# AJA and Adobe Applications

Adobe® Creative Cloud™

## Quick Start Guide

AJA
VIDEO SYSTEMS

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## Contacting AJA Support

When calling for support, have all information at hand prior to calling. To contact AJA for sales or support, use any of the following methods:

| Telephone | +1.530.271.3190 |
|---|---|
| FAX | +1.530.271.3140 |
| Web | https://www.aja.com |
| Support Email | support@aja.com |
| Sales Email | sales@aja.com |

# Contents

# Chapter 1 – AJA and Adobe Overview

## Adobe Applications Supported

AJA hardware is tightly integrated with the following Adobe applications, using Adobe Plug-Ins:

- Premiere Pro CC
- Photoshop CC
- After Effects CC
- Audition CC

NOTE: *Adobe SpeedGrade was supported up to CC 2015.*

## Hardware Products Supported

AJA in association with Adobe has developed Adobe Plug-ins for use with the following AJA hardware products:

- Io 4K Plus, Io 4K, Io XT, Io Express
- KONA 4, KONA 3G, KONA IP, KONA LHe Plus, KONA LHi
- T-TAP

The Adobe Plug-ins also work with:

- Avid Artist | DNxIV

Other products may support Adobe Plug-ins in the future. In this manual all supported hardware devices are referred to as "AJA hardware".

All features described in this manual may not be available with all AJA hardware. For example, the Audio Mixer functionality introduced to AJA Control Panel with AJA Desktop Software v14, is only available when running Io 4K Plus, Io 4K, KONA 4, and KONA IP. It is this Audio Mixer architecture which enables full duplex Voice Over to Timeline inside Adobe Premiere Pro with zero latency. The Audio Mixer also enables access to all audio inputs available on the AJA device, meaning that available inputs for Voice Over to Timeline will vary like so:

- Io 4K Plus – Choose between Analog (DB25 line level), SDI or HDMI
- Avid Artist | DNxIV – Choose between Mic Input (XLR), Analog (DB25 line level), SDI or HDMI
- Io 4K – Choose between SDI or HDMI
- KONA 4 – Choose between AES or SDI

NOTE: *Using SDI embedded or HMDI embedded audio for punch in will likely require some kind of audio embedder and / or a digital mixing board, with either having an A to D converter from your analog Mic input.*

See *Table 1* for more details.

Table 1. AJA Hardware Feature Summary

| | Io 4K Plus | Io 4K | Io XT | Io Express | KONA 4 | KONA 3G | KONA IP | KONA LHe Plus | KONA LHi | T-TAP | Avid Artist \| DNxIV |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Tbolt Ports** | Tbolt 3 | Tbolt 2 | Tbolt 1 | Tbolt 1 | | | | | | Tbolt 1 | Tbolt 3 |
| **SDI In (up to)** | 4K | 4K | 2K | HD | 4K | 4K | HD | HD | 2K | | 4K |
| **SDI Out (up to)** | 4K | 4K | 2K | HD | 4K | 4K | HD | HD | 2K | 2K | 4K |
| **HDMI In** | 2.0 | 1.4 | 1.3 | 1.3 | | | | | 1.3 | | 2.0 |
| **HDMI Out** | 2.0 | 1.4b | 1.4 | 1.3 | 1.4b | 1.4 | 1.4 | | 1.3 | 1.3 | 2.0 |
| **HDR** | √ | √ | | | √ | | √ | | | | √ |
| **Closed Captions** | √ | √ | | | √ | √ | s2022 only | | | | √ |
| **SMPTE 2022-6 (10GbE)** | | | | | | | √ | | | | |
| **SMPTE 2022-7 (10GbE)** | | | | | | | √ | | | | |
| **VSF-TR01, JPEG 2000 (1GbE)** | | | | | | | √ | | | | |
| **IP Video In/Out** | | | | | | | √ | | | | |
| **IP Audio in/Out** | | | | | | | √ | | | | |
| **Analog Video In** | | | | | | | | √ | √ | | |
| **Analog Video Out** | | | √ | √ | √ | | | √ | √ | | |
| **Analog Audio In** | √ | | | | | | | √ | √ | | √ |
| **Analog Audio Out** | √ | √ | √ | | | | | √ | √ | | √ |
| **Control Room Audio Mixer** | √ | √ | | | √ | | √ | | | | √ |
| **XLR Mic Input** | | | | | | | | | | | √ |
| | √ = Supported (blank) = Unsupported | | | | | | | | | | |

# Chapter 2 – AJA and Adobe Installation

NOTE:  There is no longer any method to separately install the AJA Adobe Plug-ins. By installing AJA Desktop Software v14 you will have, by default, installed the Adobe Plug-ins as well.

## Installing AJA Software

### Download

Go to the AJA website and download the latest AJA Desktop Software package containing the AJA Control Panel application, other related applications, drivers and plug-ins.

https://www.aja.com/en/support/downloads/

System software updates may occasionally become available to AJA AJA and Adobe Applications owners on our website (www.aja.com). We recommend checking occasionally for both software updates and additional product information.

NOTE:  If your computer has previously had another video capture or multimedia device installed, ensure you uninstall any related software before installing the AJA Desktop Software package.  This will prevent any hardware or software conflicts.

IMPORTANT:  Please read the brief Release Notes PDF file that accompanies your AJA software. The Release Notes describe important features and fixes.

### Software Package Installation and Re-installation

NOTE:  Always uninstall previous versions of AJA software before updating your computer with new software. Go to your AJA Utilities (on the Mac) or Windows Control Panel to uninstall existing AJA software. This helps prevent hardware/ software conflicts.

You cannot use AJA hardware with Adobe applications until the AJA Desktop software has been installed on your computer. Make sure the Adobe software is installed and launched at least once on your computer before installing AJA Desktop software.

You cannot use AJA hardware with Adobe applications until the AJA software package has been installed on the host computer.

IMPORTANT:  If you install or update a supported Adobe application at a later date, you must run the AJA installer program again.

## AJA Hardware Firmware Update

After the AJA Software Package has been installed on a computer with your AJA hardware  installed, the firmware on that AJA device can be updated if a newer version of firmware is included with that software package.

1. Open the AJA Control Panel application.

2. If more than one AJA device is connected, choose the device you want to update by selecting its name from the drop-down menu at the top of the screen.

3. Go to the Control Panel Firmware Screen.

4. Select the firmware version (if multiple versions exist) in the Desired dropdown.

5. Click on Install. Messages appear and when finished, firmware update completed messages are shown.

6. Click Shutdown to power down the computer.

7. Restart the computer.

8. Open AJA Control Panel. The AJA hardware with the updated firmware should be recognized by the Control Panel application.

# Chapter 3 – Using Adobe Applications

## Overview

AJA provides plug-ins for both Mac and Windows versions of the Adobe Applications and their functions are mostly the same.

AJA hardware is tightly integrated with Adobe Premiere Pro, Photoshop, After Effects, and Audition. This allows a user to capture supported Premiere Pro compressed formats and provides plug-ins and drivers that add functionality to the Premiere Pro application.

This manual does not provide operational information for Adobe except as related to AJA hardware operations. Please read the Adobe user documentation for Adobe application configuration and operation.

NOTE: *AJA recommends using the latest AJA software in combination with the current version of Adobe Creative Cloud. For demanding workflows, AJA also recommends using the latest OS with up to date high performance host system hardware. See the recommended specs per your AJA hardware device manual.*

## Getting Started

In most cases, using AJA hardware with Adobe applications is set and forget. Simply set your NLE or other application to point at AJA hardware for all input and output operations and that's it. No need to switch drivers, switch to desktop audio, etc.

NOTE: *On first use, you will need to tell your operating system to use AJA hardware as the default Audio Input and Output device.*

### Mac OS

For Mac go to System Preferences > Sound > and select AJA Device for both Input and Output.
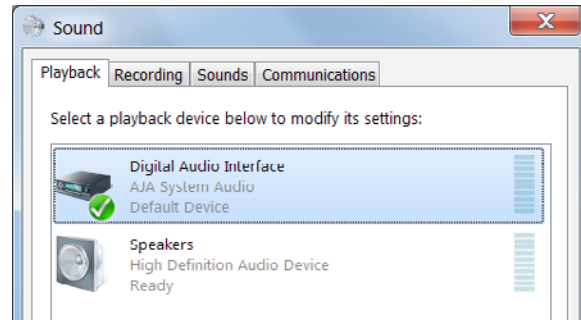
*Figure 1.  Mac System Preferences, Sound*

## Windows OS

For Windows go to Control Panel > Sound and select AJA Audio Interface for playback.

