AJA Developer Program
AJA Developer Program

AJA has a long history of building high quality, reliable video devices for the video industry. The AJA Developer Program provides you with access to that pedigree for integration into your own products.

Many of AJA’s retail products are available for developer use. Whether you need to incorporate conversion technology into a prebuilt package using one of our full range of Mini-Converters, or integrate a KONA video I/O card into a custom setup, you have access to all the power and quality of AJA.

For more specific applications, the Corvid family of products uses the same technology as the retail cards but provides alternate form factors that allow you to further customize your configuration.

From single channel I/O to multiple simultaneous I/O streams, broadcast IP, multichannel HDMI capture, optical fiber, or 12G-SDI I/O, there’s a Developer product to fit every need.

AJA’s comprehensive SDK and development tools will help you integrate into any environment with support for Windows®, macOS® and Linux®. As a developer partner, you will have direct access to AJA’s technical support team, which is known throughout the industry for fast and effective response.

Working Together

AJA’s Developer program allows partner companies to incorporate AJA products into their systems. By utilizing existing, proven video I/O devices, partners leverage AJA’s expertise to develop and support these technologies, saving money and getting their integrated products to market more quickly.

AJA technology is at the core of many great products. Superior quality and a straightforward development kit make AJA’s Developer products easy to integrate into any Windows, macOS or Linux environment.
AJA Developer Program

Products at a Glance

**Corvid 88**
8-lane PCIe 2.0 card for 8/10-bit YCbCr or 12-bit RGB with simultaneous 4K in and out or 8 independent mixed channel I/O

*Corvid 88 models available:*
- Corvid 88 Low Profile or Standard
- Corvid 88 Fanless

**Corvid 44 and 44 BNC**
8-lane PCIe 2.0 for 8/10-bit YCbCr or 12-bit RGB with 4 independent mixed channel I/O or single 4K in/out

*Corvid 44 models available:*
- Corvid 44 Low Profile or Standard
- Corvid 44 Fanless
- Corvid 44 BNC Full-sized BNC Standard

**Corvid 24**
4-lane PCIe 2.0 8/10-bit with a single 4K or 4 independent channels I/O digital 3G-SDI I/O, bypass relays for continuation of SDI input signal to SDI output in event of power failure

**Corvid 22**
4-lane PCIe 2.0 for 8/10-bit uncompressed with 2 independent channels I/O digital 3G-SDI I/O

**Corvid HEVC**
4K and multi-channel, 8-lane PCIe 2.0 HEVC encoding card supporting up to 4K 60p video input as well as file to file encoding

**Corvid HB-R**
HDBaseT integration of video up to 4K/60p, 8-Channel embedded audio, power and RS-232 control plus HDMI output on a 4-lane PCIe 2.0 card
AJA Developer Program

Products at a Glance

**KONA IP**

8-lane PCIe 2.0 I/O pipeline for IP workflows to 10 GigE supporting uncompressed video up to 2K/HD 50/60 fps with support for SMPTE ST 2110, SMPTE 2022-6/7 and VSF TR-01 JPEG 2000. HDR workflows supported via HDR10, HLG, HDR10+ and Dolby Vision tunneling and signaling.

**KONA 5**

Harness the power of this 8-lane PCIe Gen 3.0 card and take command with 12G-SDI I/O and HDMI 2.0 Output. With support for up to four simultaneous 12G-SDI 4K inputs or outputs, together with all of the features you have come to love and expect from AJA, this is a card to warm any developers heart. Up to 4K p60 – YUV 10-bit 4:2:2, or 4K p30 – RGB 12-bit 4:4:4. HDR workflows supported via HDR10, HLG, HDR10+ and Dolby* Vision tunneling and signaling.

**KONA 4**

Powerful High Frame Rate capabilities up to 4K 50/60p and software integration for editorial, graphics, effects and live streaming. HDR workflows supported via HDR10, HLG, HDR10+ and Dolby* Vision tunneling and signaling.

**KONA HDMI**

8-lane PCIe 2.0 dedicated multi-channel HDMI capture card, with support for dual channel capture up to 4K/UltraHD (1x60p, 1x30p) or four channel capture up to 2K/HD 60p and other combinations. HDMI Ports 1 and 2 also support up to 4K HDR gameplay period.

**KONA LHi**

Multi-format analog and digital I/O with 3G-SDI, HDMI and up, down, cross-conversion for HD/SD workflows

**KONA LHe Plus**

HD and SD analog and digital I/O with HD to SD down conversion

**KONA 1**

2-lane PCIe 2.0 3G-SDI capture and playback with 16-Channels of embedded audio, LTC, and support for up to 2K/HD 60p.

**KONA 1 models available:**

- Standard or Low Profile
AJA Developer Program

Products at a Glance

**Io* IP**

Io IP Thunderbolt™ 3 I/O for IP workflows to 10 GigE supporting uncompressed video up to 2K/HD 50/60 fps with SMPTE 2022-6/7 support. HDR workflows supported via HDR10, HLG, HDR10+ and Dolby Vision tunneling and signaling.

**Io 4K**

Powerful High Frame Rate capabilities up to 4K 50/60p and software integration for editorial, graphics, live streaming across Thunderbolt 2. HDR workflows supported via HDR10, HLG, HDR10+ and Dolby Vision tunneling and signaling.

**Io 4K Plus**

Io 4K Plus Thunderbolt 3 enabled I/O for 12G/6G/3G-SDI, HDMI 2.0, multichannel embedded and analog audio. Support for 4K High Frame Rate, Deep Color and HDR workflows, with HDR10, HLG, HDR10+ and Dolby Vision tunneling and signaling.

**Io XT**

Professional 3G-SDI and HDMI I/O for HD/SD workflows across Thunderbolt
Corvid 88
High Density Multi-Stream, Multi-Format PCIe 2.0 I/O Card

Corvid 88

Corvid 88 is designed for Development Partner applications that require multiple simultaneous input and output streams. Corvid 44 provides four independent BNC connections while Corvid 88 expands that to a total of eight BNC connections on a single card. Each BNC connection can be set programmatically as either an input or output and each can support a different video format, provided all formats use the same clock timing. This allows for maximum flexibility in applications where high density I/O is required, such as playout or ingest servers. Connections can also be linked together to support Dual Link or 4K/UltraHD formats.

Features at a Glance

- Up to eight independent* channels 3G-SDI I/O
- All 4K/UltraHD/2K/HD/SD video formats
- 3G-SDI input/output for High Frame Rate (HFR) support
- 8- or 10-bit YCbCr and 12-bit RGB frame buffer formats
- 4 independent Mixer/Keyer widgets.
- 4 independent 16-Ch 48 kHz SDI embedded audio I/O engines
- 8-lane PCIe 2.0
- Analog Color Black or HD Tri-Level Sync
- Three year warranty

* Channels must use the same master clock. e.g., 29.97 and 59.94.

Processing

- 8 – Frame stores (In or Out)
- 8 – Color space converters
- 4 – Mixer/Keyer widgets
- 8 – 1D LUTs
- 8 – Dual Link in
- 8 – Dual Link out
- 8 – 16-Channel embedded audio engines

$2,795 US MSRP*
Corvid 88 Tech Specs

**Video Formats**
- (4K) 4096 x 2160p 23.98, 24, 25, 29.97, 30, 48 A/B, 50 A/B, 59.94 A/B, 60 A/B
- (UltraHD) 3840 x 2160p 23.98, 24, 25, 29.97, 30, 48 A/B, 50 A/B, 59.94 A/B, 60 A/B
- (2K) 2048 x 1080p 23.98, 24, 25, 29.97, 30, 48 A/B, 50 A/B, 59.94 A/B, 60 A/B
- (2K) 2048 x 1080PsF 23.98, 24, 25, 29.97, 30, 48 A/B, 50 A/B, 59.94 A/B, 60 A/B
- (HD) 1080i 50, 59.94, 60
- (HD) 1080PsF 23.98, 24, 25, 29.97, 30
- (HD) 1080p 23.98, 24, 25, 29.97, 30, 30 A/B, 59.94 A/B, 60 A/B
- (SD) 625i 50
- (SD) 525i 59.94

**Video Input and / or Output Digital**
- 8x 3G-SDI BNC

**Audio Input Digital**
- 16-Channel 24-bit SDI embedded, 48 kHz synchronous

**Audio Output Digital**
- 16-Channel 24-bit SDI embedded, 48 kHz synchronous

**Size (w x d x h)**
- 0.88” x 7.25” x 4.88” (22.36 × 184.15 × 123.96 mm)

**Weight**
- 0.4 lb (0.2 kg)

**Power**
- 21W typical, 23W maximum

**Environment**
- Safe Operating Temperature: 0 to 40 C (32 to 104 F)
- Safe Storage Temperature (Power OFF): -40 to 70 C (-40 to 158 F)
- Operating Relative Humidity: 10-90% non-condensing
- Operating Altitude: <3,000 meters (<10,000 feet)
- Airflow across the board for fanless models
  - 100LFM @25deg C or lower, computer chassis must have vented opening to exterior, immediately adjacent to PCIe shield (heatsink side), to permit 100LFM across heatsink
Corvid 44

Flexible Multi-Format I/O

Increase your video and audio I/O capacity with Corvid 44. Configure each SDI connection individually as input or output and mix formats for up to 4 HD or SD channels on a single card. As demand rises for higher resolutions, combine SDI connections into a single 4K/UltraHD channel, allowing incredible flexibility and futureproofing.

