The Gallery and Grade Management

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The Gallery and Grade Management

The Gallery provides a way to save, browse, and use saved still frames from different clips in a program. Each project is saved with its own individual set of stills, and each still you save consists of a DPX image of the saved frame, and the grade metadata. You can use saved stills for reference when matching one clip to another, or you can use them to copy grades to other clips, or other timelines.

There are two ways to work with the contents of the Gallery. The Color page has a small Gallery, to the left of the Viewer, that provides quick access to saved stills and grades as you work. The Gallery window, which can be opened via a button at the bottom of the Gallery, provides a dedicated interface for organizing your grades, copying grades and memories between projects, and for accessing a dedicated collection of DaVinci Resolve Looks.

This chapter provides information on the commands, options, and procedures that are available in each of these areas.
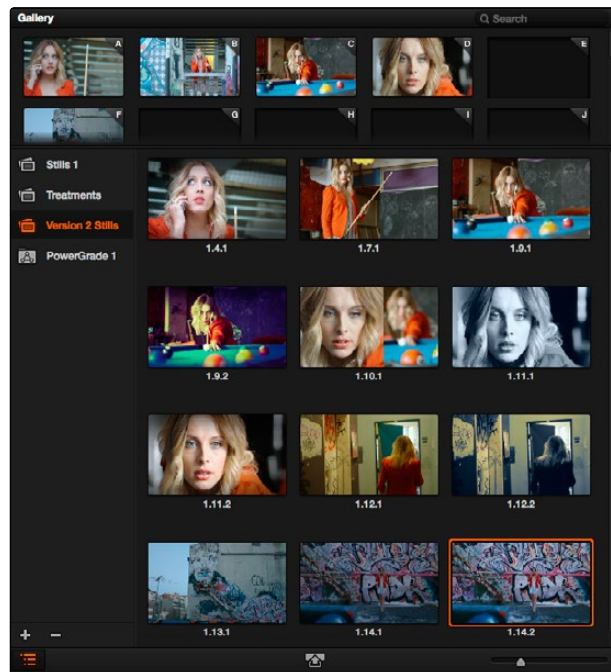
Using the Gallery

The Gallery in the Color page and the expanded Gallery window environment share many of the same commands for organizing stills. However, the commands for saving stills and customizing split-screen views are restricted to the Color page.

Color page Viewer and Gallery with Video Scopes

Saving and Deleting Stills

One of the most common operations is to save a clip as a still for future reference.

To save an individual still in the Color page, do one of the following:

→ Choose View > Grab Still (Option-Command-G).

→ Right-click on the Viewer and choose Grab Still.

→ Press GRAB STILL on the Transport panel of the DaVinci control surface.

It's also possible to save stills automatically for every clip in the entire Timeline. This can be useful if you're planning to export a set of grades to hand off to another colorist, or if you need to apply a series of grades manually from one project to another when ColorTrace™ won't work.

To save a still for every clip in the current project, do one of the following:

→ Right-click the Viewer, and choose one of the following options:

→ Grab All Stills from First Frame: The first frame of each clip in the current Timeline is saved to the Gallery.

→ Grab All Stills from Middle Frame: The middle frame of each clip in the current Timeline is saved to the Gallery.

→ Grab Missing Stills from First Frame: Only the first frame of clips with no stills in the Gallery already are saved to the Gallery.

→ Grab Missing Stills from Middle Frame: Only the middle frame of clips with no stills in the Gallery already are saved to the Gallery.

Once the Gallery is filled with many stills, it may be necessary to make multiple selections for operations such as reorganizing, deleting, or exporting stills.

To select a range of stills, do one of the following:

→ Click one still, then Shift-click another to select a contiguous range of stills.

→ Command-click any stills you like to make a discontiguous selection.

→ Right-click any still, and choose one of the following commands:

→ Select All: Selects every clip in the Gallery

→ Select Current to Last: Selects every still from the one you've clicked through the last still in the Gallery.

→ Select First to Current: Selects every still from the one you've clicked through the first still in the Gallery.

If you need to remove one or more stills, this can only be done using the Gallery's contextual menu.

To delete one or more stills, do one of the following:

1. Select one or more stills in the Gallery.

2. Right-click one of the selected stills and choose Delete Selected.

Each still is also saved with a variety of metadata that is used by DaVinci Resolve to manage the contents of the Gallery in different ways. This metadata can also be used for searching and sorting, and is viewable by opening the Still Properties window.

To display a still's properties:

→ Right-click a still in the Gallery and choose Properties.

A floating translucent window appears displaying the date the still was created, what clip it was grabbed from, when it was grabbed, and the source and record timecode values of the frame it came from.
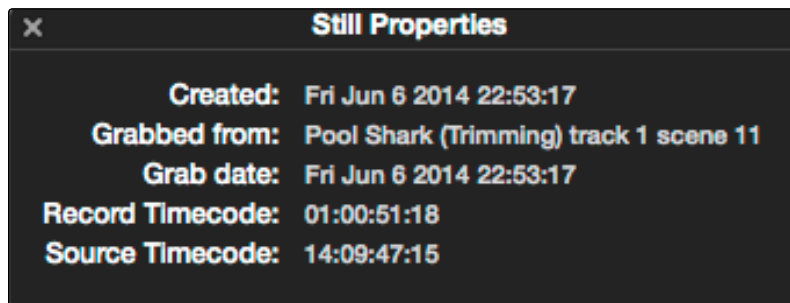
Right-click on a still to choose Still Properties

Where Are Stills Saved?

By default, all stills you save are saved in the DPX format, and are placed in the directory path defined in the "Gallery stills stored at" field in the General Options panel of the Project Settings. 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.

Playing Stills and Setting Up Image Wipes

There are many ways to play a still in the Color page, making it visible as an image wipe in the Viewer and on the external display connected to your video interface.

To play a still, displaying it as an image wipe or full screen, do one of the following:

→ Double-click a still in the Gallery.

→ Select a still in the Gallery, and click the Image Wipe button on the top Viewer toolbar.

→ Click a still in the Gallery, then right-click in the Viewer and choose Toggle Wipe.

→ From the View menu, choose Next Still (Option-Command-N) or Previous Still (Option-Command-P) to select a still in the Gallery, and then choose Wipe On/Off (Command-W) to play it.

→ Press PREV STILL or NEXT STILL on the Transport panel of the DaVinci control surface to select a still, then press PLAY STILL. Press PLAY STILL again to dismiss the still.

Whenever you play a still, the Viewer mode's pop-up menu changes to Split mode.

Once displayed, the wipe between the current clip and the still being referenced can be moved and reoriented in different ways. If you want a full-screen view so you can flip back and forth between the still and the current clip, simply adjust the split until the still fills the entire Viewer.

To adjust a wipe in the Viewer, do one of the following:

→ Drag the pointer within the Color page's Viewer to move the wipe.

→ Push the T-bar lever up and down on the T-bar panel of the DaVinci control surface.

To customize an image wipe in the Viewer, do one of the following:

→ Use the controls at the top of the Viewer toolbar

→ Choose one of the following from either the View menu or the Viewer contextual menu:

Image wipes can be customized in the following ways:

→ Wipe Style: Cycles among the Vertical Wipe, Horizontal Wipe, Blend Wipe, and Alpha Wipe modes.

→ Invert Wipe: Reverses each half of the wipe.

Labeling and Searching for Stills

By default, all stills are identified by a three number code. The first number is the video track the clip is on, the second number is the clip's position number in the current Timeline, and the third number is the version number.

All stills are numbered

If you've saved many stills, it can help to label the important ones with whatever text you like (it's best to avoid using the forward slash character). Once labeled, you can search for stills by label using the search field, at the upper right-hand corner of the Gallery.

To label a still:

1. Right-click a still in the Gallery and choose Change Label.

2. Type a name into the Change Still Label dialog, and click OK.

The new label appears underneath the still number.
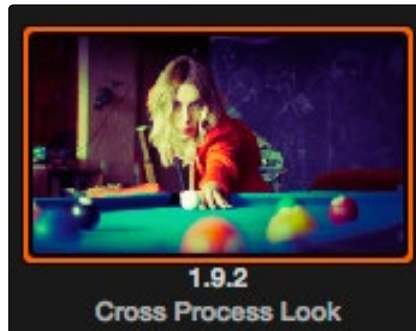
You can also label stills for easier identification

To search for a still by label:

→ Click the Search field to place the cursor within, then type the name or description you are searching for.

As soon as you start typing, DaVinci Resolve automatically begins to filter the results of the currently selected album in the Gallery to match what's been typed.

Gallery Options

When you right-click the gray area of the Gallery, behind the Still icons, you can open a contextual menu that provides a variety of additional options for controlling how many stills are saved, how they're displayed, and how they're arranged in the Gallery. There are the following options:

→ Trace Timeline: When enabled, selecting a clip in the Timeline also automatically selects the first still that was saved from that clip to the Gallery.

→ One Still Per Scene: When enabled, restricts the Gallery to save only a single still for each clip in the Timeline. If multiple stills have already been saved before turning this option on, those stills will remain in the Gallery until you save another still from the same clip, at which time all other stills from that clip will disappear.

→ Apply Display LUT: If you have a Display LUT selected in the Look Up Tables panel of the Project Settings, it's applied to the video output via a connected video interface, and also to the Viewer. Ordinarily, you don't also want the display LUT applied to stills you're saving since it's meant to be temporary. Accordingly, stills are saved with a LUT-free image. However, in instances where you may also want to save a reference to the currently used Display LUT, turning on "Apply Display LUT" saves the Display LUT along with the still, and applies that LUT when that still is used for split-screen reference. Keep in mind that the internally saved Display LUT is only used when playing that still in the Viewer; the DPX image that's saved remains unaffected.

→ **Sort Stills By:** Choosing an option from this submenu changes the sort order of all clips in the Gallery. The options are:

→ **Record Timecode:** Sorts all stills by their position in the program.

→ **Source Timecode:** Sorts all stills by the timecode of the source clip they came from.

→ **Create Time:** Sorts stills based on when you saved each still.