*Figure 2.  Windows Control Panel, Sound*



## Basic Adobe Application Preferences

Additional Adobe application preferences may need to be set for specific functions. Most of these Adobe preferences are found on Mac under Premiere Pro > Preferences, and on Windows under Edit > Preferences. These setting categories, which vary from application to application, can include:

- Audio - For Voice over to Timeline, choose Mute Input to get the best results from the Audio Mixer in AJA Control Panel./
- Audio Hardware - Select the device used for audio. On Windows you will need to select ASIO for audio hardware. On Mac CoreAudio is used.
- Audio Output or Channel Mapping
- Video Preview
- Device Control - RS-422 control of external devices.
- Playback - Select the device used for playback.

Information about configuring specific Adobe applications follows. Adobe Premiere Pro settings are described in the most detail, with cross references provided for other Adobe applications.

# Using Adobe Premiere Pro

## Playback Resolution

For best output resolution, use Full as your Playback Resolution setting. Use the fly-down menu in the Premiere Pro Source or Program Sequence to set Playback Resolution.
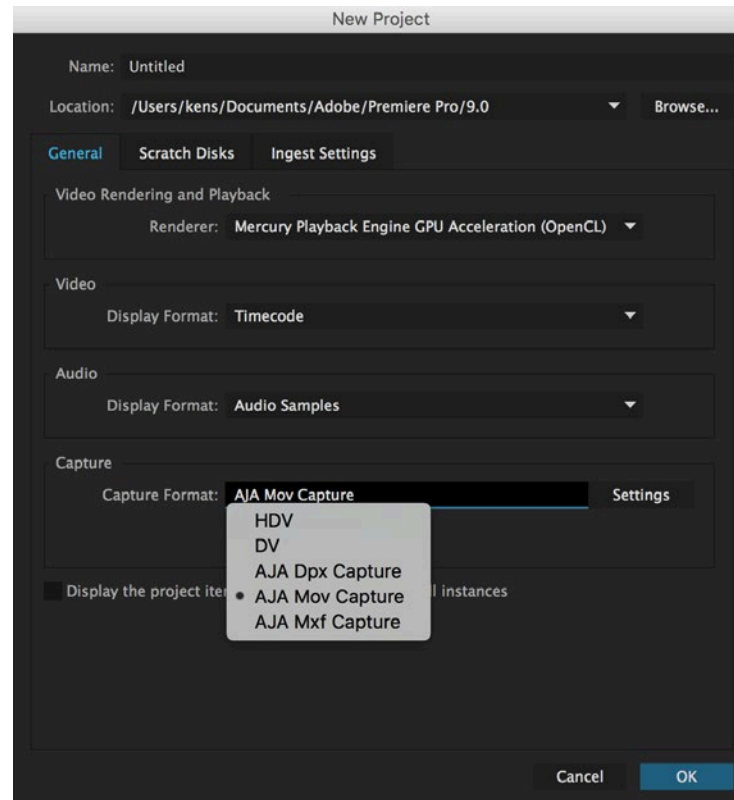
## 4K Output in Premiere Pro

If you are using AJA Hardware that supports UltraHD/4K, true UltraHD/4K will be output on the SDI outputs. If the AJA hardware device you are using does not support UltraHD/4K, the AJA hardware in Premiere Pro Match Sequence mode will automatically output the best resolution available.

## Beginning a Project with Adobe Presets

Opening Adobe Premiere Pro, you will select New Project from the File Menu and choose an AJA Capture Format from the pulldown menu, name the project, and click OK.

*Figure 3.  Adobe Premiere Pro New Project panel*



## Options Set in Premiere Pro Preferences

Some settings that determine both capture and playback characteristics for AJA hardware are accessed through Premiere Pro Preferences.

In Adobe Premiere Pro Preferences (under Premiere Pro>Preferences for Mac, and under Edit>Preferences for Windows,) you can set up global (default) settings for:

- Audio
- Audio Hardware
- Audio Output mapping
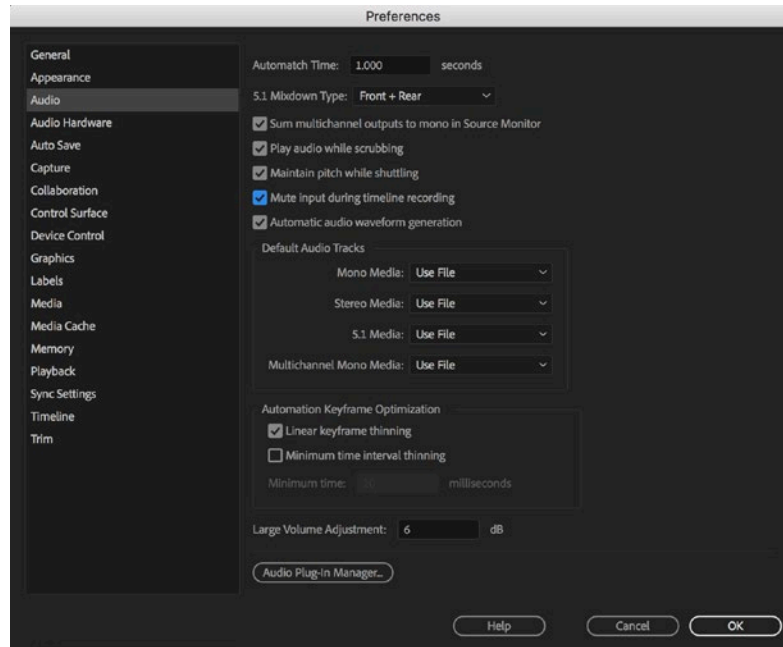- Device Control
- Playback Settings

Audio for a Premiere Pro session can be configured differently, depending on your AJA hardware and if you will be performing voice-over recordings.

## Audio Preferences

In Audio Preferences you control various audio settings, depending on your personal preferences and project requirements.

*Figure 4. Audio Preferences*



### Mute input during timeline recording

If you will be performing voice-overs, check this box to prevent audio echo and feedback during voice-over recording.
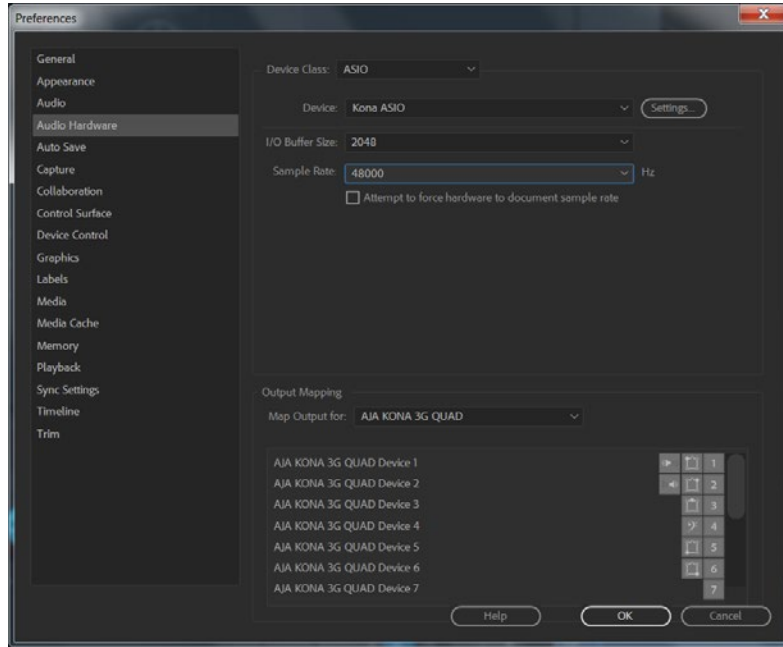
## Audio Hardware Preferences

The following setup guarantees accurate AV output sync using the AJA hardware for input and output.

See *"Premiere Pro Audio Configurations" on page 17* for more information about configuring audio.

