

DaVinci Resolve 19



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General Improvements

DaVinci Resolve 19 includes several new features using the DaVinci Neural Engine and Blackmagic Cloud, as well as a host of general improvements.

DaVinci Neural Engine

There have been several new features and improvements across the software that leverage the DaVinci Neural Engine. These features use machine learning technologies to automate and simplify tasks that required significant manual iteration.

IntelliTrack AI Point Tracker (Studio Version Only)

The new DaVinci Neural Engine powered IntelliTrack point tracker is now available in the Color tracker, Fusion point tracker, and the FX tracker in DaVinci Resolve Studio. The IntelliTrack setting can be used for general tracking and stabilization tasks.

IntelliTrack, like other AI tools, doesn't use predetermined rulesets or heuristics. Instead, it is trained on real world examples. This makes it less likely to fail in scenarios like tracking a subject behind brief occlusions. For most cases it will be more precise and more robust than the normal point tracker.

All the IntelliTrack analysis happens behind the scenes, and there is no additional user input required other than to choose the IntelliTrack setting, set the tracking crosshairs over high contrast areas on the same moving subject, and then press one of the tracker direction controls.



Setting the IntelliTrack mode for the Color page Window Tracker

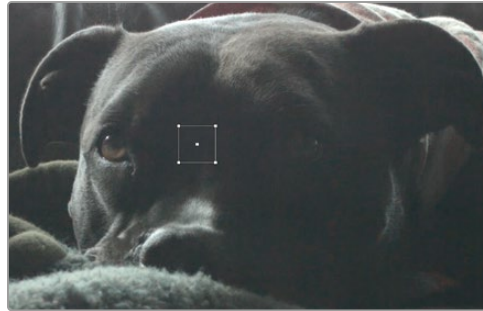
The IntelliTrack point tracker is also used to track on-screen objects for audio panning to video in Fairlight. This is described in greater detail in the Fairlight section.

AI-Based UltraNR Noise Reduction for Spatial Denoising (Studio Version Only)

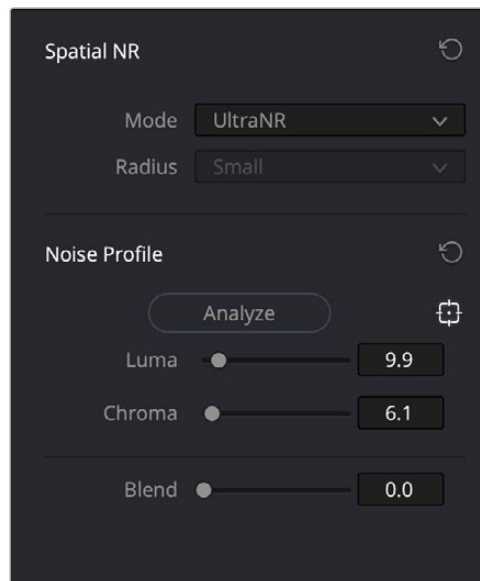
UltraNR is an AI-based noise reduction option that provides intelligently targeted noise reduction based on the machine learning of real world video noise patterns, rather than relying on a specific mathematical formula. This mode should give by far the best results for excessively noisy footage, as well as slightly better results with normal noise reduction. It's designed to give an optimum balance between the wanted reduction of noise and the unwanted softening of the picture.



An under-exposed shot of a black dog, on a black blanket, on a black couch. The perfect storm for video noise, as seen above.



The same shot but with the UltraNR mode in the Spatial NR settings. The Show Patch icon has been selected, showing a white box around where the noise pattern is being sampled.



The UltraNR control set in the Color page Motion Effects pane

UltraNR is applied simply by selecting from the drop-down menu in the Mode section of SpatialNR. You then just need to click on the Analyze button, and UltraNR automatically analyzes a flat area of the image that it samples to detect Luma/Chroma noise level and sets the analysis Luma and Chroma sliders appropriately.

If your results need further refinement, you can use Auto to detect the flat area, and then enable the "Show Patch" icon. A small white outline square appears on your clip, showing you where the AI has placed its analysis point. You can then manually drag the patch (or also change its size a bit by dragging the handles) around flat areas to detect the Luma/Chroma noise level. When

you release the mouse button, the luma and chroma for the new box location is calculated. If the results are not ideal, then adjust the sliders to vary the analyzed luma and chroma a bit, adjusting luma first and then chroma. Once you are satisfied with the results you can hide the patch.

The new UltraNR mode for spatial denoising is available in the Color page in the Motion Effects > Spatial NR pane and in the Resolve FX noise reduction effect.

New Faster Option for Speed Warp (Studio Version Only)

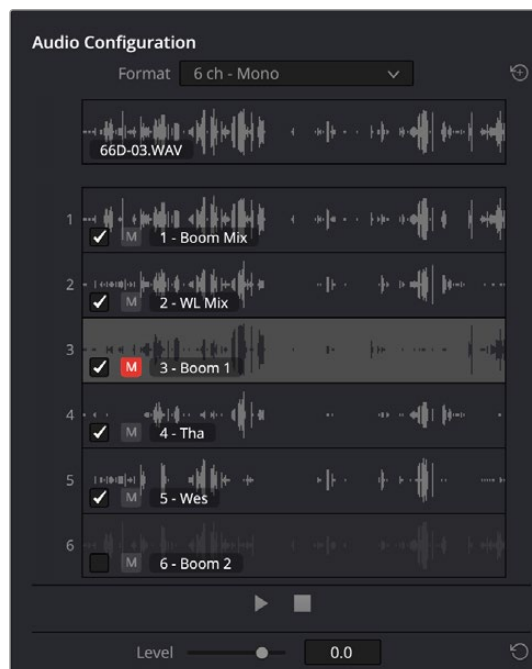
The Speed Warp Motion Estimation mode now has a Faster setting. This will give you the benefits of using the DaVinci Neural Engine for fewer artifacts and higher visual quality when retiming a clip, but in a faster timeframe. The original Speed Warp setting has been renamed Speed Warp Better and should still provide the best output.

Option to Detect Speakers for Text-Based Editing Workflows (Studio Version Only)

DaVinci Resolve can now detect individual speakers when transcribing a clip, showing specific timecodes as well as the text for each speaker. More details can be found in the Edit section of this guide.

File Inspector Audio Properties

The File tab in the Inspector now has an Audio Configuration pane that handles the type of audio actions that were formerly handled by Clip Attributes in the Media Pool (though that option is still available). The Audio Configuration pane provides a more intuitive and visual way of changing the track properties of an audio clip. Simply click on an audio clip in the Media Pool or Timeline, and then on the File Inspector to reveal this interface.



The Audio Configuration Panel. Track 3 has been muted and Track 6 has been disabled.

The pane features a per-channel waveform display for all tracks within a multichannel audio file. If the tracks have been named in the audio recorder, these names will appear over their respective tracks as well.

At the top of the pane a composite waveform is shown of all the tracks and is updated depending on the mute status of individual tracks. By default this composite is heard when the play button is activated, and all channels are audible.

A Format menu allows you to choose common configurations for your source audio file without cumbersome manual re-routing. Custom routing can still be accommodated by choosing custom in the drop down, which brings up the older clip attributes for situations that require less common configurations.

Audio for a selected source or timeline clip can be played or skimmed by moving the cursor along the waveform, and the specific track is solo'ed when skimming or playing. The play position or track being monitored can also be switched dynamically during playback. For example, you can start playback on track one, then simply click on track two, and the playback continues from that position. These controls let you quickly skim through and identify exactly what audio is on which track for further adjustment.

Each track has two adjustments that can be made, an Enable/Disable checkbox and a Mute button.

- **Enable/Disable:** Enabling a track makes that track available for use in editing operations. Disabling a track removes that track from use in editing operations. For example, if you disable Track 2 of a 4 Track audio file, when you drag that audio file from the Media Pool into the Timeline, only 3 Tracks (1, 3, and 4) will come over.

These adjustments can only be made on Media Pool clips; audio clips already in the Timeline will have these options disabled.

- **Mute:** Clicking this icon will mute the track so it is unheard but leave the actual track in place when used in editing operations and dragged into the Timeline.

Underneath the track layout is a simple transport control comprised of Play and Stop buttons to start and stop audio playback.

At the bottom of the Audio Configuration panel is a global Level control. This slider controls the audio output level for the entire clip and does not work on a per-track basis.

Multiple Clip Selection and Adjustments

You can select multiple audio clips and adjust their properties in the Audio Configuration pane. For example, you can select a group of audio files and remove Track 2 from all of them at once. However, the following should be noted:

- In a multiple clip selection, only the last selected clip will appear in the track layout of the Audio Configuration pane. However, the top composite waveform will be named "Multiple Clips" to let you know that more than one clip has been selected.
- Any adjustments, like muting or enabling/disabling a track, will be applied to all the selected clips at once.

Blackmagic Cloud

There have been some significant improvements to Blackmagic Cloud, especially for large enterprise customers.

Organization Profile Support for Blackmagic Cloud

For larger companies using Blackmagic Cloud, you can now have an organization account and set up groups to manage user access to storage, presentations, DaVinci Resolve projects, and even set up a dedicated server for your project libraries for the ultimate speed with large projects.

Improved Blackmagic Cloud Media Sync Dialog

The Media Sync dialog in Blackmagic Cloud now has an expanded profile area with storage quotas, usage, visual indicators, and more granular file sync/proxy status information. The rings indicate how much space the project occupies and how much has been synced. You can access the file sync history, and under your profile you can see the overall plan capacity (quota) and used amount (for the owner).

Open FX DaVinci Resolve Renderer plugin for Third Party Applications

The new Open FX plugin DaVinci Resolve Renderer allows third-party applications to open and apply DaVinci Resolve's color changes using exported DRX stills. This can be useful when round tripping with various VFX authoring applications where you may want to maintain a look created in DaVinci Resolve.

Exporting a DRX still contains much more information about the grade than a simple LUT. DRX files can include data, like all the native color and sizing palettes, and other items you stored in a Gallery still. This ensures that the grade the colorist created can be exactly replicated in the VFX software.

As of this writing the following attributes WILL transfer via the Open FX DaVinci Resolve Renderer plugin:

- All native color palettes (Primaries, HDR, Curves, etc.)
- All native sizing palettes (Input, Output, Node, etc.)
- Most Resolve FX
- Most third-party Open FX

As of this writing the following attributes WILL NOT transfer via the Open FX DaVinci Resolve Renderer plugin:

- Resolve and Open FX that are temporal based
- Magic Mask

To set up the Open FX DaVinci Resolve Renderer plugin:

- When installing DaVinci Resolve Studio, select the plugin option in the program installer.
- In the third party application, apply the plugin, and select the desired DRX still file.

The Open FX DaVinci Resolve Renderer plugin should work with most Open FX-capable VFX software, such as Autodesk Flame and The Foundry's Nuke.

IMPORTANT: Use of the plugin requires a DaVinci Resolve Studio license on the system that is running the third-party application.

German and Italian Localizations

Willkommen and Benvenuti to our German and Italian users! You can now see the menus and user interface of DaVinci Resolve in your native language. You can change the language settings in Preferences > User > UI Settings > Language.

Duplicating Local Project Libraries

Local Project Libraries can be duplicated in the same database for backup or iteration purposes.

- 1 Right-click on the Library, and select Duplicate from the drop-down menu.
- 2 Select the Resolve Database folder in the file system browser. This can either be the same one you use for the original project or a new one.
- 3 Click on the Open button.
- 4 Rename the new Library in the Clone Library dialog.

Restoring Timeline Backups from Deleted Timelines

From the Media Pool options menu, you can select Deleted Timeline Backups and examine deleted timelines and available backup files for each timeline. You can select backups to be restored or choose to permanently delete selected backups.

Disabling Specific Video Tracks for a Render Job

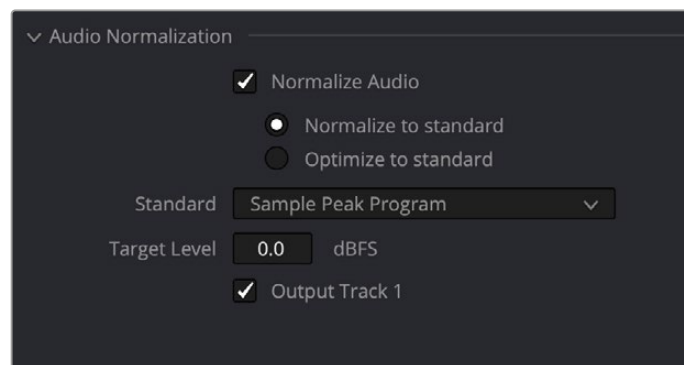
In the Advanced Settings in the Video Render settings tab, you can un-check Render All Video Tracks and select specific tracks to exclude from the final output on a per-render-job basis.

Optimize Audio Loudness and Peaks in Render Settings

In the Audio Render settings tab in the Delivery page, a new Audio Normalization audio option is available with options to:

- Normalize loudness or peak (scaling whichever first exceeds thresholds) to a standard,
- Optimize loudness and peak (ensuring that loudness meets the desired range and peaks remain lower than threshold),
- Use the bus or track audio as-is.

This is enabled by checking on “Normalize Audio” and then choosing the appropriate sub-options.



The Audio Normalization settings

Support for HDR Displays on Windows*

You can now display the native viewers in DaVinci Resolve in HDR on Windows systems. The setting affects all DaVinci Resolve Viewers, including the Main Page Viewers, Cinema Mode, Fairlight Floating Viewer, Scene Cut Dialog, and the Video Clean Feed.

You will need an HDR-capable display and to turn on HDR in the Windows display settings (System > Display > HDR). In DaVinci Resolve Preferences > System > General, you will need to check the “Use 10-bit precision in viewers if available” box.

NOTE: The general controls/UI and non-Viewer dialogs (e.g., secondary screen, project manager, floating Media Pool) are not affected.

* As of this writing, HDR Displays on Windows was not available but will be included in the final release.

Clip Flags and Colors in Data Burn-Ins

You can now add a clip's flags and colors as possible options for a Data Burn-In. You can turn them on in the Workspace > Data Burn-In dialog. The Clip Color will be represented by an appropriate colored dot, and the Flag by the appropriate colored flag icon.

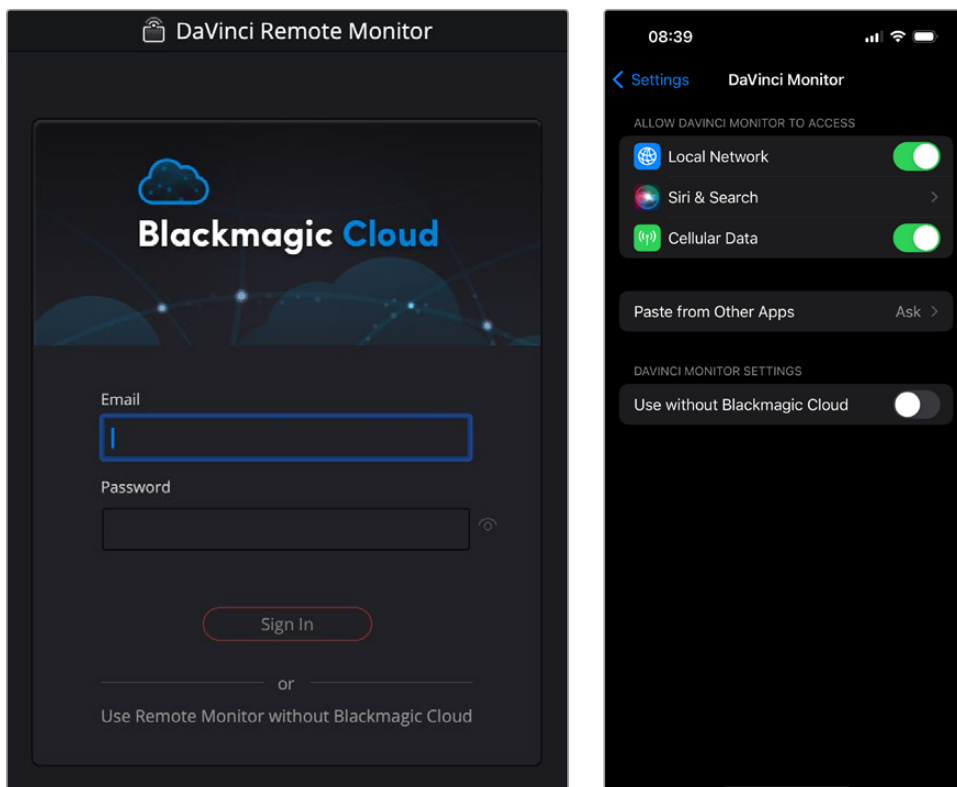
DaVinci Remote Monitoring Using IP Address Connections

As an option, you can now use Remote Monitoring over normal IP Address Connections, rather than having to sign in through Blackmagic Cloud. However, you will need some technical knowledge on setting up your network appropriately.

Setting up Remote Monitoring over IP connections on the Resolve Host

Follow the instructions below to set up your host grading computer for other people to monitor.

- 1 Make sure you are signed out of Blackmagic Cloud in Preferences > Internet Accounts.
- 2 In Preferences > System > General, check the "Use Remote Monitoring without Blackmagic Cloud" box.
- 3 Select Workspace > Remote Monitoring.
- 4 Adjust the codec and bit-rate parameters you want, then click Start Session.
- 5 Share the IP Address or configured host name for the Resolve host with the clients.



The Use Remote Monitor without Blackmagic Cloud settings in the computer and iOS versions.

Setting up Remote Monitoring over IP connections on the Resolve Clients

Follow the instructions below to set up your client computer to monitor the host's workstation.

- 1 Launch the DaVinci Remote Monitor application.
- 2 In the Remote Monitor setup dialog, choose "Use Remote Monitor without Blackmagic Cloud."
- 3 In the iOS or iPadOS versions of the app, go to the iOS Settings > DaVinci Monitor, and toggle on "Use Remote Monitor without Blackmagic Cloud."
- 4 Enter the Resolve host's server IP Address or Host Name in the Host field.
- 5 Click Join.

Firewall exceptions and appropriate port forwarding will need to be manually configured in order to use this mode. The procedure to initiate a session and accept connections remains the same. This mode uses TCP server port 16410 and TCP/UDP port 16411, 16412, etc. for each client.

DaVinci Remote Monitoring via User-Specified TURN Servers

When collaborating across complex network security setups that restrict the WebRTC STUN protocol, you may now decide to use self-configured or cloud-based TURN servers to route and relay monitoring streams.

To use this function, check the box under Preferences > System > General > Use TURN server for Remote Monitoring. Then add the URL of your custom TURN server.

Codecs

As with each release of DaVinci Resolve, more video and audio codecs are supported, and the existing codecs' performance improved.

- Up to 4x faster H.264 and H.265 decodes on non-Studio in Windows.
- Up to 2x faster H.264 and H.265 native encodes in Windows.
- Support for encoding IMF packages with JPEG HT content.
- Up to 2x faster decodes for ZIP1 compressed OpenEXR sequences.
- Support for alpha-based HEIC formats.
- Support for encoding FLAC audio.
- Support for 44.1 KHz and other sample rate audio in Linux.
- Render support for odd number resolutions in .mov and .avi clips.
- Support for decoding cinematic clips captured by iPhone.
- DaVinci IO Encode plugin SDK support for audio-only formats.
- Support for GPU accelerated decodes with ARRI Codex HDE SDK 5.2 (Nvidia only for now).

Scripting API Improvements

Added support for:

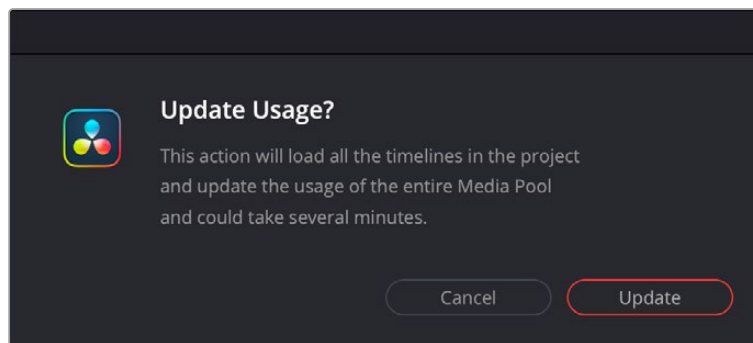
- Managing clip color groups.
- Querying timeline and group node graphs for a clip.
- Enumerating tools used in a given node.
- Setting and getting color keyframe mode.
- Exporting clip LUTs.
- Exporting timeline ALE and CDL.
- Importing OpenTimelineIO timelines with custom import options.

Media

DaVinci Resolve 19 includes some small but helpful changes to the Media Pool functions.

Updating Clip Usage for All Timelines

You can now see which clips have been used across all the timelines in your project. From the Media Pool options menu, select the “Update Usage for Entire Project” option.



The Update Usage dialog

DaVinci Resolve may prompt the user to load all timelines if necessary and update usage counts for Media Pool clips. This can take some time, depending on the complexity and number of timelines you have in your project.

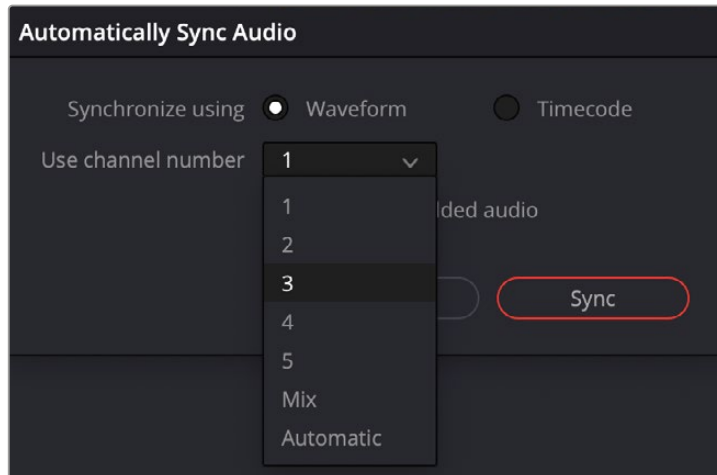
Once completed, the Usage count across all timelines will appear in the Usage column in the List View of the Media Pool.

Select Channels to Synchronize Audio Using Waveform

When the Waveform option is selected in the Automatically Sync Audio dialog, you can now choose which audio track in the clip to perform the waveform analysis on. This can make the analysis more accurate by only selecting the track with the cleanest audio and the strongest signal out of a multitrack clip. To do so, click on the appropriate number in the drop-down menu in the “Use channel number” box.

The options for Use Channel Number are:

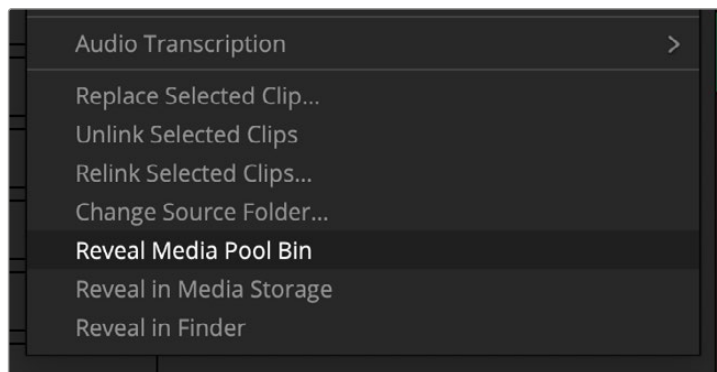
- **#:** Uses the selected track number selected for the analysis.
- **Mix:** Uses a mix of all the tracks to perform the analysis.
- **Automatic:** Lets DaVinci Resolve try to choose the best track(s) for syncing.



Selecting Track 3 of the clip to perform the waveform sync analysis on

Reveal Media Pool Bin From Multi-Bin or Search Displays

If you've searched for a clip and have results across multiple bins, you can now reveal where that clip is in the Media Pool by right-clicking on the clip and selecting Reveal Media Pool Bin from the contextual menu.



The Reveal Media Pool Bin option for multi-bin search results will take you right to your clip, no matter where it is in the project.


Media Management Now Retains Alpha for Supported Formats

If the media codec you're using supports using an Alpha channel, you will be happy to know that Media Management operations will honor that Alpha channel and pass it through.

Marker Clips Are Editable in the Media Pool List View

Previously when you used Tab to move from clip to clip in the Media Pool List View, the selection would skip any Marker clips and go to the next full clip instead. Now the Tab function will stop at Marker clips.

