Multicam Editing, Take Selectors, Compound Clips, and Nested Timelines

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Multicam Editing, Take Selectors, Compound Clips, and Nested Timelines

This chapter covers a variety of different ways you can turn multiple clips into a single object in the Timeline, to accommodate a variety of different editing tasks. Multicam Clips, Take Selectors, Compound Clips, and Nested Timelines all appear as a single clip in the Timeline, but they all organize multiple clips in different ways. Multicam Clips and Take Selectors let you organize multiple clips vertically, making it easy to associate clips with one another so you can easily switch among them. Compound Clips and Nested Timelines let you organize multiple clips horizontally, so that you can manage long or short sequences of clips within an edit as a single clip, when convenient.

This chapter covers the following topics:

Multicam Editing

If you're working on a program where a performance, interview, or event was recorded using multiple simultaneous cameras, DaVinci Resolve has multi-camera editing tools; multicam editing for short. Editing using these tools is a three part process:

- First, you have to create multicam clips from the individual camera angles (called "ISOs," or isolated cameras).
- Second, you need to put the multicam clips you've created into a timeline.
- Third, you turn on the Multicam Viewer, and then you're ready to start cutting and switching among angles, as if you were a live multi-camera director.

This section describes all of these steps, and the various options available for each of them.

Creating and Modifying Multicam Clips

Before you do anything else, you need to create one or more multicam clips.
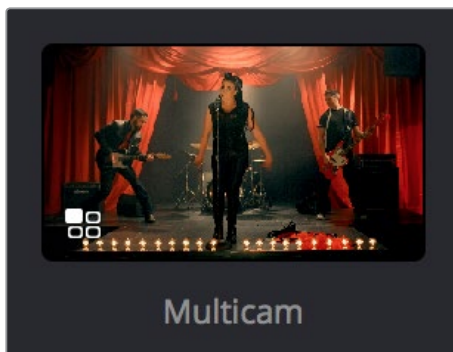
To create a multicam clip:

1   Import all the ISO (isolated camera) clips that correspond to the multi-camera performance or event that you'll be editing into the Media Pool.

2   Select all the clips that you need to sync together, right-click the selection, and choose "Create Multicam Clip Using Selected Clips."

3   When the New Multicam Clip Properties dialog opens, choose from the following options:
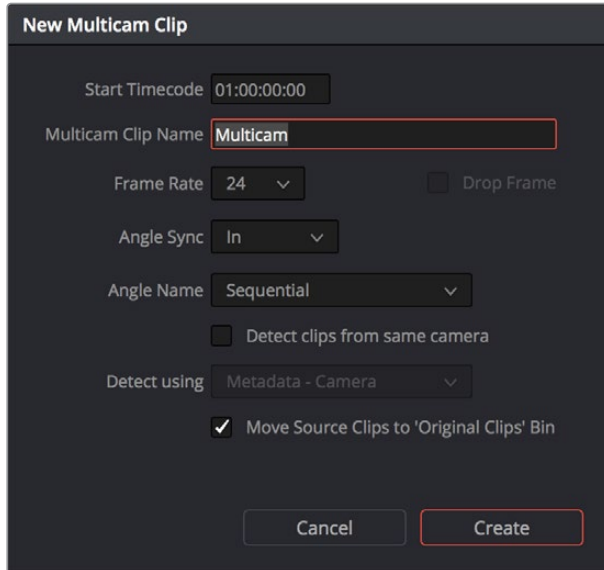
New Multicam Clip Properties dialog

- **Start Timecode:** Presents the start timecode of the new multicam clip you're about to create, which is determined by either the timecode value of the sync point if Angle Sync is defined by timecode, or by the sync point timecode value of the clip with the earliest timecode if Angle Sync is defined by waveform.
- **Multicam Clip Name:** Use to choose a more descriptive name than "Multicam" for the multicam clip you're about to create.

- **Frame Rate:** Automatically lists the frame rate associated with the clips you selected.
- **Angle Sync:** The method used to synchronize all of the different angles. If you're manually syncing all of the angles, you can use In or Out points that you set within each clip, or you can use the first Marker that you've set within each clip. If matching timecode was jam synced to each camera recording an angle, you can choose Timecode for a fast sync that's as accurate as the timecode is. If each camera had a microphone with which to simultaneously record the location audio, you can choose Sound to use the shape of each audio waveform to align all of the angles.
- **Angle Name:** The method used to name each angle within the multicam clip being created. The angles can have Sequential numbering, use Angle or Camera metadata, or use the Clip name.
- **Detect clips from same camera:** Turning on this checkbox results in multiple clips that are identified as being from the same camera being put into the same angle track of the resulting multicam clip being created. It also enables the "Link using" pop-up menu.
- **Detect Using:** The metadata used to determine which clips come from the same camera. You can choose from Camera ID, Angle, Reel Number, and Roll/Card, which are user-editable in the Metadata Editor of the Media page, or you can choose Reel Name which is automatically or manually derived using either the Conform Options of the Project Settings, or the Name panel of the Clip Attributes window. For more information on the Conform Options, see Chapter 3, "Project Settings and Preferences."
- **Move Source Clips to "Original Clips" Bin:** A checkbox that lets you move all of the original ISO clips into an Original Clips bin to get them out of the way after the multicam clip has been created.

