

# AJA Developer Program



**AJA**<sup>®</sup>  
VIDEO SYSTEMS

Because it matters.<sup>®</sup>

# AJA Developer Program



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, Mac or Linux environment

## 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 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 pre-built 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 use the same technology as the retail cards but provide alternate form factors that allow you to further customize your configuration.

With capabilities starting from single channel I/O to multiple, simultaneous I/O stream, direct optical fiber integration and high-bandwidth applications, there's a Corvid product to fit every need and every price range.

AJA's comprehensive SDK and development tools will help you integrate into any environment with support for Windows, OS X 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.

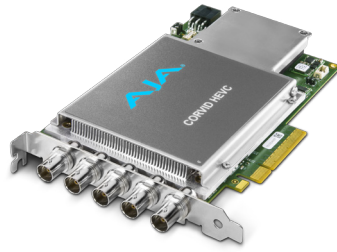


# AJA Developer Program

## Products at a Glance

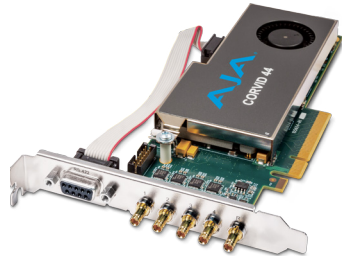
### Corvid HEVC

4K and Multi-Channel PCIe 2.0 8-lane HEVC encoding card supporting up to 4K 60p video input as well as file-to-file encoding



### Corvid 44

PCIe Gen 2.0 8-lane card for 8/10-bit YCbCr or 12-bit RGB with 4 independent mixed channel I/O or single 4K in/out



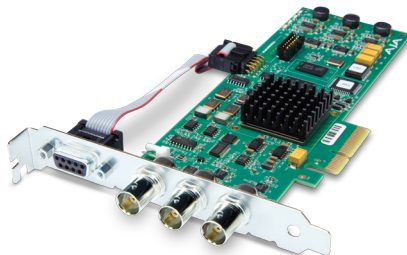
### Corvid 88

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



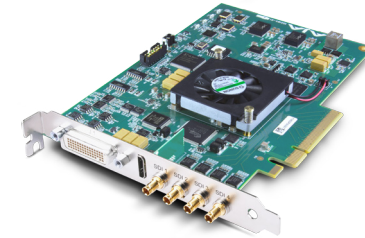
### Corvid 3G

PCIe 4x Card for 8/10-bit Uncompressed Digital 3G, HD, SD I/O



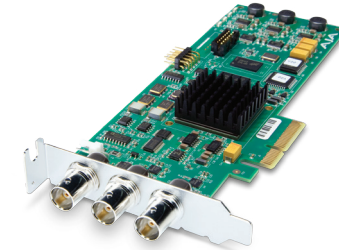
### KONA 4

Powerful High Frame Rate capabilities up to 4K 50/60p and software integration for editorial, graphics and live streaming



### Corvid

PCIe 4x Card for 8/10-bit Uncompressed Digital SD, HD I/O



### Corvid 22

PCIe Gen 2.0 4x Card for 8/10-bit Uncompressed w/2 Independent Channels I/O Digital 3G, HD, SD SDI I/O



### Corvid 24

PCIe Gen 2.0 4x card for 8/10-bit with a single 4K or 4 independent\* Channels I/O Digital 3G, HD, SD SDI I/O

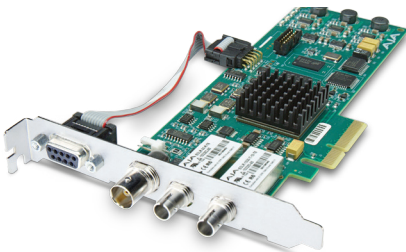


# AJA Developer Program

## Products at a Glance

### Corvid 3G Fiber

PCIe 4x Card for 8/10-bit Uncompressed Digital 3G, HD, and SD over Fiber I/O



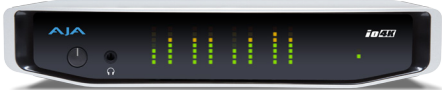
### Corvid Ultra

External 2RU chassis w/ PCIe Gen. II for 4K, stereoscopic, high frame rate and other high bandwidth applications



### Io 4K

Harness Thunderbolt™ 2 power in 4K, HD and SD



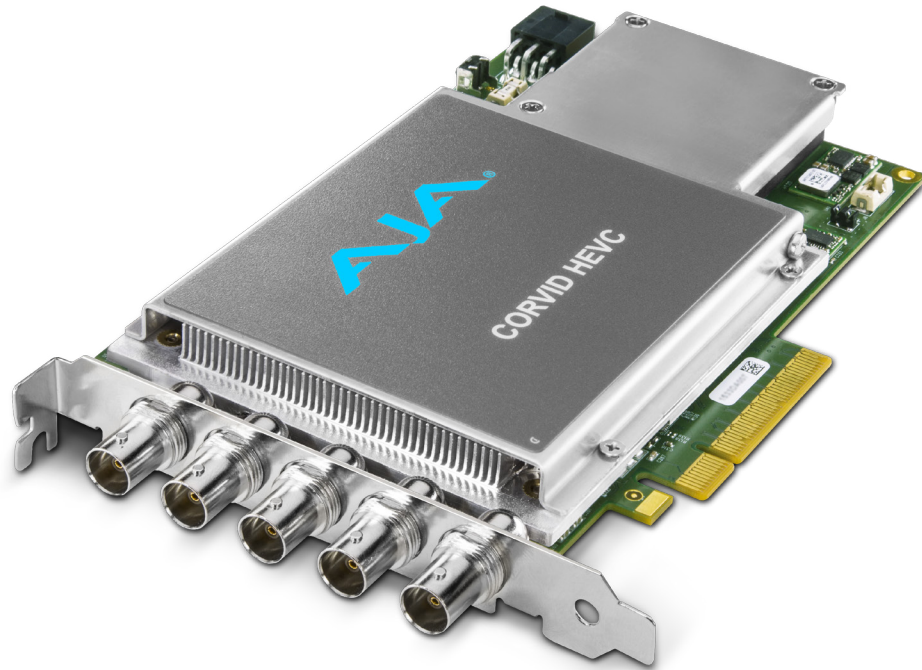
### Io XT

Thunderbolt™ power for professional I/O



# AJA Developer Program

## Corvid HEVC 4K and Multi-Channel HEVC Encoding



Corvid HEVC is a PCIe 2.0 8-lane 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.

### Workflows

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- 4K/UHD Encoding
- Multi-Channel Encoding
- File-to-File Encoding

### Features at a glance

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- Realtime 4K/UHD/HD HEVC hardware-based encoding
- PCIe 2.0 8-lane 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/UHD stream up to 60 fps
  - As many as 4 streams at 1080p HD up to 60 fps
- 4 x 3G-SDI inputs
- 1 x 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

# AJA Developer Program

## Corvid HEVC Tech Specs

### Video Formats

---

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

4K (Quadrant or Sample Interleave):

- 4096x2160p 23.98, 24, 25, 29.97, 30, 48 A/B, 50 A/B, 59.94 A/B
- 3840x2160p 23.98, 24, 25, 29.97, 30, 48 A/B, 50 A/B, 59.94 A/B

2K (cropped to 1920 before encoder):

- 2048x1080p 23.98, 24, 25, 29.97, 30, 48 A/B, 50 A/B, 59.94 A/B, 60 A/B
- 2048x1080psF 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
- 1080psF 23.98, 24, 25, 29.97, 30
- 1080i 25, 29.97, 30
- 720p 50, 50.94, 60

SD:

- 625i 25
- 525i 29.97

### File Formats

---

*In addition to the above video formats, these formats are supported for file-based encoding but are not recognized as SDI inputs*

HD:

- 720p 24, 25, 29.97

SD:

- 525i 30
- 525p 59.94, 60
- 625p 50

### Video Input Digital

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- 4 x 3G-SDI BNC

### Audio Input Digital

---

- 16-channel 24-bit SDI embedded
- 48kHz synchronous

### Compression

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Type

- 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

- 3Mbps-128Mbps

Bit Depth

- 8/10

HEVC Level

- 1.0/2.0/2.1/3.0/3.1/4.0/4.1/5.0/5.1

Chroma Sampling

- 4:2:2/4:2:0

Bit Rate Control

- CBR/VBR

### Size

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- 1/2 Length Full Height PCI Card

### Temperature

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- Operating: 0C/32F to 40C/104F
- Storage: -40C/-40F to 70C/158F