You can also now rename Marker clips and add or adjust Keywords in the Media Pool List View. Simply select the clip, and then click on the name in the column. You can then enter any name or keyword you wish into the field.

Clip Name	Keyword	Cloud Sync
> 02A_CU_01	BOY	
> 02A_CU_02	BOY	
∨ 02A_CU_03	BOY	
 SLATE	BOY	
> 02A_CU_04	BOY	
> 02A_CU_05	BOY	

You can now tab to and edit fields in Marker clips in the Media Pool's List View.

Up to 3.5x Faster Super Scale on Supported AMD Systems (Studio Version Only)

Super Scale operations that create new high-res media out of low-res sources are up to 3.5x faster while using supported AMD GPUs. Most relatively modern AMD GPUs are supported including the 6800, 7700, 7900, or higher.

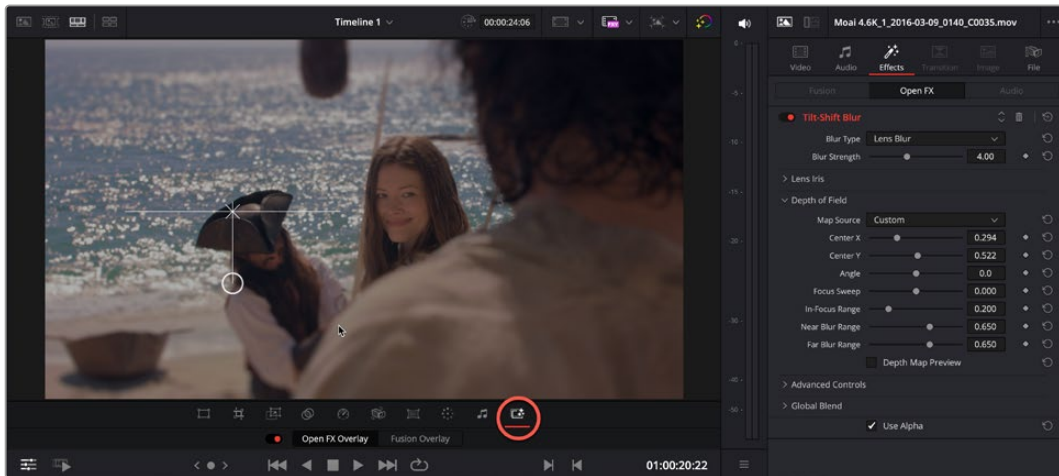
Cut

The Cut page has received a number of functionality improvements and in addition an update for live TV editing, production, and broadcast.

Interactive Resolve FX and Fusion Effect Overlays in the Viewer

If you've applied a Resolve or Fusion effect that uses on screen controls, you can now use these controls in the Cut Page Viewer. To do so, open the Tools panel in the Cut page, and select the Effects Overlay icon at the far right.

You have two options below to either manipulate the Open FX or Fusion Overlays; choose the appropriate version for your effect. The on-screen controls will then appear in the Viewer.



Clicking on the Effects Overlay icon (circled) will activate the on-screen controls of Resolve or Fusion effects in the Cut Page Viewer.

Adding Clip Markers From the Source Tape Viewer in the Cut Page

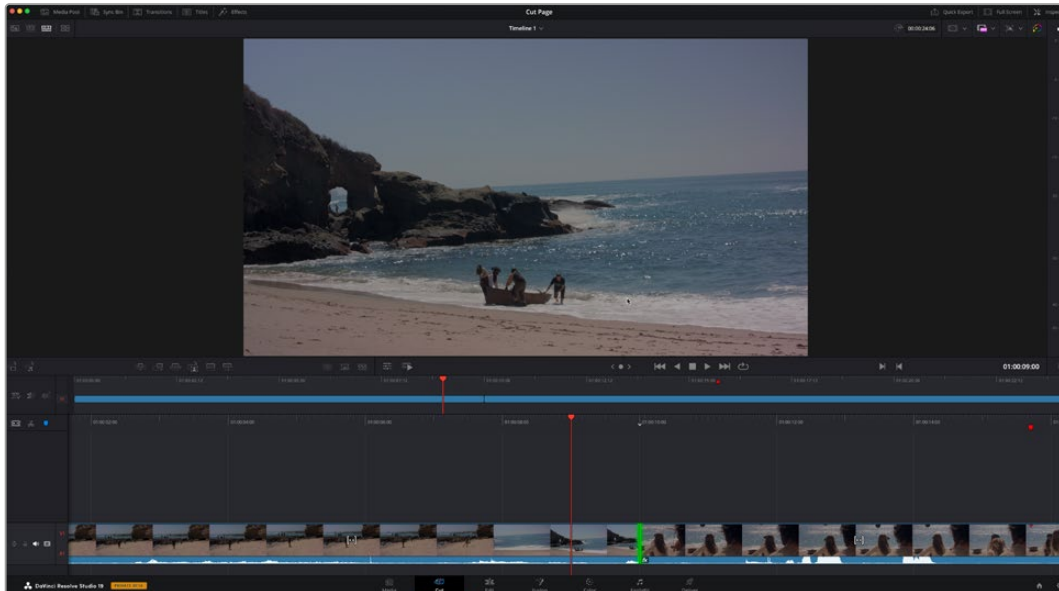
When using the Source Tape Viewer, you can now add clip markers to any clip in the source tape, simply by pressing the M key at the desired marker location. Tapping M again will bring up the Markers dialog box where you can change the marker's color, add notes, etc.

Clip Markers Are Displayed in the Viewer

Any clip markers that have been added to a clip are now displayed in the Cut page viewer, similar to how they are displayed in the Edit page viewer.

Enhanced Viewer in the Cut Page

The Enhanced Viewer is now available for use in the Cut page. The larger viewer will take up the top half of the screen, while leaving the Timeline area in place. You can toggle the Enhanced Viewer by pressing Option-F.



The Enhanced Viewer in the Cut page

Live Overwrite Painting Starts From a Single Frame Duration

When working with the Sync bin and a DaVinci Resolve Speed Editor or keyboard, and performing a Live Overwrite, the initial duration of the clip laid down in the timeline is now one frame.

Replay

The Cut page now allows live multi camera broadcast editing, payout, and replay with speed control.

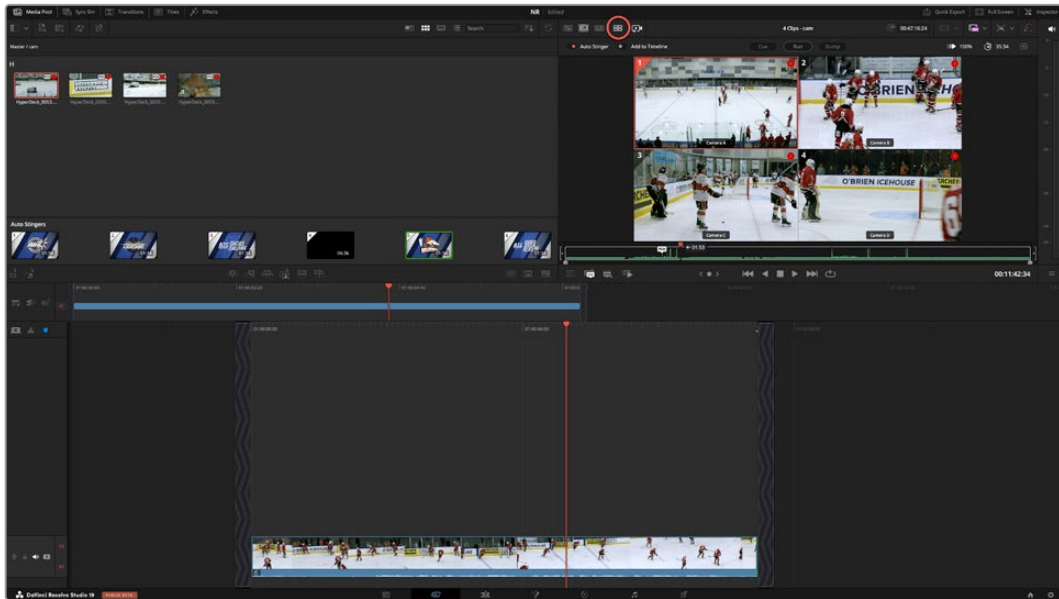
Some of the Replay features are only available with Blackmagic Design hardware, such as a desktop video interface, cloud store, and ATEM switcher.

More details will be added at a later date.

Multi Source

Multi Source lets you see all your live cameras, or even just clips in a bin with a common timecode, in a multiview screen to look for any point of interest. You can scrub, play, and select

shots to add to the timeline or simply play to air. You can even switch live from any of the available angles. The Multi Source button is at the top left of the Viewer.

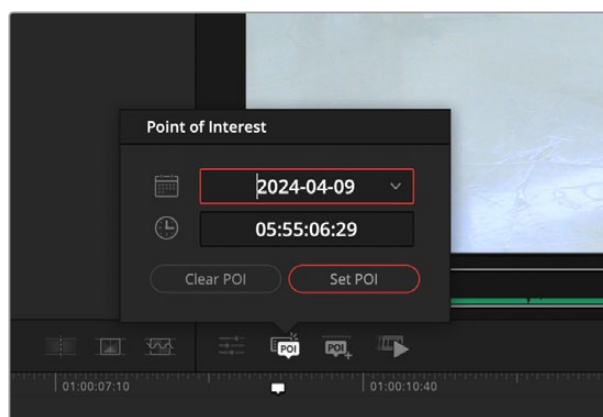


The Replay Multi Source screen lets you see all your available angles.

Point of Interest

When watching live cameras or a multiview of clips and a significant event occurs, capture the moment with a POI marker. There are two POI buttons at the bottom left of the Viewer. The left button lets you clear a POI or add one at a specific time and date. The right button will add a POI at the current playhead. You can only have one POI at any one time.

The POI is placed on all the clips at that same time, so you can quickly find the event on every camera angle, play them to air, and with the 'Add to timeline' option turned on even automatically build a highlights timeline.



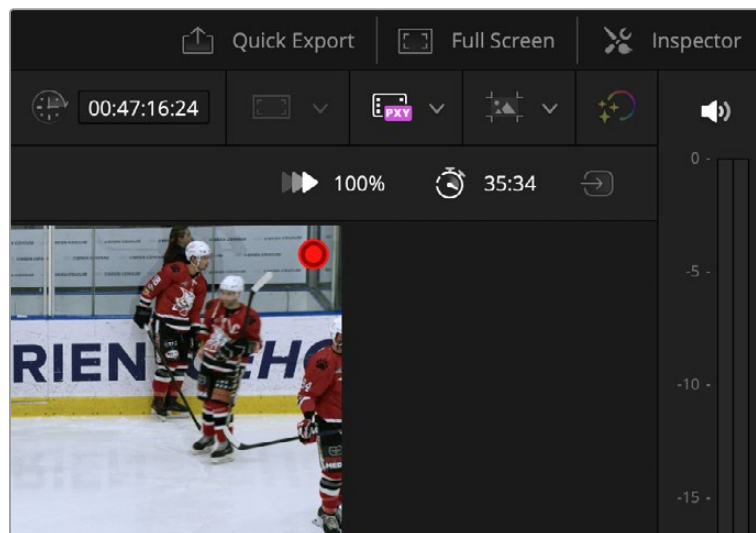
The Point of Interest marker tags a specific timecode number across all camera angles.

Replay Palette

The pace of live TV is frantic, so the replay controls are clear and quick to navigate. Use the Replay Controls button at the top left of the Viewer to display the replay controls.

Set a POI with a single key, select a camera, and cue the event. Then select run to play to air automatically via ATEM. You can switch cameras or once it's done, simply dump the playout to prepare the next replay.

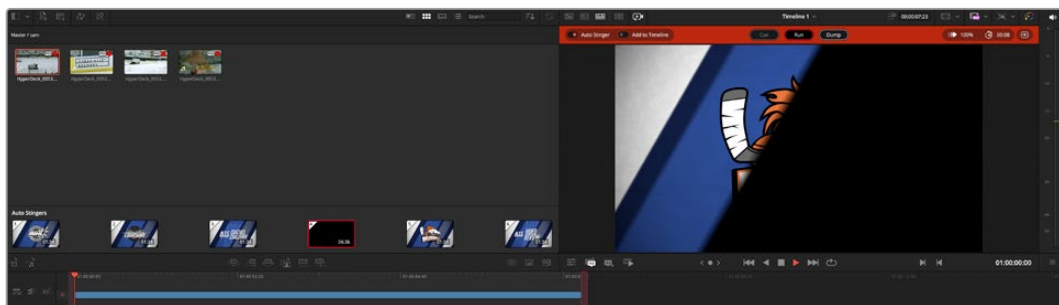
At the top right-hand side of the Replay Controls toolbar, you will see an indication of the current playback speed in percent and also the time remaining for the current replay based on the playback speed and clip length.



The current playback speed (in percent) is shown in the upper right of the Viewer.

Auto Stinger

Stingers are a moving graphics and sound transition to let the viewer know you have switched from live to a replay, then back, or even just switched to a new scene. Select auto stingers from the Media Pool and play in real time at the head and tail of a replay, even when the replay is in slow motion.



The Auto Stingers are transition graphics that can automatically be triggered before or after a replay.

Edit

The Edit page in DaVinci Resolve 19 has been updated with additional text-based editing features and several quality of life improvements.

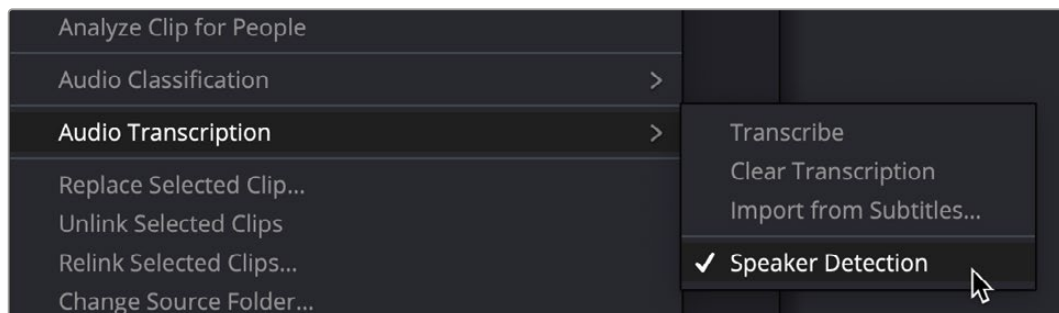
Text-Based Editing in the Transcription Window (Studio Version Only)

DaVinci Resolve 19 brings several new text-based editing and transcription features to the Edit page.

Detect Speakers During Transcription

DaVinci Resolve can now detect individual speakers when transcribing a clip, showing their specific timecode range as well as the text for each speaker. Speaker detection can not only create more useful text transcription exports but can be used for text-based editing references.

Speaker detection is project specific, so once you turn it on, it will remain on for all further transcription operations, either for clips or timelines.



Turning on Speaker Detection in a clip's context menu

To Enable Speaker Detection for Transcriptions:

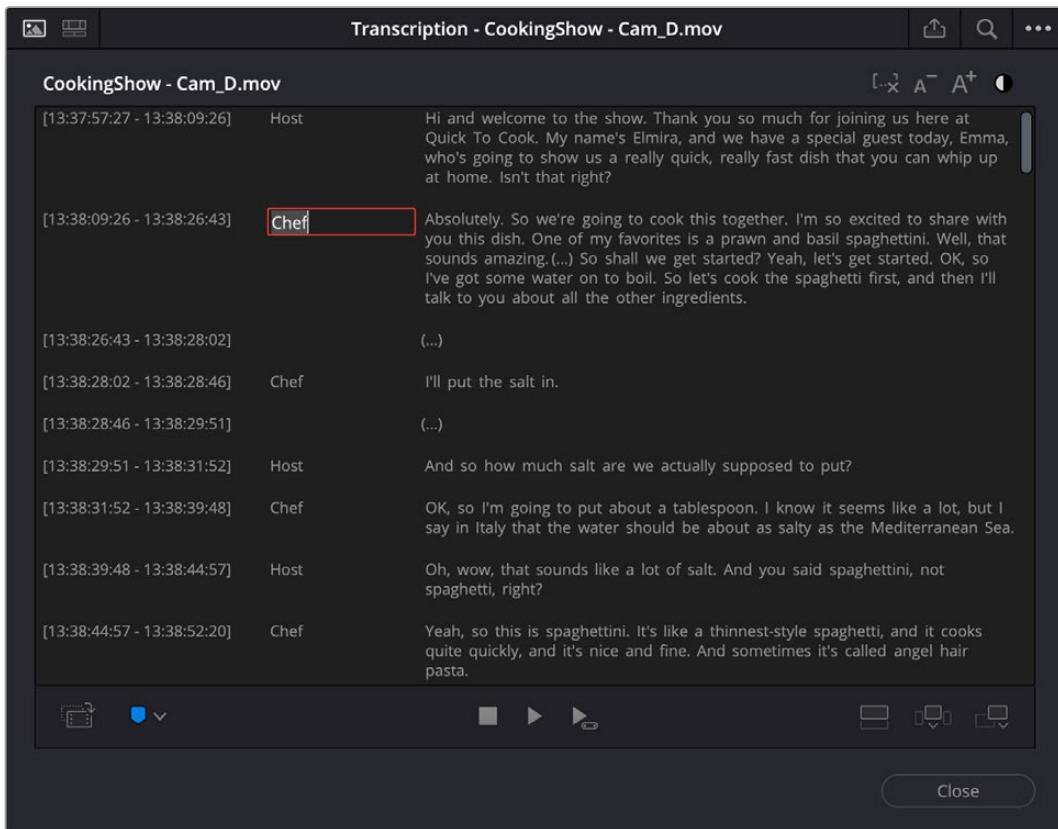
- Right-click on a clip or Timeline and select Audio Transcription > Speaker Detection.
- Or select Speaker Detection from the Transcription window's Option menu.
- Click on the Transcribe option to start the operation.

Transcription and Speaker Detection in Timelines

You can also choose to Transcribe and Detect Speakers for a timeline. This will analyze the timeline and transcribe the underlying media. It will then give you a timeline transcription based off the In and Out points of each clip in the timeline and assign speakers to each segment. Timeline transcriptions are opened in Timeline Transcription mode, as described below.

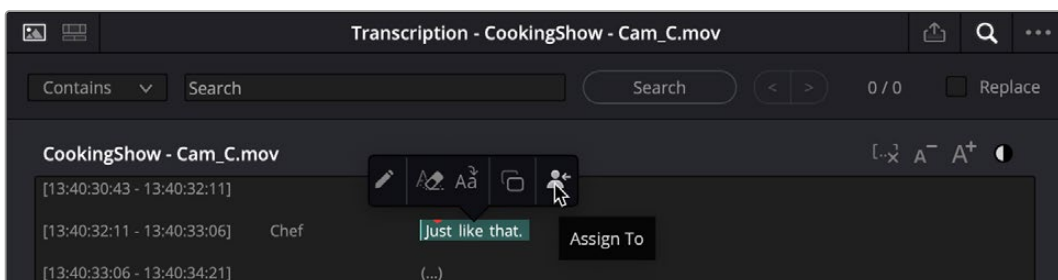
With Speaker Detection enabled, any subsequent audio transcriptions you generate for clips and timelines will detect individual speakers. All the speaker's voice signatures are remembered at the project level across multiple clips. If you come back the next day to add more audio clips to your project, DaVinci Resolve will remember the voices you analyzed previously and automatically assign them to the appropriate speaker. If you want to remove the saved speakers from your project, select Reset Speaker Data from the Transcription Window's option menu.

In the Transcription window, speakers will initially be listed numerically (Speaker 1, 2, 3 etc.). You can change the name of the speaker by double clicking on the speaker name, and entering a new name in the text field. All other instances of that speaker will be changed to the new name.



The Transcription window with Display Speakers active. You can change the name of a speaker by double-clicking the name, and entering a new one in the text field.

If the Speaker Detection made an error about who is speaking, you can manually re-assign a text to another speaker by selecting the text, right-clicking on it and choosing the Assign To icon from the pop-up menu. Then another dialog box will appear, letting you change the attribution to any of the other detected speakers.



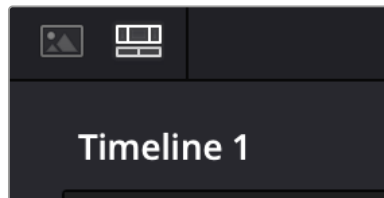
You can manually change the speaker attribution by right-clicking on the text and selecting the Assign To icon.

If you wish to hide the speakers again, in order to declutter the Transcription window, you can toggle their view on or off in the Transcription window's Option menu under Display Speakers. Toggling this feature does not remove the speaker associations that have already been set.

Edit Timeline Content Based on Source Clip Transcription

You can use the transcription you generated from the original source clip to subsequently modify that clip on the Timeline. Entering this mode in the Transcription window will let you select, cut, and paste text and then mirror those changes to the Timeline.

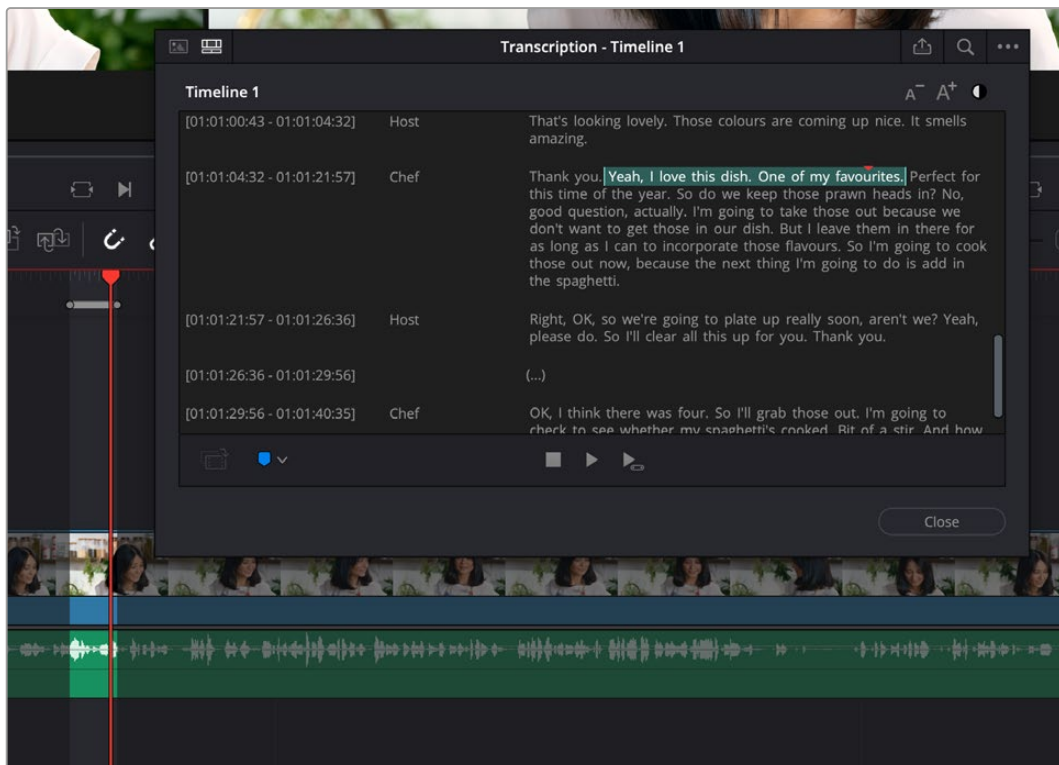
To use Timeline mode in the Transcription window, the clips on the Timeline must be transcribed in the Media Pool. To enter Timeline Transcription mode, click on the Timeline icon in the upper right of the Transcription window.



The Timeline Transcription Mode icon in the upper right of the Transcription window.