4   When you're done choosing options, click Create. Depending on the Angle Sync method you chose, a waveform analysis might generate a progress bar, and then the new multicam clip is created in whichever bin is currently selected in the Media Pool. Multicam clips appear with a multicam badge in the lower left-hand corner of the clip thumbnail.

A Multicam clip showing its badge in the Media Pool

Logging and Editing Multicam Clips

Once you create one or more multicam clips, you can view them in the Media page or in the Source Viewer of the Edit page, and add markers to them (all angles share the same markers) to prepare for the multicam edit you're planning on performing. When viewing multicam clips in the Media page, you can choose how many angles to show in the viewer via the Viewer Option menu.
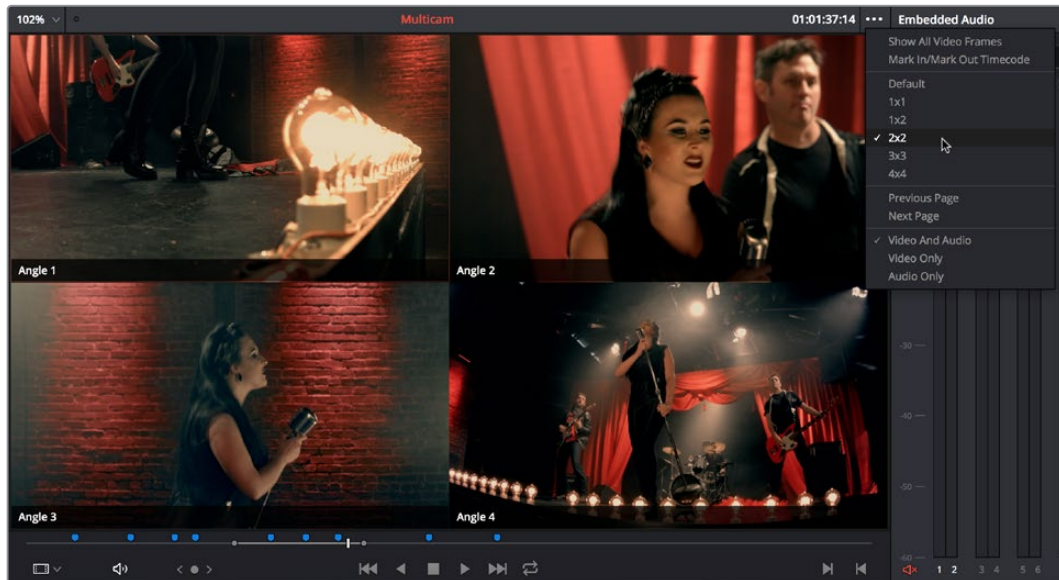
Markers set in a multicam clip in the Media page to prepare for editing

Setting up a Timeline for Multicam Editing

Once you've created one or more multicam clips, preparing them for editing is as simple as editing them into the Timeline, either by dragging and dropping the multicam clip to the Timeline from the Media Pool, or by opening the multicam clip into the Source Viewer, and then using any of the available editing methods to cut it into the Timeline from there. Once edited, they appear in the Timeline like any other clip, just with a multicam badge to the left of the clip name.
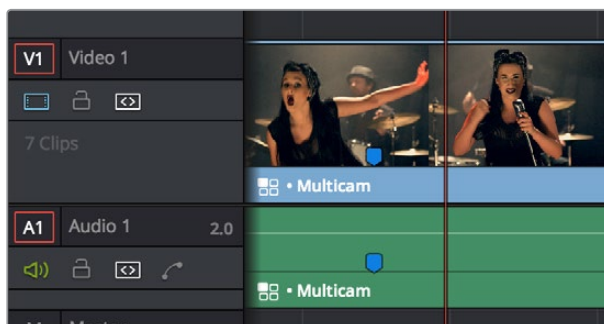
Multicam clip badge in the Timeline

When you perform a multicam edit, DaVinci Resolve plays the entire audio mix while you're editing, so if you want to take the opportunity to edit a master audio mix file or additional piece of music to play along with the multicam clip, you can do so.

Opening and Altering Multicam Clips

After you've created a multicam clip and put it into a timeline, you can modify it in a variety of ways by right-clicking it in the Media Pool and choosing "Open in Timeline." This replaces the contents of the Timeline with a vertical stack of superimposed angles, one per track, each of which is offset from the beginning of the Timeline to align with one another.


An open multicam clip appears like a timeline with a vertical stack of clips

With the multicam clip open, you can make a variety of changes in preparation for editing:

- You can slide a multicam clip left or right to alter its sync (selecting an angle and using the period (.) and comma (,) "nudge" keyboard shortcuts can be a good way of doing this).
- You can delete the track of an angle you don't need (right-click the track header and choose Delete Track).
- You can rearrange tracks to rearrange the order in which angles appear (right-click any track header and choose Move Track Up or Move Track Down).
- You can rename tracks to change the angle name that appears by default in the Multicam Viewer.
- You can disable audio or video tracks that correspond to angles you don't want to see, but don't want to eliminate, either.
- You can grade each multicam angle separately (discussed later in this section).