### Humidity

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- Relative (non-condensing): 10% to 90%

### Power

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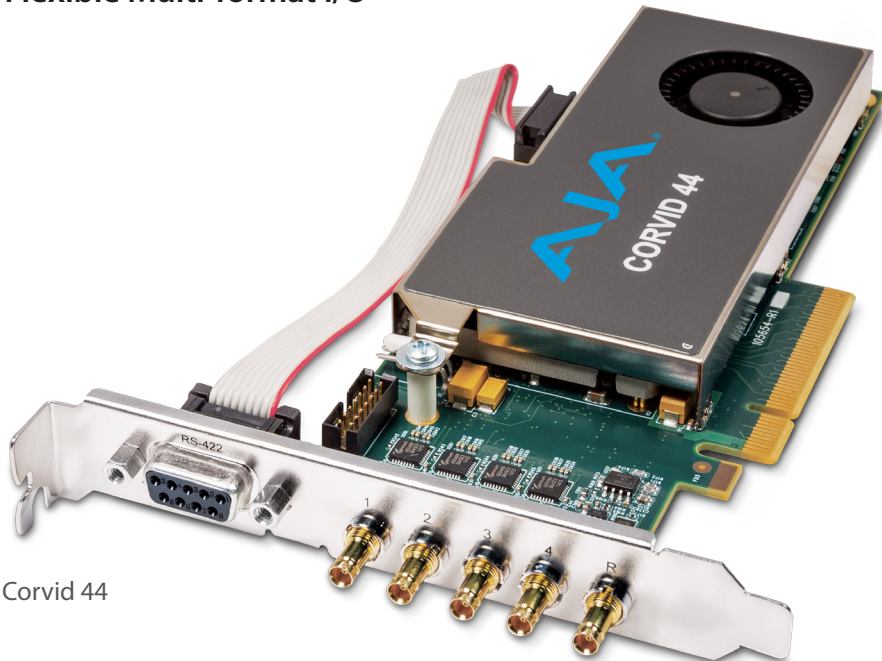
- Requires either PCIe bus power via graphics slot or ATX 6-pin from computer power supply

[Click here](https://www.aja.com/en/products/developer/corvid-hevc/#techspecs)

For full product specifications visit [www.aja.com/en/products/developer/corvid-hevc/#techspecs](https://www.aja.com/en/products/developer/corvid-hevc/#techspecs)

# AJA Developer Program

## Corvid 44 Flexible Multi-format I/O



Corvid 44

Starting at \$1795 US MSRP\*

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/UHD channel, allowing incredible flexibility and futureproofing.



Corvid 44 Low Profile

### Features at a glance

- PCIe Express Gen 2.0 8-lane
- Up to four independent\* channels 3G, HD, SD-SDI I/O
- All SD/HD/2Kx1080/4K video formats
- 3G input/output for High Frame Rate (HFR) support.
- 8/10-bit YCbCr and 12-bit RGB frame buffer formats
- 2 independent Mixer/Keyer widgets.
- 4 independent 16-ch 48kHz SDI embedded audio I/O engines
- Analog Color Black or HD Tri-Level Sync
- 3-year warranty

\* Channels must use the same master clock. Eg, 29.97 and 59.94

### Features

- 8-lane PCI 2.0 interface
- 4 independent, bi-directional BNC I/O connections
- 16-channel embedded audio per connection
- Switchable LTC/Reference input connection
- Full-height and half-height models
- RS-422 on internal header or bracket (on full-height model)
- LTC input on internal header

### 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

# AJA Developer Program

## Corvid 44 Tech Specs

### Video Input

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- Digital:
- 3G-SDI BNC

### Video Output

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- Digital:
- 3G-SDI BNC

### Audio Inputs

---

- Digital:
- 16-channel 24-bit SDI embedded
  - 48kHz synchronous

### Audio Outputs

---

- Digital:
- 16-channel 24-bit SDI embedded
  - 48kHz synchronous

### Video Formats

---

- 4K:
- 3840 x 2160P 23.98, 24, 25, 29.97, 30, 48 A/B, 50 A/B, 59.94 A/B, 60 A/B
  - 4096 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
  - 2048 x 1080PsF 23.98, 24, 25, 29.97, 30, 48 A/B, 50 A/B, 59.94 A/B, 60 A/B
- HD:
- 720p 50, 50.94, 60
  - 1080i 25, 29.97, 30
  - 1080PsF 23.98, 24, 25, 29.97, 30
  - 1080P 23.98, 24, 25, 29.97, 30, 50 A/B, 59.94 A/B, 60 A/B
- SD:
- 525i 29.97
  - 625i 25

### Reference

---

- Analog Color Black or HD Tri-Level sync

### Physical Dimensions

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- Height: 2.713" (68.90mm)
- Length: 6.6" (167.65mm)
- Width: 0.727" (18.47mm)

[Click here](http://www.aja.com/en/products/developer/corvid-44#techspecs)

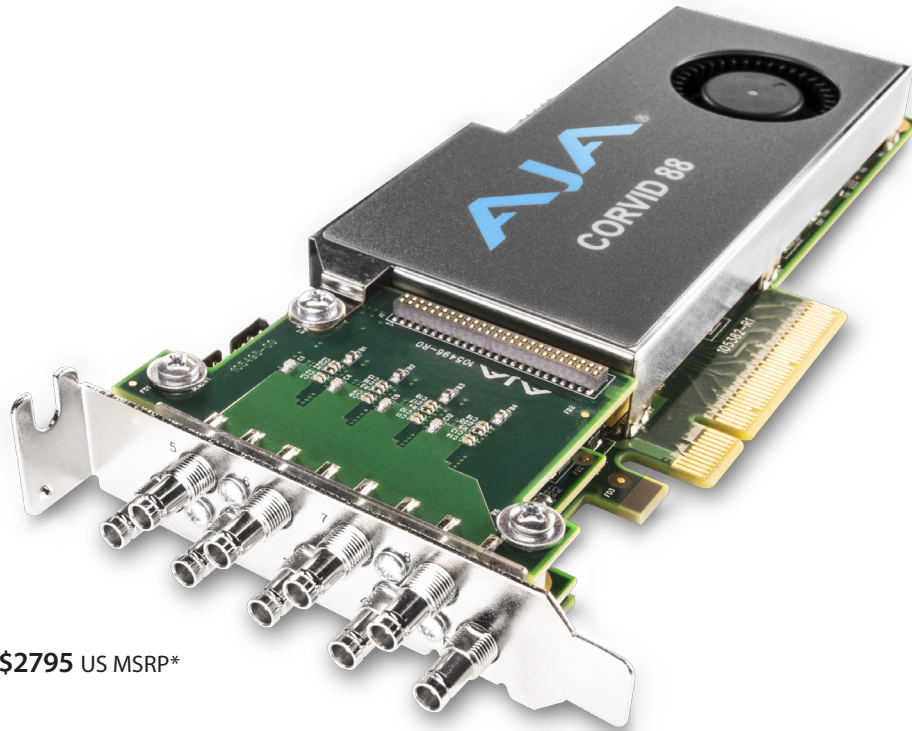
For full product specifications [www.aja.com/en/products/developer/corvid-44#techspecs](http://www.aja.com/en/products/developer/corvid-44#techspecs)



# AJA Developer Program

## Corvid 88

### High-density Multi-stream, Multi-format Gen2 PCIe I/O Card



Only **\$2795** US MSRP\*

Corvid 88 is designed for Development Partner applications that require multiple simultaneous input and output streams. Corvid 44 provides four independent BNC connections while Corvid88 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 format 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/UHD formats.

