



## Ingesting From Tape

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DaVinci Resolve is capable of capturing media from tape using a compatible video input device, such as a Blackmagic Design UltraStudio, DeckLink, or Intensity device.

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# Tape Ingest

This chapter covers how to capture media from tape directly into the Media Pool in DaVinci Resolve. Whether you need to capture a handful of clips to incorporate into an existing project, or you need to recapture every clip corresponding to the events of an EDL, you can use the Media page in Capture mode to capture from any device-controllable deck via a compatible video interface.

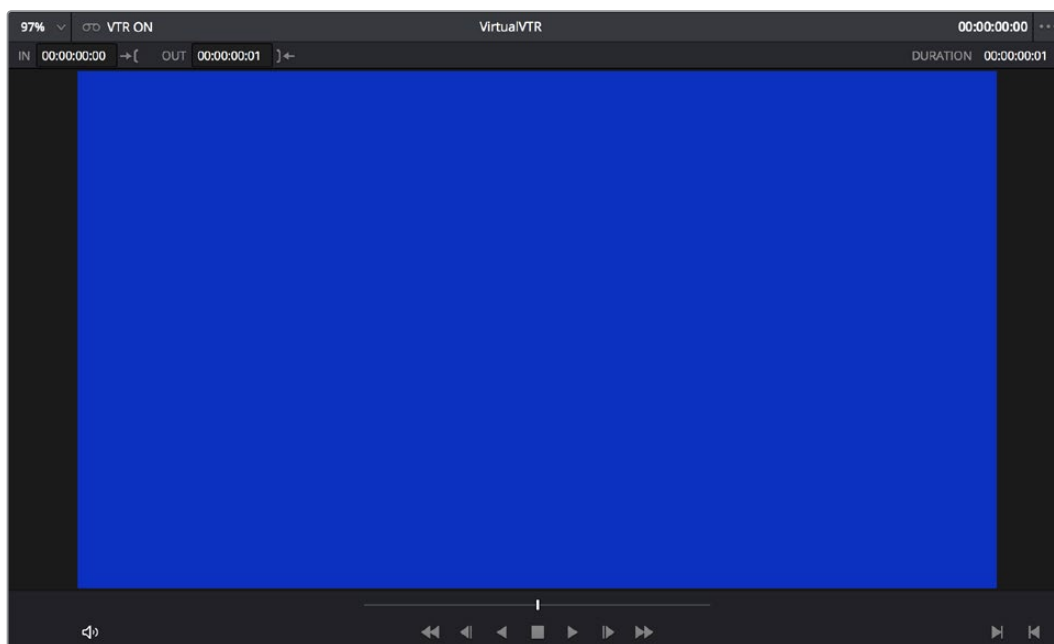
## To switch to tape capture in the Media page:

- Click the Capture button, located to the left of the Interface toolbar at the top of the Media page.

The Media page updates to reflect the relevant controls for editing to tape, and the Audio panel is replaced by a dedicated set of capture metadata and controls to help you track the resulting clips.

## The Tape Capture Interface

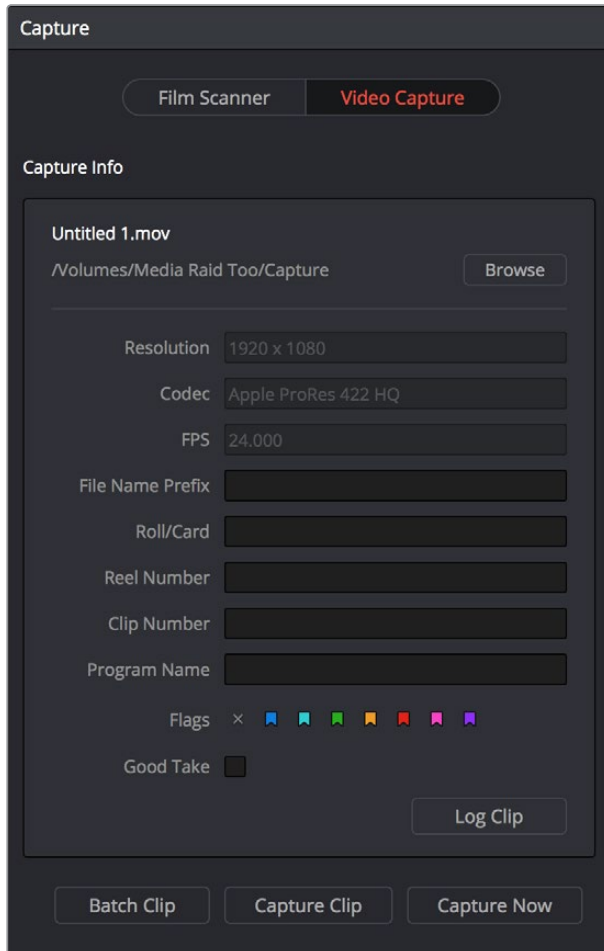
While in Capture mode, the Media page is used to control the VTR, in order to establish In and Out points for logging or capturing a selected range of the tape.