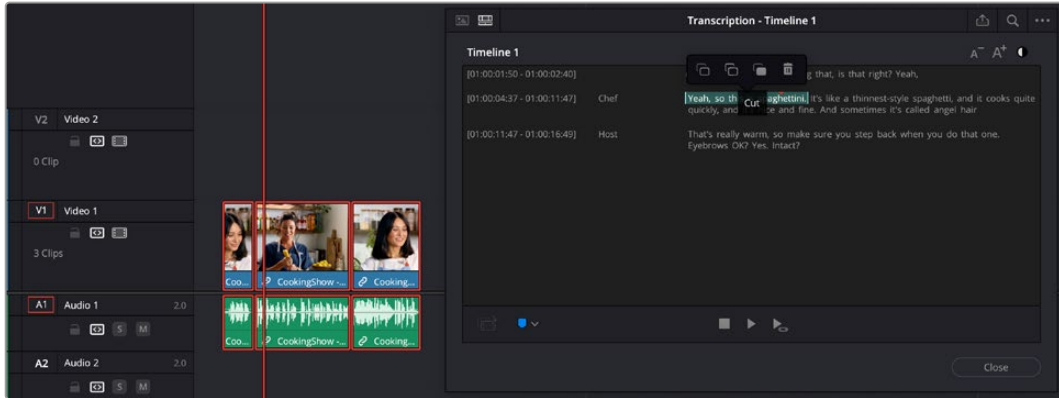
Once you've activated the Timeline Transcription mode, you can use the text editing tools in the window, and those changes will also appear on the Timeline.

For example, in the clip below, we selected a sentence in the Transcription window, and as you can see the In and Out points of that sentence were automatically set in the Timeline behind it.

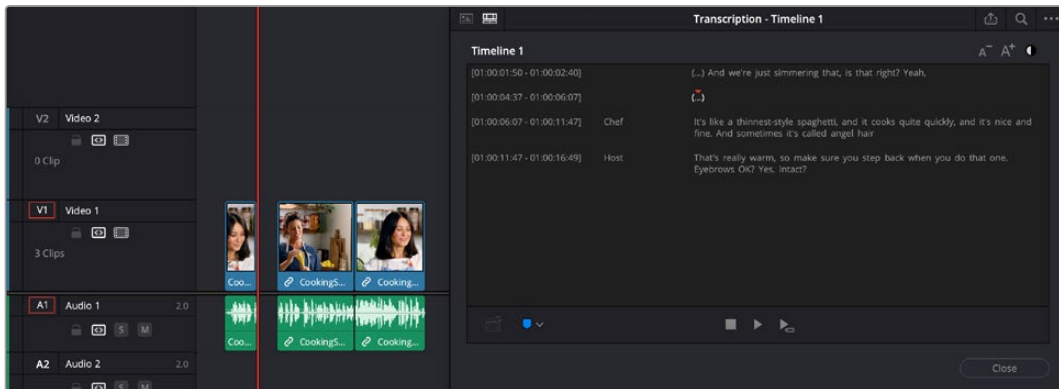


Selecting a sentence in the Transcription window sets the corresponding In and Out points in the Timeline.

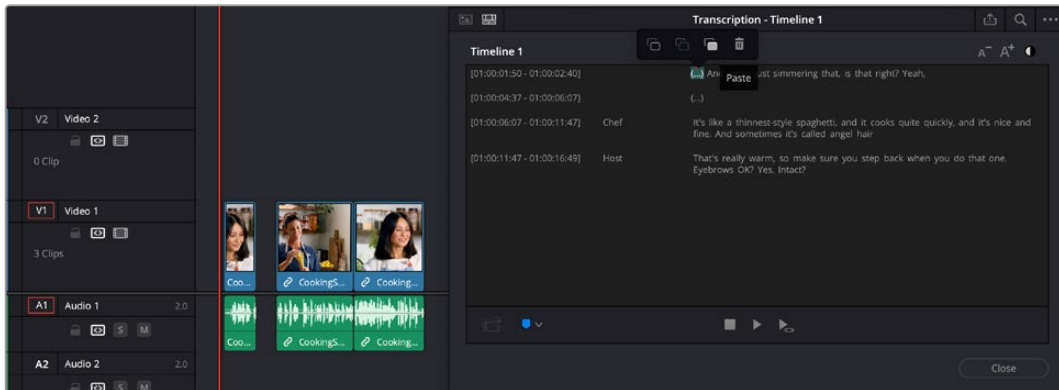
Once you have the text selected, you can manipulate that selection using the standard Cut, Copy, Paste, and Delete tools, and mirror those changes to the Timeline. In the example below, we will chop out one sentence of a clip, then move it to an earlier position in the Timeline.



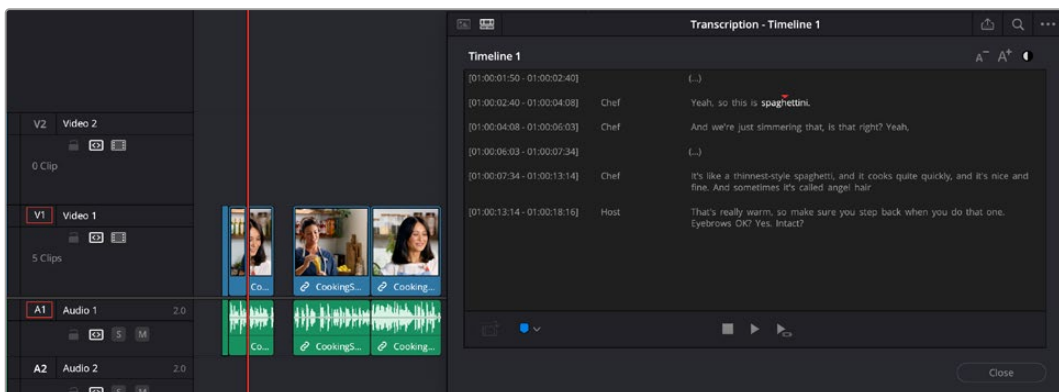
Selecting the first sentence of the second clip, and then right-clicking and using the Cut tool.



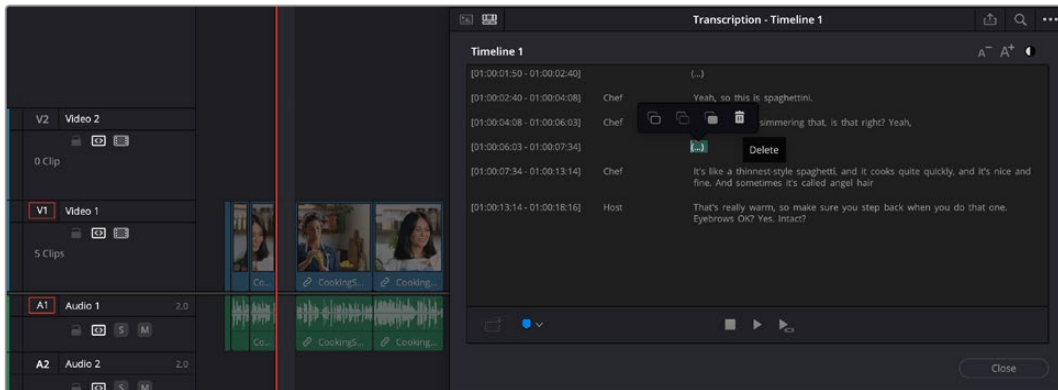
Here we see the sentence cut out of the Timeline and replaced by silence (...) in the Transcription window.



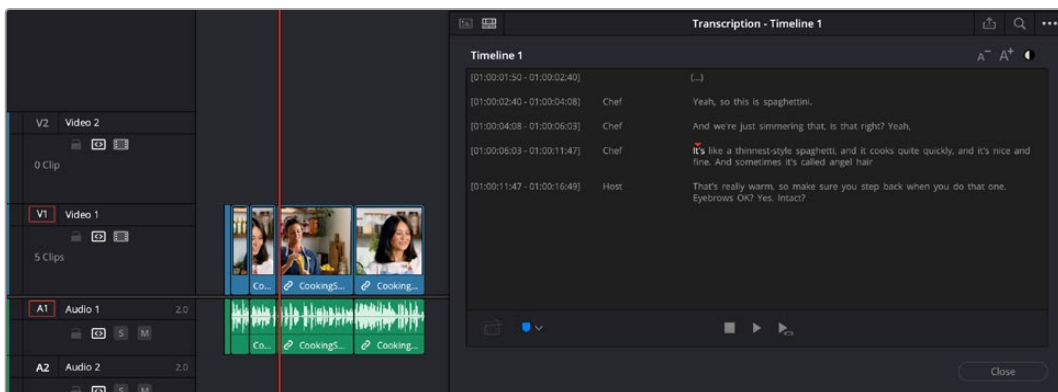
Now we select the new In point in the Timeline by selecting the first part of the sentence of the first clip in the Transcription window. Then we right-click and hit the Paste command.



The video of the sentence we cut out is pasted in that spot and now comes first in the Transcription window.



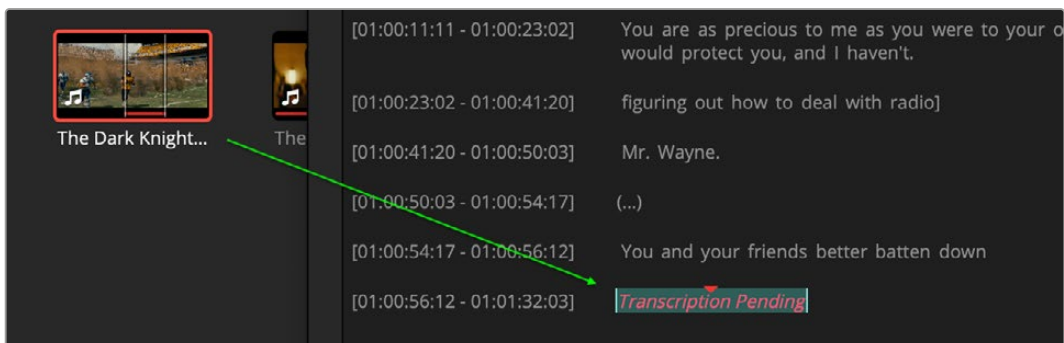
Now we select the hole in the Timeline where we cut out the sentence originally, by selecting the (...) silence in the Transcription window. Then right-click and choose Delete.



The final Timeline with the sentence moved and the hole deleted. All done just by manipulating the text in the Transcription window.

Adding Clips to Timeline Transcriptions

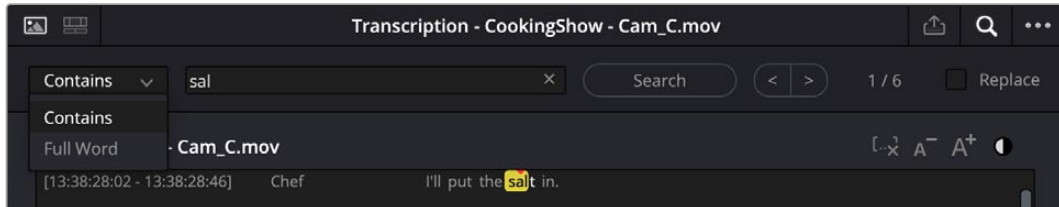
While you are editing you can continue to add un-transcribed clips into the Timeline. When an un-transcribed clip is detected, it is flagged in the Transcription window as "Transcription Pending." In this case, simply select "Transcribe Missing Clips in Timeline" from the Option menu to start the transcription of the all missing clips.



When an un-transcribed clip is added to the Timeline, it's flagged Transcription Pending in the Transcription window.

Search and Replace Partial Words in the Transcription Window

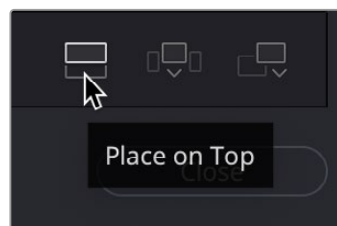
You now have the option to search and replace using partial words in the Transcription window. To change the parameters of the search, open the search bar, and select either Contains or Full Word from the drop-down menu to the left.



You can now search for partial words in the Transcription window by using the Contains option.

Place on Top Button in the Transcription Window

The Transcription window now has a Place on Top edit button, allowing you to select a range of text, then edit that same range of video into a track on top of the current track. This helps make cutaways and reaction shots easy to sync up with the master shot.



The Place on Top edit button in the lower right of the Transcription window

Import and Export Transcriptions using SRT Files

Transcription text can now be imported and exported using standard .srt files.

To Import a Transcription using an SRT File:

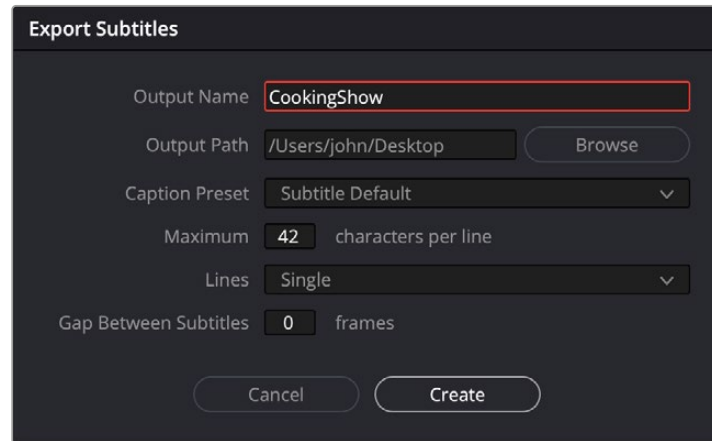
It's important that the timecode of the clip you're importing subtitles to matches the timecode in the .srt file for accurate results.

- 1 Right-click on a clip in the Media Pool, and select Audio Transcription > Import from Subtitles.
- 2 Locate the .srt subtitle file in your file browser, and click Open.
- 3 Click on the Transcribe icon in the Media Pool to open the Transcription window to view and edit the subtitles.

To Export a Transcription using an SRT File:

- 1 Click on the Option menu in the Transcription window, and select Export Subtitles from the drop-down menu.
- 2 The Export Subtitles dialog box will appear.

- 3 Enter a file output name and path to save your .srt file to.
- 4 Enter the subtitle information for Caption Preset, Maximum Characters per Line, Number of Lines, and Gap Between Subtitles, as needed.
- 5 Click on the Create button to save the .srt file.



The Export Subtitles dialog box from the Transcription window's option menu

Text-Based Editing Honors Timeline Trim and Ripple Modes

Text-based editing will now behave as expected when using them with Trim and Ripple modes activated.

Precision Trim Editor in the Timeline Viewer

A trim editor similar to the Cut page's trim editor is now available in the Edit Page Viewer, allowing you to see a large display of frame changes on either side of your edit. To access it, double-click an edit point, or choose "Trim Editor" from the Trim menu on the selected edit point.

Trimming Edits in the Timeline Viewer

You can double-click any edit point between two clips in the Timeline to open up the Trim Editor, which provides a detailed method of adjusting both halves of an edit point. A graphical A/B roll interface shows two filmstrips with the outgoing clip on top and the incoming clip on the bottom. These controls are draggable:

- Drag the left side of the top filmstrip's handle to trim the Out point of the outgoing clip.
- Drag the right side of the bottom filmstrip's handle to trim the In point of the incoming clip.
- Drag the white handle between the top and bottom filmstrips to roll the edit point, simultaneously adjusting the outgoing and incoming edit points.

Numbers over each frame let you see exactly how many frames you're trimming, while a pair of buttons to the left and right of the transport controls in the Viewer toolbar let you adjust the outgoing clip's Out point and incoming clip's In point in one frame increments.

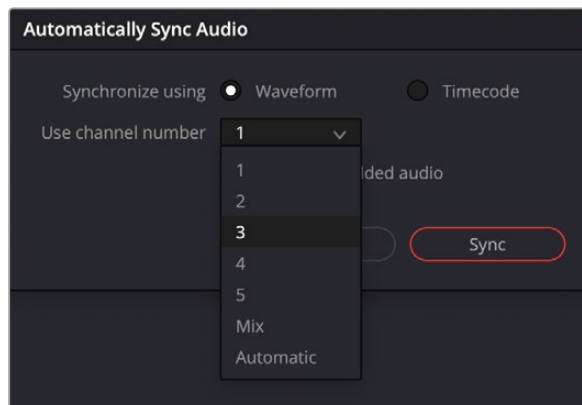


The Viewer Trim Editor seen when you double-click an edit in the Timeline

Select Audio Channels When Aligning Clips using Waveform

When aligning clips in the Timeline or syncing audio in the Media Pool, a dialog appears, allowing you to sync using timecode or waveform. When you choose waveform, a choice of channels is now available.

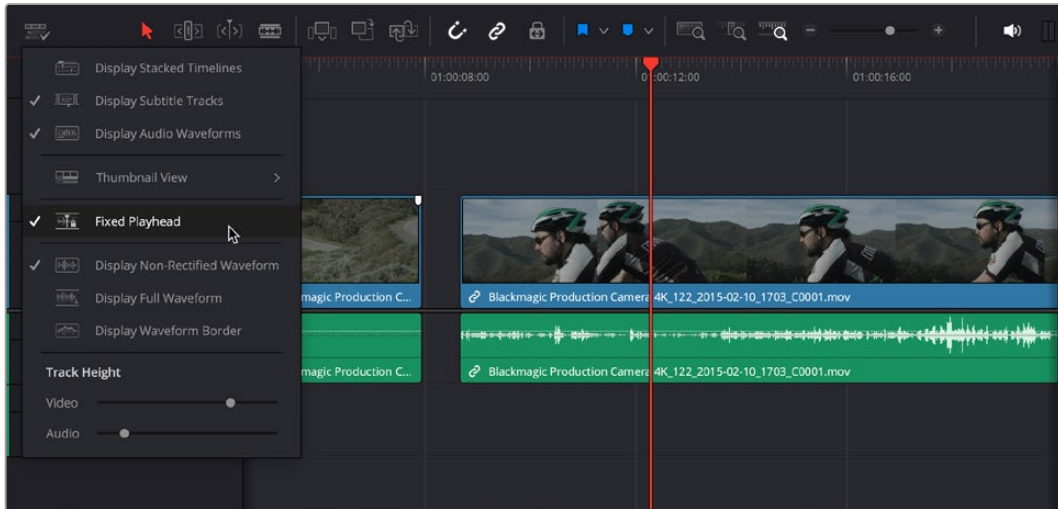
With the default of “Auto,” DaVinci Resolve automatically picks the channels most suited for waveform comparison. With “Mix,” DaVinci Resolve compares waveforms from the mixdown audio from all available channels. This can be useful when audio may not be present on long sections of one or more channels. Users can also specify individual channels to avoid noisy audio.



Selecting track 3 of the clip to perform the waveform sync analysis on

Fixed Playhead Mode in the Timeline

You can now select the fixed playhead mode from the Timeline View options in the Edit page. This view option will keep the playhead static in the middle of the Timeline, while the tracks on the Timeline move underneath it.



Selecting the Fixed Playhead mode in the Timeline View options

Ability to Edit Text+ Titles in the Viewer

Now, you can double click to access various editing actions directly on Text+ in the Viewer overlay, such as editing text, displaying a cursor, and selecting text. This capability extends to the Viewer within Edit page when the Fusion overlay is enabled, accessible by selecting the “Allow typing in preview” option.

The Number Pad Provides Direct Timecode Entry

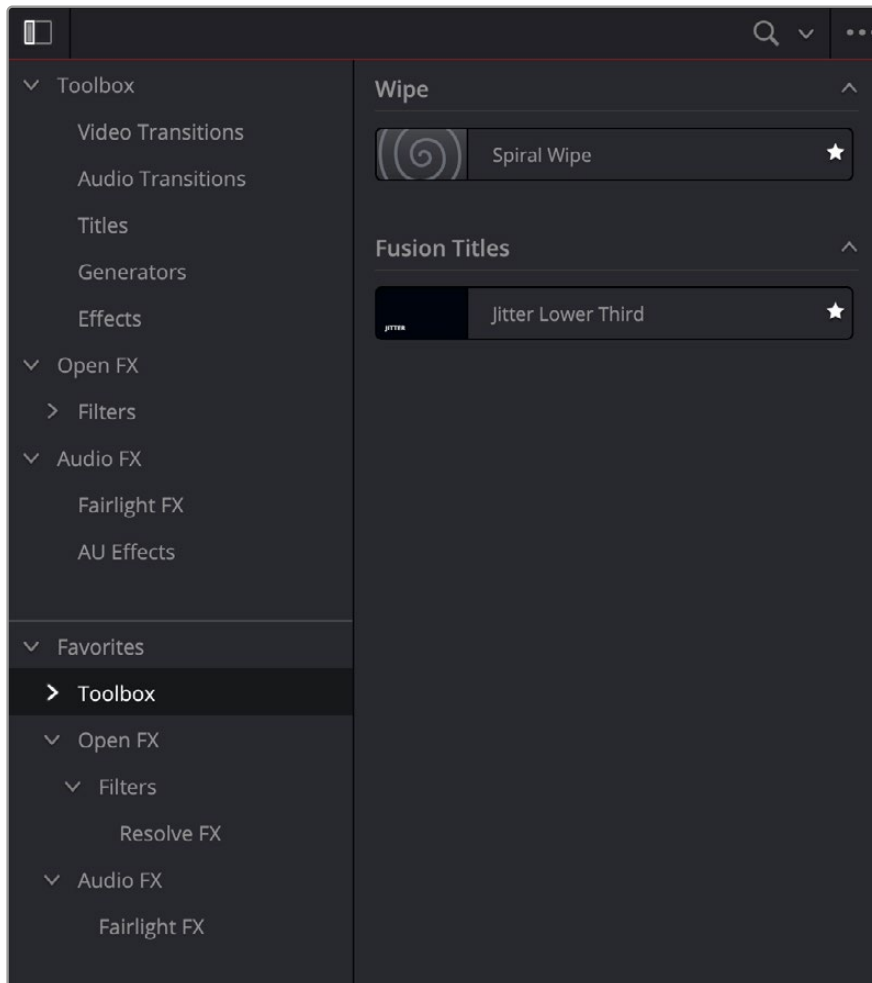
With full length keyboards, you can now use the number pad for implicit timecode entry without invoking the Go to Timecode action. When using a multicam or printer light operation, any already mapped number pad key will continue to invoke actions like switching angles or incrementing color values.

Effects Library Improvements

There have been some quality of life improvements in the Effects Library.

Effects Library Favorites Are Now Categorized

When you add a favorite transition, title, audio or video effect, they will now automatically be categorized by type in the Favorites section, making it easier to find just the effect you're looking for.



Your Favorites Effects are now automatically categorized by type.

Fusion

The Fusion page has received new tools, expanded USD capability, and Referenced Compositions in DaVinci Resolve 19.

New Fusion Tools

DaVinci Resolve 19 adds several new Fusion tools to its already robust toolset.

USD Updates

The USD tools on the Fusion page have received several updates.

The new `uTexture`, `uTextureTransform`, `uNormalMap`, and `uShader` nodes give you the ability to import and manipulate textures directly in your USD scene without having to wrap them in a USD file first. These tools add flexibility and control to your USD workflow within the Fusion page.

Now Fusion lets you more easily render realistic or stylized smoke, flames, and explosions using the new `uVolume` tool. This lets you directly load volumetric VDB files and easily control shading and field mapping.

MultiPoly

The new MultiPoly tool makes rotoscoping more efficient by allowing you to create multiple masks in a single node. The list of polygon shapes in the Inspector allows you to easily modify, organize, and animate shapes through one simple interface.

Shape Tools Updates

The Shape tools have received several updates.

The new `sText` node allows you to add text directly into your shape-based node trees and the new `sBSpline` node allows you to create B-spline-based shapes.

Also, all shapes now support animation motion paths, and the Shape Tools style tab now includes opacity controls.

MultiPoly [Mply]

Introduction

The new MultiPoly tool makes rotoscoping more efficient by allowing you to create multiple masks in a single node. The list of polygon shapes in the Inspector allows you to easily modify, organize, and animate shapes through one simple interface.

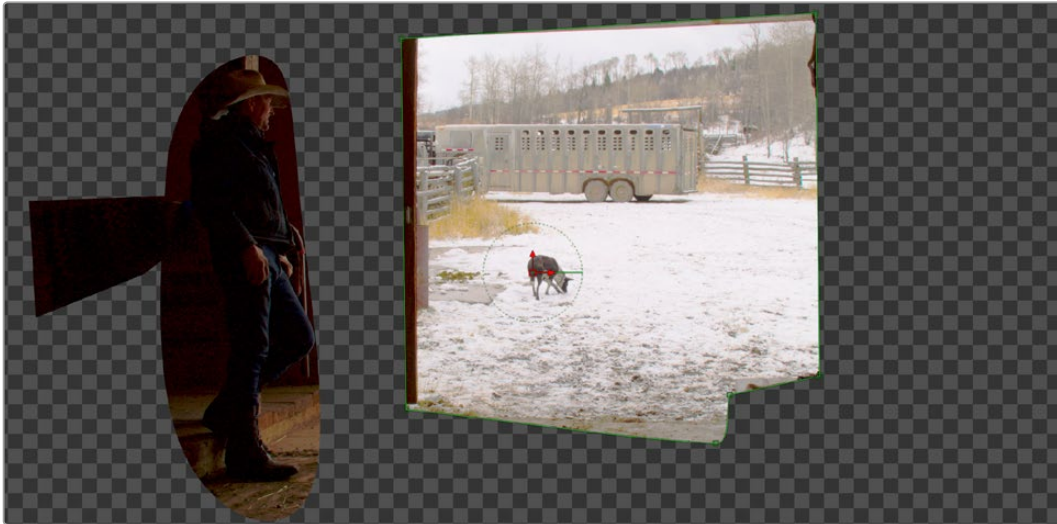
With the multiple masks presented in a scrolling list format, akin to the convenience offered by MultiMerge, you can effortlessly organize, edit, and animate individual shapes. This intuitive interface streamlines the process of drawing intricate masks, empowering you to create polished compositions with ease.

