

Media Composer | Software Operators Upgrade Notes

The Age of Resolution Independence

8.3



Paul Sampson
paul@paul-sampson.ca

Table of Contents

INTRODUCTION	3
MEDIA COMPOSER 8.3 / 8.3.1	4
NEW MEDIA SIZE SUPPORT	5
PERFORMANCE ISSUES.....	6
NEWBLUE TITLER FOR HIGHER THAN HD RESOLUTIONS.....	7
ACCESSING HIGHER THAN HD MEDIA	9
NEW CODECS: AVID DNxHR.....	9
WORKING WITH HIGHER THAN HD MEDIA.....	10
TRANSCODING	10
WORKING WITH AVID PROXY	11
OUTPUTTING HIGHER THAN HD MEDIA	12
MXF OP1A EXPORT OF DNxHR.....	12
SONY XAVC-I EXPORT	13
DPX EXPORT	13
QUICKTIME EXPORT OF DNxHR	14
OTHER NEW FEATURES	15
ADDITIONAL COLUMN HEADINGS.....	15
COLOR MANAGEMENT - REC.2020 & DCI-P3 SUPPORT ADDED	15
BIN FILTERING	16
COLOR MANAGEMENT – ADJUSTING DISPLAY COLOR SPACE	17
PLAYBACK RATE IN SOURCE SETTINGS	18
THE COLOR INFO TOOL.....	19
CHANGES TO SELECTING COLOR IN THE EFFECT EDITOR.....	20
SUPPORTED FRAME SIZES AND FRAME RATES	21

INTRODUCTION

This document covers 8.3 and 8.3.1 of *Avid Media Composer | Software*.

As with previous releases, this is not an operations manual, but my outline of the new features in Media Composer. In this document I assume you are currently editing at good proficiency on some recent version of the software. This document describes what the new features are, but does not necessarily outline the steps to using them. Remember to see the actual documentation from AVID for more detail, or use the built in HELP in the application.

On the pages which follow is my take on the most useful features for operators using these releases of *Media Composer | Software*. It covers standalone features in the editing system, not necessarily features specific to an Interplay server environment.

Acknowledgements

I would like to thank:

Jean-François Boisclair, Avid Product Specialist at CEV in Montreal, for thoroughly reviewing this effort and offering many very useful corrections and suggestions.

Robert Russo at Avid (Burlington, USA), who returns all my emails and guides me through my exploration of the new Avid versions. Many thanks Robert.

“Beta” **Keith Gerrard** for allowing me to participate in the Beta program that allows me to get a head start on the new versions.

Despite their help, this document certainly contains errors and omissions, for which of course I alone am responsible.

Paul Sampson *paul@paul-sampson.ca*

I am an Avid Instructor (ACI) and Editor Avid Certified Support Representative (ACSR) living in Canada. I supply Workflow design, Curriculum Development, Course Delivery and on-site support for AVID and ADOBE products. I support Media Composer | Software, Media Composer Cloud, MediaCentral, Instinct, Access, Assist, Photoshop and After Effects. I work with Editors, Journalists and Web Developers at many companies in Canada and abroad.

Media Composer 8.3 / 8.3.1

This is a big release. While previous versions allowed us to use media formats which were larger frame sizes than HD, they were always converted to HD during editing and output. The Media Composer could not produce a 2K, UHD or 4K resolution program.

With this version we can now capture, edit, transcode and render in higher than HD resolution formats – 2k, UHD and 4k. These formats – and our original SD and HD video – can easily be mixed in projects and timelines. In some cases we can just switch project formats to create different versions of the same program. We have true resolution independence.

With this release we confront several ongoing issues unrelated to Avid that must be managed for successful editing, particularly with these high resolution formats:

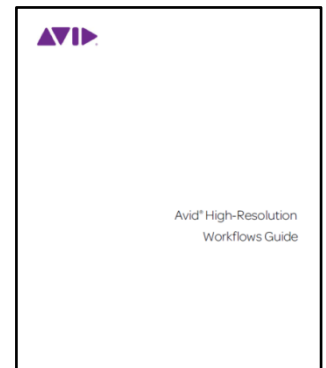
- Variety of formats, which vary in frame size, frame rate, color space, scan rate (progressive/Interlaced)
- Performance issues when editing due to the raw data rates and processing power required for live playback of this higher quality media
- Color Space and color profiles can be different from HD and SD legacy content, and for different cameras, workflows and distributions.

As you read about the new features in *Media Composer | Software 8.3*, you might want to take note of the Avid features added to allow you to manage these variations for the newer ‘multi K’ formats.

This document is not a Workflow guide – it does not discuss the different strategies for editing with higher than HD resolutions, or mixed resolutions. Avid has available a high resolution workflow guide, free from their web site, which can help you navigate through these issues.

http://resources.avid.com/SupportFiles/attach/HighRes_WorkflowsGuide.pdf

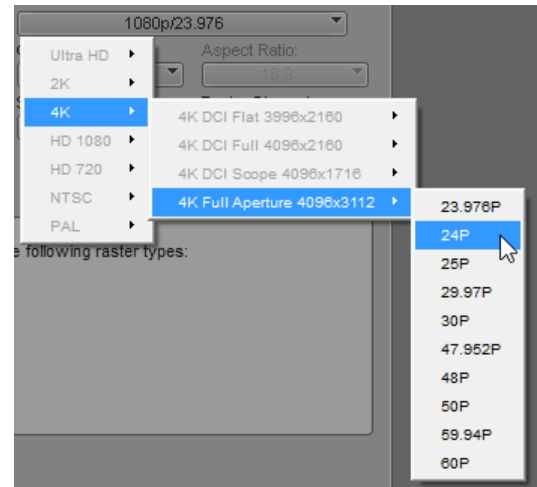
http://avid.force.com/pkb/articles/en_US/how_to/Media-Composer-Software-High-Resolution-Workflow-Tips



