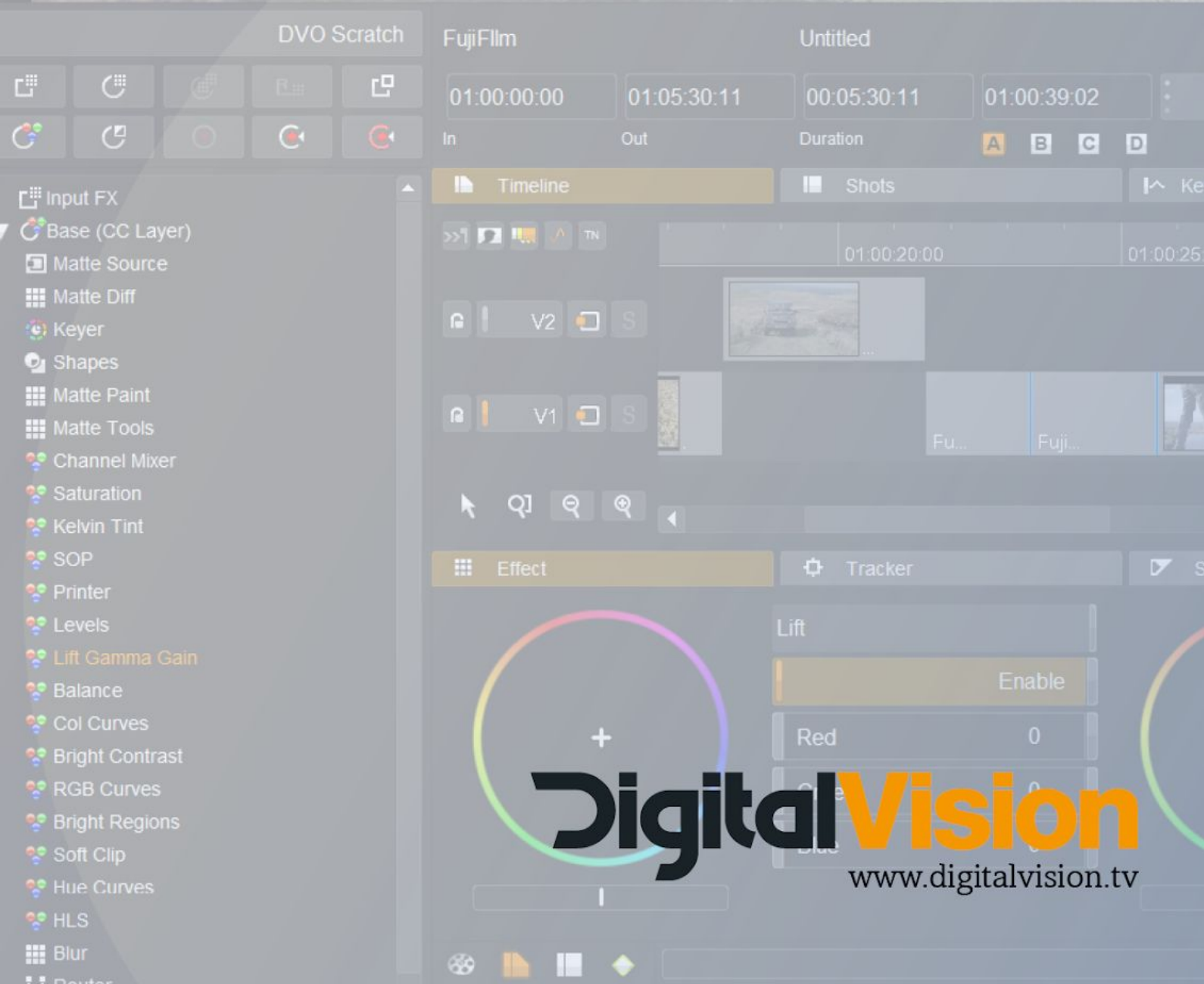


# Nucoda



GRADING | FINISHING

## 2018.1 NEW FEATURES GUIDE



**DigitalVision**

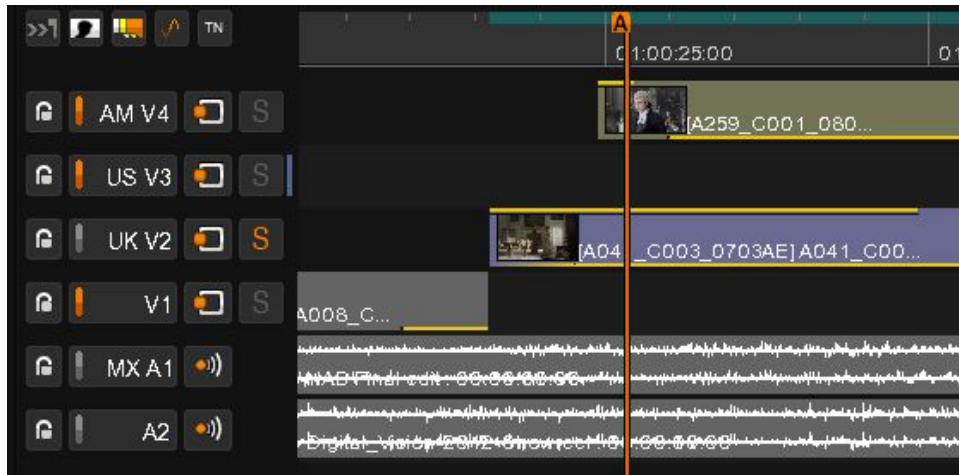
[www.digitalvision.tv](http://www.digitalvision.tv)

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### Timeline changes

#### New track solo mode, updates to track lock, selecting and viewing

- Ctrl + click a lock, view or solo icon will switch all tracks to the new selected mode, this way it is easy to quickly lock/unlock, view or solo all or no tracks.
- Track select works differently, ctrl+click on a track will deselect all other tracks only leave the clicked track selected.

