KONA®

Professional Performance, Unparalleled Reliability

MULTI IO HDMI OUT

HDMI 1 HDMI 2 HDMI 3 HDMI 4

AJA
VIDEO SYSTEMS

KONA®

Professional Performance, Unparalleled Reliability

Built for the exacting demands of video professionals, KONA cards offer the highest quality video and audio I/O with a range of features tuned for your workflow.

AJA's KONA family of I/O and Capture cards delivers a complete range of performance and connectivity options to fit any budget or workflow from 4K to standard definition, from 12G-SDI and HDMI 2.0 to analog video and audio.

Whatever your workflow needs, KONA capture, display and mastering solutions for 4K/UltraHD, 2K/HD and SD workflows via SDI and HDMI on macOS®, Windows® or Linux® provides the best engine for your creative process.

In a world of myriad workflows and multiplying standards, KONA cards offer maximum connectivity like 12G-SDI, 3G-SDI, component, and HDMI, along with the flexibility of AJA's high quality conversion capabilities.*

KONA's superior 10-bit hardware-based up, down, cross-conversion offers you the ability to ingest to the resolution of your project while displaying and mastering live simultaneously to HD and SD as your needs require.

At AJA we understand that creative professionals have a range of software applications and platforms they prefer and need to work with. Using AJA's industry leading macOS and Windows drivers and custom application plug-ins, all available in a single software package download, KONA cards support the broadest range of creative software, such as Apple® Final Cut Pro® X, Adobe® Premiere Pro®, Avid® Media Composer®, Telestream Wirecast® and more. Pick your applications of choice and KONA connects it to your world.

Built to the exacting standards of all AJA hardware, KONA cards are backed by our world class support network and three year international warranty.
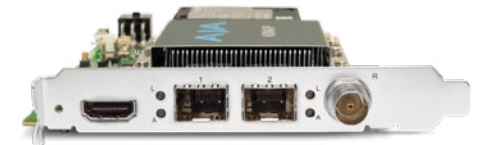

KONA 5

KONA 4

KONA HDMI

KONA IP

KONA 1

KONA LHi

KONA LHe Plus

KONA®

Software Compatibility

KONA cards are cross-platform and compatible with a wide range of professional macOS®, Windows® and Linux® software applications.

AJA hardware is compatible with a wide range of professional software applications on macOS, Windows and Linux.

AJA drivers and software create a seamless integration between best of class creative tools and AJA's high quality hardware that lets you focus on the work, not the technology.

View our software compatibility chart for the following categories:

Audio | Color | Dailies/Archiving | Editorial | Effects | Graphics/Virtual | Ingest/Playout | Restoration
SDI / IP Bridging | Streaming/Live Production | Test/Measure | VJ / Live Video Performance | Video Assist

View Compatibility Chart

KONA®

Features Comparison Chart

**KONA capture cards are available in eight models to meet your workflow needs,
all built with AJA's reputation for quality, reliability and support.**

	KONA 5	KONA 4	KONA HDMI	KONA IP	KONA 1	KONA LHi	KONA LHe Plus
SD (NTSC and PAL)	yes	yes	yes	yes	yes	yes	yes
HD (720p, 1080i, 1080sf)	yes	yes	yes	yes	yes	yes	yes
2K (2048 x 1556, 2048 x 1080) Dual Link HD, 2K HSDL, 4:4:4 RGB	2048 x 1080 only	yes	2048 x 1080 only, per HMDI port	2048 x 1080 only	2048 x 1080 only	2048 x 1080 only, 4:2:2, no-RGB	-
4K (3840 x 2160, 4096 x 2160) YCbCr and RGB color spaces	yes	yes	yes	-	-	-	-
4K HFR	yes	yes	yes	-	-	-	-
SDI	up to 4x 3G-SDI I/O, or 1x 12G-SDI I/O	up to 4 x 3G-SDI I/O	-	-	up to 1x 3G-SDI I/O	up to 1x 3G-SDI I/O	-
HDMI	1x HDMI 2.0 output (4K HFR 4:2:2 10-bit)	1x HDMI 1.4b output (4K HFR 4:2:0 8-bit)	2x HDMI 2.0 input (4K HFR 4:2:2 10-bit) 2x HDMI 1.4b input (2K HFR 4:2:2 10 bit)	1x HDMI 1.4b output (2K HFR 4:2:0 8-bit)	-	HDMI 1.3a input/output	-
HDR	HDR10/HLG/ Dolby Vision®* output	HDR10/HLG/ Dolby Vision®* output	HDR10/HLG/ Dolby Vision®* input	HDR10/HLG/ Dolby Vision®* output	-	-	-
Video over IP	-	-	-	SMPTE 2110, SMPTE 2022-6/7, VSF-TR01 JPEG 2K	-	-	-
4K to HD Down-conversion (10-bit, in hardware)	yes	yes	-	-	-	-	-
HD to SD Down-conversion (10-bit, in hardware)	-	yes	-	-	-	yes	yes
SD to HD Up-conversion (10-bit, in hardware)	yes	yes	-	-	-	yes	-
HD to HD Cross-conversion (1080 to/from 720, 10-bit, in hardware)	yes	yes	-	-	-	yes	-
12-bit Analog Video (component, composite, and Y/C)	-	SD/HD Output	-	-	-	SD/HD I/O	SD/HD I/O
10-bit SDI Digital Video (BNC)	SD/HD/3G/6G/12G I/O	SD/HD/3G I/O	-	-	SD/HD/3G I/O	SD/HD/3G I/O	SD/HD/3G I/O
HD Video+Key	yes	yes	yes	yes	yes	-	-
Analog Audio (balanced XLR)	-	-	-	-	-	input/output 2-Ch	input/output 2-Ch
AES Digital Audio	8-Ch I/O w/cable	8-Ch I/O w/cable, 16-Ch I/O w/K3G-Box	-	-	-	input/output 2-Ch	input/output 2-Ch
Embedded SDI Audio (via BNC)	16 Ch I/O	16 Ch I/O	8 Ch input	16 Ch I/O	16 Ch I/O	8-Ch I/O	8-Ch I/O
Professional Genlock	yes	yes	-	yes	yes	yes	yes
LTC Input/Output	yes	yes	-	yes	yes	LTC input (shared with reference BNC)	-
RS-422 Machine Control	yes	yes	-	yes	yes	yes	yes
1RU Breakout Box (optional)	-	yes	-	-	-	yes	yes
Three year AJA Warranty	yes, included	yes, included	yes, included	yes, included	yes, included	yes, included	yes, included

KONA® 5

Ultimate Performance.

Take command 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 with 12G-/6G-/3G-SDI and monitor with a full-size HDMI 2.0 port

$2,995 US MSRP*   Find a Reseller

Next-Generation Connections

12G-SDI for 4K/UltraHD/2K/HD/SD

KONA 5 offers 12G-SDI for input and output as well as HDMI 2.0 for output, bringing single cable simplicity to the most complex projects, with all the bandwidth and power you need for large raster, deep color creativity.

Based on powerful 8-lane PCIe 3.0 hardware, you can choose between 1x 12G-SDI or 4x 3G-SDI and utilize 8-Ch AES, RS-422 and LTC/Ref In on the supplied break out cable.

Application Support and SDK

Extensive Software Compatibility

AJA I/O hardware like KONA 5 is supported by an extensive list of professional software for editing, visual effects, graphics, streaming and more, allowing the same AJA device to be used by many different applications on the same system.

In addition, AJA provides several free applications to tap the power of your AJA hardware. Robust AJA SDK support allows Developers to easily integrate cutting-edge KONA 5 hardware into a broad range of systems and applications.

HDMI 2.0 and HDR

High Performance HDMI for HDR

HDMI 2.0 offers high bandwidth and elegant HDR support for HDR10 and HLG.

KONA 5's massive bandwidth allows rich color support up to 4K RGB 12-bit 4:4:4 and up to 60p YUV 10-bit 4:2:2 at all resolutions.

