AJA Desktop Software Release Notes - v17.0.1

Rocky Linux v17.0.1 Drivers and Software for KONA

Introduction

AJA Desktop Software

This unified software, driver and firmware package contains the necessities to use AJA video I/O hardware.

The following AJA applications are installed:
- AJA Control Panel v17.0.1:
  - For setup and control of your AJA KONA hardware, including firmware updates.
- AJA Control Room v17.0.1:
  - For high quality capture, monitoring, playback and output.
- AJA System Test v17.0.1:
  - For testing storage to determine if it will be possible to sustain frame and data rates for a chosen format(s).
- AJA NMOS v17.0.1:
  - Optional SMPTE ST 2110 application providing discovery, registration and control for AJA IP devices.

Operating System

- Note that, as of AJA Desktop Software release v17.0, Rocky Linux support replaces Redhat/CentOS support.
- This driver/software version is compatible with Rocky Linux versions 8.5 to 8.9 and 9.0 to 9.3 .
- Redhat/CentOS 8 was EOL as of Dec 2021.
  - AJA SDK v16.2 was the final official SDK version supporting Redhat/CentOS 8.
- Redhat/CentOS 7 support, while expected to work, may have unknown issues.
- Note that some new features may not work with older distributions.
- Before running this installer, uninstall all previous versions of AJA software:
  - sudo dnf remove ajantv2-dkms ajaretail
- Two packages that must be installed: DKMS driver and AJA Retail Software.
  - The DKMS Driver installer requires the following package:
    - sudo dnf install epel-release
  - The driver installer must run either in a root shell or with root permissions.
    - sudo dnf install ajantv2-dkms-17.0.1-273.noarch.rpm
    - Note: Use the exact package name here
- The AJA Retail software must run either in a root shell or with root permissions.
  - sudo dnf install ajaretail-ajaretail-17.0.1-273.x86_64.rpm
  - Note: Use the exact package name here

- For GPU accelerated desktop display, an OpenCL version 1.2 or greater capable GPU is required.
- Check the Known Issues, Limitations and Additional Details section near the end of this document.
- Note that on later versions of GNOME, the extension management has been moved to its own dedicated app called GNOME Extensions (gnome-extensions-app). Execute the following to perform the installation:
  - Rocky 8:
    - sudo dnf install gnome-shell-extension-appindicator gnome-tweaks
    - open GNOME Tweaks
    - click Extensions on the left list
    - turn on Kstatusnotifieritem/appindicator support
    - launch Control Panel

  - Rocky 9:
    - sudo dnf install gnome-shell-extension-appindicator gnome-extensions-app
    - log out of current user session (needed to do this for the Extensions app to see the newly installed extension)
    - log back in
    - open Extensions app
    - turn on AppIndicator and KStatusNotifierItem Support
    - launch Control Panel

Third Party Software

AJA KONA hardware is used by many software and systems manufacturers, who provide their own software for user installation. The links below provide a guide to software support AJA is aware of, with additional software support being added frequently. Please contact the appropriate software vendor for information on whether AJA software or drivers are required when using their application. AJA recommends the latest released versions of 3rd party software for best performance:

https://www.aja.com/compatibility/kona

- Autodesk - Flame and related products
- AJA KONA hardware also comes with out-of-the-box support for OBS Studio as follows:
  - **OBS Project** - OBS Studio 30, 29.1.3, 28.1.x, 27.2.x (note that there are known issue with 29.13 and 30 for KONA X)

In all cases, AJA recommends checking the system and OS requirements for 3rd party software packages with the software creator/vendor directly, to ensure a supportable configuration.

Relevant Products

The following products benefit from this update:

- KONA X
- KONA 5
- KONA 4
- KONA 1
- KONA HDMI
- KONA LHi
- KONA LHe Plus

Recommendations in v17.0.1

- Note that AJA Desktop Software v17.x still works with EOL products, including IoXT, Io4K, KONA IP, IoIP, T-TAP, DNxIP. However, releases after v16.2 were no longer qualified with end-of-life products. What this means is that issues affecting these EOL products may arise that are not caught during the testing phase for new software releases, and these issues may not be fixed. In some cases, AJA may elect to fix issues that affect EOL products, but that cannot be guaranteed.