$1,895 US MSRP*

Features at a Glance

- Up to four independent* bidirectional channels
- 3G-SDI input/output for High Frame Rate (HFR) support
- All 4K/UltraHD/2K/HD/SD video formats
- 8 or 10-bit YCbCr and 12-bit RGB frame buffer formats
- 2 independent Mixer/Keyer widgets
- 4 independent 16-Ch 48 kHz SDI embedded audio I/O engines
- Switchable LTC/Reference input connection
- Analog Color Black or HD Tri-level Sync
- 8-lane PCI 2.0 interface
- Full height and half height models
- RS-422 on internal header or bracket (on full height model)
- LTC input on internal header
- Three Year warranty

* Channels must use the same master clock, e.g., 29.97 and 59.94

Processing

- 4 – Frame stores (In or Out)
- 4 – Color space converters
- 2 – Mixer/Keyer widgets
- 4 – 1D LUTs
- 4 – Dual Link in
- 4 – Dual Link out
- 4 – 16-Channel embedded audio engines

* Pricing is for US only. International pricing will vary. Please contact a local AJA Reseller for pricing details.
Corvid 44 Tech Specs

**Video Formats**
- (4K) 4096 x 2160p 23.98, 24, 25, 29.97, 30, 48 A/B, 50 A/B, 59.94 A/B, 60 A/B
- (UltraHD) 3840 x 2160p 23.98, 24, 25, 29.97, 30, 48 A/B, 50 A/B, 59.94 A/B, 60 A/B
- (2K) 2048 x 1080p 23.98, 24, 25, 29.97, 30, 48 A/B, 50 A/B, 59.94 A/B, 60 A/B
- (2K) 2048 x 1080PsF 23.98, 24, 25, 29.97, 30, 48 A/B, 50 A/B, 59.94 A/B, 60 A/B
- (HD) 1080i 50, 59.94, 60
- (HD) 1080PsF 23.98, 24, 25, 29.97, 30
- (HD) 1080p 23.98, 24, 25, 29.97, 30, 50 A/B, 59.94 A/B, 60 A/B
- (SD) 720p 50, 50.94, 60
- (SD) 525i 50
- (SD) 525i 59.94

**Video Input and / or Output Digital**
- 4x 3G-SDI BNC

**Audio Input Digital**
- 16-Channel 24-bit SDI embedded, 48 kHz synchronous

**Audio Output Digital**
- 16-Channel 24-bit SDI embedded, 48 kHz synchronous

**Size (w x d x h)**
- 0.88” x 7.25” x 4.88” (22.36 × 184.15 × 123.96 mm)

**Weight**
- 0.4 lb (0.2 kg)

**Power**
- 17W typical, 19W maximum

**Environment**
- Safe Operating Temperature: 0 to 40 C (32 to 104 F)
- Safe Storage Temperature (Power OFF): -40 to 70 C (-40 to 158 F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)
- Airflow across the board for fanless models
  - 100LFM @25deg C or lower, computer chassis must have vented opening to exterior, immediately adjacent to PCIe shield (heatsink side), to permit 100LFM across heatsink

Corvid 44 BNC

Flexible Multi-Format I/O

Increase your video and audio I/O capacity with Corvid 44 BNC, now available with full-size BNC connections. Configure each SDI connection individually as input or output and mix formats for up to 4 HD or SD channels on a single card. As demand rises for higher resolutions, combine SDI connections into a single 4K/UltraHD channel, allowing incredible flexibility and futureproofing.

Features at a Glance

- 4x 3G-SDI full-size BNC connectors
- Up to four independent* bidirectional channels
- 3G-SDI input/output for High Frame Rate (HFR) support
- All 4K/UltraHD/2K/HD/SD video formats
- 8 or 10-bit YCbCr and 12-bit RGB frame buffer formats
- 2 independent Mixer/Keyer widgets.
- 4 independent 16-Ch 48 kHz SDI embedded audio I/O engines
- Switchable LTC/Reference input connection
- Analog Color Black or HD Tri-level Sync
- 8-lane PCI 2.0 interface
- RS-422 on internal header or bracket (on full height model)
- LTC input on internal header
- Three year warranty

* Channels must use the same master clock. e.g., 29.97 and 59.94

Processing

- 4 – Frame stores (In or Out)
- 4 – Color space converters
- 2 – Mixer/Keyer widgets
- 4 – 1D LUTs
- 4 – Dual Link-in
- 4 – Dual Link-out
- 4 – 16-Channel embedded audio engines

$1,895 US MSRP*
Corvid 44 BNC Tech Specs

**Video Formats**
- (4K) 4096 x 2160p 23.98, 24, 25, 29.97, 30, 48 A/B, 50 A/B, 59.94 A/B, 60 A/B
- (UltraHD) 3840 x 2160p 23.98, 24, 25, 29.97, 30, 48 A/B, 50 A/B, 59.94 A/B, 60 A/B
- (2K) 2048 x 1080p 23.98, 24, 25, 29.97, 30, 48 A/B, 50 A/B, 59.94 A/B, 60 A/B
- (2K) 2048 x 1080PsF 23.98, 24, 25, 29.97, 30, 48 A/B, 50 A/B, 59.94 A/B, 60 A/B
- (HD) 1080p 23.98, 24, 25, 29.97, 30, 48 A/B, 59.94 A/B, 60 A/B
- (HD) 1080PsF 23.98, 24, 25, 29.97, 30
- (HD) 1080i 50, 59.94, 60
- (SD) 720p 50, 59.94, 60
- (SD) 525i 50
- (SD) 525i 59.94

**Video Input and Output Digital**
- 4x 3G-SDI BNC

**Audio Input Digital**
- 16-Channel 24-bit SDI embedded, 48 kHz synchronous

**Audio Output Digital**
- 16-Channel 24-bit SDI embedded, 48 kHz synchronous

**Size (w x d x h)**
- 0.73” x 6.6” x 2.72” (18.54 x 167.64 x 69.09 mm)

**Weight**
- 0.4 lb (0.2 kg)

**Power**
- 17 watts typical, 19 watts max

**Environment**
- Safe Operating Temperature: 0 to 40 C (32 to 104 F)
- Safe Storage Temperature (Power OFF): -40 to 60 C (-40 to 140 F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)
- Airflow across the board for fanless models
  - 100LFM @25deg C or lower, computer chassis must have vented opening to exterior, immediately adjacent to PCIe shield (heatsink side), to permit 100LFM across heatsink

Corvid 24

4-lane PCIe 2.0 Card for 8 or 10-bit with a Single 4K or 4 Independent Channels I/O Digital 3G-SDI I/O

Features at a Glance

- Bypass Relay for continuation of SDI input signal to SDI output in event of power failure
- 4-lane PCIe 2.0 card
- 4 independent* channels 3G-SDI I/O
- All 4K/UltraHD/2K/HD/SD video formats
- 3G-SDI Input/Output for 1080p50/60 and Video/Key (Dual Link not supported)
- 8 or 10-bit YCbCr and RGB frame buffer formats
- Failover bypass relays with Watchdog timers (2in/2out mode only)
- 2 Mixer/Keyer widgets. This allows output of two simultaneous video/key pairs over 3G-SDI. It also allows for up to two simultaneous downstream keyers.
- 4 independent 16-Ch 48 kHz SDI embedded audio I/O engines
- Analog Color Black or HD Tri-level Sync
- Three year warranty

* Channels must use the same master clock, e.g., 29.97 and 59.94

$1,895 US MSRP*
Corvid 24 Tech Specs

Video Formats

- (4K) 4096 x 2160p 23.98, 24, 25
- (UltraHD) 3840 x 2160p 23.98, 24, 25
- (2K) 2048 x 1080p 23.98, 24, 25
- (2K) 2048 x 1080Psf 23.98, 24, 25
- (HD) 1080i 50, 59.94, 60
- (HD) 1080P 23.98, 24, 25, 29.97, 30
- (HD) 1080Pf 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (HD) 720p 50, 59.94, 60
- (SD) 525i 59.94
- (SD) 625i 50

Video Input Digital

- 3G-SDI
- SMPTE-259/292/296/424

Video Output Digital

- 3G-SDI
- SMPTE-259/292/296/424

Audio Input Digital

- 16-Channel 24-bit SDI embedded, 48 kHz synchronous

Audio Output Digital

- 16 Channel 24-bit SDI embedded, 48 kHz synchronous

Reference

- Analog Color Black or HD Tri-level sync

Size (w x d x h)

- 0.71" x 6.57" x 3.86" (18.04 x 166.88 x 98.05 mm)

Power

- 12w typical, 15w maximum

Environment

- Safe Operating Temperature: 0 to 40°C (32 to 104°F)
- Safe Storage Temperature (Power OFF): -40 to 70°C (-40 to 158°F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)
Corvid 22

4-lane PCIe 2.0 Card for 8 or 10-bit Uncompressed w/2 Independent Channels I/O Digital 3G-SDI I/O

Features at a Glance

- 4-lane PCIe 2.0 Card
- 2-Channels 3G-SDI Input, 2-Channels 3G-SDI Output
- All 2K/HD/SD Video Formats
- 3G-SDI Input/Output for 1080p50/60 and Video/Key (Dual Link not supported)
- 8 or 10-bit YCbCr and RGB frame buffer formats
- 2 Mix/Keyer widgets. This allows output of two simultaneous video/key pairs over 3G-SDI. It also allows for up to two simultaneous downstream keyers.
- 2 Independent 16-Ch 48 kHz SDI embedded audio I/O engines
- Analog Color Black or HD Tri-level Sync
- Three year warranty

*Channels must use the same master clock. e.g., 29.97 and 59.94

Corvid 22

Get multiple I/O Channels without taking up a lot of space. Corvid 22 provides high performance, dual channel video and embedded 24-bit audio I/O in a single PCIe card. Two completely independent channels* handle resolutions up to 2K and high frame rate 1080p as well. With separate LTC and RS-422 machine control per channel and support for multiple operating systems, Corvid 22 gives you all the performance and capabilities you need.

*Channels must all have the same frame rate, video standard and frame geometry.