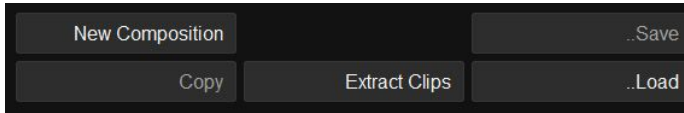


- To the right of the track icons is a small blue bar, this indicates the last clicked on track, using this indicator and then shift clicking on a different track icon will select or deselect the range. The range selection works for locking, selecting and viewing modes.
- The new solo mode will override the view settings and allow you to quickly view the solo track, grades will be applied to the viewed track. You can solo multiple tracks. Ctrl click to turn all on or off.
- The track sizes of compositions will now be saved per composition

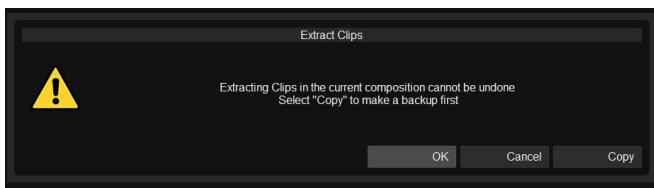
### Clip Extract - extract single clips to library from a mixdown source

***(note projects with extracted clips cannot be loaded into older versions)***

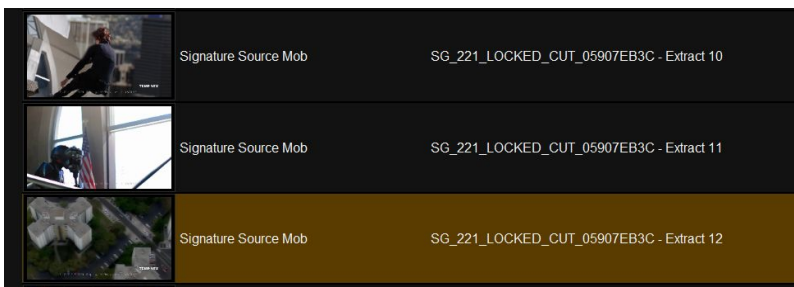
The main application for this feature is to allow users working in ACES projects using a Record order mixdown, to apply Input Transforms to individual clips.



- After importing a mixdown source, selecting clips on the timeline and clicking the “Export Clips” option will extract scene detected or Record order EDL imported media to separate clips in the selected library folder.



- The user will be given the option to automatically clone the original sequence before starting the extract.



- Clips are renamed by adding - Extract - (n) and replaced in the new composition.
- To extract 1000 clips takes about 60 sec - a progress bar is displayed during the operation
- Any Original TC or Original Tape name data applied to the clips using the Record Order conform method will be retained.
- The user can now apply individual ACES IDT's to clips extracted from a mixdown.
- Please note, extracted clips cannot be re-extracted
- This function is designed for a mixdown workflow, use the Clip Properties to relink to material if It has gone offline.

### New ACES Input transform

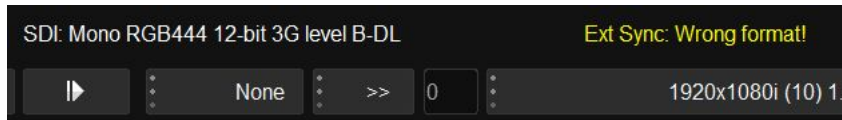
#### S-Log3 -> Rec 2020

- This transform is specifically for Sony studio cameras that use Slog3 but record in Rec.2020 - provided by Sony

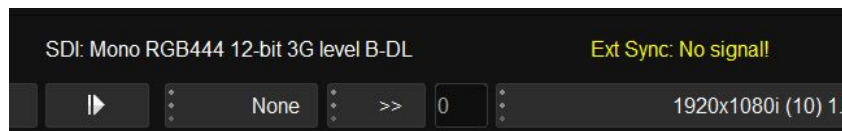
### New Sync status display

Updates have been made to the SDI input and Reference status displays for the Kona 4.

With the sync set to Ref In or Input Video will check the validity of the provided sync signal for the selected frame rate. If the sync is missing or incorrect a yellow status message will be displayed to warn the user.



- If the sync source is incompatible with the selected output video format there



- PAL & NTSC Black & Burst are now valid sync signals for 1080p 25 and 50i and 1080i 29.94 (59.94)

The reporting of sync validity in the layoff UI (by a red background on the relevant input video format display) is updated to use the new criteria. It also now updates immediately when a change to the selected external sync source occurs, rather than waiting for the user to click Refresh. The displayed names of input video formats also update immediately.

In the capture UI, the displayed names of input video formats and their compatibility with the desired capture format also update immediately on a change to available input, again avoiding the need for manual Refresh.

### Dolby Vision

#### CMU Preferences

- Any previously connected Content Management Unit will be stored and the setup and selections will be accessible to the user to view even while the CMU is offline. It will not be editable.

#### Content Analysis and Trimming now available in 10 bit projects

- Previously only projects set to Half would allow analysis and CMU trimming. This has been changed in this version to include 10 bit projects.

## Library

### Auto name and show all

- Adding a folder now automatically places the folder in Rename mode - type a new name immediately or press enter to close and keep "New Folder" as a name.
- It is now possible to Ctrl or Shift select multiple folders and drag and drop them in the library.
- A new button called Show all has been added next to the Recurse button, pressing show all will show a flattened view of all the folders in the library, turning it off will return you to the folder selection selected when you were not in show all mode.