### Features at a glance

---

- PCI Express Gen 2.0 8-lane
- Up to eight independent\* channels 3G, HD, SD-SDI I/O
- All SD/HD/2Kx1080/4K video formats
- 3G input/output for High Frame Rate (HFR) support.
- 8/10-bit YCbCr and 12-bit RGB frame buffer formats
- 4 independent Mixer/Keyer widgets.
- 4 independent 16-ch 48kHz SDI embedded audio I/O engines
- Analog Color Black or HD Tri-Level Sync
- 3-year warranty

*\* Channels must use the same master clock. Eg, 29.97 and 59.94.*

### Features

---

- 8-lane PCI 2.0 interface
- 4 independent, bi-directional BNC I/O connections
- 16-channel embedded audio per connection
- Switchable LTC/Reference input connection
- Full-height and half-height models
- RS-422 on internal header or bracket (on full-height model)
- LTC input on internal header

### 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

# AJA Developer Program

## Corvid 88 Tech Specs

### Video Input

---

- Digital:
- 3G/HD/SD-SDI BNC

### Video Output

---

- Digital:
- 3G/HD/SD-SDI BNC

### Audio Inputs

---

- Digital:
- 16-channel 24-bit SDI embedded
  - 48kHz synchronous

### Audio Outputs

---

- Digital:
- 16-channel 24-bit SDI embedded
  - 48kHz synchronous

### Video Formats

---

- 4K:
- 3840 x 2160P 23.98, 24, 25, 29.97, 30, 48 A/B, 50 A/B, 59.94 A/B, 60 A/B
  - 4096 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
  - 2048 x 1080PsF 23.98, 24, 25, 29.97, 30
- HD:
- 720p 50, 50.94, 60
  - 1080i 25, 29.97, 30
  - 1080PsF 23.98, 24, 25, 29.97, 30
  - 1080P 23.98, 24, 25, 29.97, 30, 50 A/B, 59.94 A/B, 60 A/B
- SD:
- 525i 29.97
  - 625i 25

### Reference

---

- Analog Color Black or HD Tri-Level sync

### Physical Dimensions

---

- Height: 2.713" (68.90mm)
- Length: 6.6" (167.65mm)
- Width: 0.727" (18.47mm)

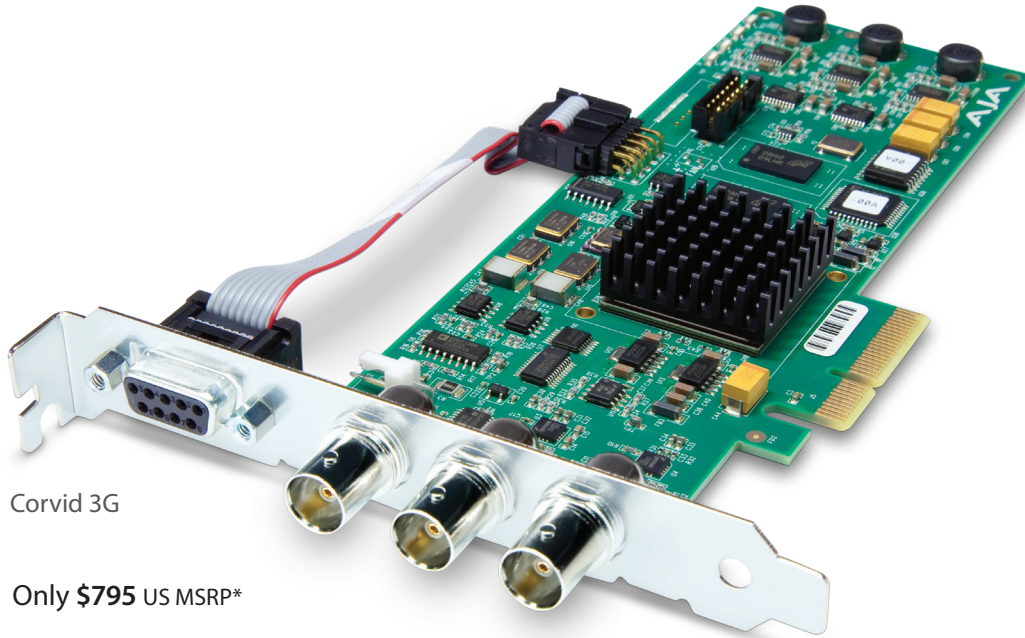
[Click here](#)

For full product specifications visit [www.aja.com/en/products/developer/corvid-88#techspecs](http://www.aja.com/en/products/developer/corvid-88#techspecs)

# AJA Developer Program

## Corvid 3G

PCIe 4x Card for 8/10-bit Uncompressed Digital 3G, HD, SD I/O.



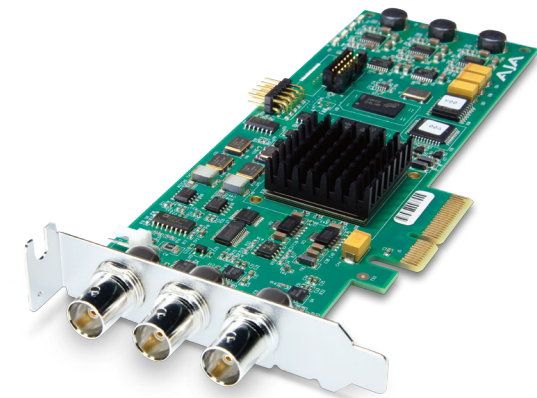
Corvid 3G

Only **\$795 US MSRP\***

Corvid 3G expands on the capabilities of the original Corvid with support for 3G signals, opening up the possibility for handling higher quality signals while still providing all the benefits of the Corvid card. Available in a standard-sized PCIe card or "Low Profile" for when space is of the essence, Corvid 3G has the extra horsepower for more demanding applications.

## Features at a glance

- PCI Express 4 lane
- 1 Channel 3G, HD-SDI or SD-SDI Input, 1 Channel 3G, HD-SDI or SD-SDI Output
- 8/10 Bit YCbCr and RGB framebuffer formats
- 1 Mixer/Keyer
- Available in PCIe form factor (Corvid 3G) or PCIe Low Profile form factor (Corvid 3G LP)
- 16-ch SDI Embedded Audio I/O, 24-bit 48kHz
- HD/SD Genlock, Reference Video or LTC Input (selectable)
- 3-year warranty



Corvid 3G Low Profile

# AJA Developer Program

## Corvid 3G Tech Specs

### Video Input

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- Digital:
- 3G/HD/SD-SDI, SMPTE-259/292/296/424

### Video Output

---

- Digital:
- 3G/HD/SD-SDI, SMPTE-259/292/296/424

### Audio Input

---

- Digital:
- 16-channel 24-bit SDI embedded, 48kHz synchronous

### Audio Output

---

- Digital:
- 16-channel 24-bit SDI embedded, 48kHz synchronous

### Video Formats

---

- 2K:
- 2048 x 1080P 23.98
  - 2048 x 1080PsF 23.98
  - 2048 x 1080P 24
  - 2048 x 1080PsF 24
  - 2048 x 1080P 25
  - 2048 x 1080PsF 25
- 3G/HD:
- 720p 50
  - 720p 59.94
  - 720p 60
  - 1080i 25
  - 1080i 29.97
  - 1080i 30
  - 1080PsF 23.98
  - 1080PsF 24
  - 1080PsF 25
  - 1080PsF 29.97
  - 1080PsF 30
  - 1080P 23.98
  - 1080P 24
  - 1080P 25
  - 1080P 29.97
  - 1080P 30
  - 1080P 50
  - 1080P 59.94
  - 1080P 60
- SD:
- 525i 29.97
  - 625i 25

### Reference

---

- Analog Color Black or HD Tri-level sync

### Physical Dimensions

---

- 16.8 cm L x 1.4 cm W x 5.5 cm H

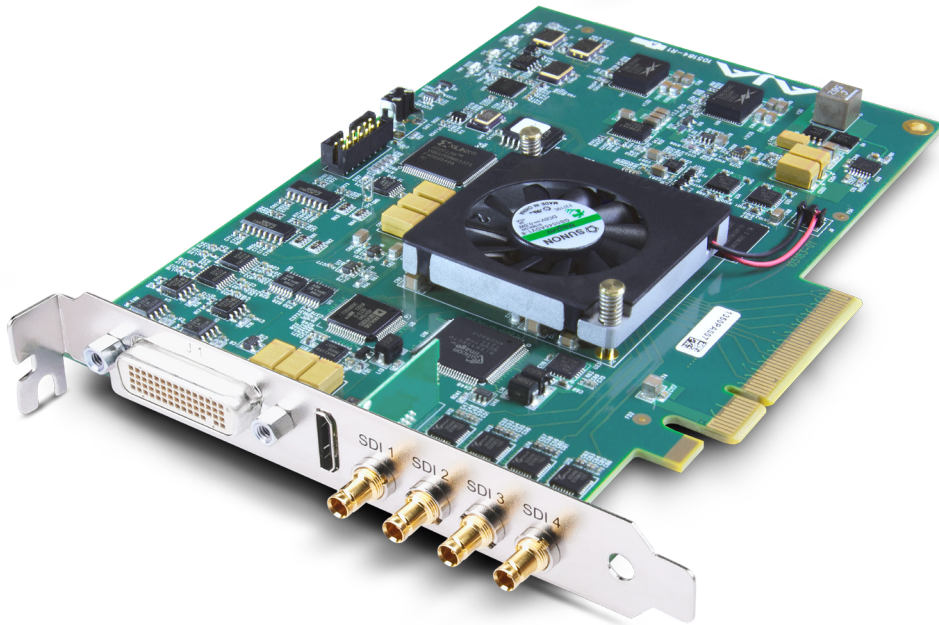
[Click here](#)

For full product specifications visit [www.aja.com/en/products/developer/corvid3g/#techspecs](http://www.aja.com/en/products/developer/corvid3g/#techspecs)

# AJA Developer Program

## KONA 4

Powerful High Frame Rate capabilities up to 4K 50/60p and software integration for editorial, graphics and live streaming.