→ **Clip and Create Time:** A two-level sort; stills are sorted primarily based on the ID number of the clips they came from, and secondarily based on the time they were created.

→ **Use Timeline Keyframes:** Saves keyframes from the Timeline along with the saved still and grading information. These keyframes will be applied to whatever clip this grade is copied to.

→ **Show All Stills:** This command shows all available stills in the current album if any have been hidden, for example by searching or by using the Show Current Timeline Only command.

→ **Show Current Timeline Only:** Choosing this option restricts the Gallery to only showing the stills that were saved from the currently selected Timeline. All other stills from other Timelines are hidden until you switch to that Timeline.

Organizing Stills Using Albums

All stills you save are always placed into the currently open album of the Gallery, which defaults for new projects to "Album 1." However, you can create additional albums with which to organize your stills into whatever categories you require. Albums can be shown, created, and removed using the Gallery in either the Color page or Gallery windows.
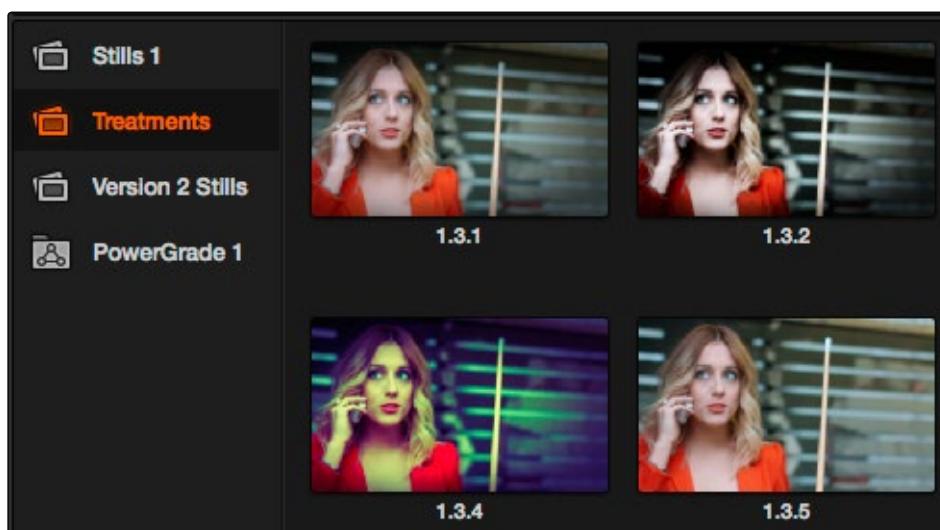
Use Albums to organize your stills

To show or hide the Albums list:

→ Click the Album button, at the bottom of the Gallery but above the Memories.

If hidden, the Albums list appears, to the left of the Gallery, containing all albums that are currently available in the project that's open, as well as the PowerGrade album at the bottom. If the Albums list is already visible, then it becomes hidden, making more room for still thumbnails in the Gallery.

Once you've displayed the Albums list, there are a variety of ways you can quickly and easily work with albums.

Methods of working with albums:

→ To add a new album: Click the Plus (+) button at the bottom of the Albums list. A new album is created, numbered incrementally.

→ To add a new PowerGrade album: Right-click the Gallery browser and choose Add PowerGrade Album. A new album is created, numbered incrementally.

→ To rename an album: Double-click any album in the list, and when it is selected, type a new name and press Return.

→ To navigate albums: Click any album to make it the current album. Using the DaVinci control surface, you can use the PG UP/GALLERY/PG DOWN button; press SHIFT UP and GALLERY to move to the next album up the list, or press SHIFT DOWN and GALLERY to move to the next album down the list.

→ To move clips from one album to another: Drag and drop a still from the Gallery to an album.

→ To remove an album: Select an album, then click the Minus (–) button at the bottom of the Album list. All clips inside that album will be deleted along with the album, so use this control carefully.

PowerGrade Albums

PowerGrade albums are meant to be repositories for grades you want to reuse frequently, or for stills that you need to reference from multiple projects, such as when grading a series that shares common looks from episode to episode.
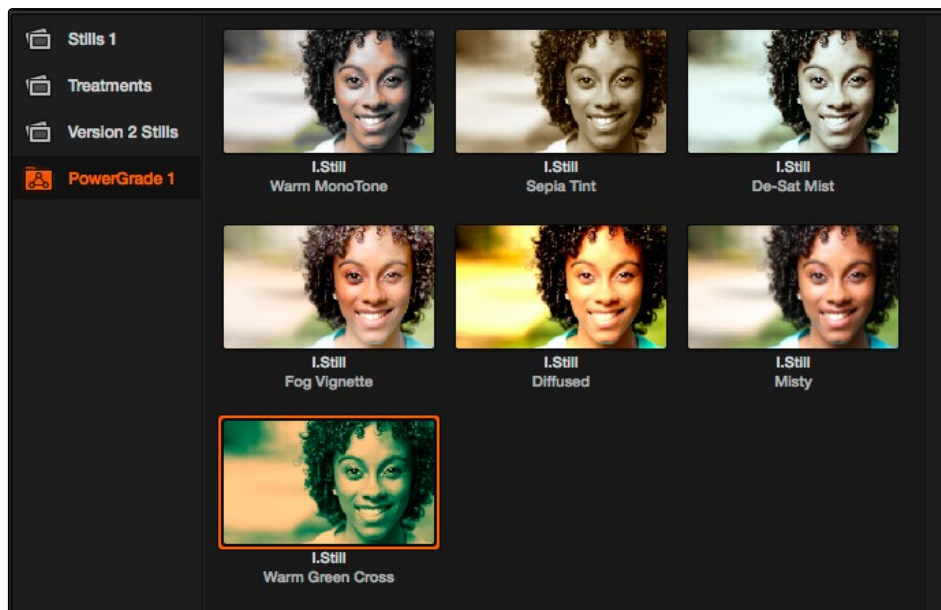
PowerGrades are associated with your user login

Unlike stills saved to the other albums in the list, which are ordinarily available only to the project in which they were saved, stills saved to a PowerGrade album are shared among all projects that you create within a particular user of a specific database. How widely PowerGrade album grades are available depends on the type of database you're using.

If you're using a disk database, stills saved to PowerGrade albums are available to every project saved to the particular disk location specified by the disk database. However, if you switch to an SQL database, then the contents of the PowerGrade album are unique to each individual database you create, and are available only to the other projects that are saved within that database.

Creating a new database creates a new PowerGrade album, which is a clean slate. However, you can always use the Gallery window to copy PowerGrade stills from other projects and databases to the current one, and you can create as many PowerGrade albums as you need to organize your grades. For more information about project management and databases, see Chapter 16, "Managing Databases and Remote Grading."

Functionally, PowerGrade albums are identical to any other album, and you can save, organize, and use stills in PowerGrade albums as you would with other albums. Since PowerGrade albums are special in that they're maintained by Resolve, the last PowerGrade album cannot be deleted.

The Gallery Window

While you can do quite a lot of stills management using the Gallery as it appears in the Color page, the Gallery window provides additional functionality for copying stills among different projects and databases, for organizing your stills and memories, and for accessing the DaVinci Resolve Looks that accompany the application.
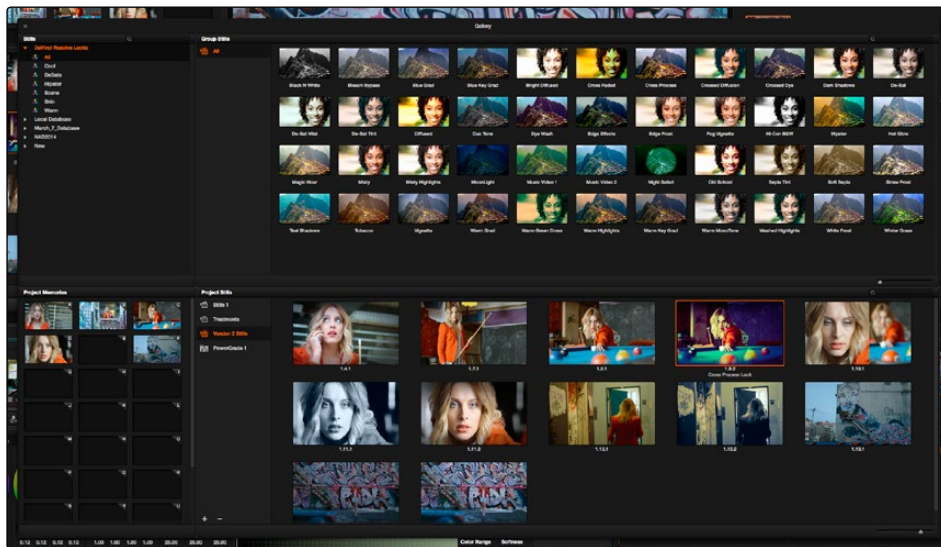
Gallery window

The Gallery window is divided into four areas:

→ Stills navigator: Lets you navigate the contents of other projects and databases that are available. Independent projects, as well as database > user > project relationships, appear in this hierarchical list. Click the disclosure triangle next to any item on this list to reveal its contents. Click any project in the list to reveal its albums and stills in the Group Stills browser.

→ Group Stills browser: Displays the contents of the currently selected item in the Stills navigator. One or more selected stills can be copied to the current project by selecting an album in the Project Stills browser, and dragging and dropping the selected stills to the Project Stills browsing area.

→ Project Stills browser: Contains the same Album list and Project Stills browser that's visible in the Color page Gallery.

→ Project Memories: Provides a larger view of the project memories that are visible in the Color page Gallery.

Customizing the Gallery Window

There are two ways of customizing the Gallery window to create more room when browsing large collections of stills.

To expand different areas:

→ Click the expand button at the bottom left of the Group Stills or Project Stills browsers to expand that half of the interface to take up the entire screen. Once expanded, a collapse button appears at the bottom left of the expanded area that lets you return the interface to the way it was.

To resize different areas:

→ Move the pointer to the border between any areas of the Gallery. When the pointer changes to the resize cursor, drag the border to resize the adjacent interface areas to whatever size you need. Dragging all the way to the edge of the screen hides that interface area completely.