Furthermore, all these advantages are available within this List view, facilitating swift selection and modification of specific shapes, toggling their visibility, and adjusting their parameters precisely.

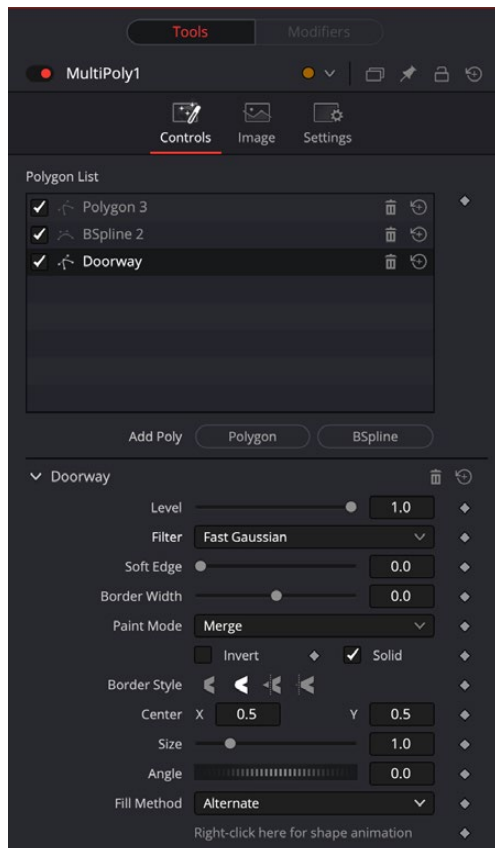
Usage

After adding the MultiPoly, the tool is ready for you to start drawing your first mask.

To create a mask, click in the Viewer to create points; these points will make up segments of the polyline. You can close the mask by clicking the initial point again.



The MultiPoly tool showing three creation of masks on the Viewer



The MultiPoly controls

In the Inspector, pressing the Polygon or BSpline button will create a new mask type. Each new mask is added to the List view located in the Inspector.

Within the List view, you can rename or reorder any of the masks you've just added. Modify specific shapes by selecting them in the layer list and changing their properties in the lower portion of the Inspector.

To animate any of the drawn masks, select the animation diamond next to the text "Right-click here for shape animation," at the bottom of the Inspector or you can right-click on this text and select Animate.

Within the layer list, right-clicking on a mask offers a few options.

- **Duplicate:** Makes a copy of the selected mask and adds a new entry in the layer list.
- **Split here:** Splits the selected mask, and any mask below it, copying them to a new fresh MultiPoly node.
- **Rename:** Allows you to rename the selected mask.
- **Reset to default:** Keeps the mask entry in the layer list, but removes the mask shape and resets all the controls for that mask.
- **Delete:** Deletes the mask.

uVolume [uVo]

Introduction

uVolume is a versatile and powerful tool that simplifies the process of importing volumetric VDB files into a USD environment. This node allows you to adjust VDB parameters such as density, temperature, and color, giving you complete control over the appearance and behavior of the imported VDB file.

Usage

When uVolume is added to the Node Editor, a File dialog is displayed automatically, allowing the selection of a VDB file from your media drive.

You can add either a single VDB file or a VDB sequence (animated VDB).

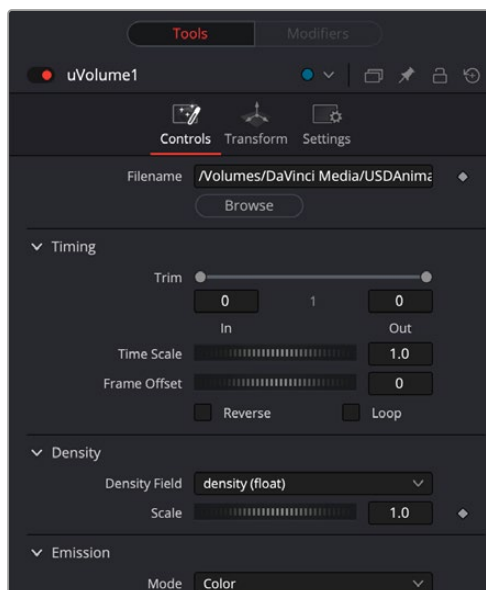
Once a VDB is brought in using the uVolume node, the uVolume can be used for trimming, looping, and changing the speed of the imported asset.

You can adjust the density with the Scale control, allowing for precise and fine-tuned adjustments.

The Emission section provides color controls for the VDB. Using the Mode selection pulldown will give you the option to select a method for how to change the color of the VDB. Emission modes include:

- **Color:** Applies an overall 'diffuse' color to import VDB. Note: USD lights will not affect a VDB with color set to white.
- **Field:** Scatters an overall color to a nominated Emission field.
- **Blackbody:** Applies color and intensity based on temperature; this is suitable for rendering fire and explosions.
- **Gradient:** Allows you to map a range of colors over a specified field. The Gradient option provides you with a number of controls to target a field, then apply nominated colors to that field.

The uVolume provides the standard transformation controls found on most nodes in Fusion's USD suite.



The uVolume controls

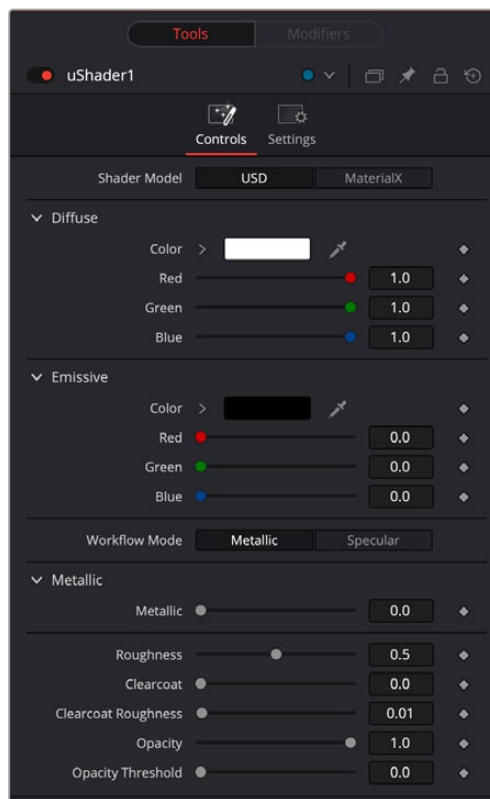
uShader [uSd]

Introduction

The uShader is a highly efficient tool, creating complex materials for USD objects. It uses a series of predefined inputs that can be easily used for your specific needs. With the ability to work with multiple texture files, this node can generate a highly detailed and realistic surface for any USD asset, making it an indispensable asset for professionals in the field.

Usage

The node has several predefined inputs, which are mostly all hidden. Unlike other tools, when you drag a texture onto this tool, you'll be shown a list of inputs to assign that texture to. There are two shader models to choose from in the Inspector. Each model has its own inputs; switching between the models may disconnect any 'unsupported' texture.



The uShader controls

uTexture [uTx]

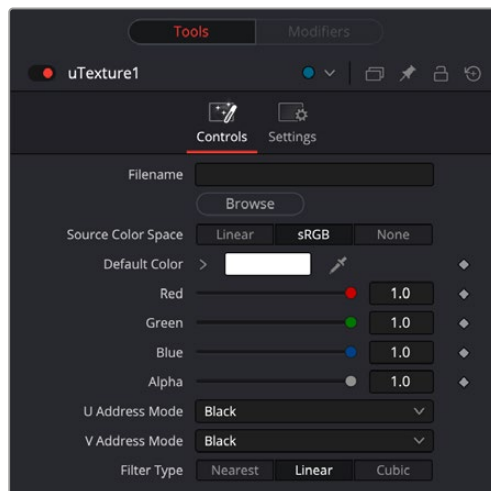
Introduction

To create a material/surface in the uShader, you can import a texture file using this tool. The uTexture sources image files and uses them to build the material/surface in the uShader.

Usage

After adding the node to the Node Editor, use the Browse button to select an image file from your hard drive. Alternatively, you can click and drag an image from the Media Pool directly onto the “File Name” control in the Inspector to load an image that has already been imported into DaVinci Resolve. Use the “Source Color Space” control to choose how the image will be read by the uTexture tool. It’s important to select Linear when loading a Normals image to get the best results.

U/V Address Mode controls offer a useful way to determine how the edges of the image are treated when exposed due to scaling.



The uTexture controls

uTextureTransform [uTXf]

Introduction

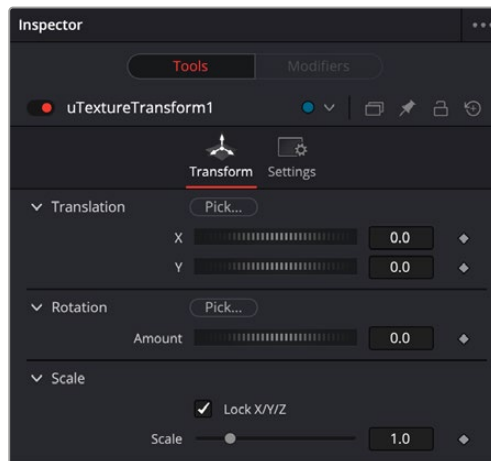
uTextureTransform provides you with granular control over the Scale, Rotation, and Position of each loaded texture file. With uTexture Transform, you can quickly and easily tweak the size, orientation, and placement of any texture file sourced from the uTexture node.

Usage

To use `uTextureTransform`, place it after a `uTexture` node and before a `uShader` node. This node only works between the the loaded texture and `uShader`.

Adjust the Scale, Rotation, and Position settings to your liking.

The Scale setting allows you to increase or decrease the size of the texture file, while the Position setting lets you move the file around within your project. You can also use the Rotation setting to rotate the texture file to any angle you desire.



The `uTexture Transform` controls

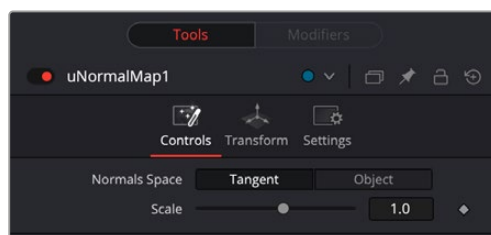
`uNormalMap [uNm]`

Introduction

The `uNormalMap` tool provides several controls to modify a “normals” texture before it’s passed onto the `uShader`. This allows you to manipulate the texture in various ways and ensure that it is optimized for your specific needs. Once any necessary adjustments have been made, the modified image is then passed onto the `uShader`.

Usage

To use `uNormalMap`, place it after a `uTexture` node and before a `uShader` node. This node node only works between the the loaded texture and `uShader`.



The `uNormal Map` controls

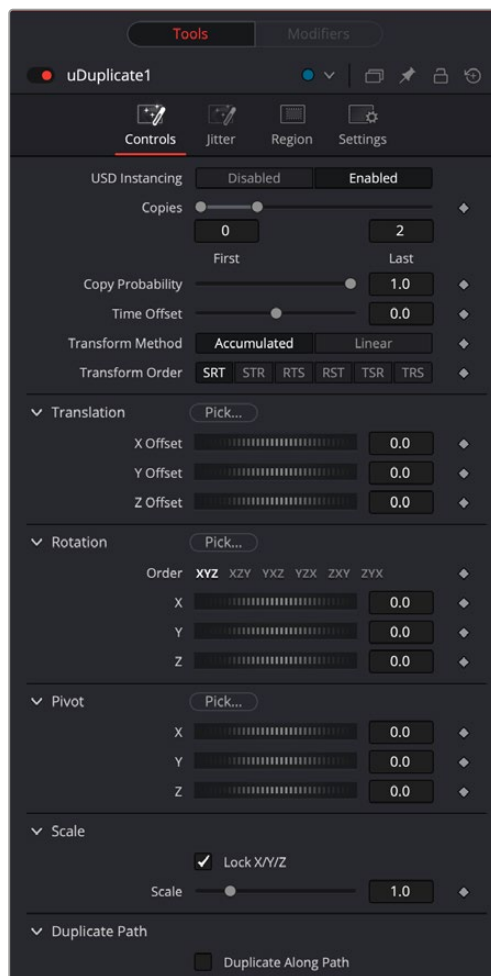
uDuplicate [uDp]

Introduction

Similar to the 2D and 3D Duplicate nodes, the uDuplicate node can be used to duplicate any USD asset in a scene, applying a successive transformation to each, and creating repeating models and complex arrays of objects. The options in the Jitter tab allow non-uniform transformations, such as random positioning or sizes.

Usage

Add the uDuplicate node after a USD asset you want to duplicate. Within the Inspector, nominate how many copies you'd like and change the relative position, rotation, or scale. This creates an exact copy of the upstream node or nodes, mimicking any animation or textures from the source asset.

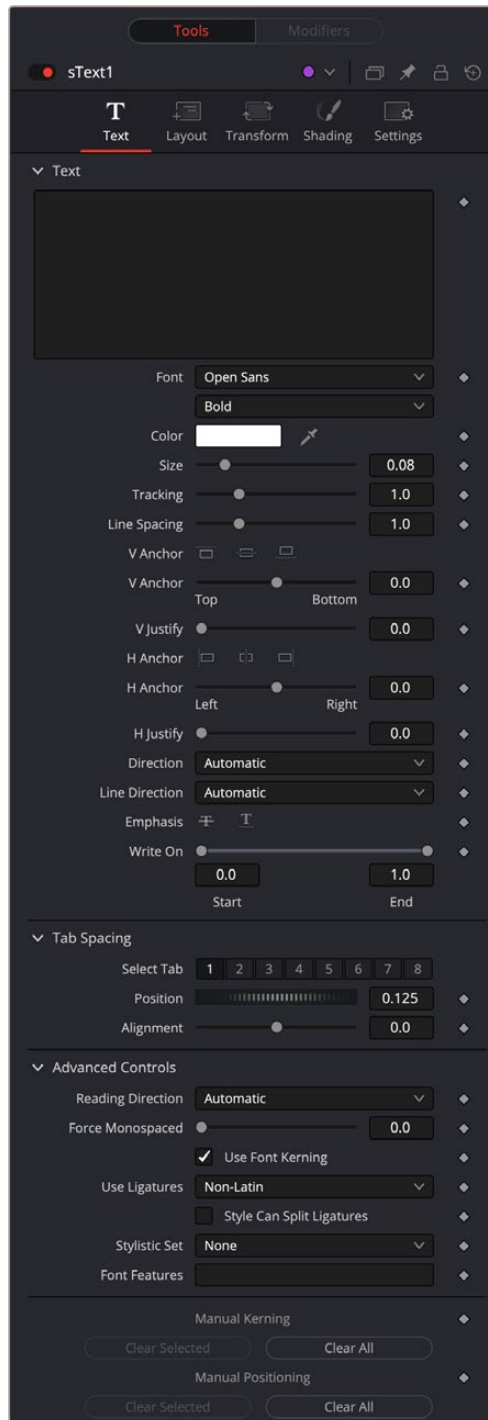


The uDuplicate controls

sText [sTxt]

Introduction

Designed for the Fusion Shape environment, the sText node is an advanced character generator capable of multiple styles, 3D transformations, and several layers of shading. The sText node is a “Shape” version of the 2D Text+ node. The controls for this node are mostly identical to the controls for the 2D version in almost all respects, except sText doesn’t support gradient colors.



The sText controls

sBSpline [sBSp]

Introduction

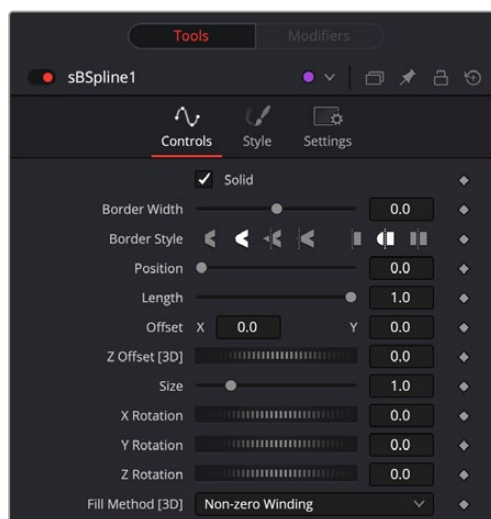
sBSpline is identical to a sPolygon in all respects except one. Where sPolygon use Bézier splines, this node uses B-splines. Where Bézier splines employ a central point and two handles to manage the smoothing of the spline segment, a B-spline requires only a single point. This means that a sBSpline shape requires far fewer control points to create a nicely smoothed shape.

Usage

When first added to a Node Editor, the sBSpline shape consists of only Center control, which is visible onscreen.

Points are added to the sBSpline by clicking in the viewer. Each new point is connected to the last one created, but instead of the spline going directly through each control point, sBSpline control points only influence the spline shape. The Control point pulls the spline in its direction to create a smooth curve.

Like the sPolygon shape tool, the sBSpline shape auto-animates. Adding this node to the Node Editor adds a keyframe to the current frame. Moving to a new frame and changing the shape creates a new keyframe and interpolates between the two defined shapes.



The sBSpline controls

Referenced Fusion Compositions

DaVinci Resolve 19 introduces a powerful new way of applying Fusion composites to your clips called “Referenced Composition.” This method allows you to reuse your work across multiple clips or even timelines.

You create a referenced composition on the Edit page by selecting a single clip, or a stack of clips, and then select “Create Referenced Composition” from the contextual menu. This generates a Fusion Referenced Composition in the Media Pool. You can enter the Fusion page to start compositing or double click the Referenced Composition in the Media Pool to open it.

Referenced comps can be linked to other clips in any timeline by selecting the referenced comp, then right-clicking the target clip and selecting “Link to Referenced Composition.” Any changes you make are applied across all connected clips because they are all “referred” or “linked” to the same composition.

Referenced compositions are an effective and secure way to keep your work backed up and organized, as they live in the Media Pool and will persist even if the original referenced clip is deleted from the Timeline.

Creating and Managing Referenced Compositions

To create a referenced composition:

- 1 Select one or more Timeline clips that are “stacked” on tracks in an Edit window timeline (clips have to overlap in time at least partially).
- 2 Right-click and select “Create Referenced Fusion Composition.”
- 3 The new reference composition, associated with the top selected clip, now appears in the Media Pool.

You can open the referenced composition in the Fusion page by double-clicking on it in the Media Pool. Media nodes match the relative locations of the source track clip arrangement in the Edit timeline.

The contents of the video track are treated as a source, allowing creative manipulation of clips before they’re passed on to Fusion for compositing.

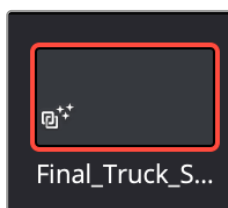
You can right-click on a referenced composition in the Media Pool and choose the Usage option to view and navigate to its target linked clips.

You can duplicate your referenced composition for iteration purposes.

In the example below, we create a simple reference composition out of three clips, replacing a logo on a truck.

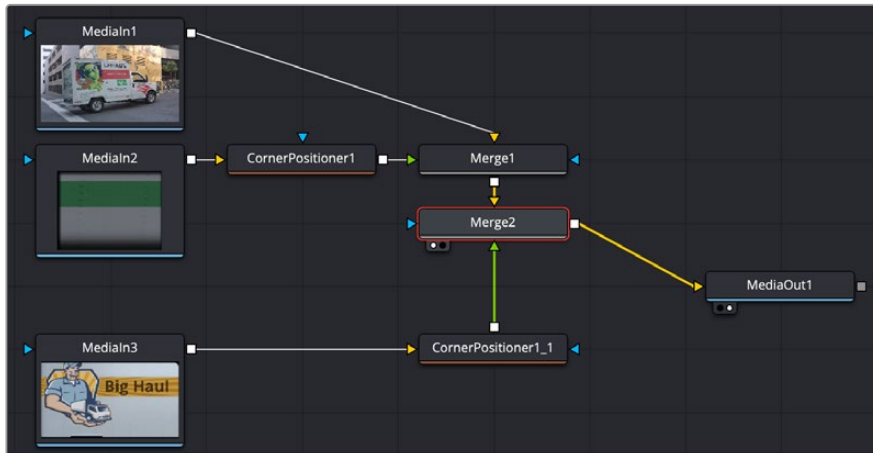


Creating a reference composition by selecting multiple overlapping clips, and then choosing Create Referenced Composition from the contextual menu.

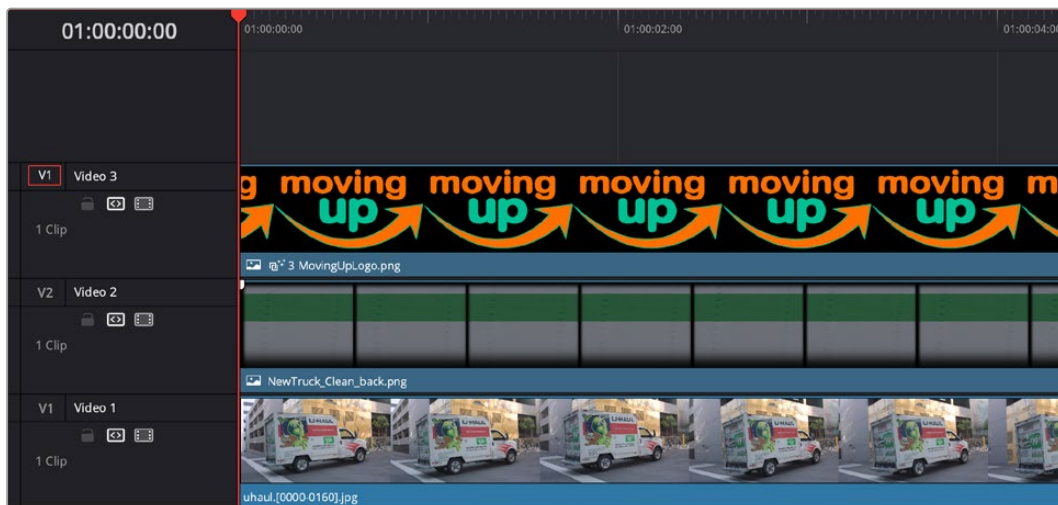


The Reference Composition thumbnail in the Media Pool

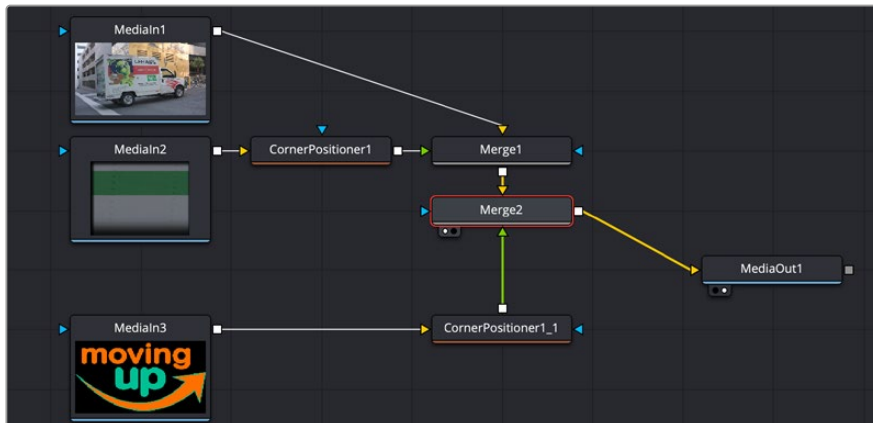
Double-clicking on the Reference Node brings us into Fusion, where we add some Corner Positioner nodes to line up the green stripe and logos to fit.



Now that we have the referenced composition set, we can easily change the logo, just by performing a replace edit with the new logo to V3 in the Timeline. The new logo is automatically applied in the Fusion comp with the same settings.