Drive your rich HDR HDMI monitoring displays at up to 4K 60p with KONA 5 and get the most from the monitor with powerful and configurable HDR controls in the AJA Control Panel.

KONA 5 Features Include:

- Supports 4K and UltraHD ingest and output at frame rates up to 50/60 fps
- 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 output (4K/UltraHD HFR 4:2:2 10-bit)
- HDR 10 Support - HDR Infoframe metadata, in accordance with HDMI 2.0a/CTA-861.3

- HLG (Hybrid Log Gamma) support***
- 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 break-out-cable (included)
- macOS, Windows and Linux support

*** 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.*

KONA® 5

Connections

Breakout Cables
(Supplied)

RS422 Machine Control to VTR
9-pin D-sub (male)

HDMI Output (1)

SDI I/O 1
SDI I/O 2
SDI I/O 3
SDI I/O 4
Reference/LTC Input

LTC Input BNC

LTC Output BNC

5 HD-BNCs
to 5 Standard BNCs

Digital AES
Audio Output BNCs
Channels 1-8

Digital AES
Audio Input BNCs
Channels 1-8

KONA 5
PCIe Bracket

HDR

KONA® 5

Workflow

macOS, Windows or Linux
with KONA 5

1x 12G/6G-SDI, or 1, 2, 4x 3G-SDI input(s)*
16-Ch embedded audio per SDI input

Reference/LTC switchable

MULTI IO HDMI OUT

*SDI connections are bidirectional. For 2K/HD,
  capture and monitoring can be simultaneous.
  For 4K/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

HDMI 2.0 output
8-Ch embedded audio

1x 12G/6G-SDI, or 1, 2, 4x 3G-SDI output(s)*
16-Ch embedded audio per SDI output

Expanded Connectivity

8-Ch AES/EBU audio in/out, RS-422, and LTC in/out
via breakout cable (supplied)

HDMI Display for 4K/UltraHD,
2K/HD, SD projects including
Deep Color, HDR, and HFR

Professional SDI Display for
4K/UltraHD, 2K/HD, SD

Connect your digital sources via 12G-, 6G-, or 3G-SDI to KONA 5 for capture to a wide variety of formats.
Monitor via HDMI 2.0 output (HDR10, HLG, Dolby Vision*), and master to destinations using high quality professional SDI outputs, machine control and analog or tri-level reference.

*Dolby Vision® integration available when using the AJA SDK.

HDR

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, 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 1080PsF 23.98, 24, 25, 29.97, 30
- (HD) 1080p 23.98, 24, 25, 29.97, 30, 47.95, 48, 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 Inputs Digital

- 12G-SDI*, SMPTE-2082, 12-bit**, 10-bit and 8-bit
- 6G-SDI*, SMPTE-2081, 10-bit and 8-bit
- 3G-SDI, SMPTE-259/292/296/424/425, 12-bit*, 10-bit and 8-bit
- 4K/UltraHD 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 4K/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 inputs support UltraHD / 4K only.
**Bit depth support is application dependent. Check with your software manufacturer for compatibility.

Video Outputs Digital

- 12G-SDI*, SMPTE-2082, 12-bit**, 10-bit and 8-bit
- 6G-SDI*, SMPTE-2081, 10-bit and 8-bit
- 3G-SDI, SMPTE-259/292/296/424, 12-bit*, 10-bit and 8-bit
- 4K/UltraHD 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 4K/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.
***HLG 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)

Downstream Keyer

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

Reference

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

Timecode

- LTC timecode input and output (via 2x BNC on breakout cable)
- LTC timecode input (via 2-pin header on PCIe card)
- LTC timecode input (via HD-BNC at PCIe bracket)

Electrical Interface

- 8-lane PCIe 3.0

Machine Control

- RS-422, Sony 9-pin protocol (via breakout cable)
- 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			

Noise

- <50dBA (A-weighted at 1m in free air)

Size (w x d x h)

- 0.75" x 6.9" x 5.0" (19.05 x 175.26 x 127.00 mm)

Weight

- PCIe Card: 0.6 lbs (0.3 kg)
- Cables (all combined): 1.3 lbs (0.6 kg)

Power

- 28W typical, 35W 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
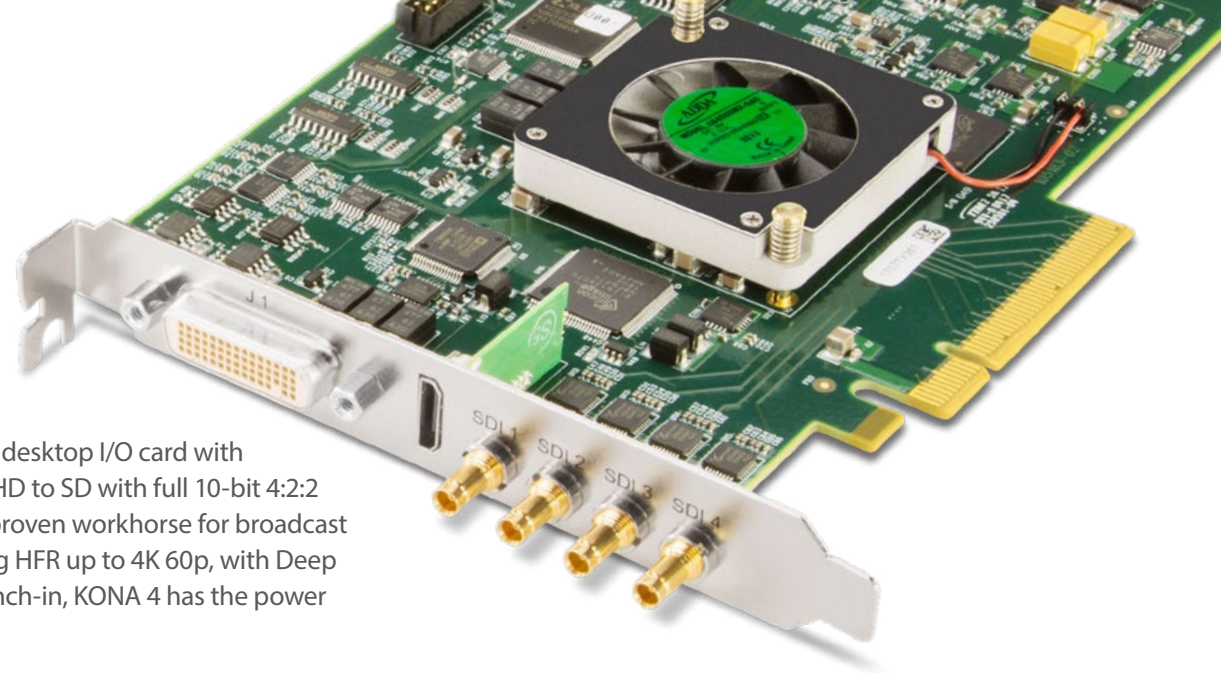- Operating Altitude: <3,000 meters (<10,000 feet)

HDR

KONA® 4

Powerful Integration.
Professional Connectivity.

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 4K/UltraHD to 2K/HD to SD with full 10-bit 4:2:2 and 4:4:4 or 12-bit color spaces for fantastic image clarity, KONA 4 is a proven workhorse for broadcast and post, providing the tools you need to get the job done. Supporting HFR up to 4K 60p, with Deep Color, HDR 10, HLG and the AJA Audio Mixer for professional audio punch-in, KONA 4 has the power for the work you do today and into the future.

$1,995 US MSRP*

Find a Reseller

Powerful

With four bidirectional 3G-SDI spigots, KONA 4 provides you with the flexibility to take on the full spectrum of formats and win. Single link and dual link formats are available for 3G and 1.5G-SDI signals.