What's Available in the Stills Navigator

The Stills Navigator accesses a variety of content via a hierarchical list. Disclosure triangles to the left of each item in the Stills browser let you access the contents of each item, and many items have several nested levels of content within, each accessed by its own disclosure triangle.
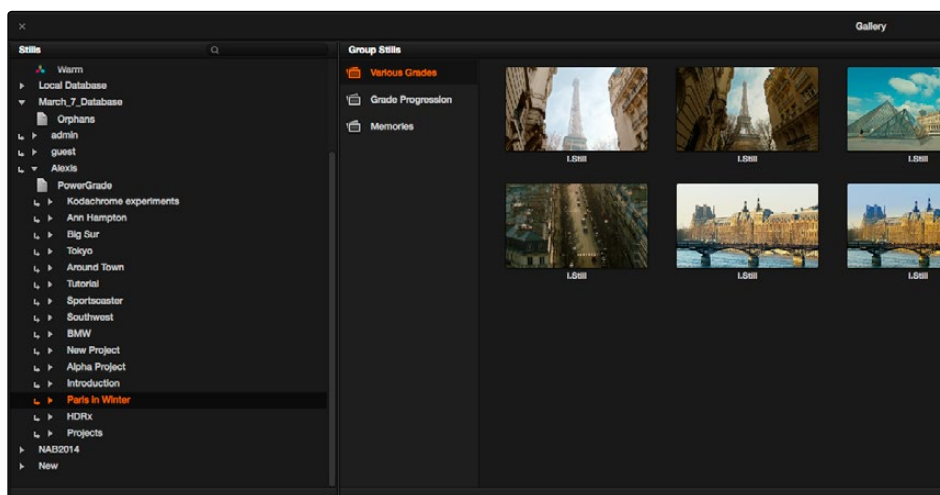
The Gallery Stills database show all projects connected so you can import those stills

→ **DaVinci Resolve Looks:** A collection of predefined grades, categorized by type, that provides excellent examples of different looks available in Resolve. These grades are installed with DaVinci Resolve and cannot be altered.

→ **Databases:** Each database that's available appears within this list. Each database has a nested series of Users, Projects, and Timelines within, as well as one nested PowerGrade item for each user, which provides access to the saved stills within.

→ **Orphans:** Stills are saved to a separate directory which is defined in the General Options panel of the Project Settings. Whenever you delete a database, the stills that corresponded to that database become orphaned. All orphaned stills that lack a connection to any current database appear within the Orphan item in the Stills Navigator.

Importing and Exporting Stills

It's possible to import still images in different graphics formats into the Gallery, which can be particularly useful when a client provides reference images to which they'd like you to refer. It's also possible to export stills from the Gallery, which is good for sending a series of reference stills for approval to a remote client. In both cases, you can choose whether to import or export images with an accompanying LUT.

For both import and export, DaVinci Resolve supports the following file formats: DPX, CIN, TIFF, JPEG, PNG, PPM, BMP and XPM.

To import one or more still images:

1. Right-click anywhere on the gray background of the Gallery.

2. Choose one of the following commands:

   → **Import:** Imports image files, along with a matching DRX file, if one is present in the selected directory.

   → **Import With Output LUT:** Imports an image and DRX file, along with a matching LUT file, if one is present in the selected directory.

3. When the Import Stills dialog appears, choose the type of files you want to import from the "Files of type" pop-up menu, then navigate to the files you want to import, select them, and click Import.

To export one or more still images:

1. Select one or more stills in the Gallery.

2. Right-click one of the selected stills, and choose one of the following commands:

   → Export: Two files are saved for each still you selected. An image file in the format of your choice, and a DRX (DaVinci Resolve eXchange) file that contains the grading metadata.

   → Export With Display LUT: Along with the image and DRX file, a Display LUT is also exported.

3. When the Export Stills dialog appears, choose a file format to export to from the "Files of type" pop-up menu, then choose a location, type a name into the Save As field, and click Save.

    Each of the selected stills is exported with all accompanying files. Each file uses as its prefix the name you typed into the Export Stills dialog, followed by an underscore, the still ID number of the selected still, and the three letter file extension.

Using and Organizing Memories

Stills and memories contain identical information, and can be split screened, copied, appended, exported, and can display their node graph just like any other still. However, stills that are assigned as a memory make them easier to access via keyboard shortcuts, and from dedicated buttons on the DaVinci control surface.
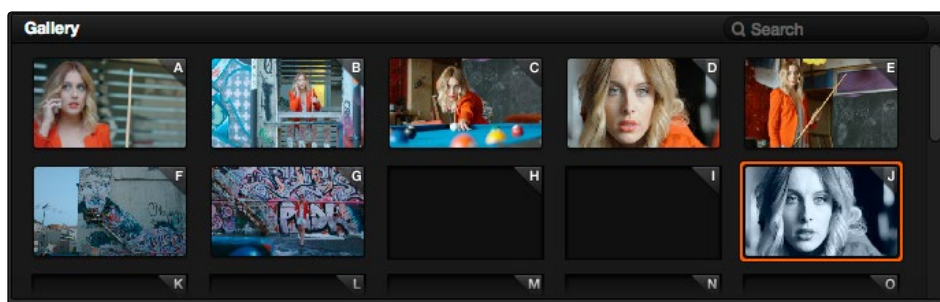
Place grades you will use often in Memories for faster recall

To that purpose, the Memories thumbnail display makes it easy to keep track of which stills have been assigned to which memories in situations where you're using multiple memories to copy grades throughout a program.

To copy stills and memories back and forth, do one of the following:

→ Drag a still onto a memory bank.

→ Drag a memory into the Gallery.

Tip: In this way, memories can be used to copy stills from one album to another.

To save the current clip's grade to a memory for future use, do one of the following:

→ Choose Color > Memories > Save Memory A–H (Shift-Option-1 through 8)

→ Using the DaVinci control surface, press CRNT on the Transport or T-bar panel, then press the letter of the memory bank you want to save to. Use the SHIFT UP button to save to another memory sharing the same button.

    If you save a grade to a memory that already contains something, the previous memory is overwritten.

To apply a memory to the current clip in a timeline, do one of the following:

→ Right-click a memory and choose Add Correction.

→ Choose Color > Memories > Load Memory A–H (Command-1–8)

→ Using the DaVinci control surface, press the letter of the memory bank you want to apply. Use the SHIFT UP button to apply a memory that shares the same button.

**To clear a memory:**

→ Right-click a memory, then choose Clear.

Using Versions to Manage Grades

Working quickly requires a mastery of the numerous grade management features built into DaVinci Resolve. These features are designed to help you copy and ripple grades to individual clips, among manually defined groups of clips via the Node Editor's Clip mode, or among automatically linked clips that share the same source clip in the Media Pool (when using Remote versions). Multiple versions of grades are supported for every clip, as are various options for previewing, overwriting, and appending these versions.

Choosing to Copy Grades Manually or Automatically Using Versions

Each grade you apply to a clip is a version. Each clip can have multiple versions, although only one version can be applied at a time. By default, the first grade applied to every clip in a timeline is a local version named "Version 1." A clip's version name and/or number appears underneath the clip thumbnail, to the right. You can also see the version name, along with a list of all the other versions that are currently available to that clip, by right-clicking a clip in the Timeline and looking for the version names that appear underneath the Local Versions submenu.
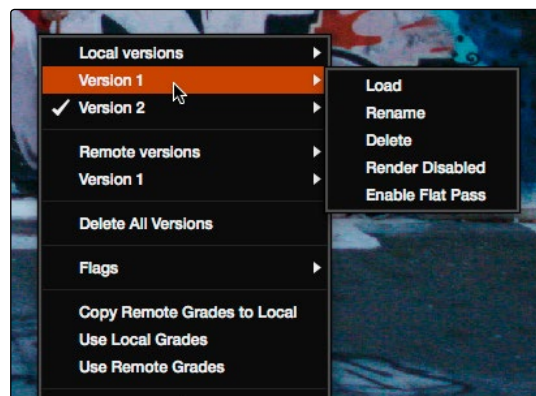
Selecting versions of grades from the Timeline Thumbnails

Note: Double-clicking the version name underneath a clip's thumbnail in the Timeline toggles the version names to the codec used by each clip. Double-click again to toggle back.

There are two different types of versions in DaVinci Resolve, each of which provides a different method of grade management and linking among the clips and timelines of a project.

→ Local Versions: The default mode of grade management. Clips using local versions are unlinked, so each clip has its own grade which is not shared with any other clips in any other timelines. Changing the grade of a clip using a local version has no effect on any other clip in that project.

→ Remote Versions: An alternate mode of grade management that you can enable. All clips using remote versions that share the same source clip in the Media Pool are automatically linked, in all timelines, and share the same set of grades.

If you use local versions to grade all your clips, you don't have to worry about one clip's grade being accidentally copied to other clips that happen to come from the same file in the Media Pool, which can make it easier to work. On the other hand, you need to manually copy every grade that you want to duplicate, even among clips that clearly come from the same take or angle. You can always create a group to share a grade among clips using local versions, but that's an extra step.

Switching to use remote versions, instead, puts you into a mode where clips using remote versions that share the same media file are automatically linked together. This gives you a convenient shortcut for grading your program, since a grade that's applied to one linked clip is automatically copied to every other clip it's linked to, which can be convenient when grading a series of headshots appearing throughout a program that come from the same interview take. Another use of remote versions is when you're importing a new edit of an already graded timeline. Using remote versions, you can set your project up so that new incoming timelines are automatically relinked to the previous timeline's grades.

The only disadvantage to using remote versions is that when you find you need to make individual adjustments to clips that are linked, it's an extra step to either create another version, or switch that clip to use a local version, in order to keep its adjustment separate. This will be discussed in more detail later in this chapter.

Mixing Versions

Each clip is capable of having multiple local and remote versions at the same time; you get to choose which to apply. Which type of versioning is best depends on the type of project you're working on, the way in which the media was shot, and how you like to work. The following sections explain the differences in workflow.

