differing resolution are scaled so that the clip's longest dimension is fit to match the frame. The shorter dimension has blanking inserted (letterboxing or pillarboxing).
- **Stretch frame to all corners:** Useful for projects using anamorphic media. Clips of differing resolutions are squished or stretched to match the frame size in all dimensions. This way, anamorphic media can be stretched to match full raster, or full raster media can be squished to fit into an anamorphic frame. An added benefit of this setting is that it makes it easy to mix anamorphic and non-anamorphic clips in the same project.

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## Output Scaling Preset

These settings let you optionally choose a different resolution to be output via your video output interface, for monitoring, outputting to tape, or rendering. If you set the resolution in the Render Settings list of the Deliver page to something other than the Timeline Resolution, these settings are used to make the change. This can be used in situations where you're working on a high resolution 4K project, but you want to monitor using an HD display and output HD resolution media for approval.

- **Match timeline settings:** Turned on by default, so that these settings mirror the Timeline Resolution, Image Scaling, and Input Image Scaling settings described above. Turning this checkbox off lets you choose different settings for monitoring, outputting to tape, or rendering, using the other settings in this group.
- **Output resolution:** Lets you choose an alternate resolution.
- **For:** Lets you specify a different custom alternate resolution.
- **Pixel aspect ratio:** Lets you specify an alternate pixel aspect ratio to match the alternate timeline format.
- **Mismatched resolution files:** Lets you choose an alternate way of handling mismatched resolution files given the alternate resolution you've chosen. These options work identically to those of the "Input Image Scaling" group.

## Proxy Image Scaling

The proxy mode can be enabled by choosing View > Proxy On The Fly (Command-P), or on the DaVinci control surface by pressing the PROXY ON/OFF button on the T-Bar panel. Proxies are useful when a complex color correction is created and the system begins to run a little slower than real time. When this occurs, turning on Proxy mode improves real-time performance by temporarily lowering the resolution of the clips being processed. Alternatively, you can cache the clip to gain real-time performance again.

- **Use real time proxies:** A checkbox that turns on-the-fly proxy mode on and off.
- **Automatically scale to:** The resolution at which proxies are generated. By default, this is one-half of the current system resolution. If anyone asks about the quality of grading with proxies, keep in mind that on-the-fly proxies in DaVinci Resolve are made using the same optical-quality resizing engine that is used for all other image transforms, and that this Proxy mode has been used to generate film out media for blockbuster films.

**Note:** There are actually two types of proxies. Traditional pre-generated proxies are managed from the Media page, and are often used for 4K projects where the system hardware in use only permits real-time 2K performance. The proxy settings in this section have been referred to as OFP (On-the-Fly Proxies) and are generated in real time as needed, with no rendering or caching necessary.

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## Editing

The settings in this panel affect keyboard shortcuts and editorial default values.

### General Settings

- **Standard transition duration:** Defines the duration of transitions, in Seconds or Frames, that you add to an edit point in Resolve. The default value is 1 second.
- **Pre-roll time:** Determines how much of the Timeline before the current position of the playhead to play when using the Play Around command.
- **Post-roll time:** Determines how much of the Timeline after the current position of the playhead to play when using the Play Around command.
- **Default handles length:** The value used when creating a timeline with handles. The default is one second worth of frames.

### Frame Interpolation

These settings determine the default state for all retiming and speed change effects including when clips are in mixed frame rate timelines.

- **Retime Process:** This pop-up menu lets you choose a default method of processing clips in mixed frame rate timelines and those with speed effects (fast forward or slow motion) applied to them, throughout the project. Since each clip in every timeline defaults to "Project Settings," changing this setting will change the way most speed effected clips will be processed, except for those that have custom settings selected. There are three options:
  - **Nearest:** The most processor efficient and least sophisticated method of processing; frames are either dropped for fast motion, or duplicated for slow motion.
  - **Frame Blend:** Also processor efficient, but can produce smoother results; adjacent duplicated frames are dissolved together to smooth out slow motion effects. This option can provide better results when Optical Flow displays unwanted artifacts.
  - **Optical Flow:** The most processor intensive, but highest quality method of speed effect processing. Using motion estimation, new frames are generated from the original source frames to create slow motion effects. The result can be exceptionally smooth when motion in a clip is linear. However, two moving elements crossing in different directions or unpredictable camera movement can cause unwanted artifacts.
- **Motion estimation mode:** When using mixed frame rate timelines with Optical Flow retiming selected, or Optical Flow speed changes this pop-up menu lets you choose between a higher speed or a higher quality processing.

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- **Motion range:** When using mixed frame rate timelines with Optical Flow, or Optical Flow speed changes, this pop-up menu lets you choose small, medium or large motion for all speed and motion related calculations.

