matchframe

PREPARING FOR AVID SYMPHONY ONLINE

You can finish Standard or High Definition projects on Symphony Nitris, regardless of which type of system was used in offline. However, if the offline was created on a system other than Avid Media Composer/Film Composer, the online/conform is accomplished via EDLs only.
Metadata such as Picture-In-Picture, DVE, Resize, Matte Key, Color Effect, etc. will NOT carry through to the online. All effects beyond cuts, dissolves and motion effects (slo-mo's and speed ups) will need to be eye-matched. This is also true for projects created in Media/Film Composer if the frame rate of the offline project does not match the frame rate of the final online.

FRAME RATES

1080Psf 23.98 is the most common HD production format and its workflow is essentially the same workflow you would follow for 24fps film sourced projects.

24P projects require extra care to ensure frame accuracy between the HD material and SD downconversions of that material. When 1080Psf 23.98 HD tapes are down converted to 29.97 fps NTSC Standard Definition, 2:3 pull down is inserted with the "A Frame" starting on 0's, 5's and 10's. Always specify that your down-conversion tapes has Non-Drop Frame Time Code (NDFTC) . This will ensure a predictable 2:3 pulldown cadence as shown in the diagram at the bottom of the page.

In order to properly conform to HD in your online Avid Symphony, offline sequences must be created at the correct frame rate.

The following table lists the appropriate Media Composer project types for HD online:

HD Format / Frame Rate	Media Composer Project Type
1080i / 29.97 fps	30i NTSC
720p / 59.94 fps	30i NTSC
1080Psf / 23.98 fps*	24P NTSC or 23.98 NTSC**
720p / 23.98 fps***	24P NTSC or 23.98 NTSC**

*Although 23.976 is the exact frame rate of this format, it is commonly referred to as 23.98. Please also note that the term "24P" is customarily used when referring to 23.976. Please confirm the exact frame rate/standard with all parties involved with your project.

** There may be advantages to using 23.98 over 24P in audio (check with your audio house regarding this), but it does not impact conforming in Symphony Nitris.

***Requires use of Panasonic deck with internal conversion option to play out 720P at 1080/23.976. Although footage is acquired in 720P, it is considered a 1080P project and should be offlined as such.

24 fps 23.98fps Film/HD	:00	:01		:02	:03	:04	:05		:06	:07	:08	:09		:10	:11	:12	:13		:14	:15	:16	:17		:18	:19	:20	:21		:22	:23
Frame	AA	BB	BC	CD	DD	AA	BB	BC	CD	DD	AA	BB	BC	CD	DD	AA	BB	BC	CD	DD	AA	BB	BC	CD	DD	AA	BB	BC	CD	DD
29.97 fps Non-Drop NTSC	:00	:01	:02	:03	:04	:05	:06	:07	:08	:09	:10	:11	:12	:13	:14	:15	:16	:17	:18	:19	:20	:21	:22	:23	:24	:25	:26	:27	:28	:29

The second field of the "BC" and first field of the "CD" frames are combined to create a progressive "C" frame in an Avid Media Composer 24p project.
You will not see frames ending in :02 or :07 if you display TC30 in your timeline because these frames were created during the pulldown process.

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ASPECT RATIOS

High Definition uses an aspect ratio of 16x9. The Avid Media Composer can work with either 4x3 or 16x9 formats. There are three ways 16x9 HD material can be down-converted for offline:

4X3 CENTER EXTRACTION

The center of the 16x9 image is extracted, and recorded on the NTSC tape for offline editing, cropping the sides, to fill the 4x3 frame.

4:3 Center Extraction is the least preferred option for offline because the editor does not see the entire frame that will be visible in the HD master until the online stage. As a result, edit timings may not be correct when the sequence is conformed in HD because entrances and exits (left & right) will not be the same as the 16:9 master. Also, the editor may not see undesirable action that has been cut off in the 4:3 frame but that will still be visible in the 16:9 HD online master. Effects such as repositions and composites will not translate correctly in the HD conform. Any effect repositioning of an image will translate properly on the y-axis, but those repositioned on the x-axis will require additional manipulation in the online.

16X9 LETTERBOX

The entire 16x9 image is placed in the center of the 4x3 NTSC frame without modifying its aspect ratio, resulting in black bars on the top and bottom of the 4x3 frame.

16:9 Letterbox is a common method for delivering HD material on an NTSC tape to offline. The black matte can be used to contain timecode and other "window burns" in the letterbox area of the 4x3. This format is fine if the program contains cuts and occasional transition effects, but effects such as repositions and composites will not translate correctly in the HD conform. Any effect repositioning of an image will translate only on the x-axis . Images repositioned on the y-axis will not translate properly.