$1,395 US MSRP*

www.aja.com

*Pricing is for US only. International pricing will vary. Please contact a local AJA Reseller for pricing details.
Corvid 22 Tech Specs

Video Formats
- (2K) 2048 x 1080p 23.98, 24, 25
- (2K) 2048 x 1080PsF 23.98, 24, 25
- (HD) 1080i 50, 59.94, 60
- (HD) 1080PsF 23.98, 24, 25, 29.97, 30
- (HD) 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (SD) 720p 50, 59.94, 60
- (SD) 525i 50
- (SD) 525i 59.94

Video Input Digital
- 3G-SDI, SMPTE-259/292/296/424

Video Output Digital
- 3G-SDI, SMPTE-259/292/296/424

Audio Input Digital
- 16-Channel 24-bit SDI embedded, 48 kHz synchronous

Audio Output Digital
- 16-Channel 24-bit SDI embedded, 48 kHz synchronous

Timecode
- Independent LTC In/Out

Machine Code
- Independent RS-422

Size (w x d x h)
- 0.708” x 6.57” x 3.86” (17.99 x 166.88 x 98.05 mm)

Power
- 12w typical, 15w maximum

Environment
- Safe Operating Temperature: 0 to 40 degrees C (32 to 104 degrees F)
- Safe Storage Temperature (Power OFF): -40 to 70 degrees C (-40 to 158 degrees F)
- Operating Relative Humidity: 10-90% non-condensing
- Operating Altitude: <3,000 meters (<10,000 feet)

Reference
- Analog Color Black or HD Tri-level sync

Output Sitter (Timing / Alignment)
- (3G) .45 UI/17 UI
- (HD) .21 UI/08 UI
- (SD) .2 UI/2 UI

For full product specifications visit www.aja.com/en/products/developer/corvid22#techspecs
Corvid HEVC

**4K and Multi-Channel HEVC Encoding**

**Workflows**

- 4K/UltraHD Encoding
- Multi-Channel Independent Encoding
- File to File Encoding

**Features at a Glance**

- Real time 4K/UltraHD/HD/SD HEVC hardware based encoding
- 8-lane PCIe 2.0 full height card
- Low power consumption
- Supports HEVC Main and Main10 profiles
- Supports 4:2:0 and 4:2:2 at 8- or 10-bits
- Supports bit rates for streaming and contribution quality
- Supported HEVC streams:
  - Single 4K/UltraHD stream up to 60 fps
  - As many as 4 streams at 1080p HD up to 60 fps
- 4x 3G-SDI inputs
- 1x LTC input
- 16-Channel embedded audio support per stream
- ANC data support
- Supports file to file encoding
- Built on AJA’s powerful cross-platform NTV2 SDK for Windows and Linux
- AJA’s extensive Developer Program partner support

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Corvid HEVC is an 8-lane PCIe 2.0 video encoder card providing real time, low latency HEVC encoding at 4K, 1080p HD and lower resolutions. Development partners can use AJA’s powerful SDK to integrate Corvid HEVC directly into their Windows and Linux applications using a flexible API for a variety of use cases.

**$4,995 US MSRP***
### Corvid HEVC Tech Specs

#### Video Formats
- **4K (Quadrant or Sample Interleave)**
  - (4K) 4096 x 2160p 23.98, 24, 25, 29.97, 30, 48 A/B, 50 A/B, 59.94 A/B
  - (UltraHD) 3840 x 2160p 23.98, 24, 25, 29.97, 30, 48 A/B, 50 A/B, 59.94 A/B
- **2K (Cropped to 1920 before encoder)**
  - (2K) 2048 x 1080p 23.98, 24, 25, 29.97, 30, 48 A/B, 50 A/B, 59.94 A/B, 60 A/B
  - (2K) 2048 x 1080PsF 23.98, 24, 25, 29.97, 30
- **HD**
  - (HD) 1080p 23.98, 24, 25, 29.97, 30, 50 A/B, 59.94 A/B, 60 A/B
  - (HD) 1080PsF 23.98, 24, 25, 29.97, 30
  - (HD) 1080i 50, 59.94, 60
  - (HD) 720p 50, 50.94, 60
- **SD**
  - (SD) 625i 50
  - (SD) 525i 59.94

**NOTE:** These formats are recognized by the SDI inputs of Corvid HEVC.

#### File Formats
- In addition to the Video Formats, these formats are supported for file-based encoding but are not recognized as SDI inputs
  - (HD) 720p 24, 25, 29.97
  - (SD) 625p 50
  - (SD) 525i 60
  - (SD) 525p 59.94, 60

#### Video Input Digital
- 4x 3G-SDI BNC

#### Audio Input Digital
- 16-Channel 24-bit SDI embedded, 48 kHz synchronous
- **Compression**
  - HEVC
- **HEVC Profile**
  - Main/Main 10
- **HEVC Tier**
  - Main/High
- **HEVC Level**
  - 1.0/2.0/2.1/3.0/3.1/4.0/4.1/5.0/5.1
- **Bitrate 4K Format**
  - 3 Mbps - 128 Mbps
- **Bit Depth**
  - 8 or 10-bit
- **Chroma Sampling**
  - 4:2:2/4:2:0

#### Bit Rate Control
- CBR/VBR

#### Video Input Digital
- 4x 3G-SDI BNC

#### Audio Input Digital
- 16-Channel 24-bit SDI embedded, 48 kHz synchronous
- **Compression**
  - HEVC
- **HEVC Profile**
  - Main/Main 10
- **HEVC Tier**
  - Main/High
- **HEVC Level**
  - 1.0/2.0/2.1/3.0/3.1/4.0/4.1/5.0/5.1
- **Bitrate 4K Format**
  - 3 Mbps - 128 Mbps
- **Bit Depth**
  - 8 or 10-bit
- **Chroma Sampling**
  - 4:2:2/4:2:0

#### File Formats
- In addition to the Video Formats, these formats are supported for file-based encoding but are not recognized as SDI inputs
  - (HD) 720p 24, 25, 29.97
  - (SD) 625p 50
  - (SD) 525i 60
  - (SD) 525p 59.94, 60

#### Size (w x d x h)
- 0.88” x 7.5” x 5.0” (22.36 x 190.50 x 127.00 mm)

#### Weight
- 0.9 lb (0.5 kg)

#### Power
- Requires either PCIe bus power via graphics slot or ATX 6-pin from computer power supply

#### Environment
- Safe Operating Temperature: 0 to 40 C (32 to 104 F)
- Safe Storage Temperature (Power OFF): -40 to 70 C (-40 to 158 F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)
Corvid HB-R

4-lane PCIe 2.0 Card for HDBaseT Integration of 4K/UltraHD/HD/SD Video, Audio, Power, and RS-232 Control

Features at a glance

- HDBaseT receiver
- Video, audio, RS-232, and power over a single Cat 5e/6 cable
- Supports up to 4K/60p 8-bit 4:2:0 video
- 8-Channel HDMI embedded audio I/O
- HDMI 1.4b full time looped output
- Supports 2-Channel discrete mic audio when used with RovoCam
- Bidirectional VISCA/RS-232 control over HDBaseT
- Up to 10W power and video with a single cable over HDBaseT
- 4-lane PCIe 2.0 Low Profile card
- Supports Linux V4L2 drivers
- Three year warranty

Expand your application’s reach with HDBaseT and the Corvid HB-R. Using a single Cat 5e/6 cable as input, the Corvid HB-R receives up to 4K/60p video (8-bit 4:2:0) and 8-Channel embedded audio.

It also delivers bidirectional VISCA/RS-232 control plus power up to 10W, and Corvid HB-R provides full time looped HDMI 1.4b output of the signal received via the HDBaseT input.

These features also make the Corvid HB-R the perfect desktop and server companion to AJA’s RovoCam, the UltraHD HDBaseT camera.

$995 US MSRP*
Corvid HB-R Tech Specs

Video Formats

- (4K) 4096 x 2160p 23.98, 24, 25, 29.97, 30
- (4K) 4096 x 2160p 50, 59.94, 60 (8-bit 4:2:0)
- (UtraHD) 3840 x 2160p 23.98, 24, 25, 29.97, 30
- (UtraHD) 3840 x 2160p 50, 59.94, 60 (8-bit 4:2:0)
- (2K) 2048 x 1080p 23.98, 24, 25, 29.97, 30
- (2K) 2048 x 1080p 50, 59.94, 60
- (2K) 2048 x 1080PsF 23.98, 24, 25, 29.97, 30
- (HD) 1080p 23.98, 24, 25, 29.97, 30
- (HD) 1080p 50, 59.94, 60
- (HD) 1080PsF 23.98, 24, 25, 29.97, 30
- (HD) 1080i 50, 59.94, 60
- (HD) 720p 50, 59.94, 60
- (SD) 525i 59.94
- (SD) 625i 50

Audio Input Digital

- Audio over HDBaseT
  - 8-Channel embedded audio
- 2-Channels discrete RovoCam microphone audio

Audio Output Digital

- 8-Channel HDMI embedded 48 kHz 24-bit

Power Support

- Power over HDBaseT
  - Support for up to 10W output maximum via IEEE 802.3AF interface

RS-232

- Serial port over HDBaseT intended for VISCA camera control

USB

- USB over HDBaseT
  - USB Host intended for camera firmware updates

Interface

- 4-lane PCIe 2.0

Size (w x d x h)

- Conforms to PCIe Card Electromechanical Specification Rev 1.0A Low Profile Add-in Card
- Without bracket: 6.7” x 2.7” x 0.7” (170.18 x 68.58 x 17.78 mm), bracket is standard full height PCIe card size

Power

- 10-20V, 10W typical for card only, 16W typical when powering RovoCam, 18W max

Environment

- Safe Operating Temperature: 0 to 40 C (32 to 104 F)
- Safe Storage Temperature (Power OFF): -40 to 60 C (-40 to 140 F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)

For full product specifications visit www.aja.com/en/products/developer/corvid-hb-r#techspecs
**KONA IP**

**Multi-Channel 10 GigE I/O for IP Video/Audio**

KONA IP offers a powerful 8-lane PCIe 2.0 video and audio desktop I/O card with flexible IP connectivity. Two SFP+ cages provide multi-channel 3G-SDI HD support for easy routing of video over 10 GigE IP networks.

KONA IP is a proven, flexible and continuously evolving platform that supports multiple standardized approaches to Video over IP with support for SMPTE ST 2110 or SMPTE 2022-6/7 for transmission and distribution of uncompressed 3G/1.5G-SDI with sixteen channels of audio. SMPTE 2022-7 allows for simultaneous delivery of data across dual network paths for redundant signal support crucial for broadcast needs. KONA IP also supports optional JPEG 2000 workflows for HD video via encode and decode to/from an MPEG 2 Transport stream.

**Features at a glance**

- Supports 2K/HD ingest and output up to 50/60p
- 2x 10 GigE SFP connections for Multi-Channel input and/or output
- HDMI 1.4 output for local monitoring with 8-Channel audio
- HDR10+ support (open standard with dynamic tone mapping)
- HLG Support - in accordance with HDMI 2.0b/CTA-861-G
- HDR10 Support - HDR Infoframe metadata along HDMI
- 16-Channel 48kHz 16- and 24-bit embedded audio
- Mac, Windows and Linux support via AJA’s Developer SDK
- 8-lane PCIe 2.0 video and audio desktop I/O card
- Supports 4:4:4 and 4:2:2 workflows
- Reference/LTC Input
- Software support within AJA Control Room and Control Panel

**KONA IP**

*K Pricing is for US only. International pricing will vary. Please contact a local AJA Reseller for pricing details.*

$2,495 US MSRP*

www.aja.com
KONA IP Tech Specs

Video Formats
- (2K) 2048 x 1080p 23.98, 24, 25, 29.97, 30, 50*, 59.94*, 60*
- (2K) 2048 x 1080PsF 23.98, 24, 25, 29.97, 30
- (HD) 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (HD) 1080PsF 23.98, 24, 25, 29.97, 30
- (HD) 720p 50, 59.94, 60
- (SD) 625i 50
- (SD) 525i 59.94
*SMpte ST 2110 only
Note: High Frame Rate capabilities are dependent on host system attributes. Not all systems and configurations will support all frame rates.