New Media Size Support

When creating a new project, you can now choose to create the project in one of 7 different format families. UHD, 2K and 4K contain the new, higher resolution project types. What you choose here determines what frame size, frame rate and field scanning all media in the project will be displayed at in Avid's 'universal timeline'. It is often your target project format, but not always. In offline editing, it might represent an HD intermediate format for a final 4k project, to be created later by conforming.

The familiar SD and HD formats are still accessible as you see here under their own categories.



		TYPE	COMMON USAGE	FRAME SIZE	ASPECT RATIO (approx., HD as reference)
HD	HD	Home Distribution	TV Broadcast	1920 x 1080	16 : 9 (1.77 : 1)
2K	2K	Production	Production	2048 x 1080	16 : 8.5 (1.9 : 1 / 1.89 : 1)
UHD Ultra High Definition	4K	Home Distribution	TV Broadcast	3840 x 2160	16 : 9 (1.78 : 1)
4K	4K	DCI Native (Digital Cinema Initiatives)	Production and Digital Cinema format	4096 x 2160	16 : 8.5 (1.9 : 1 / 1.89 : 1)

For a full list of supported frame sizes and frame rates, please see the very last section of this document.

Performance Issues

UHD/2k/4k video is very demanding on the CPU, media drives and media paths. We mitigate these factors by:

- Editing with UHD/2k/4k media using the Media Composers built in PROXY mode (to be described later)
- Editing and playing back using an Avid native codec, for best performance. Currently, these are Avid DNxHR and Sony XAVC-I. Avid suggests they will be adding more native codec support.
- Use the existing , or make your own, proxy media, and editing with these proxies, confirming the high resolution later if UHD/2k/4k masters are needed.
- Using the best performing computers and media storage that we can afford!

Additionally, AVID has a longer list of suggestions for working with this media. Here are some of their best tips on how to manage this new high resolution world:

- Transcode high-res media to DNxHR. Playback performance of DNxHR is optimized in the initial release. Other codecs may have lower performance of playback and real-time effects.
- Use Proxy mode for higher performance. Proxy Mode plays high-res media at 1/4 or 1/16 resolution. In addition, when proxy mode is ON, effects render at the proxy resolution for further performance gains. Quality is still very good, with much better performance. For maximum performance in proxy mode, consider transcoding the sources to proxy dimensions and relinking.
- Minimize the use of adapters and converters that get applied on the timeline automatically.
- Switch off any LUTs applied to the viewers
- Render FX and clips with adapters (green dot), or apply a full mixdown.
- Change to Y/Y or Y/Gr mode.
- If audio and video loses sync, put your audio media on separate storage than your video media
- For best performance with an I/O card for monitoring, ensure that the I/O card supports the project raster, bit-depth and frame rate natively to avoid conversion in the monitoring pipeline.
- With Nitris DX, if you're in a UHD 59.94 project with DNxHR HQX media in full-res 10-bit mode and downconverting through Nitris DX, you may drop frames – switch to full-res 8-bit mode

NewBlue Titler for Higher than HD Resolutions

The legacy Title Tool and the Marquee Title Tool from the TOOLS menu will not work in UHD/2k/4k projects. This error message appears if you try and open either title tool in UHD/2k/4k project.

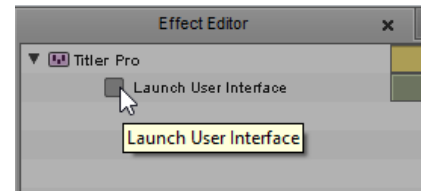


There is currently no way to confirm Avid Title Tool material created in SD or HD projects into UHD/2k/4k titles. Titles from SD and HD will be brought into your larger than HD projects at the smaller media sizes of SD or HD, as they were originally created. They will simply be blown up to fill the larger frame, they will not be recreated at the larger size.

For full resolution, UHD/2k/4k titles, existing titles must be recreated using the NewBlue titler, from scratch. Avid tells us they are working on this issue. NewBlue Titler Pro. v1 or v2 will have come with your system, depending on your Avid licencing.

The NewBlue titler is an *effect*, not a separate tool. You will find it in the *NewBlue Titler Pro* video effects category. This effect is applied to filler in your video track, or can be dropped on a piece of video you place in the timeline.

1. Apply the effect to a segment in your Timeline
2. Open the Effect Editor
3. Open the plugin by clicking on *Launch User Interface*
4. Make the title
5. Close the titler tool
6. Render the title in your timeline- it's a blue dot effect



Titles do not appear in the bin – they are effects in the timeline. They can be shared and copied by dragging the effect icon from the effects editor into a bin.

LICENCING

If you see this logo and red x on your screen, your Titler is unlicensed. Use the Avid Application Manager's APPS tab to licence your version.