The new logo on V3 in the Timeline



Adding Additional Referenced Clips

Once you've established a referenced composition, you can add clip(s) that can use the referenced composition to affect the other clips.

To add clip references to a referenced composition:

- 1 Select the referenced composition that you want to refer to another clip.
- 2 Select a target clip in the Timeline, right-click and choose "Link to Referenced Composition."
- 3 Add other clips one at a time, if you wish, including clips from other timelines.

Referenced Composition Behaviors and Rules

There are some additional behaviors and rules to be aware of when using referenced compositions.

- Referenced compositions maintain the original source resolution of your clips.
- When selecting multiple clips, ensure that the clips have some overlap with the top selected clip. Without this overlap, the context menu action to create a referenced composition across layers is not available.
- When creating a project composition from multiple overlapping clips, a single composition associated with the top selected clip is created.
- The referenced composition features additional Media In nodes (one per track). Media In 1 refers to the top selected clip. Subsequent Media In nodes reference timeline tracks (layers) below the top clip.

- Removing a timeline clip will not remove the associated composition.
- When you edit the contents in a referenced composition's track, the corresponding Media In refreshes to automatically to show the new clips, edits, effects, and transitions.
- From the timeline clip's context menu, you can:
 - **Reset Reference Composition:** To reset the composition. This affects all referenced clips.
 - **Unlink Composition:** To remove the composition reference from the selected clip. This retains the composition in the Media Pool, but the clip effect is cleared. Useful if you want to link to another referenced composition.
 - **Find Reference Composition in Media Pool:** To find the reference composition the clip is a part of in the Media Pool.

NOTE: Clips of differing frame rates or clips with speed changes are not supported in Referenced Compositions.

Improved Text+ Inspector and On-Screen Controls

Now, you can double click to access various editing actions directly on Text+ in the Viewer overlay, such as editing text, displaying a cursor, and selecting text.

Alternatively, hover over the popup toolbar within the Fusion viewer and activate it, or right-click on the View menu. This functionality is intuitive; when Text+ is selected, double-clicking anywhere in the Fusion viewer activates the in-viewer text editing mode.



The Text+ on-screen viewer editing controls in the Fusion viewer

This capability extends to the viewer within Edit page when the Fusion overlay is enabled, accessible by selecting the "Allow typing in preview" option.



The Text+ on-screen viewer editing controls in the Edit Page viewer. Note that you must turn on the Fusion Overlay (circled) in the bottom left.

Within the Fusion viewer, you'll also find pivot points for your Character, Word, and Line transforms. For easy access, a Pivot Points icon has been added to the popup toolbar, allowing you to toggle their visibility when adjusting rotation and scaling transformations.

Also new is the Z position-based sorting mode, a powerful addition to our toolkit. In contrast to the Distance mode, which sorts based on absolute distance from the camera, this mode sorts solely on the Z distance from the camera, irrespective of the relative orientation. With Z position, you can flexibly arrange overlapping text elements, ensuring precise layering and depth management.

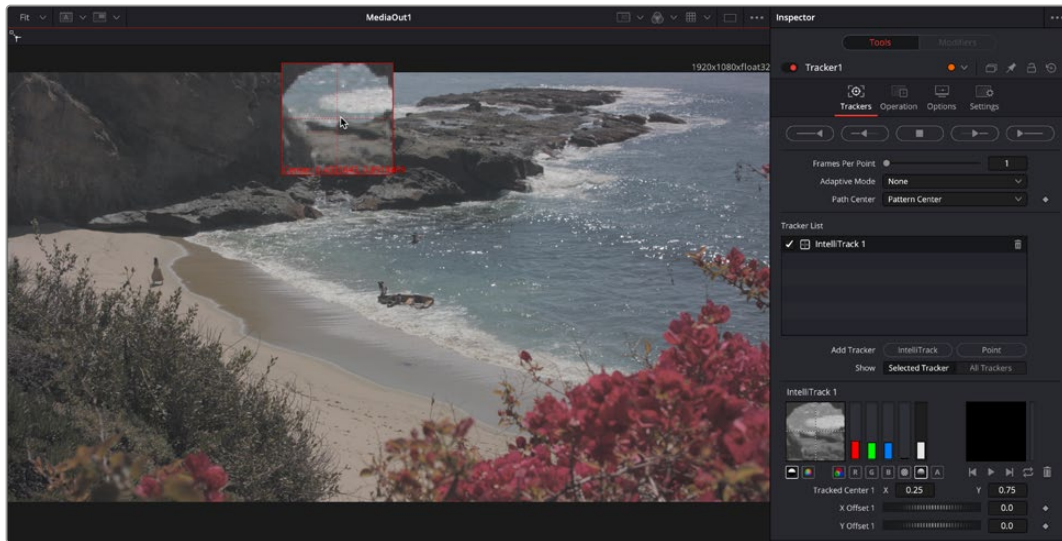
Moreover, character-level styling has been refined to facilitate more intuitive offsets and translation transformations. This enhancement reduces the need for manual positioning and ensures a consistent application across multiple separate character selections.

New IntelliTrack AI Point Tracker

The Fusion Tracker node now defaults to using IntelliTrack, the new DaVinci Neural Engine tracker. Using AI makes tracking easier and more precise, especially when tracking many points.

IntelliTrack harnesses the intelligence of the DaVinci Neural Engine to track objects accurately within a shot with extreme precision. The track is exceptionally robust and tight due to the underlying AI engine.

NOTE: The original point tracker is still available to use by choosing the Point button.



Adding a Tracking Point in the IntelliTrack mode in the Fusion tracker

Miscellaneous New Features

Support of Open Color IO 2.3

The Fusion page now integrates OpenColorIO 2.3 workflows, with support for:

- Faster and more accurate transforms for viewers that do not clip HDR content.
- New view LUT options for display transforms, including ACES workflows.
- Display transforms to use system ICC profiles for monitor correction on Windows and Mac.

USD Toolset Enhancements

The USD toolset contains multiple improvements, including:

- Multiple tools have been upgraded to reflect a deeper integration of MaterialX surface and volumetric tools, and now offer more control over texture animation, depth, lighting, and transparency.
- Improved shadows for USD spherical and cylindrical lights.

Multiple Shape Toolset Enhancements

- Shape tool controls in the Inspector feature new opacity controls.
- All shapes now support animation motion paths.

Color

The Color Page has seen major improvements in DaVinci Resolve 19, including ColorSlice (a vector-based grading tool), and Node Graph Stacks to help organize your Node Graphs.

Support for the DaVinci Resolve Micro Color Panel

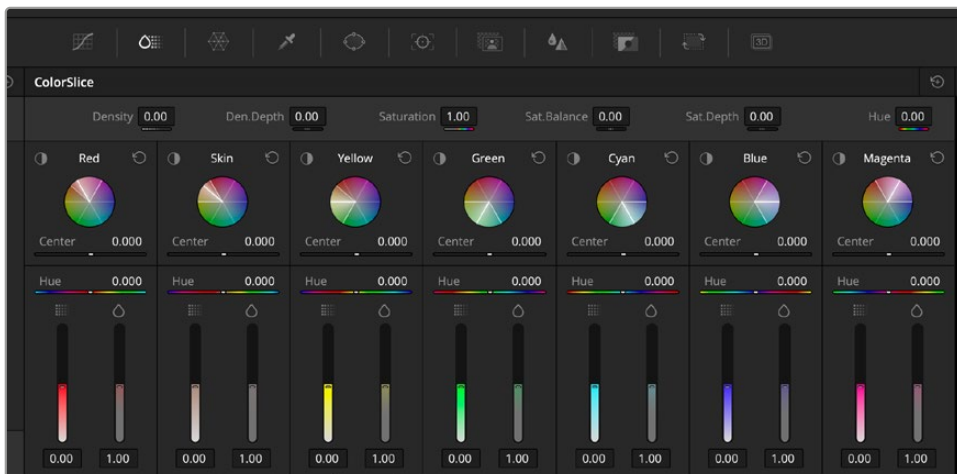
The DaVinci Resolve Micro Color Panel is Blackmagic's newest and smallest control surface for color grading. It's available for DaVinci Resolve 19 on Mac, Windows, and iOS.



The DaVinci Resolve Micro Color Panel

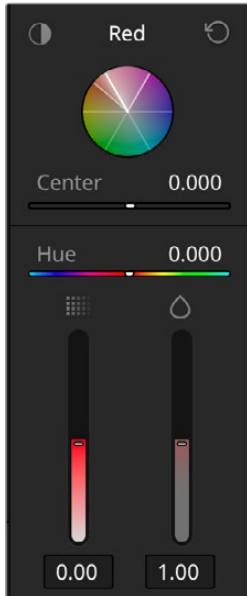
ColorSlice

ColorSlice is a fixed vector grading tool that cuts the standard color wheel into six slices based on the conventional vectors on the Vectorscope: Red, Green, Blue, Cyan, Magenta, and Yellow. In addition a seventh vector has been added for Skin Tone.



The ColorSlice vector-based grading tool

You can set overall density, saturation, and hue parameters to customize different CMY print processes and change brightness and saturation for each vectorspace slice. To achieve deep filmic colors and looks, brightness is controlled in a subtractive way when adjusting saturation, so saturated colors are not unnaturally bright and do not need luminance adjustments.



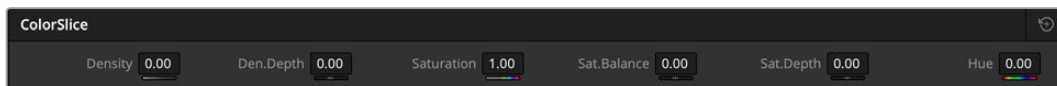
The Red ColorSlice Vectorspace controls

Each vectorspace slice is composed of the following controls:

- **Highlight:** Clicking on this icon will enable a Highlight view, showing the areas of the image that will be modified by the control. You can also use this view to make it easier to refine the parameters below.
- **Vector Name:** A name that represents the color of the area controlled (Red, Green, Blue, etc.).
- **Reset:** Resets the all the Vectorspace controls back to the default levels.
- **Color Wheel:** A visual representation of the vectorspace slice. All colors within the triangle are what will be adjusted by the controls.
- **Center:** This is the only adjustable qualifying control. Sliding this back and forth will move the triangle in the color wheel, letting you slightly change which colors fall within the vectorspace. Use this tool in conjunction with the Highlight view to make sure that the specific colors you want to adjust are qualified.
- **Hue:** Changes the hue of all the colors within the vectorspace slice.
- **Density:** Adjusts the density of the colors inside the vectorspace slice by adjusting the luminance of more saturated colors to emulate a subtractive color film process.
- **Saturation:** Adjusts the saturation of colors qualified by this slice using a subtractive color model that prevents highly saturated colors from becoming unnaturally bright.

Global Controls

In addition to the individual Vectorspace controls, there are a set of global controls along the top of the tool. These will change the values of the entire image.

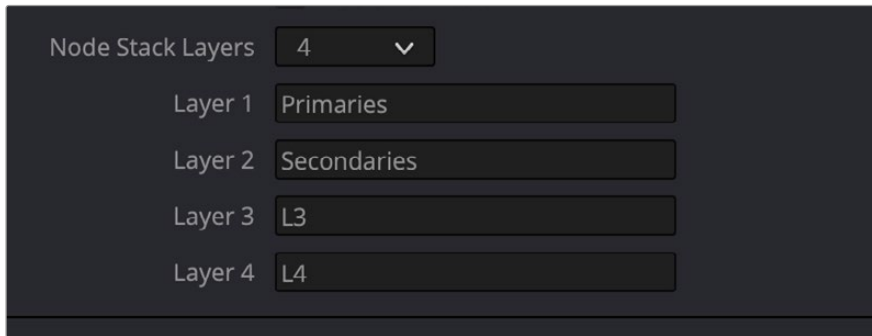


The ColorSlice Global controls

- **Density:** Adjusts the luminance of more saturated colors to emulate a subtractive color film process.
- **Density Depth:** Controls the effect of density adjustments on brighter areas of the image.
- **Saturation:** Adjusts saturation using a subtractive color model that prevents highly saturated colors from becoming unnaturally bright.
- **Saturation Balance:** Adjusts how saturation changes effect the luminance balance in colors with medium saturation levels.
- **Saturation Depth:** Controls the effect of saturation adjustments on brighter areas of the image.
- **Hue:** Changes the hue of all the colors within the image.
- **Reset:** Resets all ColorSlice adjustments.

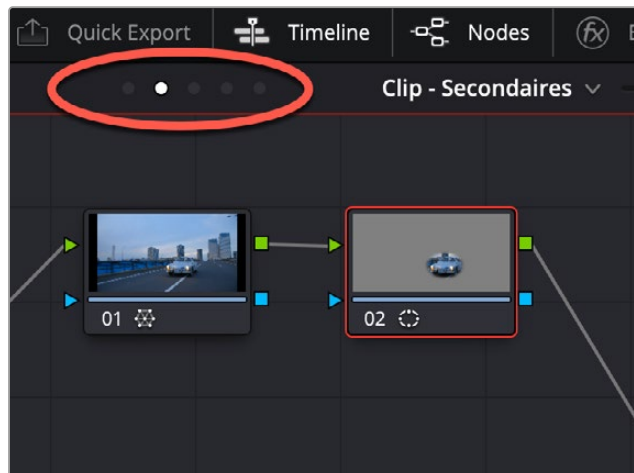
Node Graph Stack

The Node Graph Stack allows management of complex grading workflows by creating multiple sequential node graphs that let you break up grades into separate sections. This allows users to isolate related functions like stabilization, corrections, hero grades, and display trims into individual node layers. Grade operations like ripple, reset, and editing can also be done on a per-layer basis.



The Node Graph Stack Count settings and naming options

From Project Settings > General Options > Node Graph Stack Count, users can set the number of clip node graph layers in the Node stack up to 4. You can also add custom names to the layers such as “primaries,” “secondaries,” “finishers,” etc.



The Node Graph Stack is navigated by clicking on the dots above the Node Graph. The name of the active layer is directly to the right.

Users can then select individual layers from the navigation dots above the Node Graph or from the Option menu.

IMPORTANT: All node layers are applied sequentially to the clip: pre-clip, L1, L2, L3, L4, post-clip, and then Timeline.

Support for ACES AMF 2.0

DaVinci Resolve now supports ACES AMF 2.0 files for import and export. ACES AMF is a sidecar file written in XML that define the input and output transforms of the clip. This makes sure that the correct input and output transforms are applied throughout the post production pipeline. These files can either be loaded at a project level or a clip level. Clips with the “applied” attribute set to true are tagged appropriately with no transforms applied. However, if they are set as false, the transform is applied within DaVinci Resolve.

NOTE: You must use version 1.3 or above of the ACEScc or ACEScct Color Science to use AMF files.

Working with AMF Files

- **Project level AMF:** These will have all transforms applied (i.e., any defined input, look, or output transforms which have their “applied” attribute set to false will be applied). The input and output transforms are applied via the project settings “ACES Input Transform” and “ACES Output Transform” menus, and these menus will display “From AMF” if they are using a transform from the loaded AMF file.
- **Clip level AMF:** An AMF can be loaded from the Color page clip thumbnail context menu from the Clip AMF menu. This list is also populated from the ACES Transforms AMF subfolder. A clip level AMF will not apply the output transform; that can only be applied from project settings. Any input or look transforms will have their “applied” attribute set to false. The look transforms are applied within a compound node labeled AMF LMTs.
- **ACES Gamut Compression:** If the ACES reference gamut compress algorithm is specified in a look transform within the AMF, it will set the “Apply ACES reference gamut compress” checkbox to checked. The user can see what input, gamut compress, look, and output transforms are applied by clicking the “View Transforms” button at the bottom of the “Color Space & Transforms” section of the Settings > Color Management section.

To Import an AMF

- 1 **Place your AMF files in the ACES Transforms/AMF directory on your computer. This is folder is found at:**
 - **MacOS:** the users Library/Application Support/Blackmagic Design/DaVinci Resolve/Aces Transforms/AMF
 - **Windows:** the users AppData\Roaming\Blackmagic Design\DaVinci Resolve\Support\ACES Transforms\AMF
 - **Linux:** opt/resolve/Developer/DaVinciCTL/AcesTransforms/AMF
- 2 In the Project Settings, set the Color Management > Color Science setting to ACEScc or ACEScct.
- 3 Select the ACES version to be 1.3 or above.
- 4 Click on the ACES AMF drop-down menu, and select the AMF from the list.

Exporting AMF Files

There are three choices to select from when you export an AMF file.

Source Master mode:

- All the applied attributes will be set to false.
- A source master is not associated with any clips or images.

Dailies Request mode:

- You can select the folder to store the output AMFs.
- A dailies AMF is created for and associated with each clip, and the applied attribute will be set to false.

VFX Request mode:

- A VFX AMF will only have the input transform with the applied attribute set to false.

AMF Delivery Behaviors

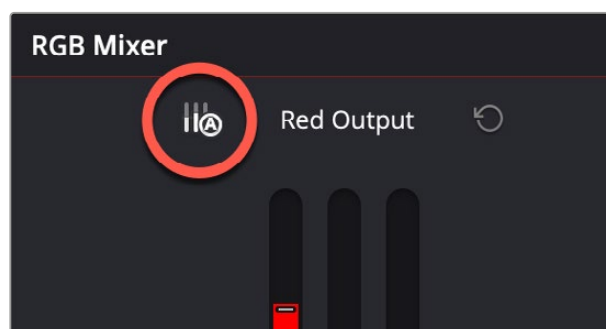
- For AMF delivery, the export AMF option can be chosen in the Deliver page render settings.
- When using Source Master, the images are rendered to ACES APO or Linear masters with only the input transforms applied; all other transforms are set to applied false.
 - The resulting AMF is not associated with any clips or images with an aim to define and transmit a color pipeline with its post production look alongside ACES APO or Linear data.
- In Dailies Request, all transforms are applied on the rendered images and all transforms are set to applied true.
- The resulting AMF is associated with each clip in the project.
- In VFX Request, the clips are rendered to ACES APO or Linear with only the input transform applied and all other transformed are set to false.

To Export an AMF

- 1 Right-click on your timeline in the Media Pool.
- 2 Select Timelines > Export >AMF in the contextual menu.
- 3 **Choose the type of AMF file to export:** Source Master, Dailies Request, or VFX Request.
- 4 Enter the name of the AMF file and its save location in the file browser.
- 5 Click on the Save button.

Normalize Channels in the RGB Mixer

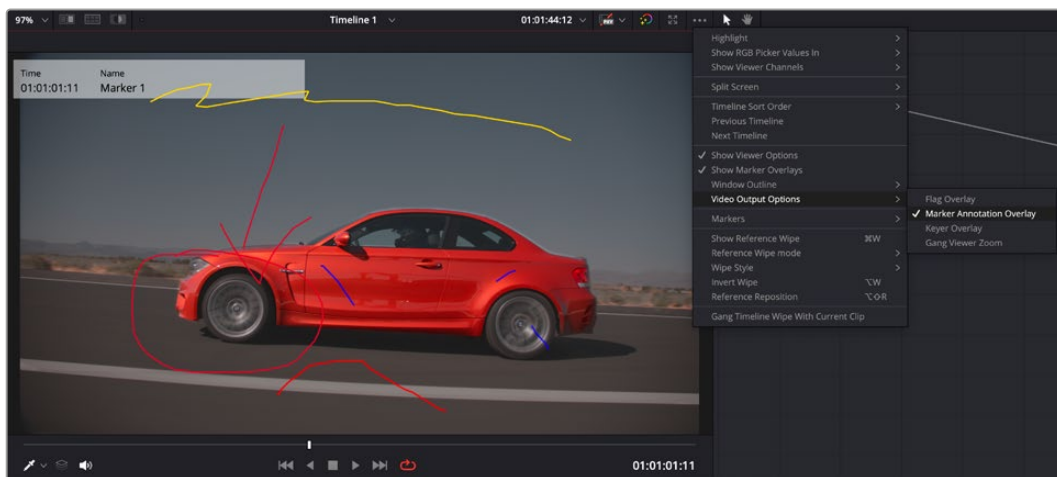
The RGB Mixer now has an additional Auto Normalize control for each channel. These per-channel normalize controls allow for users to adjust channel mixes without affecting overall luminance.



The Auto Normalize control on the red channel of the RGB Mixer

SDI Output Shows Advanced 3D Keyer Strokes and Marker Annotations

When you make strokes in the 3D Keyer, or annotations in the viewer, these can now be output to your grading monitor from the Color page viewer. Simply click the Color Page Viewer Option menu, and select Video Output Options, and choose your options from the drop-down menu. Unchecking the option removes the overlay from the SDI output going to your grading monitor.



Turning on the Annotations Video Output option to show the overlay on the grading monitor

Double Clicking to Open a Compound Node

As of DaVinci Resolve 19, you can now enter any compound node, simply by double-clicking it. Exiting back to the main node tree still requires you right-click in the Compound Node view and select “Exit Compound Node.”

Preview Matte Node Layers by Option Hovering Over Layer Entry

When working with a node with multiple matte layers, such as an .exr file, you can now preview individual matte layers. To do so, right-click on the node, select Add Matte from the contextual menu, and hover over the name of the file. A list of all the layers in the node will appear, and by holding down the Option key while hovering over each layer, it will appear in the viewer. This can let you quickly check to see if you are working with the correct matte layer (arm, wheel, shirt, etc.), regardless of what the matte has been named in the file.

Node Context Menu Actions Can Have Assigned Shortcut Keys

You can now assign shortcut keys to Node Context menu actions, like Lock Node, HDR Mode, Clean Up Selected Node Graph, etc. Go to Keyboard Customization > Commands > Panels > Color Nodes to assign the shortcuts.

Cleanup Node Graphs for Multiple Selected Clips

If your grading has gotten slightly out of control, you can now use the Cleanup Node Graph command on multiple clips at the same time. To do so, select the clips whose Node Graphs you want to tidy up in the Thumbnail timeline, then right-click in one of their Node Graphs and choose “Cleanup Selected Node Graphs” from the drop-down menu. This will perform a Cleanup Node Graph operation on all selected clips at the same time.

Creating Smart Filters for HDR Graded Clips

HDR Graded clips can now be a criteria used for creating Smart Filters in the Create Smart Filter dialog box.

Improved Stereoscopic 3D Control Layouts on Advanced and Mini Panels

The Stereoscopic 3D settings on the Advanced and Mini panels have been reorganized for better efficiency and control.

Link Target Display Selection with Dolby Vision Trim Control Display Options

In the Dolby Vision controls, you can now link the Target Display Output and the Trim Controls for Fields by clicking on the little Chain icon directly to the left of the options. This automatically changes the Trim Controls for Field to the same value you set in the Target Display Output, ensuring your trim controls are always right for the selected display.

Support for HDRVivid SDK 1.5

HDR Vivid controls have been updated to support HDRVivid SDK 1.5.

Support for FujiFilm F-Log and F-Log2 for Color Managed Workflows

DaVinci Color Managed workflows now supports video clips shot in Fujifilm F-Log and F-Log2 color spaces.

Up to 3x Faster Resolve FX Beauty, Edge Detect, and Watercolor in Mac OS

The speed of the Beauty, Edge Detect, and Watercolor Resolve FX have been increased by up to 3x in MacOS.

Up to 2x Faster Resolve FX Beauty, Edge Detect, and Watercolor with NVIDIA GPUs

The speed of the Beauty, Edge Detect, and Watercolor Resolve FX have been increased by up to 2x in systems using NVIDIA GPUs.

Color FX

DaVinci Resolve 19 includes new Resolve FX for creating Film Looks, Defocusing Backgrounds, and improvements to Face Refinement.

Defocus Background

The Defocus Background effect lets you blur only the background of an image and provides a detailed set of tools to mimic shooting with a shallow depth of field.

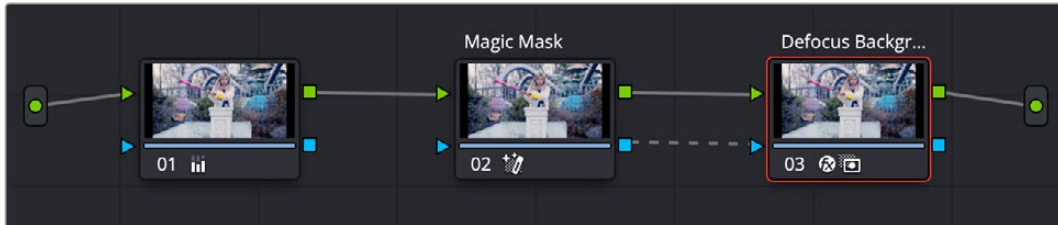


The original image with a busy, distracting background



Using the Defocus Background effect to blur the background, making it less distracting, and mimicking a shallower depth of field.