Quad-link 3G-SDI provides the same effective bandwidth as 12G-SDI, so you can capture and deliver pristine, professional quality video up to 4K 60p. Monitor HDR over HDMI for the deepest color fidelity.

Integration

KONA 4's broadcast quality up, down, cross-converter unifies resolutions, simplifying workflows and eliminating the need to adjust resolution within software. The powerful hardware downstream keyer allows graphics and images to be overlaid on the video being input to the card.

Professional Connectivity

KONA 4 features bidirectional 3G-SDI connections that can be used for input and output. HDMI 1.4b monitoring output, LTC I/O, genlock input, RS-422 control, configurable 3 x BNC SD/HD analog video output and 8-Channel AES audio I/O allow KONA 4 to integrate into a variety of workflows.

KONA 4 Features Include:

- Supports 4K and UltraHD ingest and 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
- 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)

- HDR 10 Support - HDR Infoframe metadata, in accordance with HDMI 2.0a/CTA-861.3
- HLG (Hybrid Log Gamma) support***
- 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

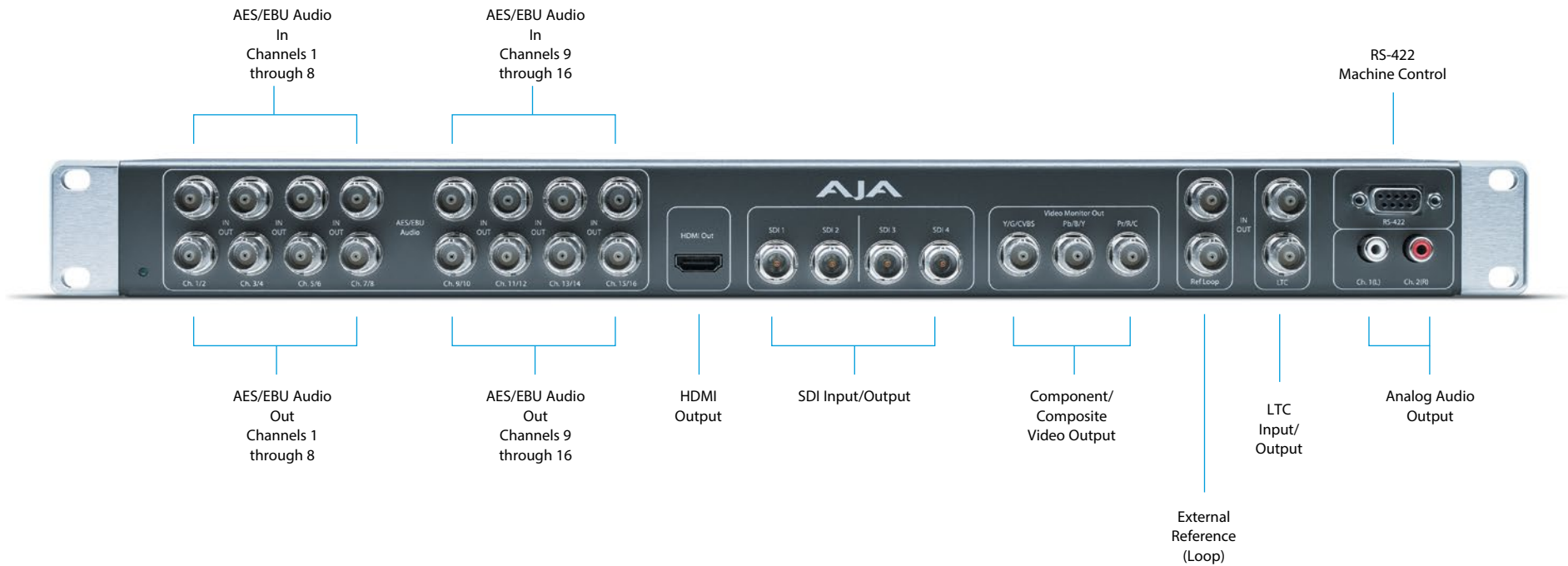*** Bit depth support is application dependent. Check with your software manufacturer for compatibility.   *** HLG support is application dependent. Check with your software manufacturer for compatibility

KONA® 4

Connections

K3G-BOX Breakout Box
(Optional)

AES/EBU Audio
In
Channels 1
through 8

AES/EBU Audio
In
Channels 9
through 16

RS-422
Machine Control

AES/EBU Audio
Out
Channels 1
through 8

AES/EBU Audio
Out
Channels 9
through 16

HDMI
Output

SDI Input/Output

Component/
Composite
Video Output

LTC
Input/
Output

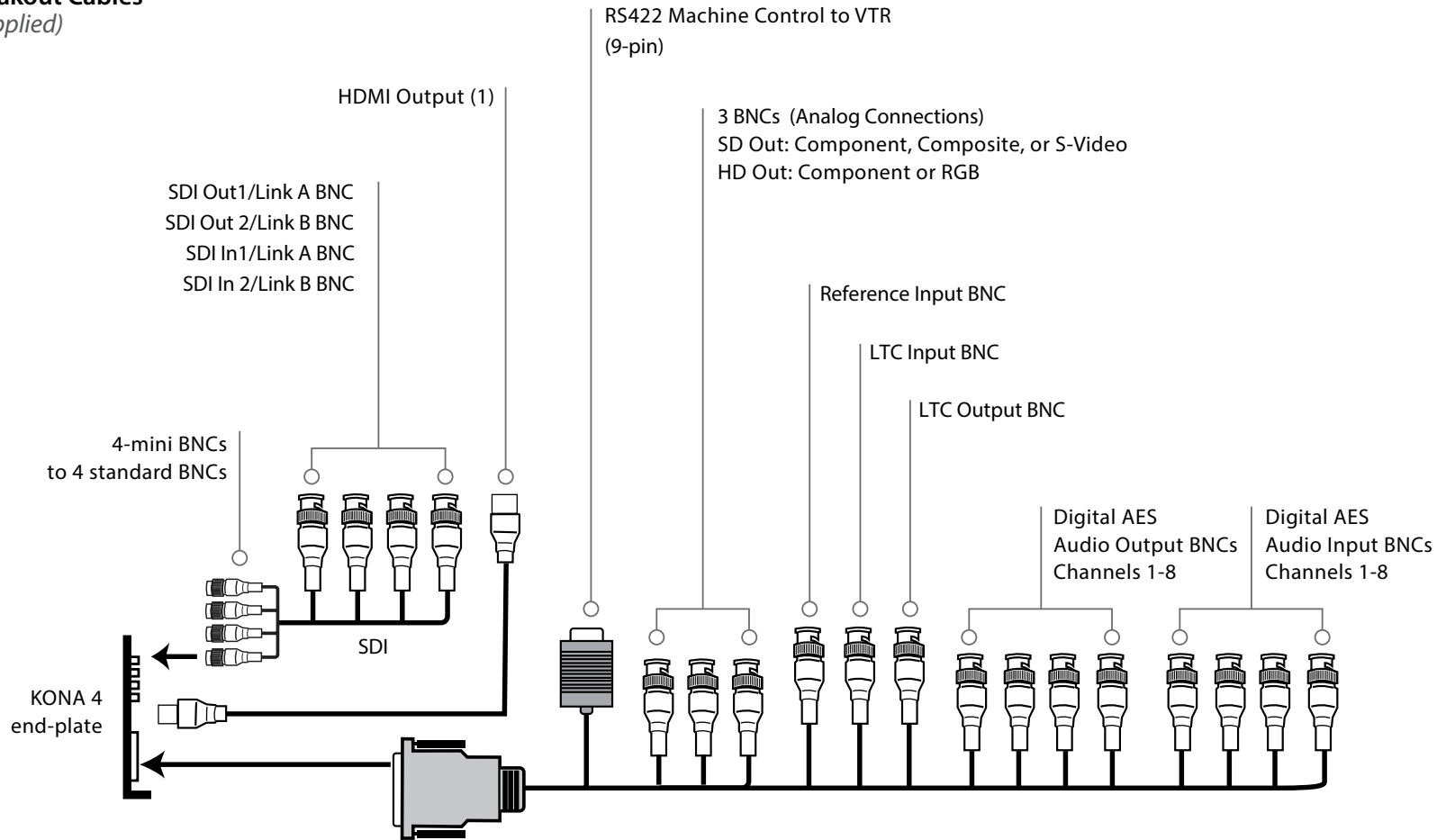Analog Audio
Output

External
Reference
(Loop)