### Windows Setup

In Audio Hardware, Adobe Desktop Audio menu for Windows, select the ASIO device class, and the AJA Hardware device for input and output (if both are available).
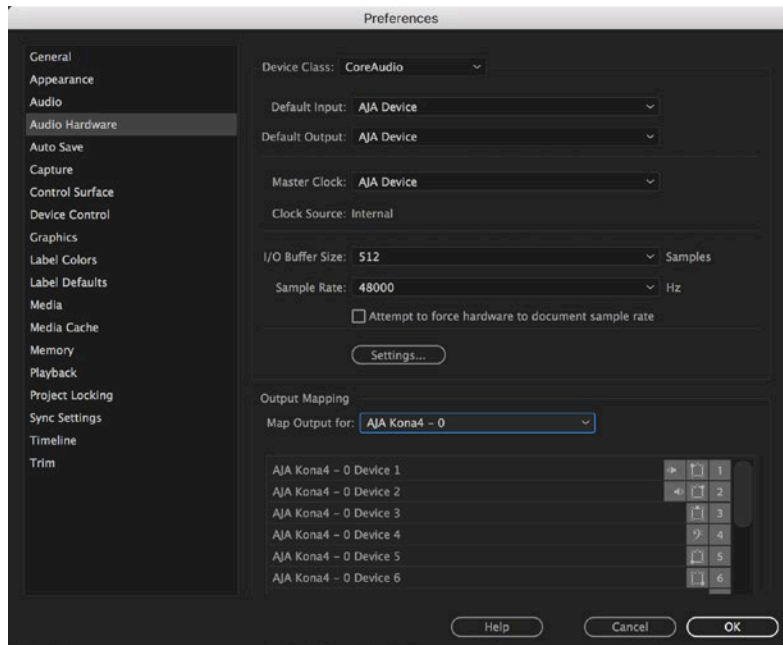
*Figure 5.  Audio Hardware Preferences, Windows*



## Mac Setup

On a Mac, in Audio Hardware select Core Audio and the AJA hardware device for input and output (if both are available).

*Figure 6.  Audio Hardware Preferences, Mac*



NOTE:    *If you hear static on the AJA hardware output, adjust the audio buffer size in the Audio Hardware Preferences. The optimal size may vary for different systems or different setups based on CPU, RAM, and running applications.*

## Master Clock

Ensure AJA Device is selected for Master Clock.

### Audio Output Mapping

In this Preferences window you can also map Stereo or 5.1 audio out channels. With your AJA device selected in the Map Output menu, simply drag and drop the right/left or 5.1 channel icons to the desired AJA hardware channel 1–16.

## Playback Preferences

In Playback Preferences you will select your AJA hardware device in the Audio Device menu.

*Figure 7.  Playback Settings Panel in Premiere Pro Preferences*
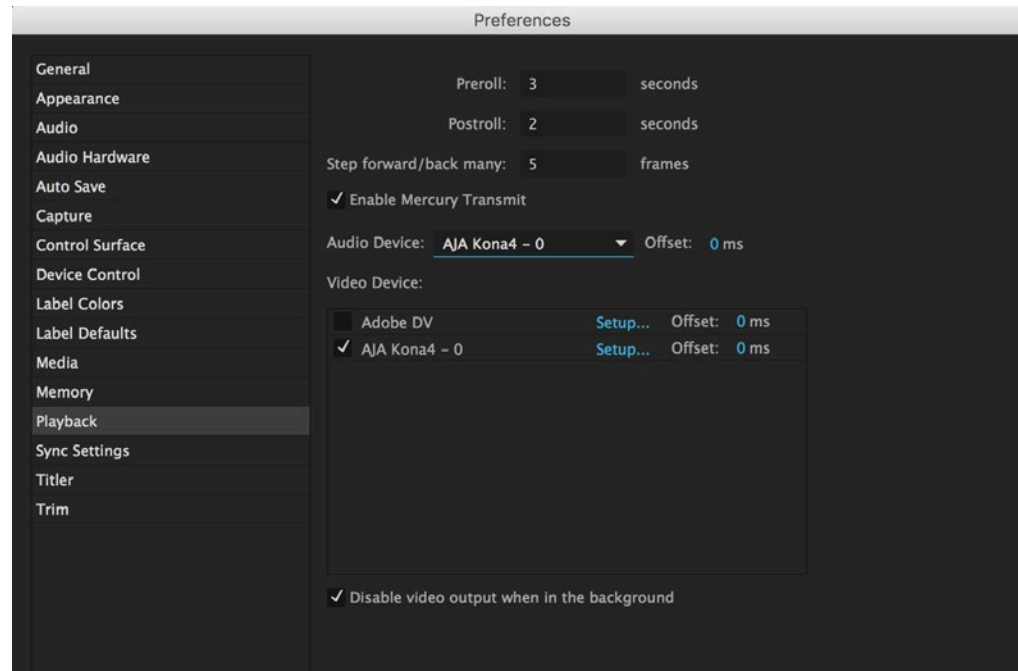


### Audio Device

For Audio Device, select the AJA device you are using.

### Enable Mercury Transmit

Mercury transmit must be enabled (checked) in order for Premiere Pro to utilize the AJA hardware.

NOTE:     *Turning Enable Mercury Transmit off is a good way to tell if the external device is involved in an issue; if you still have an issue when its unchecked then the problem is not related to the AJA hardware.*
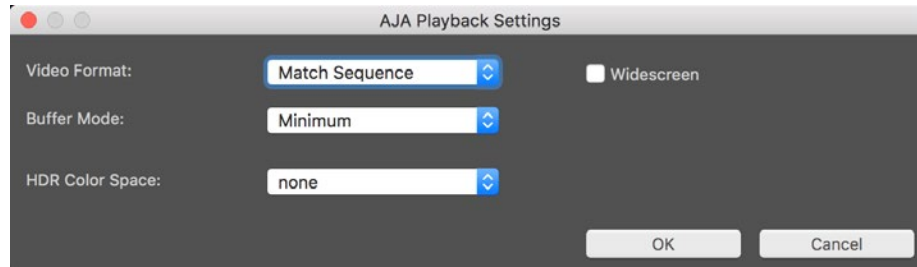
See *"Premiere Pro Audio Configurations" on page 17* for more information about configuring audio.

### Video Device Setup

For Video Device, select the AJA device you are using and click Setup.

*Figure 8. Premiere Pro Preferences Playback Format Settings*



### Video Format

The default setting (expected to be what most users will want and use) is Match Sequence. When Match Sequence is selected, the transmit plug-in will try to put the card in a mode that matches the resolution and frame rate of the timeline you're working with. Alternatively, you can use Match Control Panel and then select a video format from the AJA Control Panel Format menu. Please refer to the Format Screen section of your AJA hardware's Installation and Operation Guide for additional information.

NOTE: *Even with Match Sequence selected, it is possible to make other parameter adjustments (such as color space or up/down/cross conversions) using the AJA Control Panel.*

### Buffer Mode

Use the Buffer Mode menu to choose Standard, Minimum, or Maximum frame buffering.

*Figure 9. Premiere Pro Preferences Playback Buffer Modes*
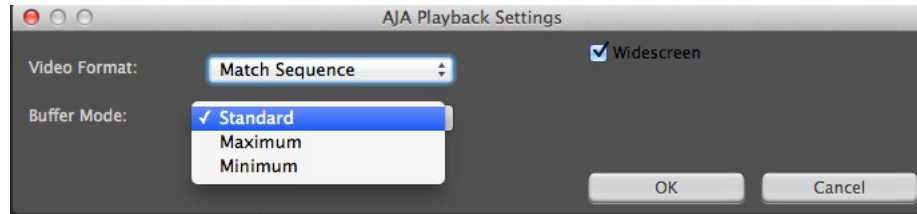


This mode determines how many frames of buffering are to be used in the AJA hardware:

- Standard is 4 frames late, which may be close enought for voice-over.
- Maximum will store either the maximum number of frames allowed by the hardware or 14, whichever is smallest. Not recomended for voice-over.
- Minimum is 1 frame early, Required for accurate voice-over recording.

### Minimum vs. Standard Mode

The Minimum setting will provide the best scrubbing and JKL keyboard control performance on the timeline. The Standard setting insures that frame drops are less likely by providing more frame buffering. It also allows optimum audio sync for voice over recording.

For editing, use Minimum mode most of the time. Then, when mastering a tape or playing out live (to air or theater) where no scrubbing will occur, you can switch to the Standard mode to avoid frame drops.

For T-TAP users, Standard mode is preferred in both cases.

NOTE:   *Use Standard mode for any projects in which the sequence framerate does NOT match the framebuffer framerate. The most common example is using 23.98 source material but playing out at 29.97.  In this situation a larger than minimum buffer size is required for the added 3:2 frame rate pull up.*

### 12bit HDR Color Space

This appears when a selected AJA hardware device is running in 4K mode. This setting allows you to define which colorspace Premiere Pro uses for output. See *Table 1 on page 5* to identify which AJA hardware devices support HDR.

You can select from:
- 12bit PQ 709
- 12bit PQ P3
- 12bit PQ 2020
- 10bit HGL
- 12bit HGL

The setting of this control in the Premiere Pro Plug-in is ignored if the AJA device is not set to 12 bit RGB.

### Other HDR Settings

High Dynamic Range video requires use of supported HDR media files, such as OpenEXR.