- If you are a Media Composer subscriber, you get a copy of NewBlue Titler Pro **v2**. The software installs with Media Composer and is licenced automatically. It will just be there and work.
- If you purchased the *Media Composer | Production Pack* you will have NewBlue Titler Pro **v2**. To use this version you will need to install and activate it using the Avid Application Manager.



- If you bought Media Composer outright, you will have NewBlue Titler Pro v1. It will install with Media Composer and be available for your use.

NewBlue Titer Pro v1 vs v2

From the NewBlue web site, these are listed as the additions to v2:

- Custom 3D Bevels – Create a unique bevel on any style layer to maximize
- 3D impact Wide angle – Adjust the camera lens of the scene for extreme or subtle perspective
- Video import – Add video as a 3D picture-in-picture or as background elements
- Video as texture – Apply video as a texture to any style layer or shape for dynamic compositions
- Custom texture position – Now adjust the position, scale and size of any image or video texture
- True motion blur – Output smooth, realistic motion titles at the time of render
- Multiple light sources – Create the perfect mood and space for your titles with lighting control
- Light Keyframing – Manipulate three different kinds of lights in space with keyframes
- Material shine control – Dial in the perfect amount of surface shine for each style layer
- New multi-point shape – Design stars, bursts and radial objects with this new vector shape
- EPS file support – Import vector files and extrude them for 3D logos and custom objects
- Text-to-text transitions - Now use any NewBlue transition to morph one text into another using transitions between paragraphs

LEVELS ISSUE

For UHD TV, video bit depth is either 10 bit or 12 bit. At 10 bit, 'black' is defined as digital level 64, and white as digital level 940. For TV, UHD still has 'setup' below black. As well, peak white is lower than maximum level to allow preservation of highlights in the frame.

The NewBlue Titler Pro does not respect these levels within the editing application. Inside a UHD project, if you select WHITE you will get a white level of 1024, not 940, and if you select black you will get a level of 0 not 64.

This is one aspect in the mismatch between the NewBlur Titler Pro and UHD colorimetry, there are certainly others. On the other hand, if you like what you see and it's legal....

ACCESSING HIGHER THAN HD MEDIA

You may use higher resolution media by AMA linking to the original recording, as we have been doing with this media previously. You may also capture or transcode into a number of AVID codecs which are natively supported by Media Composer. The native codecs offer better performance and excellent quality as they are written into the Avid code directly.

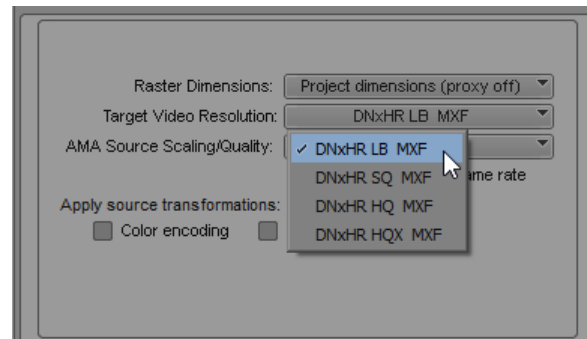
AMA LINK: (with correct plugin)	IMPORT:	CONSOLIDATE: (Native Formats)	TRANSCODE:	VIDEO CAPTURE:
RED QuickTime ProRes Sony XAVC-I DPX files	QuickTime ProRes Sony XAVC-I	AVID DNxHR Sony XAVC-I	Any AMA Linked or Native media may be transcoded	AVID Artist DNxIOand other IO hardware from Blackmagic Design, AJA, Bluefish444 and others

The table above is current as of 8.3.1, but formats will be added, plugins will be updated and improved. Current information will be on AVID and the manufacturer's web sites.

New Codecs: AVID DNxHR

An important part of some workflows will be to use the new AVID UHD/2k/4k codec, called DNxHR. This native (built in) codec saves storage space and gives optimized performance in the editor for smoother playback and faster effects processing.

DNxHR media may be created by CAPTURING, TRANSCODING, EXPORTING, RENDERING or performing a VIDEO MIXDOWN within the Media Composer application. Other products, like Davinci Resolve, will also accept and create media in this new format.



- DNxHR LB (low bandwidth) 22:1 8 bit 4 - 46 MBps
- DNxHR SQ (standard quality) 7:1 8 bit 14 - 146 MBps
- DNxHR HQ (high quality) 4.5:1 8 bit 21 - 222 MBps
- DNxHR HQX (high quality 10-bit) 5.5:1 12 bit 21 - 222 MBps
- DNxHR 444 (cinema quality) 4.5:1 12 bit 42 - 444 MBps

The tremendous variation in the Mbps for each codec is because the frame size, frame rate and scanning mode (progressive or interlaced) can vary for each codec.

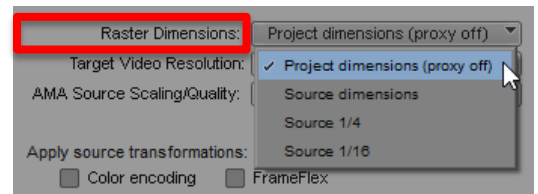
WORKING WITH HIGHER THAN HD MEDIA

Transcoding

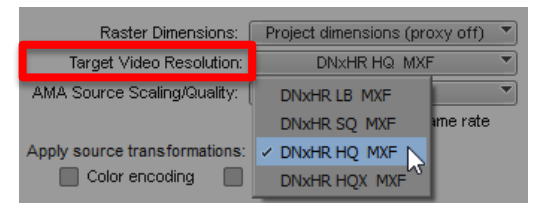
Traditionally, when in a Project, you can transcode into the codecs associated with that Project format. In an HD project, you can only transcode into HD codecs. If you want to transcode into another resolution, or at the resolution of the original media you needed to switch your projects FORMAT, do the transcode, and then switch back to your editing project FORMAT.

