



Exporting Timelines to Other Applications

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Exporting Timelines to Other Applications

Once you've graded a program, you need to export your final graded timeline as EDL, AAF or XML files in order to send it to another application for finishing, or to complete a round trip from an NLE.

To send a graded project to another application, you need to render the graded clips first using the controls on the Deliver page to render the timeline as individual source clips. In this mode, the reel name and timecode metadata of each rendered clip is mirrored by the exported project file, to maintain the correlation between exported EDL, XML, or AAF data and the rendered media. For detailed information about rendering in the Deliver page, see Chapter 14, "Deliver."

If you render using the Easy Setups that correspond to Final Cut Pro XML or Avid AAF round trips, then an XML or AAF will be exported to the same directory you've rendered to. However, you can still export an XML, AAF, or EDL file separately should the need arise.

Furthermore, the robust project compatibility of DaVinci Resolve makes it possible to import one type of project exchange file, such as XML, and then export a completely different kind, such as AAF or EDL. This lets you use DaVinci Resolve as a project exchange utility.

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Exporting to AAF/XML

If you're doing a round trip with an application that uses AAF, Final Cut Pro 7 XML, or Final Cut X XML project exchange formats, the Edit page is where you export your timeline after you've rendered the graded media. If you're planning your round trip workflow in advance, keep the following in mind:

- **You can re-edit imported projects before export:** If necessary, you can freely re-edit projects you're planning to export. When you export an AAF or XML file, the timeline will be sent back to the originating NLE, or onward to the finishing application of choice.
- **Unsupported effects:** If there were effects or clip constructs in the original sequence that were not compatible with DaVinci Resolve, how those effects will be handled depends on the project format you're exporting to, and whether or not you've edited the project. For XML projects, unsupported effects are saved internally by Resolve, and are exported with the XML file that you output no matter what. Consequently, they should reappear when you reopen the exported file in the originating NLE. For AAF projects, you can export unsupported effects as long as you don't re-edit the project. However, if you do re-edit the project, then you can only export an AAF file that's been stripped of all unsupported effects.
- **Project formats can be converted to other formats:** Using DaVinci's Export commands, compatible project formats can be converted from one format to another. For example, an imported EDL can be output as Final Cut Pro X XML. For that matter, Final Cut Pro 7 XML can be imported and then exported as Final Cut X XML. Or, an AAF file from Media Composer can be imported and then exported as a Final Cut Pro XML file to be opened in any NLE or finishing application compatible with that format, such as Premiere Pro or Smoke.

Important: If you export a timeline with multiple tracks as an EDL, only the events on the currently selected video track in the Edit page will be exported.

To export an AAF or XML file after you've rendered the graded clips:

1. Do one of the following:
 - To export the current timeline, choose File > Export AAF, XML
 - Open the Edit page, right-click the timeline you want to export in the Timelines list, and choose Export > AAF/XML.
2. When the Export XML dialog appears, type a name for the file and choose a location for the exported XML file, then click Save.

An XML version of that timeline is saved, complete with references to the graded media you rendered, and is ready for import into an NLE or finishing application.

Exporting an EDL

If you've re-edited a timeline, or you've rendered media with reel names or timecode that doesn't match the original media you imported, you can export a new EDL that reflects these changes, and that can be reimported into whatever application you want to send the graded project to. For more information about EDL workflows, see Chapter 9, "Preparing and Conforming Projects."

To export an EDL:

1. Open the Edit page and select the timeline you want to export an EDL from in the Timelines list.
2. If you want to export a track other than Video 1, you can click the track name in the header of any video track in the Timeline to choose a specific track to export.
3. Right-click the timeline in the Timelines list, and choose Export > EDL from the contextual menu.
4. When the Save EDL dialog appears, type a name and choose a location for the exported EDL, then click Save.

The EDL is saved, and a dialog appears reminding you of the file path to which it was saved (click OK to dismiss it).

Exporting a Missing Clips EDL

This command lets you export a quick report of which clips are currently offline in the currently selected track of the timeline in the Edit page. This report is in EDL format, with one event for each clip that's offline, which describes the reel number and source timecode of the missing media, as well as the record timecode of the missing media's position on the Timeline.

