

Quantel Rio Rio Assist

V4.3.0

New Feature List

Color and Tracker Enhancements



If you have any questions please contact Damon Hawkins
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V4.3.0 – New Features – August 2016

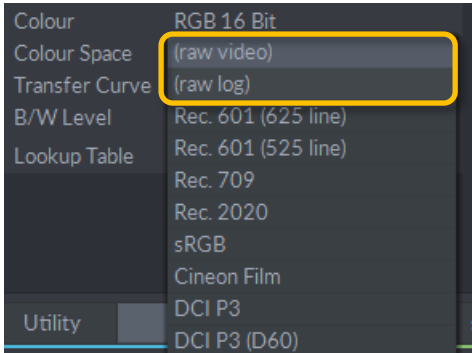
- RAW Color workflows – RAW Video/RAW Log
- New transfer curves added. Now available in all menus.
- New Tracker functionality
 - Quick track button
 - Shape homography improvements
 - Keyframe Graph improvements
- Closed Captions Export – Translate CEA608 into a CEA708 stream
- Curve is now the default Shape in all menus
- IMF Packaging support via the updated Fraunhofer API*
- ProRes Export – added 5.1 channel mapping metadata
- Conform – MXF alpha channel support
- EXR Export – Integer clips will convert to float
- EXR Import – defaults to the size of the display window attribute
- Programmatic Access to Kernel Processing Functionality (beta)
- Windows 10 Pro Support
- Changed location for VS2015 compiled plugins

* There is a known issue with IMF audio out that is to be addressed in a patch release very shortly

RAW Color workflows – RAW Video/RAW Log

There are some workflows where a colorspace and transfer curve may not need to be defined and the native 'raw' file format maintained. This may be the case when the use of specific luts may be required over any internal color transformations, or simply no color transformations are required at all.

In the attributes and file import Colour Space menus there are now additional choices.



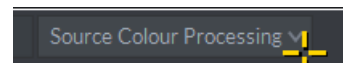
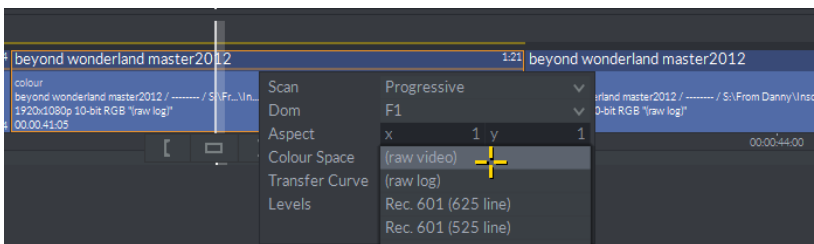
When a clip or rush is flagged as RAW video then no color transformation or transfer/gamma curve change will be applied to it no matter what is set in the MLTFX render menu and/or in the output format boxes. See note below for differences between 'source' and 'float' processing.

RAW log will be treated the same as the 'Log' attribute in V2.1 software. When a clip is flagged as RAW log then in MLTFX Colour the DMin/DMax /Convert boxes appear and the rush can be treated as before with Log to Linear conversion for processing and then back again(unless the Convert box is checked in which case it will not convert back to Log).

There will be no Colourspace transformation at all.

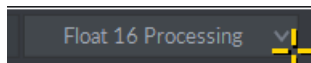
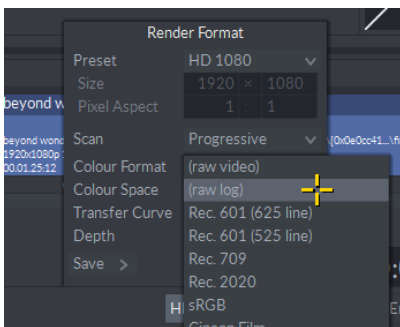
Source versus Float processing

In 'source processing' the RAW flag is taken from the rush/segment regardless of what is set in the MLTFX render menu.



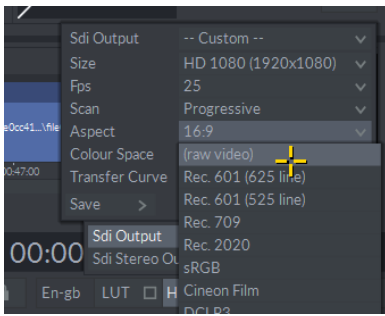
Source Processing takes the RAW attribute from the rush/segment

In 'float processing' the RAW flag is taken from the MLTFX render menu no matter what the rush/segment is flagged at.



