

# 10-BIT HD OVER FIREWIRE. TRUE.



**io HD**

Io HD is the only device in the world that supports Apple's ProRes 422 codec in hardware, enabling true 10-bit video editing on a MacPro desktop or a MacBook Pro laptop. With this high performance hardware and innovative codec from Apple, you can work anywhere in SD or HD—all in full-raster 10-bit 4:2:2 quality.

## HD...anywhere you want it.

AJA's Io HD is the latest in the award-winning Io family of products—an effortless to use, transportable plug-in solution for working with HD and SD in Final Cut Studio 2. With a single FireWire 800 connection, Io HD uniquely supports the amazing new Apple ProRes 422 Codec natively, in hardware, to bring production-quality HD editing to the Mac Pro desktop and even the MacBook Pro laptop!

Like other members of the Io family, Io HD offers unparalleled video and audio connectivity. Within its portable and ruggedly cool form factor, Io HD offers SD/HD analog I/O, SD/HD digital I/O including HD-SDI and HDMI, Balanced analog and digital AES audio, as well as RS-422, Genlock, and even LTC timecode connections. Io HD also includes AJA's realtime hardware 10-bit up/down/cross conversion.

## Features

- Apple ProRes 422 and Apple ProRes 422 HQ Codec—SD, HD 720/1080, full-raster 10 bit 4:2:2, realtime, in hardware
- Up/down/cross-conversion, 10-bit, realtime, in hardware
- SD-SDI and HD-SDI I/O (2)
- Component I/O (SD and HD)
- Composite and S-video I/O
- HDMI video w/2-channel audio I/O
- Embedded SDI 8-channel audio I/O
- AES/EBU 8-channel unbalanced audio I/O
- Analog 4-channel balanced audio I/O (XLR)
- Analog 2-channel unbalanced audio output (RCA)
- Genlock with loophrough
- RS-422 machine control
- LTC Timecode I/O
- Connects to Mac via a single FireWire 800 cable
- For Apple Final Cut Studio 2 on Mac OS X
- 3-year International Warranty



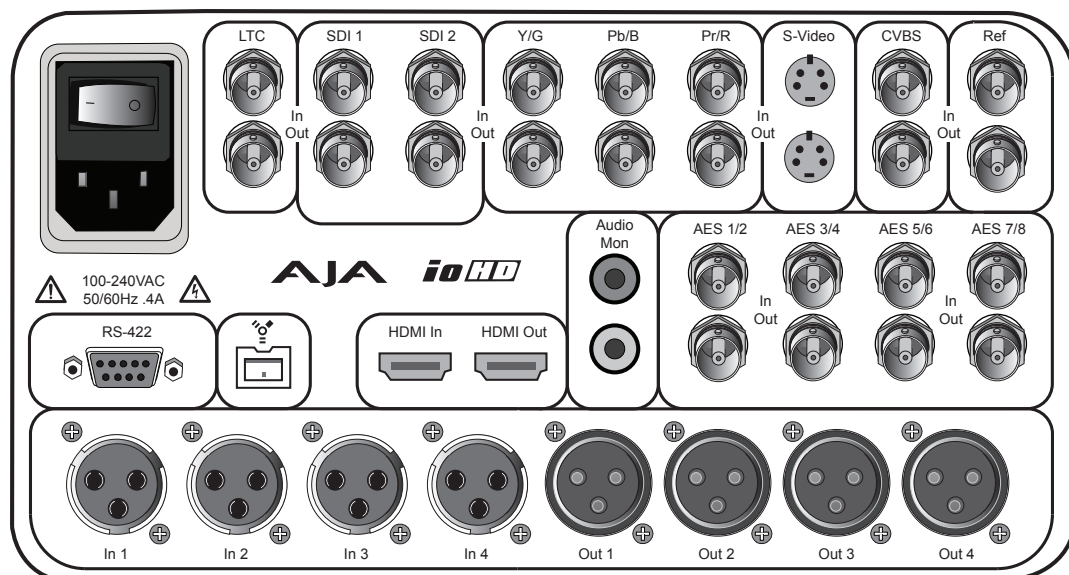
## SPECIFICATIONS

### Io Flexibility with KONA-level Power

Io HD is a versatile powerhouse, bringing features pioneered on AJA's industry-leading KONA lineup such as 10-bit hardware-based up-conversion, cross-conversion, and down-conversion—all performed in realtime. Just tap into its flexibility, and you can configure a Mac as a professional HD or SD editing suite, or high-powered field-editing system and just about anything in-between. Both analog and digital ports are offered, allowing connection to virtually every kind of video/audio peripheral — from the most current HD digital decks to analog legacy devices.

