

Io<sup>®</sup> IP



Thunderbolt™ 3 Performance for Broadcast IP



# Io<sup>®</sup> IP



**\$2,495** US MSRP\*

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Io IP revolutionizes and simplifies your portable or desktop high quality I/O capabilities with the speed and bandwidth of Thunderbolt™ 3 via USB-C.

Explore new IP workflows with the reliability, quality and support that defines AJA's Io products..

## Transition Seamlessly to Desktop and Mobile IP

Io IP delivers tremendous performance and flexibility for your multi-channel HD video and audio I/O requirements over IP. Ingest and output across a 10 GigE IP network with superb local monitoring over 3G-SDI and HDMI 2.0. 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 IP to transfer your video and audio whether HD or SD from your Thunderbolt 3 equipped Mac or PC to anywhere over the network you choose. Io IP also has dual Thunderbolt 3 ports enabling daisy chaining for configuration flexibility.

Io IP 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 or broadcast suite. Io IP seamlessly integrates with leading production, post, mastering and streaming tools from Apple®, Adobe®, Avid®, Autodesk®, Telestream® and many more.

HDR

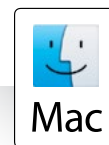
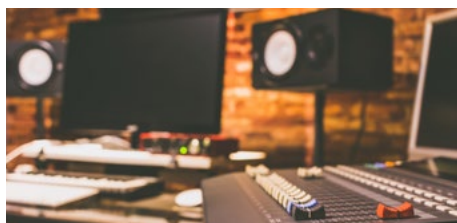


## Feature-rich and portable I/O for IP Pipelines

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 HD 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.

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



## Real World Workflows

Io IP provides your connection to the emerging world of broadcast video over IP, while still giving you the ability to utilize your existing infrastructure and preserve existing creative workflows.

For video monitoring, simultaneous dedicated 3G-SDI and HDMI 2.0 outputs provide instant high quality local monitoring.

When it comes to voice overs or capturing audio from mixer sources, Io IP boasts four analog audio inputs.

For audio monitoring you can choose from either four analog, eight embedded HDMI, or sixteen embedded SDI audio channels.

## Small, Yet Powerful

Connect to a Thunderbolt 3 laptop or desktop workstation anywhere and power your performance while dual Thunderbolt 3 ports enable daisy chaining for configuration flexibility.

Io IP makes full use of Thunderbolt 3 speed, power and bandwidth, to enable outstanding capabilities and performance for all your HD or SD IP production, post, streaming or live event needs and all at a size that's small and rugged enough to easily put in a truck, take on-set or use in the field.

## Integrate Seamlessly

Use Io IP to capture, monitor and work directly within your application of choice, just as you do today.

AJA's proven driver and plug-in technology provides seamless compatibility with a wide range of production, editing, graphics, and broadcast software packages including Adobe Premiere® Pro, Apple FCP X, Avid Media Composer®, FilmLight products, AJA Control Room and more.

The user experience is virtually identical to driving an AJA SDI or HDMI based solution.

Io IP offers the flexibility to use the software appropriate for your workflow while maintaining consistent, high quality hardware ingest and output across your 10 GigE IP network.

## Dual 10 GigE Connectivity

KONA IP provides two SFP cages compatible with 10 GigE SFP+ transceiver modules from leading third party\* providers for easy integration into IP pipelines.