Using Local Versions by Default

Since local versions are the default method of grading when you first create a new project (unless you've edited your settings presets), you don't need to do anything to enable this mode at first. As the name implies, local versions are local to the Timeline in which they appear, so local versions are not rippled to linked clips, and they're not shared among different timelines. This makes it easy to avoid accidentally having grades copied when you don't want them to be, but you lose the conveniences that automatic linking can provide.

However, you can always switch the clips in a timeline to use Remote versions if you change your mind, either individually, or all together.
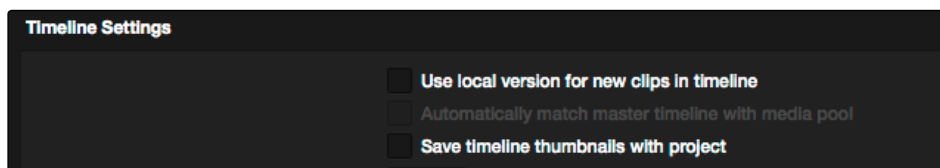
Using Remote Versions to Enable Automatic Linking

Remote versions let all clips from the same source media file in the Media Pool share their grades automatically, either within a single timeline, or across multiple timelines in the same project. However, to enable the convenience of remote grades, you need to put Resolve into this mode of working using the Settings Window.

To enable remote grades to be used:

→ Open the Project Settings, open the Color panel, and turn off "Use local version for new clips in timeline."

Turning this option off only affects clips that are added to Timelines from that point onward. You can keep track of which clips use remote versions by the (R) that appears to the right of the version name/number in the Thumbnail Timeline.

Turning off "Use local version for new clips in timeline" to enable remote grades to be used by default

How Automatic Linking Works

When clips using remote versions have been added to a timeline, any other clips in any timeline that (a) use remote versions also, and (b) refer to the same file in the Media Pool are linked. Selecting a clip using a remote grade in the Color page that is automatically linked to one or more clips displays a small "linked" badge at the left of that clip's timecode in the Thumbnail Timeline.
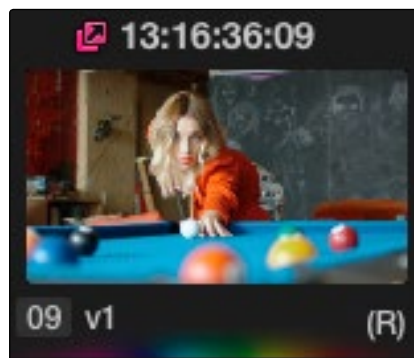
The linking arrow shows this clip has the same source as the one selected on the Timeline

Tip: The Timeline Filtering pop-up in the Color Page tool bar has an option named "Common Media Pool Clips" that only shows clips in the Timeline that are linked to the currently selected clip.

Adjustments that you apply to a remote version of one linked clip are automatically rippled to every other clip it's linked to, which can save you an enormous amount of time when you're getting started with a new program. For example, if every reverse angle from the same take in a particular angle of coverage is automatically linked using remote versions, then the grade you apply to one reverse angle clip will ripple to every other reverse angle clip throughout the Timeline.
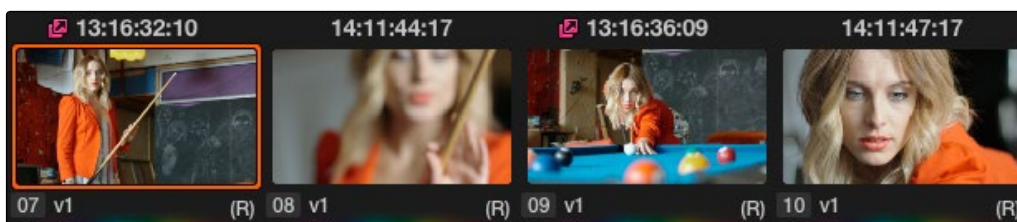
Timeline with two automatically linked clips shown

So long as remote versions are enabled, there are other ways that linked clip relationships are formed. If, after conforming an AAF, XML, or EDL, you used the Split Clips button in the Color page to split one conformed clip into many, each of the clips you split would be linked, since they too would share the same source media in the Media Pool.

Finally, automated linking also occurs for clips that appear in multiple timelines that also use remote versions. As a result, the grade you apply to one linked clip is automatically rippled to every other clip it's linked to.

Note: Media management or media consolidation operations that split large source media files into many individual media files will defeat automatic linking within the same timeline, since each clip will be conformed to its own individual media file.

Starting With Remote Versions, Then Switching to Local Versions

It's possible to combine the best aspects of remote and local versions into a single workflow, taking advantage of your ability to freely switch from one to the other. Since remote versions make it easy to copy grades among clips that are similar, you can switch to using remote versions first, and then grade your way though the Timeline until you get to the point where you need to start making much more specific changes to individual clips. Then, it's easy to either switch each linked clip that needs individual adjustment to use a local version, or to use the Copy Remote Grades To Local command (described later) to copy the current remote version of each and every clip to a local version, at which point you can make all the specific tweaks you need to without worrying about changes being accidentally copied.

Creating a Master Timeline

Versions 9 and before of DaVinci Resolve automatically created a Master Timeline whenever you added clips to the Media Pool. This changed in version 10, which by default has no Master Timeline. However, if you want to create a Master Timeline in order to use it as you would have before, this is easy to do.

If you want a Master Timeline to have a single timeline that always contains all clips currently in the Media Pool, there's a way you can create one. However, you need to do it immediately upon creating a new project, before adding any media to the Media Pool. Once you've added one or more clips to the Media Pool, the option you need to do so will be disabled.

To create a new Master Timeline:

1. Create a new project, open the General Options panel of the Project Settings, and turn on the "Automatically match master timeline with media pool" checkbox. If you also want all clips to use Remote versions as you grade by default as in previous versions of Resolve, you can turn off the "Store grade with local version by default."

2. Click Apply, and close the Project Settings window.

3. Open the Edit page, and choose File > New Timeline.

4. When the New Timeline Properties window appears, turn the Empty Timeline checkbox off, and click Create New Timeline.

   Now, in addition to the new Timeline, a Master Timeline appears in the Timeline list.

Once created, the Master Timeline contains every clip in the Media Pool of the current project. If you color correct the clips in the Master Timeline, you'll find there's only one set of versions available, found underneath the Local submenu of the Color page Timeline's contextual menu. It's important to understand that local versions within the Master Timeline are in fact the remote versions found in every other timeline of that project.

In fact, it would be fair to say that the remote versions found in other timelines are actually the Master Timeline's versions. When you grade a clip in the Master Timeline, those grades ripple out to every other instance of that clip, in every other timeline within that project, via remote versions.

Sharing of remote versions among the Master Timeline and newly conformed timelines is why you can grade a collection of clips that you import into Resolve without any editorial structure, grade and output offline media, and then reimport a project file that relinks to the original clips along with their grades. It's also why you can grade clips in one timeline, and then import additional reedited timelines via AAF, XML, or EDL, which automatically inherit all remote versions of grades that were created in previous timelines.

## Differentiating Clips with Individual Versions

If you've enabled Resolve to add clips with remote versions, there are times when you may want to suspend automatic linking. As convenient as automatic grade rippling among linked remote versions is, there are many instances where you may need to stop it. For example, if the Media Pool contains a source media file with the entire content of an interview, then every clip that has been conformed to that source media will be linked, which is ordinarily good since you'd expect they'd all share the same grade. However, if the DP fiddled with the exposure of the camera in the middle of the interview, such that some clips are lighter and others are darker, you may find yourself needing to make different adjustments to clips from different parts of the interview.

One way of doing this, which can be useful in timelines where you only need to make a few of these kinds of changes, is to create a new remote version for every clip to which you need to make an individual adjustment. Since each version is its own grade, and differently named versions don't link to one another, this is a simple solution.

To suspend linking by creating a new remote version:

1. Move the playhead to the clip you need to alter individually.

2. Do one of the following:

    → Choose Color > Add Version (Option-Shift-A).

    → Right-click the thumbnail in the Timeline, and choose Remote Versions > Create New Version.

    → Using the DaVinci control surface, press ADD VERSION on the T-bar panel.

3. Grade the new version that's appeared.

    While this method works well, keep in mind that multiple linked clips using the same version number will always be linked with one another. In other words, suppose Clip 5, Clip 7, and Clip 9 are linked using the default Version 1, which has a strong blue grade applied.
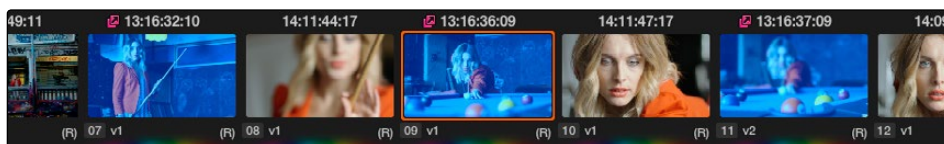
Three clips automatically linked, sharing a blue grade

Then, you set Clip 7 to use Version 2 with a different grade, tinted sepia. Clip 7 is now unlinked from Clips 1 and 3.
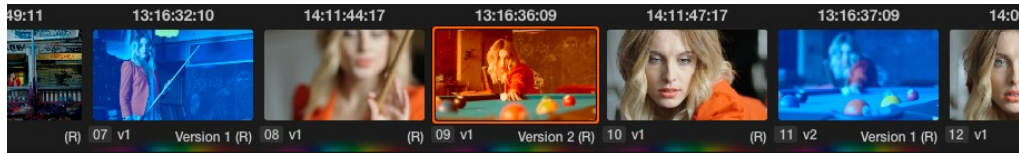
Setting the second of the three clips to use another version with a different remote grade sets it apart

However, switching Clip 9 to also use the sepia-tinted Version 2 means that Clip 7 and Clip 9 are now linked together, but Clip 5 is no longer linked.

Setting the third of these clips to share the same remote version as the second clip now links those two together, omitting the first clip
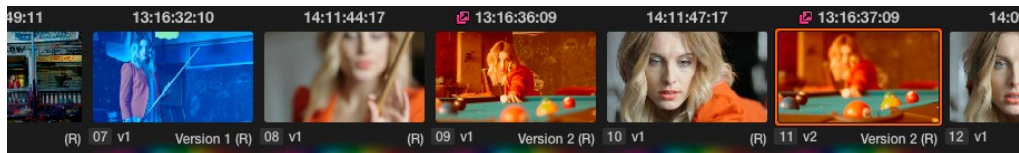
Every new remote version you create, and every change you make, becomes available to all other clips in all other timelines that comes from the same source Media Pool clip as the shot you're working on. However, any clip can use any version, and which version is used by a linked clip is not rippled.