### New Find button functionality

- When clicking the find button you will be located to the first clip in the list of found clips, pressing Find again will move to the next clip and so on.

### Content file changes

- The software version is now placed into the content file, there will be a warning when you attempt to import a content file from newer version into older version.

### Matte Source - Matte clips are no longer offset when used in a mixdown source

- The Matte effect has new settings that will let the user choose to use the Clip start, media start or scene cut as the start point for matte sources
- Scene mode is the default.

### ACES file properties change for YCbCr files

- Option to select SMPTE or Full Range output for YCbCr files when in ACES

### Auto create folders when creating a new project

- In the general.prefs file the you can now add a line "libraryFolders" with comma separated values that will generate a folder structure when creating a new project in Nucoda or Phoenix.
- Using the \$p variable will use the project name in the directory name
- Folders will be sorted alphabetically in the application

Example:

```
autoFolderMode "folders"
```

```
libraryFolders "$p - Compositions, $p - Audio, $p - VFX/1/2, $p - FX/1,$p - FX/2, $p - FX/3"
```

```
compositionStart "01:00:00:00"
```

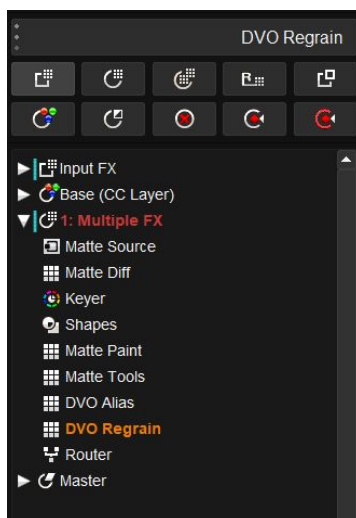
Project name is: 002

Result::



## Effects layer changes

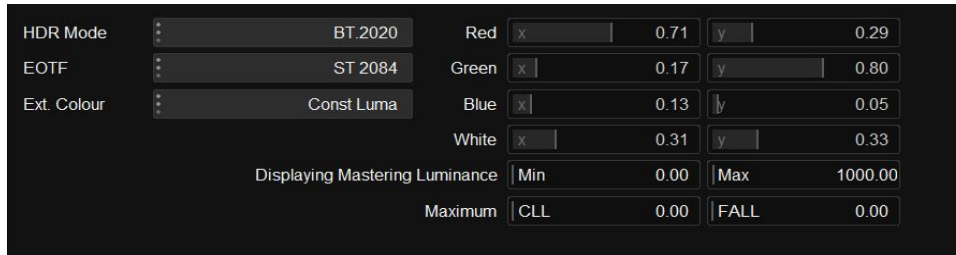
- Add multiple effects in Effects Layer
- You are now able to have multiple effects in one effects layer. Drag and drop to re-organise the effects. As soon as more than one effect is added the layer will be renamed to Multiple FX.
- On the GUI, once an effects layer has been added, selecting a new effect and clicking the new multi effect icon will add the effect to the currently selected effects layer.
- From Precision, using the FX or DVO button will add the currently selected effect to the currently selected effects layer, if no effect layer is selected a new layer will be added with the effect.
- ***Please note, from Precision this action is context sensitive, so if you are in the Input FX layer, the selected effect will be added to Input FX, with the effect in the layer selected, Alt+FX/DVO will place the new effect before the currently selected effect.***
- For Tangent users, use the Add to FX button to add the currently selected effect to the currently selected effects layer, if no effect layer is selected a the effect will be added to the Input FX layer





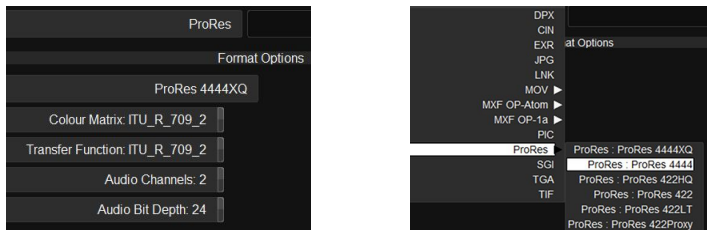
## Video I/O - Control for HDR via HDMI with AJA Kona

- Consumer devices used for monitoring can now be switched to PQ2084 with a custom or preset colour space.
- Option for constant or non-constant luminance
- Available in Preferences/Video IO page 2 (Press Next)



## Apple Prores update

- This is an entirely new implementation of Apple ProRes
  - It provides a substantial speed increase in both decoding and encoding
  - This new code does not require the installation of Quicktime
- Listed as ProRes in the export menu



- Add Metadata on export - note this is not an actual transform - just a metadata flag
  - Colour Matrices
    - Rec.2020
    - Rec.709
    - Rec.601
  - Transfer Functions
    - 709
    - PQ2084 and HLG flags
- Audio export is currently 1 track per channel Mono
- Audio Bit Depth and number of exported channels can be selected
- ProRes XQ is now available at all project bit depths
- Correctly interpret and display Rec.2020 material on import

## Colour Tools

### Updated Hue Curve tool

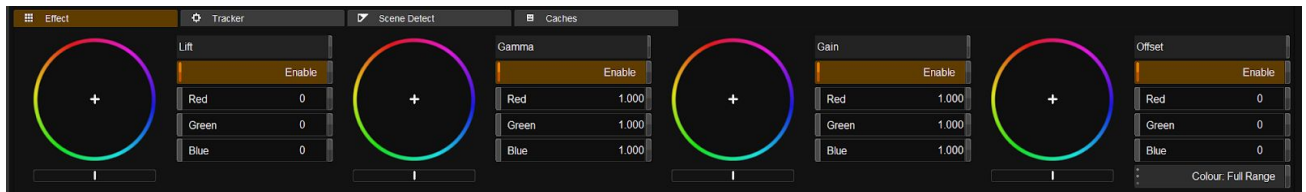
- New controls for both the new and old Hue Curves tools
  - Luma Damping
  - Hue Damping
  - Saturation Scaling - when adding Luma to the image it will affect the saturation, this control will let you scale the saturation.
- Mode switch to change between Hue Curves 2.0 and Legacy
- Old projects will use the old tool automatically
- The default will be the new Hue Curves tool - the default is the new version.

