

# AJA Adobe Plugins

## Software



Adobe® Creative Cloud™

## Installation and Operation Guide

Version 12.5.1  
Published January 30, 2017



# Notices

---

## Trademarks

---

AJA® and Because it matters.® are registered trademarks of AJA Video Systems, Inc. for use with most AJA products. AJA™ is a trademark of AJA Video Systems, Inc. for use with recorder, router, software and camera products. Because it matters.™ is a trademark of AJA Video Systems, Inc. for use with camera products.

CION®, Corvid Ultra®, Io®, Ki Pro®, KONA®, KUMO®, ROI® and T-Tap® are registered trademarks of AJA Video Systems, Inc.

AJA Control Room™, KiStor™, Science of the Beautiful™, TruScale™, TruZoom™, V2Analog™ and V2Digital™ are trademarks of AJA Video Systems, Inc.

AirPort, Apple, Apple logo, AppleShare, AppleTalk, FireWire, iPod, iPod touch, Mac, Macintosh and ProRes, are registered trademarks of Apple Inc. Final Cut Pro, QuickTime and QuickTime logo are trademarks of Apple Inc.

Avid, Avid DNxHD and Media Composer are registered trademarks of Avid Technology, Inc.

Adobe is a registered trademark of Adobe Systems Incorporated in the United States and/or other countries.

HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing, LLC.

DVI is a registered trademark of DDWG.

TASCAM is a registered trademark of TEAC Corporation.

Dolby and the double-D Dolby logo are registered trademarks of Dolby Laboratories Licensing Corporation.

openGear® Ross, ROSS, ROSS®, and MLE are registered trademarks of Ross Video.

DashBoard Control System™ is a trademark of Ross Video.

All other trademarks are the property of their respective holders.

## Copyright

---

Copyright © 2017 AJA Video Systems, Inc. All rights reserved. All information in this manual is subject to change without notice. No part of the document may be reproduced or transmitted in any form, or by any means, electronic or mechanical, including photocopying or recording, without the express written permission of AJA Video Systems, Inc.

## 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	<a href="http://www.aja.com">http://www.aja.com</a>
Support Email	<a href="mailto:support@aja.com">support@aja.com</a>
Sales Email	<a href="mailto:sales@aja.com">sales@aja.com</a>

# Contents

---

Notices . . . . .	2
Trademarks . . . . .	2
Copyright . . . . .	2
Contacting AJA Support . . . . .	2
Chapter 1 – Adobe Plugins Installation . . . . .	4
Installation. . . . .	4
Chapter 2 – Using Adobe Applications . . . . .	5
Overview . . . . .	5
Using Adobe Premier Pro . . . . .	5
Beginning a Project with Adobe Presets . . . . .	5
Options Set in Premiere Pro Preferences . . . . .	6
Premiere Pro Capture Settings . . . . .	8
Premiere Pro Playback Preferences . . . . .	10
Playback Resolution . . . . .	13
Closed Caption Support . . . . .	13
Audio Setup . . . . .	14
Audio Voice-over Setup. . . . .	15
Export to Tape. . . . .	15
Using Adobe Photoshop. . . . .	17
AJA Capture . . . . .	17
AJA Export . . . . .	17
Using Adobe After Effects . . . . .	19
AJA Transmit Plugin . . . . .	19
Legacy AJA Preview Plugin. . . . .	20
Using Adobe SpeedGrade. . . . .	23
AJA Display Setup . . . . .	23
Using AJA Codecs for File Generation. . . . .	24
Software License Agreement . . . . .	26
Index. . . . .	29

# Chapter 1 – Adobe Plugins Installation

---

## Installation

---

*IMPORTANT: Please read the brief Release Notes PDF file that accompanies your AJA Software. The Release Notes describe important Features and Fixes. Also, always go to your AJA Utilities (on the Mac) or Windows Control Panel to uninstall existing AJA software before installing a new version. This will prevent hardware/software conflicts.*

*NOTE: Before proceeding, ensure that your Adobe software is installed as detailed in its user documentation. These applications should be installed prior to installing AJA software. The AJA software package adds required files to your Adobe application directories.*

Download the latest KONA software from the AJA website to install necessary software drivers, plugins, and AJA's Control Panel. from our website at:

<https://www.aja.com/en/support/software/>

You cannot use AJA hardware with third-party applications until the AJA plugins software has been installed on the host computer.

If you add KONA supported applications at a later date and have not previously installed the appropriate plugins, you must run the install program again selecting the appropriate application support software to be installed.

# Chapter 2 – Using Adobe Applications

---

## Overview

---

AJA provides plugins for both Mac and Windows versions of the Adobe Applications and their functions are mostly the same. This chapter will describe the Windows menus and note exceptions for the Mac.

AJA hardware is tightly integrated with Adobe Premiere Pro, Photoshop, and After Effects. 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.

The manual you are reading 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.

The chapter you are reading addresses configuration and setups supported by KONA. Topics covered include:

- Using Adobe Premiere Pro
- Using Adobe Photoshop
- Using After Effects

## Using Adobe Premier Pro

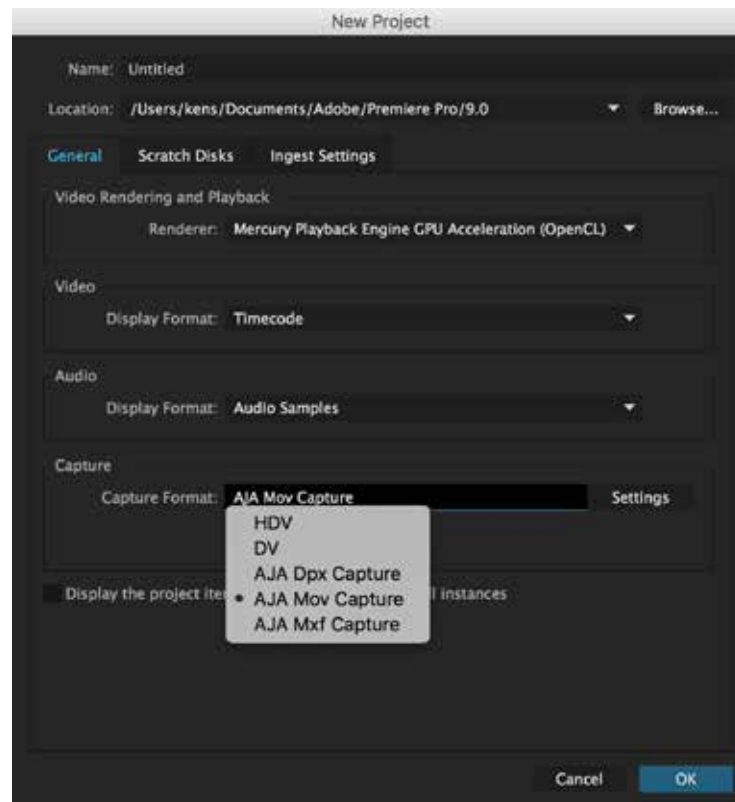
---

### 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 1. 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 Hardware
- Audio Output mapping
- Device Control
- Playback Settings

*NOTE: There are two important audio configurations you must consider for Playback performance:*