As we get into mixing more frame sizes in our projects, we want to minimize project FORMAT switching when we want to transcode. We might want to transcode into a project format sometimes, and transcode into the media's native (possibly larger) media format at other times.

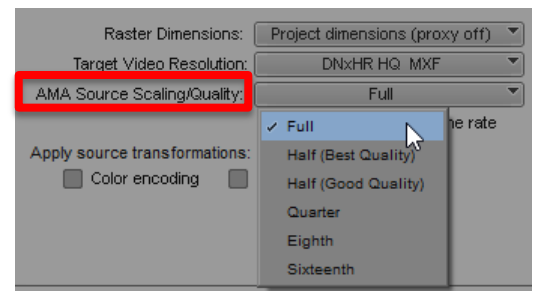
Instead of project FORMAT switching, we can now specify in the Transcode dialogue if we want to transcode using the current projects format, or into the media's native format, or into a 'proxy' resolution by transcoding at ¼ or 1/16 the source video size.



We can now choose a DNxHR codec we wish to transcode our larger than HD content into. If you select ¼ or 1/16 proxy, DNxHR LB MXF will be selected for you.



The third option here lets us select the quality of the SOURCE footage from AMA clips which will be placed into the target resolution.



When creating your own Proxy for example, you can use the AMA SOURCE SCALING QUALITY to speed up the processing significantly by making that new file not from the highest quality interpretation of the Source footage, but from a 1/2 or even 16th scaled copy of the source. I have seen transcoding times decrease to 1/3 the FULL quality time with SIXTEENTH selected. The speed savings are also reflected in lower video quality.

Working With AVID PROXY

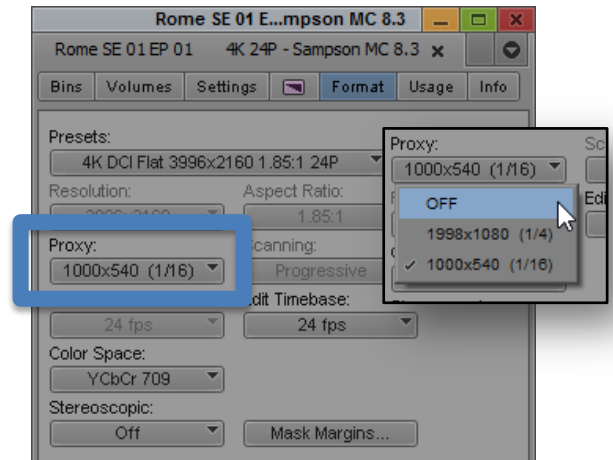
The FORMAT tab in the PROJECTS window allows you to change the format – except for the frame rate – as it always has. You might switch formats to do acquisition of media at a format other than what your main project is set for, or for output of your project at another frame size.

Notice the new setting PROXY. You don't need separate low resolution media to use this button. Select a PROXY quality, and the full media is still read off your drives, but it is displayed, played back and rendered at the smaller frame size. The raster size is simply reset to ¼ or 1/16 the original depending on your choice.

This setting affects your local working resolution only, the original media is untouched and no new media is created.

With PROXY ON the quality is lower, but you can work faster. You would switch to PROXY editing during the early stages of the edit, then switch PROXY OFF to see the actual quality. You can still use the timelines VIDEO QUALITY switch in combination with the PROXY mode to get even better performance as you work.... but at the cost of a quality image.

Note that with PROXY set to ON, any renders you create are low quality. When you switch back to PROXY OFF, the effects will become unrendered and will need rendering again at high resolution. As you switch back and forth between PROXY ON and PROXY OFF, any previously rendered effects will relink at the appropriate resolution automatically.



Original Frame



Proxy ON



4K Frame blowup

Proxy OFF

OUTPUTTING HIGHER THAN HD MEDIA

FILE OUTPUT	VIDEO MONITORING	VIDEO OUTPUT
DNxHR as MXF OP1a DNxHR as QuickTime Sony XAVC-I QuickTime ProRes – MAC only DPX Files	2 nd Computer Monitor using Full Screen Playback, SHIFT + CTRL + F External Monitor (with extra Hardware)	Currently, several Hardware solutions from Avid, Blackmagic Design, AJA

MXF OP1a Export of DNxHR

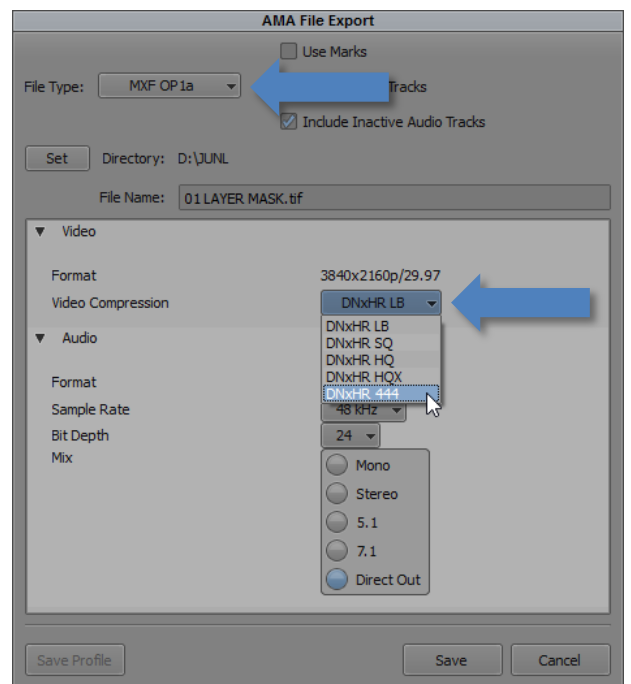
We have been able to export HD video as MXF-OP1a since the 8.1 release. Now we can export DNxHR in this format. For this we use AMA FILE EXPORT. This export supports ancilliary data, and up to 16 tracks of audio.