## Keyboard

- **Map keyboard to:** Lets you choose which set of keyboard shortcuts to use. You can choose the default DaVinci Resolve 10 set, or one of the other sets that mimic popular NLEs.

## Color

The settings in the panel govern different behaviors in the Color page.

## Timeline Settings

These settings affect clip versions and timeline interactions when working in the Color page.

- **Use local version for new clips in timeline:** Automatically sets all new clips that are added to existing timelines, or all clips that are added to new timelines that are imported via AAF, EDL, or XML, to use local grades by default. If you want all clips added to new timelines to use remote grades instead, as with DaVinci Resolve version 9 and earlier, you can turn this checkbox off.
- **Automatically match master timeline with media pool:** If you turn on this option before importing any media into the Media Pool, or importing any timelines that will in turn import media into the Media Pool, you can create projects with a Master Timeline. When enabled, clips are added to and removed from the Master Timeline as they're added to and removed from the Media Pool, so that the Master Timeline always contains all media in the Media Pool. Once media has been imported into a project, this setting cannot be changed.
- **Save timeline thumbnails with project:** To minimize project size, and maximize the speed of saving and loading projects, you should leave this checkbox unchecked. If you select the checkbox, all of your Timeline thumbnails will be stored inside every project, instead of in the default directory that's ordinarily dedicated to stills, during both Save and Auto Save operations. This provides a good history of the project, but takes much longer to complete and uses more hard disk space.
- **Automatically cue x frames into timeline clips:** This setting affects the operation of the NEXT SCENE and PREV SCENE commands. The default cue point when moving from one clip to the next is the first frame of each clip. Entering a value, in frames, in this field sets the default cue point to the specified number of frames after the first frame of each clip you move the playhead to. This can be convenient if the source material has black or camera rollup flashes at the beginning of every clip while you're trying to grade dailies.



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- **Next scene switches to visible track:** When grading a project with multiple tracks, you can use this option to alter the “next scene” command to work better in projects with multi-clip composites. With this option turned off, pressing NEXT SCENE on the DaVinci control surface, or using the Down Arrow keyboard shortcut, moves the playhead to the very next clip in the Thumbnail timeline, regardless of whether it’s in front of or behind another clip. Turning this option on causes the NEXT SCENE command to move the playhead to the clip in the highest track if the next clip is part of a multi-clip composite with multiple clips stacked over one another.

## Ripple Mode

This setting determines the behavior of the Ripple command that’s initiated when using the RIPPLE VALUE button on the DaVinci control surface.

- **Target clips are set to:** The Ripple mode that’s used when you press the RIPPLE VALUE button on the DaVinci control surface. For more information on using this function, see Chapter 7, “Copying and Managing Grades.”
  - **Exact values changed:** Changes made to the current clip are rippled to the specified clips using the exact parameters that were changed. For example, if Lift in the current clip is changed to 0.75 of its range, each clip you ripple will have a Master Gain setting of 0.75. Only parameters you adjust are rippled.
  - **Percent value changed:** Changes made to the current clip are rippled to the specified clips by the percentage of change you made to the altered parameters. For example, if the current clip has a Lift level of 1.00 and is changed to 0.90 units, then the Lift setting of each clip you ripple will have a relative reduction of 10% relative to its previous value.
  - **Unit value changed:** Changes made to the current clip are rippled to the specified clips by the same delta of change, using whichever units make sense for the affected parameter. For example, if the current clip had a Lift of 0.80 and you increased it to 0.90, each rippled scene’s Master Gain level increases by 0.10.
  - **All values are copied:** The current clip’s grade is rippled to the specified clips in its entirety. No comparison is made with the original clip’s parameters, and all memory parameters are rippled.

## Dynamics Profile

Defines the default transition from one dynamic keyframe to the next. By default this transition is linear, with the “Dynamic profile start” and “Dynamic profile end” parameters set to 1. However, if you need to alter the acceleration of the interpolation of values from one dynamic keyframe to the next, then you can change that keyframe’s Dissolve Type.

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## General Settings

Affect a variety of behaviors while working in the Color page.

- **Luminance mixer defaults to zero:** Selecting this option sets the Y channel of the YRGB parameters for all grades to zero. This is required to be able to export a compliant ASC-CDL, and will impact all grades that use the Lum Mix control.
- **Master reset maintains RGB balance:** Defines how the DaVinci control surface trackball/ring reset buttons reset primary color adjustments. When this option is turned off (the default), pressing the ALL Reset button returns the primary correction values to their default values. When this checkbox is turned on, then pressing the ALL Reset button (a) resets the YRGB values so that the overall values are kept and the ratio of YRGB to each other is maintained, and (b) pressing the RGB Reset button sets the three color channels to the average of what they were previously set to.
- **Color picker:** Changes the way that colors are selected when using the Secondary color correction controls. DaVinci Resolve is the normal and modern mode, however some colorists who are familiar with the legacy 2K prefer the DaVinci 2K mode.
- **Switching clips:** When switching clips, DaVinci Resolve can switch to the same or another node in the node graph. The four options below determine which node is selected:
  - **Selects last adjusted node:** The default setting, where each clip in the Timeline retains its own independent node selection that's remembered whenever you move back to that clip.
  - **Selects first node:** The first node is always selected when you move to another clip.
  - **Selects last node:** The last node is always selected when you move to another clip.
  - **Selects same node:** If the clip you've moved to has as many or more nodes as the last clip, the node of the same number will be selected. If the clip you've moved to has fewer nodes than the last clip, the next highest node will be selected.