### Updates

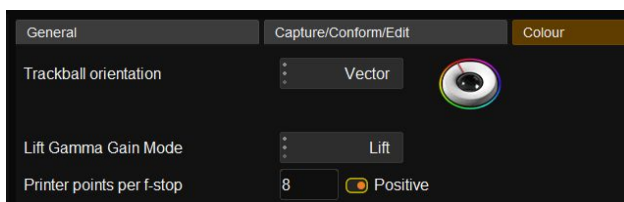
- A range mode has been added to affect the range of influence that each point has on the surrounding points. Clicking on the arrow head and moving the mouse will expand or shrink the area of influence on the surrounding points.
- The new curve reset button on the right will reset the curves for Hue, Lightness and Saturation independently, but not remove the points that have been added. It is NOT a reset.
- The option to add a points has been removed because the range tool is more effective way to control influence.
- All controls are on the Precision Panel and Tangent Panels



## Expanded Lift Gamma Gain tool



- Until now the application has used the Offset Gamma Gain model in the Lift Gamma Gain tool, this was a decision based on other colour correction systems that existed at the time. We made the decision to expand the tool based on user feedback.  
While the control in the original tool was labeled as Lift, its actual effect was Offset. This has caused some confusion in the past and has been rectified.
- The new tool is completely backward compatible, old Lift values will be converted to offset when an older project is imported
- The Lift tool has been added to the interface, so there are now four control wheels, although panel control will remain only for the three primary controls.
- The current tool layout (Offset Gamma Gain) will be the default.
- Users who want to use the new Lift Gamma Gain model can change the preference in the colour tools section of preferences, or switch while grading using the Ctrl+Shift and Insert hotkey or using the Precision hold down the Byp button on the left ball and ring control



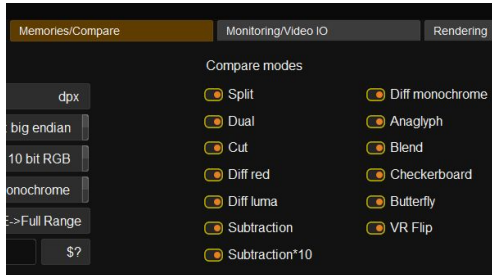
- The only difference in switching is to change the left ring and ball to control either Offset or Lift., and no colour changes will occur.
- No remapping of any panels are required

For information on LLG tools please check this link: [Pro Video Coalition - Alexis van Hurkman](https://www.provideo.coalition.com/2018/04/11/llg-tools/)

## VR Flip viewing mode

VR Flip allows the user to see the effect of “stitching” the opposite sides of images that is designed to be viewed in a Virtual Reality device. It is only a viewing mode (listed under compare modes)

- This new viewing mode is under the comparisons menu and is off by default in the preferences



- It is currently not listed on the Precision Panel



Original Image



Image is flipped and the opposite sides are aligned

## Bookmarks

It is now possible to display Bookmark information in the HUD

- A Bookmark item has been added to the HUD display list
- The bookmark info will only be displayed in the HUD when the timeline cursor is on the bookmark

### Other changes

- When editing markers the “Enter” key will close the editor as in previous versions.
- To add an extra line when entering text press “shift+enter”

### Bookmark window and icons

- The bookmark window can be left open while working in the application, window position is now saved.
- Last bookmark selected will be saved in the list
- Two new icons for opening the bookmark list and add bookmark menu.

## File import and export

### DPX

**The following changes were made to DPX tags to conform to SMPTE recommendations**

SMPTE and ADX have been added as Tag options

- In NTSC or PAL projects setting the tag to SMPTE will tag the DPX as:  
ITU-R 601 NTSC Transfer and Colorimetric BT 470 System M  
ITU-R 601 PAL Transfer and Colorimetric BT 470 System G, System B
- HD and larger, setting tag to SMPTE will tag the files as:  
Rec.709 Transfer and Colorimetric Rec.709
- Set Tag to Log : Logarithmic Transfer no Colorimetric
- Set Tag to Lin : Linear Transfer no Colorimetric
- Tag to ADX: Reserved

### H264 export

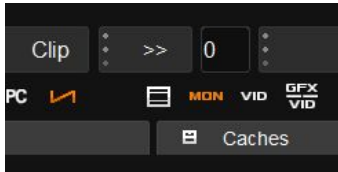
Users with extended format license will now have access to H264 exports under the MP4 heading

## VariSpeed playback in Nucoda

This option is available via the Video IO preferences, on the second page (next in bottom corner) . It is intended for use in restoration, to allow playback of material at non SDI frame rates.

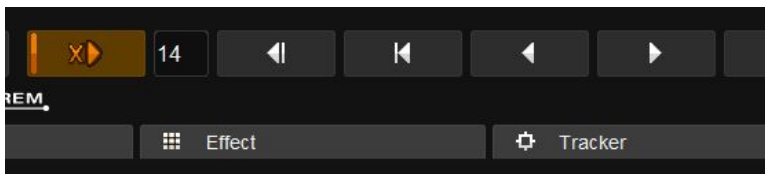
**When using this option, playback is NOT available on the SDI output of Nucoda.**

VID and GFX/SDI settings must be disabled to allow VariSpeed playback.