Video Input IP
- SMPTE ST 2110, 2022-6, 2022-7
- Single Channel input for NLE applications
- Up to 4 Channels input available
- TR-01 compliant JPEG 2000* encoded within an MPEG-2 transport stream
- HD video over 1 GigE
- Single channel input
*Optional Purchase

Video Output IP
- SMPTE ST 2110, 2022-6, 2022-7
- Single Channel output for NLE applications
- Up to 4 Channels output available
- TR-01 compliant JPEG 2000* encoded within an MPEG-2 transport stream
- HD video over 1 GigE
- Single channel output
*Optional Purchase

Video Output Digital
- HDMI v1.4b
- 30/36-bits/pixel, RGB or YUV, 2.25 Gbps
- 2K/HD/SD
- HDR10 Support - HDR Infoframe metadata, in accordance with HDMI 2.0a/CTA-861.3
- HLG Support - in accordance with HDMI 2.0b/CTA-861-C*
*HLG support is application dependent. Check with your software manufacturer for compatibility.

Audio Input IP
- Up to 16-Channel embedded audio, 24-bit per channel, 48 kHz synchronous

Audio Output IP
- Up to 16-Channel embedded audio, 24-bit per channel, 48 kHz synchronous

Audio Output Digital
- 8-Channel HDMI embedded audio, 48 kHz sample rate, synchronous

Downstream Keyer
- Supports graphics with alpha channel over video, matte or framebuffer, or framebuffer content over incoming video or matte

Reference and LTC I/O
- 1x BNC assignable to reference video or LTC input

Reference
- Analog Color Black (IV) or Composite Sync (2 or 4V)
- Reference input is terminated into 75 ohms when Genlock is set to Ref In

Electrical Interface
- 8-lane PCIe 2.0

Size (w x d x h)
- 0.75” x 8.25” x 5.0” (19.05 x 209.55 x 127.00 mm)

Weight
- 0.7 lb (0.4 kg)

Power
- 25W typical, 27W maximum

Environment
- Safe Operating Temperature: 0 to 40 C (32 to 104 F)
- Safe Storage Temperature (Power OFF): -40 to 60 C (-40 to 140 F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)

For full product specifications visit www.aja.com/en/products/kona-ip/#techspecs
KONA 5

Ultimate performance.

Features at a Glance

- Supports up to four streams of 4K/UltraHD ingest or output at frame rates up to 50/60 fps
- Configurable 12G, 6G, 3G-SDI I/O
- Real time up, down, cross-conversion with pristine 10-bit quality
- macOS, Windows and Linux support via AJA’s Developer SDK
- 10-bit 4K/UltraHD and 2K/Dual Link/HD/SD input and output
- 12-bit color support (supported by some software vendors)
- HDMI 2.0 (4K/UltraHD 50/60p, 10-bit, 4:2:2)
- HDR10+ support (open standard with dynamic tone mapping)
- HLG Support - in accordance with HDMI 2.0b/CTA-861-G
- HDR10 Support - HDR Infoframe metadata, in accordance with HDMI 2.0a/CTA-861.3
- Dolby Vision tunneling and signaling
- 8-Ch AES/EBU, 8-Ch embedded HDMI, and 16-Ch embedded SDI digital audio I/O
- Supports 4:4:4 and 4:2:2 workflows
- Reference in connector on the card
- Expand connectivity with KONA 5 breakout cable

KONA 5

Take control of the most challenging projects using the raw power of the newest member of the KONA product line. KONA 5 is AJA’s blazingly fast, 8-lane PCIe 3.0 I/O card, designed for today’s most demanding video and audio workflows. Whether you are working with HFR 4K/UltraHD, 2K/HD, SD, Deep Color and/or HDR, experience the quality and peace of mind that KONA 5 brings to your world. Supporting 10-bit 4:2:2 and 4:4:4, or even 12-bit color spaces for pristine imagery, KONA 5 allows the flexibility to ingest and output across 4x bidirectional 12G-SDI spigots and monitor with a full-size HDMI 2.0 port.

$2,995 US MSRP*
KONA 5 Tech Specs

Video Formats
- (4K) 4096 x 2160p 23.98, 24, 25, 29.97, 30, 47.95, 48, 50, 59.94, 60
- (UltraHD) 3840 x 2160p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (2K) 2048 x 1080p 23.98, 24, 25, 29.97, 30, 47.95, 48, 50, 59.94, 60
- (2K) 2048 x 1080PsF 23.98, 24, 25, 29.97, 30, 47.95, 48, 50, 59.94, 60

SDI connections are bidirectional. For 2K/HD, capture and monitoring can be simultaneous. For 4K/UltraHD with 3G-SDI, all four connections must be used for either Input or Output. Additionally, 12G-SDI, 6G-SDI configured outputs support UltraHD / 4K only.

**Bit depth support is application dependent. Check with your software manufacturer for compatibility.**

Audio Inputs Digital
- 16-Channel, 24 and 16-bit SDI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 24 and 16-bit HDMI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 16 and 24-bit AES/EBU audio, 48 kHz sample rate, synchronous or nonsynchronous, internal sample rate conversion (via 4x BNC on breakout cable)

Audio Outputs Digital
- 16-Channel, 24-bit SDI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 24-bit HDMI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 16 and 24-bit AES/EBU audio, 48 kHz samplerate, synchronous or nonsynchronous, internal sample rate conversion (via 4x BNC on breakout cable)

Audio Inputs Digital
- 8-Channel, 24-bit PCIe 3.0

Note: Unlike other KONA cards, KONA 5 uses PCIe power from a 6 pin ATX connector, rather than the PCIe slot.
- PC Internal ATX Power Connector (Molex p/n 45559-0002)
- 1, 2, 3 = +12v
- 4, 5, 6 = COM

Video Inputs Digital
- 12G-SDI*, SMPTE-2082, 12-bit**, 10-bit and 8-bit
- 6G-SDI*, SMPTE-2081, 10-bit and 8-bit
- 4K/UltraHD 4:4:4:4 (4x BNC)
- 1.5G-SDI, SMPTE-372M, Dual Link HD 4:4:4 (2x BNC), 12-bit**, 10-bit and 8-bit
- 1.5G-SDI, SMPTE-292M, Single Link 4:2:2 (1x BNC), 10-bit and 8-bit
- HDMI v2.0
- 30/36 bits/pixel, RGB or YUV, 6 Gbps per color component
- 4K, UltraHD, 2K, HD and SD with HFR support up to 60p (4:2:2), 10-bit and 8-bit
- HDR10 Support - HDR Infoframe metadata, compatible with HDMI 2.0a/CTA-861.3
- HLG Support - compatible with HDMI 2.0b/CTA-861-G***

**SDI connections are bidirectional. For 2K/HD, capture and monitoring can be simultaneous. For UltraHD with 12G-SDI, capture and monitoring can also be simultaneous.**

For 4K/UltraHD with 3G-SDI, all four connections must be used for either Input or Output. Additionally, 12G-SDI, 6G-SDI configured outputs support UltraHD / 4K only.

**Bit depth support is application dependent. Check with your software manufacturer for compatibility.**

Video Outputs Digital
- 8-Channel, 16-bit SDI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 16 and 24-bit HDMI embedded audio, 48 kHz sample rate, synchronous or nonsynchronous, internal sample rate conversion (via 4x BNC on breakout cable)

Audio Outputs Digital
- 8-Channel, 24-bit HDMI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 16 and 24-bit AES/EBU audio, 48 kHz sample rate, synchronous or nonsynchronous, internal sample rate conversion (via 4x BNC on breakout cable)

Audio Inputs Digital
- 12G-SDI*, SMPTE-2082, 12-bit**, 10-bit and 8-bit
- 6G-SDI*, SMPTE-2081, 10-bit and 8-bit
- 4K/UltraHD 4:4:4:4 (4x BNC)
- 1.5G-SDI, SMPTE-372M, Dual Link HD 4:4:4 (2x BNC), 12-bit**, 10-bit and 8-bit
- 1.5G-SDI, SMPTE-292M, Single Link 4:2:2 (1x BNC), 10-bit and 8-bit

**SDI connections are bidirectional. For 2K/HD, capture and monitoring can be simultaneous. For UltraHD with 12G-SDI, capture and monitoring can also be simultaneous.**

For 4K/UltraHD with 3G-SDI, all four connections must be used for either Input or Output. Additionally, 12G-SDI, 6G-SDI configured outputs support UltraHD / 4K only.