Control Panel settings required for HDR operation include:
- Format: RGB-12
- SDI Output: RGB Full (greatest color range) or RGB SMPTE

Premiere Pro Sequence Settings recommended for HDR operation are:
- Maximum Bit Depth
- Maximum Render Quality

### Widescreen Checkbox

Check the Widescreen box if the project is widescreen standard definition NTSC or PAL format.

## Device Control Preferences

Device Control Preferences are settings for Export to Tape and Capture functions using the RS-422 machine control interface on AJA hardware (not applicable to T-TAP). Always use the AJA Serial Control setting and the AJA hardware RS-422 port for capture. There are two ways to access Device Control in Premiere Pro—in Preferences (shown below) and in the Capture window Settings tab.

*Figure 10.  Preferences > Device Control*
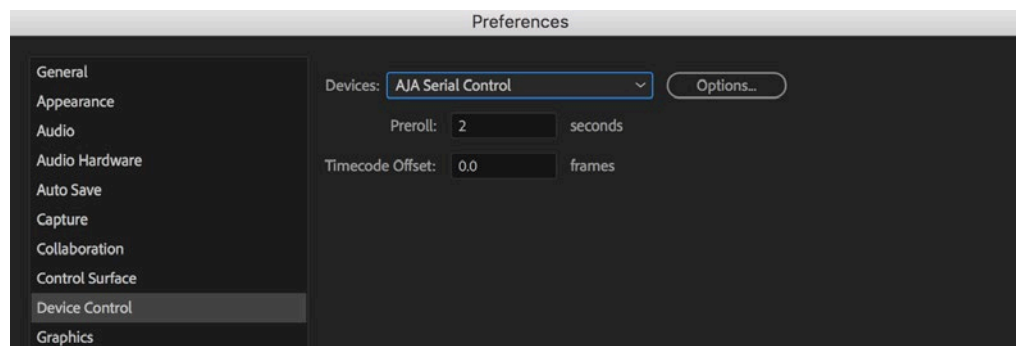


Enter the desired value for:

### Preroll

0 to 15; the number of seconds required to start the source machine before capture. AJA recommends 4 seconds of preroll for device control.

### Timecode Offset

-30 to +30; timecode adjustment (in seconds) forward or back to compensate for discrepancies between the source's burned-in timecode and that of the captured sequence.

Always verify Premiere Pro and AJA offset settings for Capture and Export are in agreement. Device Control settings made in the Capture window or Export window menus may override Preference settings.

## Device Control Options

Click on the Options button to pull up the AJA Device Control window.

*Figure 11.  Preferences > Device Control > Options*
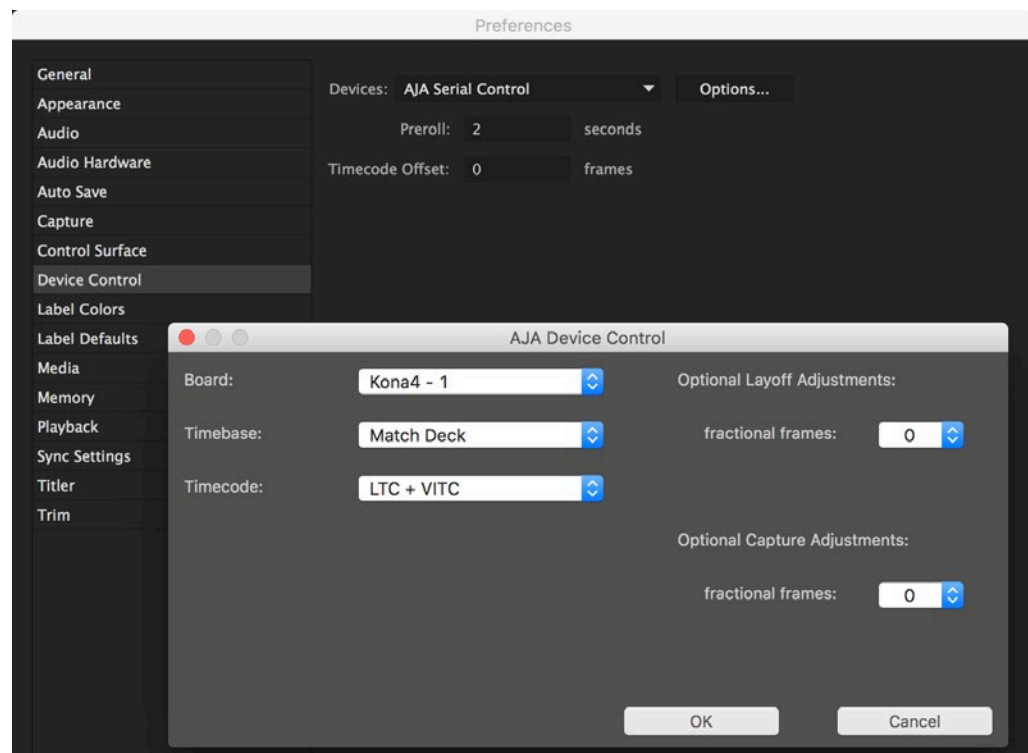


### Board

This menu allows you to select from multiple AJA hardware devices if you have them installed in your system.

### Timebase

Use this pull-down to select the timecode base supported by your VTR.

- Match Deck–this is the AJA default setting. It accesses the connected VTR deck to get the current framerate of the tape.
- Base 24
- Base 25
- Base 29.97 NDF (no drop frame)
- Base 29.97 DF (drop frame)
- Base 30

The timecode format is used for both monitoring the RP-188 timecode embedded in the digital data stream and for selecting a timecode offset (if required) for the attached VTR (connected to the AJA hardware's RS-422 port).

NOTE:     Not all decks support the default Match Deck function. If you are using a Panasonic deck (especially a D5) you should set the frame rate match manually.

### Timecode Source

Choose between a separate-channel Longitudinal Timecode (LTC) or Vertical Interval Timecode (VITC) transported in the video signal's vertical interval or include both (LTC + VITC).

### Optional Layoff Adjustments

The fractional frames settings (1/10 frame increments) are available as optional offset adjustments that can be applied in situations where layoffs are intermittently off by a frame. For example, if a layoff deck is missing its edit in point 1 out of 10 times, try adjusting the layoff by .1 frames and see if it locks in the accuracy.

NOTE:     If you find an adjustment that works consistently with your deck, reporting that information to AJA support can allow AJA to hard code that adjustment for that specific deck into future versions of the plug-in.

### Optional Capture Adjustments

Same as above, but applies to adjusting fractional frames for capture.

# Premiere Pro Audio Configurations

A Premiere Pro session can be configured for audio in different ways. Which method you use depends on the audio task at hand, the AJA hardware's audio capabilities, and the audio sources to be used.

• AJA hardware audio setup provides optimum A/V sync output using AJA hardware for input and output, including zero latency voice-over recording. Use this method if your AJA hardware supports your audio sources.

• Adobe Desktop Audio voice-over audio setup does not guarantee precise frame-accurate sync. Use this method only if the AJA hardware does not provide audio support (for example, you are using a USB mic and headset connected directly to the computer).

• Some AJA hardware devices (KONA LHi, KONA LHe Plus, Io XT, Io Express) may also need to use the Adobe Desktop Audio setup for voice-over.

## AJA Hardware Audio Mixer Voice-over Setup

If your AJA hardware supports the Audio Mixer feature, you can use one of the AJA hardware audio inputs (selected in AJA Control Panel) to add an ultra-low latency voice-over track to your project timeline.

For example, when using the AJA Io 4K Plus, Voice Over to Timeline can make use of Analog Audio In (DB25 Line Level), embedded HDMI Audio In, or embedded SDI Audio In. On the Avid Artist | DNxIV there is additional support for an Analog Mic input via the front panel (Line, Mic, Phantom 48V).

Recommended settings for Adobe Premiere Pro when using KONA 4, Io 4K, Io 4K Plus, and Avid | Artist DNxIV for Voice-over with AJA Desktop Software v14.0 are:

• Mac or Win OS: Set the Audio / Sound to default to using AJA device for both input and output.

• Premiere Pro Audio Preferences: Check Mute input during record.

- Premiere Pro Audio Hardware Preferences: Set AJA Device for input / output and master clock.
- Premiere Pro Playback Preferences: Select the AJA Device for both the Audio Device and Video Device.
- Premiere Pro Playback Preferences/Video Device Settings: Set to Buffer Mode to Minimum.
- Premiere Pro Timeline: Set Voice over record Source settings to AJA device.
- AJA Control Panel: Audio Mixer Screen/Playback Monitor: Check AJA Input, Item Select the input device, and adjust source gain for monitoring.