Tape Capture viewer in the Media page

- **Transport Controls:** The transport controls, while similar in appearance to those used when simply playing through selected clips in the Media page, now work to control the VTR.
- **Shuttle Control:** A Shuttle Control appears in what was formerly the Scrubber Bar, which lets you shuttle through the range of reverse and forward speeds compatible with the connected deck.
- **In and Out Controls:** In Capture mode, the In and Out buttons to the right of the transport controls define a range of the tape from which to capture.

- **Capture panel:** The panel automatically switches to the Capture panel, with tape-specific metadata and capture controls. Populating File Name Prefix updates the file name preview that's shown above in the Header, that also shows the Capture directory, Resolution, and Frame Rate specified in the Deck Capture and Playback panel of the Project Settings.



Editable capture metadata

## Setting Up to Capture From Tape

Before you begin capturing from tape, you need to adjust a variety of settings in the Capture and Playback panel of the Project Settings. Two groups of settings, in particular, need to be defined.

### Capture and Playback Project Settings

These settings affect both capture and playback when using the Tape Ingest options of the Media page, or the Tape Output options of the Deliver page.

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

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

## Capture

These settings are used when you use the Capture mode in the Media page to capture clips from tape into the Media Pool, or when controlling the Cintel Film Scanner to scan film of different formats.

- **Video Format:** The format captured media will be saved to. When capturing from tape, the available options are DPX and QuickTime.
- **Codec:** The codec used to write captured media. When capturing from tape, these include the various type of Apple ProRes, 8- and 10-bit YUV 422, 10-bit RGB, and the various types of DNxHD.
- **Save clips to:** A field that displays the directory path to which media files captured from tape are written. You want to choose a volume that's fast enough to accommodate the data rate of the media format you're capturing.
- **Browse:** Click this button to choose a directory to write captured media to. The directory you choose appears in the field above.
- **Save in this folder path:** A series of checkboxes lets you specify what other information to use to define the directory hierarchy that will hold the captured media. Every checkbox you turn on adds an additional directory with a name defined by that checkbox's metadata. You can choose any or all of the following: Program name, Clip number, Reel number, Roll/Card.

- **Apply reel number to:** Lets you choose how to write the reel name. Two checkboxes let you write the reel name to the file's name, and/or to the Header data.
- **Use prefix:** A field lets you type in a prefix to be used in the media file's name. This lets you add text identification that will make the media more easily identifiable and searchable.
- **Apply prefix to:** Two checkboxes let you choose to use the prefix you typed in the file name, and/or in the folder name.
- **Use frame number with:** When capturing to image sequences, you can choose how many digits to use when writing the frame number into the name of each frame file.
- **Set batch ingest handles to:** Lets you add additional frames of handles to the beginning and end of each scanned clip when batch capturing with the scanner.
- **Enable audio input:** Turn this checkbox on to capture audio along with the video. If you're capturing QuickTime or MXF files, the audio will be written as additional tracks inside each file. If you're capturing to a DPX image sequence, then a Broadcast .wav file is recorded separately.
- **Input x channels of audio:** A pop-up that lets you choose how many tracks of audio to capture.

## The Three Methods of Capture

Once you've set up all relevant settings in the Project Settings window, including at minimum "Video Capture and Playback," "Capture Clips Saved to," and "Apply Reel Name to" settings, then you're ready to start capturing. Depending on your workflow, there are three methods of capturing from tape that you can use.

For all capture methods, media can only be ingested as DPX image sequences.

### Using Capture Now

If you simply need to capture a section of tape quickly, you can use the Capture Now command.

#### To Capture Now:

- 1 Use the transport controls and the In button to identify what you want to capture.
- 2 Enter all relevant information into the various fields of the Metadata Editor. The Header updates to show a preview of the file name that will be saved.
- 3 Use the transport controls to start playback, and then click the Capture Now button at the bottom of the Metadata Editor.
- 4 When the section of tape you wanted to record has finished, click Capture Now again to stop capture.

A new clip appears in the Media Pool, automatically placed in a new folder in the Media Pool with a name defined by the timecode value converted into a frame count, based on the ingest frame rate. For example, 00086400.dpx is the file name of a clip captured at timecode 01:00:00:00.

## Logging and Capturing Individual Clips

If you're capturing an exact range of tape, or multiple sections at once, you can also work by logging each section of tape you want to capture in advance, before using the Capture Clip or Batch Clips commands in a second step.

### To capture a single clip using device control:

- 1 Use the transport controls to find the beginning of the section of tape you want to record, and click the In button. Then, find the end of the section of tape you want to record, and press the Out button.
- 2 Enter all relevant information into the various fields of the Metadata Editor. The Header updates to show a preview of the file name that will be saved.
- 3 When you're finished, click Capture Clip.

Deck control is automatically used to play through the specified range of tape and capture that clip. When capture is complete, the new clip appears in the Media Pool.