## Printer Light Step Calibration

For film projects, when you have tight integration with a film lab, it is possible to adjust the printer light calibration sets to match the lab you are using. You should work with your lab technician to set up the Lab Aim settings, the Steps adjustments, which is an incremental value, and the Density Increment adjustment, which is the amount of correction applied within each step. Usually, the Step and Density values will be identical, but this will be up to your lab and your preference.

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## Camera Raw

This panel contains groups of parameters that correspond to every camera raw media format that's supported by DaVinci Resolve. Using these parameters in the Camera Raw panel, you can override the original camera metadata that was written at the time of recording, and make simultaneous adjustments to all camera raw clips using the "project" raw settings.

These settings are covered in detail in Chapter 3, "Camera Raw Decoding."

## Look Up Tables (LUTs)

The pop-up menus in the Timeline Lookup Tables panel include a series of factory preset LUTs that were installed with Resolve, along with any LUTs that have been generated by Resolve, or that you've imported into the proper directory for your operating system.

→ On OS X: Library/Application Support/Blackmagic Design/DaVinci Resolve/LUT/

→ On Windows: C:\ProgramData\Blackmagic Design\DaVinci Resolve\Support\LUT

→ On Linux: /home/resolve/LUT

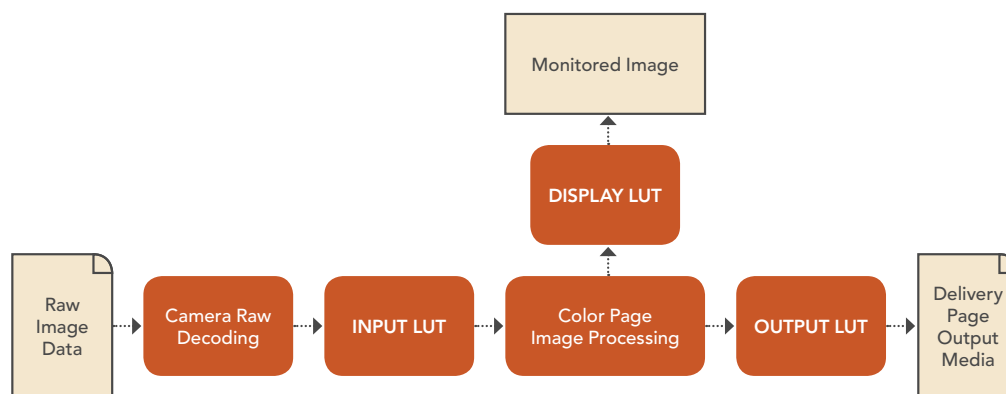
**Note:** If you downloaded Resolve Lite from the Apple App Store, LUTs are saved in a different location in order for Resolve Lite to remain totally self-contained. In this case, you can click the "Open LUT Folder" button in the Lookup Tables panel of the Project Settings, to open up a Finder window at the location these LUTs are stored. You can use this window to copy LUTs that you want Resolve to have access to, or delete LUTs that you no longer need.

If you add a LUT to one of these directories after Resolve has been opened, you can click the Update Lists button to refresh the contents of the pop-up menus.

Resolve uses both 1D and 3D LUTs. 3D LUTs that are created by DaVinci Resolve are in the .cube format, configured as 33x33x33 cubes with 32-bit floating point processing. DaVinci Resolve can also read and use LUTs in the Cinespace and Shaperlut formats.

## Timeline Lookup Tables

This group of controls lets you add LUTs to the Resolve image processing pipeline that affect every timeline in the entire project all at once. These LUTs can be used for a wide variety of functions, such as to trim Timeline grades, apply Log to Linear conversions, and simulate film output. Different options let you insert image processing to different stages of the pipeline as seen in the following diagram:



Keep in mind that since you can apply both 1D and 3D LUTs simultaneously, 1D LUTs at each step are always applied before 3D LUTs.