### Features at a glance

- Supports 4K and UltraHD ingest and output at frame rates up to 60p
- Supports AJA Raw capture at 4K up to 120fps via AJA Control Room
- Real time up-,down-,cross conversion with pristine 10-bit quality
- Mac, Windows and Linux support via AJA's Developer SDK
- 10-bit 4K/UltraHD and 2K/Dual-link/HD/SD input and output
- HDMI 1.4 output with additional support for UltraHD 50/60p 4:2:0
- 8-ch. AES/EBU, 8-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. 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 60 fps, without the requirement for new hardware. KONA 4 has the power for the work you do today and into the future.

Only **\$1,995** US MSRP\*

# AJA Developer Program

## KONA 4 Tech Specs

### Video Formats

- 525i 29.97
- 525i 23.98\*
- 625i 25
- 720p 23.98\*, 24\*, 25\*, 29.97\*, 30\*, 50, 59.94, 60
- 1080i 25, 29.97, 30
- 1080PsF 23.98, 24, 25, 29.97, 30
- 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- 2048 x 1080P 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- 2048 x 1080PsF 23.98, 24, 25
- 2048 x 1556p 15, 14.98
- 2048 x 1556PsF 15, 23.98, 24
- 3840 x 2160P 23.98, 24, 25, 29.97, 50, 59.94, 60
- 4096 x 2160P 23.98, 24, 25, 50, 59.94, 60
- 3840 x 2160PsF 23.98, 24, 25
- 4096 x 2160PsF 23.98, 24, 25

\*These formats are dependent on specific software functionality and are not normal 'over-the-wire' formats.

### Video Input Digital

- 3G-SDI, SMPTE-259/292/296/424/425, 8-bit, 10-bit and 12-bit
- Single Link 4:2:2 or 4:4:4 (1 x BNC)
- Dual Link HD 4:4:4 (2 x BNC)
- 2K HSDL (High Speed Data Link) 4:4:4, (2 x BNC)
- 4K/UltraHD
- AJA Raw
- 1D LUT Support

### Video Output Digital

- 3G-SDI, SMPTE-259/292/296/424/425, 8-bit, 10-bit and 12-bit
- Single Link 4:2:2 or 4:4:4 (1 x BNC)
- Dual Link HD 4:4:4, (2 x BNC)
- 2K HSDL (High Speed Data Link) 4:4:4, (2 x BNC)
- 4K/UltraHD 4:2:2 and 4:4:4
- HDMI 1.4 with support for 2.0 Level B resolutions, 30/36 bits/pixel, RGB or YUV, 2.25Gbps, SD, HD and UHD with HFR support up to 60p 4:2:0

### Video Output Analog

- Composite/S-Video (Y/C) (1 x BNC/2x BNC+adapter)
- NTSC, NTSCJ, PAL
- Component (3 x BNC)
- HD: YPbPr, RGB
- SD: YPbPr, 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

### Frame Rate Conversion

- 4K/UHD - 60fps to 30fps
- 4K/UHD - 50fps to 25fps

### Downstream Keyer

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

### Audio Input Digital

- 16-channel, 24-bit SDI embedded audio, 48kHz sample rate, Synchronous
- 8-channel, 24-bit AES/EBU audio, 48kHz sample rate, Synchronous or Non-synchronous, Internal sample rate conversion (via 4 x BNC on breakout cable)
- 16-channel, 24-bit AES/EBU audio, 48 kHz sample rate, Synchronous (via 8 x BNC on optional K3G-Box)

### Audio Output Digital

- 16-channel, 24-bit SDI embedded audio, 48kHz sample rate, Synchronous
- 8-channel, 24-bit HDMI embedded audio, 48kHz sample rate, Synchronous
- 8-channel, 24-bit AES/EBU audio, 48kHz sample rate, Synchronous or Non-synchronous, Internal sample rate conversion (via 4 x BNC on breakout cable)
- 16-channel, 24-bit AES/EBU audio, 48 kHz sample rate, Synchronous (via 8 x BNC on optional K3G-Box)

### Audio Output Analog

- 2-channel unbalanced output (via 2 x RCA jacks on optional K3G-Box)

[Click here](#)

For full product specifications visit [www.aja.com/en/products/kona-4/#techspecs](http://www.aja.com/en/products/kona-4/#techspecs)

(Continued on Next Page)



# AJA Developer Program

## KONA 4 Tech Specs *(Continued)*

### Up-Conversion

- Hardware 10-bit
- Anamorphic: full-screen
- Pillar box 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 side bars
- 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 Ration 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 1 x BNC each)

### Reference Input

- Analog Color Black (1V) or Composite Sync (2 or 4V)
- Looping
- 75 ohm on optional K3G-Box, terminated on supplied breakout cable

### Machine Control

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

1	GND	7	RX+
2	RX-	8	TX-
3	TX+	9	GND
4	GND	Shell	GND
5	No Connection		
6	GND		

[Click here](http://www.aja.com/en/products/kona-4/#techspecs)

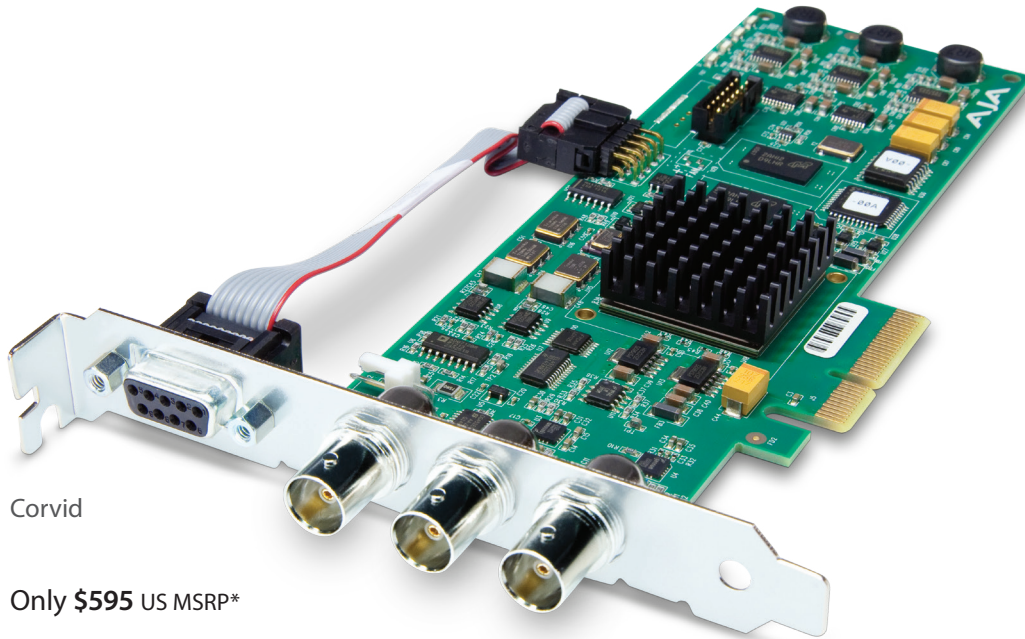
For full product specifications visit [www.aja.com/en/products/kona-4/#techspecs](http://www.aja.com/en/products/kona-4/#techspecs)



# AJA Developer Program

## Corvid

PCIe 4x Card for 8/10-bit Uncompressed Digital SD, HD I/O.