In the GUI, turn off Vid and GFX/SDI modes - now click next to the VariSpeed icon and enter a frame rate. **Press enter** and then enable the varispeed icon.

Playback will now be at the desired speed.



## Improved grade merge tool

Merging grades is the process of automatically matching and copying grades and effects from a graded composition to an ungraded updated version. It can also be used when working with a project where there are constant updates to the VFX during the grade, the process will apply the correct grade to new material added to the timeline that is replacing older versions.

In order for grades to be successfully merged, we need some commonality between the material to allow for matching.

### Matching by Source:

To match material by source we need matching metadata. We will need matching Timecode and at least one of the following:

- Tape Name (and Original tape name in case of Mixdown workflow)
- Clip Name
- Source ID (Only for AAF imports)  
Choosing this option will only match from material that is already imported into the application, it must be the exact same material that was used before, position and length may have been updated in the edit.

### Matching by Record Timecode:

To match by Record Timecode, all we need is an incoming shot that is the same duration as the shot being replaced, and also in the position on the timeline. Typically this is used for VFX replacements in a show that has been locked for edit, or in the case of a Stereo grade, where shots are identical.

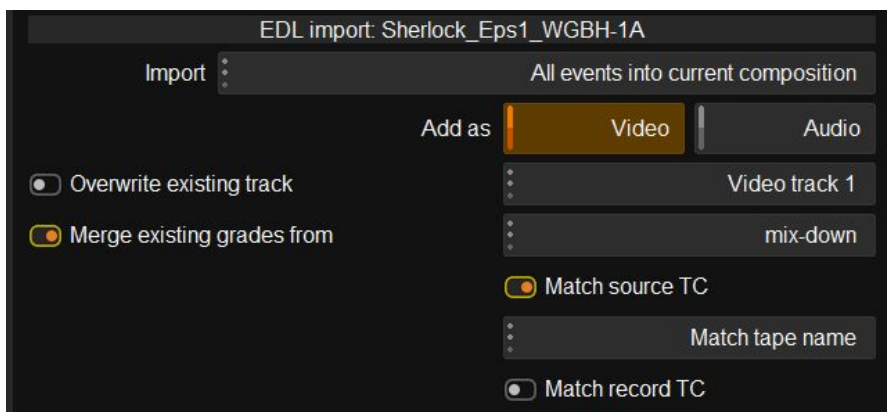
The merge process takes place during the import of a new EDL, AAF or XML. The options for the merge is in the import dialog.

### Some notes on merging grades:

- Ensure that you have a valid way of identifying material in source mode.
- You are able to merge between EDL, AAF and XML and grades will be copied if there is no media to conform.
- Any bookmarks will also be conformed
- Make a copy of your composition before merging into it, the merge cannot be undone.
- The entire grade will be copied, including keyframes.
- When importing a new AAF, EDL or XML, the name of the file will automatically be assigned as the track name, multiple tracks will be named with an extension. This can be edited in the Composition properties window if needed.
- When new material is added to an existing shot, the application will automatically attempt to copy the correct grade either from the left or right hand side of the new material.
- ANY dissolves or dynamics will also be copied, unless the material is altered so that the dynamic will no longer fit. In this case we will add a marker to the timeline and warn the user.

### Merge by source timecode:

Merge by Source Timecode (Matching to Tape, Clip name or Clip ID) is normally used when separate clips are conformed to the timeline, however, if you are using a mixdown media workflow, but have an EDL with the original TC and original Tape name, it can be applied to the mixdown media to still allow for a traditional Source merge workflow. (see Mixdown Source workflow)

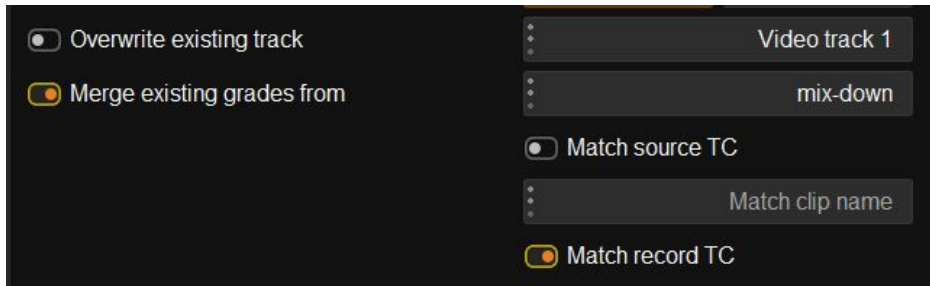


- Select import and the new EDL, AAF or XML that is to be merged with the current composition. (It is good practice to make a copy of the current composition)
- Choose whether you want to import the new composition into the current composition or whether a new composition should be created.
- Select "Merge grades from" and choose either a specific track, or choose mix down, if mixdown is chosen it will take the grade from the top most clip in the composition.
- Choose whether to conform to media and then import.
- Depending on matches found, the new sequence will be added to the current composition, after checking the merge results, the tracks from the original composition can be deleted.

### Merge by Record Timecode

Merging by record timecode will merge clips purely on whether they match the position and length of the current material in the composition.

Record merge is usually reserved for Stereo or mixdown workflows, typically locked edits with versioned VFX replacements in the same location.