When you've finished altering the contents of the multicam clip, you can close it using the path control at the bottom left-hand corner of the Timeline. Click the name of the edited timeline to go back, in preparation for the next steps.
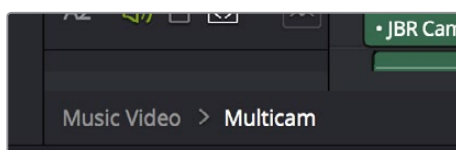

A path control lets you exit the multicam clip

Performing a Multicam Edit

After you've created one or more multicam clips and edited them into a timeline, actually executing a multicam edit is simple.

1 Open the Timeline you created to hold the multicam clip or clips comprising your edit, and position the playhead where you want to start editing.

2 Choose Multicam from the Source Viewer mode pop-up.
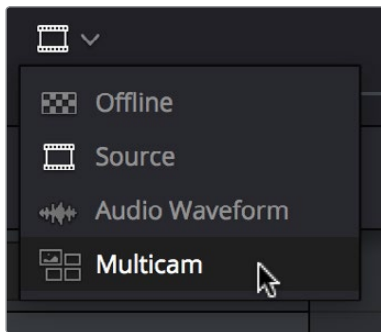
Switching the Source Viewer
to Multicam viewing

The Source Viewer changes to display all of the different angles within that clip as switching
controls.

3 Choose how many angles you want to display from the pop-up menu at the bottom right of the Source Viewer. If you're using a computer that's not very fast, you may need to reduce the number of angles you're viewing to maintain real time playback.
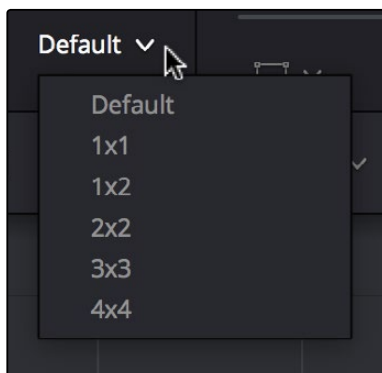

Choosing how many angles to
view in the Multicam Viewer

If there are more angles within the multicam clip intersecting the playhead in the Timeline than the Multicam Viewer is set to show, then page controls appear to the left of this pop-up menu that let you choose which set of angles you want to view. You can move to another page of angles by doing one of the following:

- Click any dot to jump to that page of angles.
- Click the arrows to move among next/previous sets of angles.
- Choose Edit > Multicam > Previous Page (Option-Shift-Left Arrow) or Next Page (Option-Shift-Right Arrow).

4   Choose whether you want to switch both the audio and video, just the video, or just the audio using the Audio/Video selection buttons at the bottom center of the Multicam Viewer. You can also choose Edit > Multicam > Video and Audio (Option-Shift-[ ), Video Only (Option-Shift-]), Audio Only (Option-Shift-\).
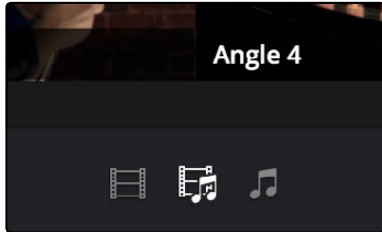

Buttons for choosing whether to switch the video, the audio, or both

5   Start playback, and while watching the program play, do one of the following:

Click any angle in the Multicam Viewer to insert a cut in the Timeline and switch to that angle. As you cut-and-switch, the cuts immediately appear in the Timeline while you play onward.

Option-click any angle to switch the angle used by the current clip without adding a cut. This is useful if you later regret the angle you cut to and just want to switch the entire segment since the last cut you made. This can also be accomplished by choosing Edit > Multicam > Previous Angle (Command-Shift-Left Arrow) or Next Angle (Command-Shift-Right Arrow).

As you play, the entire mix in the Timeline will play along with what you're switching, so you can work in context.
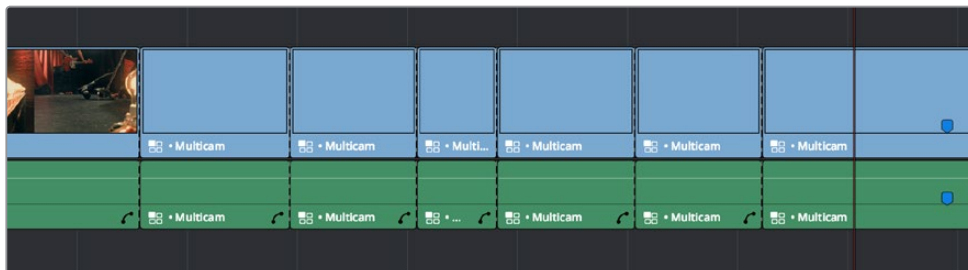
A timeline while it's being edited using cut and switch

6   When you're ready to stop multicam editing, simply stop playback. If you want to start trimming the Timeline to fine-tune what you've done, choose Source from the Source Viewer mode pop-up, and you can re-edit and trim the multicam clips in the Timeline just like any others.

Multicam Controls in the Source Viewer

The Source Viewer, in Multicam mode, has four sets of controls that let you set up and execute multicam editing.

- **Multicam Angle buttons:** Each multicam angle displayed in the Source Viewer is a button that lists the angle name underneath. Clicking any of these buttons inserts a cut and switches the angle of the next clip, while Option-clicking changes the angle of the clip at the position of the playhead without adding a cut.