For example, Timeline 1 contains a clip named "Max CU," which has three remote versions. Timeline 5 also contains "Max CU," which is currently set to use "Version 2." If you open Timeline 1 and add one more remote version to "Max CU," that new version will also be available to "Max CU" in Timeline 5, but it will still be set to use "Version 2."

Switching a Clip to Use Local Versions

You can also suspend remote version grade linking by switching individual clips to use local versions. This makes it easy to create a situation where some clips are linked, and other clips are not. Keep in mind that each clip has both local and remote versions, so you can switch from one to the other without losing anything.

To suspend linking by setting individual clips to use a local version:

→ Right-click a clip thumbnail, choose the submenu of the corresponding remote version you want to copy, and choose Copy to Local.

→ The remote version is copied to a local version, which now appears as the current version that's used, with an (L) appearing at the end of the name.

You can also set every clip in the entire Timeline to use local versions. If you switch an entire Timeline to local versions, then no clip in that Timeline will be linked to any other unless you create a group (covered later in this chapter). This is the default state, but it's useful even when you've switched to using remote versions when you want to grade one Timeline differently from the others in a project, for example when doing a trim pass for another video or stereo 3D format, or when grading another cut, such as a trailer, that uses the same media but requires a different look.

To suspend linking by switching from remote versions to local versions:

→ Right-click any clip thumbnail, and choose one of the following commands:

→ Use Local Grades: Switches all clips to their local versions. If there are already local versions defined for each clip, those will appear. If there are no local versions yet defined, each clip will be ungraded.

→ Copy Remote Grades to Local: Copies the currently assigned remote version of each clip to a local version.

Because Undo is used only for individual clip operations, the Use Local Grades and Copy Remote Grades To Local commands cannot be undone. However, switching a Timeline from remote to local versions is not a one-way trip. You can select Use Remote Grades to switch every clip in a Timeline back to the remote versions at any time.

To switch a Timeline back to using remote versions:

→ Right-click any clip thumbnail, and choose Use Remote Grades.

If you're switching back and forth between local and remote versions, keep the following rules in mind:

→ If you select Use Remote Grades, change your remote grades, and then Copy Remote Grades To Local on that Timeline again, you'll overwrite all of your previously graded local versions. This is a good workflow if you don't like what you've done with your local versions, and you want to start over by recopying the remote versions.

→ If you select Use Remote Grades, change your remote grades, and then select Use Local Grades, you'll return to your previously graded local versions, as they were before you selected Use Remote Grades. This is a good workflow if you just want to switch back to your remote versions in order to copy the remote versions of specific clips to local versions.

Working with Versions

Each clip can have as many local and remote versions as you like. There are commands for creating, renaming, and deleting the versions that are available to each clip when using the pointer, keyboard shortcuts, or the DaVinci control surface. When using the DaVinci control surface, the buttons affect whichever type of version (remote or local) is currently applied to the current clip.

To create a new local or remote version quickly, do one of the following:

→ Choose Color > Add Version (Option-Shift-A).

→ Using the DaVinci control surface, press ADD VERSION on the T-bar panel.

A new version is created, identical to the type of version that was previously selected (remote or local), named "Version x" where x is the number of the versions that have been created. All keyframes and motion tracking are copied from the previously selected version to the new one.

To create a new version, with a name, and a choice of whether to copy keyframes:

1. Right-click a clip thumbnail, and choose one of the following:

    → Local Versions > Create New Version

    → Remote Versions > Create New Version

2. Type a name for the version in the dialog that appears, and choose either "Copy all marks" or "Copy the first mark only," depending on whether or not you want to copy all the keyframes into the new version.

    Note: Motion tracking will be copied regardless of whether "Copy all marks" is selected or not.

3. Optionally, you can choose one of the preset version names from the pop-up list. These names are defined in the Versions panel of the Project Settings.

4. Click OK.

To delete a specific version:

→ Right-click a clip thumbnail, choose the submenu of the remote version you want to delete (it can't be the currently selected version), and choose Delete.

To delete all versions:

→ Right-click a clip thumbnail, and choose one of the following commands from the contextual menu corresponding to the scope of the versions you want to delete:

> → Local Versions > Delete All Versions

> → Remote Versions > Delete All Versions

> → Delete All Versions

All versions are deleted as specified, except for the currently selected version, which is now the only one remaining.

To load a particular remote or local version, do one of the following:

→ Right-click a clip thumbnail, choose the submenu of the corresponding remote version you want to copy, and choose Load.

To rename a version:

1. Right-click a clip thumbnail, choose the submenu of the corresponding remote version you want to copy, and choose Rename.

2. In the Version Name dialog, type a name into the text field. Optionally, you can choose one of the preset version names from the pop-up list. These names are defined in the Versions panel of the Project Settings.

Selecting a Version name from the dropdown list, the names on the list come from assignments
made using the Versions panel of the Project Settings

3. Click OK.

    That name now appears underneath the clip thumbnail in the Timeline.

The Importance of "Version 1"

There are specific operations in Resolve where "Version 1," otherwise known as "the default version," is the only version that's used, regardless of how many other versions are available, or which version was previously selected. The default version can be named anything you want, but whatever its name, the default version is the first version in the list, and it's important. Here are some examples:

→ **Importing additional timelines that use the same clips:** In this case, if you're importing timelines and "Use local version for new clips in timeline" is disabled in the Color panel of the Project Settings, then only the default version of each clip is relinked.

→ **Whenever you switch a timeline between local and remote versions:** In this case, every clip in the Timeline will be switched to the default version, regardless of what you had selected previously.

Consequently, if you plan to reconform your clips to a newer version of the edit that you're importing, or pursue other workflows that are off the beaten path, it's a good idea to make sure, no matter how many versions you end up creating, that the most important grade is always copied back to the default version.

To copy any version quickly to the default version:

1. Choose Color > Memories > Save Memory A (Option-1). You can use any memory you want, but Memory A is convenient for this example.

2. Choose Color > Default Version (Option-Shift-D).

3. Choose Color > Memories > Load Memory A (Command-1) to apply the saved memory to the default version.

To copy any version quickly to the default version using the DaVinci control surface:

1. Press CRNT and then press A (or any memory button you like). These controls are available on either the Transport or T-bar panel.

2. Press DEFAULT VERSION on the T-bar panel.

3. Press A (or whichever Memory button you used) to apply the saved memory.

To jump immediately to the default version, do one of the following:

→ Choose Color > Default Version (Option-Shift-D).

→ Press DEFAULT VERSION on the T-bar panel.

Rendering Versions

When the time comes to render your clips in the Deliver page, each clip's currently selected version will be rendered. If you need to render a different version for a given clip, you can either make sure it's selected in the Color page Timeline before you open the Deliver page, or use the Versions submenu in the Deliver page Timeline. This contextual menu also provides access to the Stereo 3D commands, the Edit PAR (Pixel Aspect Ratio) command, and a command for updating the Render Window Timeline thumbnails to reflect any changes you've made in case the they haven't updated automatically.

Additionally, the Commercial Workflow output option, located in the Deliver page, provides a method of rendering multiple versions for each clip when outputting your project in Source Order (as individual media files). There are two additional options in the Version submenus of each clip in the Thumbnail Timeline contextual menu that let you control which versions are rendered when you use Commercial Workflow.

→ Render Disabled: Turning this option on excludes that version from being rendered when Commercial Workflow is enabled.

→ Render Flat Pass: Turning this option on forces the selected version to render with the grade turned off, essentially outputting the original media.

For more information on rendering versions using the Commercial Workflow option, see Chapter 14, "Deliver."

Copying Grades

There are various methods you can use to copy grades from one clip to another. Which is appropriate to your need depends on your style of working with Resolve.

Protecting Adjustments with the Copy Grade Options

Before going into the myriad of ways that grades can be copied from one clip to another, you should know of a series of options, available from the contextual menu of the Gallery (right-click anywhere in the gray area of the Gallery), that let you carefully specify grading, sizing, and stereo data to be preserved when overwriting grades in clips you're copying to. There are three options:

→ Copy Grade: Preserve number of nodes: Lets you choose 0–10 nodes to be protected when applying a grade. When set to 1, the first node of the copied grade is ignored, but all other nodes are copied. When set to 5, the first five nodes of a copied grade are ignored, as long as there are at least five nodes in the grade of the clip you're copying to. This option is useful for colorists who routinely use the first few nodes for shot matching and scene balancing, with additional nodes applying individual or stylistic adjustments.

→ Copy Grade: Preserve Camera Raw Settings: When enabled, the stereo adjustments of the current clip are preserved when you copy a grade. This is useful for instances where you're copying stylistic grades from unrelated clips, and you want to make sure you don't lose the specific convergence adjustments that you've painstakingly applied to each clip. Note, this doesn't include protection for the Window controls.

→ Copy Grade: Preserve Input Sizing: When enabled, Input Sizing adjustments are not overwritten by those of the copied grade.

→ Copy Grade: Preserve Convergence: When enabled, Convergence adjustments in the Stereo 3D palette are not overwritten by those of the copied grade.

→ Copy Grade: Preserve Floating Windows: When enabled, Floating Windows adjustments in the Stereo 3D palette are not overwritten by those of the copied grade.

→ Copy Grade: Preserve Auto Align: When enabled, Auto Alignment adjustments in the Stereo 3D palette are not overwritten by those of the copied grade.

Clip Grades and Timeline Grades in Saved Stills

Every time you save a still into the Gallery or a memory, it contains both the Clip Grade, and the Timeline Grade, if one is applied. Which grade is applied when you copy from a still depends on which mode you're in, which is selectable from the pop-up menu in the upper right-hand corner of the Node Editor.
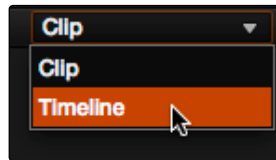
Node Editor Clip and Track selector

If you're in Clip mode, you'll only copy the saved clip grade. If you're in Timeline mode, you'll only copy the saved timeline grade.