*Figure 12.  AJA Control Panel Audio Mixer Screen*
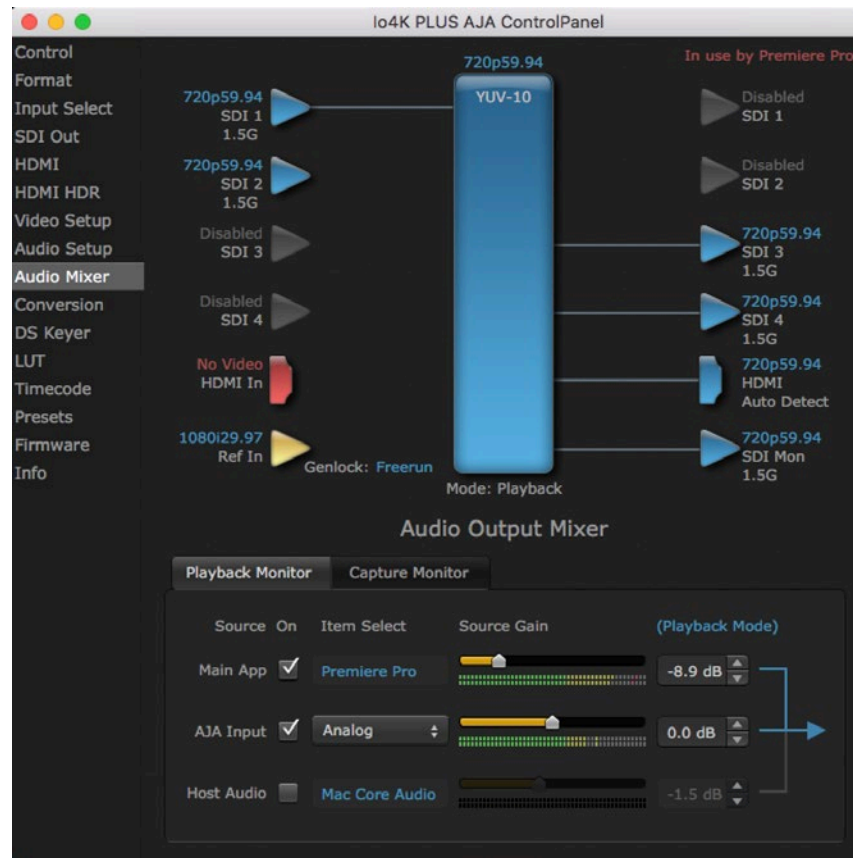


These settings simultaneously provide Premiere Pro Voice Over to Timeline with full-duplex zero latency monitoring and capture to the timeline.

## Voice-over Setup Without Control Panel Audio Mixer

KONA LHi, KONA LHe Plus, Io XT, and Io Express do not support the Control Panel Audio Mixer. You can use one of the these device's audio inputs (selected on the AJA Control Panel) to add a voice-over track to your project timeline. For example, if your device supports analog audio input your source could be a microphone input to a KONA/Io breakout panel.

NOTE:   *This method should not be used when precise A/V sync is required on the output. A slight, measurable, delay may be induced.*

After using Adobe Desktop Audio for a voice-over, immediately return the Premiere Pro session to AJA hardware settings. This will guarantee the remainder of the work in the session will have the proper A/V sync.

The example settings below are intended for use with an audio input connected to an AJA hardware device to perform a voice-over recording without using the Control Panel Audio Mixer.

- Mac or Win OS: Set the Audio / Sound to default to using AJA device for both input and output.
- Premiere Pro Audio Preferences: Check Mute input during record.
- Premiere Pro Audio Hardware Preferences: Set AJA Device for input and master clock.
- Premiere Pro Playback Preferences: Select Adobe Desktop Audio for the Audio Device and AJA Device for the Video Device.
- Premiere Pro Timeline: Set Voice over record Source settings to Logitech Headset.

These settings provide voice-over record (monitoring) on the timeline captured, but exact A/V sync is not guaranteed.

IMPORTANT: *When finished with the voice-over recording, return the Audio Hardware and Playback Preferences to use AJA hardware, to make the remainder of your work in the session have the proper A/V sync.*

## USB Device Audio Voice-over Setup

If you wish to use a USB mic or computer audio source, you can use Adobe Desktop Audio for voice-over.

NOTE: *Adobe Desktop Audio voice-over should not be used when precise A/V sync is required on the output. A slight delay may be induced.*

After using Adobe Desktop Audio for a voice-over, immediately return the Premiere Pro session to AJA hardware settings. This will guarantee the remainder of the work in the session will have the proper A/V sync.

The example settings below are intended for use with a USB headset Mic and headphones (Logitech headset, for example) to perform a voice-over recording.

- Mac or Win OS: Set the Audio / Sound to default to using AJA device for both input and output.
- Premiere Pro Audio Preferences: Check Mute input during record.
- Premiere Pro Audio Hardware Preferences: Set Logitech Headset for input / output and master clock.
- Premiere Pro Playback Preferences: Select Adobe Desktop Audio for the Audio Device and AJA Device for the Video Device.
- Premiere Pro Timeline: Set Voice over record Source settings to Logitech Headset.

These settings provide voice-over record (monitoring) on the timeline captured, but exact A/V sync is not guaranteed.

IMPORTANT: *When finished with the voice-over recording, return the Audio Hardware and Playback Preferences to use AJA hardware, to make the remainder of your work in the session have the proper A/V sync.*

## Premiere Pro Capture Settings

In Premiere Pro you can access Capture settings in a number of ways. For initial project settings, go to File> Project Settings> General and set AJA Capture Format and settings.

To access the Adobe Capture Settings panel, do one of the following:

- Go to Window>Capture (or F5 function key) to launch the Capture Window and click on the Settings tab>Edit
- Use the Flydown menu >Capture Settings

- Right-click in the Capture window for context-sensitive menu.

In the Capture settings, you can select either AJA Dpx, AJA Mov or AJA MXF file format for the capture. Click on Settings to see that Premiere Pro detects the current video input format and then allows you to set:

- Pixel Format
- Audio Format
- Audio Channels (number, and whether mono or stereo)
- Timecode Source
- Frame Offset
- Mark SD MOV files as 16:9 anamorphic

*Figure 13.  AJA Capture Settings Panel*
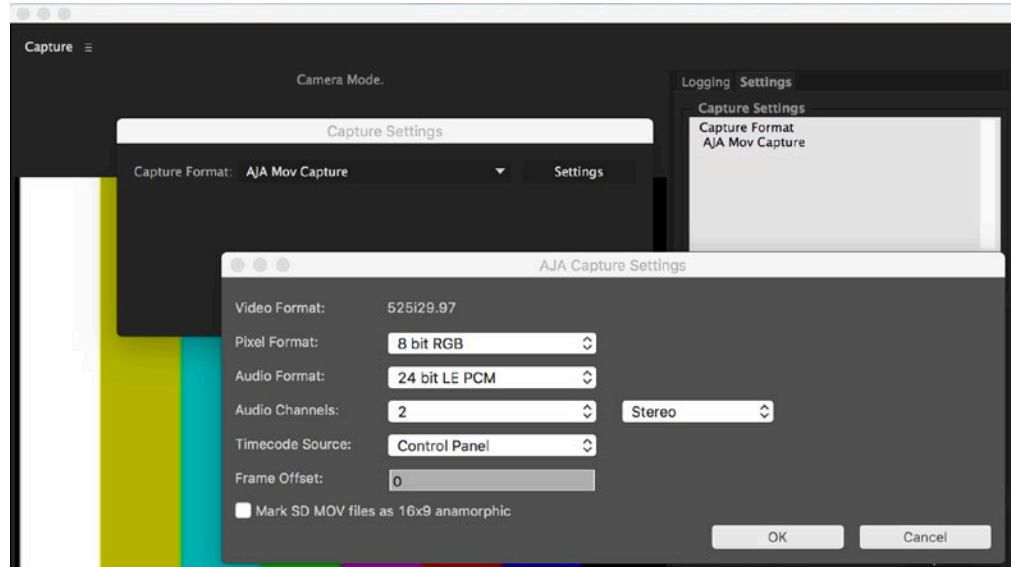


## Pixel Format Choices

Supported pixel formats vary depending on the video input format. Available Pixel Format will vary according to the video input resolution. For example, if the AJA device has an HD input, the DV/DVCPro formats won't be displayed but the DVCProHD formats will.

All pixel formats are listed in the following table.