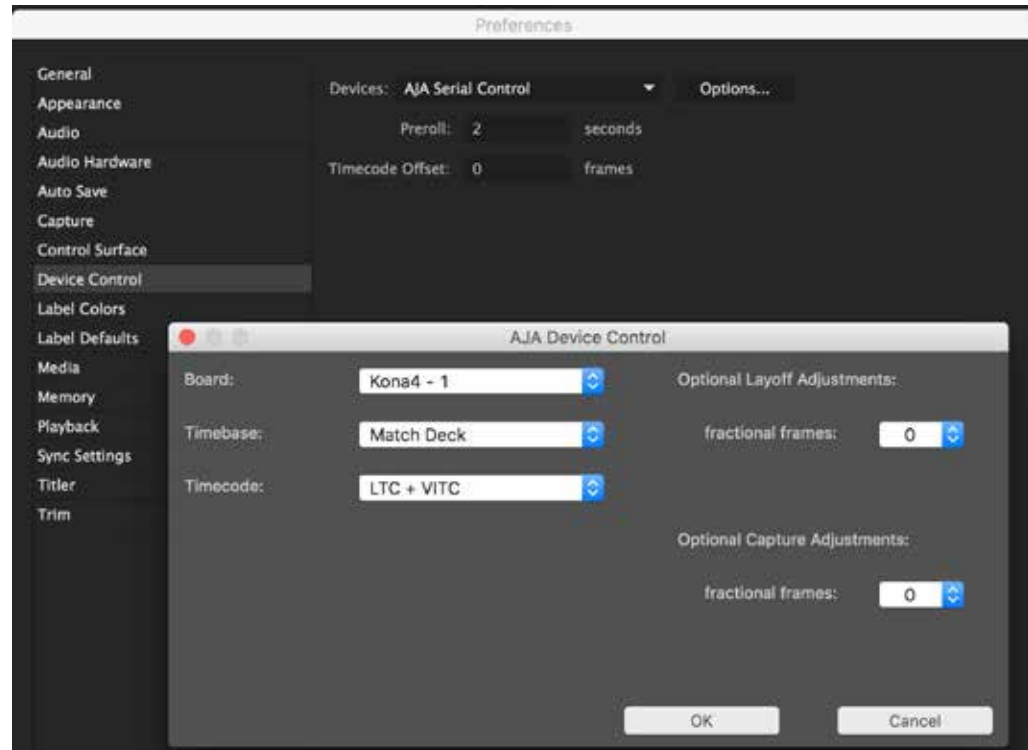
- Standard audio setup with optimum A/V sync output
- Voice-over audio setup that uses the AJA hardware as an audio input for the Premiere Pro voice-over tool (does not guarantee precise frame-accurate sync)

*NOTE: Reference the Playback Settings section for Standard and Voice-over audio setup instructions.*

## Device Control

Device Control Options are settings for Export to Tape and Capture functions using the RS-422 machine control interface on AJA KONA/IO hardware (not applicable to T-Tap). Always use the AJA Serial Control setting and the KONA/IO 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 2. Preferences>Device Control>Options



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.

## AJA Device Control Options

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

#### **Board**

This menu allows you to select from multiple KONA/I/O 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 KONA'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 plugin.*

#### **Optional Capture Adjustments**

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

## 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:

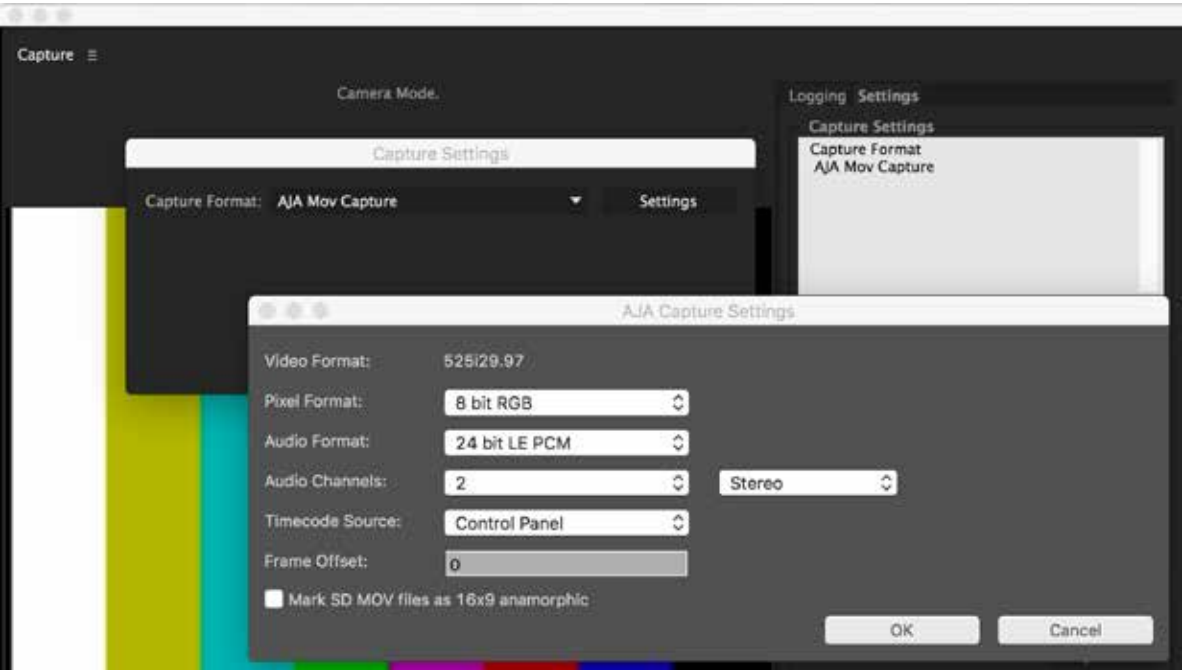
- Go to Window>Capture (or F5 function key) to launch the Capture Window and click on the Settings tab>Edit
- Use the Flydown menu >Capture Settings
- Right-click in the Capture window for context-sensitive menu.

In the Capture settings, you can select either AJA Dpx or AJA Mov 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 (mono or stereo)
- Timecode Source
- Frame Offset
- Mark SD MOV files as 16:9 anamorphic



Figure 3. AJA Capture Settings panel



### Pixel Format Choices

Supported pixel formats are shown in the following table.

Table 1. 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	Note: Apple ProRes capture available on Mac OS only
Apple ProRes 422 (LT)	
Apple ProRes 422 (Proxy)	
Mxf formats	
Avid DNxHD HQX	Avid DNxHR 444
Avid DNxHD HQ	Avid DNxHR 444 12bit
Avid DNxHD SQ	Avid DNxHR HQ
	Avid DNxHR HQX
	Avid DNxHD LB
	Avid DNxHD SQ

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.

## Audio Formats

---

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, KONA and Io 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 Capture plugin where to get the timecode information for insertion into the file.

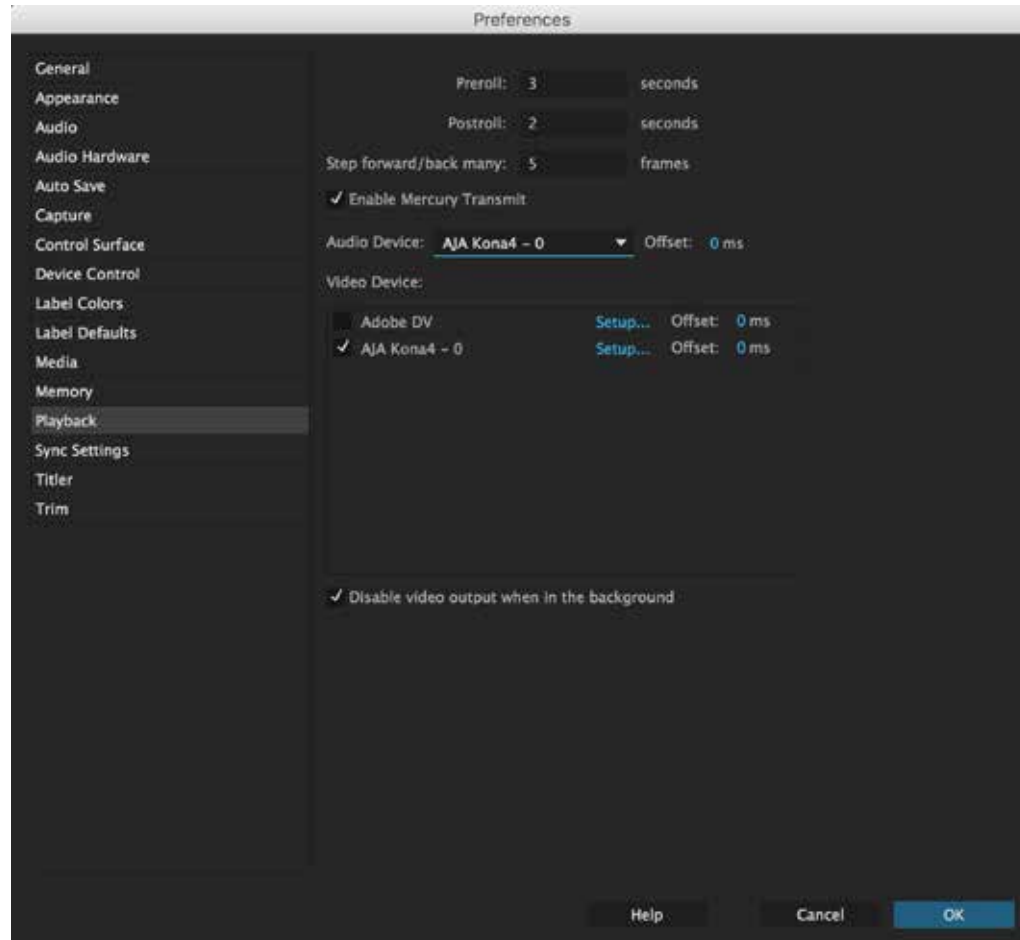
- Control Panel—(default setting) uses the user-defined setting in the AJA Control Panel
- Device Control—uses the timecode from the RS-422 port
- Time of Day—use the computer time of day information
- Premiere—asks Premiere for timecode information