**Bit depth support is application dependent. Check with your software manufacturer for compatibility.**

Audio Inputs Digital
- 16-Channel, 24 and 16-bit SDI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 24 and 16-bit HDMI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 16 and 24-bit AES/EBU audio, 48 kHz sample rate, synchronous or nonsynchronous, internal sample rate conversion (via 4x BNC on breakout cable)

Audio Outputs Digital
- 16-Channel, 24-bit SDI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 24-bit HDMI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 16 and 24-bit AES/EBU audio, 48 kHz sample rate, synchronous or nonsynchronous, internal sample rate conversion (via 4x BNC on breakout cable)

Audio Inputs Digital
- 16-Channel, 24 and 16-bit SDI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 24 and 16-bit HDMI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 16 and 24-bit AES/EBU audio, 48 kHz sample rate, synchronous or nonsynchronous, internal sample rate conversion (via 4x BNC on breakout cable)

Audio Outputs Digital
- 16-Channel, 24-bit SDI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 24-bit HDMI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 16 and 24-bit AES/EBU audio, 48 kHz sample rate, synchronous or nonsynchronous, internal sample rate conversion (via 4x BNC on breakout cable)

Audio Inputs Digital
- 16-Channel, 24 and 16-bit SDI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 24 and 16-bit HDMI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 16 and 24-bit AES/EBU audio, 48 kHz sample rate, synchronous or nonsynchronous, internal sample rate conversion (via 4x BNC on breakout cable)

Audio Outputs Digital
- 16-Channel, 24-bit SDI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 24-bit HDMI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 16 and 24-bit AES/EBU audio, 48 kHz sample rate, synchronous or nonsynchronous, internal sample rate conversion (via 4x BNC on breakout cable)

Audio Inputs Digital
- 16-Channel, 24 and 16-bit SDI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 24 and 16-bit HDMI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 16 and 24-bit AES/EBU audio, 48 kHz sample rate, synchronous or nonsynchronous, internal sample rate conversion (via 4x BNC on breakout cable)
KONA 4

Powerful High Frame Rate Capabilities up to 4K 50/60p

Features at a Glance

- Supports 4K and UltraHD ingest or output at frame rates up to 50/60 fps
- Real time up, down, cross-conversion with pristine 10-bit quality
- macOS, Windows and Linux support via AJA’s Developer SDK
- 10-bit 4K/UltraHD and 2K/Dual Link/HD/SD input and output
- 12-bit color support (supported by some software vendors)
- HDMI 1.4b (UltraHD 50/60p 8-bit 4:2:0)
- HDR10+ support (open standard with dynamic tone mapping)
- HLG Support - in accordance with HDMI 2.0b/CTA-861-G
- HDR10 Support - HDR Infoframe metadata, in accordance with HDMI 2.0a/CTA-861.3
- Dolby Vision tunneling and signaling
- B-Ch AES/EBU, B-Ch embedded HDMI, and 16-Ch embedded SDI digital audio I/O
- Supports 444 and 422 workflows
- Extend external connectivity with K3G-BOX breakout box option

KONA 4

KONA 4 offers users a single, powerful 8-lane PCIe 2.0 video and audio desktop I/O card with unparalleled features for handling everything from SD to HD, 2K and 4K with full 10-bit 4:2:2 and 4:4:4 color spaces for fantastic image clarity, including HDR support for HDR10, HLG and Dolby Vision tunneling and signaling. The futureproof architecture means you can easily work with HD and 2K now and switch to working at 4K resolution when the need arises, even at frame rates up to 50/60 fps, without the requirement for new hardware.

$1,995 US MSRP*

* Pricing is for US only. International pricing will vary. Please contact a local AJA Reseller for pricing details.
KONA 4 Tech Specs

Video Formats
- (4K) 4096 x 2160p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (UltraHD) 3840 x 2160p 23.98, 24, 25, 29.97, 30, 59.94, 60
- (2K) 2048 x 1556p 15, 14.98
- (2K) 2048 x 1556pF 15, 23.98, 24
- (2K) 2048 x 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (2K) 2048 x 1080PsF 23.98, 24, 25
- (HD) 1080i 50, 59.94, 60
- (HD) 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (SD) 625i 50
- (SD) 525i 23.98*, 59.94
*These formats are dependent on specific software functionality and are not normal over the wire formats.

Video Input Digital
- 3G-SDI, SMPTE-259/292/296/424, 8-bit, 10-bit and 12-bit*
- 4K/UltraHD: 4:2:2 and 4:4:4 up to 50/60 fps
- 2K HSDL (High Speed Data Link) 4:4:4, (2x BNC)
- Single Link 4:2:2 or 4:4:4 (1x BNC)
- 1D LUT support
*Bit depth support is application dependent. Check with your software manufacturer for compatibility.

Video Output Digital
- 3G-SDI, SMPTE-259/292/296/424, 8-bit, 10-bit and 12-bit*
- 4K/UltraHD: 4:2:2 and 4:4:4 up to 50/60 fps
- 2K HSDL (High Speed Data Link) 4:4:4, (2x BNC)
- Single Link 4:2:2 or 4:4:4 (1x BNC)
- HDMI v1.4b
  - 30/36-bits/pixel, RGB or YUV, 2.25 Gbps
- 2K, HD, and SD, UltraHD with HFR support up to 60p 4:2:0
- HDR10 Support - HDR Infoframe metadata, in accordance with HDMI 2.0a/CTA-861.3
- HLG Support - in accordance with HDMI 2.0b/CTA-861-G**
*Bit depth support is application dependent. Check with your software manufacturer for compatibility.
**HLG support is application dependent. Check with your software manufacturer for compatibility.

Video Output Analog
- Composite/S-Video (Y/C) (1x BNC/2 x BNC+adapter)
- NTSC, NTSCJ, PAL
- Component (3x BNC)
- HD: YPbPr, RGB
- SD: YPbPr, RGB (component mode)
- SMPTE/EBU N10, Betacam 525 line, Betacam 525S, RGB
- 12-bit D/A, 8x oversampling
- +/- .2 dB to 5.0 MHz Y frequency response
- +/- .2 dB to 1 MHz C frequency response
- 5% 2T pulse response
- <1% Diff Phase
- <1% Diff Gain
- <1% ns Y/C delay inequity

Audio Input Digital
- 16-Channel, 16 and 24-bit SDI embedded audio, 48 kHz sample rate, synchronous
- 16-Channel, 16 and 24-bit AES/EBU audio, 48 kHz sample rate, synchronous (via 8x BNC on optional K3G-Box)
- 8-Channel, 16 and 24-bit AES/EBU audio, 48 kHz sample rate, synchronous or nonsynchronous, internal sample rate conversion (via 4x BNC on breakout cable)

Audio Output Digital
- 16-Channel, 16 and 24-bit SDI embedded audio, 48 kHz sample rate, synchronous
- 16-Channel, 16 and 24-bit AES/EBU audio, 48 kHz sample rate, synchronous (via 8x BNC on optional K3G-Box)
- 8-Channel, 16 and 24-bit AES/EBU audio, 48 kHz sample rate, synchronous or nonsynchronous, internal sample rate conversion (via 4x BNC on breakout cable)

Downstream Keyer
- Supports graphics with alpha Channel over video, matte or framebuffer, or framebuffer content over incoming video or matte

SD to SD Aspect Ratio Conversion
- Letterbox: This transforms SD anamorphic material to a letterboxed image
- H Crop: Will produce a horizontally stretched effect on the image; transforms anamorphic SD to full frame
- SD Pillarbox: Will produce an image in the center of the screen with black borders on the left and right sides and an anamorphized image in the center
- V Crop: Will transform SD letterbox material to an anamorphic image

Timecode
- LTC timecode input and output (via 1x BNC each)

Reference Input
- Analog color black (1V) or composite sync (2 or 4V)
- Looping
- 75 ohms on optional K3G-Box, terminated on supplied breakout cable

Electrical Interface
- 8-lane PCIe 2.0

Machine Control
- RS-422, Sony 9-pin protocol (via breakout cable or optional K3G-Box)
- 9-pin D-connector pinout is as follows:

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GND</td>
</tr>
<tr>
<td>2</td>
<td>RX-</td>
</tr>
<tr>
<td>3</td>
<td>TX+</td>
</tr>
<tr>
<td>4</td>
<td>GND</td>
</tr>
<tr>
<td>5</td>
<td>No Connection</td>
</tr>
<tr>
<td>6</td>
<td>GND</td>
</tr>
</tbody>
</table>

Size (w x d x h)
- 0.75“ x 6.9” x 5.0” (19.05 x 175.26 x 127.00 mm)

Weight
- 0.7 lb (0.4 kg)

Power
- 22W typical, 24W maximum

Environment
- Safe Operating Temperature: 0 to 40 C (32 to 104 F)
- Safe Storage Temperature (Power OFF): -40 to 60 C (-40 to 140 F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)
KONA HDMI

HDMI Capture for Multi-Channel HD or Dual Channel UltraHD

Features at a Glance

• Simultaneously ingest or switch:
  - up to 4x 2K/HD 60p streams
  - up to 2x 4K/UltraHD streams (1x 60p, 1x 30p)
  - 1x 4K/UltraHD p60 stream plus up to 2x 2K/HD 60p streams
• Ingest 4K/UltraHD 60p sources on Port 1 and / or Port 2
• Ingest 2K/HD 60p on any source Port 1 through 4
• 8-lane PCIe 2.0
• Embedded HDMI audio in: Up to 8 per channel (for a total of 32 possible audio channels)
• Capture stunning HDR from games and more
• Video4Linux support (V4L2)

AJA Developer Program

KONA HDMI is an 8-lane PCIe 2.0 multi-channel HDMI capture card. Designed for the demands of multiple workflows such as gaming, streaming, VJing, live events switching, vlogging, AR, VR, post and broadcast, this powerful card boasts support for four channel capture up to 2K/HD 60p, or dual channel capture up to 4K/UltraHD (1x Ch up to 60p, plus 1x Ch up to 30p) and other combinations.

$895 US MSRP*

* Pricing is for US only. International pricing will vary. Please contact a local AJA Reseller for pricing details.
KONA HDMI Tech Specs

**Video Formats**
- (4K) 4096 x 2160p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (UHD) 3840 x 2160p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (2K) 2048 x 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (2K) 2048 x 1080PsF 23.98, 24, 25
- (HD) 1080i 50, 59.94, 60
- (HD) 1080PsF 23.98, 24, 25, 29.97, 30
- (HD) 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (HD) 720p 50, 59.94, 60
- (SD) 625i 50
- (SD) 525i 59.94

**Audio Input Digital**
- 8-Channel, 16 and 24-bit HDMI embedded audio, 48 kHz sample rate, synchronous per HDMI Input
- Single stream input supports up to 8-Channels
- Quad stream input supports up to 32-Channels

**Electrical Interface**
- 8-lane PCIe 2.0

**Size (w x d x h)**
- 0.75” x 8.25” x 5.0” (19.05 x 209.55 x 127.00 mm)

**Weight**
- 0.3 lb (0.2 kg)

**Environment**
- Safe Operating Temperature: 0 to 40 C (32 to 104 F)
- Safe Storage Temperature (Power OFF): -40 to 60 C (-40 to 140 F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)