- **1D/3D Input Lookup Table:** Two pop-up menus let you add 1D and/or 3D LUTs that process the current timeline before every other image processing operation in DaVinci Resolve.
- **1D/3D Output Lookup Table:** Two pop-up menus let you add 1D and/or 3D LUTs that process the current timeline after the operations applied in the Color page, but before the temporarily applied Display LUT.
- **ACES Input Device Transform:** When Color Science is set to ACES, this pop-up menu lets you choose which IDT to use for the dominant media format in DaVinci Resolve.
- **ACES Output Device Transform:** When Color Science is set to ACES, this pop-up menu lets you choose an ODT with which to transform the image data for monitoring on your calibrated display, and when exporting a timeline in the Deliver page. For more information on ACES workflows using these settings, see Chapter 4, “Before You Conform.”
- **1D/3D Video Monitor Lookup Table:** Two pop-up menus let you add 1D and/or 3D LUTs that process the current timeline after every other image processing operation in DaVinci Resolve. However, Display LUTs are only temporarily applied for purposes of monitoring; they’re never applied to rendered media, or to the signal that is output to tape using the controls in the Deliver page. Display LUTs are particularly valuable for applying a film print emulation LUT in a Log workflow, or for applying a monitor calibration LUT if you’re outputting to a single display and you don’t have dedicated outboard calibration hardware.

Here’s an example. It’s common, when grading for film output using a Log workflow, that you’ll use the Display LUT pop-up menu to apply a film emulation LUT that simulates the image as it will be output from the film recorder, taking into account the film lab and print stock used, in order to make sure that the image you’re grading will appear as close as possible to what the eventual release print will look like in the cinema.

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- **1D/3D Color Viewer Lookup Table:** Two pop-up menus let you add 1D and/or 3D LUTs that process the image shown in the Viewer on your computer display, independently of the Display LUT that's used to output to your broadcast display. By default, this follows the Video Monitor LUT setting, but you can also use this option to apply a specific calibration transform for your computer monitor. Alternately, you could use it to desaturate the GUI Viewer to be able to specifically evaluate image contrast, or if you don't want to have to argue with your client over which display looks correct.
  - **1D/3D Scopes Lookup Table:** Ordinarily, Resolve's internal software video scopes provide an unbiased analysis of the actual video data levels within the Resolve image processing pipeline. However, you can choose to have the software scopes use the Video Monitor LUT selection, or any other LUT installed on your system, to transform this analysis to reflect the monitored output.
  - **Update Lists button:** Refreshes the LUT pop-up menus if you've added new LUTs to your system since DaVinci Resolve has been opened.
  - **Open LUT Folder:** This selection opens the master folder in your file system, as described in the list of DaVinci Resolve LUT paths shown above.

## Generate Soft Clip LUT

Similar to the Soft Clip mode of the Curves, a Soft Clip LUT lets you create an image processing LUT that applies a timeline-wide "knee" to any clipping that occurs at the upper or lower extremes of the image. Soft clipping in this context is used to quickly ease off any unpleasantly harsh loss of detail occurring as a result of blowing out the highlights or crushing the shadows too aggressively.

To be effective, a Soft Clip LUT should be ideally applied using the 3D Output Lookup Table pop-up menu in the Look Up Tables panel, so it's the very last operation in the image processing pipeline.

- **Generate:** Lets you choose whether you create a soft-clip LUT as a 1D or 3D LUT. 1D LUTs are more accurate for this operation, using 1023 data points, as opposed to the 33x33x33 cube of the 3D LUT.
- **Generates LUT based on:** Defaults to "No LUT selected," which generates a soft clip LUT using only the settings within this panel. Choosing another LUT from the list lets you concatenate the calculations you specify in this panel with the selected LUT, thus outputting a single LUT that applies both sets of calculations all at once.
- **Scaled to clipping range:** Enables the Maximum and Minimum settings below to work.
- **Maximum video level:** Sets the maximum value that will be output. All image data above this value will be clipped.
- **Upper Clipping softness:** Sets the threshold, as a percentage below the clipping point, at which highlights in the image data begin to compress before hard clipping. At 0, no soft clipping occurs. As you raise this value, more of the clipped highlight values are compressed, rather than clipped, resulting in softer, more pleasant "glowing" highlights.

- **Minimum video level:** Sets the minimum value that will be output. All image data above this value will be clipped.
- **Lower Clipping softness:** Sets the threshold, as a percentage above the minimum clipping point, at which shadows begin to compress before hard clipping. At 0, no soft clipping occurs. As you raise this value, more of the clipped shadow values are compressed, rather than clipped, resulting in a softer, more pleasant rolloff in the toe of the shadows.
- **Save LUT as:** A field into which you can enter a name for a Soft Clip LUT you want to save.
- **Generate LUT button:** Click this button after entering a name in the Save LUT as field to save a Soft Clip LUT. Here's a procedure for creating a Soft Clip LUT using the controls in this area.