Fixes and Improvements in v17.0.1

Note: Items below are identified against the main AJA products affected.
These same issues may have also affected other AJA products that are not specifically called out.

- Fixed an issue affecting the AJA Io 4K Plus in which RGBA ANC VANC extraction was broken, and impacted workflows in which UHD/4K captures had corrupted VANC ancillary data.
- Fixed an issue affecting the AJA KONA 1 and possibly other AJA capture cards, in which system audio was being written to an improper memory address.
- Fixed an issue that was causing AJA Control Room captures of SD Line 21 Closed Captions to not show up on the AJA Io 4K Plus, KONA 5 and KONA X.
- Fixed an issue that caused SDI output 4 on the AJA Io X3 to not pass SD 525i and 625i video.
- Fixed an issue that was affecting AJA KONA X in which the card would not properly accept 2K Level B video.
- Fixed an issue that was affecting the AJA KONA X in which the HDMI input was not detecting SD 525i and 625i video.
- Fixed an issue in AJA Control Room that was causing corrupted video output when a keyer was used.
- Fixed an issue affecting AJA Control Room in which the application would send malformed or corrupted video when uncommon frame sizes (such as 4096x2048, 3200x1824, 1280x640, etc) were used.

- Fixed an issue affecting AJA Control Room in which incoming video would continuously flash in the viewer throughout the capture session when capturing DPX 8b RGBA video.
- Fixed an issue that was preventing HDMI input to be detected with the AJA KONA X / XM when used with Linux.

Known Issues, Limitations and Additional Details

General

- "System Sleep" and "Hibernation" should not be used with KONA cards. All sleep and power efficiency modes should be disabled in the operating system settings.

Known Issues

- AJA Control Room may crash when switching clips during playback of clips that cause frame drops.
- AJA Control Panel RGB Range dropdown selection is not always accurate to what is being output on Frame Buffer or SDI output.
- AJA Control Room fails to insert a standard color space when writing DNxHR.
- AJA Control Panel outputs BGRA test pattern on the wire with a zero alpha channel resulting in the Alpha channel component being set to zero.

12-bit RGB support (4K/UHD)

- For working with 4K/UHD RGB 4:4:4 12-bit, use KONA 5 with the "KONA 5 (12bit)" firmware for the greatest flexibility via 12G-SDI and HDMI 2.0. 12-bit RGB functionality also exists with T-TAP Pro, Io 4K Plus and Avid DNxIV, but to a lesser extent. 12-bit RGB via HDMI from KONA or Io will deliver 12-bit to the downstream (sink) device provided it is capable, otherwise the bit depth can be down-rated based on the capabilities of the monitor or other sink (communicated to KONA via sink device's EDID):
  - In AJA Control Panel "Auto Detect" will put out the signal that works with the receiving monitor.
  - In AJA Control Panel "Auto-Set" will use what the Frame Buffer is set to.

AV Sync

- For highest accuracy, always use the Video and Audio coming from your AJA device for monitoring. Using an AJA device for Video monitoring, but using the host for Audio monitoring may result in AV sync or drift issues. If these issues arise it is a function of your host system/OS, and AJA recommends monitoring Audio via AJA device.