Float Processing takes the RAW attribute from the MLTFX render format menu

In the SDI output video menu there is only a RAW video choice as log is not required.

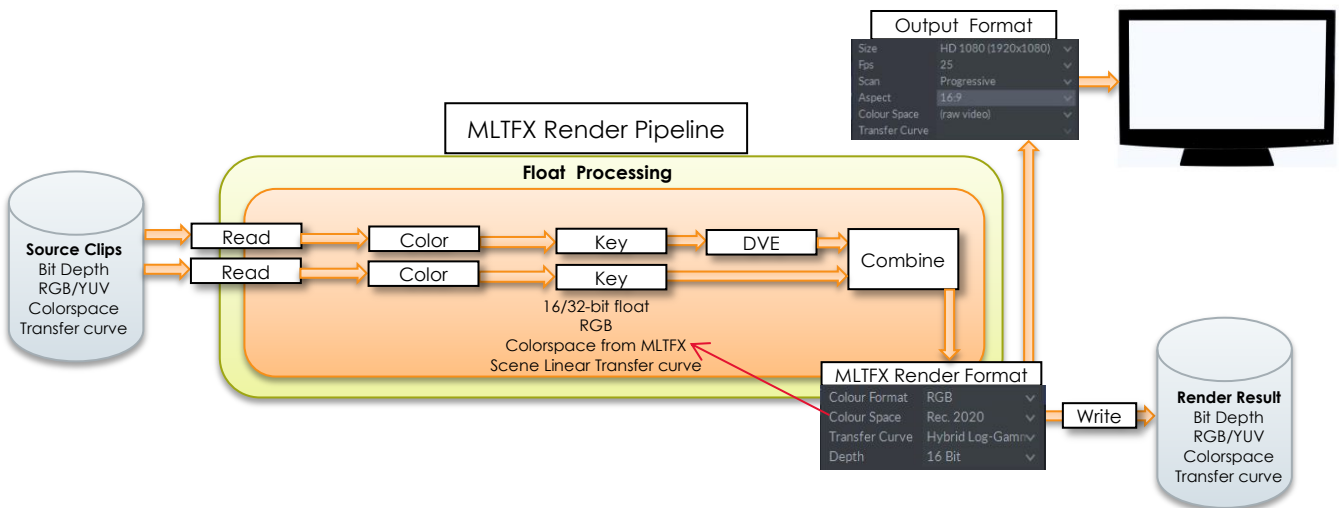


When selected there will be no colorspace or transfer/gamma curve transformation made between MLTFX and the output.

The full pipeline transformations for both float and source processing are shown below.

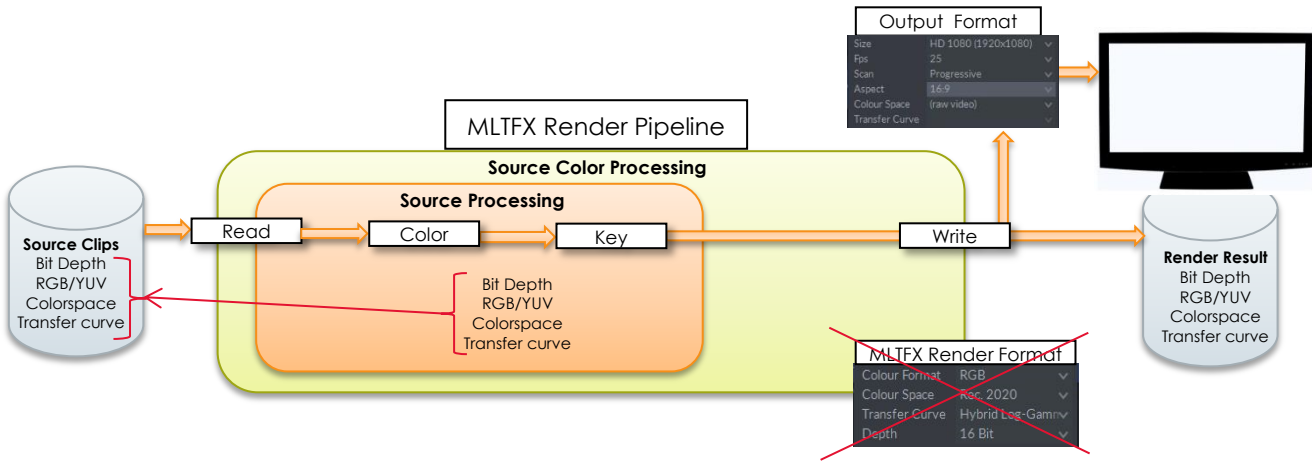
Float processing – this will always process in 16/32-bit float using scene linear in the color space as set by the render format.