Click here   For full product specifications visit www.aja.com/en/products/kona-4/#techspecs

HDR

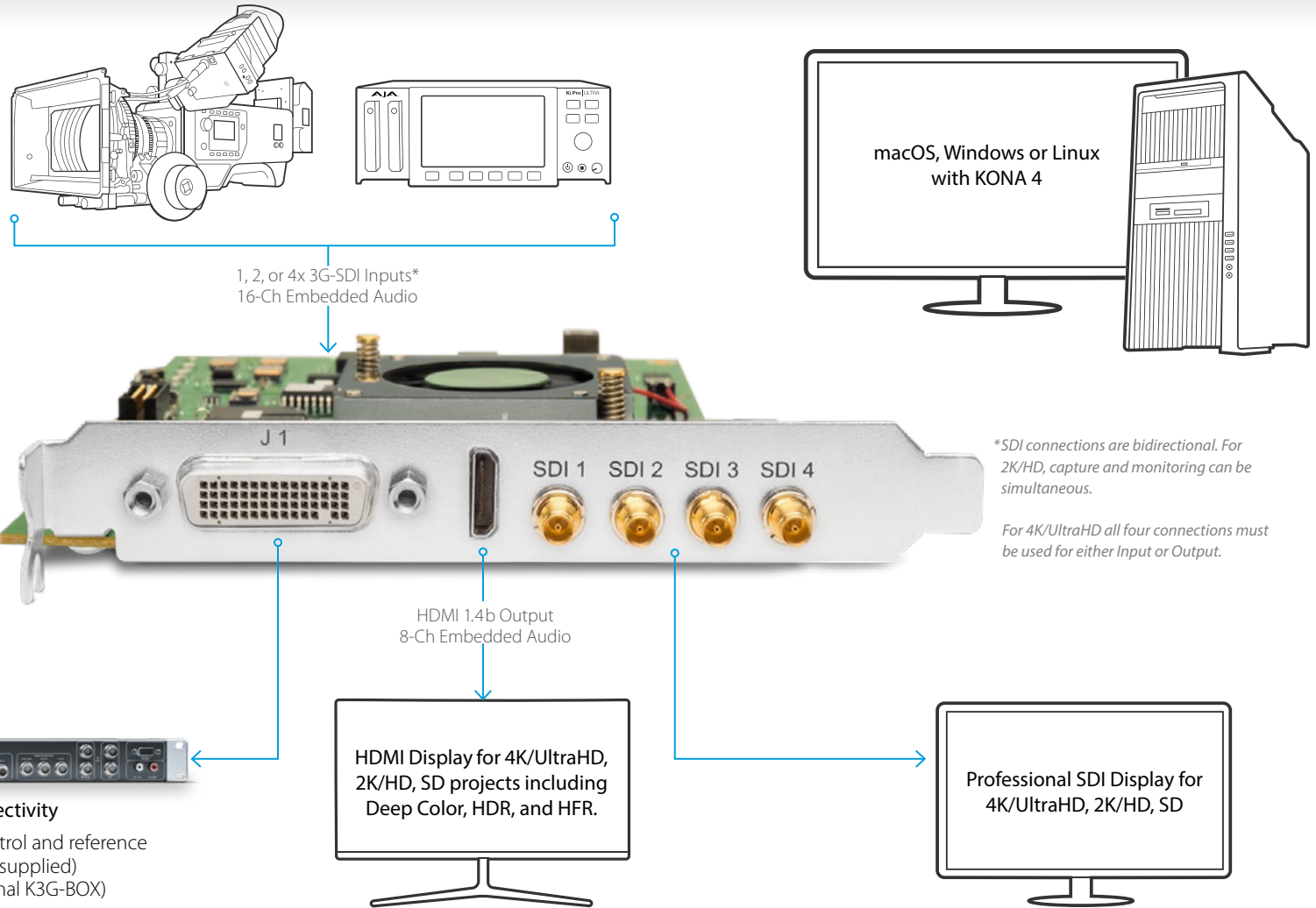# KONA® 4

Connections

Breakout Cables
(Supplied)

RS422 Machine Control to VTR
(9-pin)

HDMI Output (1)

3 BNCs (Analog Connections)
SD Out: Component, Composite, or S-Video
HD Out: Component or RGB

SDI Out1/Link A BNC
SDI Out 2/Link B BNC
SDI In1/Link A BNC
SDI In 2/Link B BNC

Reference Input BNC

LTC Input BNC

LTC Output BNC

4-mini BNCs
to 4 standard BNCs

Digital AES
Audio Output BNCs
Channels 1-8

Digital AES
Audio Input BNCs
Channels 1-8

SDI

KONA 4
end-plate

For full product specifications visit www.aja.com/en/products/kona-4/#techspecs

Click here

HDR

KONA® 4

Workflow

macOS, Windows or Linux
with KONA 4

1, 2, or 4x 3G-SDI Inputs*
16-Ch Embedded Audio

J 1

SDI 1   SDI 2   SDI 3   SDI 4

*SDI connections are bidirectional. For
2K/HD, capture and monitoring can be
simultaneous.

For 4K/UltraHD all four connections must
be used for either Input or Output.

HDMI 1.4b Output
8-Ch Embedded Audio

Expanded Connectivity

Additional video, audio, control and reference
via breakout cable (supplied)
or breakout box (optional K3G-BOX)

HDMI Display for 4K/UltraHD,
2K/HD, SD projects including
Deep Color, HDR, and HFR.

Professional SDI Display for
4K/UltraHD, 2K/HD, SD

Connect your digital sources via 3G-SDI to KONA for capture and editing via a wide variety of formats.
Monitor HDR using HDMI and master through high quality professional SDI and Component outputs.

Click here   For full product specifications visit www.aja.com/en/products/kona-4/#techspecs

HDR

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, 50, 59.94, 60
- (2K) 2048 x 1556p 15, 14.98
- (2K) 2048 x 1556PsF 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) 1080PsF 23.98, 24, 25, 29.97, 30
- (HD) 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (HD) 720p 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-259/292/296/424/425, 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)
- Dual Link HD 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)
- Dual Link HD 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 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, 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 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)

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:

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

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)

Click here — For full product specifications visit www.aja.com/en/products/kona-4/#techspecs

HDR

KONA® HDMI

HDMI Capture for Multi-Channel UltraHD and HD.

KONA HDMI is an 8-lane PCIe 2.0 card heralding a new paradigm for the AJA KONA product line. All of the quality, and flexibility you have come to expect from AJA is now available as a dedicated multi-Channel HDMI capture card.

Designed for the demands of multiple workflows such as gaming, streaming, VJing, live events switching, vlogging, VR, post and broadcast, this powerful card boasts support for up to two channels of 4K/UltraHD, or four channels of HD capture.

$895 US MSRP*

[Find a Reseller]

Powerful Flexibility

KONA HDMI provides four full-size HDMI ports that can be used to switch, stream or capture up to two Channels of 4K/UltraHD, or up to four Channels of 2K/HD, or even a mix of 4K and HD sources with appropriate 3rd party software.

Integration

KONA HDMI is compatible with macOS®, Windows® and Linux®. The power of KONA HDMI can be utilized for live streaming and events via Telestream Wirecast®, vMix® and other 3rd party software.

For single Channel capture, AJA Control Room™ software provides the perfect way to create digital media for use in your editing or effects package of choice.