This dialogue is available two different ways:

- In the Record Monitor, Right click and choose AMA FILE EXPORT
- In the Bin, Right click on a media object and choose from the context menu AMA FILE EXPORT
- From the menu choose FILE > AMA FILE EXPORT.

To proceed with your export:

1. For FILE TYPE, choose MXF-OP1a
2. For Video Compression, choose the format of DNxHD you wish to use
3. Set other standard options and set the target directory as desired



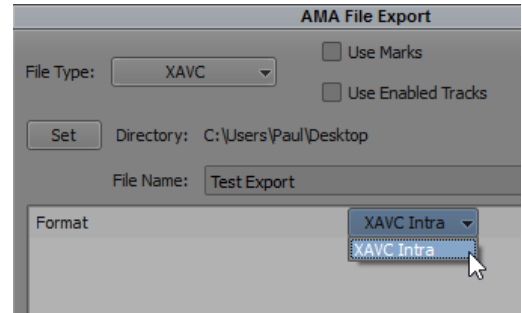
AMA EXPORT uses a plugin to perform file exports using, sometimes a plugin from a camera manufacturer. Expect to see more export options added here as manufacturers build these plugins and you install them.

SONY XAVC-I Export

For this we use AMA FILE EXPORT.

If you install the current Sony AMA plugin, (PDZK-MA2 version 3.40 minimum) you will also be adding the ability to export XAVC-I at higher than HD resolutions. Download and install the plugin to add XAVC-I as an option in the AMA FILE EXPORT dialogue. Be sure to uninstall any previous versions of the plugin or XAVC-I may not appear.

When using this plugin, there are no options to select at export.



DPX Export

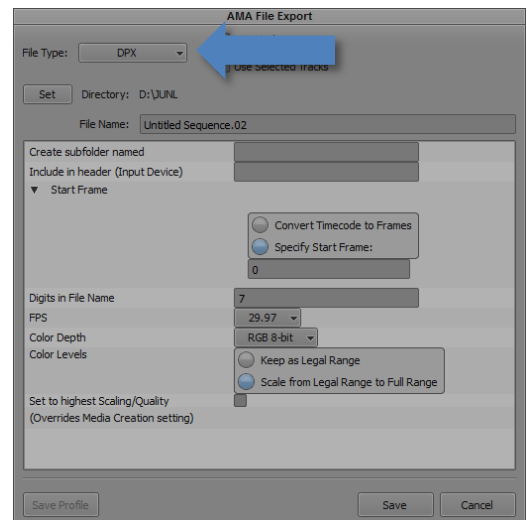
DPX image sequences are commonly used to deliver individual shots or short sequences for visual effects (VFX). We may now export a DPX frame sequence from Media Composer. For this we use AMA FILE EXPORT.

AMA EXPORT uses a plug-in to perform file exports. The DPX plugin is from Avid and comes installed with your system. Other AMA FILE EXPORTS rely on the installation of the manufacturers AMA plugin, such as the Sony plugin to add support for XAVC-I export.

This dialogue is available two different ways:

- In the Record Monitor, Right click and choose AMA FILE EXPORT
- In the Bin, right click on a Sequence or choose from the menu FILE > AMA FILE EXPORT.

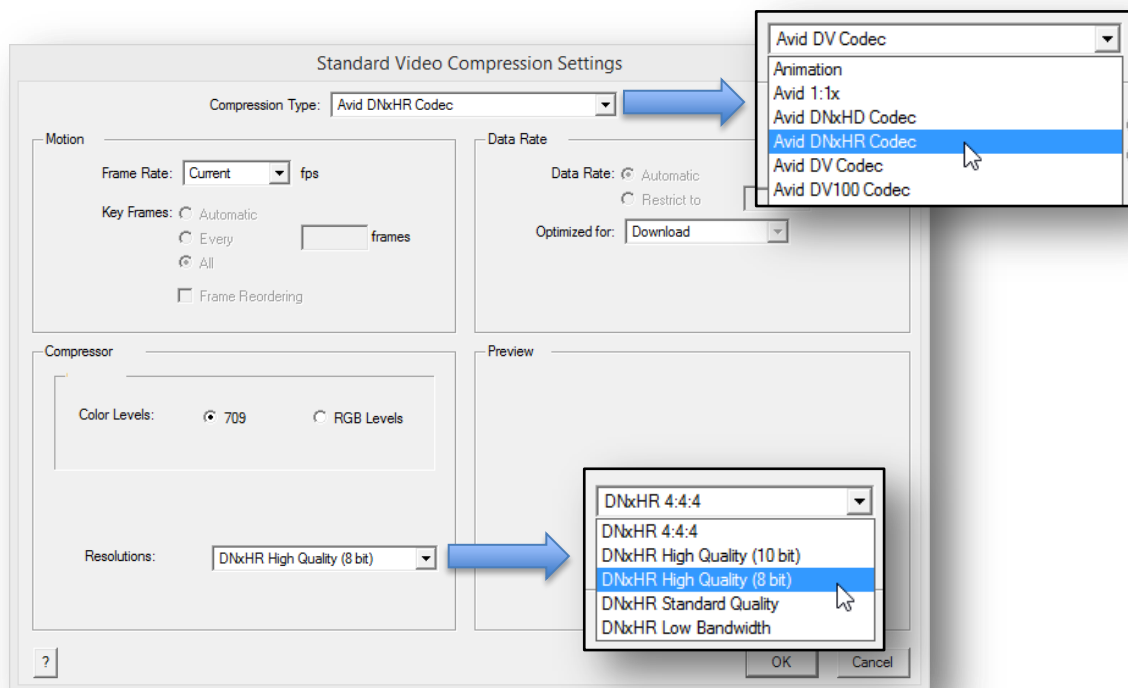
This dialogue box appears. Choose DPX EXPORT. Using this form you can choose the destination folder, header data, frame rate, file naming, color depth and level as well as the scaling quality.