- **Audio/Video Selection buttons:** Clicking any of these buttons inserts a cut and switches the angle of the next clip, while Option-clicking changes the angle of the clip at the position of the playhead without adding a cut.
- **Multicam display pop-up:** Lets you choose how many angles to view while switching. Depending on your workstation's performance, reducing the number of angles can improve playback performance while you edit. You can choose from a grid of 2x2, 3x3, or 4x4 angles to view.
- **Multicam Page buttons:** If there are more angles within the multicam clip intersecting the playhead in the Timeline than the Multicam Viewer is set to show (via the multicam display pop-up), then page controls appear that let you choose which set of angles you want to view. Click any dot to jump to that page of angles, or click the arrows to move among next/previous sets of angles.
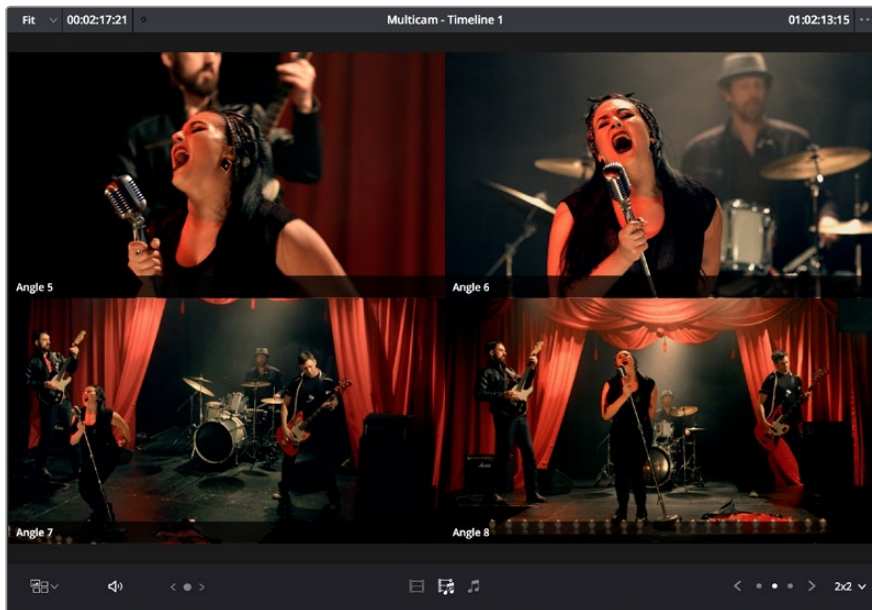
The Source Viewer showing Multicam switching controls

Multicam Keyboard Controls

There's also a full set of keyboard shortcuts that can be used for multicam editing.

- **Multicam Cut:** (Clip > Multicam Cut submenu) Pressing the 1 through 9 number keys performs a cut-and-switch operation, the same as if you'd clicked on an angle button of a multicam clip in the Source Viewer.
- **Multicam Switch:** (Clip > Multicam Switch submenu) Pressing Option-1 through 9 performs a switch operation, the same as if you'd Option-clicked an angle button of a multicam clip in the Source Viewer.
- **Previous/Next Angle:** (Edit > Multicam submenu) Pressing Command-Shift-Left or Right Arrow lets you switch to the previous or next angle.
- **Audio/Video Switching:** (Edit > Multicam submenu) Pressing Option-Shift-[sets the Multicam Viewer to cut or switch both Video and Audio at the same time. Pressing Option-Shift-] sets the Multicam Viewer to cut or switch Video only. Pressing Option-Shift-\ sets the Multicam Viewer to cut or switch Audio only.
- **Previous/Next Page:** (Edit > Multicam submenu) Pressing Option-Shift-Left or Right Arrow lets you move to the previous or next page of multicam angles, if there are more angles than can be displayed in the Viewer's current multi-angle setting.

Editing Multicam Clips in the Timeline

When it comes to editing and trimming, there's no functional difference between multicam clips and any other kind of clip. Because you're technically adding through-edits to a single clip, you have the option or deleting any edit by selecting it and pressing the Delete key.

But multicam clips are special in that you always have the option of switching angles, either using the Multicam Viewer, or right in the Timeline via each clip's contextual menu.

To switch the angle of any multicam clip in the Timeline:

- Right-click any clip and choose a new angle from the "Switch Multicam Clip Angle" submenu

In the event that you want to eliminate all unused angles from a multicam clip and "flatten" it to simply be a single clip in the Timeline, there's a command for that.

To flatten a multicam clip in the Timeline:

- Right-click any clip and choose Flatten Multicam Clip from the contextual menu. All unused angles are deleted, the clip becomes shorter if it included black tails because of another unused angle, and you end up with a single ordinary clip in the Timeline.

Referencing a Line Cut

You may sometimes be provided with what's called a "Line Cut" from a production. This is a pre-edited version of the program, cut live with the switcher and recorded during the performance or event, that's meant to be used as a reference for what you're doing. If you want to reference a Line Cut that's been given to you as a movie file, you can add it as an Offline Reference Movie, and compare it to the Timeline using the Offline Reference Movie mode of the Source Viewer in the Edit page. For more information on using an Offline video to compare with a timeline in the Edit page, see Chapter 22, "Importing Projects and Relinking Media."

Grading Multicam Clips

Multicam clips appear like any other clip in the Color page. However, each angle within a multicam clip has its own grade (unlike the Take Selector described later, in which all takes share the same grade). If you grade a multicam clip, you're actually editing the grade of the specific angle that's currently exposed in that clip.