Flexible

Third party developers can use the AJA SDK to create multi-channel ingest, and switching solutions.

KONA HDMI also supports Video4Linux, allowing for both V4L2 development and compatibility with a wide range of off the shelf video capture utilities and software including, but not limited to; FFmpeg, GStreamer, MythTV, OpenCV, Skype, veejay, VLC media player and more

KONA HDMI Features Include:

- Four full-size HDMI Inputs
- HDMI 2.0 and HDMI 1.4b
- Standard PCIe form factor
- Embedded HDMI audio in: up to 8 per Channel (for a total of 32 possible audio Channels)
- Simultaneously ingest or switch up to two UltraHD or four HD sources with appropriate 3rd party software*

- Ingest 4K/UltraHD 60p using Port 1, and 4K/UltraHD 30p using Port 2.
- Capture stunning HDR from Games and more
- AJA Retail* and SDK support
- Video4Linux compatible (V4L2)
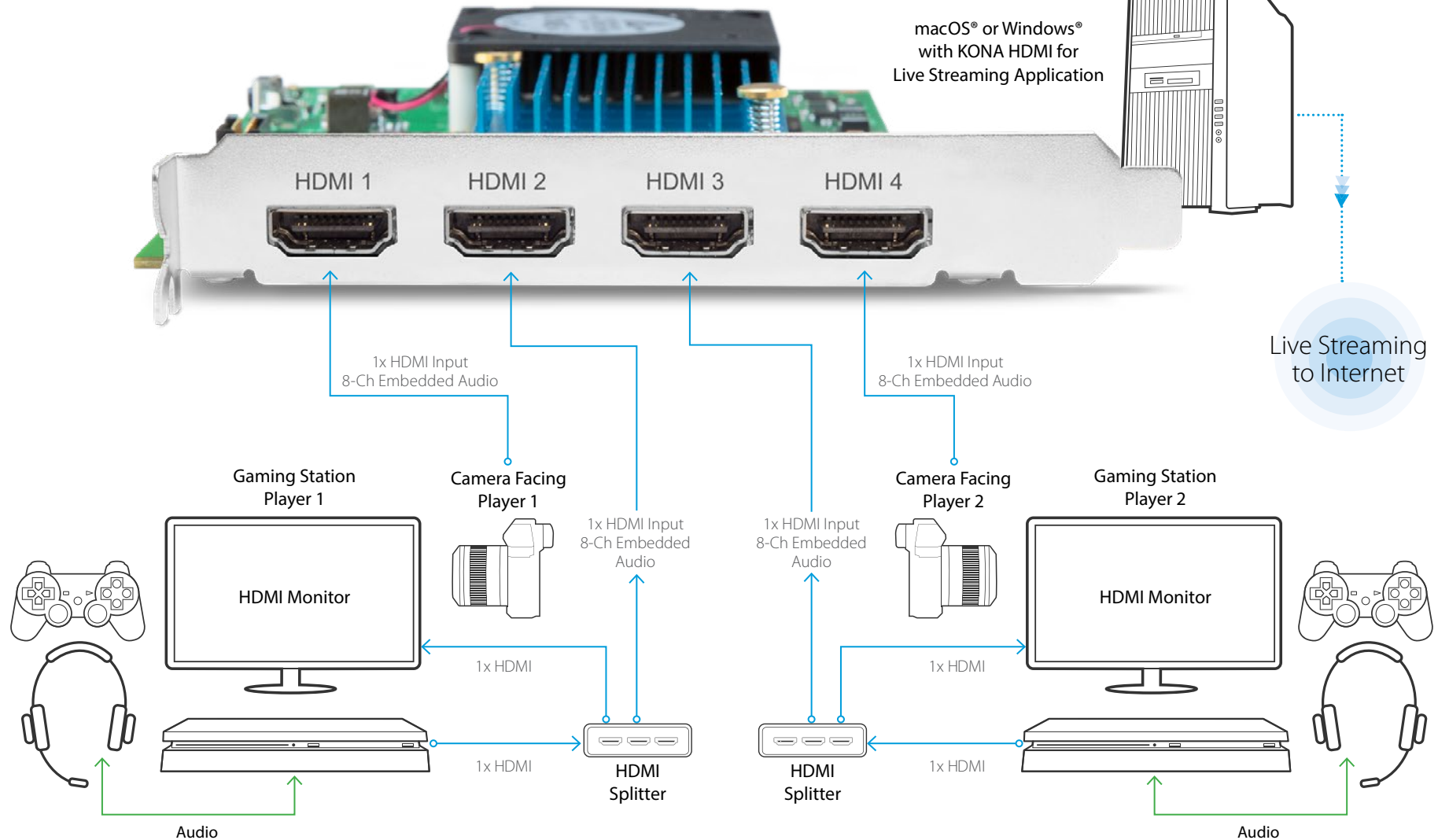- DirectShow compatible

e.g., Telestream Wirecast support out of the box   ** Bit depth support is application dependent. Check with your software manufacturer for compatibility.

KONA® HDMI

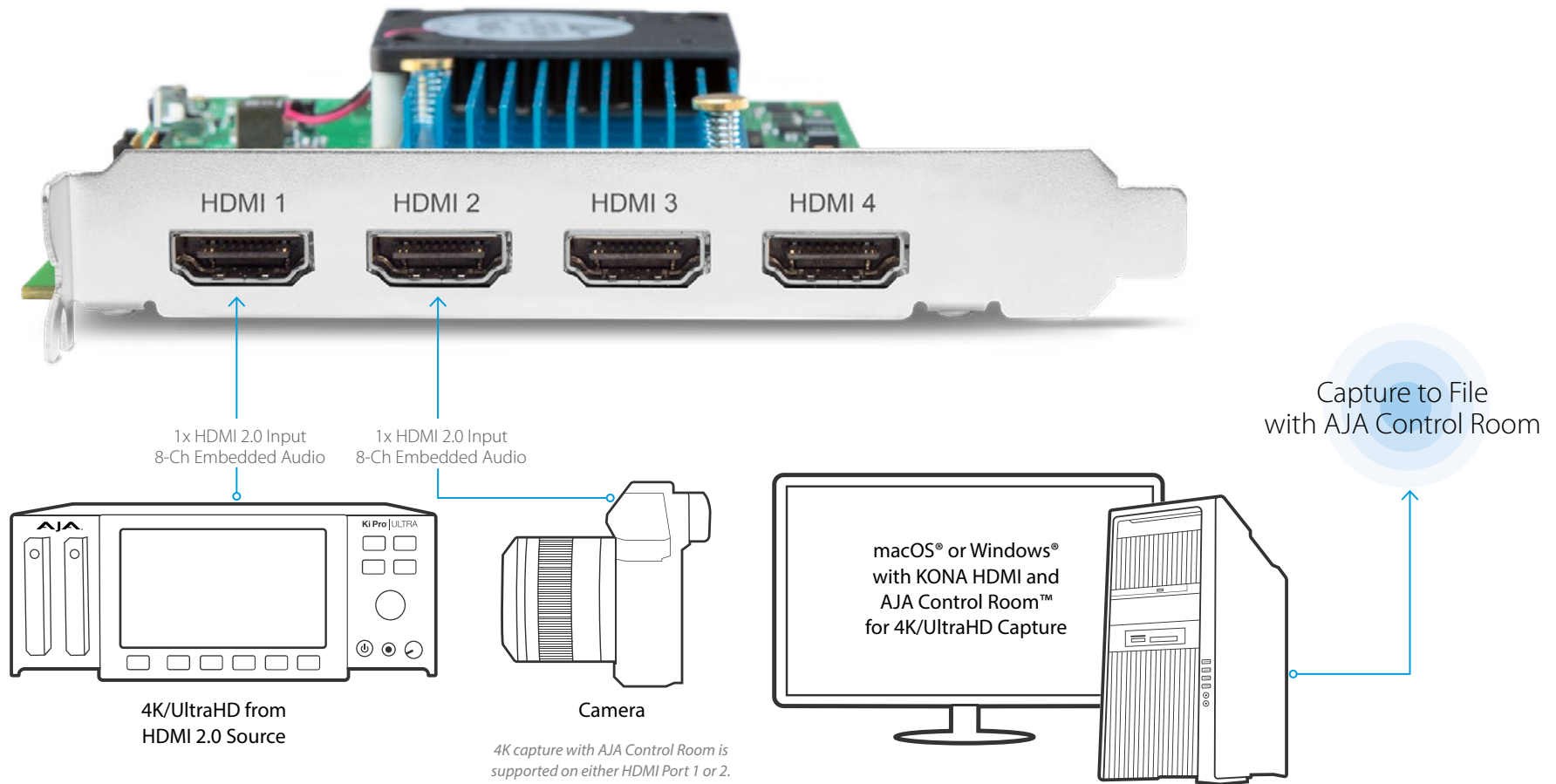## eSports Workflow, Multi-Channel HD HDMI Capture