The Defocus Background effect does not qualify or isolate the foreground subject. In order to use the Defocus Background, you must first isolate the foreground subject using an effect or mask using another tool like Magic Mask or a Power Window. You can then apply Defocus Background either to the same node or connect the key output from a previous node.



Connecting the key output of the Magic Mask to the Defocus Background effect. Defocus Background requires a key generated from another tool like Magic Mask or a Power Window to work.

Adjust Mask

These controls let you adjust the mask that separates the sharply focused areas from the areas you want to blur.



The Mask Preview option shows where the defocus operations will take place (black areas).

- **Mask Preview:** Checking this box will bring up a black and white preview of your mask. The white areas of the mask will stay sharp, while black areas of the mask are what will be blurred using the Mask controls below. This is convenient to have up while you're perfecting the mask, then disabled to see the output of the Effects and Advanced options.
- **Mask Invert:** Checking this box will invert the mask, making the white areas black and vice-versa.
- **Mask Blur:** This control adjusts the size of the Blur around the mask; this lets you smoothly blend the foreground and background together.
- **Mask Contrast:** This controls how strong the divide is between the focused and blurred regions of the matte.
- **Adjust Pivot:** This allows you to set where the divide is between the focused and blurred regions of the matte.

Effects

These controls set the main characteristics of the blurred area.

- **Blur:** This slider controls the size and how much blur to apply to the blurred area.
- **Saturation:** This slider controls the saturation of the blurred area. 1.000 (default) is full saturation. A value of 0.000 makes the blurred areas monochrome.
- **Colorize:** This slider controls the amount of color to tint the blurred areas. 0.000 is the default (no colorization).
- **Color:** This is the color picker for the Colorize operation above.

Advanced Options

These controls let you adjust some of the physical characteristics of the blurred area.

- **Blur Type:** This lets you choose the blurring algorithm used to make the blur. Either Lens blur or Gaussian blur are options.
- **Anamorphism (Lens Blur):** This slider lets you set the aspect ratio of the blur to match different lens types.
- **Highlights (Lens Blur):** Lets you adjust how the highlights of the image affect the blur, dilating or eroding the image.

Face Refinement Improvements

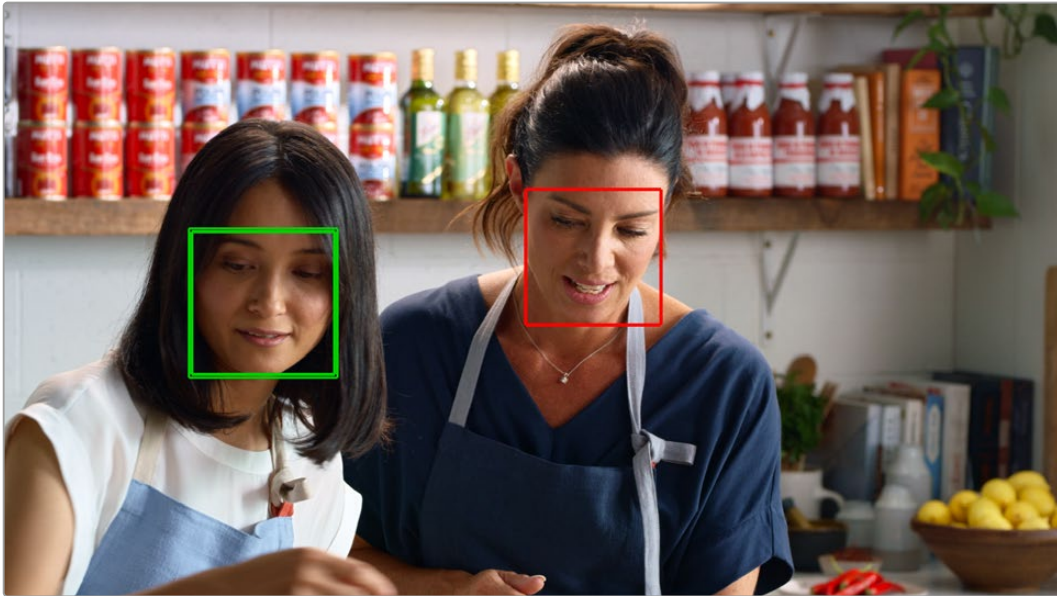
(Studio Version Only)

The Face Refinement effect has been improved with better tracking, profile handling, and smooth skin options. The newly revised effect is described below:

Face Refinement is an incredibly sophisticated yet easy-to-use filter that lets you quickly make very targeted adjustments to people's complexions.

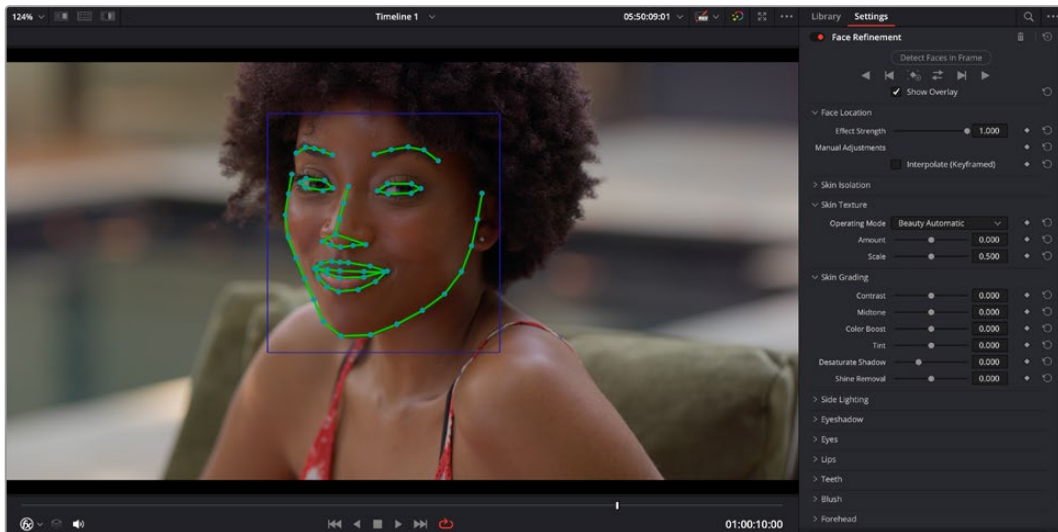
In order to use the face refinement toolset, the first thing you need to do is to identify the face (or faces) you wish to work on, and then analyze and track that face through the clip.

Identifying a face is done by clicking on the Detect Faces in Frame button. If faces are present in the frame at the position of the playhead, then this results in boxes being drawn over each detectable face. Click any of these boxes to choose which face you want to refine, and that box will be highlighted in green to indicate which face you'll be refining.



When multiple faces are detected, you can click a box to choose which one to work on

After you've selected which face to work on, you need to use the tracking controls to track the face through the clip, and an outline of the face's major features appears to let you follow its progress.



The Face Refinement filter detecting a performer's face

The basic tracking controls usually work well enough to track faces in most instances. However, in some trickier cases if the subject's head tilts away, or if it's occluded by something else in the frame, you may have to manually adjust the track. You can do this by going to the last known good point of the track and then checking the Interpolate (Keyframed) box. This will add keyframes automatically for the frame and turn the outlines blue to let you know you are in Manual mode. Then you can go to the problematic frames and click and drag to manually adjust the entire face or select and adjust each individual feature as needed. Once you get to a point where the automatic tracking works again, you simply uncheck the Interpolate box and let the automatic tracker take it from there.

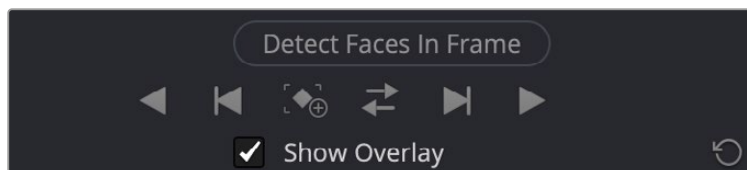


Manually adjusting an eyebrow in the Interpolate (Keyframed) mode

Once the face has been tracked, you're ready to work. This plugin divides the tracked face into different zones for common operations colorists often perform to eliminate blemishes quickly, adjust the hue and saturation of complexions in regionally appropriate ways, modify lighting, sharpen desirable detail, and refine makeup. Because all adjustments are fit to the proportions of the face that's been detected and tracked, all you need to do is make the adjustments you need and DaVinci Resolve takes care of the rest.

Main Controls

The top controls let you initiate the Face Refinement process.



The tracking controls for Face Refinement

- **Detect Faces in Frame:** This button initiates the process of using the facial detection of the Face Refinement plugin to detect the face you want to make adjustments for.
- **Tracking Controls:** Basic tracking controls to identify facial features motion through the clip.
 - **Track Reverse:** Identifies the face and tracks it backward through the clip.
 - **Track Reverse 1 Frame:** Identifies the face and tracks it backward 1 frame.
 - **Find in Frame:** Identifies the face in the current frame.
 - **Track Forward then Reverse:** Identifies the face then tracks it forward from the current position and then reverse from that position.
 - **Track Forward 1 Frame:** Identifies the face and tracks it forward 1 frame.
 - **Track Forward:** Identifies the face and tracks it forward through the clip.
- **Show overlay:** To impress your clients and see how well Face Detection is tracking the face you're working on, you can turn on this checkbox, which turns on the wireframe tracking that shows you which facial details are being detected.

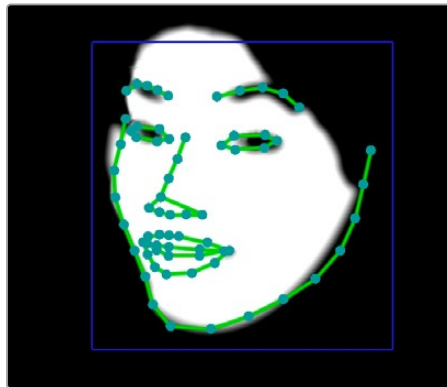
Face Location

These controls let you adjust the strength of the effect, as well as make manual adjustments to the face and its features position in the frame.

- **Effect Strength:** This slider determines the relative strength of the adjustments made with the original image. 1.000 is full strength, while 0 turns the effect completely off.
- **Interpolate (Keyframed):** Checking this box lets you make manual adjustments to the face and feature tracking in the viewer, and automatically keyframes any changes. Click and drag in the viewer to move the entire face. Shift-click and drag to reframe the face. Click on any individual feature to adjust, or any dot to move its position.

Skin Isolation

These controls let you adjust the skin mask this plugin automatically generates in order to limit the effect to only the face of the person you're targeting.



Adjusting the key with the face mask active

- **Show mask:** This checkbox makes the face mask being generated visible, which can be helpful to see while you're tuning it.
- **Skin Mask Source:** Lets you select the source for the skin mask. DaVinci Resolve's Internal Skin Model is the default, but there is the ability to use the Input Alpha if you've qualified the skin tones in another node. None disables the mask.
- **Shadow Range:** This control lets you extend or erode the shadows of the face detected by the skin model.
- **Tint Range:** This control lets you extend or erode the tint range detected by the skin model.
- **Temp Range:** This control lets you extend or erode the color temperature of the face detected by the skin model.
- **Limit to Face Region:** Turning on this checkbox places a circular garbage mask that follows the face to eliminate any accidental qualification of areas outside the face.
- **Region Size:** Lets you adjust the size of the face mask.
- **Region Softness:** Lets you adjust the edge softness of the face mask.
- **Flat Skin Areas Only:** Checking this box will exclude the nose and eye socket regions from the mask, allowing you to work only on the facial skin itself.
- **Exclude Mouth:** Checking this box will exclude the mouth region from the mask, allowing you to work only on the facial skin itself and not the lips.
- **Denoise mask:** This slider lets you fill in areas of small detail in the mask.
- **Refine mask:** This slider lets you adjust the face mask to smooth or eliminate gaps in the key.

Skin Texture

The Skin Texture controls have three Operating modes that let you choose the method you want to use to control skin texture. Beauty Automatic and Beauty Advanced provide the texture controls available in the Beauty plugin, while Smoothing provides the previously available texture adjustment controls.

Beauty Automatic Controls

Automatic mode reveals easy-to-use controls for smoothing or coarsening detail.

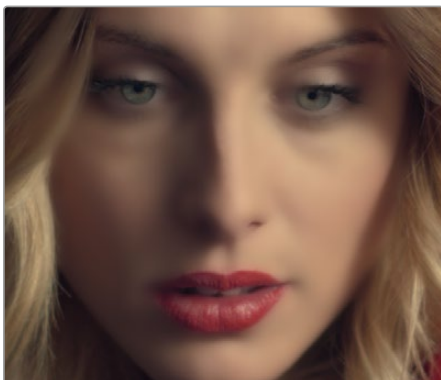
- **Amount:** Lets you choose how much smoothing or coarsening to apply.
- **Scale:** Lets you reduce or increase the amount of smoothing or coarsening that's accomplished with the range of the Amount slider.

Smoothing Controls

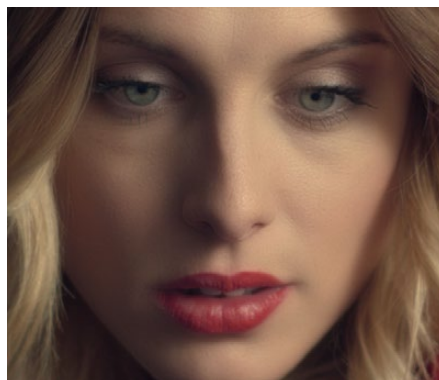
- **Smoothing:** This slider removes detail from the areas isolated by the Skin Mask controls, smoothing the complexion. Its operation depends on the settings of the Detail Size and Detail sliders below. You may find you can increase Smoothing more dramatically as you increase Detail using the Detail Size and Detail sliders described below.
- **Detail Size and Detail:** Once you've used the Smoothing slider, you can then use these sliders to selectively put subtle skin details back into the image. Detail Size determines the maximum size of details you want to put back into the face, and Detail is a sharpening operation that lets you adjust how visible these small details are. By combining smoothing and subtle preservation of small details, you can get a much more naturalistic result than were you to simply leave the entire face unnaturally smooth.



The original image



Only smoothing complexion



Using Detail Size and Detail to put natural texture back into the smoothed result (results exaggerated for print)

Beauty Advanced

These controls are identical to the Advanced controls of the Beauty plugin, covered previously in this chapter.

Skin Grading

These controls let you make color adjustments to the overall face.

- **Contrast:** This slider lets you lighten the face in a natural way by keeping the shadows dark even while you brighten the face, making it easy to bring actors out of the background.
- **Midtone:** Lets you add a more luminous quality to the skin tone.
- **Color boost:** Specifically boosts saturation in the lowest saturated parts of the face.
- **Tint:** Provides a limited range of naturalistic hues, emphasizing orange through red (but extending to green and magenta) with which to tweak complexion.
- **Desaturate shadow:** This slider lets you selectively desaturate the darkest shadows on the face to keep things looking natural or to desaturate more aggressively in order to stylize the face in a different way. Also useful when using the other adjustments of this plugin makes the shadows too colorful. Moving this slider into negative values will add saturation.
- **Shine Removal:** This slider is an inverse contrast adjustment designed to ameliorate sweat and shine on a person's face, although moving this slider into negative values will also accentuate shine.

Side Lighting

These controls allow you to fill in or accentuate shadows and balance the light between the sides of the face.

- **Lift Left/Right:** Adjusts the dark parts of the image for a side of the face.
- **Gamma Left/Right:** Adjusts the midtone parts of the image for a side of the face.
- **Gain Left/Right:** Adjusts the bright parts of the image for a side of the face.
- **Area Size:** This control lets you adjust the size of the area of influence of the side lighting.
- **Bias Left/Right:** Normally, the left and right sides of the face are split right down the nose. You can use this control to adjust the center of the effect manually, if necessary.
- **Area Softness:** This control adjusts the softness of the effect around the side of the face.

Eye Shadow

These controls give extensive control of the eyelids and sockets, without manipulating the eyes themselves. Used subtly, it can easily remove bags under the eyes or accentuate makeup details. Used aggressively, you can create realistic eye makeup effects from nothing. There are separate controls for the upper and lower eyelid areas.

- **Temp Upper/Lower:** Adjusts the color temperature of the eyelid.
- **Tint Upper/Lower:** Adjusts the tint of the eyelid.
- **Hue Upper/Lower:** Adjusts the color of the eyelid.
- **Saturation Upper/Lower:** Adjusts the saturation of the eyelid.
- **Gamma Upper/Lower:** Adjusts the gamma of the eyelid.
- **Size Upper/Lower:** Adjusts the size of the area of the eyelid modifications.
- **Softness Upper/Lower:** Adjusts how soft the blending is between the eyelids and the face.

- **Strength Left/Right:** Lets you set different strengths for the left or right eye to compensate for lighting differences between the sides of the face.



The original image



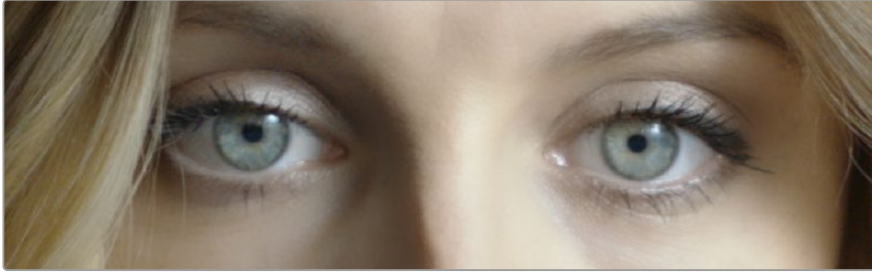
Using the Eyeshadow tools to change the model's upper eyeshadow color to purple and increase the intensity

Eyes

These controls target just the eyes and surrounding area of the face.

- **Sharpening:** This slider lets you selectively add sharpening just to the eyes and eyelashes, which lets you instantly add focus to any performer.
- **Brightening:** This slider lets you whiten the eyeballs.
- **Eye Light:** This slider lets you brighten the region of the face around the eyes that's often thrown into shadow by the subject's forehead in situations with imprudent lighting.

- **Eyebag Removal:** This slider uses a variety of techniques to smooth, color-adjust, and brighten the area under the eyes most susceptible to eye bags with tired talent.



Eyes with no special adjustment



Eyes with adjustment

Lips

These controls target just the lips and surrounding area of the mouth.

- **Hue Shift:** This slider lets you adjust the color of a subject's lips or lipstick.
- **Saturation:** This slider lets you adjust the intensity of lip color.
- **Gamma:** This slider lets you adjust the lip brightness using a gamma curve.
- **Upper Lip Smooth:** Lets you smooth out fine age lines that can appear above lips.
- **Mouth Corners Inner/Outer:** Adjusts the side corners of the mouth.
- **Top Inner/Outer:** Adjusts the top boundary of the lips.
- **Bottom Inner/Outer:** Adjusts the bottom boundary of the lips.
- **Softness:** The softness of the blend between the mouth area and the rest of the face.

Teeth

A smile can hide a thousand lies, but just these three controls can accentuate the teeth.

- **Blue Gain:** This control is used to color balance the teeth, making them whiter or yellower as desired.
- **Gamma:** This manipulates a gamma curve allowing you to set how bright a smile the subject has.
- **Mask Softness:** The softness of the blend between the teeth and the rest of the face.

Blush

The parameters in this group let you modify the hue of the blush region of a subject's cheek, letting you correct an unwise makeup choice, or push a subject's blush color around to add makeup that wasn't there.

- **Hue:** This slider lets you adjust the hue of the cheeks.
- **Saturation:** This slider then lets you intensify or remove blush color.
- **Size:** This slider lets you adjust the size of the blush area of the cheeks.

About Forehead, Cheeks, and Chin Retouching

The next three groups of controls borrow a technique from portrait painters, who've long taken advantage of the "traffic light" approach to rendering skin hues, that observes that foreheads are often a bit yellow, the middle of the face is usually a bit red, and chins can be a bit green. A combination of unequal sun exposure, capillary distribution, and follicle growth account for this, but the bottom line is that faces are seldom a single unified hue. This means that there may be a region of the face that would benefit from individual adjustment (cheeks that have gotten too much sun, for example). But it also means that when you allow a bit of hue variation into your face grade, you can achieve a more naturalistic result.



A face graded with a single hue.



A face graded with slight variation in the forehead, blush area, and chin.

TIP: For a variety of reasons, people are extremely sensitive to the hues of skin tone, so tiny variations that can be difficult to identify nevertheless have a significant impact on the resulting visuals. Unless you're aiming to create a special effect, these controls are meant to be used sparingly.

Forehead

As the name implies, adjusts color and texture on the forehead.

- **Hue and Saturation:** These sliders let you adjust forehead color.
- **Gamma:** This manipulates a gamma curve allowing you to set how bright the forehead is.
- **Smooth:** This slider lets you apply a specific smoothing operation to the forehead to ameliorate wrinkles and worry-lines.

Cheeks

Simple color adjustment controls affecting the entire cheek area and not just the blush area.

Hue and Saturation: These sliders let you adjust the color of the cheek, eye, and nose area.

Chin

Simple color adjustment controls over the chin of the face.

Hue and Saturation: These sliders let you adjust the color of the chin, running up alongside the sides of the face (the beard area).

Film Look Creator (Studio Version Only)

The Film Look Creator gives you the ability to easily alter both the color and physical properties of an image to mimic motion picture film stock in a single Resolve effect. This effect is not focused on emulating a specific manufacturer's film stock, rather it creates a base "Blackmagic" film look, that can be manipulated in a variety of creative ways. The Film Look Creator alters contrast, saturation, hue, and exposure of an image. It also includes the tools you want to have for film emulation, including halation emulation, film gate, flicker, weave, vignetting, bloom, and more.

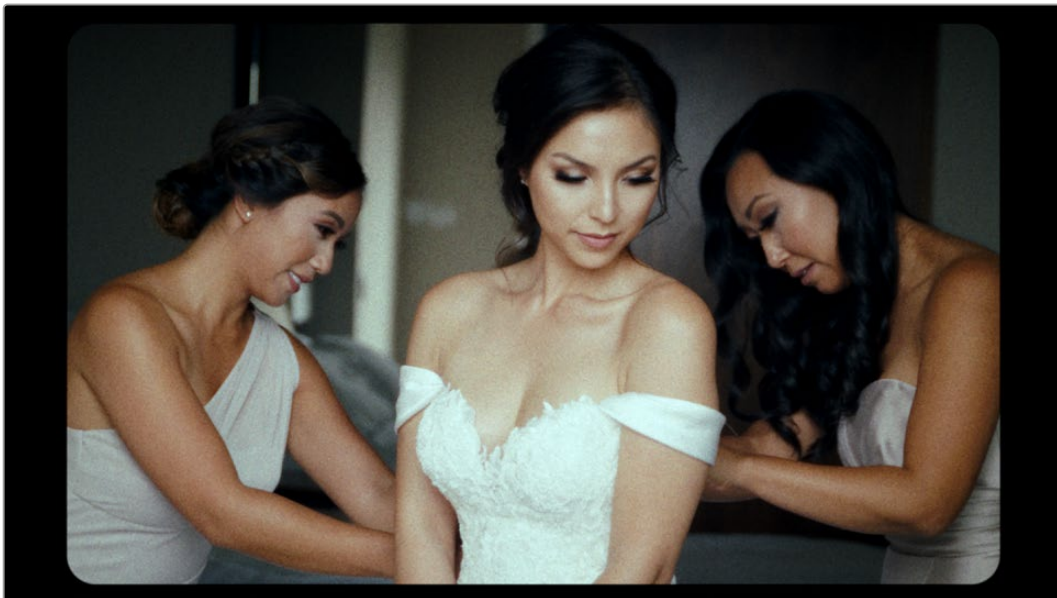
Many of the components of the Film Look Creator have specific counterparts in the Resolve FX library. However, the Film Look Creator combines these film look tools into a single Resolve effect, with a greatly simplified tool set. If you ever find you need more control over an aspect of the look, you can always disable the effect's module and use a dedicated Resolve Effect in the node tree instead.