## Premiere Pro Playback Preferences

---

To access AJA Playback settings, in Premiere Pro, go to PremierePro>Preferences>Playback (Mac) or Edit>Preferences>Playback (Windows) to access the screen below.

Figure 4. Player Settings Panel in Premiere Pro Preferences



## Video Device Setup

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

Figure 5. 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 plugin 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 "hard-wired" video format from the AJA Control Panel menu of available formats.

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

### Offset Settings

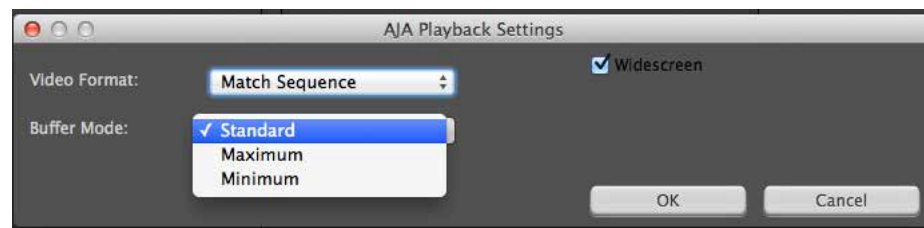
The AJA Transmit plugin always works to perfectly sync audio and video output from the AJA hardware. In doing this, a buffer is created which may cause a slight delay (generally around 1-2 frames) compared to the Program Monitor or Source Monitor on your desktop. These Offset settings have been provided by Adobe to tweak that delay, and match up the video on the desktop to the video and audio coming out of the AJA hardware.

*IMPORTANT: A video offset set here can cause a missed frame when laying off to tape. Be sure to set this offset to zero before layoff. Refer to your AJA Mac or Windows release notes for the latest information.*

## Buffer Mode

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

Figure 6. Premiere Pro Preferences Playback Buffer Modes



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

- Standard, will store 8 frames
- Maximum will store either the maximum number of frames allowed by the hardware or 14, whichever is smallest.
- Minimum will store 3 frames

### 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.

For editing, KONA and Io users should 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.

Use Standard mode for any projects in which the sequence framerate does NOT match the framebuffer framerate. The most common examples of this are using 720p23.98, 25, and 30. These formats don't exist on SDI so the card will switch to 720p50 or 60 automatically. Users, in these cases, should use the Standard buffer mode.

## 12bit HDR Color Space

This appears when a selected KONA 4 or Io4K device is running in 4K mode. This setting allows you to define which colorspace Premiere Pro uses to output 12 bit RGB frames.

You can select from:

- PQ 709
- PQ P3
- PQ 2020

The setting of this control in the Premiere Pro Plugin is ignored if KONA or Io4K is not set to 12 bit RGB.

## Other HDR Settings

---

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

KONA or Io4K Control Panel settings required for HDR operation include:

- Format: RGB-12
- SDI Output: RGB Full (greatest color range) or RGB SMPTE

Premier 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.

## Playback Resolution

---

For best output resolution from KONA, use Full as your Playback Resolution setting. Use the fly-down menu in the Premiere Pro Program Sequence to set Playback Resolution.

## 4K Output in Premiere Pro

---

If you are using KONA 4K/3G in 4K Mode, true 4K will be output on the SDI outputs. If the KONA device you are using does not support 4K, KONA in Premiere Pro Match Sequence mode will automatically output the best resolution available.

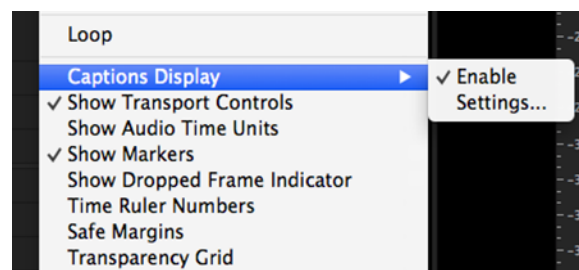
## Closed Caption Support

---

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, Io4K or KONA 4 is required. If closed captions are present in the Ancillary Data, the AJA capture plugin 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 7. Enable Captions*



**NOTE:** If your AJA device is a KONA 4 or Io 4K, Closed Captions will always be active for capture and playback. If, however, you are using earlier KONA or Io models, you must enable vertical ancillary data (VANC) using the AJA Control Panel (see KONA/Io documentation).

## Audio Setup

This section describes the two important audio configurations you must consider in setting up the AJA transmit plugin for Premiere Pro playback. Standard audio setup with optimum A/V sync at the output and Voice-over output that does not guarantee precise frame-accurate sync at the output. For Voice-over, see ["Audio Voice-over Setup" on page 15](#).

### Standard Audio Hardware Setup

The following setup is most often used and guarantees accurate AV output sync.

In Audio Hardware, Adobe Desktop Audio menu for Windows, select the Premiere Pro default for Device Class. Do not select "ASIO" for use with KONA/Io.

**NOTE:** If you hear static on the KONA/Io 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.

Figure 8. Audio Hardware Preferences, Windows

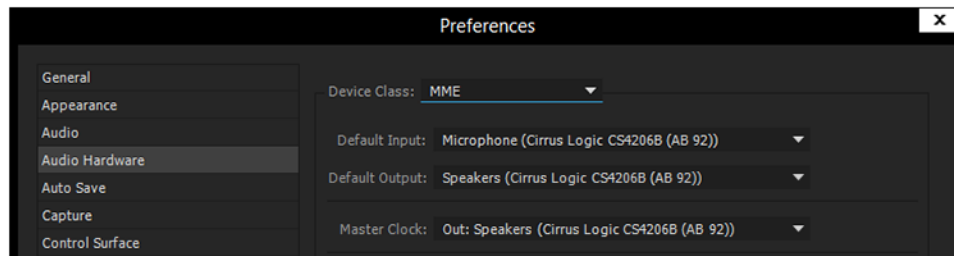
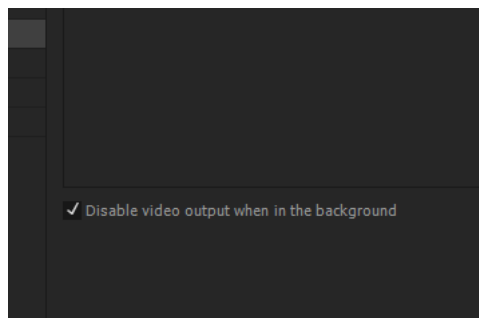


Figure 9. Audio Hardware Preferences, Mac



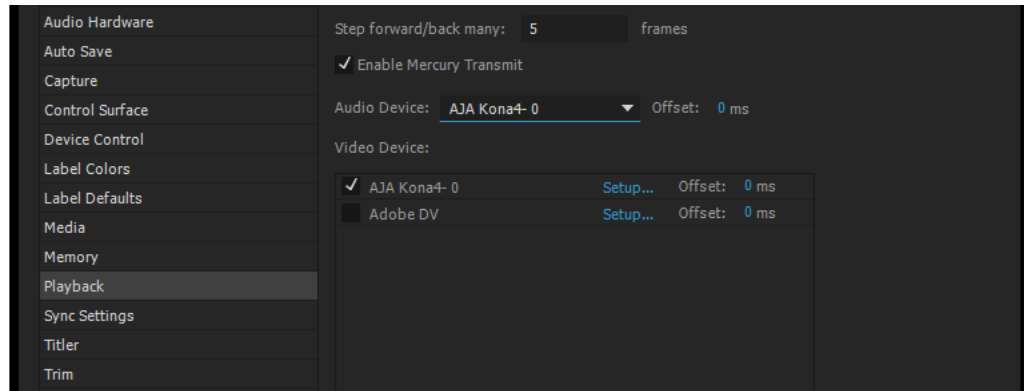
#### Audio Output Mapping

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 KONA/Io channel 1–16.