macOS® or Windows®
with KONA HDMI for
Live Streaming Application

HDMI 1   HDMI 2   HDMI 3   HDMI 4

1x HDMI Input
8-Ch Embedded Audio

1x HDMI Input
8-Ch Embedded Audio

Live Streaming
to Internet

Gaming Station
Player 1

Camera Facing
Player 1

1x HDMI Input
8-Ch Embedded
Audio

1x HDMI Input
8-Ch Embedded
Audio

Camera Facing
Player 2

Gaming Station
Player 2

HDMI Monitor

HDMI Monitor

1x HDMI

1x HDMI

1x HDMI

HDMI
Splitter

HDMI
Splitter

1x HDMI

1x HDMI

Audio

Audio

[Click here] For full product specifications visit www.aja.com/en/products/kona-hdmi/#techspecs

HDR

KONA® HDMI

HDMI Capture for UltraHD

HDMI 1   HDMI 2   HDMI 3   HDMI 4

1x HDMI 2.0 Input
8-Ch Embedded Audio

1x HDMI 2.0 Input
8-Ch Embedded Audio

Capture to File
with AJA Control Room

4K/UltraHD from
HDMI 2.0 Source

Camera

*4K capture with AJA Control Room is
supported on either HDMI Port 1 or 2.*

macOS® or Windows®
with KONA HDMI and
AJA Control Room™
for 4K/UltraHD Capture

Click here   For full product specifications visit www.aja.com/en/products/kona-hdmi/#techspecs

HDR

KONA® HDMI

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, 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

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

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)
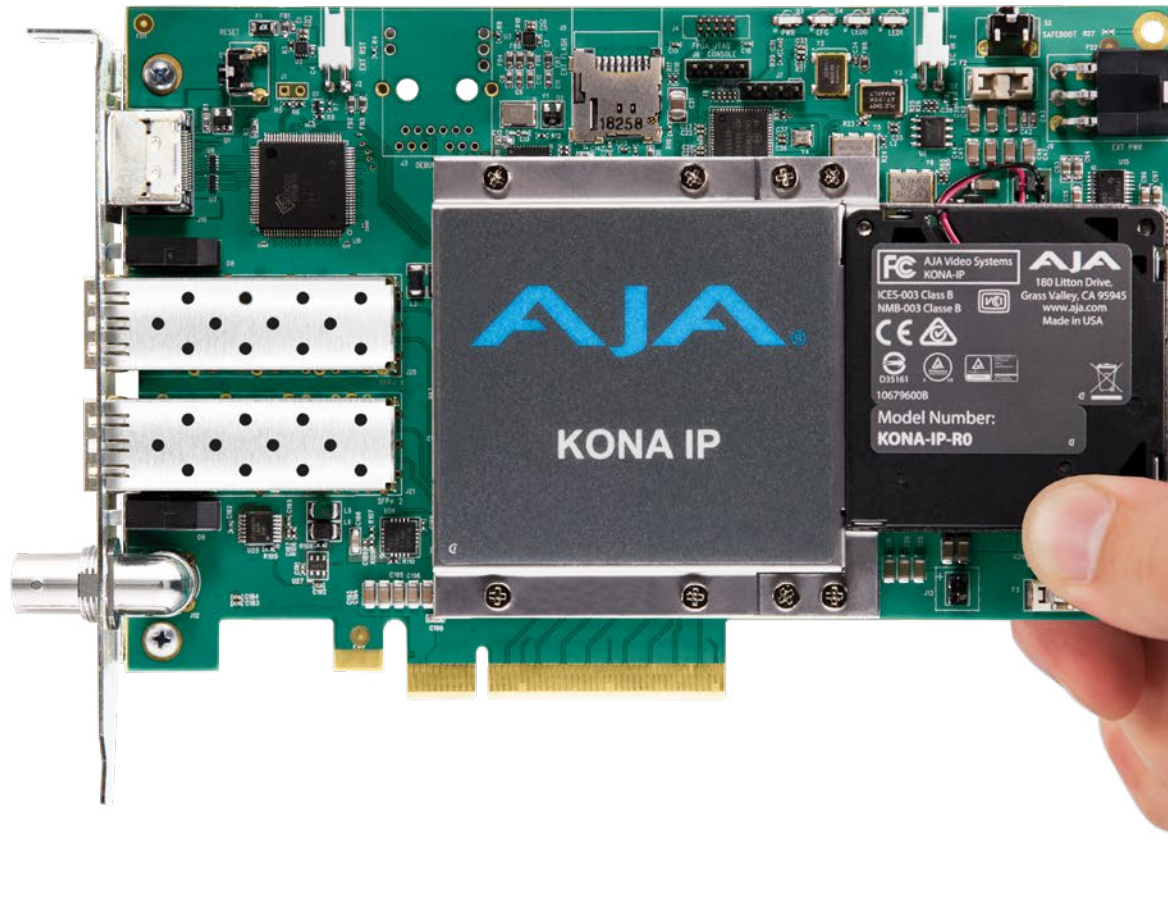
Weight

- 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)

Click here For full product specifications visit www.aja.com/en/products/kona-hdmi/#techspecs