#### To create a Soft Clip LUT:

1. Open the Project Settings and open the Look Up Tables panel.
2. Choose the settings for the Soft Clip LUT you want to create.
3. Type a name for the new LUT in the "Save LUT as" field, click "Generate LUT."

The new LUT is saved in the default directory for your system, and is now available in the LUT pop-up menus of this panel.

## Generate LUT From Current Grade

Two controls let you export LUTs from the currently selected grade.

- **Save LUT as:** Enter a name for the LUT you want to save in this field.
- **Generate LUT:** Click this button to save a LUT.

## EasyDCP/JPEG2000 Color Management

The Timeline Colorspace pop-up menu lets you define the colorspace and gamma of the current timeline for purposes of rendering output using Fraunhofer's easyDCP application, or playback if you're using Resolve to evaluate a rendered DCP. Choose the option that reflects your current timeline's color space.

## Versions

Ten text fields provide a way for you to designate automatic names for the versions of grades that you select in the Color page. To the right of each text field, a pop-up menu lets you add a name from a handy list of predefined terms that's been provided. Alternately, you can simply click any field and type your own custom name.

When you change the name of a version in the Color page, the names you define in this list are available from a pop-up menu in the Version Name dialog.



Using the named pop-up when editing the name of a version

Using a predefined list of names for your different versions avoids typos that can later create folder naming issues when you use the “Commercial Workflow” options for rendering your media in the Deliver page.

## Audio

This panel contains options that control audio playback in DaVinci Resolve.

- **Enable Audio:** Enables or disables audio playback in every page of Resolve. Disabling audio can improve real-time performance by a minor amount.
- **Audio Meter Alignment Level:** Redraws the dBU scale shown in all audio meters in Resolve to better match the reference alignment standard for your region. Defaults to  $-20$ , but can be adjusted from  $-24$  to  $-15$ .

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## General Options

This panel presents a selection of general preferences that affect the interface and operation of DaVinci Resolve.

### General Options

A collection of operational preferences.

- **Reload last working project when logging in:** Automatically reopens the last project a user had open whenever that user logs back into Resolve.
- **Output single field when paused:** This setting will reduce flicker when grading using a computer monitor or when working with interlaced material. Ordinarily, when viewing interlaced material in Stop or Pause mode, field one is displayed followed by field two. Depending on the image, this can result in a flicker on the display. When this option is enabled, only field one will be shown on the monitor when playback is paused; however both fields will be shown when the clips are played.
- **Wipe wraps when viewing reference stills:** Turning this on (the default) lets stills wrap around the edge of the screen while you're adjusting the wipe using the mouse, rather than stopping at the screen's edge. If you find this behavior awkward when trying to quickly create full-frame comparisons with stills to flip on and off, it can be disabled.

### UI Settings

A collection of visual preferences, some of which affect real-time performance.

- **Resize image in viewer for correct aspect ratio:** This control will select between using a square or non-square pixel aspect ratio within the Viewer. This is important when working with SD images which do not have a square pixel aspect ratio.
- **Mattes display high contrast black and white:** When enabled, the HILITE command, which displays the current key, shows a black and white matte (i.e., high contrast) rather than the standard gray matte. For more information on this setting, and on use of the HILITE command, see Chapter 6, "Secondary Qualifiers."
- **Don't update interface icons in playback:** When enabled, gives priority to real-time performance during playback by reducing user-interface updates. This is helpful when you're creating complex grades on systems with low processing power, or when working on projects at high resolutions.
- **Always highlight current clip in the media pool:** When turned on, any clips at the position of the playhead on the Conform or Color pages will be automatically highlighted in the Media Pool.



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- **Sync the Master Timeline to the current frame:** If you turned on “Automatically match master timeline with media pool” in the Color settings, then this option lets you make sure that whenever you open the Master Timeline, the playhead is at the same clip and frame that it was in the previous timeline you were working on.
  - **Grey background for image in viewer:** When turned on, sets the background of the Viewer to gray, making it easier to evaluate image blanking or minor sizing adjustments than with the default dark background.

## Working Folders

Three fields let you specify which folders proxy, cache, and gallery files are written to.

- **Proxy files location:** Proxy files, if generated, are written to the directory path specified by this field. By default this directory path is hidden from the user.
- **Cache files location:** All render cache files that you create are saved in the directory path specified by this field. This path defaults to a hidden “CacheClip” directory that’s created at the location of the first Media Storage Volume you specify in the DaVinci Resolve Preferences window.
- **Gallery stills location:** By default, all stills you save are saved in the DPX format, and are placed in the directory path specified by this field. This path defaults to a hidden “.gallery” directory that’s created at the location of the first Media Storage Volume you specify in the DaVinci Resolve Preferences window.

## Deck Capture and Playback

All settings in this panel let you define the functionality of capture and playout to tape using device controlled VTRs connected to your Resolve workstation via the connected video capture and output interface. For more information on deck capture, see Chapter 3, “Tape Ingest.” For more information on video output to tape, see Chapter 8, “Tape Output.”