Choosing Which Part of a Grade to Copy With All/Color/Sizing

When copying grades using the techniques described in this section, you can use the All/Color/Sizing setting that are available via the Keyframe Timeline Mode submenu of the Mark menu, the pop-up menu that's visible at the upper-right of the Keyframes Editor, or your control surface. When copying a grade in conjunction with the settings in this menu, the following rules apply:

→ All: When All is selected, both the grade and the sizing are copied.

→ Color: Only the grade is copied, the target clip retains its original Input Sizing settings.

→ Sizing: Only the Input Sizing is copied, the target clip retains its original grade.

Copying Grades Using the Mouse

The second-easiest way of copying a grade from one clip to another, or from a still or memory in the Gallery to a clip, is by using the third button of your mouse, usually mapped as the "middle-click" of the mouse scroll wheel.

To copy a grade from a clip or still to another clip using the pointer:

1. Select the clip thumbnail you want to copy the grade to in the Timeline.

2. Middle-click the clip thumbnail, gallery still, or memory you want to copy the grade from.

   The grade of the second clip is copied to the first.

Tip: If you're using a trackpad, third party software may allow you to define a "three-finger-click" that works the same as mouse button 3. If you're a pen and tablet user, you may be able to define a stylus button to perform the same button-3 action.

Copy Forward Commands

Another simple way of copying grades is to use the equals (=) and minus (–) keys on the keyboard to copy grades forward from one or two clips behind the currently selected clip. This is a great way to copy grades in scenes with a shot-reverse-shot structure, where you're cutting between two angles of coverage, each of which uses the same grade.

→ To copy a grade from one clip back: Press Equals (=)

→ To copy a grade from two clips back: Press minus (–)

Copying Using Memories

Memories are virtually identical to stills, except that they're labeled with a letter (A–Z) for easy access via keyboard shortcuts or DaVinci control surface buttons. A memory bank above the Gallery browser provides a visual reference of which saved grade is assigned to which letter. This makes it easy to keep track of multiple saved memories in instances where you're copying them to several different clips throughout a scene or program.

For example, you might save a memory for each angle of coverage in a complicated scene, making it easy to copy grades forward. In another example, you might save a memory for the grade applied to each interview subject's headshot in a documentary, so you can copy that grade forward as you work through the documentary.

To save the current clip's grade to a memory for future use, do one of the following:

→ Choose Color > Memories > Save Memory A–H (Option-Shift-1–8)

→ Using the DaVinci control surface, press CRNT on the Transport or T-bar panel, then press the letter of the memory bank you want to save to. Use the SHIFT UP button to save to another memory sharing the same button.

If you save a grade to a memory that already contains something, the previous memory is overwritten.

To apply a memory to the current clip in a timeline, do one of the following:

→ Right-click a memory and choose Add Correction.

→ Choose Color > Memories > Load Memory A–H (Command-1–8)

→ Using the DaVinci control surface, press the letter of the memory bank you want to apply. Use the SHIFT UP button to apply a memory that shares the same button.

To clear a memory:

→ Right-click a memory, then choose Clear.

Copying Using Preview Memory

You can also preview the effect of a memory or saved grade on the current clip, with the option to either keep it if it works, or go back to the previous grade if it doesn't.

To Preview Memory:

1. Move the playhead to a clip for which you want to preview a memory.

2. Choose Color > Preview Memory (Shift-Command-M).

3. Do one of the following:

    → Right-click any saved still in the Gallery and choose Add Correction.

    → Choose Memories > Load > Memory A–H (Command-1–8).

    The selected grade or memory is now being previewed.

4. Now, do one of the following to either accept or reject the memory:

    → If you like the effect, then you can leave it be and move on to another clip.

    → If you don't like the effect, then choosing Color > Preview Memory again reverts the clip to the original grade.

To Preview Memory using the DaVinci control surface:

1. Move the playhead to a clip on which you want to preview a memory. You can use the PREV SCENE and NEXT SCENE buttons to move quickly.

2. Press PVW MEM on the T-bar panel, and then press the letter of the memory bank you want to preview. Use the SHIFT UP button to apply a memory that shares the same button.

3. Do one of the following:

    → If you like the grade you're previewing, there's no need to do anything else. Simply move to another clip and continue working.

    → If you don't like the grade you're previewing, press PVW MEM again and the clip's grade will revert to its original state. Pressing PVW MEM repeatedly toggles the current clip between its original and the previewed grade.

Copying from Stills in the Gallery

As mentioned previously, each still you store in the Gallery contains the grading information as well as the image of the frame it was saved from. This saved grade can be applied to any clip in the Timeline.

**To apply a grade from a still to the current clip in a timeline, do one of the following:**

→ Right-click a still in the Timeline and choose Add Correction.

→ Middle-click a still in the Timeline.

Append Node Graph

You can also append a saved grade to any clip in a timeline. This adds the entire node graph of the saved still to the end of the node tree of the current clip. In other words, the current clip's grade isn't overwritten, the applied grade is added to the end of it.

By planning ahead, you can save fragmentary grades that create specific effects or adjustments using only a few nodes. You can then use these fragmentary grades as a toolkit that you can add to other grades in order to mix and match different adjustments and effects.

For example, you could create a three-node glow effect, save it, and then apply that effect at the end of a completely different clip's grade.
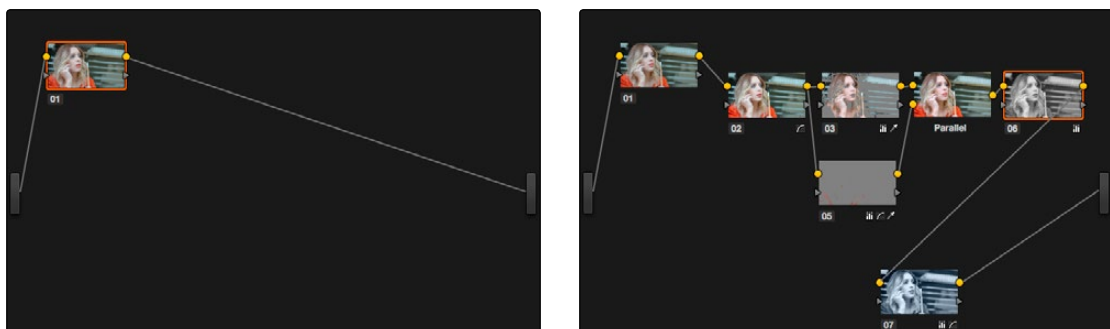
Appending grades places them after the original nodes

To append a saved grade or memory, do one of the following:

→ Double-click a still in the Gallery.

→ Right-click a still in the Gallery or Memories, and choose Append Node Graph.

Copying Individual Nodes and Settings

Copying grades from clip to clip copies everything except for keyframes and motion tracking. However, there is one way you can copy the motion tracking from one clip to another, and that's by copying and pasting individual node settings.

To copy a node's settings from one clip to another:

1. Select a node in the Node Editor, and press Command-C to copy its settings.

2. Select another clip, and either select an existing node, or create a new node, and press Command-V to paste the previous node's settings, including any motion tracking applied to windows used by that node.

Copying Grades Using the DaVinci Control Surface

There are a number of methods of copying grades that are exclusive to the DaVinci control surface.

Copy Forward Keys

The simplest way of copying grades using the DaVinci control surface is to use the comma and colon keys on the keypad of the Transport panel to copy grades from one or two clips behind the currently selected clip. This is a great way to copy grades in scenes with a shot-reverse-shot structure, where you're cutting between two angles of coverage, each of which uses the same grade.

→ **To copy a grade from one clip back:** Press comma (,)

→ **To copy a grade from two clips back:** Press colon (:)

Scroll

Scroll mode lets you quickly preview the effects of many different grades applied to clips in the Timeline on the currently selected clip, with the option to either accept or reject the previewed grade to which you've "scrolled." This can be useful for checking to see if any of the previous grades you've created in a scene will work for the currently selected clip.

To use Scroll mode:

1. Move the playhead to the clip to which you potentially want to copy a new grade. You can use the PREV SCENE and NEXT SCENE buttons to move quickly.

2. Do one of the following to enter Scroll mode:

   → Press SCROLL on the Transport panel.

   → Press MODES, above the fourth trackball on the Center panel, then press the SCROLL MODE soft key.

3. Now, do one of the following to preview different grades from other clips:

   → Press the PREVIOUS SCENE and NEXT SCENE soft keys to move from clip to clip in the Timeline, previewing each grade to the current clip.

   → Turn the SCROLL SCENES knob to scroll smoothly along multiple clips in the Timeline.

   → Turn the SCROLL FRAMES knob to scroll along different frames of any clip, previewing the effects of keyframed grades at different points in time.

   → Press the TOGGLE DECK KEYS soft key to use the transport controls on the Transport panel to play through the Timeline, previewing grades as you go.

   → Press a number on the keypad of the Transport panel, and then the SCENE NUMBER soft key, to jump to a clip and preview its grade.

As you scroll from clip to clip, a red outline indicates the clip with the grade being previewed, and an orange outline indicates the current clip to which you're previewing each scrolled grade.

4. When you're finished, do one of the following to either accept or reject a scrolled grade:

→ Press EXIT AS WAS if none of the grades you scrolled through was suitable. This exits Scroll mode and leaves the clip as it was previously.

→ Press EXIT AS IS if you've found a grade that works for the current clip. This exits Scroll mode and copies the scrolled grade.

When you press the TOGGLE DECK KEYS soft key in Scroll mode, each of the Transport Control buttons on the Transport panel functions as a means of previewing the grades of other clips in the Timeline.

→ STEP FWD: Move to the next clip and preview its grade.

→ STEP REV: Move to the previous clip and preview its grade.

→ FWD: Plays (scrolls) forward at 1 scene per second, previewing each new grade as it appears.