KONA 5

- Note that recently purchased (2023) KONA 5 cards will need to be used with AJA Desktop software version 16.2.6 or later.
- KONA 5 bitfile

- There are three KONA 5 bitfiles, each tuned to harness the capabilities of the KONA 5 hardware in different ways'"KONA 5", "KONA 5 (12bit) and "KONA 5 (8K)".
- "KONA 5" bitfile supports:
  - Up to 4K I/O YCbCr & RGB (including Color Space Conversion)
  - AJA Control Panel (including AJA Audio-Mixer)
  - AJA Control Room
  - Video Mixer/Keyer up to HD 60p
- "KONA 5 (12bit)" bitfile supports:
  - Up to 4K I/O RGB (including 12-bit LUT support)
  - AJA Control Panel (including AJA Audio-Mixer)
  - AJA Control Room
  - Video Mixer/Keyer up to HD 60p
- "KONA 5 (8K)" bitfile supports:
  - Up to 8K I/O YCbCr *or* RGB (no Color Space Conversion)
  - Full 2SI path for the 8K raster (in additional to a Square Division presentation of 4x 4K 2SI)
  - 8K to 4K subsample via HDMI 2.0 out
  - AJA Control Panel (not including AJA Audio-Mixer)
  - AJA Control Room
  - Video Mixer/Keyer not supported

KONA HDMI

- Audio channel configurations differ between Ports 1 and 2, vs. Ports 3 and 4.
  - AJA Control Panel has an audio channel swap feature to ensure compatibility.
- Some SD sources do not work correctly when using Ports 1 and 2. Please use Ports 3 and/or 4 for SD ingest.
- Occasionally, HDMI sources do not work correctly. Please contact AJA Support to report this issue if you encounter it.

KONA LHi

- Card does not support EE pass-through of RP188 LTC.
- When using level A 1080p50/59.94/60 YUV input to an RGB frame buffer for capture, the image is scrambled or non-working for various NLEs. Note that Level B works correctly with all supported NLEs.
- KONA LHi has only one audio system and is limited to capturing or outputting one channel at a time with audio. In applications where multiple video inputs and outputs can be used at the same time, the SDI input will have audio and the HDMI input will not. Additionally, if both input and output are used simultaneously and independently (as opposed to output passed through from input) only one channel will have audio.

AJA Control Panel

- AJA Control Panel/Services may surface incorrect routing after a Dynamic Reconfiguration with KONA 5 followed by a restart.
  - Workaround:

■ Ensure that Fast Boot is disabled via system BIOS.

■ Apply KONA 5 Dynamic Reconfiguration for 4K Bitfile, and this will fix the issue.

AJA Control Room

● H.264 and H.265 capture and playback introduced as of v16.2:
  ○ Create or playback HD media with Timecode, Closed Captioning and HDR metadata support.
    ■ YCbCr 4:2:0, 8-bit video.
    ■ AAC audio encoding for multiple tracks of Stereo and/or Mono.
  ○ All H.264 and H.265 encoding/decoding is courtesy of hardware acceleration on the host system.

  ○ For Linux based systems, Control Room will seek hardware resources in the following order:
    ■ NVIDIA
    ■ Intel VAAPI
    ■ intel (QSV)
  ○ In each case, if the resource being sought is not found, the next resource possibility will be tried. If none of these resources are located on the system, then capture/playback of H.264 and H.265 will not be possible.
  ○ Notes:
    ■ You must be using the latest NVIDIA, AMD or Intel drivers. In some situations you may need to disable using a resource in order to update its driver version, and then re-enable.
    ■ H.264 and H.265 can behave differently as compared with uncompressed media or iframe codecs, especially during scrubbing and looping operations. This is to be expected with Long-GOP media.
    ■ Interlaced material will be captured as progressive, this is as designed.
● When the Deep Buffer feature is being used for playback protection, note that changes to settings may take some time to be reflected. For example, muting an audio channel can take many seconds between the mouse click and the desired result. This is normal when using the Deep Buffer feature.
● MXF OP-1A capture in AJA Control Room does not support the following formats: 720p60, 1080i30, 1080p30, 1080p60.

Technical Support

AJA Technical Support is free and available to help you answer questions or resolve issues with any of your AJA products.

To contact AJA Technical Support:

Email: support@aja.com

Phone: +1-530-271-3190

Fax: +1-530-274-9442

Web: https://www.aja.com/support/contact

Shipping: 180 Litton Dr. Grass Valley, CA 95945 USA