### Standard Playback Audio Device

In Playback Preferences you will select your KONA/Io device in the Audio Device menu.

Figure 10. Playback Preferences, Windows or Mac



## Audio Voice-over Setup

You can use one of the KONA/IO audio inputs (selected on the AJA Control Panel) to add a voice-over track to your project timeline. For example, if your KONA/IO device supports analog audio input your source could be a microphone input to your KONA breakout panel.

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

### Windows Voice Over Setup

In Premiere Pro Preferences (Edit menu>Preferences), go to:

1. Audio Hardware and choose AJA Device from the Default Input and Default Output menus
2. Playback and choose Adobe Desktop Audio from the Audio Device menu

### Mac Voice Over Setup

For Mac Voice-over, go to Playback in the Premiere Pro Preferences (Premiere Pro menu>Preferences>) and then:

1. In Playback preferences, choose Adobe Desktop Audio from the Audio Device menu
2. In Audio Hardware preferences, choose AJA Device from the Default Input and Default Output menus

## Export to Tape

To setup and 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 11. 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" on page 6](#)).
- Recorder Setting— AJA Capture Settings (see ["Premiere Pro Capture Settings" on page 8](#)). Premiere Pro uses the AJA Capture plugin to display video from the tape deck.

**NOTE:** For precise A/V sync accuracy your audio setup should be in Standard configuration (["Video Device Setup" on page 11](#)).

**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 (not included with KONA) accepts KONA plugins and drivers to closely integrate the KONA/Io Export function into the application.

*NOTE: Setup of Input and Output formats for KONA/Io are now performed using the AJA Control Panel rather than menus within the Adobe Plugins.*

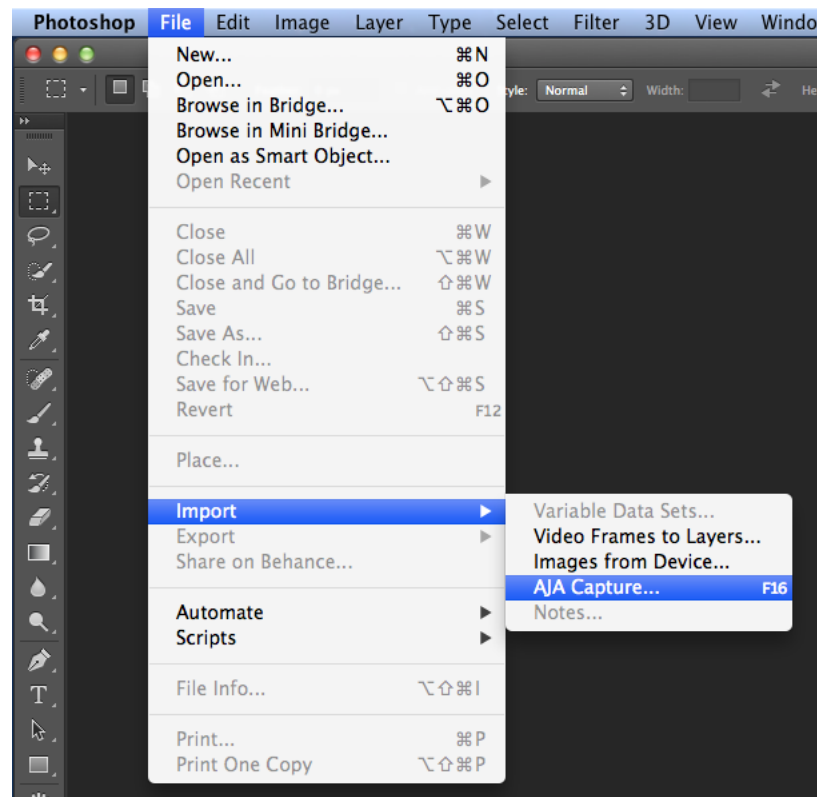
The manual you are reading does not provide operational information for Adobe Photoshop. Please read the Photoshop user documentation provided with the application for information on configuration and operation. The chapter you are reading addresses configuration and setup unique to use of KONA with Adobe Photoshop.

## 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 KONA/Io frame buffer.

*Figure 12. AJA Image Capture in Photoshop, File>Import Menu*



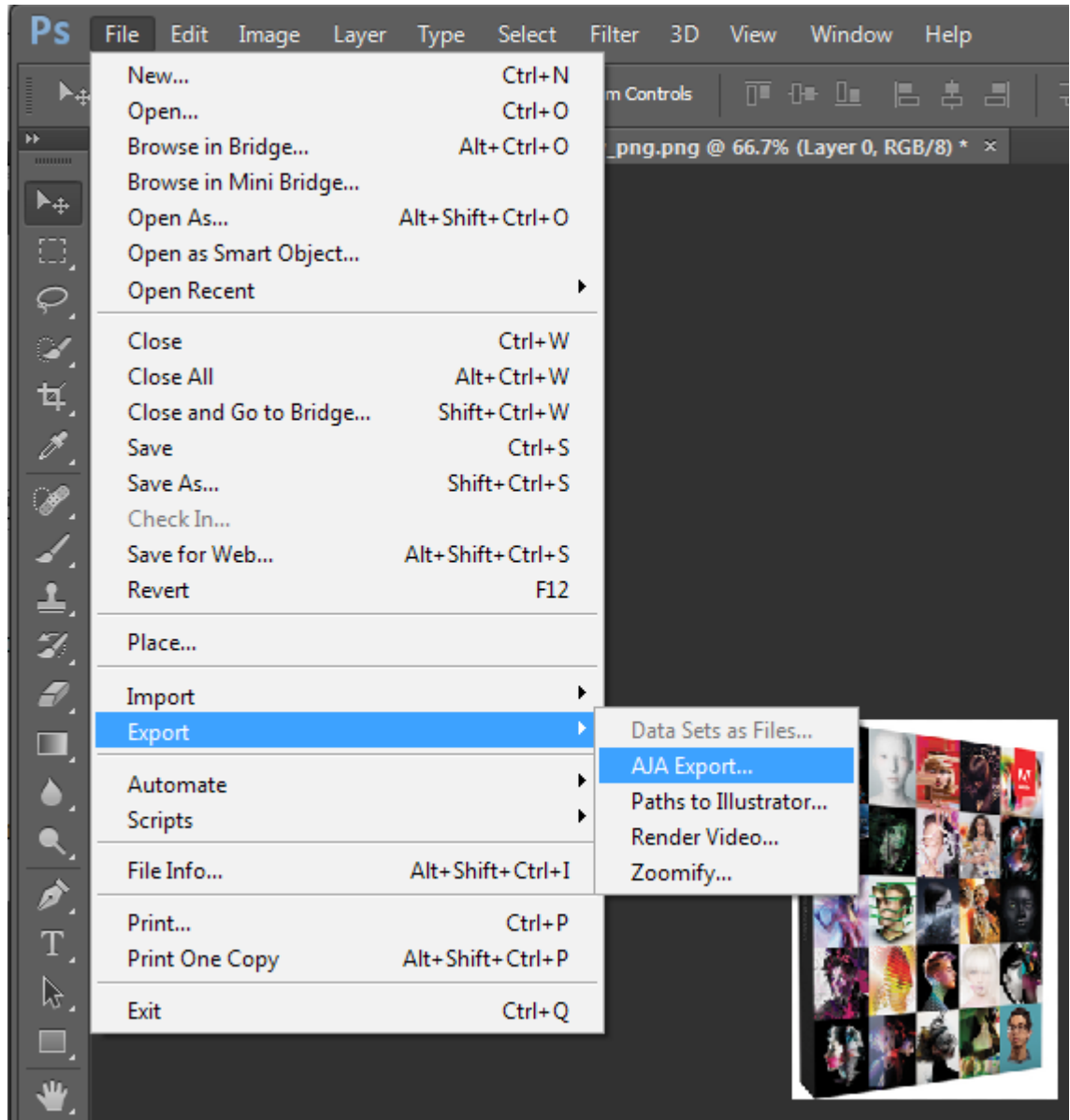
If you use the capture function regularly, we recommend that you set up a Keyboard Shortcut to trigger the capture (see Photoshop documentation).