### Io HD Software

Io HD runs on a new AJA-built driver, similar to the KONA driver, which brings features such as Core Audio and very low latency capture and playback. The Io HD driver also provides RGB support, allowing for the direct video output of applications such as Adobe After Effects,™ Autodesk Combustion™ and Apple Motion.™ Co-developed with Apple for use with Final Cut Studio 2, Io HD delivers powerful audio/video capture, editing and post-production capabilities— all in a single, integrated system.



#### Incredible 3-Year Warranty

AJA Video warrants that Io 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 offers Io (the "ultimate" capture box), KONA and XENA PCI capture cards, miniature stand-alone converters, and a complete line of rack mount interface and conversion cards and frames.

#### Io HD Rear Panel Connections

#### VIDEO INPUT

Digital:  
SD and HD-SDI, SMPTE-259/292/296 (2 inputs)  
HDMI

Analog:  
Composite and S-Video (Y/C):  
NTSC, NTSCJ, PAL  
12-bit A/D, 2x oversampling  
3 line adaptive comb filter decoding  
SD Component:  
SMPTE/EBU N10, Betacam 525 line,  
Betacam 525J, RGB  
12-bit A/D, 2x oversampling  
HD Component:  
YPbPr  
12-bit A/D

#### VIDEO OUTPUT (all simultaneously active)

Digital:  
SD and HD-SDI, SMPTE-259/292/296 (2 outputs)  
HDMI

Analog:  
Composite and S-Video (Y/C):  
NTSC, NTSCJ, PAL  
12-bit D/A, 8x oversampling

SD Component:  
SMPTE/EBU N10, Betacam 525 line,

Betacam 525J, RGB  
12-bit D/A, 8x oversampling  
HD Component:  
YPbPr, RGB  
12-bit D/A, 2x oversampling

#### AUDIO INPUT

Digital:  
24-bit SDI embedded audio, 8 channel, 48kHz  
24-bit AES audio, 8 channel, 48kHz  
HDMI embedded, 2 channel

Analog:  
24-bit A/D, 4 channel balanced XLR, 48kHz  
+15/18/24 dbu Full Scale Digital

#### AUDIO OUTPUT

Digital:  
24-bit SDI embedded audio, 8 channel, 48kHz  
24-bit AES audio, 8 channel, 48kHz  
HDMI embedded, 2 channel

Analog:  
24-bit D/A, 4 channel balanced XLR, 48kHz  
+15/18/24 dbu Full Scale Digital  
2 channel unbalanced RCA (for monitoring)

#### TIMECODE

LTC timecode input and output via BNC

#### REFERENCE INPUT

Analog Color Black, Composite Sync, or Tri-level  
Sync Terminated Input, buffered output

#### MACHINE CONTROL

RS-422, 9-pin protocol

#### FIREWIRE

IEEE-1394b, FireWire™ 800Mb/s

#### Apple ProRes 422 SUPPORT

Specially integrated into hardware

#### HARDWARE UP-CONVERSION, 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: image zoomed to fill screen  
Zoom Wide: combination of zoom and horizontal stretch to fill 16:9 screen; this setting can introduce a small aspect ratio change

#### HARDWARE DOWN-CONVERSION, 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

#### HARDWARE CROSS-CONVERSION, 10-BIT

Hardware 10-bit  
1080i to 720P  
720P to 1080i  
720P to 1080PsF

#### SD TO SD ASPECT RATIO CONVERSION

Letterbox: transforms SD anamorphic to a letterboxed image.  
H Crop: produces a horizontally stretched effect on the image; transforms anamorphic SD to full frame.  
SD Pillarbox: produces image in screen center with black borders on left and right sides and an anamorphized image in the center.  
V Crop: transforms SD letterbox material to an anamorphic image.

#### PHYSICAL

Width: 8.2" (208.3 mm)  
Depth: 12" (304.8 mm)  
Height: 4.8" with rubber feet (121.9 mm)  
Power: 100-240VAC, 50/60Hz, 35 Watts