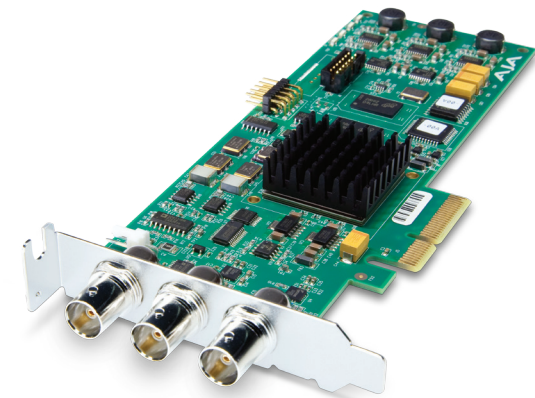
Corvid

Only \$595 US MSRP\*

Ensure you are getting the highest quality signal in and out of your application with AJA's Corvid card. Corvid is the proven platform for digital uncompressed video and audio I/O, with support for SD and HD as well as 16 channels of embedded 24-bit audio. Available in a standard-sized PCIe card or "Low Profile" for when space is of the essence, Corvid uses AJA's common API which is supported across multiple operating systems.

## Features at a glance

- PCI Express 4 lane
- 1 Channel HD-SDI or SD-SDI Input, 1 Channel HD-SDI or SD-SDI Output
- 8/10 Bit YCbCr and RGB framebuffer formats
- 1 Mixer/Keyer
- Available in PCIe form factor (Corvid) or PCIe Low Profile form factor (Corvid LP)
- 16-ch SDI Embedded Audio I/O, 24-bit 48kHz
- HD/SD Genlock, Reference Video or LTC Input (selectable)
- 3-year warranty



Corvid Low Profile



# AJA Developer Program

## Corvid Tech Specs

### Video Input

---

- Digital:
- HD-SDI/SDI, SMPTE-259/292/296

### Video Output

---

- Digital:
- HD-SDI/SDI, SMPTE-259/292/296

### Audio Input

---

- Digital:
- 16-channel 24-bit SDI embedded, 48kHz synchronous

### Audio Output

---

- Digital:
- 16-channel 24-bit SDI embedded, 48kHz synchronous

### Video Formats

---

- HD:
- 720p 50
  - 720p 59.94
  - 720p 60
  - 1080i 25
  - 1080i 29.97
  - 1080i 30
  - 1080p 23.98
  - 1080psf 23.98
  - 1080p 24
  - 1080psf 24
  - 1080p 25
  - 1080psf 25
  - 1080p 29.97
  - 1080psf 29.97
  - 1080p 30
- SD:
- 525i 29.97
  - 625i 25

### Reference

---

- Analog Color Black or HD Tri-Level sync

### Physical Dimensions

---

- 16.8 cm L x 1.4 cm W x 5.5 cm H

### Other Information

---

- 1 Independent LTC In/Out
- 1 Independent RS-422

### Order Information

---

- Z-OEM-CRV3GS-R0
- CORVID 3G Z-OEM-CRV3GT-R0
- CORVID 3G LP

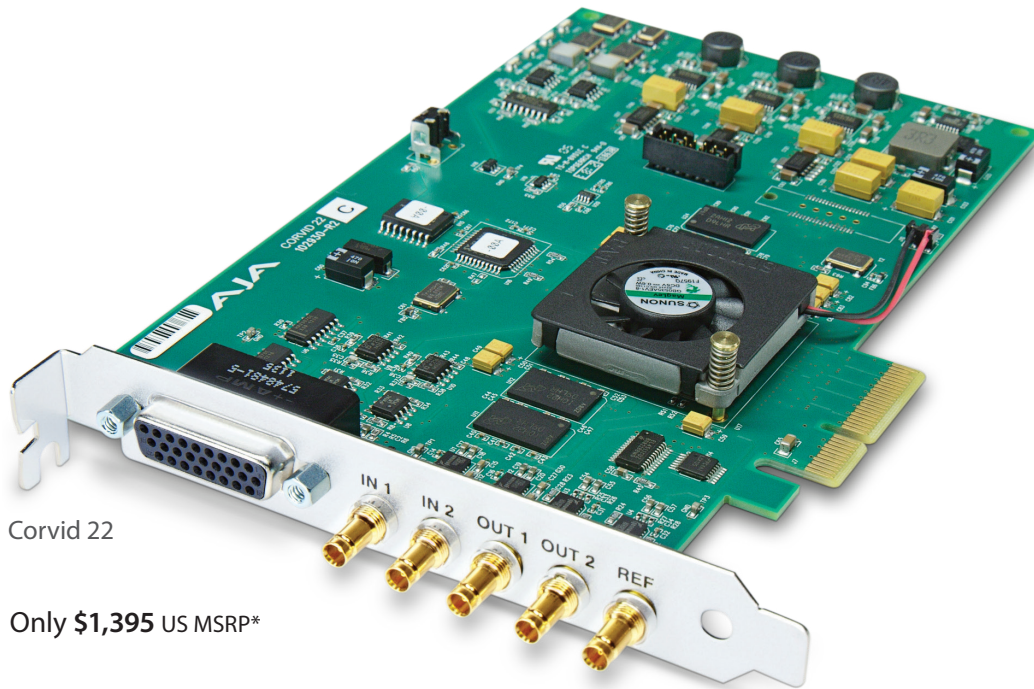
[Click here](#)

For full product specifications visit [www.aja.com/en/products/developer/corvid#techspecs](http://www.aja.com/en/products/developer/corvid#techspecs)

# AJA Developer Program

## Corvid 22

PCIe Gen 2.0 4x Card for 8/10-bit Uncompressed w/2 Independent Channels I/O Digital 3G, HD, SD SDI I/O.



Corvid 22

Only **\$1,395** US MSRP\*

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-framerate 3G 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.

### Features at a glance

- PCI Express Gen 2.0 4 lane
- 2 Channels 3G, HD-SDI or SD-SDI Input, 2 Channels 3G, HD-SDI or SD-SDI Output
- All SD/HD/2Kx1080 Video Formats
- 3G Input/Output for 1080p50/60 and Video/Key (dual-link not supported)
- 8/10 Bit YCbCr and RGB frame buffer formats
- 2 Mixer/Keyer widgets. This allows output of two simultaneous video/key pairs over 3G. It also allows for up to two simultaneous downstream keyers.
- 2 Independent 16-ch 48kHz SDI Embedded Audio I/O engines
- Analog Color Black or HD Tri-Level Sync
- 3-year warranty

# AJA Developer Program

## Corvid 22 Tech Specs

### Video Input

---

- Digital:
- 3G/HD/SD-SDI, SMPTE-259/292/296/424

### Video Output

---

- Digital:
- 3G/HD/SD-SDI, SMPTE-259/292/296/424

### Audio Input

---

- Digital:
- 16-channel 24-bit SDI embedded, 48kHz synchronous

### Audio Output

---

- Digital:
- 16-channel 24-bit SDI embedded, 48kHz synchronous

### Video Formats

---

- 2K:
- 2048 x 1080P 23.98
  - 2048 x 1080PsF 23.98
  - 2048 x 1080P 24
  - 2048 x 1080PsF 24
  - 2048 x 1080P 25
  - 2048 x 1080PsF 25
- HD:
- 720p 50
  - 720p 59.94
  - 720p 60
  - 1080i 25
  - 1080i 29.97
  - 1080i 30
  - 1080psF 23.98
  - 1080psF 24
  - 1080psF 25
  - 1080psF 29.97
  - 1080psF 30
  - 1080p 23.98
  - 1080p 24
  - 1080p 25
  - 1080p 29.97
  - 1080p 30
  - 1080p 50
  - 1080p 59.94
  - 1080p 60
- SD:
- 525i 29.97
  - 625i 25

### Reference

---

- Analog Color Black or HD Tri-level sync

### Output Sitter (timing / alignment)

---

- SD: .2 UI/.2 UI
- HD: .21 UI/.08 UI
- 3G: .45 UI/.17UI

### Power Dissipation

---

- 12w typical, 15w maximum

### Physical Dimensions

---

- 16.7 cm L x 1.8 cm W x 9.8 cm H

### Breakout Cable

---

- LTC 1 In
- LTC 2 In
- LTC 1 Out
- LTC 2 Out
- RS422 Channel 1
- RS422 Channel 2

### Other Information

---

- 2 Independent LTC In/Out
- 2 Independent RS-422

### Order Information

---

- Z-OEM-CRV22-NC1 (no cable or bracket)
- Z-OEM-CRV22-RO (comes with bracket, but no cable)
- 102953-00 — Corvid 22 Break-out Cable