## AJA Export

---

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

Figure 13. AJA Image Export in Photoshop, File>Export Menu



The specific options available to you are determined by the AJA KONA/Io device that is installed in your workstation and you are currently controlling. This section will describe all options for the Photoshop plugin when used with KONA/Io.

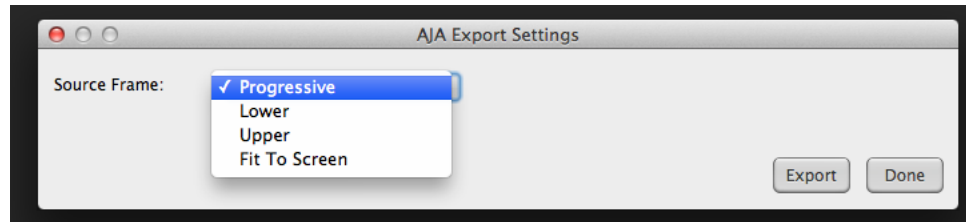
Use the AJA Control Panel to set Video Format and Pixel Format for your desired output.

#### 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 KONA/Io output performance. This setting tells the KONA/Io which type of frame format it is receiving.*

Figure 14. AJA Photoshop Export Setting Menu



In Fit To Screen mode, KONA/IO 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 KONA/IO.

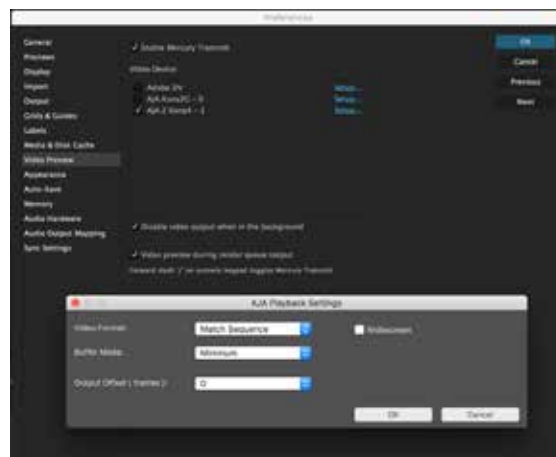
**NOTE:** When you output in Video + Key mode (set in AJA Control Panel), Video is output via SDI 1 and the Key channel is output on SDI 2. (This does not apply to KONA 4K Mode operation, see the KONA manual.)

## Using Adobe After Effects

**NOTE:** In AJA's v12.4 Retail Software package, support for Adobe After Effects has changed. Previously two different plugins were being installed. The 'Blithook' plugin is the legacy plugin and is no longer installed by default. It must be deliberately chosen as an option in both the Mac and Windows installer. The Transmit plugin is installed with the default installation options.

## AJA Transmit Plugin

Figure 15. AJA After Effects Preview Settings Menu, Transmit Plugin



## 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 plugin 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 "hard-wired" video format from the AJA Control Panel menu of available formats.

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

### Offset Settings

The AJA Transmit plugin always works to perfectly sync audio and video output from the AJA hardware. In doing this, a buffer is created which may cause a slight delay (generally around 1-2 frames) compared to the Program Monitor or Source Monitor on your desktop. These Offset settings have been provided by Adobe to tweak that delay, and match up the video on the desktop to the video and audio coming out of the AJA hardware.

*IMPORTANT: A video offset set here can cause a missed frame when laying off to tape. Be sure to set this offset to zero before layoff ([refer to your AJA Mac or Windows release notes for the latest information](#)).*

## Buffer Mode

---

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

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

- Standard, will store 8 frames
- Maximum will store the maximum number of frames allowed by the given hardware
- Minimum will store 3 frames

### 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.

For editing, KONA and Io users should 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.

Use Standard mode for any projects in which the sequence framerate does NOT match the framebuffer framerate. The most common examples of this are using 720p23.98, 25, and 30. These formats don't exist on SDI so the card will switch to 720p50 or 60 automatically. Users, in these cases, should use the Standard buffer mode.

## Widescreen Checkbox

---

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

## Legacy AJA Preview Plugin

---

The Legacy Preview plugin allows you to view the current frame of your working timeline in various formats on a monitor connected to a KONA/Io output.

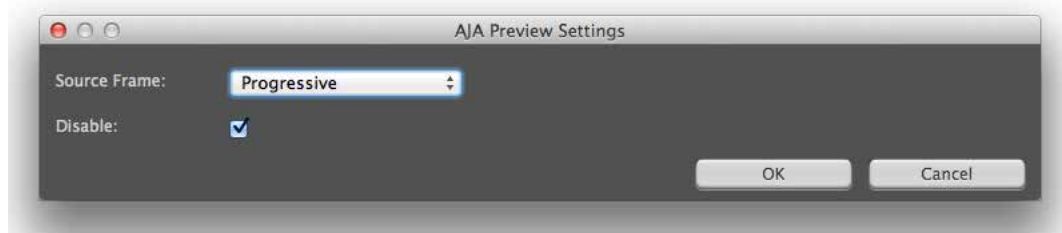
### Video & Pixel Format

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

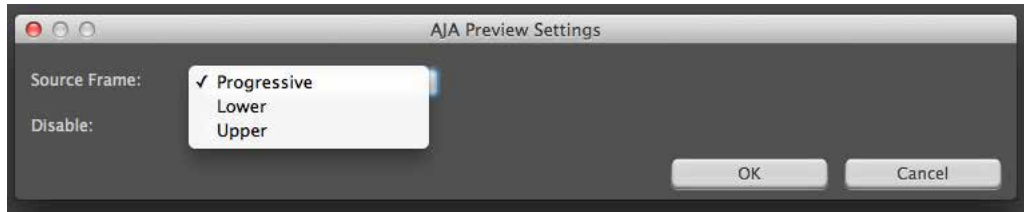
To set up Preview options for After Effects, go to the Window menu and select AJA Preview.

Figure 16. AJA After Effects Preview Settings Menu, Legacy Plugin



Here you can choose to disable the AJA Plugin 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 17. AJA After Effects Source Frame Setting Menu, Legacy Plugin



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

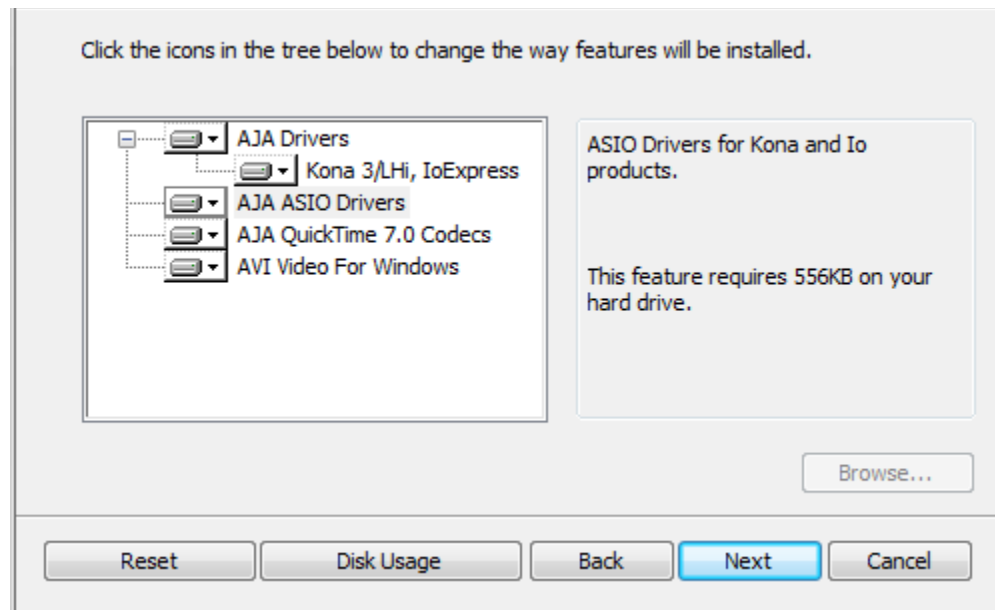
## Audio Hardware Selection

In the After Effects Preferences you can also select the AJA KONA/lo audio hardware for output.