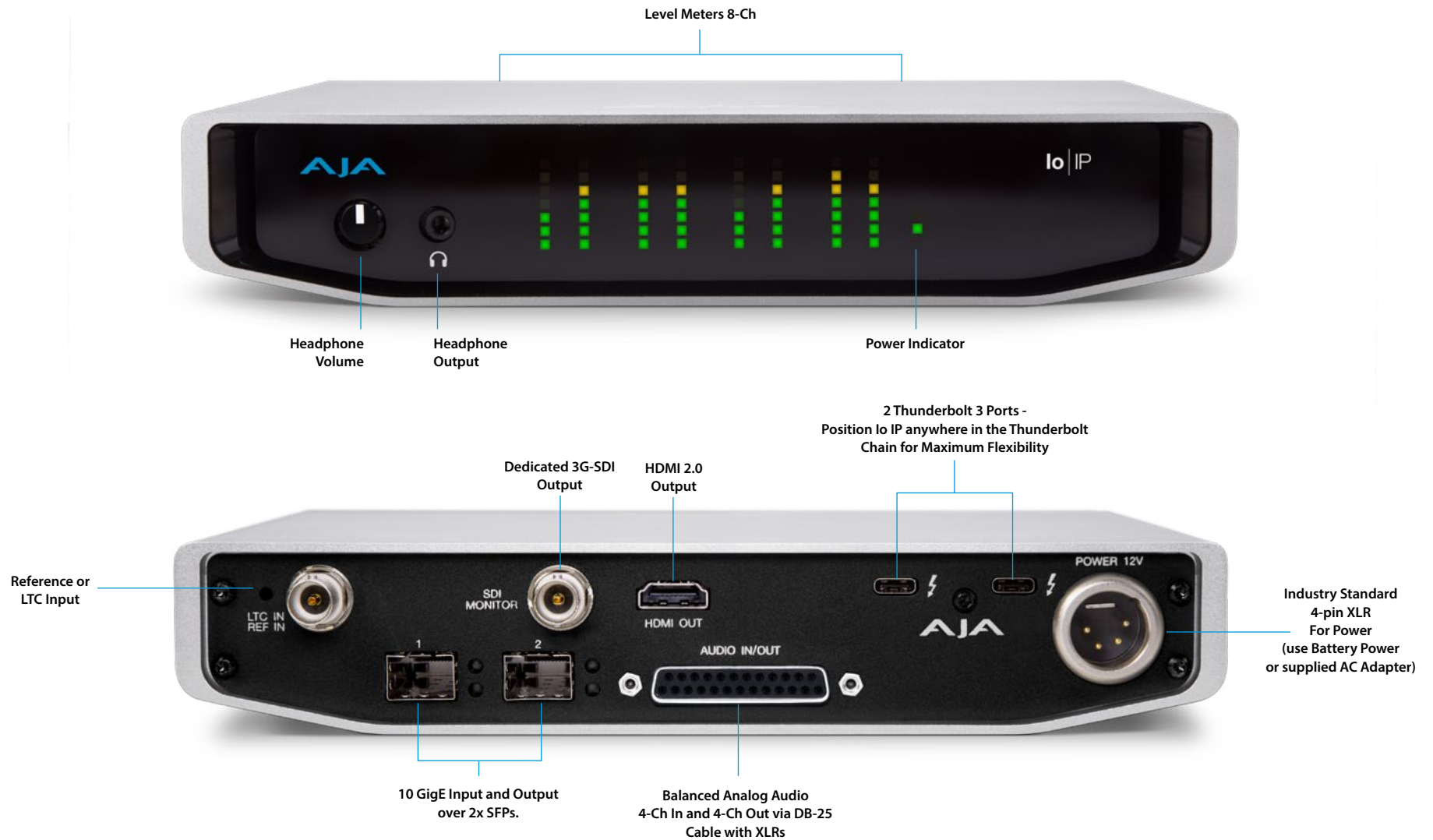
*\*SFP's are not included.*

*Recommended SFP+ modules:*

- Finisar FTLX1471D3BCL (for single mode 1310nm)
- Arista Networks SFP-10G-SR Compatible 10GBASE-SR
- Generic 850nm 300m DOM Transceiver (for multi-mode 850nm)