→ REV: Play (scrolls) the clips in reverse at 1 scene per second, previewing each new grade as it appears.

→ FFWD: Shuttles (scrolls) forward through the Timeline at 4 scenes per second, previewing each new grade as it appears.

→ RWD: Shuttles (scrolls) reverse through the Timeline at 4 scenes per second, previewing each new grade as it appears.

Rippling Changes Using the DaVinci Control Surface

DaVinci Resolve has a mechanism for rippling specific changes made to one clip to a range of other clips in the Timeline. This is only possible using the controls of the DaVinci control surface.

The general idea of the ripple function is that you select a clip, make a change, and then ripple that change to a range of other clips. This rippled change can be applied to the same node in each clip, or the change can be added as an appended node within each rippled clip.

The Ripple mode that's used when you press the RIPPLE VALUE button can be changed in the Editing and Ripple panel of the Project Settings. There are four options.

→ 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 effected 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.

The following procedure describes in detail how you can use the DaVinci control surface to ripple a change to a range of other clips. While this procedure may appear complicated, it's just that there are several options. Once you learn the sequence of commands, this process is actually quite fast.

To ripple a change using the Ripple Mode soft key commands:

1. (Optional) Press MODES, then press RIPPLE MODES. Four commands appear mapped to the middle soft keys of the Center panel, which can be used later to execute different types of ripple operations.

2. Move the playhead to the clip you want to adjust.

3. Adjust the current clip that you want to ripple to other clips in the Timeline.

4. Define the range of clips you want to ripple to using the number pad on the Transport panel. The following combinations will work:

→ An absolute range of clips is defined by entering two clip numbers separated by a comma. For example, if you want to ripple the current change to clips 10 through 15, you'd press "10 , 15"

→ To specify every clip from the beginning of the Timeline, use the Minus (–) key. For example, to specify a range of clips from the beginning to clip 20, you'd press "– , 20"

→ To specify every clip to the end of the timeline, use the Plus (+) key. For example, to specify a range of clips from the clip 50 to the end, you'd press "50 , +"

→ To specify every clip in the whole Timeline, press "– , +"

5. (Optional) You can control whether the rippled change is applied in an appended node, or an existing node, in every rippled clip:

→ If you want to apply the rippled change as a new node that's appended to the end of every rippled clip's grade, press SHIFT DOWN.

→ Otherwise, the rippled change will be applied to the same node in every rippled clip that you made your adjustment to in the current clip. In other words, if you made a change to Node 2, it would be rippled to Node 2 of all the clips you specified. If one of the rippled clips doesn't have the same number of nodes, you may get an error.

6. To execute the ripple, do one of the following:

→ Press RIPPLE VALUE on the Transport panel to ripple a change using the currently selected Ripple Mode in the Project Settings.

→ Press one of the Center panel soft keys corresponding to the ripple function you want to perform. There are four soft keys:

    → STATIC RIPPLE: 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. Identical to the "Exact values changed" ripple setting.

    → RELATIVE RIPPLE: 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. Identical to the "Percent value changed" ripple setting.

    → ABSOLUTE RIPPLE: 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. Identical to the "Unit value changed" ripple setting.

→ FORCED RIPPLE: The current clip's grade is rippled to the specified clips in its entirety, overwriting all previous nodes and parameters in the rippled clips.

The adjustment you made in step 4 is applied to the designated range of clips.

Admittedly, that was a long and detailed procedure, but the actual button sequences are straightforward once you put them together. Here are some examples of button sequences that ripple an adjustment you've just made in different ways:

→ "10 , 15" then SHIFT DOWN then RIPPLE VALUE: Copies the change you've made to the current clip, and applies it as a new node that's appended to the end of clips ten through fifteen.

→ MODES then RIPPLE MODES then "34 , 45" then FORCED RIPPLE: Copies the entire grade of the current clip, using it to overwrite the grade of clips 34 through 45.

→ MODES then RIPPLE MODES then "– , +" then SHIFT DOWN then RELATIVE RIPPLE: Copies the change you've made to the current clip as a relative percentage, and applies it as a new node appended to the end of every single clip in the entire Timeline.

Warning: Once you ripple a change in this manner, there is no going back. Since Undo is a per-clip operation, there is no global undo for changes made to the entire Timeline. Proceed with caution.

Using Groups

Grouping is one of DaVinci Resolve's most powerful features for organizing grades amongst multiple clips. Groups are manually created collections of clips with automatic linking relationships that make it easy for you to control the rippling of grades among sets of clips that you define. When clips have been grouped together, selecting one member of the group reveals a group "linked" badge at the top-right of each clip's thumbnail belonging to the group.
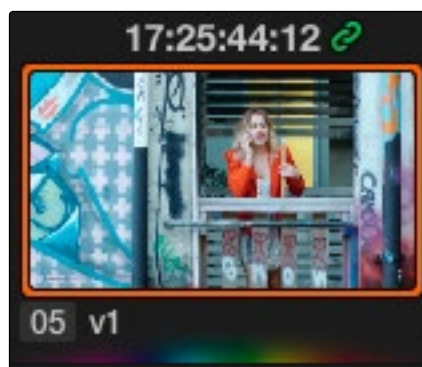
The link icon indicates this clip is in a group

As of Resolve 11, grading grouped clips is far easier than it has ever been. Once grouped, you can choose from one of four Node Editor modes to grade the current clip. Which mode you choose determines whether that grade will automatically ripple to every other member of that group, or whether the grade will only affect that one clip. In this way, you can combine multiple node trees, some which will ripple, and one which won't, to create the final look of each clip in that group.

For example, you might group together every clip from the same angle of coverage in a scene. You might also group together every clip from a particular section of b-roll that will be graded with the same treatment. This way, whenever you make a change or otherwise update one member of the group using one of the rippled Node Editor modes, every clip in the group will be changed together.

This section discusses how to create and manage groups, how best to use them, and what issues you need to be aware of to use groups to best advantage.

Creating and Managing Groups

The following procedures describe how to create, load, modify, and delete groups.

To create a new group:

1. Select one or more clip thumbnails in the Timeline. You can select a contiguous range of clips by clicking one and then Shift-clicking another, or you can make a discontiguous selection by Command-clicking individual clip thumbnails anywhere in the Timeline.

2. Right-click one of the selected clip thumbnails, and choose Add Into New Group.

3.   Type a name into the field of the Group Name dialog, and click OK.

The new group is created, and the clips you had selected now appear with the "linked" group badge above the thumbnails.

To load a different group, do one of the following:

→ Move the playhead to another clip that's a member of that group.

→ Right-click any clip belonging to any group, and choose Group > "Name of group" > Load.

The selected group now becomes the current group. Using the Add Into Current Group command will add a clip to the newly loaded group.

To add one or more clips to an existing group:

1.   Load the group you want to add clips to.

2.   Select one or more clip thumbnails in the Timeline. You can select a contiguous range of clips by clicking one and then Shift-clicking another, or you can make a discontiguous selection by Command-clicking individual clip thumbnails anywhere in the Timeline.

3.   Right-click one of the selected clip thumbnails, and choose Group > "Name of group" > Assign to Group.

The selected clips now appear with the "linked" group badge above the thumbnails.

To remove one or more clips from an existing group:

1.   Select one or more clip thumbnails in the Timeline that you want to remove from a group. You can select a contiguous range of clips by clicking one and then Shift-clicking another, or you can make a discontiguous selection by Command-clicking individual clip thumbnails anywhere in the Timeline.

2.   Right-click one of the selected clip thumbnails, and choose Remove From Group.

To rename a group:

1.   Right-click any clip belonging to any group, and choose Group > "Name of group" > Rename.

2.   Type a new name into the field of the Group Name dialog, and click OK.

The group is renamed. The new name appears as a new submenu of the Timeline contextual menu.

To delete a group:

→ Right-click a clip belonging the group you want to delete, and choose Group > "Name of group" > Delete.

This clears the group, while preserving the last applied grade within each clip.

Using Group Modes to Control Which Grades Ripple and Which Don't

When you create a group and then select any clip that is a member of that group, additional Node Editor modes become available that let you apply multiple levels of grades to the clips in that group.
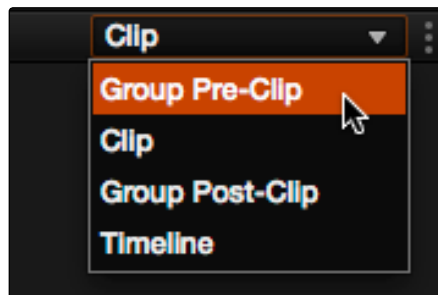
Available options in the Node Editor modes pop-up

Node trees you create using the Group Pre-Clip and Group Post-Clip modes automatically ripple changes to every member of a group. Node trees created with the Clip mode are specific to each clip. Node trees created with the Timeline grade affect the entire Timeline, all at once. Combining node trees made using these different modes makes it easy combine clip-specific changes with group-wide changes that make grading faster.

→ Group Pre-Clip: Node trees assembled in this mode affect every clip in the group simultaneously. Pre-Clip adjustments are useful for creating an overall grade that you want to use as a starting point for the scene, such as when you need to normalize a group of log-encoded clips in a specific way, or when you want to create a base grade that generally improves every clip in a scene.

→ Clip: The Clip grade corresponds to the local or remote version associated with that clip. Node trees assembled in the Clip mode only affect the specific clip that's selected. All Local and Remote versions you create are in Clip mode. Clip adjustments are useful for matching clips to one another in a scene, doing clip-specific secondary adjustments, or making any other sort of adjustment that you only want applied to the current clip, rather then to the group as a whole. Clip adjustments are applied after Pre-Clip adjustments.

→ Group Post-Clip: Node trees assembled in this mode also affect every clip in the group simultaneously, but these adjustments are applied after the Clip adjustments. Post-Clip adjustments can be useful for applying a creative look to an overall scene, so that later revisions to a scene's look can be accomplished with a single set of adjustments that automatically affect the entire group.

→ **Timeline (formerly Track):** Node trees assembled in this mode affect every single clip in the entire Timeline. Timeline adjustments are useful when you have a single change that you want to apply to every single clip at once.