Here's an example of an exported Missing Clips EDL:

Once you've exported this information, you can hand it off to whomever can help you track down the missing media.

To export a Missing Clips EDL:

1. Open the Edit page and select the timeline you want to export a Missing Clips EDL for in the Timeline browser.
2. Click the track name in the header of the video track you want to examine for missing clips, if it's not already selected.
3. Right-click the timeline in the Timelines list, and choose Export > Missing Clips EDL from the contextual menu.
4. When the Save Missing Clips EDL dialog appears, type a name and choose a location for the exported EDL, then click Save.

The EDL is saved, and a dialog appears reminding you of the file path to which it was saved (click OK to dismiss it).

```
TITLE: ( no title )
001 A001_C002_0820GA_001 V C 10:28:27:03 10:28:28:00 01:00:00:00 01:00:00:21
002 A004_C012_0820MC_001 V C 14:07:31:21 14:07:35:13 01:00:12:13 01:00:16:05
003 A017_C001_0820CV_001 V C 21:16:14:22 21:16:15:00 01:00:16:05 01:00:16:07
```

Exporting to CDL

DaVinci Resolve can export and import basic grading data to and from other applications via a Color Decision List (CDL). CDLs are an industry-standard file format originally developed by the American Society of Cinematographers' technology committee. Resolve supports the 1.2 CDL standard that defines the slope, offset, and power for each of the red, green, and blue channels, as well as the overall saturation of each clip in a program.

CDL files are formatted similarly to EDLs, with SOP (Slope/Offset/Power), and SAT (Saturation) values embedded as metadata in much the same way as comments are in a more typical EDL. Here's an example of a single CDL event:

```
020 001 V C 03:02:49:13 03:02:53:00 01:01:28:11 01:01:31:22
*ASC_SOP (1.109563 1.717648 0.866061)(-0.238880 -0.390357 0.353743)
(0.672948 1.384022 0.889876)
*ASC_SAT 1.000000
```

Because the CDL definition of a grade is so narrow, projects you're planning to export to other applications via a CDL must be constrained to only those operations the CDL mathematically defines. Here are some things to keep in mind:

- Only primary corrections in the first node of each clip are exported.

- Restrict yourself to using the Lift/Gamma/Gain, Offset, and Saturation controls.

- Keyframes are never exported. If keyframes are present in a grade, only the parameter values at first frame of the clip are used.

- The track grade is completely ignored.

- If there is an HSL Qualification or a Power Window in the first node, it is ignored and the corrections in that node are exported as if it were a primary correction.

- Do not make Y' only adjustments; they're not compatible with CDLs. To ensure that your exported CDL is accurate, set the Lum Mix parameter in the Primary Controls palette for each grade to 0. For workflows involving frequent CDL export, you can turn on the "Luminance Mixer defaults to zero" option in the General Options panel of the Project Settings window to make sure this parameter is always set to 0.

If your timeline conforms to all of these restrictions, then you're ready to export a CDL.

To export a CDL:

1. Open the Edit page, right-click the timeline you want to export in the Timelines browser, and choose Export > CDL from the contextual menu.
2. A window appears reminding you to make sure that Lum Mix is set to 0 for each clip's grade. Click Save, or Cancel if you need to adjust the grades of your clips to better comply with the standards required for CDL export.
3. Enter a name for the CDL, choose a location to save it to, and click OK.

For more information on importing a CDL to add grades to your project, see Chapter 9 "Preparing and Conforming Projects."

Exporting to ALE

DaVinci Resolve is also capable of exporting ALE (Avid Log Exchange) files. ALE is a tab-delimited, ASCII text-based clip logging list format that enables the exchange of clip metadata that can't be included with MXF files.

ALE files are divided into three sections, labeled Heading, Column, and Data. The Heading provides information about the clips being logged, including the picture and audio format, and the frame rate. Underneath, the Column line defines each of the columns of metadata being exported in the list. Underneath that, the Data section contains multiple lines, one for each event being referenced in the list, that contain all the data corresponding to that clip.