QuickTime Export of DNxHR

The new Avid codec for High Resolution media – DNxHR, may be exported as a QuickTime wrapped file (8.3.1) and this file may have an Alpha Channel with it (8.4). After Effects and other third party applications can use the codec to render out high resolution (such as 4k, UHD, 2K) animations with an alpha channel.

Simply choose the DNxHR codec when performing a normal QuickTime export. You can export Same As Source, if the media is already DNxHR. You may also choose CUSTOM and export media from another format into a QuickTime file as DNxHR. This release also supports QuickTime Reference exports of DNxHR media.



To save the Alpha Channel, export as DNxHR 444 from the rendering application. This file will FAST IMPORT or LINK within Media Composer.

OTHER NEW FEATURES

Additional Column Headings

Three of the new columns available for display in your Bins now:

- Frame Count START
- Frame Count END
- Frame Count DURATION

	Name	Frame Count Start	Frame Count Duration	Frame Count End
	A007_C011_09182X_001	10	5094	5103
	DEMO G00107834	100	1980	2079
	DEMO G00107834.MP4	1000	1980	2979
	A Subclip	3915	729	728
	DEMO G00107834.MP4	10000	1980	11979

The FRAME COUNT START is initially set to 0, and from this value the FRAME COUNT DURATION and the FRAME COUNT END are calculated based on the objects length. If you wish, you may type in a new FRAME START, and the FRAME COUNT END and FRAME COUNT DURATION will recalculate. Only FRAME START is editable, the other two values are always calculated.

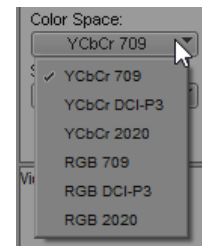
- REEL

The fourth new column is REEL. We already have REEL# available, which is for tracking the reel information from a camera or other Capture device which supports it. REEL is for tracking output reel values.

Color Management - Rec.2020 & DCI-P3 support added

Media Composer now supports REC.2020 and DCI-P3 color spaces. These color spaces are available for projects with larger than HD frame sizes.

This allows Media Compose to calculate color transformations in these color spaces. You can also choose these color spaces for your monitor display, if you have a monitor which has been calibrated for their display (see next topic Adjusting Display Color Space).



Color Space options for a UHD Project

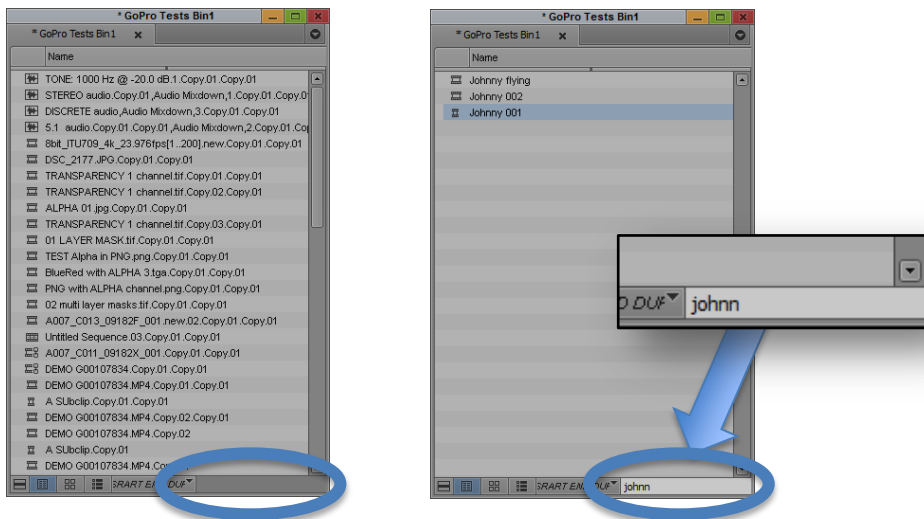
ITU-R BT.2020 is an ITU recommendation for UHDTV colorimetry. It supports significant better color, in terms of gamut, and a 12-bit color depth instead of the Rec. 709 10-bit color depth. More information is available in a free document from the ITU at <http://www.itu.int/>.