If you want access all of the angles within a multicam clip for grading, right-click it and choose "Open in Timeline" to expose each angle within a superimposed stack. Then you can open the Color page and grade whatever angles you want, whether they're visible back in the Edit page or not. You might do this to make the different angles match one another better, or to pre-grade all of the angles to give them the look you want prior to multicam editing.

An open multicam clip in the Color page exposes all of its angles for individual grading

Because opening multicam clips in the Timeline results in a vertical stack of superimposed clips, you'll want to turn on Unmix in the Color page viewer so that you can actually see the currently selected angle in the Thumbnail Timeline while you work.
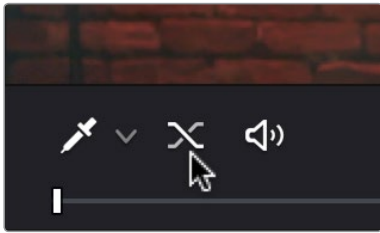

The unmix control lets you see only
one of a superimposed stack of clips

When you're done grading the individual angles, go back to the Edit page, and use the path control at the bottom left-hand corner of the Timeline to return to your edited timeline.
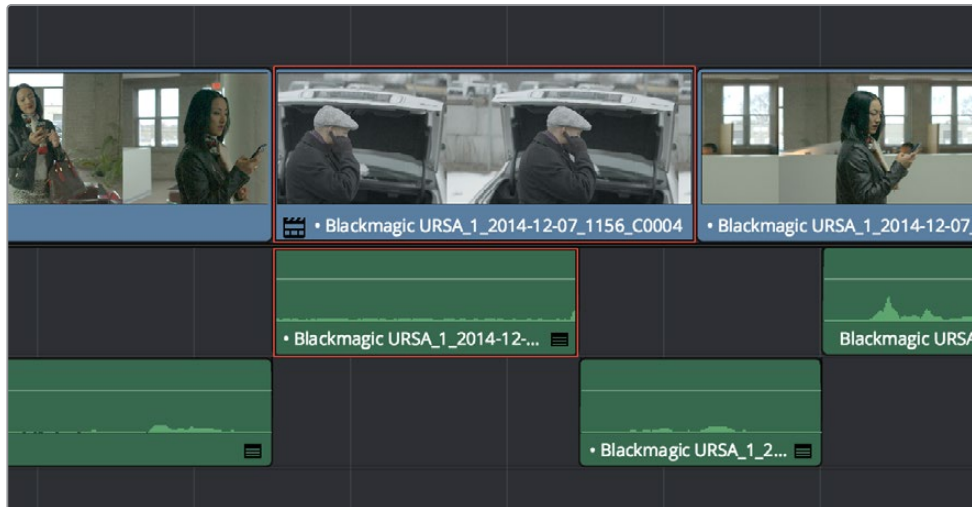
Take Selectors

Take Selectors in DaVinci Resolve provide a way for you to manage multiple takes or versions of a particular clip in the Timeline. They're ideal for storing multiple useful takes for scenes where you or the client can't quite decide which one is the best, or for maintaining multiple versions of VFX clips that are going through different iterations.

When you place a number of clips inside a Take Selector, only one clip appears in the Timeline, but you can open that Take Selector and switch to any other take or version that's stored within to switch which clip appears in the Timeline whenever you want.
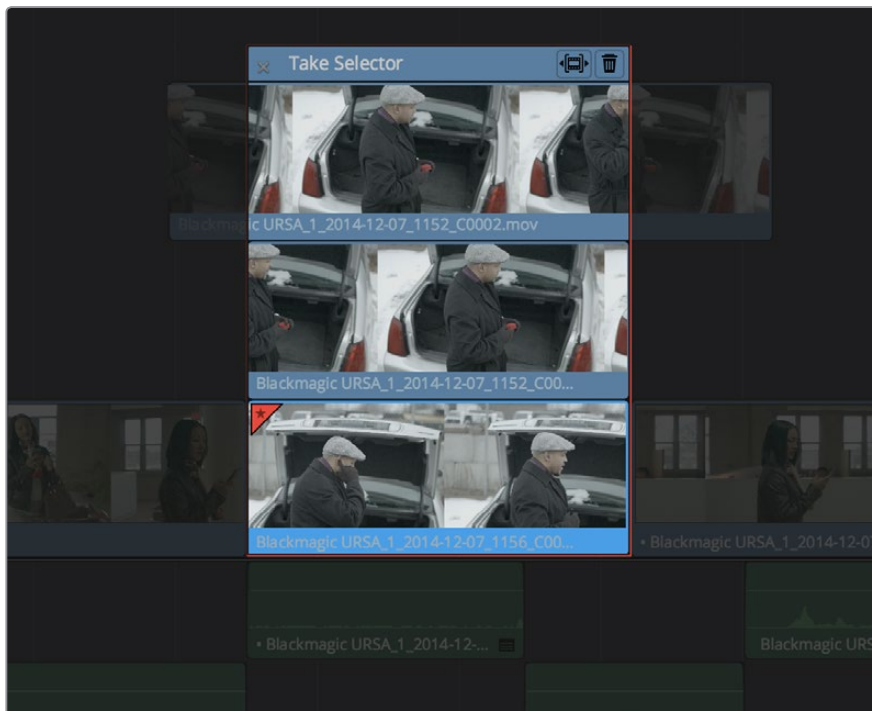
A Take Selector, shown open, with several alternate takes placed within

Take selectors are easy to create and use and populate. Once you've placed a number of clips inside the Take Selector, you can slip each clip's range of media, or choose a new clip to appear in the Timeline, before closing the Take Selector.