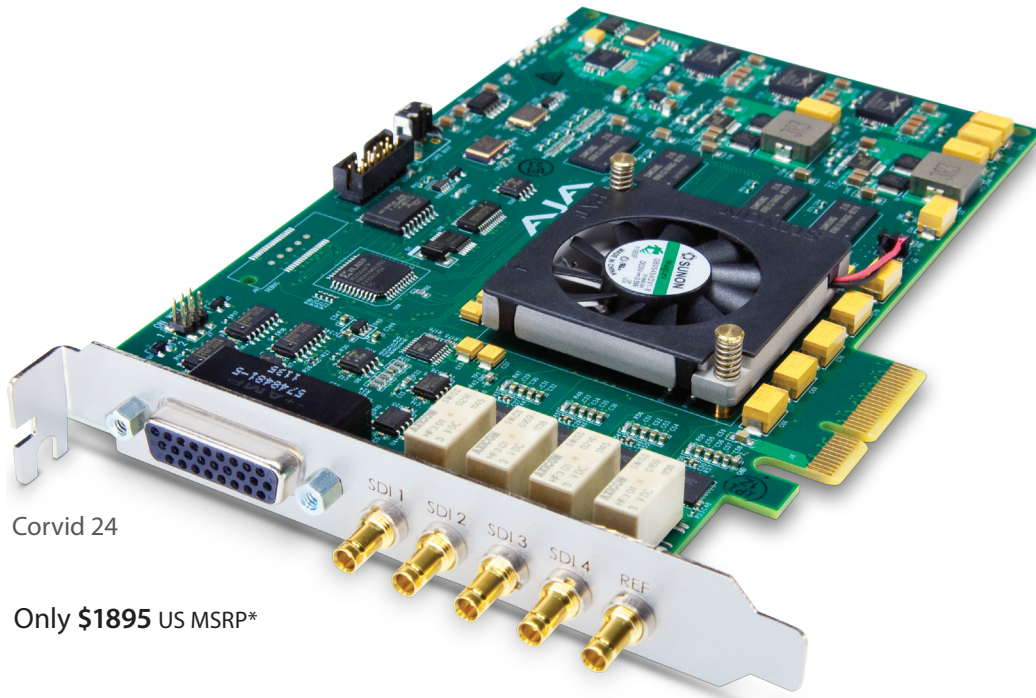
[Click here](#)

For full product specifications visit [www.aja.com/en/products/developer/corvid22/#techspecs](http://www.aja.com/en/products/developer/corvid22/#techspecs)

# AJA Developer Program

## Corvid 24

PCIe Gen 2.0 4x Card for 8/10-bit with a single 4K or 4 independent\* Channels I/O Digital 3G, HD, SD SDI I/O.



Corvid 24

Only **\$1895** US MSRP\*

Take the next step in multi-channel video and audio I/O with Corvid 24. Supporting up to 4 independent\* channels of capture or output with separate LTC, embedded 24-bit audio and metadata for each channel all on a single PCIe card, Corvid 24 is the solution for high-density I/O. All four connections can also be used to support full 4K I/O. The choice is yours. And with multiple operating system support, Corvid 24 will work in almost any environment.

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

### Features at a glance

- PCI Express Gen 2.0 4 lane
- 4 independent\* Channels 3G, HD-SDI or SD-SDI I/O or SD-SDI Output
- All SD/HD/2Kx1080/4K Video Formats
- 3G Input/Output for 1080p50/60 and Video/Key (dual-link not supported)
- 8/10 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. It also allows for up to two simultaneous downstream keyers.
- 4 independent 16-ch 48kHz SDI Embedded Audio I/O engines
- Analog Color Black or HD Tri-Level Sync
- 3-year warranty

# AJA Developer Program

## Corvid 24 Tech Specs

### Video Input

---

- Digital:
- 3G/HD/SD-SDI
  - SMPTE-259/292/296/424

### Video Output

---

- Digital:
- 3G/HD/SD-SDI
  - SMPTE-259/292/296/424

### Audio Input

---

- Digital:
- 16 Channel 24-bit SDI embedded
  - 48KHZ Synchronous

### Audio Output

---

- Digital:
- 16-Channel 24-bit Sid Embedded
  - 48 kHz synchronous

### Video Formats

---

- 4K:
- 3840 x 2160p 23.98, 24, 25, 29.97, 30
  - 3840 x 2160PsF 23.98, 24, 25
  - 4096 x 2160p 23.98, 24, 25, 29.97, 30
- 2K:
- 2048 x 1080P 23.98
  - 2048 x 1080PsF 23.98
  - 2048 x 1080P 24
  - 2048 x 1080PsF 24
  - 2048 X 1080PSF 24
  - 2048 x 1080P 25
  - 2048 x 1080PsF 25
- HD:
- 720p 50
  - 720p 50.94
  - 720p 60
  - 1080i 25
  - 1080i 29.97
  - 1080i 30
  - 1080PsF 23.98
  - 1080PsF 24
  - 1080PsF 25
  - 1080PsF 29.97
  - 1080PsF 30
  - 1080P 23.98
  - 1080P 24
  - 1080P 25
  - 1080P 29.97
  - 1080P 30
  - 1080P 50
  - 1080P 59.94
  - 1080P 60
- SD:
- 525i 29.97
  - 625i 25

### Reference

---

- Analog Color Black or HD Tri-level sync

### Breakout Cable

---

- LTC 1 In
- LTC 2 In
- LTC 1 Out
- LTC 2 Out
- RS422 Channel 1
- RS422 Channel 2

### Physical Dimensions

---

- 16.7 cm L x 1.8 cm W x 9.8 cm H

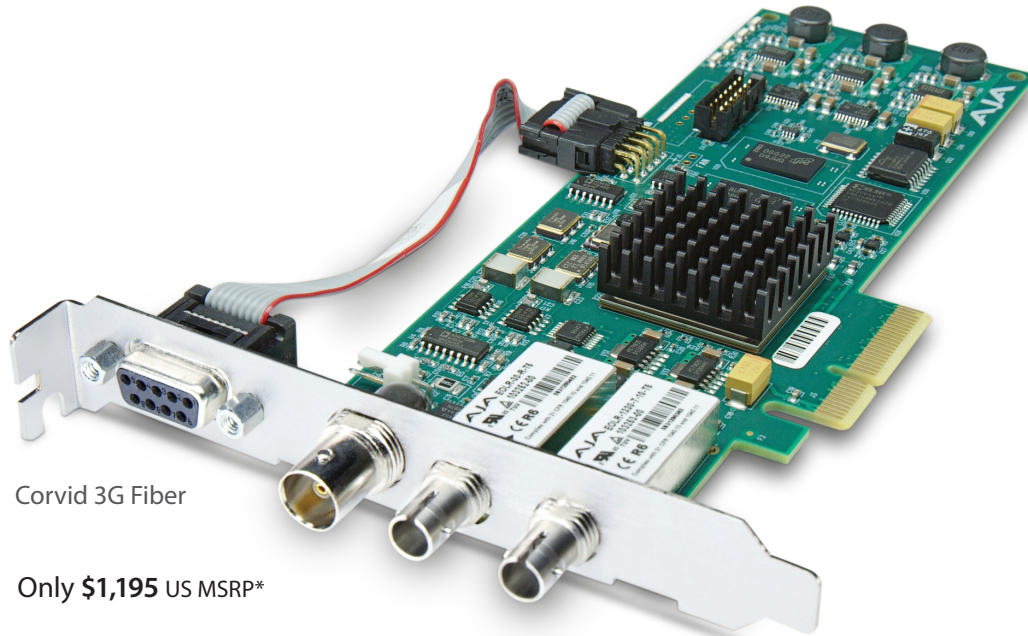
[Click here](#)

For full product specifications visit [www.aja.com/en/products/developer/corvid24/#techspecs](http://www.aja.com/en/products/developer/corvid24/#techspecs)

# AJA Developer Program

## Corvid 3G Fiber

PCIe 4x Card for 8/10-bit Uncompressed Digital 3G, HD, and SD over Fiber I/O.



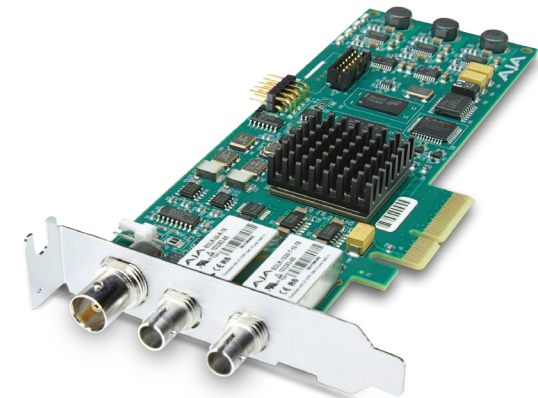
Corvid 3G Fiber

Only **\$1,195** US MSRP\*

For installations where long cable runs are needed, fiber optic is the ideal solution and AJA's Corvid 3G Fiber allows direct input and output connections to your fiber infrastructure without the need to convert between SDI. Available in a standard sized PCIe card or "Low Profile" for when space is of the essence and support for multiple operating systems, Corvid 3G Fiber is the solution for the long haul.