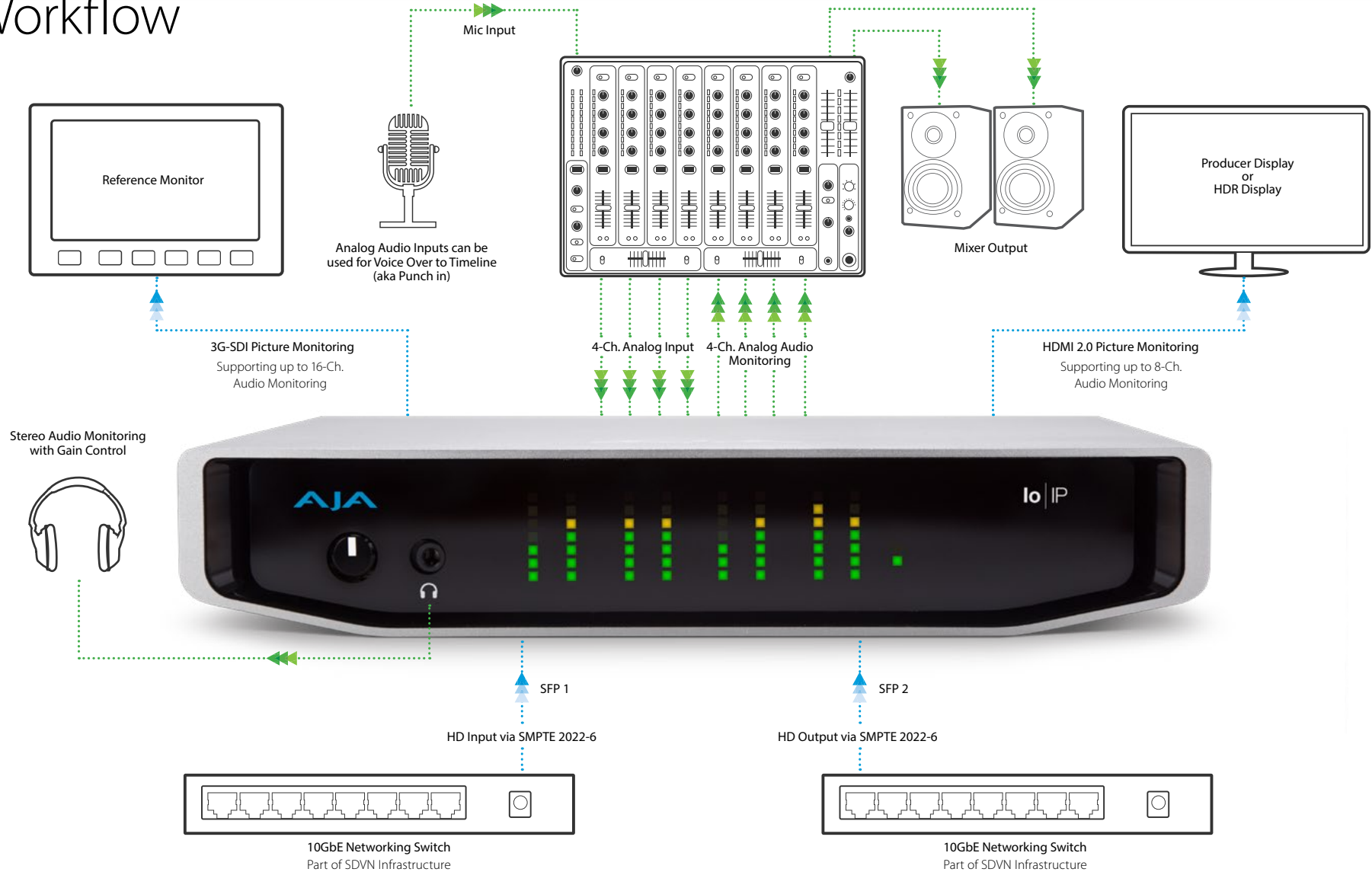
## Connections



[Click here](#)

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

## Workflow



SFP Ports can also be configured for SMPTE 2022-7, allowing for redundant network paths.

## Tech Specs

### Video Formats

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

*Note: High Frame Rate capabilities are dependent on host system attributes. Not all systems and configurations will support all frame rates.*

### Media Transport Interfaces

- SMPTE 2022-6, 2022-7
  - 2 x SFP+ Cages - SFPs not included
- Recommended SFP+ modules:
  - Finisar FTLX1471D3BCL (for single mode 1310nm)
  - Arista Networks SFP-10G-SR Compatible 10GBASE-SR
  - Generic 850nm 300m DOM Transceiver (for multi-mode 850nm)

### Video Input IP

- SMPTE 2022-6, 2022-7
  - Up to 4 channels in\*

### Video Output IP

- SMPTE 2022-6, 2022-7
  - Up to 4 channels out\*

*\*Number of channels that can be used for input / output is dependent on software being used. NLEs will be able to utilize simultaneous input and output for monitoring during capture, whereas graphic solutions could take advantage of 4 simultaneous outputs and multi channel ingest software, up to 4 simultaneous inputs.*

### Video Output Digital

- HDMI v2.0
  - 30/36 bits/pixel, RGB or YUV, 6 Gbps per color component
  - HDR 10 Support - HDR Infoframe metadata, compatible with HDMI 2.0a/CTA-861.3
  - HLG Support - compatible with HDMI 2.0b/CTA-861-G\*\*

*\*HLG support is application dependent. Check with your software manufacturer for compatibility.*

*Note: Bit depth 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 Inputs Analog

- 4-Channel, 24- and 16-bit A/D analog audio, 48 kHz sample rate, balanced, using industry standard 4x XLR on DB-25 breakout cable (cable not included)
- +24 dBu full scale digital (0dBFS)
- +/- 0.2 dB 20 to 20 kHz frequency response
- Input is supported across Ch. 1-4

### 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

### Audio Output Analog

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

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

### Reference

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

### Electrical Interface

- Thunderbolt 3 (2 x)

### 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 Connection
6	GND
7	RX+
8	TX-
9	GND
Shell	GND

### Size (w x d x h)

- 8.74" x 8.11" x 1.65" (222mm x 206mm x 42mm)

### Weight

- 3.3 lbs (1.5 kg)

### Power (device only)

- 10-20V, 33W typical, 38W max, 72W max with USB-C power delivery to external devices

### Environment

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

[Click here](#)

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

HDR



## Three Year Warranty

AJA Video warrants that its 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](http://www.aja.com)**