### Windows Audio Output

To setup After Effects audio in Windows, you must have installed the ASIO drivers during AJA KONA/lo driver installation. ASIO is not part of the default installation. Refer to the KONA/lo installation manual for details. The ASIO Drivers installation selection is shown below.

Figure 18. Windows ASIO Installation in KONA/Io Drivers Package

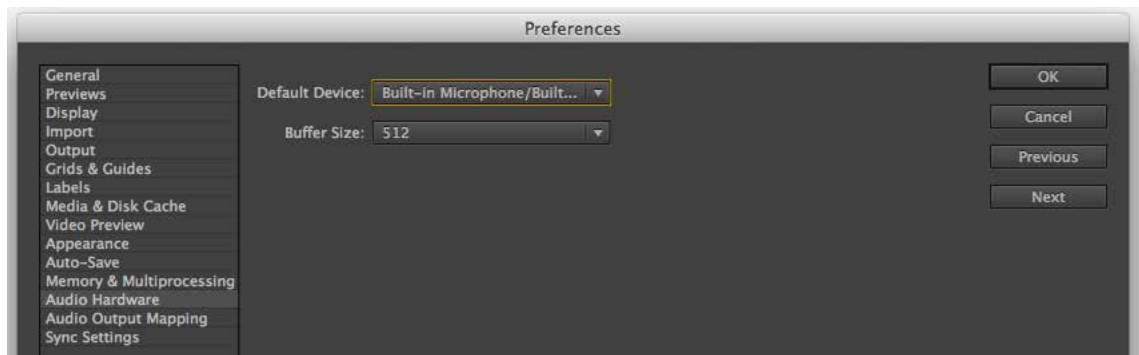


Go to Audio Hardware Preferences to select KONA ASIO for audio output.

#### Mac Audio Output:

For Mac Audio go to the After Effects Preferences>Audio Hardware and select System Default Input/Output and then set the Mac OS System Preferences>Sound Input and Output to the AJA KONA/Io device.

Figure 19. AJA After Effects Mac Audio Hardware Preference



**NOTE:** For both Windows and Mac, you should set the Audio Buffer size to 512. If you hear static on the KONA/Io output, adjust the audio buffer size from this setting. The optimal size may vary for different systems or different setups based on CPU, RAM, and running applications.

## After Effects Real-time Performance

RAM Preview should be real-time 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 KONA board during RAM Preview will not be sent at “Full Resolution” and thus will either be software resized to Full Resolution before sending to the KONA Board for display, or will be center cropped before sending.
3. If RAM Preview is still not real-time, 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.*

## Using Adobe SpeedGrade

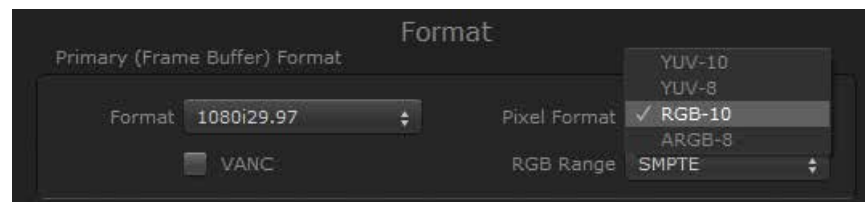
### AJA Display Setup

AJA Adobe Plugins are closely integrated into Adobe’s SpeedGrade color correction and color grading software. You can use your AJA device for Display output in SpeedGrade by going to the AJA Control Panel and SpeedGrade Preferences and performing the following:

1. Go to your AJA Control Panel and select the *Format* screen. Here you will choose the *Pixel Format* you wish to display.

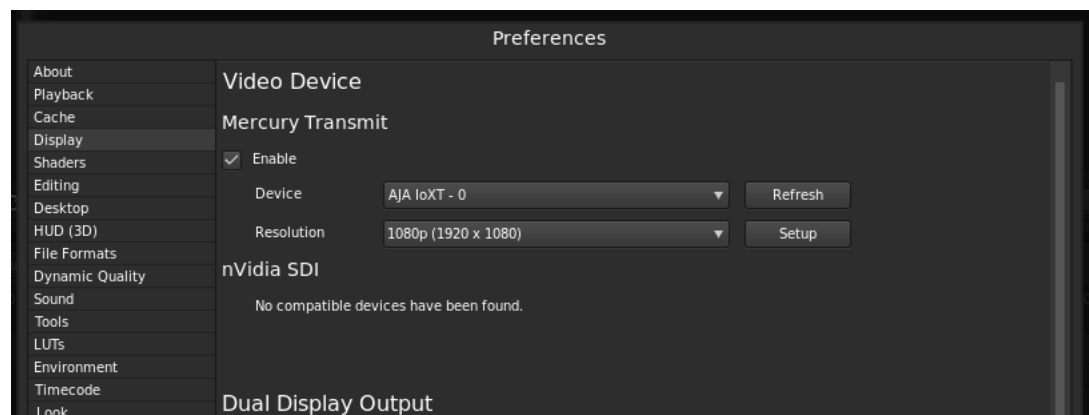
**NOTE:** *RGB-10 or ARGB-10 are the best options if they are available through your AJA device and appear in the menu.*

*Figure 20. AJA Control Panel Pixel Format Setting*



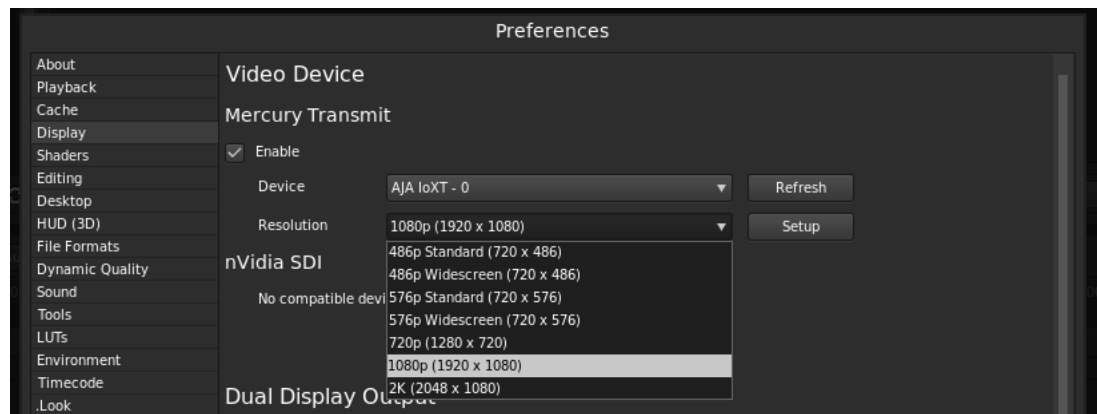
2. Go to the SpeedGrade *Preferences* screen>*Display* tab, and choose your AJA unit in the *Device* pulldown menu and check the *Enable* checkbox to the left.