When closed, a Take Selector appears as a regular clip with a badge

When closed, multi-take clips can be edited, trimmed, graded, and rendered like any other clip in the Timeline. A Take Selector badge appears to the left of the name of a clip to which it's applied to show its status; double-clicking this badge opens the Take Selector so you can adjust its contents.

Methods of using Take Selectors:

- To create a Take Selector: Right-click any clip that's not a Title or Generator, and choose Take Selector from the contextual menu. The Take Selector interface appears, disabling the rest of the Timeline temporarily while you work with the Take Selector's contents.

- To populate a Take Selector: Drag any clip from the Media Pool into the Take Selector, and it appears "stacked" on top of the original clip in the Timeline.

- To choose the current clip: Click any clip so that it's highlighted in blue, and click the close button at the upper-left corner of the Take Selector. When next you open the Take Selector, the current clip appears at the bottom of the stack, with a star at the upper-left corner.

- To set a Take Selector to ripple the Timeline when a longer or shorter take is selected: Click the Ripple Take button, at the upper right-hand corner of the Take Selector panel, to the left of the trash can button.

- To slip a clip within the Take Selector: Drag any clip to the left or right to slip the range of media that appears within the Take Selector's duration in the Timeline.

- To remove a clip from a Take Selector: Click the clip you want to remove to select it, then click the garbage can button at the upper-right corner of the Take Selector.

- To close a Take Selector: Click the X close button.

- To reopen a Take Selector: Double-click the Take Selector badge at the left of a clip's name, or right-click a multi-take clip and choose Take Selector from the contextual menu.

- To eliminate a Take Selector: Close the Take Selector, if open, then right-click that clip in the Timeline and choose Finalize Take from the contextual menu.
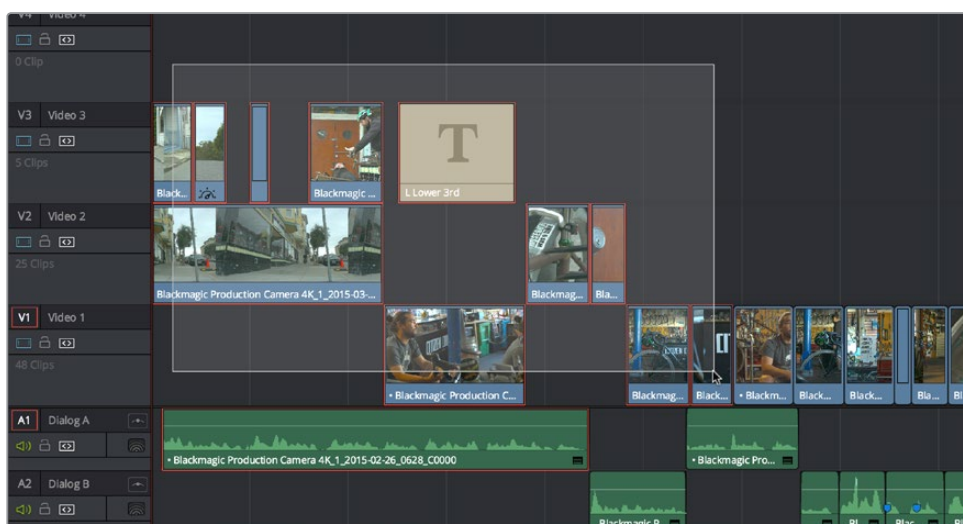
Compound Clips

You can select a series of clips in the Timeline, be they edited one after the other in serial or superimposed and stacked in parallel, and turn them into a Compound Clip, which is a single clip in the Timeline that's actually comprised of many other audio and video clips embedded inside. This allows you to work with a block of clips as if it were a single unit, governed by a single set of Inspector controls, and able to be connected to another clip in your timeline by a single transition.

Editing a compound clip works the same as editing any other type of clip. They can be edited, trimmed, and deleted using all the same methods. In addition, compound clips can be renamed, and decomposed back into their component clips right in the Timeline.
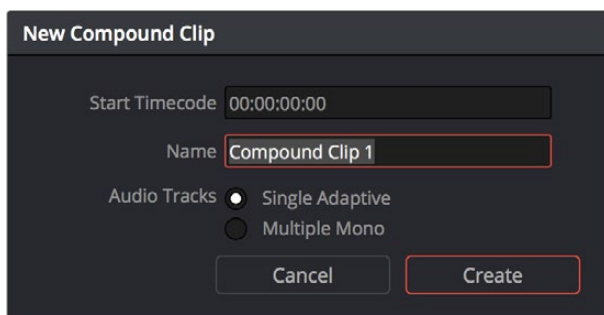
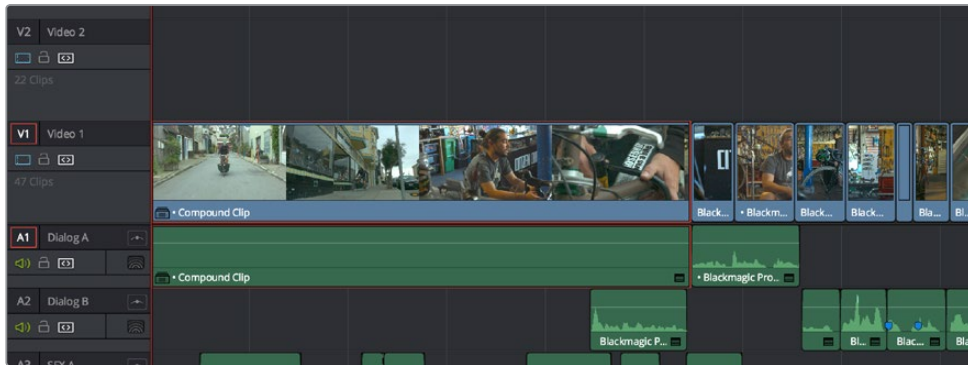**To create a compound clip:**