### Features at a glance

- PCI Express 4 lane
- 1 Channel 3G, HD-SDI or SD-SDI over Fiber ST connector Input
- 1 Channel 3G, HD-SDI or SD-SDI over Fiber ST connector Output
- 8/10 Bit YCbCr and RGB framebuffer formats
- 1 Mixer/Keyer
- Available in PCIe form factor (Corvid 3G Fiber) or PCIe Low Profile form factor (Corvid 3G Fiber LP)
- 16-ch SDI Embedded Audio I/O, 24-bit 48khz
- HD/SD Genlock, Reference Video or LTC Input (selectable)
- 3-year warranty



Corvid 3G Fiber Low Profile

# AJA Developer Program

## Corvid 3G Fiber Tech Specs

### Video Input

---

- Digital:
- 3G/HD/SD-SDI, SMPTE-259/292/296/424 over ST Fiber connector

### Video Output

---

- Digital:
- 3G/HD/SD-SDI, SMPTE-259/292/296/424 over ST Fiber connector

### Audio Input

---

- Digital:
- 16-channel 24-bit SDI embedded, 48kHz synchronous

### Audio Output

---

- Digital:
- 16-channel 24-bit SDI embedded, 48kHz synchronous

### Video Formats

---

- 2K:
- 2048 x 1080P 23.976
  - 2048 x 1080PsF 23.976
  - 2048 x 1080P 24
  - 2048 x 1080PsF 24
  - 2048 x 1080P 25
  - 2048 x 1080PsF 25
- 3G/HD:
- 720p 50
  - 720p 59.94
  - 720p 60
  - 1080i 25
  - 1080i 29.97
  - 1080i 30
  - 1080PsF 23.98
  - 1080PsF 24
  - 1080PsF 25
  - 1080PsF 29.97
  - 1080PsF 30
  - 1080P 23.98
  - 1080P 24
  - 1080P 25
  - 1080P 29.97
  - 1080P 30
  - 1080P 50
  - 1080P 59.94
  - 1080P 60
- SD:
- 525i 29.97
  - 625i 25

### Order Information

---

- Z-OEM-CRVGFT-R0
- CORVID 3G Fiber Z-OEM-CRVGFS-R0
- CORVID 3G Fiber LP

### Reference

---

- Analog Color Black or HD Tri-level sync

### Physical Dimensions

---

- 16.8 cm L x 1.4cm W x 5.5 cm H

[Click here](http://www.aja.com/en/products/developer/corvid-3g-fiber/#techspecs)

For full product specifications visit [www.aja.com/en/products/developer/corvid-3g-fiber/#techspecs](http://www.aja.com/en/products/developer/corvid-3g-fiber/#techspecs)

# AJA Developer Program

## Corvid Ultra

External 2RU chassis w/ PCIe Gen. II for 4K, stereoscopic, high framerate and other high bandwidth applications.



Corvid Ultra - front panel  
Shown with PCIe HBA

### Corvid Ultra

Corvid Ultra gives AJA's partners access to a world of groundbreaking functionality. Whether working with high frame rate material at 48p or 60p, full resolution 4K or stereoscopic files, the AJA TruScale™ arbitrary scaler, onboard Debayering support and two expandable card bays allow developers to tailor Corvid Ultra to provide maximum performance and the highest quality for their most demanding applications.

Starting at:  
**\$7,995 US MSRP\***

TruScale  
**\$3,495 US MSRP\***

### Features at a glance

- Extensive I/O: 3G SDI, 4K HDMI output, embedded and AES audio (2-channel analog audio monitoring)
- Supports video formats from SD through to 4K at up to 60 frames per second
- Color depth up to 16-bit half float RGBA with full color space conversion - Powerful, onboard Debayering for RAW workflows
- High-quality AJA TruScale™ means perfect quality at any resolution
- Two 4K-capable expansion slots for additional I/O or processing
- Fast 8x PCIe 2.0 host connection provides 2500+ MB/s in each direction
- Supports peer-to-peer transfers via DMA
- 2RU form factor



Corvid Ultra - rear panel  
Shown with optional TruScale™ card installed

### TruScale™ (optional)

AJA's TruScale™ technology enables high-quality, arbitrary image scaling. Typical scaling technology is focused on adapting from one specific resolution to another. Advanced AJA technology allows TruScale to take any size raster, from the smallest web video to 5K resolution images, and scale it to any other resolution while still maintaining the highest possible quality.

TruScale is available as an option card that can be factory installed into Corvid Ultra allowing two independent channels of high-quality scaling to be used in conjunction with Corvid Ultra's other capabilities.



# AJA Developer Program

## Corvid Ultra Tech Specs

### Video Formats

- 4K:
- 3840x2160P 23.98, 24, 25, 29.97, 30, 48, 50, 59.94, 60
  - 4096x2160P 23.98, 24, 25, 29.97, 30, 48, 50, 59.94, 60
- 2K:
- 2048 x 1080P 23.98, 24, 25, 29.97, 30, 50, 60
  - 2048 x 1080PsF 23.98, 24
- HD:
- 720P 50, 59.94, 60
  - 1080i 25, 29.97, 30
  - 1080PsF 23.98, 24, 25, 29.97, 30
  - 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- SD:
- 525i 29.97
  - 625i 25

### Pixel Formats

- 8-bit:
- YCbCr 4:2:2
  - RGB
  - RGBA
- 10-bit:
- YCbCr 4:2:2
  - RGB
  - RGBA
- 12-bit:
- YCbCr 4:2:2
  - RGB
  - RGBA
  - XYZ
  - XYZA
- 16-bit:
- RGB

### Video Inputs

- 3G-SDI, SMPTE-259/292/296/424, 8- or 10-bits
- Single Link 4:2:2 or 4:4:4 (1 x BNC)
- Dual Link HD 4:4:4 (2 x BNC)
- 4K/UltraHD 4:4:4 (4 x BNC)
- Canon C500 RAW data

### Video Outputs

- 3G-SDI, SMPTE-259/292/296/424, 8- or 10-bits
- Single Link 4:2:2 or 4:4:4 (1 x BNC)
- Dual Link HD 4:4:4 (2 x BNC)
- 4K/UltraHD 4:4:4 (4 x BNC)
- HDMI v2.0b, 30/36 bits/pixel, RGB or YUV, 2.25Gbps, SD, HD, 1080p-50/60, 4K, 2K stereoscopic (full-size HDMI)

### Audio Inputs

- Digital:
- 16-channel 24-bit SDI embedded, 48kHz synchronous
  - 16-channel 24-bit AES/EBU, 48kHz synchronous (8 x BNC)

### Audio Outputs

- Digital:
- 16-channel 24-bit SDI embedded, 48kHz synchronous
  - 16-channel 24-bit AES/EBU, 48kHz synchronous (8 x BNC)
- Analog:
- 2-channel unbalanced output (2 x RCA)

### Reference

- Analog Reference Input (BNC)
- Analog Reference Output, loop through (BNC)

### Timecode

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

### Machine Control

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

1	GND
2	RX-
3	TX+
4	GND
5	No Collection
6	GND
7	RX+
8	TX-
9	GND
Shell	GND

### Host Connection

- 8-lane PCIe 2.0
- 3-meter interconnect cable
- 2500+ MB/sec (bi-directional)

### Expansion Slots

- Accepts AJA TruScale™ option card

### Processing

- 4 Capture frame stores
- 4 Playback frame stores
- 8 Color Space Converters (high precision)
- 4 1D LUTs (12-bit)
- 4 Debayering Widgets

### Optional Arbitrary Scaling

- High-quality scaling from one resolution and aspect ratio to any other
- Not limited to standard formats
- TruScale™ hardware option card for real time performance
- Keyframeable control for animated pan and scan

### Physical Dimensions

- Width: 17.25" (43.8cm), compatible with standard 19" racks
- Height: 3.375" (8.57cm), 2 rack units (2 RU)
- Depth: 11.625" (29.5cm), including connectors

[Click here](#)

For full product specifications visit [www.aja.com/en/products/developer/corvid-ultra/#techspecs](http://www.aja.com/en/products/developer/corvid-ultra/#techspecs)

# AJA Developer Program

## Io 4K

Harness Thunderbolt™ 2 power in 4K, HD and SD.