HDR

KONA® IP

Easy, Compatible I/O for IP Pipelines

$2,495 US MSRP*

Find a Reseller

KONA IP offers users a powerful 8-lane PCIe 2.0 video and audio desktop I/O card with flexible IP connectivity. Two SFP+ cages provide multi-stream 3G-SDI 2K/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 out of the box 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, allowing 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. Future firmware updates will continue to expand KONA IP capabilities to keep you ahead of the Video over IP curve, ensuring the highest degree of interoperability between your infrastructure and other vendors / partners.
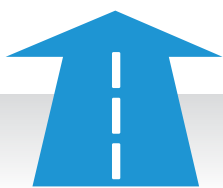
KONA® IP
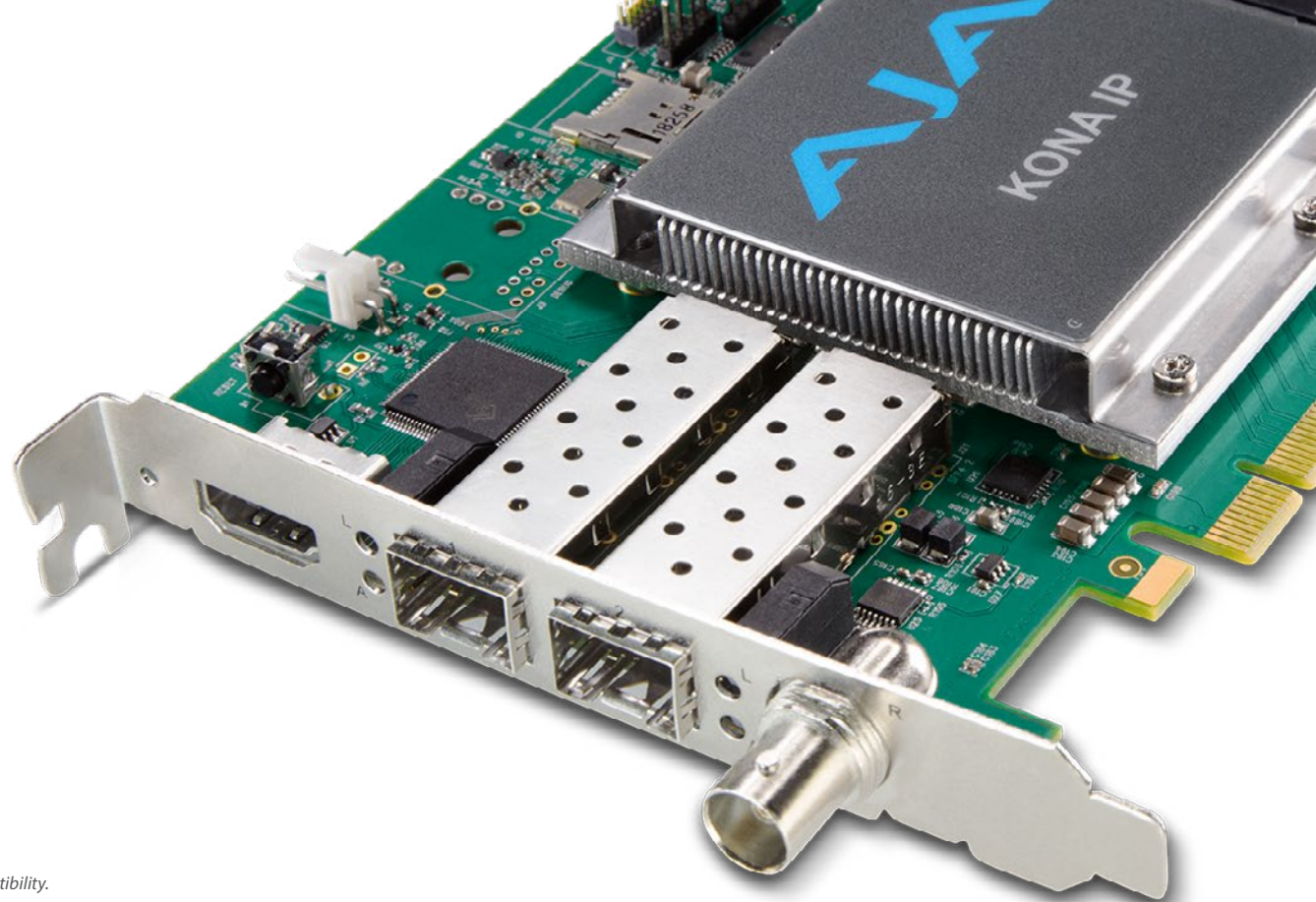
KONA IP Features Include:

- macOS®, Windows® and Linux® support
- Supports 2K/HD ingest and output at frame rates up to 50/60 fps
- 2x 10 GigE SFP+ connections for Multi-Channel input and/or output
- HDMI 1.4b output for local monitoring with 8-Channel audio
- HDR10 Support - HDR Inoframe metadata along HDMI
- HLG support
- SMPTE ST 2110 with hitless switching support
- SMPTE 2022-6/7 support
- JPEG 2000 workflows over 1 Gb Ethernet*
- 16-Channel 48kHz 16-bit or 24-bit embedded SDI audio
- 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
- Developer friendly via AJA's cross-platform SDK

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

Standards

KONA IP is a flexible platform supporting industry IP standards including SMPTE ST 2110, SMPTE 2022-6/7 and JPEG 2000 workflows, plus discovery and control protocols such as NMOS and Ember Plus.

Use PTP for timing, or with SMPTE 2022 analog reference.

Compatibility

Your transition to IP pipelines with KONA IP is supported by leading NLE, VFX and Streaming applications including, but not limited to, Adobe® Premiere® and Avid® Media Composer®. KONA IP operates virtually identically to AJA SDI and HDMI products with support for your favorite AJA software such as AJA Control Room™ and AJA Control Panel.
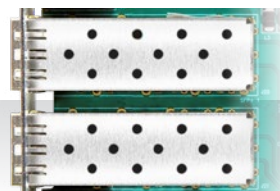
10 GigE Connectivity

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

* Please see technical specifications for recommended SFPs. (SFPs not included)
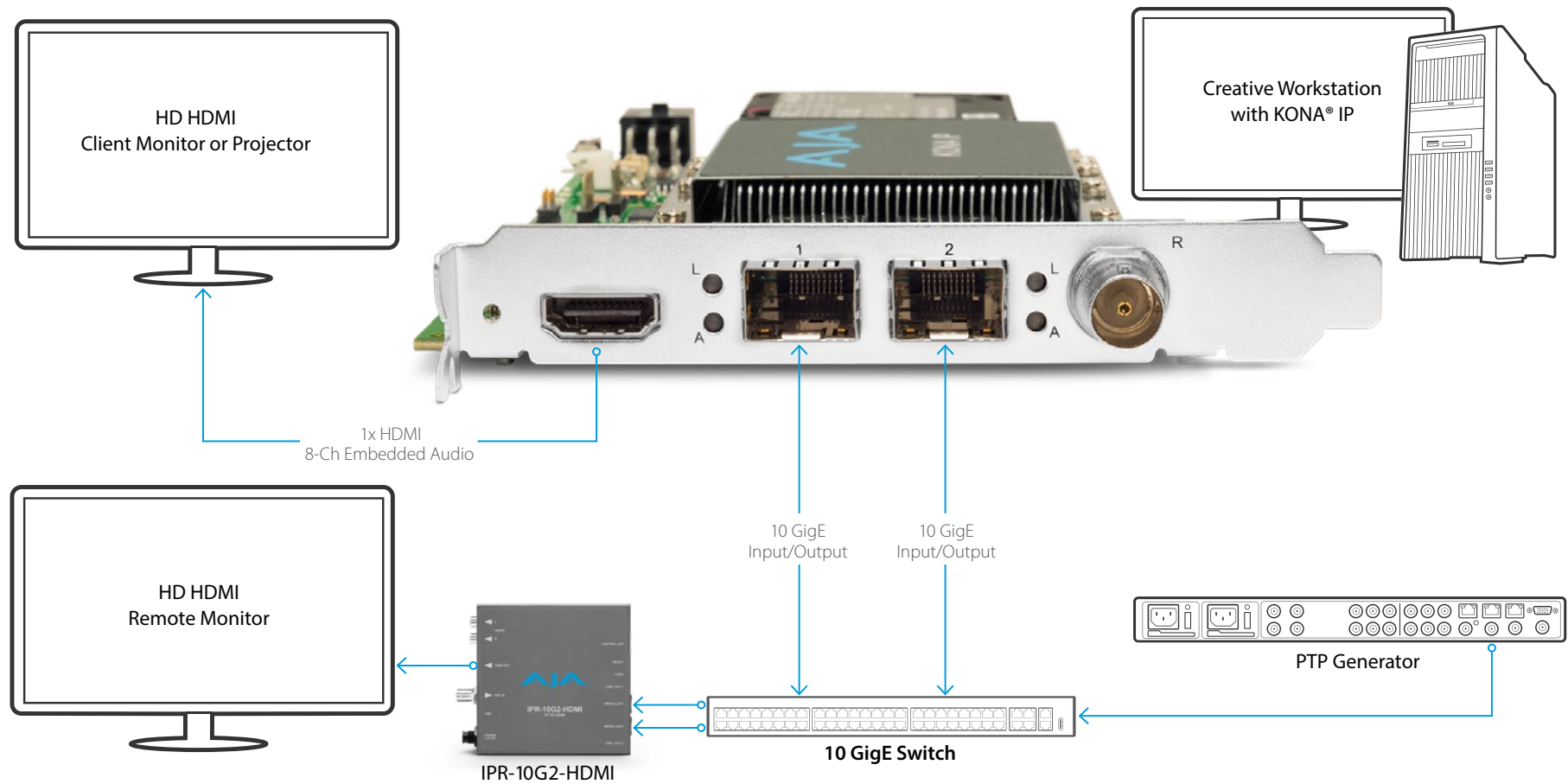
HDMI Monitoring

KONA IP's HDMI output ensures that whether you are working with SDR or HDR material, you can always monitor your projects locally, accurately and efficiently.

