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The KONA 3 2K Process
Ingest To Output

Bringing in 2K material from telecines or other HSDL devices

The following step-by-step procedure outlines the task of bringing in 2K material from telecines or other HSDL devices such as DDRs, when connected to the dual SDI inputs on the KONA 3 card. The 2K ingest process requires the use of the AJA VTR Xchange software and configuration of the AJA KONA Control Panel.

The procedure for ingest of 2K is as follows:

1. Connect the telecine with HSDL output (or other HSDL output capable device) to the KONA 3's two SDI inputs. (If you already have 2K DPX or Cineon files on storage capable of 300MB/sec, you can elect to use the AJA *DPXToQT* Translator application to "wrap" the sequential DPX or Cineon files to QuickTime Reference Movies. If this is the case, you may skip to step 6 of these instructions.

2. Configure the AJA KONA Control Panel as follows:

   A. For the Input tab of the KONA Control Panel, make certain that *Dual Link* is selected for Video Input.
   B. For the Format tab of the KONA Control Panel, make certain that the Video Format for Primary and Secondary is matched and matches the incoming "video" which should be indicated in the graphic portion of the KONA Control Panel next to the *SDI in 1* and *SDI in 2* icons.

3. Run AJA VTR Xchange software. Go to the *Capture* pulldown menu in the application and select *Video Settings*. Choose *Source* from the three options of Adjustments, Compression and Source. From within this menu, select the appropriate format that is being indicated in the KONA Control Panel, i.e. 1556x2Kpsf14.98 10 Bit (2048x1556). Now select *Compression* from the three choices of Adjustments, Compression and Source. In the pulldown for Compression type, select *AJA KONA 10-bit Log RGB Codec* or *AJA KONA 10-bit RGB Codec*. (For maximum flexibility and with most equipment, the AJA KONA 10-bit Log RGB Codec will be the best choice.) For the *Frames per second*, select *23.98* as this is the frame rate that will be set for the QuickTime Reference Movie that you will create simultaneously with the sequential DPX files. From the Preferences (AJA VTR XChange pulldown menu), look under the Capture heading and select *Save as Numbered Files*. You should also select a storage device capable of a minimum of 300+MB/sec for the data under the Capture heading, Captured Clips Folder; if no selection is made, the application will prompt you to choose a location for your captured media.

4. You're now ready to capture the material from the 2K output device. Begin playback on a non-controllable device or mark in and out points for a clip coming from a controllable device (like a digital disk recorder). If you have no device control, you can only select "capture now" meaning that you will be crash recording the data onto your disks. If you do have a device that can be controlled, you can set in and out points and then select "capture".

5. While capturing, VTR Xchange is creating the QuickTime Reference Movie and the series of sequential DPX files; these files are written to the target folder defined by the VTR Xchange application based on the selection you made for their location from within the *Preferences>Captured Clips* Folder.

6. For editorial, run Final Cut Pro. From within the Final Cut Pro application, go to the Final Cut Pro pulldown menu and choose Easy Setup. If the *Show All* checkbox is not checked, check it and then from the pulldown, select the 2K easy setup that reflects your media (if you ingested from telecine, in all likelihood you will select the *AJA KONA 3- 2K x 1556 psf 23.98 10 Bit Uncompressed Log RGB* as an example). Within your new project you can import into the Browser window the QuickTime Reference Movies created by VTR Xchange. Note: Since these QuickTime movies reference the 2K sequential DPX files, you will be able to play and scrub the footage as expected, however if you wish to play the footage backwards, be sure to adhere to first holding down the "K" key on the keyboard and while holding this key, then pressing the "J" key for reverse playback. This is simply a limitation of reading the sequential DPX files; all other functions such as scrubbing the playhead in the timeline or using the "L" key for forward play and transport will behave as expected. In the event that you do use the "J" key solely, you may experience a lag and will need to wait for the application before further operations can be performed.

7. You can elect to either view the footage out of the card on monitors in one of three ways (two of which may occur simultaneously) or output from the KONA 3 card via HSDL to another HSDL compliant device. For monitoring, the 2K Crop tab of the KONA Control Panel can be configured to output 1920x1080 from the 2K source. These settings are described in Chapter 4 in the KONA 3 manual under the description of the "2K Crop Screen." The 1920x1080 crop can be sent to a Dual Link HD-SDI capable monitor by connecting both of the HD-SDI outputs (Link A and Link B) of the KONA to the Dual Link inputs of a monitor. Or if a single link HD output is desired, signal may be routed via single link HD-SDI out of the card. An additional single link HD-SDI output can be obtained from the card—or one SD-SDI output from the card—both of which can happen simultaneously. The component output of the card can also be configured to output HD or SD in conjunction with the SDI outputs. The settings for the various outputs are accessed via the KONA Control Panel's Format tab by setting the Secondary (Converted) Format. For HSDL output, the 2K Crop function must be turned to *Off* in the Crop Mode, and from the Digital Out tab of the KONA Control Panel, Dual Link must be selected.

8. HSDL output will support 2048x1556 at 14.98fps (which is a standard among many HSDL devices) or you may elect to output via HSDL to 2048x1080 at 23.98fps (ideal for digital cinema applications). Or you may elect to output the timeline as a QuickTime movie that can be translated back into a sequence of DPX files via the AJA QuickTimeToDPX Translator application. Note: This may be necessary for some devices and applications that do not accept QuickTime files or the AJA KONA 10-bit Log RGB or AJA KONA 10-bit RGB codecs, but instead accept DPX files.

Additional Notes:

Due to the flexible nature of Final Cut Pro, the timeline where the 2K files reside during editing, can be sent to other applications to be worked on at 2K resolution: Motion and Shake are examples. The 2K edit in Final Cut Pro can be referred to by other applications via XML or EDL, like Silicon Color's Final Touch 2K, so that the 2K DPX files or their associated QuickTime Reference Movies may be accessed.