### Capture and Playout

These settings affect both capture and playback when using the tape ingest options of the Media page, or the tape output options of the Deliver page.

- **Video capture and playback:** You can choose the video format (frame size and frame rate) with which to output to tape from this pop-up menu. HD timelines can be downconverted to SD, and SD timelines can be upconverted to HD using the format conversion of your DeckLink card.

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- **Use left and right eye SDI:** A checkbox that enables supported video interfaces to ingest and output muxed stereoscopic video when used with supported VTRs, such as HDCAM SR decks with 4:2:2 x 2 mode. (When muxed stereoscopic signals are ingested, each eye is separated into individual left eye and right eye image files.) This parameter only appears when your hardware is set up appropriately.
  - **Video connection operates as:** Selects between the available signal options: YUV 422 SDI, RGB 444 Dual Link and 444 single link using 3/6 Gb/s. Which options are available depend on which video capture card you are using. All three are available when using the Blackmagic Design DeckLink 4K Extreme card.
  - **Colorspace:** Lets you specify the data range (normally scaled or full range) that's used when ingesting from or outputting to tape. This option switches the data range of the signal output by your video capture card, but only during capture from tape in the Media page, or output to tape in the Deliver page. When capture or output is not currently occurring, your video capture card goes back to using the identically-named data range setting in the Master Project Settings pane, which governs how you monitor the signal being output on an external broadcast display or projector.
  - **Video bit depth:** Choose the bit depth that corresponds to the capability of your deck. You can choose between 8-bit and 10-bit. Outputting to 10-bit is more processor intensive, but higher quality for compatible devices, and is the default setting.
  - **Use deck autoedit:** If supported by your video deck, this is the best method to record video to the deck, as it enables the deck to roll the edit using the specified preroll, and control the edits via serial device control. If this checkbox is turned off, a basic edit On/Off mode is used by the deck, with the potential for frame inaccuracies if the "Non auto edit timing" setting is not properly adjusted.
  - **Non auto edit timing:** Adjusts the edit synchronization of the connected deck when auto edit is turned off. Deck preroll: Sets the number of seconds for preroll. How much is appropriate depends on the performance of your deck.
  - **Deck preroll:** Sets the number of seconds for preroll. How much is appropriate depends on the performance of your deck.
  - **Video output sync source:** When using a DeckLink card this is set to Auto. Other capture cards may require you to set the sync source to "Reference" for playout and "Input" for ingest. This setting is only available if you have a DVS card installed on your system.
  - **Add 3:2 pulldown:** Inserts or removes the 3:2 pulldown required to record or play 23.98 fps media to or from a 29.97 tape format.

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## Capture

These settings are used when you use the Capture mode in the Media page to capture clips from tape into the Media Pool. Media is captured as DPX image sequences.

- **Save clips to:** A field that displays the directory path to which media files captured from tape are written. You want to choose a volume that's fast enough to accommodate the data rate of the media format you're capturing.
- **Browse:** Click this button to choose a directory to write captured media to. The directory you choose appears in the field above.
- **Save in this folder path:** A series of checkboxes let you specify what other information to use to define the directory hierarchy that will hold the captured media. Every checkbox you turn on adds an additional directory with a name defined by that checkbox's metadata. You can choose any or all of the following: Program name, Clip number, Reel number, and Roll/Card.
- **Apply reel number to:** Lets you choose how to write the reel name. Two checkboxes let you write the reel number to the file's name, and/or to the Header data.
- **Use prefix:** A field lets you type in a prefix to be used in the media file's name. This lets you add text identification that will make the media more easily identifiable and searchable.
- **Apply prefix to:** Two checkboxes let you choose to use the prefix you typed in the file name, and/or in the folder name.
- **Use frame number with:** When capturing to image sequences, you can choose how many digits to use when writing the frame number into the name of each frame file.
- **Set batch ingest handles to:** When capturing to image sequences from a batch list, defines how many frames of additional handles to ingest along with each logged clip.
- **Enable audio input:** Turn this checkbox on to capture audio along with the video. If you're capturing QuickTime or MXF files, the audio will be written as additional tracks inside each file. If you're capturing to a DPX image sequence, then a broadcast .wav file is recorded separately.
- **Input:** Lets you choose how many tracks of audio to capture, from 2 to 16.

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## Playout

These settings only affect the video signal that's output when you use the Edit to Tape mode of the Deliver page.

