![AJA VIDEO SYSTEMS logo]
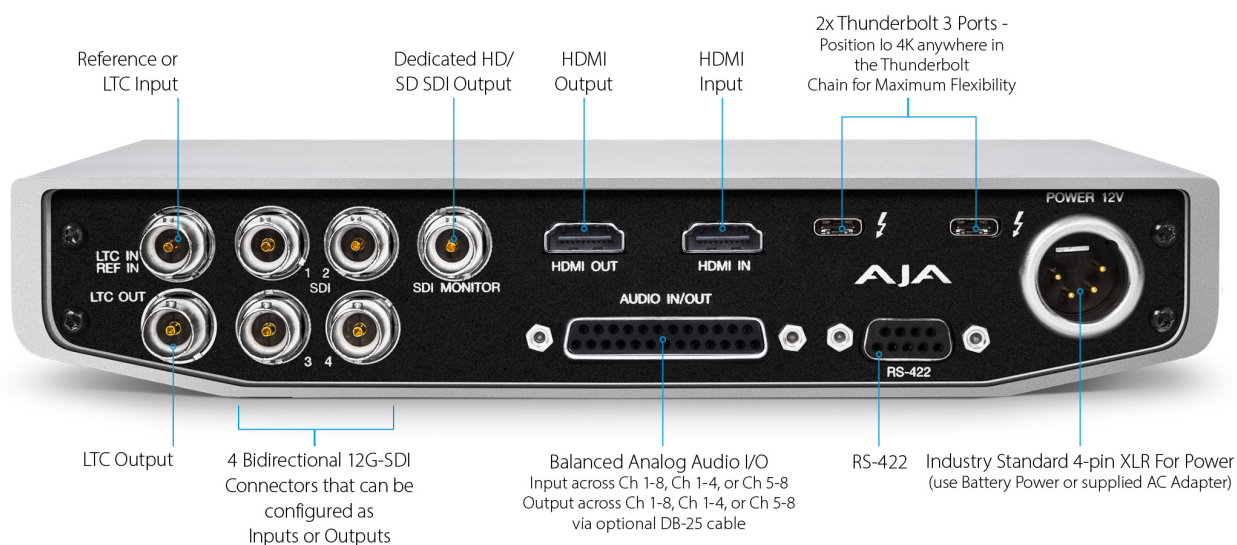
Io 4K Plus

Io 4K Plus is the cutting edge of capture and output hardware available over Thunderbolt 3, offering a full set of professional video and audio connectivity with support for the latest 4K/UHD devices, High Frame Rate (HFR), High Dynamic Range (HDR), and deep color workflows. The power of Thunderbolt 3 enables Io 4K Plus to handle a wide range of formats from SD to HD, UltraHD, and full 4K with frame rates up to 60p over both 12G-SDI and HDMI 2.0 with single cable simplicity, plus HDR10 and HLG support over HDMI for emerging HDR workflows.

$3435 US MSRP

https://www.aja.com/products/io-4k-plus

Reference or
LTC Input

Dedicated HD/
SD SDI Output

HDMI
Output

HDMI
Input

2x Thunderbolt 3 Ports -
Position Io 4K anywhere in
the Thunderbolt
Chain for Maximum Flexibility

LTC Output

4 Bidirectional 12G-SDI
Connectors that can be
configured as
Inputs or Outputs

Balanced Analog Audio I/O
Input across Ch 1-8, Ch 1-4, or Ch 5-8
Output across Ch 1-8, Ch 1-4, or Ch 5-8
via optional DB-25 cable

RS-422

Industry Standard 4-pin XLR For Power
(use Battery Power or supplied AC Adapter)

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

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

Video Input Digital

- 12G-SDI, SMPTE-2082, 12-bit*, 10-bit
- 6G-SDI, SMPTE-2081, 10-bit
- 3G-SDI, SMPTE 425
  - RGB 4:4:4 12-bit*, YCbCr 4:2:2 10-bit
- 1.5G-SDI, SMPTE 292M
  - Single Link HD-SDI YCbCr 4:2:2 10-bit
  - Dual Link RGB 4:4:4 12-bit*, Dual Link YCbCr 4:2:2 10-bit
- 270 Mbps SDI, SMPTE 259M-C
  - YCbCr 4:2:2 10-bit, 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
- 4x SDI BNC ports and configuration options:
  - 4x HD/SD 3G/1.5G bidirectional
  - 1x 4K/UltraHD single-link 12G/6G input (SDI 1) and one 4K/UltraHD single-link 12G/6G output (SDI 3)
  - 2x 4K/UltraHD dual-link 3G/1.5G (one input channel & one output channel, two input channels, or two output channels)
  - 1x 4K/UltraHD four-link 3G/1.5G input or output, Quadrant or 2SI

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

Video Output Digital

- 12G-SDI, SMPTE-2082, 12-bit*, 10-bit
- 6G-SDI, SMPTE-2081, 10-bit
- 3G-SDI, SMPTE 425
  - RGB 4:4:4 12-bit*, YCbCr 4:2:2 10-bit
- 1.5G-SDI, SMPTE 292M
  - Single Link HD-SDI YCbCr 4:2:2 10-bit
  - Dual Link RGB 4:4:4 12-bit*, Dual Link YCbCr 4:2:2 10-bit
- 270 Mbps SDI, SMPTE 259M-C
  - YCbCr 4:2:2 10-bit, 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
- 4x SDI BNC ports and configuration options:
  - 4x HD/SD 3G/1.5G bidirectional
  - 1x 4K/UltraHD single-link 12G/6G output (SDI 3)
  - 2x 4K/UltraHD dual-link 3G/1.5G (one input channel & one output channel, two input channels, or two output channels)
  - 1x 4K/UltraHD four-link 3G/1.5G input or output, Quadrant or 2SI

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

HDR

- SDI: VPID signaling for SDR/HDR Transfer Characteristics, Colorimetry and Luminance
- HDMI: HDR10 Support - HDR Infoframe metadata, compatible with HDMI 2.0a/CTA-861.3
- HDMI: HLG Support - compatible with HDMI 2.0b/CTA-861-G

Note: HDR 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

Audio Inputs Analog

- 8-channel, 24 and 16-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
- Input supported across Ch 1-8, Ch 1-4, or Ch 5-8 depending on configuration chosen

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

Downstream Keyer

- Supports graphics up to 2K/HD 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

- 1x BNC LTC output
- 1x 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 (2x)

Machine Control

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

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

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, 36W max, 70W max with USB-C power delivery to external devices

Environment

- 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)