*Figure 21. SpeedGrade Preferences, Display*



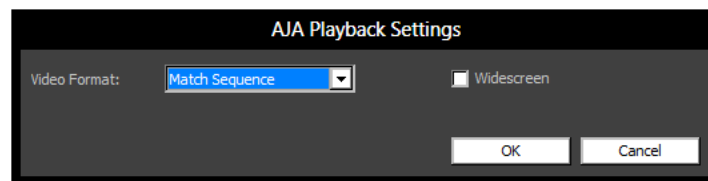
3. Select the resolution that you want the AJA transmit engine to use.

Figure 22. Resolution Pulldown Menu



4. Click the Setup button to verify that Match Sequence is selected (default).

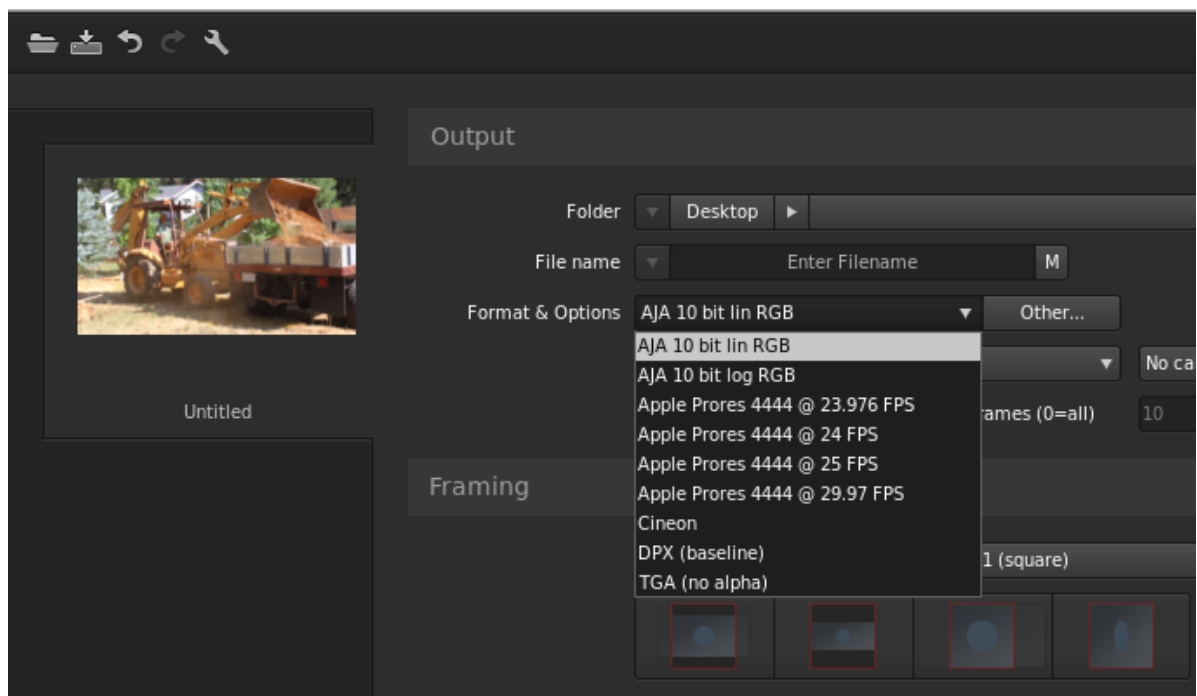
Figure 23. Match Sequence Setting Verification



## Using AJA Codecs for File Generation

In SpeedGrade, under the Render tab you can choose to use the AJA Quicktime codecs for file generation. Access the *Format & Options* pulldown menu to select the desired AJA Format.

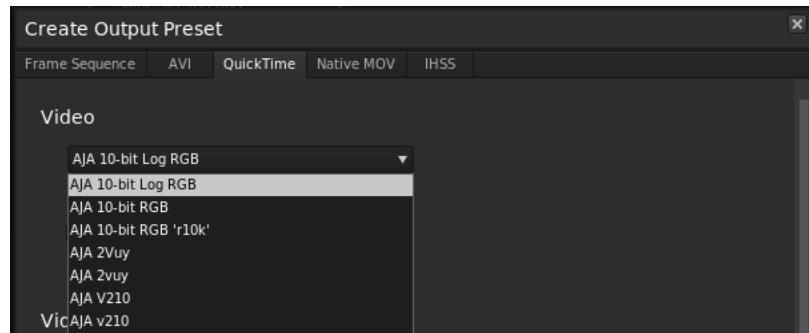
Figure 24. AJA Output Format & Options Menu





If you click on the *Other* button to the right of *Format and Options*, you will see the following screen where you can select an AJA video format, give it a Preset name, and save it to recall for any subsequent project.

*Figure 25. Create a SpeedGrade Output Preset*



# Software License Agreement

---

AJA VIDEO SYSTEMS, INC.

PLEASE READ THIS SOFTWARE LICENSE AGREEMENT ("LICENSE") BEFORE USING THE SOFTWARE. BY USING THE SOFTWARE, YOU ARE AGREEING TO BE BOUND BY THE TERMS OF THIS LICENSE. IF YOU ARE ACCESSING THE SOFTWARE ELECTRONICALLY, SIGNIFY YOUR AGREEMENT TO BE BOUND BY THE TERMS OF THIS LICENSE BY CLICKING THE "AGREE/ACCEPT" BUTTON. IF YOU DO NOT AGREE TO THE TERMS OF THIS LICENSE, RETURN THE AJA SOFTWARE TO THE PLACE WHERE YOU OBTAINED IT FOR A REFUND OR, IF THE SOFTWARE WAS ACCESSED ELECTRONICALLY, CLICK "DISAGREE/DECLINE".

IMPORTANT NOTE: To the extent this software may be used to reproduce materials, it is licensed to you only for reproduction of materials you are authorized or legally permitted to reproduce.

1. General. The software and documentation accompanying this License whether on disk, in read only memory, on any other media or in any other form (collectively the "AJA Software") are licensed, not sold, to you by AJA Video Systems, Inc. ("AJA") for use only under the terms of this License, and AJA reserves all rights not expressly granted to you. The rights granted herein are limited to AJA's and its licensors' intellectual property rights in the AJA Software and do not include any other patents or intellectual property rights. You own the media on which the AJA Software is recorded but AJA and/or AJA's licensor(s) retain ownership of the AJA Software itself. The rights granted under the terms of this License include any software upgrades that replace and/or supplement the original AJA Software product.

2. Permitted License Uses and Restrictions. This License allows you to install and use AJA Software on a computer. You may make copies of the AJA Software in machine-readable form for backup purposes only; provided that the backup copy must include all copyright or other proprietary notices contained on the original. Except as and only to the extent expressly permitted in this License or by applicable law, you may not copy, decompile, reverse engineer, disassemble, modify, or create derivative works of the AJA Software or any part thereof. THE AJA SOFTWARE IS NOT INTENDED FOR USE IN THE OPERATION OF NUCLEAR FACILITIES, AIRCRAFT NAVIGATION OR COMMUNICATION SYSTEMS, AIR TRAFFIC CONTROL SYSTEMS, LIFE SUPPORT MACHINES OR OTHER EQUIPMENT IN WHICH THE FAILURE OF THE AJA SOFTWARE COULD LEAD TO DEATH, PERSONAL INJURY, OR SEVERE PHYSICAL OR ENVIRONMENTAL DAMAGE.

3. Transfer. You may not rent, lease, lend or sublicense the AJA Software. You may, however, make a one-time permanent transfer of all of your license rights to the AJA Software to another party, provided that: (a) the transfer must include all of the AJA Software, including all its component parts, original media, printed materials and this License; (b) you do not retain any copies of the AJA Software, full or partial, including copies stored on a computer or other storage device; and (c) the party receiving the AJA Software reads and agrees to accept the terms and conditions of this License. NFR (Not for Resale) Copies: Notwithstanding other sections of this License, AJA Software labeled or otherwise provided to you on a promotional basis may only be used for demonstration, testing and evaluation purposes and may not be resold or transferred.