### Merge Result window

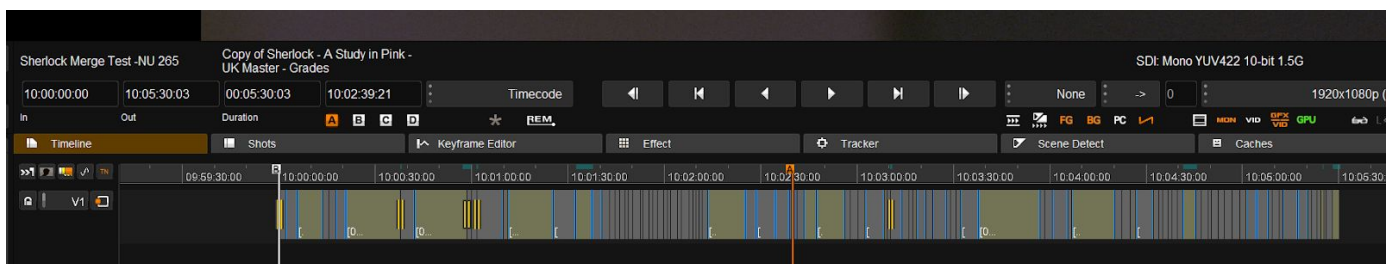
To check the status of the merge, we have added a new list window in the library called "Merge Results"



The purpose of the Merge results dialog is to show which clips were matched during the process, any matched clips with a grade applied will have the grade copied to the new clip. All clips are colour coded (there are 16 repeating colours) that will help give a visual cue to how shots were matched.

Using the option to only colour selected clips will give the user an even better view of merged clips and will allow a higher level of confidence. Each layer is saved separately and using the layer view icon will let the user check the merge results for each layer. Results can also be exported as a text file.

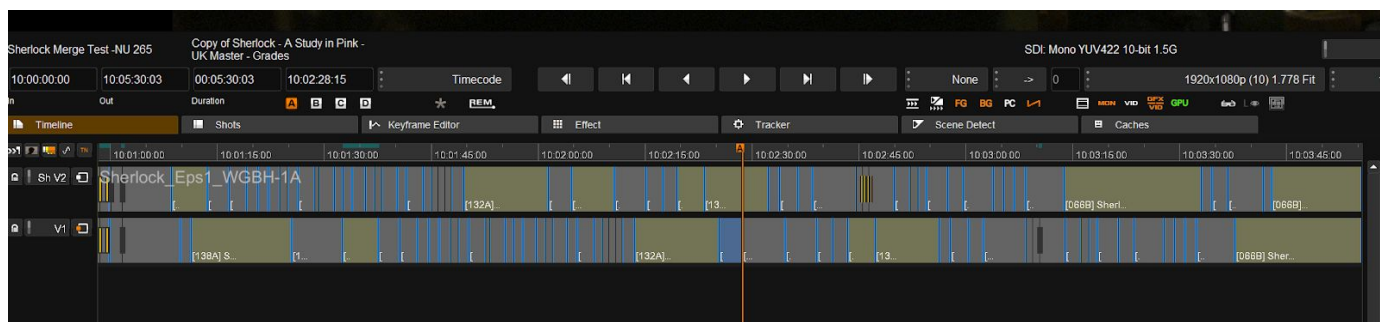
This list is interactive and will remain open as long as the library is open. Selecting an event in the list will locate to that event in the timeline, moving the playhead will also update the list selection.



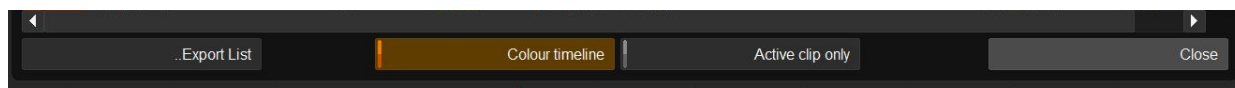
Original partly graded timeline



## Nucoda Features Guide 2018.1



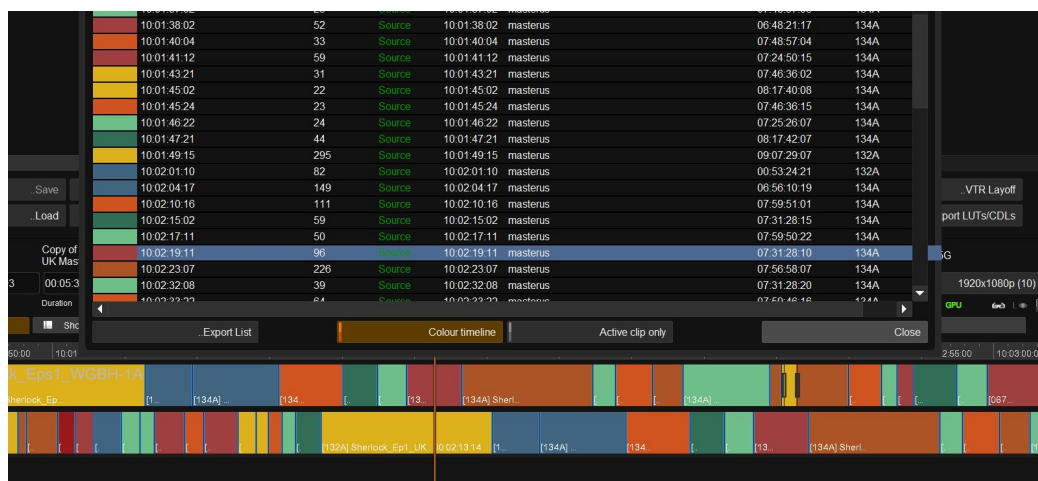
Grades merged by Source/Tape Name - Using the Mixdown Source workflow.