In the example below there is no transformation between MLTFX and the video output as this is set to RAW video.

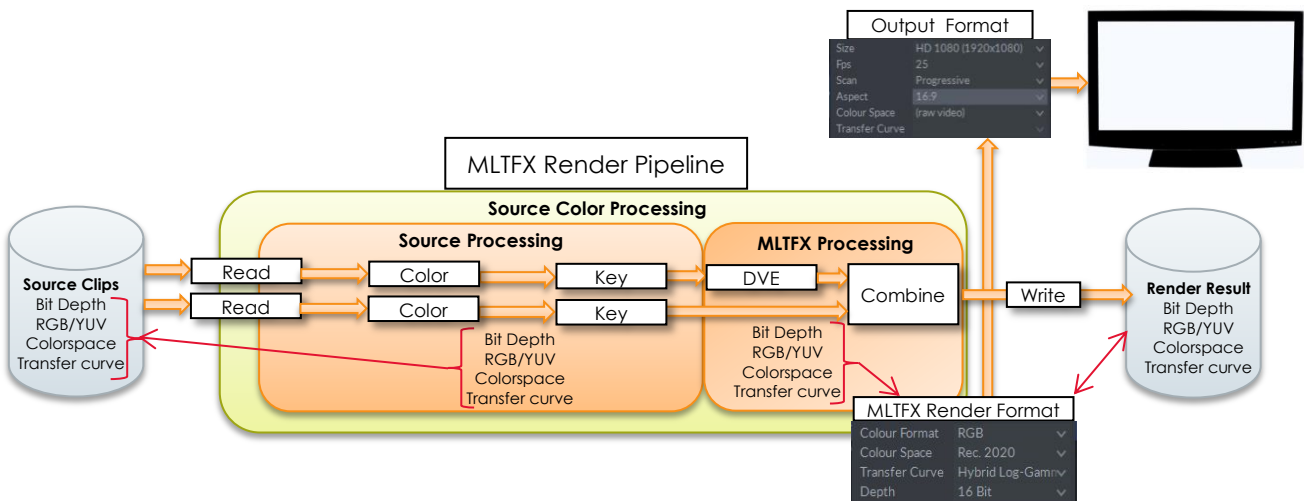


Source colour processing – processing will use the native color space and transfer curve from the current segment. This will be in 16-bit integer, 16-bit half float or 32-bit full float depending on the bit depth of the rush. 8,10, and 12-bit clips are always internally processed in 16-bit integer.

When there is no DVE and no Combine involved then the MLTFX render format is ignored and the clip/rush is processed and rendered to its native format.



When the DVE or any Combine is involved (fade to black, key, mix pixel aspect ratio transition) then the final processing and render result is controlled by the MLTFX render format.



New transfer curves added. Now available in all menus.

The full list of colorspace and transfer choices are now available in all menus.

There are also some changes and additions that include the EBU 2.35 curve, the new ITU Rec 2100 Hybrid Log Gamma curve (previously ARIB STD-B67) and two choices of the SMPTE ST2084 (PQ) curve for 1,000nits (for HDR10) and 10,000nits. ACEScct is also new from the new ACES 1.0.3 that is about to be released.