Note: If you're exporting stereoscopic clips, additional parameters are included in the ALE file: Pan (relative to timeline resolution), Tilt (relative to timeline resolution), Zoom, Rotate, Convergence (relative to timeline resolution), HFlip (0 or 1), and VFlip (0 or 1).

Here's an example of a short ALE export:

Heading

```
FIELD_DELIM      TABS
VIDEO_FORMAT     1080
AUDIO_FORMAT
FPS              24
```

Column

```
Name, Tracks, Start, End, Take, Tape, Source File, FPS, Reel #, Scene, Shoot date,
Manufacturer, DESCRIPT, COMMENTS, ResolveShot, ResolveDay, ResolveAngle, ResolveRes,
ResolveCodec, ResolveVersion, ResolveNumTracks, ResolveOrigFilename, ResolveCircled, KeyKode
```

Data

```
A001_C002_V01.CBF6A4FD139AD.mxf, V, 10:28:27:03, 10:28:28:00
A001_C002_V01.CBF6A4FD139AD.mxf/Volumes/Disk_1/Avid MediaFiles/MXF/1/
A001_C002_V01.CBF6A4FD139AD.mxf, DaVinci Resolve

A016_C008_V01.CBF6A4FD13ABD.mxf,V, 23:35:56:03, 23:36:00:11
A016_C008_V01.CBF6A4FD13ABD.mxf /Volumes/Disk_1/Avid MediaFiles/MXF/1/
A016_C008_V01.CBF6A4FD13ABD.mxf, DaVinci Resolve

A004_C012_V01.CBF6A4FD1438E.mxf, V, 14:07:31:21, 14:07:35:15
A004_C012_V01.CBF6A4FD1438E.mxf /Volumes/Disk_1/Avid MediaFiles/MXF/1/
A004_C012_V01.CBF6A4FD1438E.mxf, DaVinci Resolve
```

Note: The commas shown above are not normally in the ALE but shown here for field clarity

Exporting to ALE with CDL

Avid Media Composer and Symphony support the import of ALE files with CDL parameters embedded to attach SOP (Slope/Offset/Power) and SAT (Saturation) metadata to each clip that's logged in the ALE. When you import an ALE with CDL file into Media Composer, the SOP and SAT data populate metadata columns for preservation and export in various Avid workflows. Here's an example of the Heading, Column, and Data sections of a sample ALE with CDL, with one line of clip and CDL data.

To export an ALE with CDL file:

1. Open the Edit page, right-click the timeline you want to export in the Timelines browser, and choose Export > ALE with CDL from the contextual menu.
2. A window appears reminding you to make sure that Lum Mix is set to 0 for each clip's grade. Click Save, or Cancel if you need to adjust the grades of your clips to better comply with the standards required for CDL export.
3. Enter a name for the ALE file, choose a location to save it to, and click OK.

The ALE file is saved, and a dialog appears reminding you of the file path to which it was saved (click OK to dismiss it).

Heading

```
FIELD_DELIM      TABS
VIDEO_FORMAT     1080
AUDIO_FORMAT
FPS              24
```

Column

```
Name, Tracks, Start, End, Take, Tape, Source File, FPS, Reel #, Scene, Shoot date,
Manufacturer, DESCRIPT, COMMENTS, ResolveShot, ResolveDay, ResolveAngle, ResolveRes,
ResolveCodec, ResolveVersion, ResolveNumTracks, ResolveOrigFilename, ResolveCircled, KeyKode,
ASC_SOP, ASC_SAT
```

Data

```
A001_C002_V01.CBF6A4FD139AD.mxf, V, 10:28:27:03, 10:28:28:00
A001_C002_V01.CBF6A4FD139AD.mxf /Volumes/Disk_1/Avid MediaFiles/MXF/1/
A001_C002_V01.CBF6A4FD139AD.mxf, DaVinci Resolve
(1.0260 1.0260 1.0260)(-0.0260 -0.0260 -0.0260)(0.8237 0.8237 0.8237) 0.8640
```

Note: The commas shown above are not normally in the ALE but shown here for field clarity