- **Output Source Timecode:** Turn this checkbox on to output each individual clip's source timecode. This option is only applicable when assemble editing to tape.
- **Output LTC:** With a Blackmagic Design DeckLink or UltraStudio device using HD-SDI, longitudinal timecode (LTC) is available on track 16 of the HD-SDI video signal, making it easy to use a Mini Converter de-embedder to extract this analog timecode audio signal and feed it directly to a recording device. This is particularly helpful if you have outboard video processing equipment such as a noise reducer or format converter that does not pass through the VITC timecode.
- **Delay LTC by x frames:** When outputting LTC to bypass outboard processing gear, such as a noise reducer or format converter, you can compensate for the processing delay by delaying the timecode by a matter of frames to ensure that the processed image and timecode reach the deck at the same time. With a DVS card there is a separate timecode output.
- **Enable audio output:** When this checkbox is enabled, DaVinci Resolve will play a .wav or aif audio file, either the embedded source audio, or the currently specified Audio Chase Track, along with the video being output, so both can be recorded to tape. Select the appropriate audio file, then choose the appropriate settings for Offset, Channels, and Bit Depth. Use the "Offset (frames)" setting to sync the audio and video, if necessary.
- **Offset audio by x frames:** Lets you specify an offset between the audio track and video to achieve proper A/V sync in cases where the video is being delayed by outboard processing hardware.
- **Output x channels of audio:** Choose the number of audio tracks to output to tape.
- **Set batch playout head handle to x seconds:** When batch outputting multiple clips, you can specify a number of frames before the in point of each clip to be output as well.
- **Set batch playout tail handle to x seconds:** When batch outputting multiple clips, you can specify a number of frames after the out point of each clip to be output as well.
- **Apply gaps between clips:** This checkbox lets you add a black gap, of the specified duration in frames, between every two clips being output when outputting in batch mode.

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## Control Panel

The parameters in this panel let you customize the functionality of the DaVinci Control panel. Some, but not all, of these settings apply to third party panels.

- **Lift RGB balance sensitivity:** Controls how quickly adjustments made to the Lift trackball (on the left) will adjust the Lift Color Balance parameters in the Color page. This setting affects third party panels.
- **Lift master sensitivity:** Controls how quickly adjustments made to the Lift ring (surrounding the leftmost trackball) will adjust the Lift Contrast parameter in the Color page. This setting affects third party panels.
- **Gamma RGB balance sensitivity:** Controls how quickly adjustments made to the Gamma trackball (second from the left) will adjust the Gamma Color Balance parameters in the Color page. This setting affects third party panels.
- **Gamma master sensitivity:** Controls how quickly adjustments made to the Gamma ring (surrounding the second trackball from the left) adjust the Gamma parameter in the Color page. This setting affects third party panels.
- **Gain RGB balance sensitivity:** Controls how quickly adjustments made to the Gain trackball (third from the left) will adjust the Gain Color Balance parameters in the Color page. This setting affects third party panels.
- **Gain master sensitivity:** Controls how quickly adjustments made to the Gain ring (surrounding the third trackball from the left) will adjust the Gain Contrast parameter in the Color page. This setting affects third party panels.
- **Cursor offset sensitivity:** Controls how quickly adjustments made to the fourth trackball affect the cursor, window position, log-mode offset, and other controls that can be manipulated via this trackball.
- **Cursor master sensitivity:** Controls how quickly adjustments made to the fourth ring affect log-mode master offset, and other controls that can be manipulated via this ring.
- **Hue/Saturation/Luminance qualifier sensitivity:** Controls the sensitivity of the HSL panel control knobs.
- **Grading style:** Controls the orientation of the trackballs relative to the corrections they make. There are two options:
  - **DaVinci:** Most users will be familiar with the standard DaVinci controls as this mimics the vectorscope. If you move the trackball to the right, and lower, a little, the image will become more blue; move to the top for more red and to the lower left for more green.
  - **Rank:** The Rank settings are somewhat different, so this option is for users who are familiar with color controls that the Rank control system offered. In this mode, the orientation of red and green are reversed.

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- **LCD brightness:** Controls the overall brightness of the lit buttons of the DaVinci control surface.
  - **Red/Green/Blue key backlighting:** Three sliders let you adjust the color balance of the lit buttons of the DaVinci control surface. The default is red.