When this effect is applied, an underlying Blackmagic film look is automatically set first. This film look is driven by over 60 parameters that you get with the plugin active (and all effects off). These parameters are fine tuned and "baked in" to the Blackmagic film stock. But while these can't be adjusted, there are additional controls on the top area of the plugin that you can use to refine and create unique looks.

The Film Look Creator is designed for scene referred workflows and will work with any camera source and output display. When using either Resolve Color Management or ACES, this happens automatically because the plugin uses the timeline color space for input and output by default. The plugin also works for manually display referred timelines (such as DaVinci YRGB) as well, but then the user must manually choose the transform of the source footage and choose the display transform, which you can do within the plugin in the Color Space Overrides section.



The original video



Film Look Creator Bleach Bypass Super 16mm version

Main Controls

These controls create the foundation of this effect.

- **Presets:** Automatically sets all controls for a desired preset look. “Default No Effects” turns on the Blackmagic Film Look but disables all the additional effects below.
- **Color Blend:** Allows mixing the underlying color look and any changes made to other color settings and split tone controls.
- **Effects Blend:** The master control to adjust the strength of the spatial effects below. 0% is the effects completely off, and 100% is the full output of the Film Look Creator.
- **3D LUT Compatible:** Checking this box will remove spatial effect options which aren’t represented in a 3D LUT. This allows you to export your custom film look to other programs and camera hardware via a LUT.

Color Space Overrides

These controls allow you to change the input and output gammas and color spaces of the effect if you need to configure them manually for a display referred workflow. Please note that no tone mapping is applied if you change these. The default is “Use timeline,” which will match the color spaces you’ve selected in the Color Management section of the Project Settings.

- **Input Color Space:** Sets the input color space; choose one from the drop-down menu.
- **Input Gamma:** Sets the input gamma; choose one from the drop-down menu.
- **Output Color Space:** Sets the output color space; choose one from the drop-down menu.
- **Output Gamma:** Sets the output gamma; choose one from the drop-down menu.
- **Output White Point:** Sets the display white point. For creative purposes, you can choose one from the drop-down menu. D65 is the default white point.

Color Settings

These controls allow you to change the color information for the film look. These effects will be passed in a 3D LUT.

- **Exposure:** A photometric control that adjusts the exposure in stops (+/- 5).
- **Contrast:** Adjusts the overall S-curve transfer function to add or remove contrast from the shot.
- **Highlights:** Adjusts the roll-off at the top of the S-curve, allowing you to reign in or expand the brightest areas of the shot.
- **Fade:** Adjusts the roll-off at the bottom of the S-curve, allowing you to reign in or expand the darkest areas of the shot.
- **White Balance:** This control uses chromatic adaptation to mimic what the source footage might look like if it were shot under different lighting conditions. Adjusted in degrees Kelvin.
- **Tint:** Lets you adjust the green/magenta balance of the clip for balancing footage shot under limited spectrum lighting, such as fluorescent or sodium vapor streetlights.
- **Skin Bias:** Lets you adjust the skin tones of the image. From -1 (warmer, darker, more saturated) to +1 (rosy, brighter, and less saturated). This can also be useful if you, for example, push tint in one direction, and then use Skin Bias to balance out the image.
- **Subtractive Sat:** Allows adjusting overall image saturation in a way that more closely resembles a subtractive method.
- **Richness:** Affects already more saturated areas, applying subtractive saturation to just those regions. Can be useful for adding depth and richness or pulling back a bit on more saturated areas.
- **Bleach Bypass:** Simulates this well-known look by adding a desaturated, higher contrast version of the image onto itself.

Split Tone

These controls add color to shadows and highlights using an opposing hue angle. For example, adding orange to the highlights and teal to the shadows to get a more modern cinematic look. These effects will be passed in a 3D LUT.

- **Enable Split Tone:** Turns this effect on or off.
- **Amount:** The intensity of the split tone. This value must be greater than 0 to see an effect.
- **Hue Angle:** This slider adjusts what complimentary hues are applied to the shadows and highlights.
- **Pivot:** This control sets where the hue transition occurs in luma. Set to its extreme of 0.000 or 1.0000, the pivot lets you apply a single tint to the shadows or highlight.

Vignette

These controls are a simplified window for adding a vignette to the shot. For more detailed control you could disable this setting and use the Vignette effect instead.

- **Enable Vignette:** Turns the vignette on or off.
- **Amount:** Sets the intensity of the darkened areas of the vignette.
- **Size:** Sets how much the vignette reaches into the frame.

Halation

These controls are a simplified way of adding soft glows to the edges of the subjects in your frame to mimic this characteristic of motion picture film. If you want more control, you can disable this setting and use the Halation effect instead.

- **Enable Halation:** Turns the halation effect on or off.
- **Amount:** Lets you set the intensity of the halation.
- **Radius:** Lets you set the spread size of the glow from the edges.
- **Hue:** Lets you tint the glow a selected color.

Bloom

These controls let you introduce a subtle glow around the edges of highlights.

- **Enable Bloom:** Turns the Bloom effect on or off.
- **Amount:** Lets you set the intensity of the bloom.
- **Radius:** Lets you set the spread size of the bloom from the edges.

Grain

These controls are a simplified set of tools to emulate the grain patterns found on motion picture film. For more detailed control you can disable this setting and use the Film Grain effect instead.

- **Enable Grain:** Turns the grain pattern on or off.
- **Preset:** Provides some starting points for grain, based on film stock standards.
- **Amount:** Determines the amount of grain in the image.
- **Size:** Determines the size of the grain in the image.
- **Softness:** Determines how crisp the individual grains are.
- **Saturation:** Adds color to the grain. 0 is monochromatic.
- **Image Defocus:** Affects the overall resolution of the image, defocusing more as you reduce the control towards 0. At 1.000 the resolution is untouched. This control does not affect the grain.

Flicker

These controls add a gentle pulse to the image exposure, mimicking the flicker of motion picture projection. For more detailed controls you can disable this setting and use the Flicker Addition effect instead.

- **Enable Flicker:** Turns the flicker effect on or off.
- **Amount:** Sets how much flicker to add to the image. Low settings will be barely visible, while high settings can be useful for more extreme looks like the Nostalgic preset.
- **Rate:** The rate at which the flicker pulses.

Gate Weave

These controls mimic the slight horizontal and vertical shift of the image as the film is mechanically pulled through the camera's gate.

- **Enable Gate Weave:** Turns the Gate Weave on or off.
- **Amount:** Determines the amount of motion to the weave.
- **Rate:** The rate at which the weave moves.

Film Gate

These controls will add blanking to the edges of the image to mimic film projection or telecine alignment controls.

- **Enable Film Gate:** Turns the Film Gate on or off.
- **Preset:** Select an aspect ratio from different common film standards.
- **Ratio H/V:** You can set a custom ratio for the image here.
- **Enable Curvature:** Turning this on slightly rounds the corners of the image to mimic how the shape of an actual film frame is exposed.
- **Padding:** This will zoom the image in and out of the blanking, allowing you to see the entire exposed "frame" of film, if desired. Similar to a telecine control.

Improved Blur Quality for Resolve FX Radial and Zoom Blurs

DaVinci Resolve 19 has added a quality setting for Radial and Zoom blurs. The options are Faster, Better, and Enhanced. The new Enhanced setting is designed to be used for sharp patterns in high resolutions. Unless you have these artificial patterns in your image, it is recommended to use the Better mode, as the Enhanced mode is much slower and will not improve the blur quality in these cases.

Fairlight

DaVinci Resolve 19 offers the following new features and enhancements for Fairlight.

Ambisonics (Studio Version Only)

Overview

DaVinci Resolve Fairlight now fully supports Ambisonic immersive audio.

- Ambisonic tracks and busses handle all parameters and support pre- and post-fader sends and directs between channel-based and ambisonic formats.
- Mixing, metering, and monitoring workflows are fully Ambisonics aware, offering additional controls and metering information.
- Third-party audio effects (channel-based and Ambisonics-compatible) can be added to Ambisonics tracks and busses. This allows seamless adoption of workflows in new and existing Fairlight projects.
- A new 3D pan view, including new azimuth, elevation, and distance controls, as well as 3D presets, continuous rotation, and multiple 3D view perspectives allows for easy switching between 2D and 3D views for channel-based or spherical panning. The new controls and presets are also available in the Space View Scope window.

What is Ambisonics?

Ambisonics is a full-sphere immersive surround audio format that allows representation of sounds in the horizontal plane as well as above and below the listener.

Ambisonics differs from most multichannel surround formats as its transmission channels don't carry speaker signals. Instead, they represent the entire sound field, which can then be decoded to particular speaker setups.

Since Ambisonics can accurately represent the location of sound direction in space, mixing in this format can deliver benefits of producing a single mix for multiple output speaker formats, since the sound is placed as accurately as possible within the listening space for the chosen speaker setup. You can also "fold down" a full spherical mix to horizontal space-only.

In addition to standard surround formats like 5.1, 7.1.4, etc., output speaker formats can include large individual speaker arrays (as might be found in a theme park or art installation), since Ambisonics does its best job at accurately representing source directions and decoding to a particular target format.

Via a suitable output speaker representation (including binaural for headphones), Ambisonics offers a flexible, single method for producing multichannel immersive audio and has found utility in the gaming, VR, and sound installation space.

DaVinci Resolve Fairlight offers full Ambisonic support, including spherical panning, Ambisonic bussing, effects plugins, and up/downmixing, with accuracy of up to 5th order HOA (high order Ambisonics) and binaural decoding to headphones.

Ambisonic “Orders”

Ambisonics offers a selection of “orders,” which refers to the mathematical precision used to represent the sound field. The simplest is 1st order, which uses 4 discrete channels to represent the sound field; Ambisonics supports higher orders, most commonly up to 7th order.

As you increase precision via a higher order, more audio streams and a larger amount of processing power is required. Fairlight supports up to 5th order Ambisonics, which requires 36 discrete channels to represent the signal. But you can usually get excellent results using 3rd order, which uses 16 channels.

Capturing Natural Ambisonic Sound Recordings

Specialized tetrahedral microphones can be used to capture natural spherical ambisonic audio, allowing a striking degree of realism. These mics have 5 precisely aligned capsules, and their output signal is a 4 channel “adaptive” container recording that can be flexibly placed in Ambisonic space in your mix.

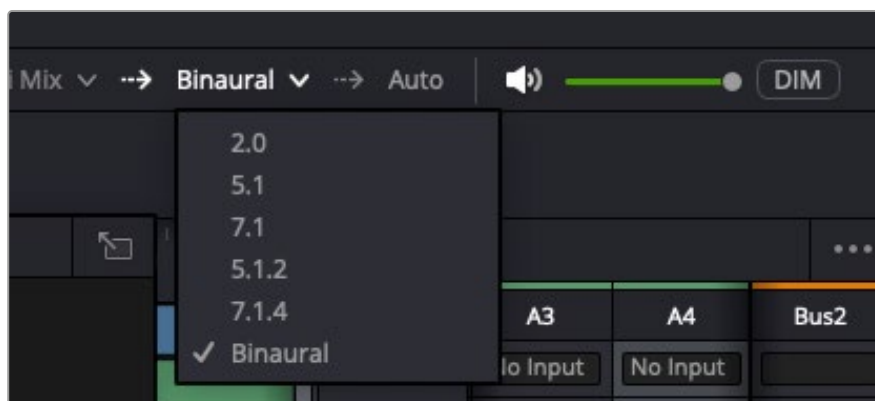
Working With Ambisonics

Enabling Ambisonics

Open the main Resolve Preferences dialog, choose Video and Audio I/O > Immersive Audio, and enable the Ambisonics checkbox.

Setting up Your Ambisonic Mix

- Determine what Ambisonic order you want to work in. For precise positioning, higher order is best; 3rd order can be a good choice.
- Create Ambisonic busses and assign your source tracks or other busses to them.
- Create Ambisonic effects sends or returns as required, or position mono, stereo, or multichannel returns in Ambisonic space.
- Position your sources in Ambisonic space via the 2D or 3D spherical panners on each channel.
- Monitor your mix via a chosen decode speaker format for your bus or binaural (to decode to headphones).
- Choose your decode format in the Monitor section drop-down menu next to the speaker output level control.
- A decoder is automatically placed into the monitoring path for the currently chosen configuration.



Choosing Output Monitor format from an Ambisonic bus

Positioning Source Sounds in an Ambisonic Mix

As with other immersive audio formats, you can use mono or stereo source signals and position them freely in the spherical sound field. Plugin processing like dynamics, EQ, or reverbs can also be used that are Ambisonics-native.

Bussing Ambisonic Busses to Other Ambisonic Busses

You can assign Ambisonic busses to other Ambisonic busses, including differing orders. Any required up- or down-mixing is automatically handled by the Fairlight engine and FlexBus.

Parallel Ambisonic and Channel-based Workflows

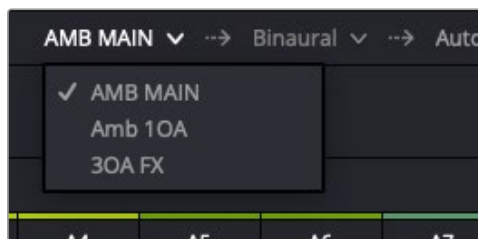
You can freely create Ambisonic mixes and channel-based mixes in the same timeline and render multiple outputs that consist of the different formats simultaneously.

Ambisonic File Support

Ambisonic files in WAV, BWA, or .caf (including 10A AMB and AmbiX format) are supported, and placing files on a timeline (or creating a new timeline referring that media) from the Media Pool will create the appropriate track type required for the file (order and number of streams).

Monitor Bus Assignment

There are 2 drop-down menus in the monitor assignment section below the docked Fairlight viewer; one for the bus source and one for the output format assignment.



Bus Source drop-down in Monitor Assignment area

Fairlight Effects and Ambisonics

Most Fairlight effects, including channel dynamics and EQ, dynamics processors like Multiband Compressor, Limiter, or Reverb are all Ambisonics native, that is, the processing is multichannel and Ambisonics-aware.

AU/VST Ambisonic Effects

Compatible third-party AU and VST Ambisonic effects can be freely used on Ambisonic tracks or busses.

Ambisonic Metering

Bargraph Metering

Ambisonic metering signals in Fairlight are represented by a single, composite bargraph meter for mixer, track header, and meter panel meters as they generally don't correlate to specific speaker positions or levels that we would track visually to determine what is happening with the Ambisonic signal. Instead, we can look at the overall energy in the single channel meter and use more specialized metering tools to visualize a "heat map" of where the source is positioned in spherical space. You can optionally choose to view the Ambisonic signals as discrete, separate bus streams by choosing Fairlight > Immersive Audio > Discrete Ambisonics Channel Metering.



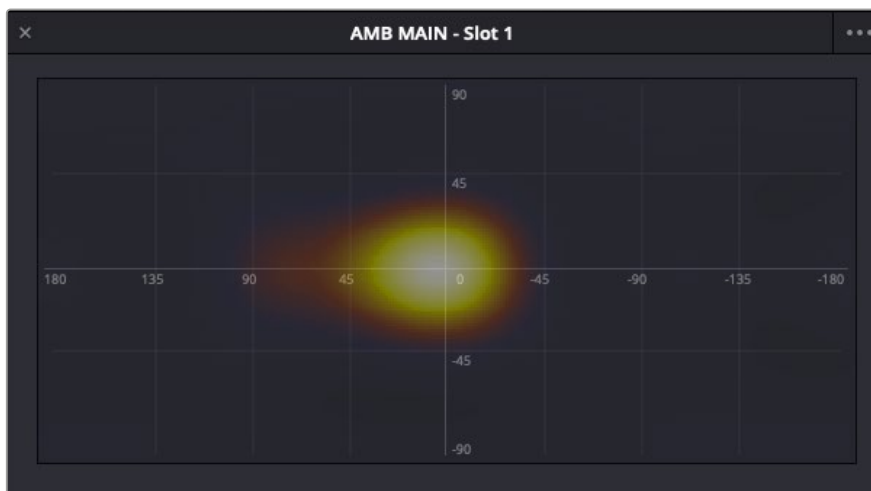
Ambisonics default metering



Discrete Channel metering

Fairlight FX Metering

A resizable Fairlight FX Ambisonic meter can be instantiated on any Ambisonic track or bus by choosing the Effects drop-down in the Mixer channel > Ambisonics > Fairlight FX > Ambisonic Meter. This meter presents a graphic display of your sound field. You can choose to monitor “power” or intensity or a “sonar” style map via the 3 dot options menu.

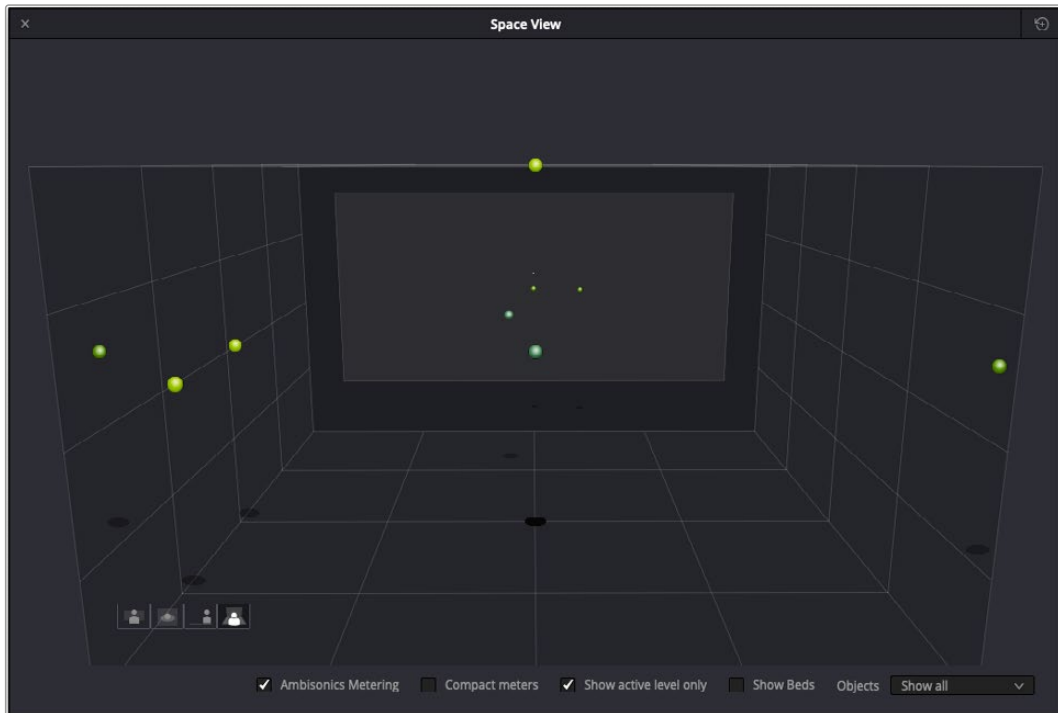


Fairlight FX Ambisonic Channel meter

Metering in Space View Scope

You can enable the Ambisonics metering by enabling the checkbox in the lower left-hand corner of the Space View Scope (Fairlight > Immersive Audio > Space View Scope...). This option is available whenever one or more high-order Ambisonics sources are present in the Timeline.

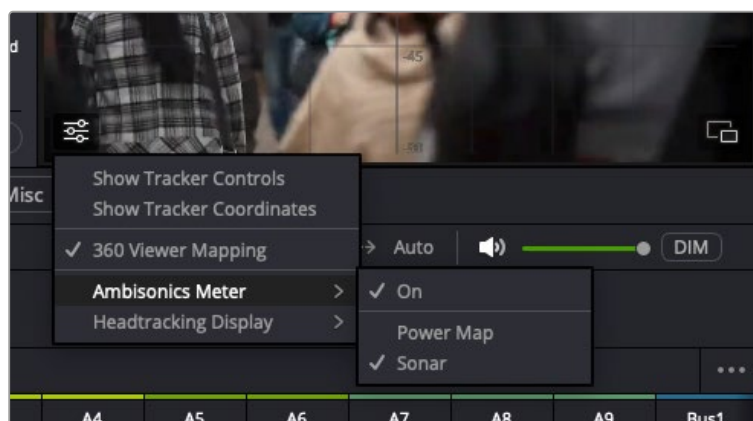
There are different projection views available via icons in the lower left area of the Space View Scope's frame; you can choose one that is optimal for your application when viewing Ambisonic sources.



Space View Scope Projection view with Ambisonics Metering enabled

Meter Overlay in Video Viewer

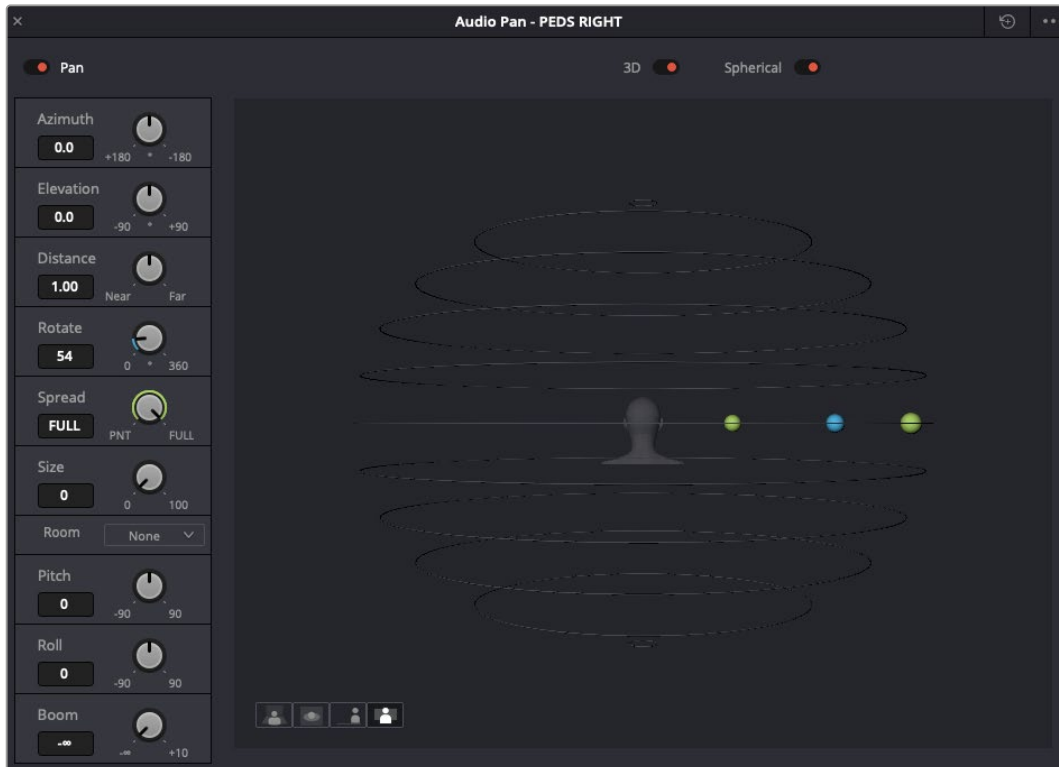
An Ambisonics meter overlay can be seen in the Fairlight Video Viewer by enabling the option in the Tool menu on the Viewer. When docked, the menu floats on the video on the lower left; when undocked, it appears on the upper left of the window's menu bar. When working with 3D, you can choose 360 Viewer Mapping for working with 360 LatLong video sources, allowing you to track panning in a "flat" video projection of 3D space.



Ambisonics Meter Overlay options

Ambisonic Panning

You can freely switch between use of 2D and spherical panning. Spherical panning allows you to position your source anywhere in the sound field, including up or down. Spherical panning is based on Azimuth, Elevation, and Distance.



3D Spherical Panner showing Rear Projection

Rendering Output Files

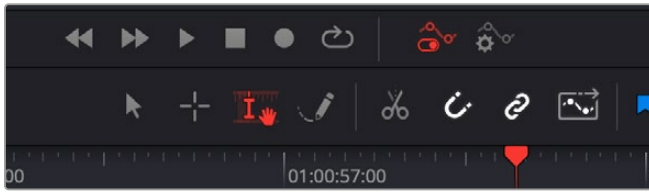
Ambisonic format mix output files can be rendered from the Deliver page. Ambisonic files are multichannel adaptive containers with the number of streams dictated by the Ambisonic order of your output (e.g., 1OA, 2OA, etc.). You can also render an output file that is up- or down-mixed for your desired speaker output configuration (e.g., 7.1.4).