DCI-P3 is a Digital Cinema Initiatives (“film”) color space. All colors in this format are displayable by compatible Digital Cinema projectors.

BIN Filtering

There is a field at the bottom right in the bin into which you can now type text to filter (search) for clips in the bin which contain that text string. The text displayed in the columns in your bin are the fields being searched.

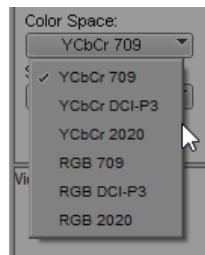
Remember to clear the filter (search) field when you are done or you will only be seeing partial bin contents.



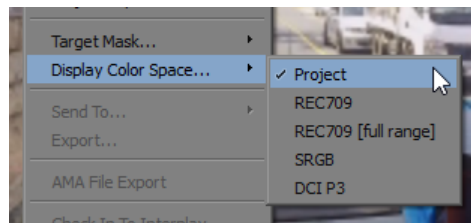
Color Management – Adjusting display color space

Your editing *displays* may now be setup to display using a different color space. We can now right click on one of your Composer monitors and choose a color space that might better match the monitor you are using. Your video will be mapped into this display color space, while not changing the color space of the project or the media itself.

REC709 (full range) will expand your signal to use the entire dynamic range of a monitor, which may be useful in some cases where your picture are looking washed out because of the display properties.



UHD PROJECT
Color Selection

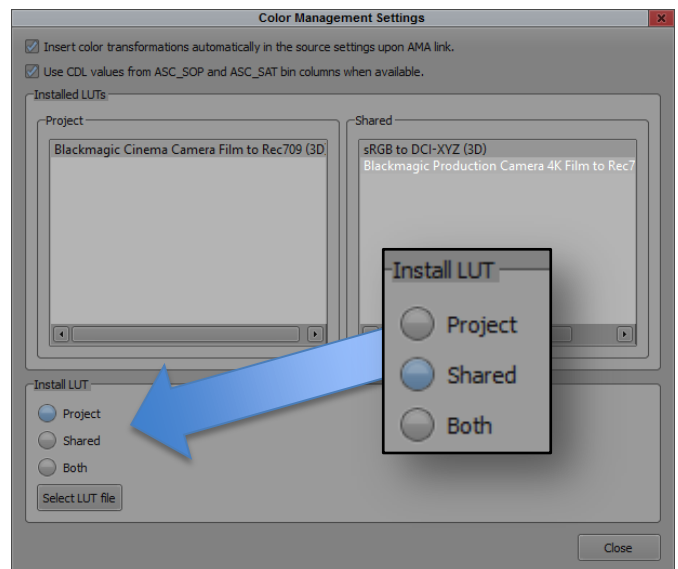


MONITOR
Color Selection

LUT MANAGEMENT

In the COLOR MANAGEMENT SETTINGS, you can install LUT files on your editing system.

Now, you can specify when you install a LUT if it should work in this project only, or be a shared LUT and available across all Projects.



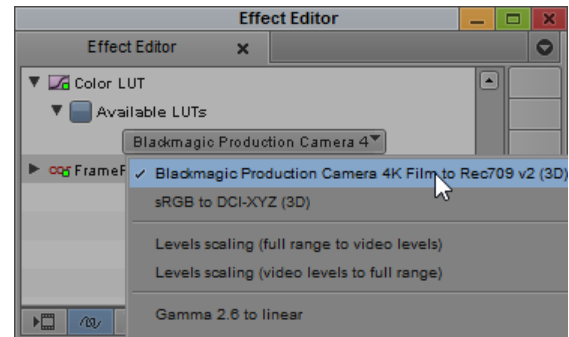
LUT EFFECT

You may now directly apply a LUT to a clip in the timeline as an effect.



The new effect is in the IMAGE category – COLOR LUT. You can drag and drop it on a clip or clips in the timeline.

To choose the LUT to apply, open the Effect editor and select the one you want from the dropdown list of available LUT's. You will see the change instantly in your Output monitor.



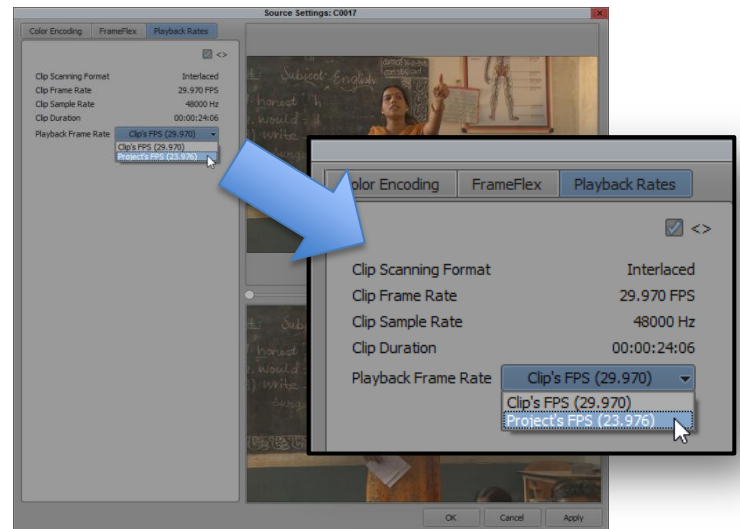
To remove a LUT, click on the ENABLER button to deactivate the effect.