*Table 2.  Available Pixel Formats*

| DPX format | |
| --- | --- |
| 10-Bit BE (big endian) RGB | |
| **Mov formats** | |
| 8-Bit RGB | Avid DNxHD HQX |
| 8-Bit RGBA | Avid DNxHD HQ |
| 10-Bit BE RGB | Avid DNxHD SQ |
| 8-Bit Uncompressed | Avid DNxHD LB |
| 10-Bit Uncompressed | Avid DNxHD 444 |
| MC DV25 | Avid DNxHR HQX |
| MC DVCPRO50 | Avid DNxHR HQ |
| MC DVCPRO HD | Avid DNxHR SQ |
| Apple ProRes 4444 | Avid DNxHR LB |
| Apple ProRes 422 (HQ) | Avid DNxHR 444 |
| Apple ProRes 422 | Avid DNxHR 444 12bit |
| Apple ProRes 422 (LT) | Note: Apple ProRes capture available |
| Apple ProRes 422 (Proxy) | on Mac OS only |

| MXF formats | |
| --- | --- |
| Avid DNxHD HQX<br>Avid DNxHD HQ<br>Avid DNxHD SQ | Avid DNxHR 444<br>Avid DNxHR 444 12bit<br>Avid DNxHR HQ<br>Avid DNxHR HQX<br>Avid DNxHD LB<br>Avid DNxHD SQ |

## Audio Format

Use the Audio Formats pull-down menu to select the appropriate signal type for your input.

- 16-bit LE (little-endian) PCM (audio compression)
- 24-bit LE PCM
- 32-bit LE PCM
- 32-bit LE float PCM

## Audio Channels

Select the number of audio channels to be captured. AJA hardware devices vary in the number of audio channels they support. Audio channels can be captured as discrete mono channels or stereo pairs.

## Timecode Source

This setting tells the Adobe Premiere Pro Capture plug-in where to get the timecode information for insertion into the file.

- Control Panel–(default setting) uses the user-defined setting in the AJA Control Panel
- Device Control–uses the timecode from the RS-422 port
- Time of Day–use the computer time of day information
- Premiere–asks Premiere for timecode information

# Closed Caption Support

To capture and output Closed Captions, use the fly-down menu in the Premiere Pro Program Sequence to select Captions Display>Enable. This will enable closed captioning output from any file type that Premiere Pro can read.

For Closed Captioning Capture, if closed captions are present in the Ancillary Data, the AJA capture plug-in in Premiere Pro will detect them, and write them into a file. For QuickTime capture, the captions will be written into the QuickTime track of the file, and an .scc and .mcc file will be created as well. For DPX capture, only .mcc and .scc files will be created.

*Figure 14.  Enable Captions page*
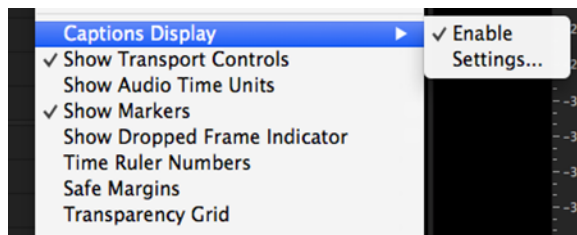
NOTE:  Newer AJA hardware devices (for example, KONA 4 or Io 4K) Closed Captions
will always be active for capture and playback. If, however, you are using earlier
AJA hardware models, you must enable vertical ancillary data (VANC) using AJA
Control Panel.

## Export to Tape

To setup an Export to Tape, select (make active) the desired sequence in Premiere
Pro and then go to File>Export>Tape (Serial Device). This will bring up the
following Premiere Pro Serial Device panel which allows you to interface with the
target tape machine through AJA serial control. Export to Tape using AJA Serial
Device

*Figure 15.  Edit to Tape Screen*
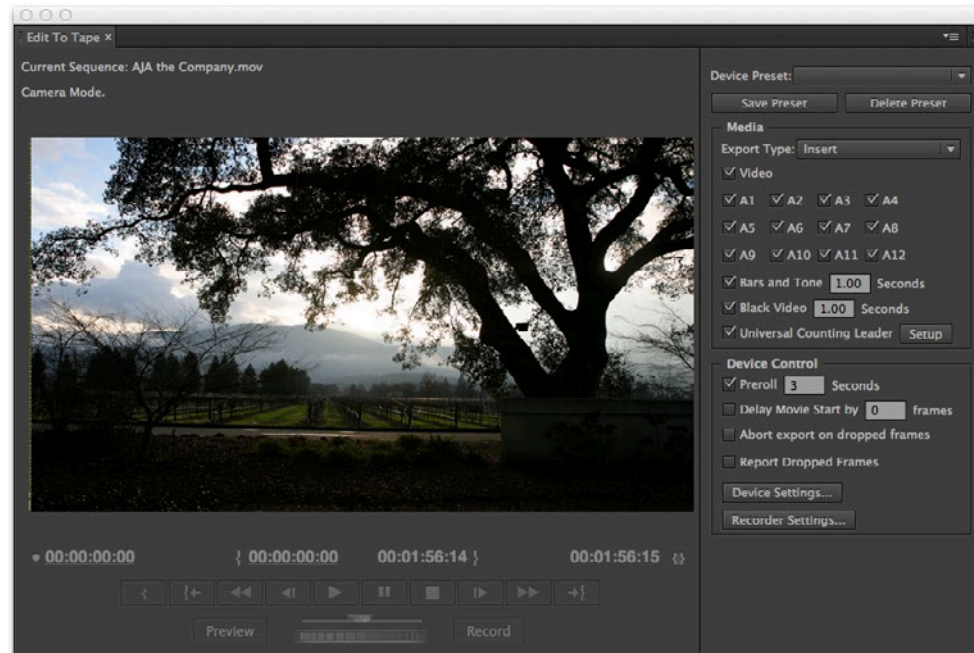


In this window you will set up the following:

### Export Type

- Insert–add new material from the timeline to tape with existing content,
  Video and Audio tracks are selectable and no timecode is written.
- Assemble–requires deck in regeneration mode, uses existing timecode from
  the tape to begin lay down, and generates new timecode from that point on
  using the deck's timecode clock.
- Print to Tape–outputs directly to tape without regard to existing timecode.

You also have access to these AJA device settings:

- Device Control Settings–AJA Device Control (see *"Device Control Preferences"
  on page 15*).
- Recorder Setting– AJA Capture Settings (see *"Playback Preferences" on page
  13*). Premiere Pro uses the AJA Capture plug-in to display video from the
  tape deck.

NOTE:  For precise A/V sync accuracy your audio setup should be in Standard
configuration (see *"Video Device Setup" on page 13*).

IMPORTANT:   Do two or three test insert edits to establish a frame offset BEFORE doing a real insert. The frame offset may differ for different decks and even for different resolutions and frame rates on the same deck. You should test this before setting the offset. Also, note that the capture frame offset may not be identical to the layoff frame offset (refer to your AJA Mac or Windows release notes for the latest information).

- In Point, Out Point, and Duration when in applicable print mode
- Standard tape machine function controls

As noted above, you should use Preview mode to test your deck offset to verify accuracy and avoid latency problems. Also, the more performance resources (processor and storage speed) the better for "realtime editing."

# Using Adobe Photoshop

Adobe Photoshop accepts Adobe plug-ins and drivers to closely integrate the AJA hardware Export function into the application.

NOTE:   Setup of Input and Output formats for AJA hardware are now performed using the AJA Control Panel rather than menus within the Adobe Plug-ins.

## AJA Capture

With Photoshop open, go to the File pull-down menu and select Import>AJA Capture. Selecting AJA Capture performs an immediate capture of the current frame in the AJA hardware frame buffer.

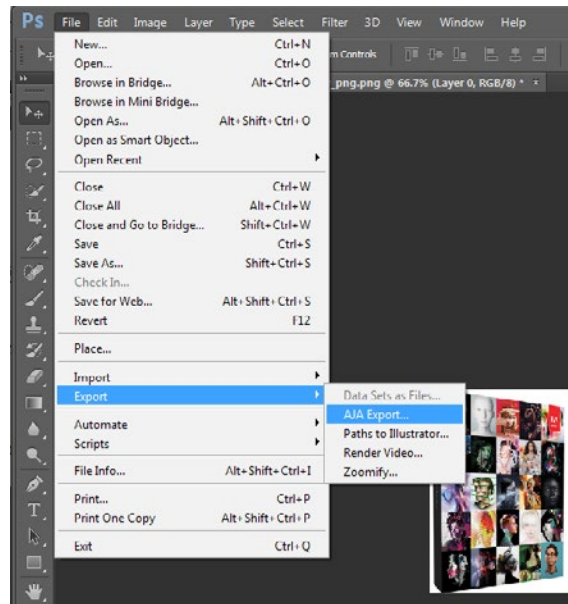Figure 16.  AJA Image Capture in Photoshop, File>Import Menu
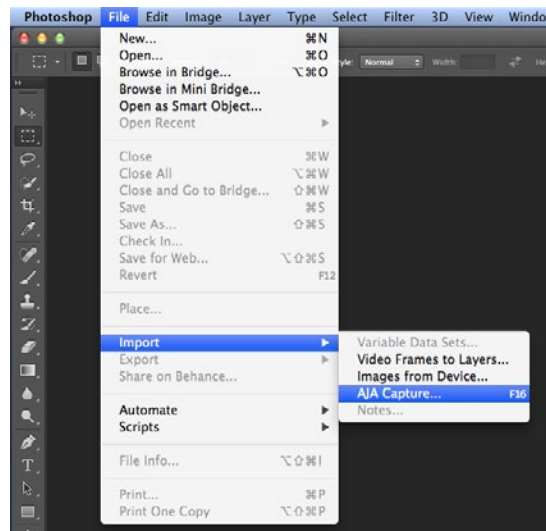


If you use the capture function regularly, we recommend that you set up a Keyboard Shortcut to trigger the capture (see Photoshop documentation).