4. Termination. This License is effective until terminated. Your rights under this License will terminate automatically without notice from AJA if you fail to comply with any term(s) of this License. Upon the termination of this License, you shall cease all use of the AJA Software and destroy all copies, full or partial, of the AJA Software.

5. Limited Warranty on Media. AJA warrants the media on which the AJA Software is recorded and delivered by AJA to be free from defects in materials and workmanship under normal use for a period of ninety (90) days from the date of original retail purchase. Your exclusive remedy under this Section shall be, at AJA's option, a refund of the purchase price of the product containing the AJA Software or replacement of the AJA Software which is returned to AJA or an AJA authorized representative with a copy of the receipt. THIS LIMITED WARRANTY AND ANY IMPLIED WARRANTIES ON THE MEDIA INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, OF SATISFACTORY QUALITY, AND OF FITNESS FOR A PARTICULAR

PURPOSE, ARE LIMITED IN DURATION TO NINETY (90) DAYS FROM THE DATE OF ORIGINAL RETAIL PURCHASE. SOME JURISDICTIONS DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. THE LIMITED WARRANTY SET FORTH HEREIN IS THE ONLY WARRANTY MADE TO YOU AND IS PROVIDED IN LIEU OF ANY OTHER WARRANTIES (IF ANY) CREATED BY ANY DOCUMENTATION OR PACKAGING. THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY BY JURISDICTION.

6. Disclaimer of Warranties. YOU EXPRESSLY ACKNOWLEDGE AND AGREE THAT USE OF THE AJA SOFTWARE IS AT YOUR SOLE RISK AND THAT THE ENTIRE RISK AS TO SATISFACTORY QUALITY, PERFORMANCE, ACCURACY AND EFFORT IS WITH YOU. EXCEPT FOR THE LIMITED WARRANTY ON MEDIA SET FORTH ABOVE AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, THE AJA SOFTWARE IS PROVIDED "AS IS", WITH ALL FAULTS AND WITHOUT WARRANTY OF ANY KIND, AND AJA AND AJA'S LICENSORS (COLLECTIVELY REFERRED TO AS "AJA" FOR THE PURPOSES OF SECTIONS 6 AND 7) HEREBY DISCLAIM ALL WARRANTIES AND CONDITIONS WITH RESPECT TO THE AJA SOFTWARE, EITHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES AND/OR CONDITIONS OF MERCHANTABILITY, OF SATISFACTORY QUALITY, OF FITNESS FOR A PARTICULAR PURPOSE, OF ACCURACY, OF QUIET ENJOYMENT, AND NON-INFRINGEMENT OF THIRD PARTY RIGHTS. AJA DOES NOT WARRANT AGAINST INTERFERENCE WITH YOUR ENJOYMENT OF THE AJA SOFTWARE, THAT THE FUNCTIONS CONTAINED IN THE AJA SOFTWARE WILL MEET YOUR REQUIREMENTS, THAT THE OPERATION OF THE AJA SOFTWARE WILL BE UNINTERRUPTED OR ERROR-FREE, OR THAT DEFECTS IN THE AJA SOFTWARE WILL BE CORRECTED. NO ORAL OR WRITTEN INFORMATION OR ADVICE GIVEN BY AJA OR AN AJA AUTHORIZED REPRESENTATIVE SHALL CREATE A WARRANTY. SHOULD THE AJA SOFTWARE PROVE DEFECTIVE, YOU ASSUME THE ENTIRE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES OR LIMITATIONS ON APPLICABLE STATUTORY RIGHTS OF A CONSUMER, SO THE ABOVE EXCLUSION AND LIMITATIONS MAY NOT APPLY TO YOU.

7. Limitation of Liability. TO THE EXTENT NOT PROHIBITED BY LAW, IN NO EVENT SHALL AJA BE LIABLE FOR PERSONAL INJURY, OR ANY INCIDENTAL, SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES WHATSOEVER, INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF PROFITS, LOSS OF DATA, BUSINESS INTERRUPTION OR ANY OTHER COMMERCIAL DAMAGES OR LOSSES, ARISING OUT OF OR RELATED TO YOUR USE OR INABILITY TO USE THE AJA SOFTWARE, HOWEVER CAUSED, REGARDLESS OF THE THEORY OF LIABILITY (CONTRACT, TORT OR OTHERWISE) AND EVEN IF AJA HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. SOME JURISDICTIONS DO NOT ALLOW THE LIMITATION OF LIABILITY FOR PERSONAL INJURY, OR OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS LIMITATION MAY NOT APPLY TO YOU. In no event shall AJA's total liability to you for all damages (other than as may be required by applicable law in cases involving personal injury) exceed the amount of fifty dollars (\$50.00). The foregoing limitations will apply even if the above stated remedy fails of its essential purpose.

8. Export Law Assurances. You may not use or otherwise export or reexport the AJA Software except as authorized by United States law and the laws of the jurisdiction in which the AJA Software was obtained. In particular, but without limitation, the AJA Software may not be exported or re-exported (a) into (or to a national or resident of) any U.S. embargoed countries (currently Cuba, Iran, Iraq, Libya, North Korea, Sudan and Syria) or (b) to anyone on the U.S. Treasury Department's list of Specially Designated Nationals or the U.S. Department of Commerce Denied Person's List or Entity List. By using the AJA Software, you represent and warrant that you are not located in, under control of, or a national or resident of any such country or on any such list.

9. Government End Users. The AJA Software and related documentation are "Commercial Items", as that term is defined at 48 C.F.R. §2.101, consisting of "Commercial Computer Software" and "Commercial Computer Software Documentation", as such terms are used in 48 C.F.R. §12.212 or 48 C.F.R. §227.7202, as applicable. Consistent with 48 C.F.R. §12.212 or 48 C.F.R. §227.7202-1 through 227.7202-4, as applicable, the Commercial Computer Software and Commercial Computer Software Documentation are being licensed to U.S. Government end users (a) only as

Commercial Items and (b) with only those rights as are granted to all other end users pursuant to the terms and conditions herein. Unpublished-rights reserved under the copyright laws of the United States.

10. Controlling Law and Severability. This License will be governed by and construed in accordance with the laws of the State of California, as applied to agreements entered into and to be performed entirely within California between California residents. This License shall not be governed by the United Nations Convention on Contracts for the International Sale of Goods, the application of which is expressly excluded. If for any reason a court of competent jurisdiction finds any provision, or portion thereof, to be unenforceable, the remainder of this License shall continue in full force and effect.

11. Complete Agreement; Governing Language. This License constitutes the entire agreement between the parties with respect to the use of the AJA Software licensed hereunder and supersedes all prior or contemporaneous understandings regarding such subject matter. No amendment to or modification of this License will be binding unless in writing and signed by AJA. Any translation of this License is done for local requirements and in the event of a dispute between the English and any non-English versions, the English version of this License shall govern.

# Index

---

## Symbols

- 4K 13
- 12bit HDR Color Space 12

## A

- AJA Quicktime Codecs 24
- AJA Serial Control 6, 15
- AJA Support 2
- Anamorphic 8
- Assemble Export To Tape 16
- Audio
  - Discrete Mono 10
  - Stereo 10
- Audio Voice-over Setup 15
- A/V Sync 16

## B

- Buffer Mode 12, 20
  - Minimum 14
  - Standard 12, 20

## C

- Closed Captions 13

## D

- Deck Offset 16
- DPX Formats 9

## F

- Fractional Frames 8

## I

- Insert Export Testing 16
- Insert Export To Tape 16
- Installation 4

## L

- LTC 8

## M

- Mov Formats 9
- Mxf Formats 9

## P

- Pixel Format 23
- Playback Resolution 13
- Premiere Pro Capture Settings 8
- Preroll 7
- Preview 17
- Print To Tape 16

## R

- Realtime Editing 16
- RS-422 6

## S

- Software Download 4
- SpeedGrade Output Preset 25
- Stereo Audio 10

## T

- Technical Support 2
- Timecode Offset 7
- Timecode Source 10

## V

- VANC 14
- Video Offset 12, 20
- VITC 8
- Voice-Over Audio Setup 6

## W

- Widescreen SD 13, 20