**Video Input Digital**
- Single stream 4K/UltraHD* with HFR support up to 60p, 4:2:2, 10-bit
  - HDMI 2.0, port 1 or 2
  - 30/36-bits/pixel, RGB or YUV, 6 Gbps per color component
- Quad, triple, dual or single stream 2K/HD/SD** with HFR support up to 60p, 4:2:2, 10-bit
  - 30/36-bits/pixel, RGB or YUV, 2.25 Gbps
- Dual stream 4K/UltraHD** with up to 1x 60p and 1x 30p, 4:2:2, 10-bit
  - HDMI 2.0, port 1 or 2 only
  - 30/36-bits/pixel, RGB or YUV, 6 Gbps per color component
- Mixed stream** supporting 1x 4K/UltraHD and 2x 2K/HD/SD with HFR support up to 60p, 4:2:2, 10-bit
  - 1x 4K/UltraHD via port 1 only
  - 30/36-bits/pixel, RGB or YUV, 6 Gbps per color component
  - 2x 2K/HD via any other ports
  - 30/36-bits/pixel, RGB or YUV, 2.25 Gbps

*Using AJA Control Room or appropriate third party switching/capture software

**Using appropriate third party switching/capture software
Features at a Glance

- Supports 2K and HD ingest and output at frame rates up to 50/60 fps
- Real time up, down and cross-conversion for HD and SD with pristine 10-bit quality
- Mac and Windows support via AJA’s Developer SDK
- 3G/SD/HD/2K, 8 or 10-bits I/O
- HDMI 1.3 (30 bits/pixel, RGB or YUV) I/O
- Analog composite or S-video or SD/HD component video I/O
- 2-Ch AES/EBU, 8-Ch embedded HDMI, and 8-Ch embedded SDI digital audio I/O
- Supports 444 and 422 workflows
- Extend external connectivity with KLHI-BOX breakout box option

KONA LHi

Connecting to everything from an HDMI enabled camera to an HD-SDI VTR, KONA LHi offers a full host of no compromise features, including 10-bit or 8-bit uncompressed video, 2-Channel AES digital audio and 8-Channel SDI embedded digital audio, analog composite or S-video or SD/HD component video I/O, 2-Channel balanced analog audio I/O, and broadcast quality hardware based up, down, cross-conversion for flexible SD and HD post production. KONA LHi supports a full HDMI workflow with 10-bit deep color output for the best image quality possible. HDMI signals can also be converted to SDI for use in more professional environments.

$1,495 US MSRP*

KLHI-BOX Breakout Box (optional)

Utilize the KLHI-BOX Breakout Box to easily integrate KONA LHi into rackmount environments.

*Pricing is for US only. International pricing will vary. Please contact a local AJA Reseller for pricing details.
KONA LHi Tech Specs

Video Formats
- (2K) 2048 x 1080p 23.98, 24, 25
- (2K) 2048 x 1080P 23.98, 24
- (HD) 1080i 50, 59.94, 60
- (HD) 1080P 23.98, 24
- (HD) 720p 50, 59.94, 60
- (SD) 625i 50
- (SD) 525i 59.94

Software Dependent Formats
- 720p 23.98
- 525i 23.98
Note: These formats are dependent on specific software functionality and are not normal over the wire formats.

Video Input Analog
- (SD) 525i 23.98
- NTSC, NTSCJ, PAL
- Composite (3x BNC)
- Composite/S-Video (Y/C) (1x BNC/2x BNC+Adapter)

Audio Input Analog
- 2-Channel, 16-bit D/A analog audio, 48 kHz sample rate, synchronous
- 2-Channel, 24-bit AES/EBU audio, 48 kHz sample rate, synchronous
- 2-Channel, 16-bit AES/EBU audio, 48 kHz sample rate, synchronous or nonsynchronous, internal sample rate conversion (via 1x XLR on breakout cable or optional KLI-Bi-Box)

Audio Output Analog
- 8-Channel, 16 and 24-bit SMPTE-259 SDI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 16 and 24-bit HDMI embedded audio, 48 kHz sample rate, synchronous
- 2-Channel, 16 and 24-bit AES/EBU audio, 48 kHz sample rate, synchronous or nonsynchronous, internal sample rate conversion (via 1x XLR on breakout cable or optional KLI-Bi-Box)

Audio Input Digital
- 2-Channel, 16 and 24-bit A/D analog audio, 48 kHz sample rate, balanced (via 2x XLR on DB-25 breakout cable or optional KLI-Bi-Box)
- +24 dBu full scale digital (0 dBFS)
- +/-0.2 dB 20 Hz to 20 kHz frequency response
- +/-0.2 dB 20 Hz to 20 kHz frequency response
- 2-Channel unbalanced output (via 2x RCA jacks on optional KLI-Bi-Box)

Audio Output Digital
- 8-Channel, 16 and 24-bit SMPTE-259 SDI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 16 and 24-bit HDMI embedded audio, 48 kHz sample rate, synchronous
- 2-Channel, 16 and 24-bit AES/EBU audio, 48 kHz sample rate, synchronous or nonsynchronous, internal sample rate conversion (via 1x XLR on breakout cable or optional KLI-Bi-Box)

Cross-Conversion
- Hardware 10-bit
- 1080i to 720p
- 720p to 1080i
- 720p to 1080PsF

SD to SD aspect ratio conversion
- Letterbox: This transforms SD anamorphic material to a letterboxed image
- Hardware: This produces a horizontally stretched effect on the image; transforms anamorphic SD to full frame
- SD Pillarbox: Will produce an image in the center of the screen with black borders on the left and right sides and an anamorphized image in the center
- V Crop: Will transform SD letterbox material to an anamorphic image

Reference Input
- Analog Color Black (1V) or Composite Sync (2 or 4V)
- Looping
- 75 ohms on optional KLI-Bi-Box, terminated on supplied breakout cable

Electrical Interface
- 4-lane PCIe 1.0

Machine Control
- RS-422, Sony 9-pin protocol (via DB-25 breakout cable or optional KLI-Bi-Box)
- 9-pin D-connector pinout is as follows:

For full product specifications visit www.aja.com/en/products/kona-lhi#techspecs
KONA LHi Tech Specs (continued)

Size (w x d x h)
- 0.75" x 8.25" x 5.0" (19.05 x 209.55 x 127.00 mm)

Weight
- 0.7 lb (0.4 kg)

Power
- 13W typical, 15W maximum

Environment
- Safe Operating Temperature: 0 to 40 C (32 to 104 F)
- Safe Storage Temperature (Power OFF): -40 to 60 C (-40 to 140 F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)
KONA LHe Plus

**HD/SD Analog and Digital Capture and Output**

**Features at a Glance**

- Supports HD-SDI and SD-SDI ingest and output at frame rates up to 50/60 fps
- Real time down-conversion with pristine 10-bit quality
- Mac and Windows support via AJA’s Developer SDK
- SD/HD, 422, 8 or 10-bits I/O
- Analog composite or S-video or SD/HD component video I/O
- 2-Ch AES/EBU, 8-Ch embedded SDI digital, 2-Ch analog audio I/O
- Extend external connectivity with KL-BOX-LH breakout box option

**KONA LHe Plus**

KONA LHe Plus supports both HD/SD analog and digital I/O for video and audio, providing maximum capability in a single card, simplifying integrating analog and digital signals into a single workflow and provides multiple output options to ensure you can deliver whatever formats are required.

**$995 US MSRP**

**KL-BOX-LH Breakout Box (optional)**

Utilize the KL-BOX-LH Breakout Box to easily integrate KONA LHi into rackmount environments.

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* Pricing is for US only. International pricing will vary. Please contact a local AJA Reseller for pricing details.
KONA LHe Plus Tech Specs

### Video Formats
- (HD) 1080i 50, 59.94, 60
- (HD) 1080p 23.98, 24, 25, 29.97, 30
- (HD) 1080P/24 23.98, 24, 25, 29.97, 30
- (HD) 720p 50, 59.94, 60
- (SD) 625i 50
- (SD) 525i 59.94

### Video Input Digital
- SD/HD SDI, SMPTE-259/292/296, 8 or 10-bits
- Single Link 4:2:2 (1x BNC)

### Video Input Analog
- Composite/S-Video (Y/C) (1x BNC/2x BNC+Adapter)
- NTSC, NTSCJ, PAL
- Component (3x BNC)
- HD: YPbPry, RGB
- SD: YPbPry, RGB (component mode)
- SMPTE/EBU N10, Betacam 525 line, Betacam 525J, RGB 12-bit D/A, 8x oversampling
- +/- .2 dB to 5.0 MHz Y Frequency Response
- +/- .2 dB to 1 MHz C Frequency Response
- .5% 2T pulse response
- <1% Diff Phase
- <1% Diff Gain
- <1 ns Y/C delay inequity

### Video Output Digital
- HD SDI, SMPTE-292/296, 10-bit
- SD SDI, SMPTE-259M, 10-bit

### Audio Input Digital
- 8-Channel, 16 and 24-bit SMPTE-259 SDI embedded audio, 48 kHz sample rate, synchronous
- 2-Channel, 16 and 24-bit AES/EBU audio, 48 kHz or 96 kHz sample rate, synchronous or nonsynchronous, internal sample rate conversion (via 1x XLR on breakout cable or optional KL-Box)

### Audio Input Analog
- 2-Channel, 16 and 24-bit A/D analog audio, 48 kHz sample rate, balanced (via 2x XLR on breakout cable or optional KL-Box)
- +24 dBu Full Scale Digital
- +/- 0.2 dB 20 Hz to 20 kHz frequency response

### Audio Output Digital
- HD SDI, SMPTE-259 SDI embedded audio, 48 kHz sample rate, synchronous
- 2-Channel, 16 and 24-bit AES/EBU audio, 48 kHz or 96 kHz sample rate, synchronous or nonsynchronous, internal sample rate conversion (via 1x XLR on breakout cable or optional KL-Box)

### Audio Output Analog
- 2-Channel, 16 and 24-bit D/A analog audio, 48 kHz sample rate, balanced (via 2x XLR on breakout cable or optional KL-Box)
- +24 dBu Full Scale Digital (0 dBFS)
- +/-0.2 dB 20 Hz to 20 kHz frequency response
- 2-Channel unbalanced output (via 2x RCA jacks on optional KL-Box)

### Down-conversion
- Hardware 10-bit
- Anamorphic: fullscreen
- Letterbox: image is reduced with black top and bottom added to image area with the aspect ratio preserved
- Crop: image is cropped to fit new screen size

### Machine Control
- RS-422, Sony 9-pin protocol (via breakout cable or optional KL-BOX)
- 9-pin D-connector pinout is as follows:

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</table>

### Electrical Interface
- 4-lane PCIe 1.0

### Machine Control
- RS-422, Sony 9-pin protocol (via breakout cable or optional KL-BOX)
- 9-pin D-connector pinout is as follows:

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</table>

### Size (w x d x h)
- 0.75” x 8.25” x 5.0” (19.05 x 209.55 x 127.00 mm)

### Weight
- 0.7 lb (0.4 kg)

### Power
- 13W typical, 15W maximum

### Environment
- Safe Operating Temperature: 0 to 40 C (32 to 104 F)
- Safe Storage Temperature (Power OFF): -40 to 60 C (-40 to 140 F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)
KONA 1

Powerful and Cost Effective 3G-SDI I/O

KONA 1 offers powerful 2K, HD or SD 3G-SDI I/O up to 50/60p via PCIe 2.0 for ingest and playout with 16-Channels of embedded audio, Reference / LTC Input, ANC processing and remote control if desired via RS-422 support.