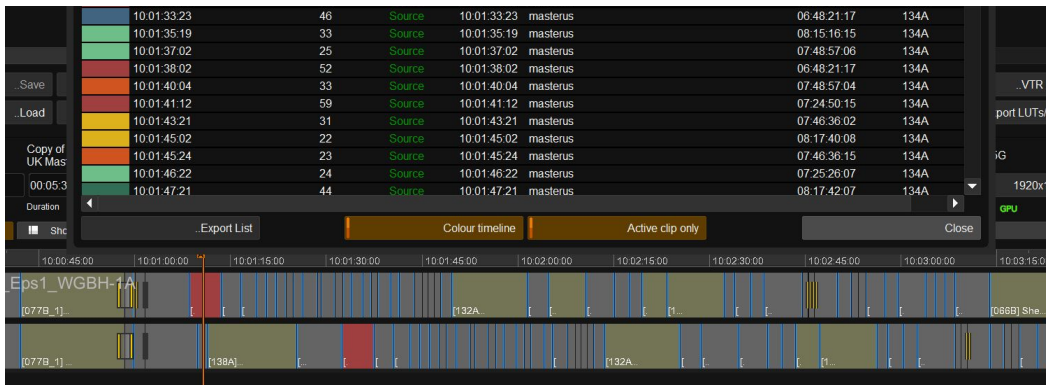
Export, colour timeline and active clip only options.

Grade merge results for track Sherlock_Eps1_WGBH-1A								
Colour	Record TC	Matched Record TC	Length	Merge	Source TC	Tapename	Original Source TC	Original Tapename
Orange	10:01:28:16		15	Source	10:01:28:16	masterus	07:24:48:14	134A
Red	10:01:29:06		54	Source	10:01:29:06	masterus	07:48:56:14	134A
Red	10:01:31:10		30	Source	10:01:31:10	masterus	08:15:17:14	134A
Red	10:01:32:15		33	Source	10:01:32:15	masterus	07:48:57:16	134A
Blue	10:01:33:23		46	Source	10:01:33:23	masterus	06:48:21:17	134A
Green	10:01:35:19		33	Source	10:01:35:19	masterus	08:15:16:15	134A

The list is based on the current top viewed track, this list indicates that the merge was done by Source, it shows the Record TC where the clip was located, the source TC (it matches the Record TC because this is a mixdown workflow) and the the Original Source TC and Tape name that the match was based on.



This is the coloured merge results window, note the corresponding yellow and blue clips



Selecting to only show the matching clip in colour

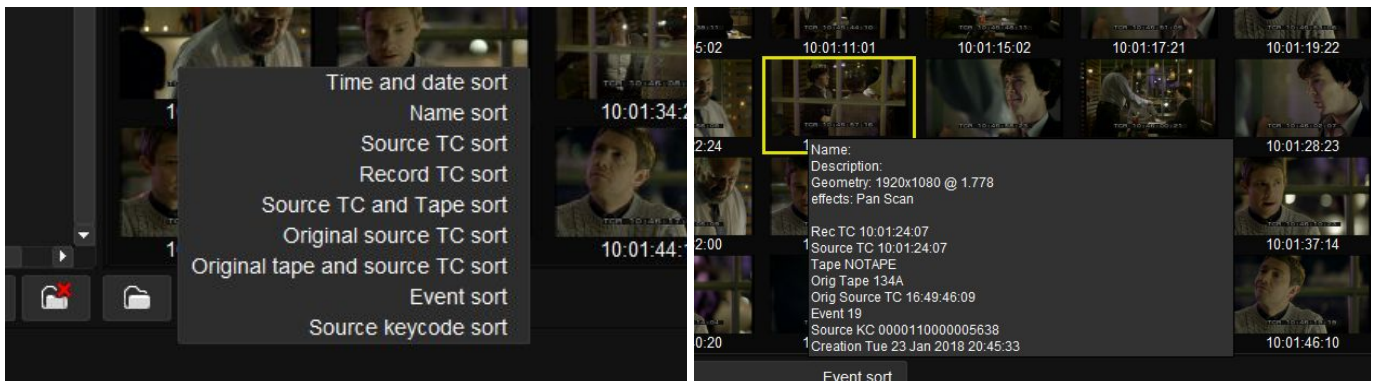
## Merge Result bookmarks

After a merge, any dynamics that were not merged will be flagged with a bookmark and descriptive text. You are now able to leave the bookmark window open while working in the application.

## Expanded notes metadata

### New sort modes and extended data in notes

When saving notes, data from Original TC and Original Source (Mixdown Src workflow) is saved in the notes. Additional sort modes have been added to mirror those in the events view.



## CLI commands

### New EDL import option

Markers in EDL's that are created using the \*LOC entry in the EDL can now be imported to the timeline from the CLI

Command:

```
Usage: --import-edl <PATH> <--new | --add | --mark> [options]
```

Additional options:

`--import-bookmarks` will import Import \*LOC markers to the timeline.

### AAF and Avid workflow changes

#### Changes to Avid MXF Relink workflows

In this release we have made improvements to the Relink workflow when using MXF OpAtom files, we have reinstated a feature that was removed in 2016.1 that precluded users from relinking by Source ID, it required a Tape Name or Tape Name data duplicate into the LabRoll, Camroll or Soundroll fields to relink against.

We have made a change that will now correctly use the Source ID from the original Avid MXF to ensure relinking is successful. Please ensure that the new exported material is exported to a new folder or volume to allow for easy relinking.