## AJA Export

To use the AJA Preview function, go to Export and choose AJA Export.

*Figure 17.  AJA Image Export in Photoshop, File>Export Menu*



The specific options available to you are determined by the AJA hardware device that is installed in your workstation and you are currently controlling.

Use the AJA Control Panel to set Video Format and Pixel Format for your desired output.

### Source Frame Setting

To setup Preview options, go to the Window menu and select AJA Preview. Select a Source Frame mode to define the video interlace for your image. Progressive is the default.

NOTE:    *If your source video is interlaced, you may select the appropriate (lower or upper) initial field to maximize AJA hardware output performance. This setting tells the AJA hardware which type of frame format it is receiving.*

*Figure 18.  AJA Photoshop Export Setting Menu*
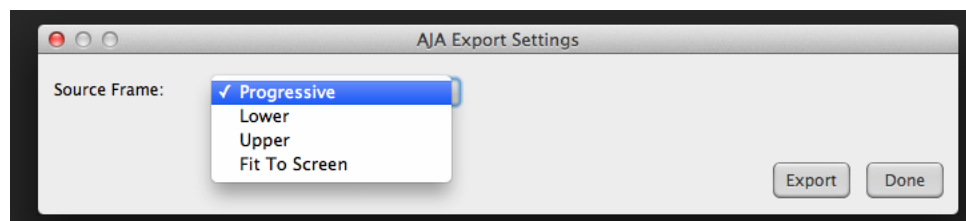


In Fit To Screen mode, the AJA hardware automatically scales the image geometry until one of its borders fills the monitor screen. No cropping or distortion occurs.

When your Export Settings are selected, click on the Export button to output your image through the AJA hardware.

NOTE:    *When you output in Video + Key mode (set in AJA Control Panel), Video is output via SDI 1 and the Key channel is output on SDI 2. (This does not apply to KONA 4K Mode operation, see the KONA manual.)*
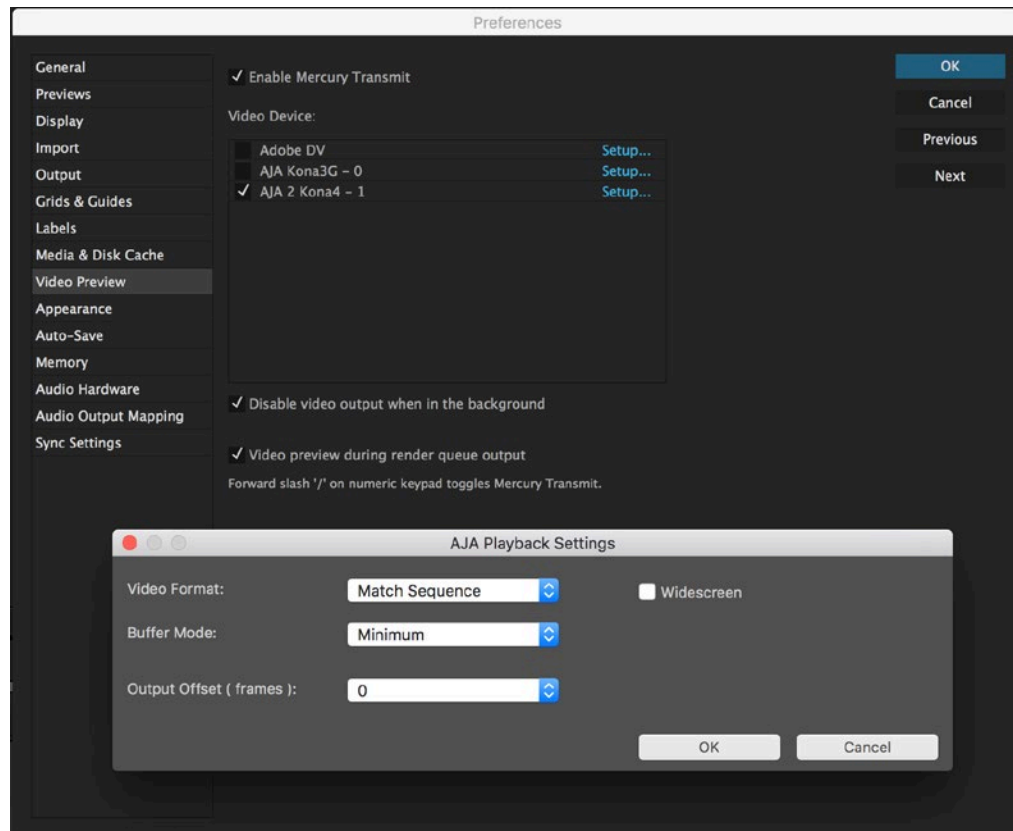
# Using Adobe After Effects

## After Effects Video Preview Preferences

*Figure 19.  AJA After Effects Video Preview Settings Menu, Transmit Plug-in*



The After Effects Video Preview Preferences are similar to the Premiere Pro Playback Preferences. See *"Playback Preferences" on page 13* for more information.

### Enable Mercury Transmit

Mercury Transmit must be enabled in order for the AJA Plugin to interface between Adobe Premiere and AJA Hardware. Disabling Mercury Transmit will disable ("eject") your AJA hardware until Mercury transmit is re-enabled.

## After Effects Audio Hardware Preferences
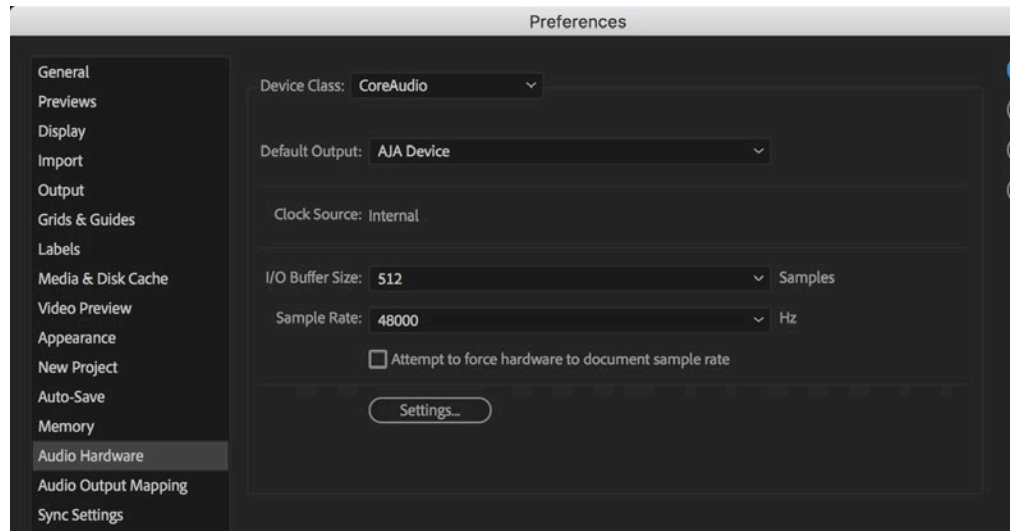


The After Effects Audio Hardware Preferences are similar to the Premiere Pro Audio Hardware Preferences. See *"Audio Hardware Preferences" on page 11* for more information.

## After Effects Realtime Performance

RAM Preview should be realtime for HD in After Effects. 4K RAM preview may even be possible with a high performance workstation. Please ensure you have the following settings for proper RT RAM preview.

1. Make sure that the frame buffer format of the AJA Control Panel matches the resolution and frame rate of your After Effects Composition. This can be set by launching AJA Control Panel, clicking on 'Format' in the left hand column, and selecting the correct resolution and framerate in the 'format' drop down menu.