IntelliTrack-Powered Audio Panning to Video (Studio Version Only)

Totally new and unique to DaVinci Resolve, now you can automatically track people or objects in the Fairlight viewer, generating pan automation data that matches object movement with the precision afforded by DaVinci Resolve's state-of-the-art object tracking engine.

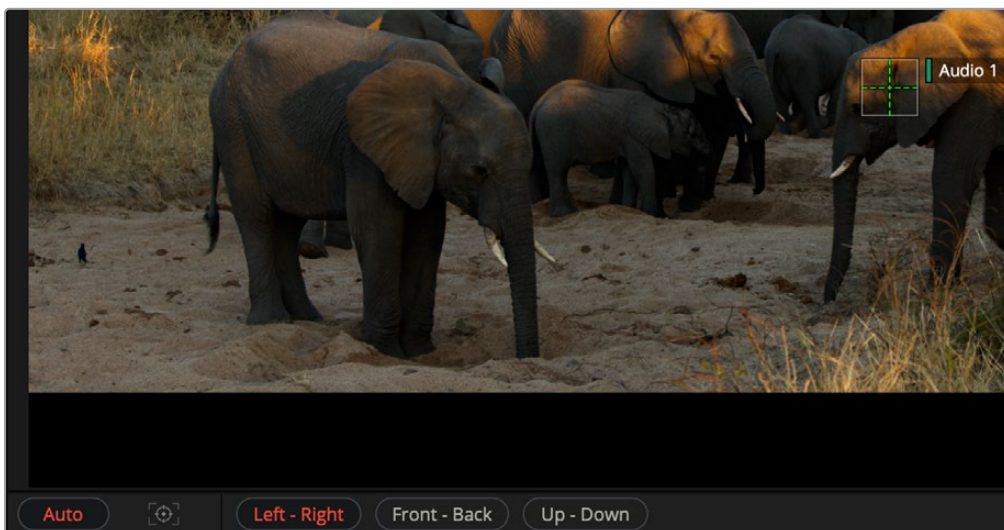
This can greatly accelerate creativity, saving loads of time and effort.

- To enable automatic tracking, ensure that the Toggle Automation switch is enabled above the main Fairlight tools.



Toggle Automation Switch enabled

- Choose “Display Tracker Controls” in the Viewer mini drop-down menu (lower left), enable the Auto button, and choose which pan controls you want to automate.
- You can also choose to show numerical tracker coordinates via the mini-menu.



Auto Tracking enabled and Left-Right Panning armed

- Create a selection in the Timeline that you want to track over.

NOTE: Auto tracking will not take place without a selection and the target track being selected.

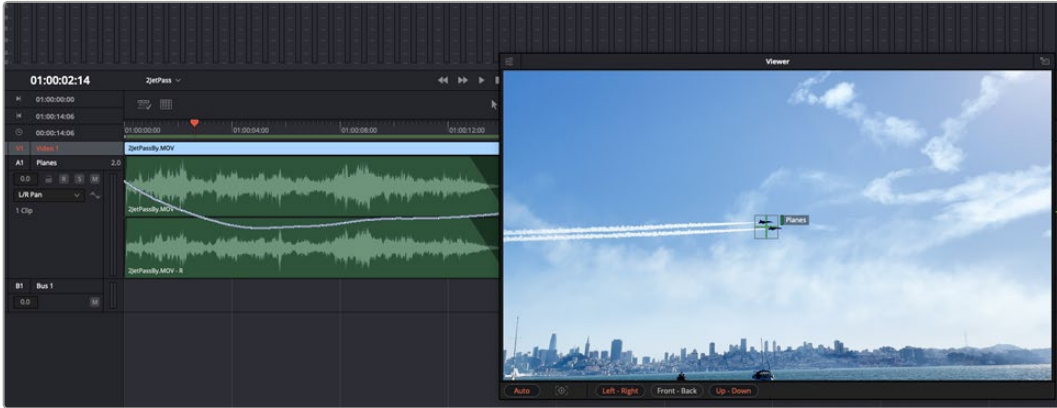
- Move the Automation View selector on the track header so that one of the pan data parameters you’ve write-enabled on the Viewer is in view.
- Move the Auto Tracker object on top of the object that you want to track and press the Track button.



Track button

- After a few moments, automation data appears for the track pan parameter(s). You can edit the generated data like any other written automation curve.

NOTE: If the track is more complex (e.g., a person who may be changing their position relative to the camera or may have moved out of frame), you may need to do your tracking in sections. You can select an area that wasn't tracking well, move the tracker object into position, and track over the problem range to redo the track for that portion.



The IntelliTrack panning the audio automatically as the jets fly through the frame

Simultaneous Auto Tracking of X-Y-Z Positional Information Not Yet Supported

You can perform an auto track with Left-Right and Up-Down at the same time, but at this time you can't track distance (Front-Back) simultaneously using the same tracker object.

Manual Tracking Using the Viewer

You can also manually track objects by deselecting AUTO. In Manual Tracking mode, the Tracker object changes into a simple crosshair.

To do a manual pan track:

- As with auto tracking above, ensure that the Toggle Automation switch is enabled above the main Fairlight tools.
- Choose "Display Tracker Controls" in the Viewer mini drop-down menu (lower left), enable the Auto button, and choose which pan controls you want to automate.
You can also choose to show numerical tracker coordinates via the mini-menu.
- Select your target track, and set the Automation View selector on the track header so that one of the pan data parameters you've write-enabled on the Viewer is in view.
- Position your tracker at the point where you want automation to start.
- To write a keyframe at the current position in the video, option (Alt) click on the tracker object. A keyframe that corresponds to the position of the manual tracker in the video viewer is placed on the automation line for the selected track.
- To add another positional panning keyframe, move to another point in your timeline, position your mouse cursor over the point in the video you want pan to, and option-click. The tracker object now jumps to that position, and a keyframe is written.
DaVinci Resolve will smoothly vector between the keyframes as with any other automation curve data.
- Continue to create keyframes at desired positions by navigating in your video and option-clicking on the object you're tracking at the point where you want to each keyframe to appear.
- To create a "bounding keyframe" (locking position that holds the automation line before moving to a new position), option-shift-click on a location.

Audio Effect Sidechaining

Fairlight now supports flexible sidechaining for any capable Fairlight FX and AU or VST plug-ins.

What is Sidechaining?

Sidechaining allows a track or bus signal to control the response of another plugin (often on another audio track). This is most commonly used to control changes in a dynamics or level processor when being fed by another source but can be used with other plugins as well for creative effect.

An example of sidechain usage would be having a dialogue bus control the amount of level reduction or compression on background effects or music beds. Or when doing sound design, you might have a gate whose signal input is a steady low frequency rumble, which is being triggered to open by Foley footsteps fed into the sidechain input, so each step results in the low frequency rumble sound being triggered on and off by the footstep.

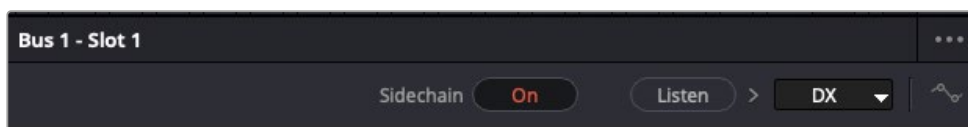
Sidechaining Controls

The Fairlight channel dynamics processor and the Limiter Fairlight FX plugin both support external sidechaining. The Fairlight channel dynamics processor has side chain controls in the right-bottom area of the compressor controls section, and the Limiter has them at the top of the plugin on the right.



Sidechain Enable, Listen, and Source menu

Controls for AU and VST plugins are located at the top right of their floating user interface windows.



AU and VST Sidechain controls are at the top of the window

Using Sidechaining

To use sidechaining:

- In the target plugin, choose a sidechain source from the Source menu. The source can be any track or bus. Using a bus lets you have multiple source signals control the receiving plugin at once.
- Enable the Sidechain signal input by clicking the Sidechain button.
- You should now be able to adjust the controls on the plugin with the external Sidechain signal affecting the internal processing.

Sidechain Listen

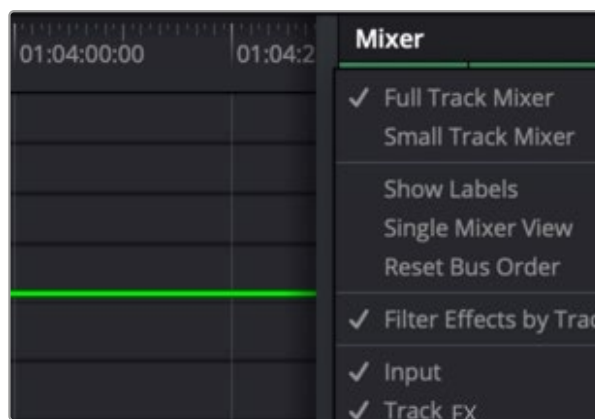
It can sometimes be helpful to listen to the source signal coming into your plugin. The Listen button allows you to verify that the right signal (or any signal) is being “heard” by the sidechain input. Remember to turn off the Listen button when you’re done, or you won’t hear the correct signal on your track.

New Track FX Plugins

Dialogue Separator, Music Remixer, and Ducker are all Track FX plugins due to their processing buffers. They reside in dedicated insert points after Voice Isolation and Dialogue Leveler in the TrackFX section of the Fairlight mixer.

Showing Track FX Plugins

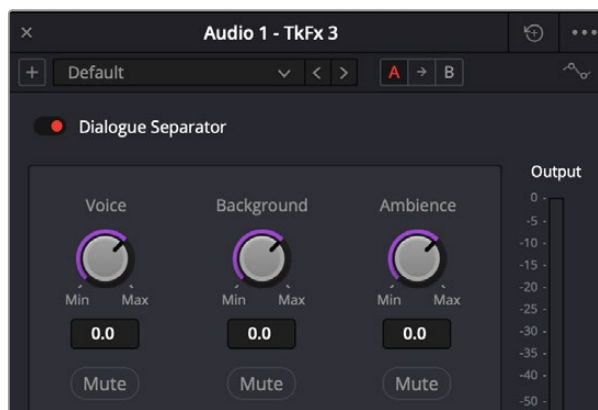
By default, only Voice Isolation and Dialogue Leveler are shown to avoid clutter to the interface. To make the other Track FX visible, choose the options 3 dots menu on the right of the Fairlight mixer, make sure that Track FX section is checked on, and then choose which plugins you want to see with “Visible Track FX” submenu at the bottom.



The Visible Track FX listing in Fairlight Mixer's Option menu

Dialogue Separator

The Dialogue Separator uses DaVinci Neural Engine AI to give you individual control over the level of dialogue, background sounds, and “ambience,” the reverberant field or ambient room sound.



The Dialogue Separator controls

If you have a source file that contains a great roomy sound, but there is music in the background or crowd noises, you can rebalance so that the background sounds come down a bit or adjust the room sound down a bit for better intelligibility.

Or you might have a situation where someone is moving closer to camera in a roomy environment. By adjusting and automating the balances, you could make the sound roomy to start with and get drier as it comes closer, all without affecting the background.

NOTE: Dialogue Separator is presently mono only, so if your source is stereo, you'd have split into dual mono and process two mono tracks separately.

Music Remixer (Studio Version Only)

The Music Remixer is a DaVinci Neural Engine AI-based effect. This TrackFX plugin uses AI to split music into individual basic stems: Vocals, Drums, Bass, Guitar, and "Other," which means "everything else." You can use the level controls to rebalance or remix the sources, or the mute buttons to make instant changes and bring parts in and out of your mix.

Music Remixer lets you creatively adjust a music track to suit your needs. For example, you might have a track where you need to remove the vocal or rearrange to allow for quieter moments or a build.



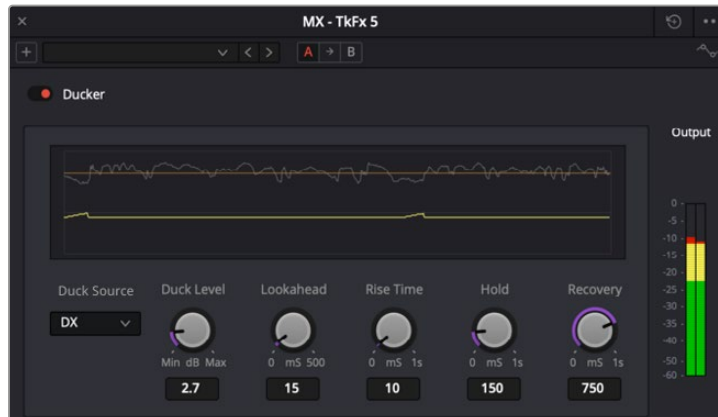
The Music Remixer controls

The Mute buttons let you quickly bring sections in or out for your arrangements, and you can use automation to capture all of your changes.

Ducker

The Ducker Track FX plugin allows you to automatically lower the level of a track by using an external source signal – this is known as “ducking.” Most commonly ducking is used to have dialogue or VO automatically lower a music or sound effects bed, but it can be used in many creative ways. Set up correctly, your sources can often “mix themselves” and you can create very useful results.

The Ducker uses changes in level only to do its work; the audio is not compressed or limited.



The Ducker controls

To use the Ducker:

- Choose the target track that you want to affect (the “destination” track), and open the Ducker.
- Choose the Duck Source track or bus in the drop-down menu.
- This is the sound source you want to use to duck the level of the target track.
- If you use a bus, you can use multiple sources to trigger changes in your ducked target track.
- Play a bit of your sequence, and adjust the duck level and other controls to taste.

Ducker Controls

- **Duck Amount:** Controls the amount of ducking (lowering of level on the target track) in dB with a default of 2.7 dB. Most of the time, the amount will work best between 2 and 5 dB.
- **Lookahead:** Controls the amount of lookahead time in milliseconds, with a default of 15ms. The lookahead allows the Ducker to start to lower the destination track before the source track is audible. The larger the value, the more the Ducker will “pre-anticipate” the source track. If you want to have the Ducker start to lower the sound before a line of dialogue or VO begins, you can experiment with higher values, but normally the default will produce good results.
- **Rise Time:** The amount of time, in milliseconds, it takes for the Ducker to reach the amount of reduction specified by Duck Amount. The default is 10 ms. Most times, this value should be effective, but with high Duck Amount values and longer gaps in the source track’s signal, longer values may be useful.
- **Hold:** Amount of time, in milliseconds, the Ducker will hold the level reduction set by Duck Amount before moving to the Recovery time phase. The default is 150 ms.
- **Recovery Time:** Amount of time, in milliseconds, that the Ducker will take to recover from the Duck Amount (maximum level reduction) to no level reduction. The default is 750ms. Setting the Recovery Time properly can have a strong effect on whether the Ducker sounds “natural” or if it is distracting because level is changing too slowly or quickly in response to the source track (e.g., dialogue). Experiment with your source material to find the best results.

Ducker Graph Display

The graph area shows a continuous representation of the level of the incoming waveform against the action of the Ducker, shown in yellow. The yellow line mainly stays where the Duck Level puts it; when the yellow line travels upwards, it means that the Ducker is lowering the level less, as it is affected by gaps in the Duck Source signal and the response of the various controls.

Fairlight FX Improvements

Voice Isolation Updates

Voice Isolation works better on a wider variety of source signals, improves stereo performance, and features improved, more responsive buffering.

Dialogue Leveler Improvements

The Dialogue Leveler has been improved with faster cue up time.

Frequency Analyzer Plugin Updates

The Frequency Analyzer Fairlight FX plugin has an improved spectrum graph to match the new RTA display on the channel EQ, including fill, color, and response tweaks.

There's also a switch added below the graph to change between "Spectrum" and "Waterfall" options as well as general improvements to the Waterfall display.

Track EQ Improvements

The track EQ now supports selectable slope filtering for high and low pass filters, up to 24dB/octave. The EQ display now includes a RTA frequency spectrum for instant previews of parameter changes.

Panner Dialogs Updates

In panner dialogs, the listener perspective can be flexibly adjusted, allowing you to place yourself as listener from the side, above, or any angle. With Ambisonics workflows, head/torso and speaker projections assist in visualizing the listening environment.

Fairlight Dynamics now supports flexible sidechain routing from any bus, sidechain on/off, and side chain listen.

Other New Features in Fairlight

Multiple Automation Improvements

Several automation workflow areas have been improved.

Clear All Track Automation

You can now clear all automation for a track. Select the track header, right-click, and navigate to "Clear Track Automation." A dialog box appears asking if you want to clear the automation entirely ("Reset") or leave with the controls set to where they are presently ("Hold").

Other Automation Improvements

- Plugins and parameters are now listed in automation menus in the same order as the inserts.
- New track header tool tips provide additional feedback on which parameter is being viewed from which insert slot.
- Keyframe handling has been vastly improved in anchoring, initial keyframe handling, bi-state level control keyframes, and other areas.

Snap To Head/Tail

You can now snap the head or tail of a clip to the playhead while in Focus mode, using the Hand tool (bottom portion of the track). This allows you to quickly line up events (e.g., elements of an explosion).

When snapping to head or tail:

- Only one clip can be snapped at a time.
- Clips can only snap within their own track.
- Range/clip selections (head) count as snap targets.
- A snapped clip will overwrite any clip content at target (or top layer in layered mode).
- “Automation follows edit” works with snapping.

NOTE: If the snap target location is offscreen, snapping will still work.

To snap to head:

- Ensure you’re in Focus mode, then place your playhead at the desired location to snap to.
- Hold down Command-Option and click on the clip you want to have snap.
- The head of the clip will now snap to the playhead.

To snap to tail:

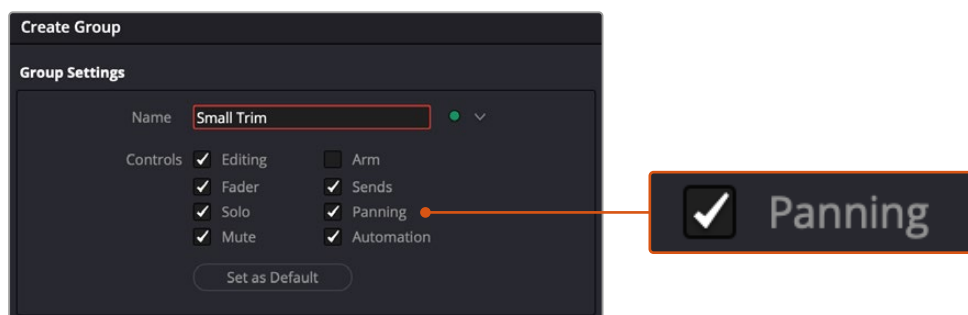
- Ensure you’re in Focus mode, then place your playhead at the desired location to snap to.
- Hold down Command-Option-Control and click on the clip you want to have snap.
- The tail of the clip will now snap to the playhead.

Exclusive Solo Mode

Exclusive solo mode allows you to solo only one item at a time; pressing another track’s solo button will solo only that track, un-soloing any others. This can be very useful when comparing sonic treatments between two or more tracks. Exclusive solo by navigating to Fairlight > Exclusive Solo.

Group Panning

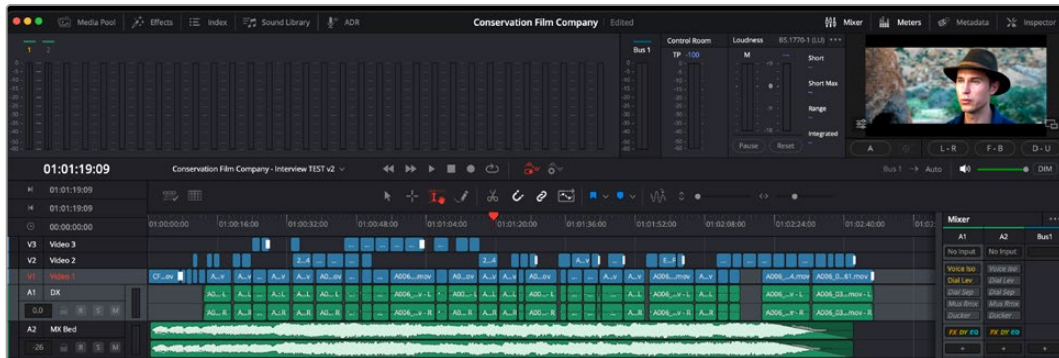
Track groups now supports panning across group members. To enable Group panning, check the “Panning” checkbox in the Groups setup dialog.



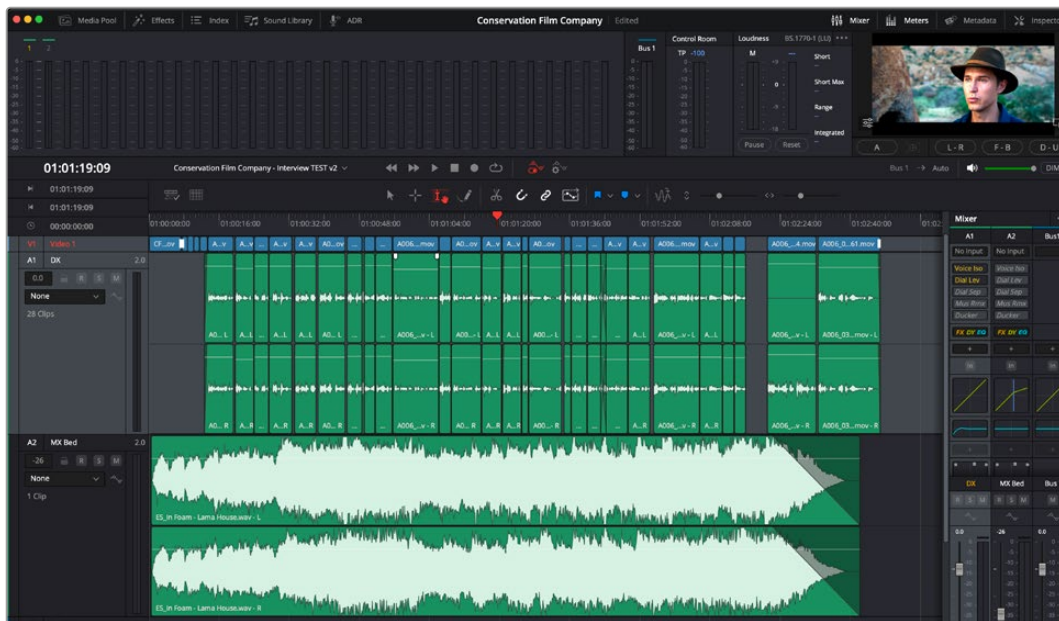
Group Panning can be enabled in the Create Group dialog

Smart Zoom

This powerful feature allows you to zoom in on your selection (or the entire Timeline) with a single click, and enlarge track height to take up the full screen area of the Timeline, centering your selection on the screen. Then, when you're done, choose the same command to toggle and zoom back to what you started with. It's like having a magnifying glass for your selection with the ability to move back to the "zoomed out" focus.



Initial selection before Smart Zoom



Selection after Smart Zoom

The selection includes any tracks and the time range selection, including Focus mode.

Smart Zoom is mapped by default to Command-option-E but can be remapped in the Keyboard Customization dialog.

LTC and MTC Chase Sync

DaVinci Resolve can now chase and sync timecode via LTC from any audio input on your audio interface, via MIDI Time Code (MTC), configurable via Fairlight > Remote Control.

NOTE: At the present time, the LTC reader input of the Fairlight Audio Interface is not operational; this should be addressed during beta.

Automatic Input Patching on Record Arm

Arming a track for record will now patch the default input on your audio interface automatically, so you're ready to record. Initially, this will be the first input in your system (set up in Preferences under Video and Audio I/O in the Audio I/O panel). This also works with system audio on your computer (provided it's set up in your computer's operating system correctly). The default input on macOS is set by System Preferences.

Miscellaneous New Features

Dynamic Delay Compensation Now Supported With AU Plugins

If an AU plugin has different processing delay values that change, Fairlight will now properly update delay compensation.

Fairlight Console Loop Behavior Update

Fairlight consoles now follow the loop icon status with no requirement for Play Around/To to commands to be used.

Support for Third-Party Auto Conform Workflows

DaVinci Resolve now works with select third-party auto conform applications, allowing round trip of data and reconform to occur seamlessly.

Dolby Atmos Composition Fade Support (Studio Version Only)

Basic fades can now be created on Dolby Atmos master files that are placed on a timeline as a clip and edited. However, complex fades and batch fades are not supported.

Support for Sony 360RA Walkmix Audio Formats and Plugin (Studio Version Only)

Improved ADM and Vivid Audio with MPEG-H SDK 2.75 (Studio Version Only)