Available in a standard sized PCIe card or “Low Profile” for when space is of the essence.

$595 US MSRP*

Features at a Glance

- 3G-SDI and 1.5G-SDI formats supported
- PCIe 2.0 form factor
- Embedded SDI audio in 16-Ch.
- Embedded SDI audio out 16-Ch.
- Color Space Conversion
- Genlock with reference input
- LTC input
- ANC capture and processing
- Retail and SDK support (Including AJA Control Panel Audio Mixer)
- RS-422 (for SDK developers there is also an option for low profile PCIe without external RS422 header)

* Pricing is for US only. International pricing will vary. Please contact a local AJA Reseller for pricing details.
KONA 1 Tech Specs

**Video Formats**
- (2K) 2048 x 1080p 23.98, 24, 25, 29.97, 30, 59.94, 60
- (2K) 2048 x 1080PsF 23.98, 24, 25
- (HD) 1080i 50, 59.94, 60
- (HD) 1080PsF 23.98, 24, 25, 29.97, 30
- (HD) 720p 50, 59.94, 60
- (SD) 625i 50
- (SD) 525i 59.94

**Video Input Digital**
- 3G-SDI, SMPTE-259/292/296/424

**Video Output Digital**
- 3G-SDI, SMPTE-259/292/296/424

**Audio Input Digital**
- 16-Channel 24-bit SDI embedded, 48 kHz synchronous

**Audio Output Digital**
- 16-Channel 24-bit SDI embedded, 48 kHz synchronous

**Reference / LTC Input**
- Analog Color Black or HD Tri-level sync
- LTC

**Electrical Interface**
- 2-lane PCIe 2.0

**Video Formats**
- (2K) 2048 x 1080p 23.98, 24, 25, 29.97, 30, 59.94, 60
- (2K) 2048 x 1080PsF 23.98, 24, 25
- (HD) 1080i 50, 59.94, 60
- (HD) 1080PsF 23.98, 24, 25, 29.97, 30
- (HD) 720p 50, 59.94, 60
- (SD) 625i 50
- (SD) 525i 59.94

**Machine Control**
- RS-422, Sony 9-pin protocol
- 9-pin D-connector pinout is as follows:

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<td></td>
<td>Shell GND</td>
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</tbody>
</table>

**Size (w x d x h)**
- T = 0.88" x 7.38" x 4.75" (22.36 x 187.46 x 120.65 mm)
- S = 0.75" x 7.25" x 3.125" (19.05 x 184.15 x 79.36 mm)

**Weight**
- 0.3 lb (0.3 kg)

**Environment**
- Safe Operating Temperature: 0 to 40 C (32 to 104 F)
- Safe Storage Temperature (Power OFF): -40 to 60 C (-40 to 140 F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)

For full product specifications visit www.aja.com/en/products/kona-1/#techspecs
Io IP

**Thunderbolt 3 to 10 GigE for IP video/audio workflows**

AJA's Io IP takes full advantage of Thunderbolt 3 throughput and power to enable capture and output of video signals from and to IP networks.

Two SFP+ cages provide multi-channel SMPTE standard 2K/HD/SD support for easy routing of video with audio over 10 GigE IP networks. Io IP is designed as a flexible platform that supports today's SMPTE 2022-6 video, audio and VANC data over IP as well as offering SMPTE 2022-7 support for redundant signal support, crucial for broadcast needs.

Monitor locally with 3G-SDI and HDMI 2.0 outputs.

Future firmware updates will also support additional codecs and advanced IP protocols including SMPTE ST 2110 and more.

**Features at a Glance**

- Supports 2K/HD ingest and output up to 50/60p
- 2x 10 GigE SFP connections for Multi-Channel input and/or output
- 10-bit high quality 4:2:2, 4:4:4 and High Frame Rate workflow support
- 16-Channel 48kHz 16- and 24-bit embedded audio on SDI
- 8-Channel embedded audio on HDMI
- HDMI 1.4 output for local monitoring with 8-Channel audio
- HLG Support - in accordance with HDMI 2.0b/CTA-861-G
- HDR10 Support - HDR Infoframe metadata along HDMI
- 8-lane PCIe 2.0 video and audio desktop I/O card
- Reference/LTC Input
- Software support within AJA Control Room and Control Panel
- Two Thunderbolt 3 ports with loop through
- Use with any Thunderbolt 3 system for up to 2K at 10-bit quality and up to 50/60 fps
- Backwards compatible with existing Thunderbolt hosts
- DB-25 analog audio I/O connector (Tascam DA-88 pinout) cable not included.
- Analog Audio flexibility with a choice of 8-Ch In or 8-Ch Out or 4-Ch In and 4-Ch Out
- XLR 12V power for battery or AC use
- Reference, LTC Input
- Headphone jack and level control for mobile environments

**Pricing**

* Pricing is for US only. International pricing will vary. Please contact a local AJA Reseller for pricing details.

[$2,495 US MSRP*](https://www.aja.com)
For the most recent product specifications visit www.aja.com/en/products/io-ip/#techspecs
Io 4K Plus delivers tremendous performance and flexibility for your video and multi-channel audio I/O requirements. Ingest, monitor and output across 12G-SDI (which also supports 6G, 3G, and 1.5G-SDI) and HDMI 2.0 with embedded or analog audio. Power any creative project using a rich professional feature set with support for High Frame Rate, Deep Color and HDR workflows.

The power and performance of Thunderbolt 3 enables Io 4K Plus to transfer your video and audio whether SD, HD, 2K, UltraHD or full 4K over both SDI and HDMI and supports 4K frame rates up to 50p/60p to and from your Thunderbolt 3 equipped Mac or PC. Io 4K Plus has dual Thunderbolt 3 ports enabling daisy chaining for configuration flexibility.

Io 4K Plus hides immense power under its elegant exterior. Aluminum construction provides a solid shield from the rigors of life in the field, while looking beautiful in your edit suite. Io 4K Plus seamlessly integrates with leading production, post, mastering and streaming tools from Apple®, Adobe®, Avid®, Autodesk®, Telestream® and many more.

$2,495 US MSRP*

* Pricing is for US only. International pricing will vary. Please contact a local AJA Reseller for pricing details.
**Video Formats**

- 4K: 4096 x 2160P 23.98, 24, 25, 29.97, 30, 47.95, 48, 50, 59.94, 60
- UltraHD: 3840 x 2160P 23.98, 24, 25, 29.97, 30, 47.95, 48, 50, 59.94, 60
- (2K) 2048 x 1080P 23.98, 24, 25, 29.97, 30, 47.95, 48, 50, 59.94, 60
- (2K) 2048 x 1080P@24 23.98, 24, 25, 29.97, 30, 47.95, 48, 50, 59.94, 60

**Video Inputs**

- SDI connections are bidirectional. For 2K/HD, capture and monitoring can be simultaneous. For 4K/UltraHD with 3G-SDI, all four connections must be used for either Input or Output. Additionally, 12G-SDI, 6G-SDI configured inputs support UltraHD / 4K only. **Bit depth support is application dependent. Check with your software manufacturer for compatibility.**

**Video Outputs**

- 12G-SDI®, SMPTE 2082, 12-bit**, 10-bit and 8-bit
- 6G-SDI®, SMPTE-2081, 10-bit and 8-bit
- 4K/UltraHD 4:4:4 (4 x BNC)
- 1.5G-SDI, SMPTE 372M, Dual Link HD 4:4:4 (2x BNC), 12-bit**, 10-bit and 8-bit
- 1.5G-SDI, SMPTE 292M, Single Link 4:2:2 (1x BNC), 10-bit and 8-bit
- HDMI v2.0
- 30/36 bits/pixel, RGB or YUV, 6 Gbps per color component
- 4K, UltraHD, 2K, HD and SD with HFR support up to 60p (4:2:2), 10-bit and 8-bit
- HDMI0 Support - HDR Infoframe metadata, compatible with HDMI 2.0a/CTA-861.3
- **HLG Support - compatible with HDMI 2.0b/CTA-861-CT***

**Audio Inputs Digital**

- 16-Channel, 24 and 16-bit SDI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 24-bit HDMI embedded audio, 48 kHz sample rate, synchronous

**Audio Outputs Digital**

- 16-Channel, 24-bit SDI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 24-bit HDMI embedded audio, 48 kHz sample rate, synchronous

**Audio Outputs Analog**

- 8-Channel, 24-bit D/A analog audio, 48 kHz sample rate, balanced, using industry standard 8x XLR on DB-25 breakout cable (cable not included)
- +24 dBu full scale digital (0 dBFS)
- +/- 0.2 dB 20 to 20 kHz frequency response
- Output supported across Ch 1-8, Ch 1-4, or Ch 5-8 depending on configuration chosen

**Reference and LTC I/O**

- 1x BNC LTC output
- 1x BNC assignable to Reference video or LTC input

**Reference**

- Analog Color Black (1V) or Composite Sync (2 or 4V)
- HD Tri-Level Sync (1V)
- Reference input is terminated into 75 ohms when Genlock is set to Ref In

**Down-Conversion 4K/UltraHD**

- Real time, dedicated 4K down-conversion output (1x BNC)
- 4K to 2K down-conversion
- UltraHD to HD down-conversion

**Reference**

- Supports graphics with alpha channel over video, matte or framebuffer, or framebuffer content over incoming video or matte

**Electrical Interface**

- Thunderbolt 3 (2x)
- RS-422, Sony 9-pin protocol
- 9-pin D-connector pinout is as follows:

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<tr>
<td>Shell</td>
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</tbody>
</table>

**Size (w x d x h)**

- 8.74” x 8.11” x 1.65” (222.0 x 206.0 x 41.9 mm)

**Weight**

- 3.4 lbs (1.6 kg)

**Power (device only)**

- 10-20V, 30W typical, 70W max with USB-C power delivery to external devices

**Operating Temperature**

- Safe Operating Temperature Range: 0 to 40 C (32 to 104 F)
- Safe Storage Temperature (Power OFF): -40 to 60 C (-40 to 140 F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)
Io 4K

Harness Thunderbolt 2 Power in 4K, HD and SD

Io 4K is the next evolution of capture and output hardware offering a full set of professional video and audio connectivity with support for the latest 4K and UltraHD devices. The power of Thunderbolt 2 enables Io 4K to handle a wide range of formats from SD to HD, UltraHD and full 4K over both 3G-SDI and HDMI with High Frame Rate (HFR) support up to 60p and HDR10 support for emerging HDR workflows.