### Features at a glance

- 4 x bi-directional 3G-SDI
- 4K/UHD HDMI I/O
- Simultaneous SDI and HDMI outputs
- Real time 4K to HD downconversion 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
- 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
- XLR 12V power for battery or AC use
- RS-422 VTR control, Reference, LTC Input
- Headphone jack and level control for mobile environments

## Io 4K

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 multi-channel SD and HD to UltraHD and full 4K over both SDI and HDMI with High Frame Rate (HFR) support up to 60 fps.

The dual Thunderbolt 2 ports on Io 4K allow daisy-chaining 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 on the desktop. Integrate Io 4K easily into your application for high-quality multi-channel or 4K I/O with the power and functionality you need.

Only **\$1,995** US MSRP\*

# AJA Developer Program

## Io 4K Tech Specs

### Video Formats

- SD
  - 525i 29.97
  - 625i 25
- HD
  - 720P 50, 59.94, 60
  - 1080i 50, 59.94, 60
  - 1080PsF 23.98, 24, 25, 29.97, 30
  - 1080p 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
  - 2048 x 1080PsF 23.98, 24, 25, 29.97, 30
- 4K
  - 3840 x 2160P 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
  - 3840 x 2160PsF 23.98, 24, 25
  - 4096 x 2160P 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
  - 4096 x 2160PsF 23.98, 24, 25

### Video Inputs

- 3G-SDI, SMPTE-259/292/296/424/425, 8-bit, 10-bit and 12-bit
- Single Link 4:2:2 or 4:4:4 (1 x BNC)
- Dual Link HD 4:4:4 (2 x BNC)
- 2K HSDL (High Speed Data Link) 4:4:4, (2 x BNC)
- 4K/UltraHD 4:4:4 (4 x BNC)
- AJA Raw
- HDMI 1.4 with 2.0 Level B resolutions
  - 30/36 bits/pixel, RGB or YUV, 2.25Gbps.
  - SD, HD, 2K and stereoscopic HD support, UHD with HFR support up to 60p 4:2:0

### Video Outputs

- 3G-SDI, SMPTE-259/292/296/424/425, 8-bit, 10-bit and 12-bit
- Single Link 4:2:2 or 4:4:4 (1 x BNC)
- Dual Link HD 4:4:4 (2 x BNC)
- 2K HSDL (High Speed Data Link) 4:4:4, (2 x BNC)
- 4K/QuadHD 4:4:4 (4 x BNC)
- HDMI 1.4 with 2.0 Level B resolutions
  - 30/36 bits/pixel, RGB or YUV, 2.25Gbps
  - SD, HD and UHD with HFR support up to 60p 4:2:0

### Audio Input Digital

- 16-channel, 24-bit SDI embedded audio, 48kHz sample rate, Synchronous
- 8-channel, 24-bit HDMI embedded audio, 48kHz sample rate, Synchronous

### Audio Output Digital

- 16-channel, 24-bit SDI embedded audio, 48kHz sample rate, Synchronous
- 8-channel, 24-bit HDMI embedded audio, 48kHz sample rate, Synchronous

### Audio Output Analog

- 8-channel, 24-bit D/A analog audio, 48kHz sample rate, balanced (via 8 x XLR on DB-25 breakout cable)
- +24dbu Full Scale Digital (0dbFS)
- +/- 0.2db 20 to 20kHz Frequency Response

### Downstream Keyer

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

### 4K/UHD Down-Conversion

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

### Frame Rate Conversion

- 4K/UHD - 60fps to 30fps
- 4K/UHD - 50fps to 25fps

### Up-Conversion

- Hardware 10-bit
- **Anamorphic:** full-screen
- **Pillar box 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 side bars
- **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

### Reference and LTC I/O

- 1x BNC LTC Output
  - 1 x BNC assignable to Reference video or LTC input
- Reference:
- Analog Color Black (1V) or Composite Sync (2 or 4V)
  - Non-terminating

### Physical

- Interface: Thunderbolt 2 (2 x)
- Power: 10-20V, 30-60W\*

\* Note: Nominal power is 30W. However, multiple connected Thunderbolt devices may place additional power demands on Io 4K, which could increase the power draw to 60W.

### Machine Control

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

1	GND
2	RX-
3	TX+
4	GND
5	No Collection
6	GND
7	RX+
8	TX-
9	GND
Shell	GND

[Click here](#)

For the most recent product specifications visit [www.aja.com/en/products/io-4k/#techspecs](http://www.aja.com/en/products/io-4k/#techspecs)



# AJA Developer Program

## Io XT

Thunderbolt™ power for professional I/O



## Io XT

Io XT is the ideal portable companion for lightning-fast video capture and playback for professional post production 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.

Only **\$1,495** US MSRP\*

## Features at a glance

- 2 x 3G-SDI inputs
- 2 x 3G-SDI outputs
- Simultaneous SDI and HDMI outputs
- Component analog video output
- 10-bit high-quality 4:2:2, 4:4:4 workflow support
- Two Thunderbolt™ ports with loop-through
- 16-channel embedded audio on SDI
- 8-channel embedded audio on HDMI
- DB-25 analog audio output connector
- XLR 12V power for battery or AC use
- RS-422 VTR control, Reference, LTC Input
- Headphone jack and level control for mobile environments

# AJA Developer Program

## Io XT Tech Specs

### Video Formats

- 525i 29.97
- 525i 23.98\*
- 625i 25
- 720p 23.98\*, 24 \*, 25 \*, 29.97\*, 30 \*, 50, 59.94, 60
- 1080i 25, 29.97, 30
- 1080PsF 23.98, 24, 25, 29.97, 30
- 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- 2Kx1080p 23.98, 24, 25
- 2Kx1080PsF 23.98, 24, 25

\* These formats are dependent on specific software functionality and are not normal 'over-the-wire' formats.

### Software-dependent Formats

These formats are dependent on specific software functionality and are not normal 'over-the-wire' formats.

- 720P 23.98, 24, 25, 29.97, 30

### Video Input

- 3G/SD/HD SDI, SMPTE-259/292/296/424, 10-bits
- Single Link 4:2:2 or 4:4:4, (1 x BNC)
- Dual Link HD 4:4:4, (2 x BNC)
- HDMI v1.3
- 1D LUT Support (Mac and PC)

### Video Output Digital

- 3G/SD/HD SDI, SMPTE-259/292/296/424
- Single Link 4:2:2 or 4:4:4 (1 x BNC)
- Dual Link HD 4:4:4, (2 x BNC)
- HDMI v1.4, 30/36 bits/pixel, RGB or YUV, 2.25Gbps

### Video Output Analog

- Composite/S-Video (Y/C) (1 x BNC/2x BNC+adapter)
- NTSC, NTSCJ, PAL
- Component (3 x BNC)
- HD: YPbPr, RGB
- SD: YPbPr, 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

### Audio Input Digital

- 16-channel, 24-bit SDI embedded audio, 48kHz sample rate, Synchronous
- 8-channel, 24-bit HDMI embedded audio, 48kHz sample rate, Synchronous

### Audio Output Digital

- 16-channel, 24-bit SDI embedded audio, 48kHz sample rate, Synchronous
- 8-channel, 24-bit HDMI embedded audio, 48kHz sample rate, Synchronous

### Audio Output Analog

- 8-channel, 24-bit D/A analog audio, 48kHz sample rate, balanced (via 8 x XLR on DB-25 breakout cable)
- +18 dBu Full Scale Digital (0 dBFS)
- +/- 0.2 dB 20Hz to 20kHz 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
- **Pillar box 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 side bars
- **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

### Physical

- Power: 10-20V, 18-22W
- Interface: Thunderbolt x 2

### 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

- 1 x BNC assignable to Reference video or LTC input
- Reference:**
- Analog Color Black (1V) or Composite Sync (2 or 4V)
  - Non-terminating

### Machine Control

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

1	GND
2	RX-
3	TX+
4	GND
5	No Connection
6	GND
7	RX+
8	TX-
9	GND
Shell	GND

[Click here](#)

For the most recent product specifications visit [www.aja.com/en/products/io-xt/#techspecs](http://www.aja.com/en/products/io-xt/#techspecs)



### 3-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 post-production 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](http://www.aja.com)

Because it matters.®

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