Playback Rate in Source Settings

You can now change a clip's playback rate without altering its original media. Linked clips always retain the original media, but can be reinterpreted so they playback that media at different frame rates.

This feature is most often used to ensure that video shot at a faster- or slower-than-normal framerate plays back with the intended speed effect.

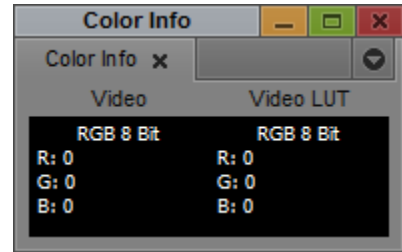
With this release, we can right click on the clip, choose SOURCE SETTINGS, and on the new tab PLAYBACK RATES tab change a clips playback between its original rate and the rate of the current project.



When a clip is played back at its original, recorded frame rate it plays back in real time- both picture and sound. If for some reason it is played back at another frame rate it will be sped up or slowed down in your project by this speed change. In some situations, you will hear the pitch of the sound change as you alter playback frame rate.

The Color Info Tool

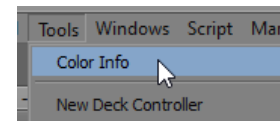
This tool allows you to read color values from pixels under the mouse cursor. Values may be displayed as numbers representing 8 bit video, 10 bit video, percent, millivolts or IRE. You can see the value of the original video (left), or the onscreen value of that picture after being modified by a LUT color transformation (right). If you are not using LUT's, then both panels will always show the same value.



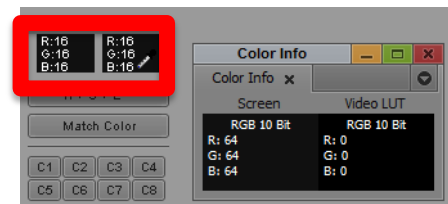
The pixel under the cursor is having its value read in the RECORD/OUTPUT monitor. The video there has a LUT applied to modify its calorimetry. The Color Info box shows the value of the original video on the left, and the value of the modified video on the right.

OPENING THE COLOR INFO TOOL

Open it from the TOOLS menu. If the Color Corrector is in use,



If you are using the Color Corrector, click on one of the color match swatches and the Color Info window will appear.



If you are using the Effect Editor, click on the Color Picker rectangle in any effect



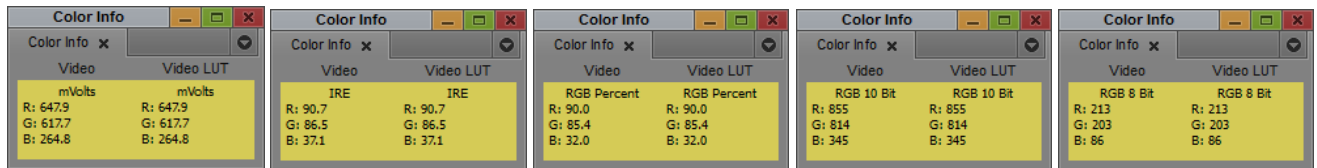
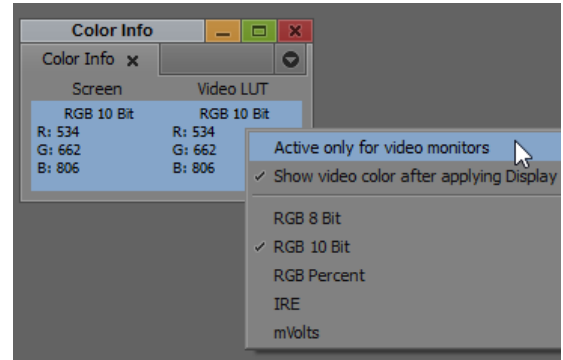
USING THE INFO TOOL

It is automatic. If the panel is open it will be reading the colors under the cursor at all times.

ACCESSING OPTIONS FOR THE INFO TOOL

Right click on either color panel of the Color Info tool and the options appear.

Five of the options allow you to select a different display scale. Samples of each display for the same color are shown below. The first line of text indicates what scale is being used for the display.



There are two other options at the top of the menu:

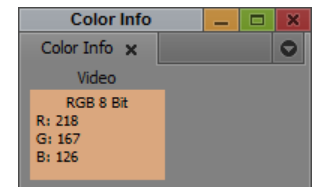
Active only for video monitors

When checked, the display will only update when the cursor is over the Composer Source and Record monitors, not over any other part of your interface.

When unchecked it will read values over any pixel on the interface, but not outside the Media Composer application. Note only color values in the monitors are valid, if you read from bin thumbnails you will get different, false reading.

Show video color after apply Display Color Space

If you are not using LUT's and find the second panel in the tool a distraction, uncheck this option to blank the right side panel.



Changes to Selecting Color in the Effect Editor

The color picker rectangle in the EFFECT editor now provides three functions. Place your cursor over the color picker rectangle and:



CLICK: To open the Color Picker

DOUBLE CLICK: To open the Select Color dialogue

CLICK AND DRAG: To sample a color from an on-screen image in either the SOURCE or RECORD monitors

Supported Frame Sizes and Frame Rates

Notice UHD, HD and SD all have single, fixed frame sizes. 2K and 4K have a large number of supported frame sizes. Often, when people talk of 2K and 4K they mean the Digital Cinema Initiatives (DCI) FULL versions, for 2K this is the 2048 x 1080 version, and for 4K it is 4096 x 2160.