2. Next, please ensure that the "Resolution" setting for "Time Controls" is set to "Full" in After Effects. If not set to "Full", the image that the AJA Preview Panel receives and sends to the AJA hardware during RAM Preview will not be sent at "Full Resolution" and thus will either be software resized to Full Resolution before sending to the AJA hardware for display, or will be center cropped before sending.

3. If RAM Preview is still not realtime, you can try some of the following – setting your Zoom to "100%" in your AE Composition, making sure the "Frame Rate" of the AE Time Controls" matches the frame rate of the "Primary Format" in the AJA Preview Panel, and muting audio in the AE Time Controls.

NOTE: *In some cases the available bandwidth of the motherboard limits the cards ability to output realtime video. AJA tech support can show you how to use AJA System Test to test the bandwidth you are getting between the card and motherboard.*

## Legacy AJA Preview Plug-in

The Legacy Preview plug-in allows you to view the current frame of your working timeline in various formats on a monitor connected to an AJA hardware output.
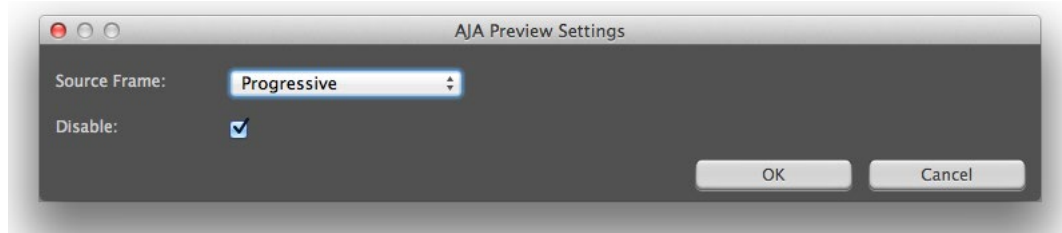
### Video & Pixel Format

Use the AJA Control Panel to set Video Format and Pixel Format for your desired output. After Effects does not set these parameters within the application.
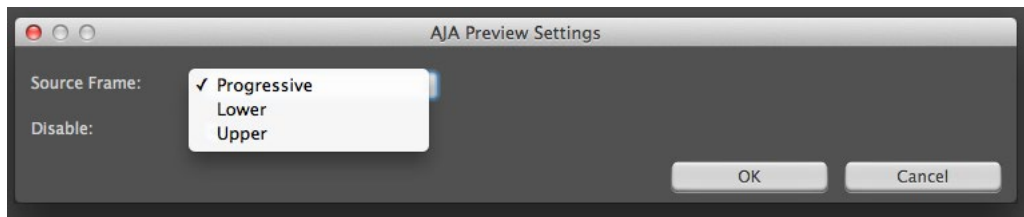
### Source Frame Setting

To set up Preview options for After Effects, go to the Window menu and select AJA Preview.

*Figure 20.  AJA After Effects Preview Settings Menu, Legacy Plug-in*



Here you can choose to disable the AJA Plug-in by checking the Disable box or select a Source Frame mode to define the video interlace for your video input. Progressive is the default.

*Figure 21.  AJA After Effects Source Frame Setting Menu, Legacy Plug-in*



NOTE:    *If your source video is interlaced, you may choose to select the appropriate field dominance (lower or upper) to maximize AJA hardware output performance. This setting tells the AJA hardware which type of frame format it is receiving.*
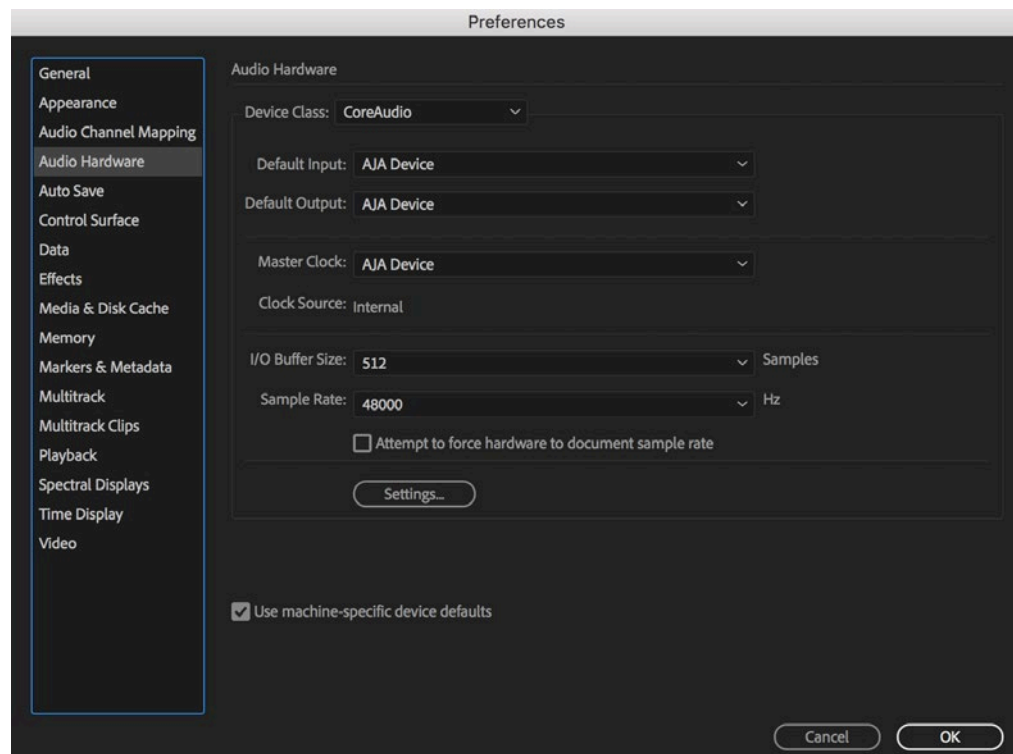
# Using Adobe Audition

The Audition Audio Channel Mapping Preferences and Audio Hardware Preferences are similar to the Premiere Pro Audio Hardware Preferences. See *"Audio Hardware Preferences" on page 11* for more information.

## Audition Audio Channel Mapping Preferences
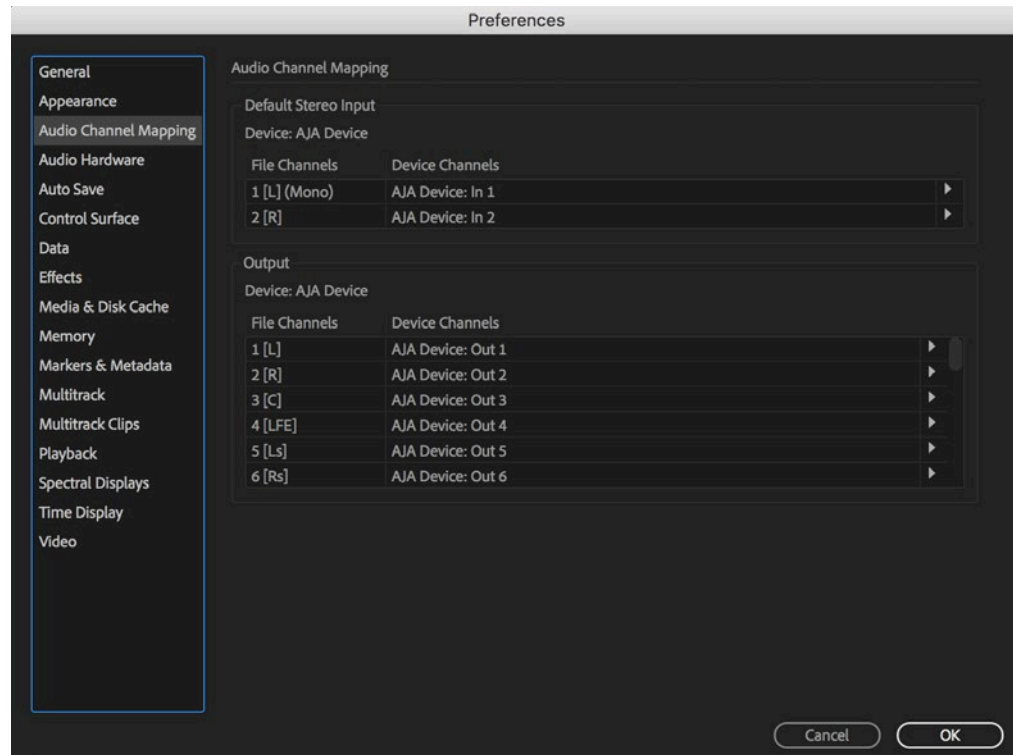


## Audition Audio Hardware Preferences

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