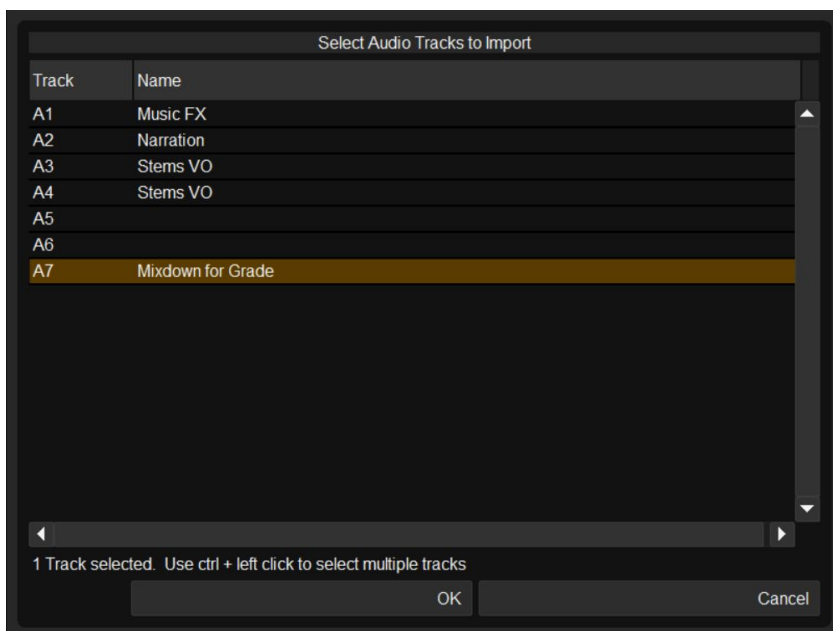
The Source ID field is also correctly propagated when using DNxHR (Larger than HD) resolutions allowing relinking of DNxHR sources as well.

#### New option when importing AAF

Users can now choose which audio track should be imported when importing an AAF, by default the setting is to import all tracks.



Clicking on the Select Audio Tracks button will open a dialog that will show available tracks to select for import. Once opened, a track selection must be made else no tracks will be imported at all



Track names are retained but they will be reordered numerically in Nucoda. Using this option will not affect AAF round trip workflows.

### DVO Scratch Target

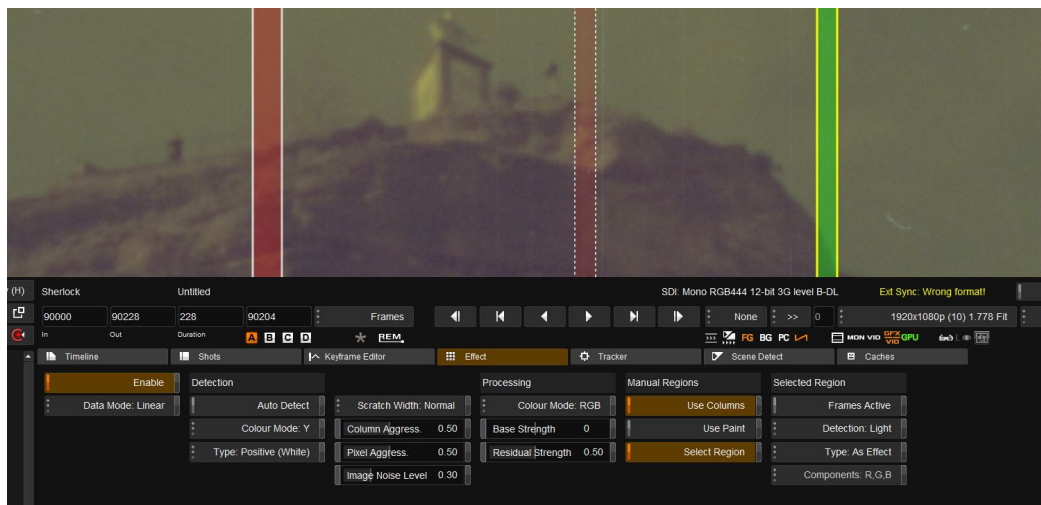
The DVO Scratch Target tool is an enhanced version of the original DVO Scratch. It has the same controls as the original and can be used in place of the original.

The new option allow the user to add and remove columns to the image and then specify whether processing should be forced or bypassed on a per column basis. This will allow scratches that are not detected by the Auto setting to be targeted for removal.

A paint tool can also be used for shorter scratches and a frame duration can be specified for each column.

#### DVO Scratch Target online manual

[http://www.digitalvision.tv/w/index.php?title=UM:Dvo\\_Effects\\_Dvo\\_Scratch](http://www.digitalvision.tv/w/index.php?title=UM:Dvo_Effects_Dvo_Scratch)



### DVO Dirt Map

DVO Dirt map uses the technology behind DVO Dry Clean to selectively fix images based on an embedded dirt map created when the image was scanned. Please contact your scanner manufacturer to see if your scanner supports Infrared dirt map creation.

#### DVO Dirt Map online manual

[http://www.digitalvision.tv/w/index.php?title=UM:Dvo\\_Effects\\_Dvo\\_DirtMap](http://www.digitalvision.tv/w/index.php?title=UM:Dvo_Effects_Dvo_DirtMap)

### DVO Dry Clean Updates

DVO Dry Clean now has a new Flash protection mode to guard against false positives when flashes of light appear on film, such as flash bulbs in cameras.

There is also a new cut safely mode as well as a Super Aggressive setting for very noisy material.

#### DVO Dry Clean online manual

[http://www.digitalvision.tv/w/index.php?title=UM:Dvo\\_Effects\\_Dvo\\_DryClean](http://www.digitalvision.tv/w/index.php?title=UM:Dvo_Effects_Dvo_DryClean)

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