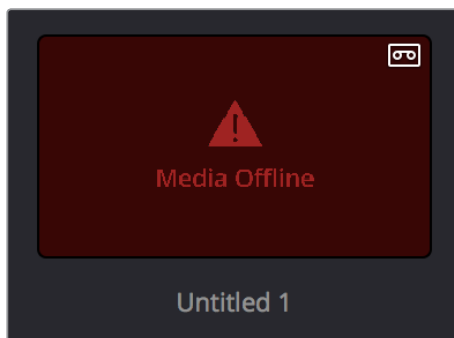
## Logging and Capturing Multiple Clips

For efficiency's sake, you can also log multiple clips at once, from multiple tapes if necessary, and then batch capture them all at once.

### To log one or more clips:

- 1 Use the transport controls to find the beginning of the section of tape you want to record, and click the In button. Then, find the end of the section of tape you want to record, and press the Out button.
- 2 Enter all relevant information into the various fields of the Metadata Editor. The Header updates to show a preview of the file name that will be saved.
- 3 When you're finished, click Log Clip.

That clip is added to the Media Pool as an offline tape clip, indicated by a black icon with a tape badge.



Logged clip in the Media Pool prior to capture

### To batch capture one or more logged clips:

- 1 (Optional) Put the Media Pool into List view, and click the Reel No column header to sort the Media Pool clips by reel number. This makes it easier to select a range of clips to capture from a particular reel.
- 2 Select one or more offline tape clips in the Media Pool that come from a particular reel.
- 3 Click Batch Clips, at the bottom of the Metadata Editor. To interrupt capture at any time, click Batch Clips again.

Deck control is automatically used to play through the current tape in the VTR and capture every logged clip you've selected that can be found on that tape, starting with the clip with the lowest timecode value and ending with the clip having the highest timecode value. A progress bar with accompanying text shows how much longer to go until capture is complete. As each clip is captured, its corresponding logged clip in the Media Pool updates with a thumbnail reflecting the captured media.

When Resolve finishes capturing all clips from a particular reel, Batch Capture stops.

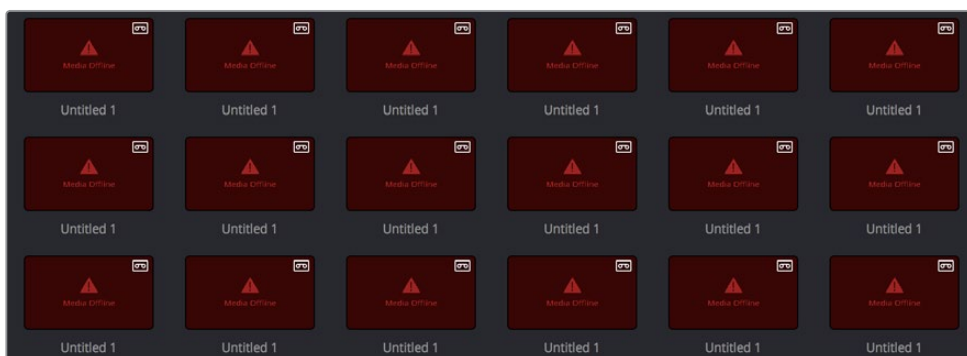
## Batch Capture Via EDL

You can also use an EDL to create offline tape clips, one for each event in the EDL, with which to batch capture all the media necessary to conform a project from tape.

### To import an EDL as a batch capture list:

- 1 Open the Project Settings, click Master Project Settings, and make sure of the following:
  - Set "Timeline frame rate" to the frame rate of your EDL.
  - Turn on "Use drop frame timecode" if your EDL requires it.
  - Make sure "Use Timecode" is set to "Embedded in the source clip"
  - Turn on "Assist using reel names from the"
- 2 Choose File > Import Batch List From EDL.
- 3 When a Conform Settings dialog appears asking you to confirm the current Project Settings, click OK if the settings are good.
- 4 Use the controls of the Select EDL files dialog to select one or more EDLs, then click Open. If you select multiple EDLs, then every event in each EDL is imported at once.
- 5 In the dialog that appears next, choose a frame rate to conform the EDL at, and click OK.

Each event in the EDL now appears as offline tape clips in the Media Pool, ready for capturing. If you load an EDL and there are already clips in the Media Pool that have the same reel name and start timecode as events in the EDL, Resolve will not create new offline tape clips for those.



A set of logged clips imported from an EDL

- 6 (Optional) Put the Media Pool into List view, and click the Reel No column header to sort the Media Pool clips by reel number. This makes it easier to select a range of clips to capture from a particular reel.



- 7 (Optional) If there are any offline clips that you don't need to capture, you can remove them from the Media Pool by right-clicking them and choosing Remove Selected Clips.
- 8 Select which of the offline tape clips you want to capture. It's best to select ranges of clips that come from the same reel.
- 9 Click the Capture mode button to the left of the transport controls, and then click Batch Clips to begin capture. To interrupt capture at any time, click Batch Clips again. Deck control is automatically used to play through the current tape in the VTR and capture every logged clip you've selected that can be found on that tape, starting with the clip with the lowest timecode value and ending with the clip having the highest timecode value. A progress bar with accompanying text shows how much longer to go until capture is complete. As each clip is captured, its corresponding logged clip in the Media Pool updates with a thumbnail reflecting the captured media.

When Resolve finishes capturing all clips from a particular reel, Batch Capture stops.