Colorspaces

(raw video)
 (raw log)
 Rec. 601 (625 line)
 Rec. 601 (525 line)
 Rec. 709
 Rec. 2020
 sRGB
 Cineon Film
 DCI P3
 DCI P3 (D60)
 DCI P3 (D65)
 DCI X'Y'Z'
 ACES2065-1
 ACESproxy
 ACEScc
 ACEScct
 ACEScg
 Adobe (1998) RGB
 Adobe Wide Gamut RGB
 ColorMatch
 Arri LogC-709
 Arri LogC-Wide Gamut
 Canon Cinema Gamut/C-Log
 Canon DCI P3/C-Log
 Canon DCI P3+/C-Log
 Panasonic V-Gamut/V-Log
 REDspace
 REDcolor
 REDcolor2
 REDcolor3
 REDcolor4
 DRAGONcolor
 DRAGONcolor2
 Sony S-Gamut/S-Log2
 Sony S-Gamut3/S-Log3
 Sony S-Gamut3.Cine/S-Log3

Transfer Curves

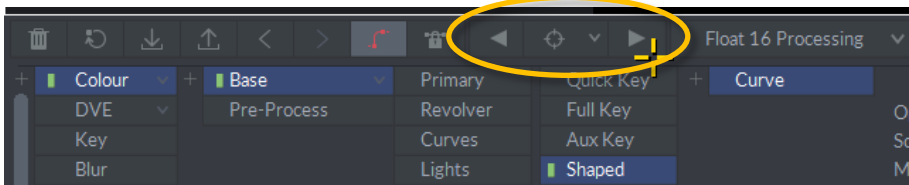
2.2 Gamma (Rec. 709)
 2.2 Gamma (Rec. 1886)
 2.3 Gamma (Rec. 709)
 2.35 Gamma (EBU)
 2.4 Gamma (Rec. 1886)
 2.4 Gamma (sRGB)
 2.6 Gamma (DCI)
 2.6 Gamma (DCDM)
 2.2 Gamma (Adobe)
 1.8 Gamma (ProPhoto)
 Cineon Log
 Hybrid Log-Gamma (Rec. 2100)
 SMPTE ST2084 (1,000 cd/m²)
 SMPTE ST2084 (10,000 cd/m²)
 Scene-linear
 ACESproxy
 ACEScc
 ACEScct
 Arri LogC
 Canon C-Log
 Panasonic V-Log
 REDlog
 REDlogFilm
 REDlog3G12
 Sony S-Log
 Sony S-Log2
 Sony S-Log3

New Tracker functionality

Quick Track Button

In order to complete a track it is no longer necessary to go into the tracker menu. There are quick track buttons for forwards and backwards that will automatically use whatever defaults are set up in the tracker menu. Simply draw a shape and click the appropriate arrow to track forwards or backwards.

The tracker menu has also been moved over to the left of screen to improve the ease of access.

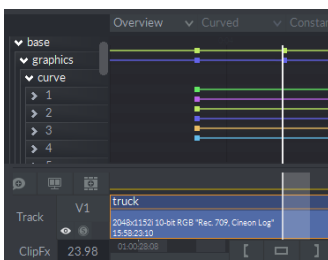


Shape homography improvements

When an area is tracked as defined by a shape, the shape is no longer converted to a curve. Instead a 2D projection of the 3D homography data is applied to the shape. As a result there are no specific keyframes for every point of the shape allowing for easy finessing of the track if required.

Keyframe Graph improvements

As the keyframe data contains only any user created positional keyframes, then the keyframe graph is much easier to manage.

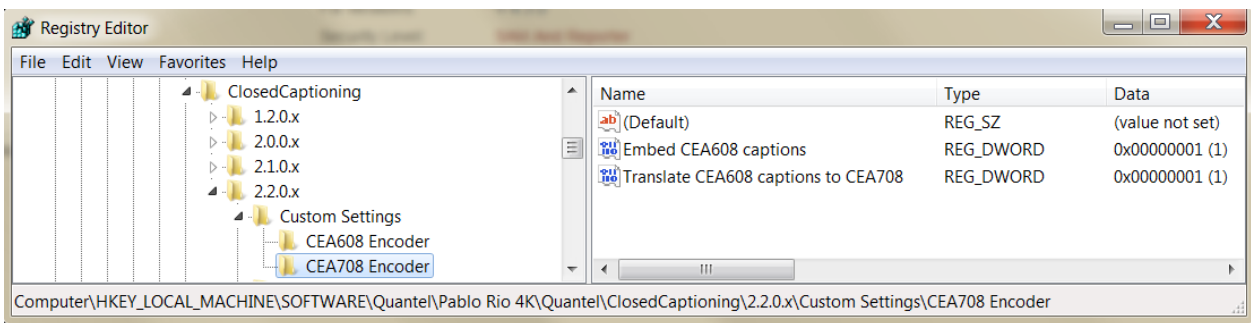


Global keyframe adjustments and offsets can easily be made at any position on the timeline and are the only keyframes displayed.