The dual Thunderbolt 2 ports on Io 4K allow you to daisy chain additional peripherals such as high resolution displays and high capacity storage with plenty of flexibility.

Io 4K’s elegant, aluminum construction is strong enough to survive the rigors of life in the field, while looking beautiful in your edit suite. Io 4K seamlessly integrates with leading postproduction and delivery tools from Apple, Adobe, Avid, Autodesk, Telestream and many more.

**Features at a Glance**
- 4x bidirectional 3G-SDI
- 4K/UltraHD HDMI I/O
- HDR10+ support (open standard with dynamic tone mapping)
- HLG Support - in accordance with HDMI 2.0b/CTA-861-G
- HDR10 Support - HDR Infoframe metadata, in accordance with HDMI 2.0a/CTA-861.3
- Simultaneous SDI and HDMI outputs
- Real time 4K to HD down-conversion for HD-SDI and HDMI monitoring
- 10-bit high quality 4:2:2, 4:4:4 and High Frame Rate workflow support
- Two Thunderbolt 2 ports with loop through
- Use with any Thunderbolt 2 system for up to 4K at 10-bit quality and up to 50/60 fps
- Backwards compatible with existing Thunderbolt hosts
- 16-Channel embedded audio on SDI
- 8-Channel embedded audio on HDMI
- DB-25 analog audio output connector (Tascam DA-88 pinout) not included.
- XLR 12V power for battery or AC use
- RS-422 VTR control, Reference, LTC Input
- Headphone jack and level control for mobile environments

**$1,995 US MSRP*"
Io 4K Tech Specs

Video Inputs
- 3G-SDI, SMPTE-259/292/296/424/425, 8-bit, 10-bit and 12-bit*
- 2K HSDL (High Speed Data Link) 4:4:4 (2x BNC)
- Single Link 4:2:2 or 4:4:4 (1x BNC)
- HDMI v1.4
  - 30/36-bits/pixel, RGB or YUV, 2.25 Gbps
  - UltraHD, 2K, HD and SD
*Bit depth support is application dependent. Check with your software manufacturer for compatibility.

Audio Inputs Digital
- 16-Channel, 16 and 24-bit SDI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 16 and 24-bit HDMI embedded audio, 48 kHz sample rate, synchronous

Audio Outputs Digital
- 16-Channel, 16 and 24-bit SDI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 16 and 24-bit HDMI embedded audio, 48 kHz sample rate, synchronous

Audio Outputs Analog
- 8-Channel, 16 and 24-bit D/A analog audio, 48 kHz sample rate, balanced, using industry standard 8x XLR on DB-25 breakout cable (Breakout cable not include)
  +/− 0.2 dB 20 to 20 kHz frequency response

Video Outputs
- 3G-SDI, SMPTE-259/292/296/424, 8-bit, 10-bit and 12-bit*
- 4K/UltraHD 4:4:4 (4x BNC)
- 2K HSDL (High Speed Data Link) 4:4:4 (2x BNC)
- Single Link 4:2:2 or 4:4:4 (1x BNC)
- HDMI v1.4b
  - 30/36-bits/pixel, RGB or YUV, 2.25 Gbps
  - 2K, HD, and SD, UltraHD with HFR support up to 60p 4:2:0
  - HDR10 Support - HDR Infoframe metadata, in accordance with HDMI 2.0a/CTA-861.3
  - HLG Support - in accordance with HDMI 2.0b/CTA-861-G**
*Bit depth support is application dependent. Check with your software manufacturer for compatibility.
**HLG support is application dependent. Check with your software manufacturer for compatibility.

Downstream Keyer
- Supports graphics with alpha channel over video, matte or framebuffer, or framebuffer content over incoming video or matte

Down-Conversion 4K/UltraHD
- Real time, dedicated 4K down-conversion output (1x BNC)
- 4K to 2K down-conversion
- UltraHD to HD down-conversion

Reference and LTC I/O
- 1 x BNC LTC output
- 1 x BNC assignable to Reference video or LTC input

Reference
- Analog Color Black (1V) or Composite Sync (2 or 4V)
- Nonterminating

Electrical Interface
- Thunderbolt 2 (2 x)

Machine Control
- RS-422, Sony 9-pin protocol
- 9-pin D-connector pinout is as follows:

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<td>3</td>
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<td>GND</td>
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<td>5</td>
<td>No Connection</td>
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<td>6</td>
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<td>7</td>
<td>RX</td>
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<td>8</td>
<td>TX</td>
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<td>9</td>
<td>GND</td>
</tr>
<tr>
<td>Shell</td>
<td>GND</td>
</tr>
</tbody>
</table>

Size (w x d x h)
- 8.74" x 7.09" x 1.65" (222.0 x 180.09 x 41.91 mm)

Weight
- 3.1 lbs (1.5 kg)

Power
- 10-20V, 23W typical, 28W max

Environment
- Safe Operating Temperature Range: 0 to 35°C (32 to 95°F)
- Safe Storage Temperature (Power OFF): -40 to 60°C (-40 to 140°F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)

For the most recent product specifications visit www.aja.com/en/products/io-4k/#techspecs
Io XT is the ideal portable companion for lightning fast video capture and playback for professional postproduction and on set applications.

Compact, portable and powerful, Io XT is loaded with high-end features including 3G-SDI, Component Analog, and HDMI connectivity, to bring true desktop level power to any Thunderbolt enabled system with full uncompressed HD and SD 4:2:2 and 4:4:4 capable video and audio connectivity.

Io XT connects with a single Thunderbolt cable and provides a second Thunderbolt connector for daisy chaining other Thunderbolt devices, such as storage, making it ideal for use on-set or in the edit suite.

Designed for today’s workflows, Io XT provides a seamless link for your application to the newest codecs, video formats, stereoscopic 3D workflows, and more.

$1,495 US MSRP*
Io XT Tech Specs

Video Input Digital
- (2K) 1080p 23.98, 24, 25
- (2K) 1080PsF 23.98, 24, 25
- (HD) 1080i 50, 59.94, 60
- (HD) 1080PsF 23.98, 24, 25, 29.97, 30
- (SD) 625i 50
- (SD) 525i 23.98*, 59.94

*These formats are dependent on specific software functionality and are not normal over the wire formats

Audio Input Digital
- 16-Channel, 16 and 24-bit SMPTE-259 SDI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 16 and 24-bit HDMI embedded audio, 48 kHz sample rate, synchronous

Audio Output Digital
- 16-Channel, 16 and 24-bit SMPTE-259 SDI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 16 and 24-bit HDMI embedded audio, 48 kHz sample rate, synchronous

Audio Output Analog
- 8-Channel, 16 and 24-bit D/A analog audio, 48 kHz sample rate, balanced, using industry standard 8x XLR on DB-25 breakout cable (Breakout cable NOT included)
- +/- 0.2 dB 20 to 20 kHz frequency response

Downstream Keyer
- Supports graphics with alpha channel over video, matte or framebuffer, or framebuffer content over incoming video or matte

Up-conversion
- Hardware 10-bit
- Anamorphic: full screen
- Pillarbox 4:3: results in a 4:3 image in center of screen with black sidebars
- Zoom 14:9: results in a 4:3 image zoomed slightly to fill a 14:9 image with black sidebars
- Zoom Letterbox: results in image zoomed to fill full screen
- Zoom Wide: results in a combination of zoom and horizontal stretch to fill a 16:9 screen; this setting can introduce a small aspect ratio change

Down-conversion
- Hardware 10-bit
- Anamorphic: full screen
- Letterbox: image is reduced with black top and bottom added to image area with the aspect ratio preserved
- Crop: image is cropped to fit new screen size

Cross-conversion
- Hardware 10-bit
- 1080i to 720p
- 720p to 1080i
- 720p to 1080PsF

SD to SD aspect ratio conversion
- Letterbox: This transforms SD anamorphic material to a letterboxed image
- H Crop: Will produce a horizontally stretched effect on the image; transforms anamorphic SD to full frame
- SD Pillarbox: Will produce an image in the center of the screen with black borders on the left and right sides and an anamorphized image in the center
- V Crop: Will transform SD letterbox material to an anamorphic image

Reference Input or LTC Input
- 1x BNC assignable to Reference video or LTC input

Reference
- Analog Color Black (1V) or Composite Sync (2 or 4V)
- Nonterminating

Electrical Interface
- Thunderbolt 1 (2 x)

Machine Control
- RS-422, Sony 9-pin protocol
- 9-pin D-connector pinout is as follows:

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GND</td>
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<tr>
<td>2</td>
<td>RX-</td>
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<tr>
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<td>GND</td>
</tr>
</tbody>
</table>

Shell GND

Size (w x d x h)
- 8.74” x 7.09” x 1.65” (222.0 x 180.09 x 41.91 mm)

Weight
- 1.8 lbs (0.8 kg)

Power
- 10-20V, 18W typical, 22W max

Environment
- Safe Operating Temperature: 0 to 40 C (32 to 104 F)
- Safe Storage Temperature (Power OFF): -40 to 60 C (-30 to 140 F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)
Three Year Warranty
AJA Video warrants that Developer products will be free from defects in materials and workmanship for a period of three years from the date of purchase.

About AJA Video Systems, Inc.
Since 1993, AJA Video has been a leading manufacturer of video interface and conversion solutions, bringing high quality, cost effective digital video products to the professional, broadcast and postproduction markets. AJA products are designed and manufactured at our facilities in Grass Valley, California, and sold through an extensive sales channel of resellers and systems integrators around the world. For further information, please see our website at www.aja.com