## Auto Save

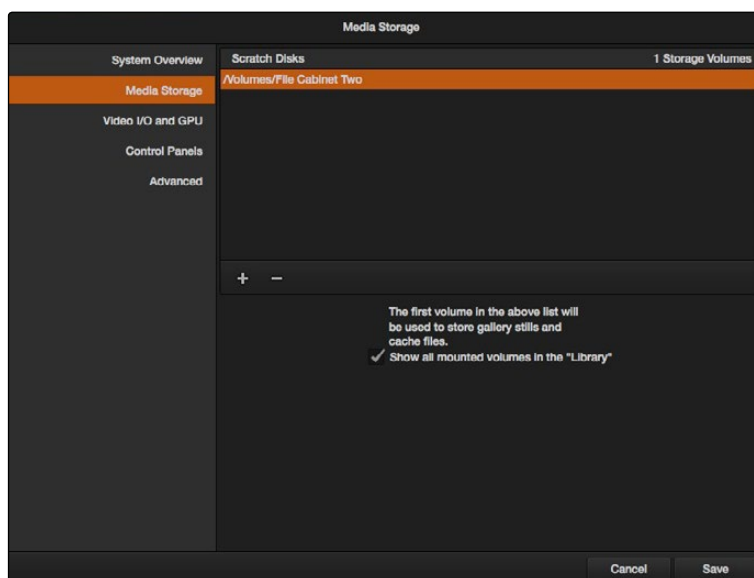
DaVinci Resolve's Autosave feature can save you from the heartache of lost work resulting from an unexpected problem.

- **Automatically save project:** Enables auto saving. There are three options.
  - **Off:** Disables auto saving.
  - **On:** Emulates a manual save, incrementally saving the current project. This is faster than the next option, and suitable for use during a grading timeline.
  - **To backup project:** Saves a full alternate copy of the active database while you work. While this full backup takes longer than the simpler incremental autosave option, it offers a complete backup, and is often used by colorists at the end of each workday or grading timeline.
- **Every:** Lets you define how frequently to execute the selected autosave behavior.
- **List Backups:** Shows a window listing all auto saved backup projects. This list can be sorted by name, date modified, width, or height. Buttons running along the bottom provide an interface to Load or Delete any item in the list, Delete all, or Refresh the list. When you load an autosave backup, the current project is lost, and completely replaced by the autosaved project. You are recommended to export the project first, before loading, if you want to preserve the current state of the project.

## Setting Hardware Preferences

If you have a system that doesn't change very often, then you may only rarely use the Preferences window. On the other hand, if you're working with a mobile system with changing video interfaces, control panels, and scratch volumes, then you may use this window more frequently.

The DaVinci Resolve Preferences window has three main settings that you need to define, if you haven't already.



Hardware Preferences

### System Overview

Provides an overview, for reference, of all hardware and computer characteristics that are relevant to DaVinci Resolve running smoothly, including listing of installed GPUs.

### Media Storage Volumes

This is the list within which you define the scratch disk of the system. The first volume in this list is where Gallery stills and cache files are stored, so you want to make sure that you choose the fastest storage volume to which you have access.

The "Show all mounted volumes" checkbox lets Resolve access media on all temporarily and permanently mounted volumes, including USB, FireWire, or Thunderbolt connected hard drives, without having to add them to this list. This is on by default.

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## Video I/O and GPU

The preferences in this panel let you choose video interfaces and GPU hardware on your workstation.

- For capture and playback use: If you have a compatible video capture card, you should choose from the card options that appear here. Leaving this set to “None” disables external video output.

**Note:** Disabling video output can improve real time performance when external monitoring and output is not a priority. You can also choose “None” when you’re using Resolve with another application open at the same time that’s using your workstation’s video output interface. When you’ve quit the other application, you can reselect the video output interface for use by Resolve.

- For DaVinci Resolve Live use: When using Resolve Live to monitor the live output from a camera, you must have a video interface that’s dedicated to doing just that. If you have only one video interface connected to your computer, you’ll need to disable it for capture and playback, and enable it for Resolve Live use. However, if you have two video interfaces connected at the same time, you can use one to monitor camera output, and the other to output to a video display for critical evaluation.
- Use Red Rocket if available: An additional checkbox lets you disable Red Rocket support if you need to force Resolve to use standard RED software CPU debayering to accommodate your specific workflow, or when troubleshooting. If you are required to debayer R3D media using your CPU, you should turn this checkbox off.
- Use Display GPU For Compute: By default, a single GPU system uses this one GPU for the DaVinci user interface and also for image processing. As greater processing speeds are achievable with two or more GPUs, if two GPUs are installed for image processing this checkbox enables the shared use of the display GPU instead of dedicating it to just the DaVinci user interface.
- GPU processing mode: Lets you set Resolve to use either OpenCL or CUDA on systems that have both ATI and Nvidia GPUs installed, to make sure that you’re using your most powerful GPU for processing. If you’re using a system that only has ATI GPUs, you should only use OpenCL. Most users can leave this set to Auto, and Resolve will use what’s appropriate.

## Setting a Control Panel

Every control surface that DaVinci Resolve is compatible with appears in this list. Click the button corresponding to your panel, and if you’re using a JLCopper Eclipse, enter the IP and Port number.



## Advanced

This tab is used for special Resolve configurations and SAN parameters that are applicable to older file systems.

## Saving Preferences and Restarting DaVinci Resolve

Whenever you change the preferences, you're first asked to validate your computer's password, and then you're required to restart Resolve in order for the new settings you've chosen to take effect.