1   Select a range of clips.

Selecting a range of clips to turn into a compound clip

2   Right-click one of the selected clips and choose New Compound Clip.

3   Enter an optional start timecode, a name, and choose what kind of audio tracks you want for the compound clip you're about to make, and click Create.

The New Compound Clip Properties dialog

A compound clip is created which takes the place of the original clips you selected on the Timeline. Additionally, a copy of that compound clip appears in the currently selected bin of the Media Pool.


The resulting compound clip

To rename a compound clip:

1   Either click the name of the compound clip twice to select the name text, or right-click the clip and choose Rename from the contextual menu.

2   Type a new name, and press the Return key to accept the change.

To edit a compound clip:

1   Right-click any compound clip and choose Open in Timeline from the contextual menu.

The Timeline updates with the contents of the compound clip, which you can re-edit at your discretion.
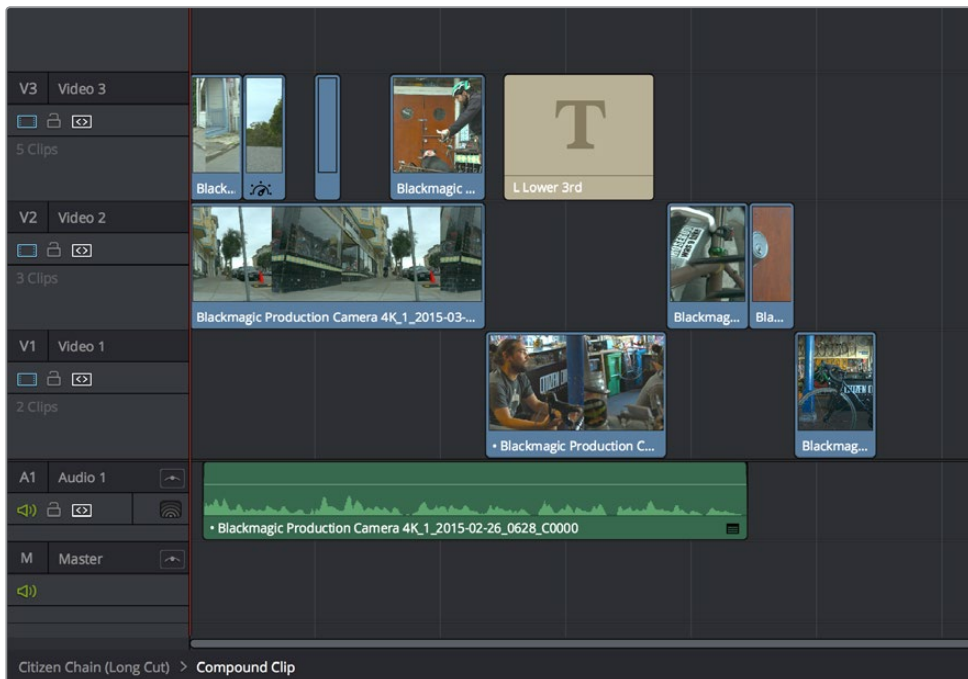
An open compound clip in the Timeline

2   To return to the original timeline when you're finished, click the name of the enclosing timeline in the Path Control at the bottom left-hand corner of the Timeline.
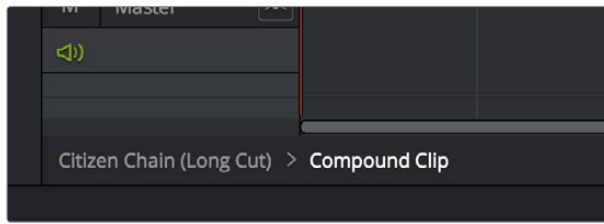
The path control you can use to close the compound clip

To decompose a compound clip into its individual clips:

Right-click any compound clip and choose Decompose in Place from the contextual menu. The compound clip is replaced by the individual clips it was made from.

To edit a compound clip from the Media Pool to the Timeline as individual clips:

Command-drag a compound clip from the Media Pool or Source Viewer to the Timeline to edit it as a sequence of individual, decomposed clips. You can press or release the Command key any time while dragging to choose whether to edit it as a single compound clip or multiple decomposed clips.