Closed Captions Export – Translate CEA608 into a CEA708 stream

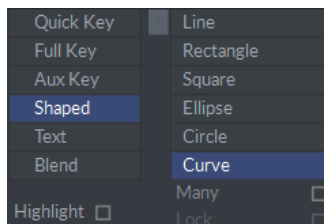
When Closed Captions are exported as part of an MXF file then they will be put into a CEA708 byte stream. Export of .scc is always CEA608.

If 708 is not required then there is a registry setting that can be turned off to maintain 608 captions.



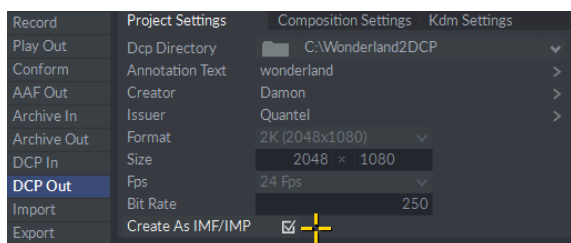
Curve is now the default Shape in all menus

When going into any shape or graphics menu then 'curve' is always the default rather than 'line' as it was previously.



IMF Packaging support via the updated Fraunhofer API*

The easyDCP/Fraunhofer API has been upgraded and will now support the export of IMF (Interoperable Master Format) packages. These are similar to DCPs and are used for the distribution of final video products. For example Netflix will usually ask for an IMP. DCPs are specific to digital cinema.



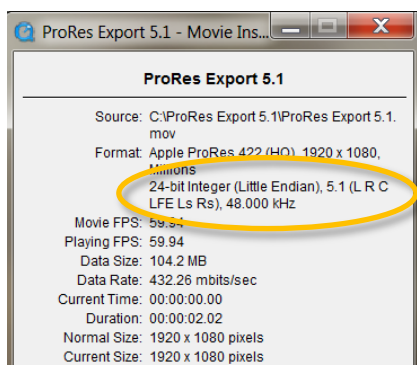
Asset delivery and playback timeline aspects are decoupled in IMF. The unit of delivery is called an Interoperable Master Package (IMP).

As with the DCP functionality this will work in a trial mode until a full easyDCP license is purchased.

* There is a known issue with IMF audio out that is to be addressed in a patch release very shortly

ProRes Export – added 5.1 channel mapping metadata

When exporting a ProRes file with 5.1 or 7.1 audio the channel mapping metadata is also exported so that 3rd parties will identify the file as having 5.1/7.1 audio rather than just 6/8 tracks of audio.



Conform – MXF alpha channel support

As a part of the conform process AAF files from Avid that contain video and key information are now read and with the associated rushes put together as a video/key clip. It is recommended that the F1 'Force Remote MXF to HBR' box be checked to avoid any errors.

EXR Export – Integer clips will convert to float

The restriction that you can only export floating-point clips as EXR files has been removed.

Integer based clips will now convert into to float within the EXR file when exporting.

To preserve precision integer clips are converted as follows:

8-bit	16-bit float
10-bit	16-bit float
12-bit	16-bit float
16-bit	32-bit float

EXR Import – defaults to the size of the display window attribute

The imported resolution of EXR files will now be determined by the 'display window' size from within the file. Previously this was determined by the data window size which can often change from frame to frame and so it not practical to use this.

Programmatic Access to Kernel Processing Functionality (beta)

The majority of the editing, effects and file i/o functionality within Rio can now be automated via Python scripting. This functionality is currently part of the code and is being treated as beta for this release.

If you wish to know more and would like documentation and Python script examples to get started with then please email damon.hawkins@s-a-m.com

Windows 10 Pro Support

Quantel Rio and Rio Assist will now run on Windows 10 Pro edition. We are not yet shipping our turnkey systems with Windows 10, but we have tested and so any self-build software only systems can choose between Windows 7 or Windows 10.

Changed location for VS2015 compiled plugins

The code compiler for Rio has been updated to Visual Studio 2015. As a result any new plugins built moving forward will have a new default V6 location as shown. As yet there are no newly compiled plugins and so the 4.2 location is still valid and should continue to be used.