The image processing of each Node Editor mode is sequential, making it easy to keep track of the order of operations affecting a particular clip.

An Example of Grading a Group of Clips

This section shows an example of how you might approach grading a group of clips using the different Node Editor modes that are available. Keep in mind that this is only one of many possible approaches you could take to the use of groups, and was chosen because it exercises everything you can do to a single grade.

To get started, select a series of clips that you want to group, and right-click one of them and choose Create New Group to group them together, entering a name and clicking OK when prompted. One convenient advantage of simply creating groups from a selection is that you're not limited to selecting a continuous range of clips in the Timeline. Another advantage is that you can use the View > Timeline Thumbnail Mode > Source (C-mode) command, or timeline filtering, to isolate the range of clips you want to use for creating a group.

There are different ways you might choose to group clips together:

→ All clips within a particular scene

→ All clips recorded from a specific camera

→ All headshots of a particular person

→ All clips from a particular angle of coverage

→ All exteriors of a particular location

The list could go on and on, but you get the idea. You can group any selection of clips together that have reason to share a common grade. In this example, all clips from a particular scene are selected, excluding an intercut exterior shot that requires a separate grade.

Once you've created a group, choose Group Pre-Clip from the Node Editor mode pop-up. This is the first grade that's applied, as the underlying grade that affects the entire group. Using this node tree, adding a LUT to normalize the clips, a Color Wheel adjustment, and some Curve adjustments to tune the color provide a primary grade that now affects every single clip in the group.
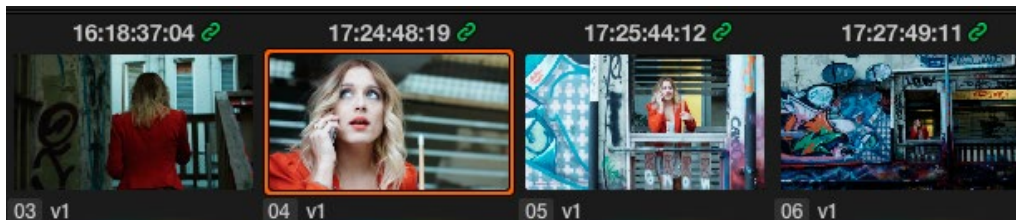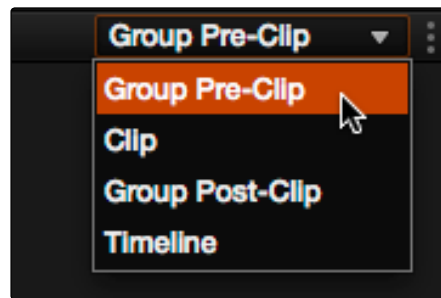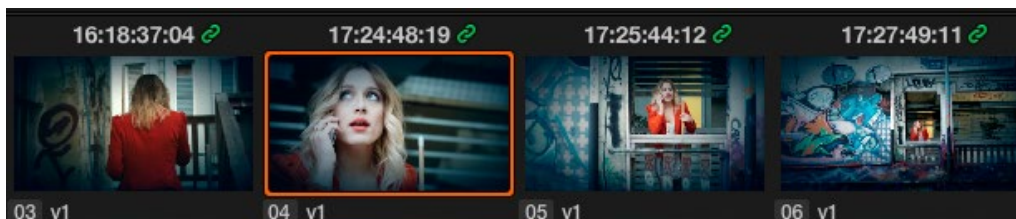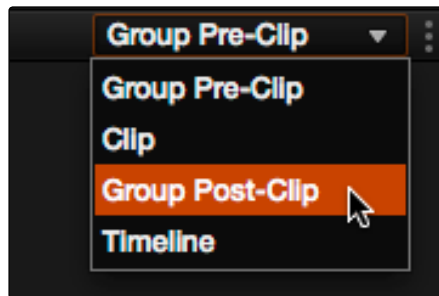
A primary adjustment applied to the Group Pre-Clip mode

With this accomplished, you can see there's some variation among the clips in the scene that needs to be corrected in order for every clip to match. Choose Clip from the Node Editor mode pop-up. Grades that you make in Clip mode only affect the clip to which they're applied, so now you can work clip by clip using the Image Wipe and Split-Screen controls to compare clips and make whatever adjustments are necessary to make each one match the main look for the scene.
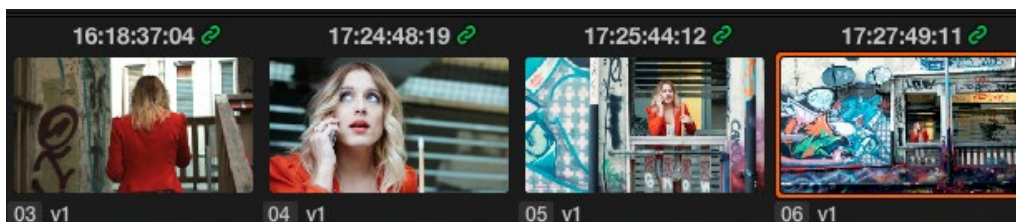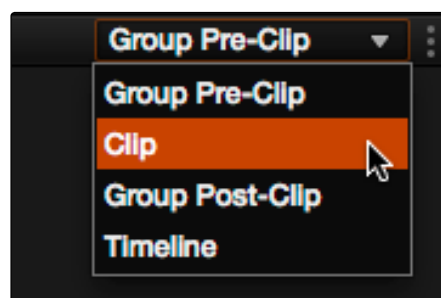
Scene balancing adjustments made using the Clip mode

Once all the clips are balanced with one another, you can choose Post-Clip Group from the Node Editor mode pop-up. This lets you add one more grade on top of the Pre-Clip and Clip grades that you've already applied, that you can use for any number of things. In this example, a single stylistic adjustment is applied that now affects all of the clips at once. If a client wants to see something different, you can easily make the necessary changes to one clip, and all other clips in that group will immediately be altered as well.

A stylistic adjustment applied to the Group Post-Clip mode

At this point, the scene is graded via a well organized set of corrections. If the client later wants a change affecting the underlying primary grade that everything is built on, you can adjust the Pre-Clip grade. If you spot an inconsistency with your shot matching at any point, you can make a fast tweak to the relevant Clip grade. And if the client wants a stylistic change, you can make any necessary adjustments to the Post-Clip grade to change the overall look of the whole scene. In each case, groups give you total control over which adjustments will ripple across the whole group, and which adjustments will be clip-specific.

Using Undo in Groups

Each Node Editor mode has a separate undo stack, meaning that separate multiple-level undo is saved for Group Pre-Clip, Clip, and Group Post-Clip.

Saving Stills and Grades in Groups

When you save a still for a clip that's part of a group, the result is that the still reflects the look of the combined Pre-Clip, Clip, and Post-Clip node trees, but the grade that's saved within depends on the Node Editor mode you had selected when saving the still. For example, if the Node Editor is set to Group Pre-Clip, then you'll only save the Pre-Clip grade; the Clip, Group Post-Clip, and Track grades will be ignored. Copying a saved grade to a clip in a group results in that grade being copied to the node tree of whichever Node Editor mode is currently open.

Groups and Versions

Local or Remote versions you create relate only to the Clip grade. Group Pre-Clip and Group Post-Clip grades cannot be versioned.

Exporting Grades and LUTs

If you find it necessary to exchange grades with other workstations, there are two ways you can do so directly: by exporting grades, or LUTs.

To export a grade:

1. Save the grade you want to export as a still in the Gallery.

2. Right-click the saved still in the Gallery, and choose Export.

3. Choose a location for the resulting still image and saved grade files, type a name into the Save As field, and click Save.

   Two files are saved. A DPX formatted file contains the still image of the frame that was stored. A DRX (DaVinci Resolve eXchange) file contains all the grading information.

To Import a grade:

1. Right-click anywhere in the gray area of the Gallery, and choose Import.

2. Choose the DPX file that was exported from your Resolve workstation, or someone else's. The accompanying DRX file must be in the same location, although you can't select it directly.

   The still you imported appears in the Gallery, containing the grading information you wanted to import.

To export a LUT:

1. Right-click a clip thumbnail in the Timeline of the Color page, and choose Generate 3D LUT.

2. Choose a location for the resulting LUT file in the file dialog, although that location must be a folder inside the appropriate file path 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

   If you like, you can create a new folder in which to save your custom LUTs.

3. Type a name into the Save As field, and click Save.

   A LUT file is saved, in the .cube format, which is a DaVinci-developed LUT format (no relation to the Iridas SpeedGrade .cube format).

Once created, you can use an exported LUT from within Resolve, applying it to a clip or node directly, or applying it to the entire project using the settings found in the Look Up Tables panel of the Project Settings. You can also copy the LUT to a memory stick to give to someone for monitoring or previewing in an onset workflow, or to someone using another grading application that can read this LUT format.

What's the Difference Between a LUT and a Shaper LUT?

DaVinci Resolve is capable of importing and using LUTs within its 32-bit floating point image processing pipeline. The .cube format can be used as either a simple 33x33x33 3D LUT, or as a shaper LUT, which is actually a method of using two LUTs, a 1D LUT and a 3D LUT together, that addresses signal processing issues that 3D LUT can't handle.

For processor efficiency, 3D LUTs are designed with reasonable lower and upper limits for the data they will handle. It's well known that when a 3D LUT is fed values that are outside of the range that LUT is designed to handle, the out-of-range data will be clipped. Since many LUTs are designed with digital cinema workflows in mind, the practical result is that feeding a video signal with super-white in it to a 3D LUT that's designed for full-range data (0–1) will clip the super-white part of the signal.

Shaper LUTs handle this issue by first using a 1D LUT to process video signals with out-of-range data, fitting the signal into a range that the 3D LUT won't clamp. The output of the 3D LUT includes the reverse transformation, to effectively zero out the 1D LUTs transform, while retaining whatever processing the 3D LUT was meant to apply.

Shaper LUTs are also useful for dealing with extremely large data sets, such as OpenEXR files that can theoretically handle an image data range of –infinity to +infinity. Using a Shaper LUT, you can remap the incoming data to fit more precision in the 0–1 range, leaving less important data outside the range.