Grading Compound Clips

Since compound clips act like a single clip in the Timeline, you can grade them as a single clip in the Color page. However, if you want to individually grade the original clips inside the compound clip, you can use the Open in Timeline command to access its constituent clips, and then open the Color page, where you'll find each of the individual clips available for separate grading. When you're done, go back to the Edit page and close the compound clip, and you'll go back to seeing it as a single clip whenever you open the Color page.
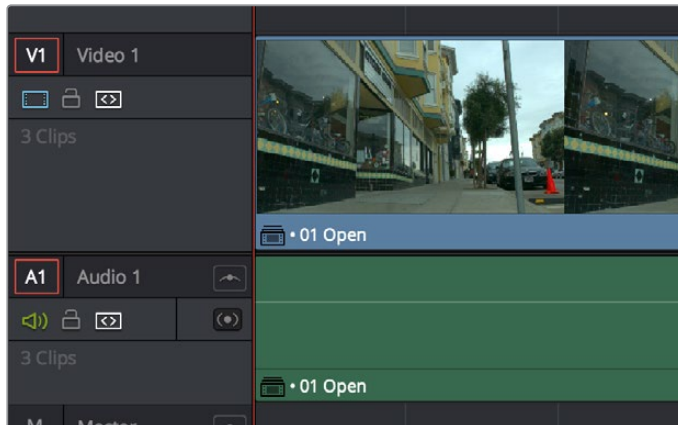
Nested Timelines

Timelines can be edited inside other timelines, either partially or whole. For example, if you've edited a program in scenes or reels such that each reel is contained in a separate timeline, you can edit all of the timelines together, one after the other, into a single timeline to assemble them into a final program.
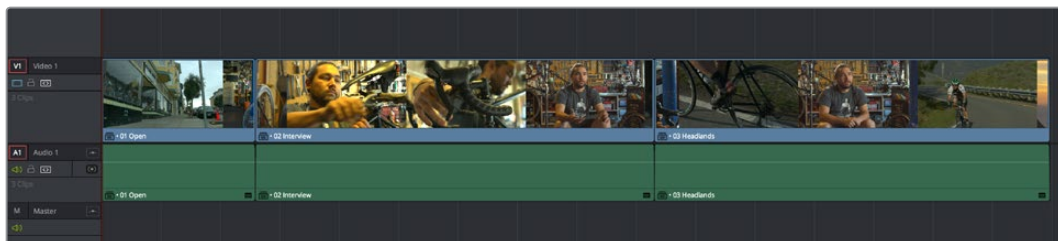
Multiple timelines edited togetherinto a single sequence

Nested Timeline clips appear with a special badge to the left of the Timeline name.

The badge that indicates a nested timeline

Timelines can be edited like any other clip, you can select one or more timelines and drag and drop them into another timeline, drag them onto the Timeline Viewer editing overlay, or use the toolbar editing buttons or keyboard shortcuts to edit them, just as you would any other clip. Additionally, you can select multiple timelines in the Media Pool, right-click them, and choose Create Timeline Using Selected Clips to quickly assemble a group of timelines into a nested sequence.

The one exception is that you must drag and drop a timeline into the Viewer if you want to use it to set In and Out points, since double-clicking a timeline, or selecting a timeline and pressing Return simply opens it into the Timeline Editor. However, you can set In and Out points for timelines in the Filmstrip of the Media Pool, or you can edit a timeline into another timeline in its entirety, and then trim the head and tail down to just what you need. Double-clicking a nested timeline opens it into the Source Viewer for trimming, exactly like any other clip.

Editing the Contents of a Nested Timeline

If you want to edit the contents of a nested timeline, you can right-click it and choose Open in Timeline. Unlike Compound Clips, no path control appears when you do this, because you've simply opened the original timeline. To go back to the previous timeline, find and double-click it in the Media Pool, or choose it from the Timeline pop-up at the top of the Timeline Viewer.

Editing an original timeline does nothing to change the duration of nested instances of that timeline inside other timelines. If you trim or delete clips in the original timeline that appear in nested instances of that timeline, then those areas of the nested timeline simply go black.

Swapping the Source Viewer With the Timeline

When editing the partial contents of one timeline into another, it can be useful to see the contents of a timeline that's open in the Source Viewer in the Timeline Editor. To do so, choose Timeline > Swap Timeline and Source Viewer (Command-Page Up). This puts the Timeline that was open in the Source Viewer into the Timeline Editor, and the Timeline that was in the Timeline Editor into the Source Viewer. This makes it easier to mark In and Out points while seeing the exact boundaries of clips, prior to pressing Command-Page Up to swap the contents of the Source Viewer and Timeline Editor once again in preparation for executing the next edit.

Decomposing Nested Timelines in Place

To decompose a nested timeline that's already been edited into another timeline back into its constituent clips, right-click it and choose Decompose in Place. You can also do this for multiple selected nested timelines, all at once.

Decomposing Nested Timelines While Editing

You can also Command-drag a Timeline clip from the Media Pool or Source Viewer to the Timeline to edit it as a sequence of individual, decomposed clips. You can press or release the Command key at any time while dragging to choose whether to edit a timeline as a single clip, or as individual decomposed clips.

Grading Nested Timelines

Similarly to Compound Clips, nested timelines act like a single clip in the Timeline; you can grade them as a single clip in the Color page. However, if you want to individually grade the original clips inside the Nested Timeline, you can either open that timeline from the Media Pool, or right-click that clip and choose Open in Timeline in order to access its constituent clips.