16X9 ANAMORPHIC (SQUEEZED)

With this aspect ratio, the entire NTSC frame is used to store the entire 16:9 HD image. The image will appear to be stretched vertically or look tall and skinny when viewed in the Avid offline Media Composer.

Setting the Composer window settings to 16:9 Video allows viewing in the correct aspect ratio in the computer monitor. Viewing the correct aspect ratio in the client program monitor requires a monitor with the ability to view in 16:9. If a monitor with this option is not available, the correct aspect ratio can be achieved via an external Aspect Ratio Converter or by applying an effect to filler on the topmost video layer of the sequence. You may also be able to use the Avid Pan & Scan effect. Note that this will require additional rendering in order to play the sequence.

16x9 Anamorphic is the preferred format if you will be creating complex effects and composites in offline, because the effects and repositions will translate correctly in the Avid or DS HD Online.

PREPARING YOUR OFFLINE SEQUENCE

If you offlined on an Avid and the frame rate of your project matches the frame rate of your HD master, please prepare your sequence following these guidelines:

These steps are recommended to facilitate your online session with maximum efficiency therefore, saving you money.

If time constraints prohibit you from following these steps, your project may require additional time to complete.

• On Mac based systems: Select "*Use Windows Compatible File Names*" and deselect "*Allow file names to exceed 27 characters.*"

• Ensure that all projects, bins, sequences, clips and graphics adhere to standard Windows naming conventions.
  • No spaces at the beginning of file names.
  • No periods at the end of file names.
  • Don't use the following characters in file names: *? <> : " / | \

• Consider the following points regarding motion effects:
  • Speed up and slow down 24P motion in even 24P increments. This yields the smoothest results in terms of motion jitter. Slow footage down to 50% (12fps) or 25% (6fps) rather than 53.37% or 22.93%, and speed up to 150% (36fps) or 200% (48fps) rather then 143% or 208% where possible.

  •Timewarps with keyframes in 720P/59.94 will not conform properly due to the "frame doubling" of the timecode from 30i to 60P. Clips with this type of timewarp will require additional manipulation to match the offline chase cassette. This frame doubling error is also true for the Moving Pictures plug-in.

• Move all video tracks containing text onto their own discreet text layers above all non-text layers. This makes it easy to create a textless output for color timing. Intermingling footage with text, whether created via Title Tool or an external program, will add time and expense to a session that requires a textless version.

• Delete all audio tracks. The temp mix from your Avid output reference cassette will be inserted into the online master until the final mix is laid back.

• *(Optional)* Create a GVG EDL using AVID EDL Manager. CMX 3600 format is also accepted but is limited to 999 events. For 24P projects, convert all clip (source) timecodes to 24P for creation of 24P EDL (EDL Manager 11.1 and higher).
  • Add the *Start* and *24fps* columns to the bin by choosing *Headings* from the Bin Menu and selecting *TC24* and *Start.*
  • Select the *Start* Column.
  • Choose *Duplicate* from the Edit Menu.
  • Select *TC24* from the list.
  • Make sure 24 is selected on both the source and output tabs of EDL Manager.

• Save the bin onto a jump drive, CD, or DVD for delivery – OR – email the bin.

DELIVERY REQUIREMENTS

To ensure a smooth online/conform, please provide the following:

• Final sequence in a bin by itself.

• NTSC reference or Chase cassette (DigiBeta, DVCam or DVCPro). Please provide the cassette in advance of the online session so an upconversion can be made then digitized along with all other sources.

• EDL file and printout. Although this is optional, it may facilitate the online through highlighted notes, reel summaries, etc.

Although some up-conversions may be possible within the Symphony, we recommend using external gear that delivers far superior results.

• Source tapes and pull list. Please note all source material that is not the same resolution and frame rate as the Final Master will require up/cross-conversions through additional hardware outside of the Symphony environment.

• Fonts. True Type fonts are required. If Postscript fonts (OS 9 Avids only) were used in offline, schedule time prior to digitizing to convert the font to a True Type.

• Graphic elements.

  • Please make sure all graphics and animation are 1920x1080 pixels for 1080PsF and 1080i projects, and 1280x720 pixels for 720P projects.

  • Check to make sure the correct frame rates are used for all animations. 720P/59.94 animations may be rendered at either 60 or 30fps (59.94 or 29.97).

  • All keyable graphics should have an alpha channel.

  • All graphics should be built in RGB color space.

  • Please supply TIFF, Targa and QuickTime files and sequences. When rendering QuickTime files, use the Animation Codec, with field ordering set to none for progressive projects; Even Lower Field First for interlaced projects.

  • Please supply a ist of AVX Plug-ins used. Check with your Account Manager prior to digitizing to ensure availability of desired plug-ins in online.

  • All titles should be in a hi-res format.

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