KONA® IP

KONA® IP SMPTE ST 2110 Workflow

HD HDMI
Client Monitor or Projector

Creative Workstation
with KONA® IP

1x HDMI
8-Ch Embedded Audio

HD HDMI
Remote Monitor

10 GigE
Input/Output

10 GigE
Input/Output

PTP Generator

IPR-10G2-HDMI

10 GigE Switch

Connect your HD digital video devices via 10 GigE to KONA IP for capture, editing and delivery.

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

HDR

KONA® IP

KONA® IP JPEG 2000 Workflows
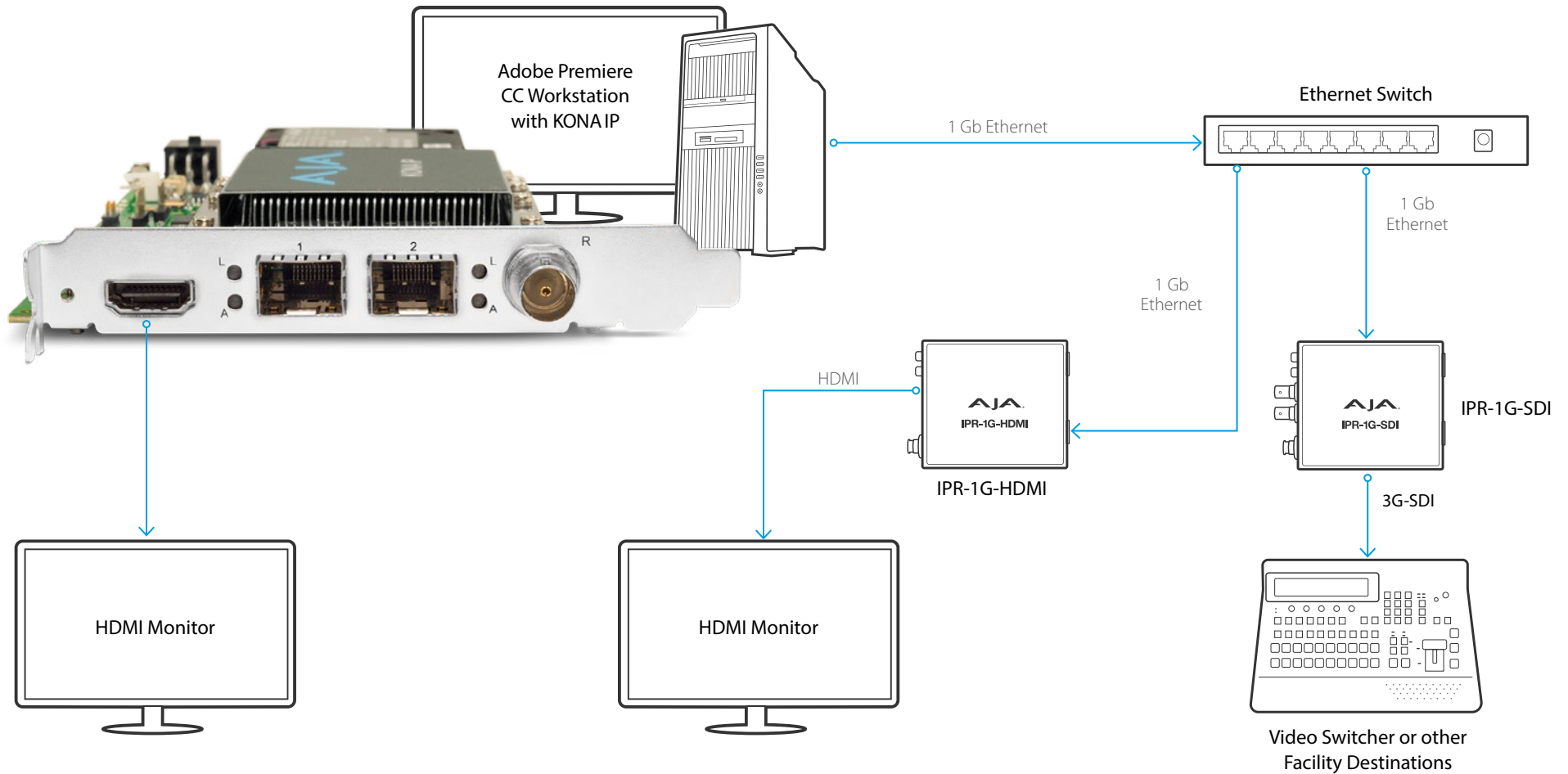
Adobe Premiere
CC Workstation
with KONA IP

Ethernet Switch

1 Gb Ethernet

1 Gb Ethernet

1 Gb Ethernet

HDMI

AJA
IPR-1G-HDMI

AJA
IPR-1G-SDI

IPR-1G-SDI

IPR-1G-HDMI

3G-SDI

HDMI Monitor

HDMI Monitor

Video Switcher or other
Facility Destinations

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

HDR

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) 1080i 50, 59.94
- (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.

Media Transport Interfaces

- SMPTE ST 2110, 2022-6, 2022-7
  - • 2x SFP+ Cages - SFPs not included
- Recommended SFP+ modules:
  - • Arista Networks SFP-10G-SR Compatible 10GBASE-SR
  - • Fiberstore SFP-10GSR-85 10G SFP+ 850nm
  - • Finisar FTLX1471D3BCL (for single mode 1310nm)
  - • Mellanox MFM1T02A-SR 850nm 10G
- TR-01 compliant JPEG 2000 Workflows*
  - • 1x SFP+ Cage - SFP not included
- Recommended SFP modules:
  - • Aruba Networks SFP-TX Compatible 1000BASE-T SFP Copper RJ-45 100m Transceiver - NETCNA
  - • 10Gtek Cisco Compatible GLC-T/ SFP-GE-T Gigabit RJ-45 Copper SFP Transceiver Module, 1000Base-T
- Fiberstore SFP-GB-GE-T

*Optional Purchase

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-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 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 (1V) 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)

Click here — For full product specifications visit www.aja.com/en/products/kona-ip/#techspecs

HDR

KONA® 1

Powerful and Cost Effective 3G-SDI I/O

KONA 1 offers powerful 3G-SDI capture and playback with 16-Channels of embedded audio, LTC, and support for up to 2K/HD 60p.

Supported by free AJA Desktop Software with broad third party software compatibility on Mac and Windows, with a powerful SDK kit for cost effective OEM ingest/playout and including Linux support.

$595 US MSRP*

Find a Reseller

Streamlined Power

2K, HD or SD 3G-SDI I/O up to 50/60p via PCIe 2.0

Available as both a Retail ready-to-go solution for editing, color correction, VFX and more, or for developers utilizing the latest AJA SDK.

Compatibility

AJA Desktop Software with a robust suite of integrated third party plugins for Adobe CC applications and Avid Media Composer on macOS and Windows simplifies NLE and VFX integration.

AJA Control Room on macOS, Windows or Linux simplifies capture and playout for a broad range of applications.

Professional Connectivity

KONA 1 offers professional connectivity with a dedicated 3G-SDI Input, dedicated 3G-SDI Output, 16-Channels of embedded audio, dedicated Reference / LTC Input and deck or digital VTR Control via RS-422 and VTR control via 9-pin RS-422.

KONA 1 Features Include:

- 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

Streamlined Capture and Playback
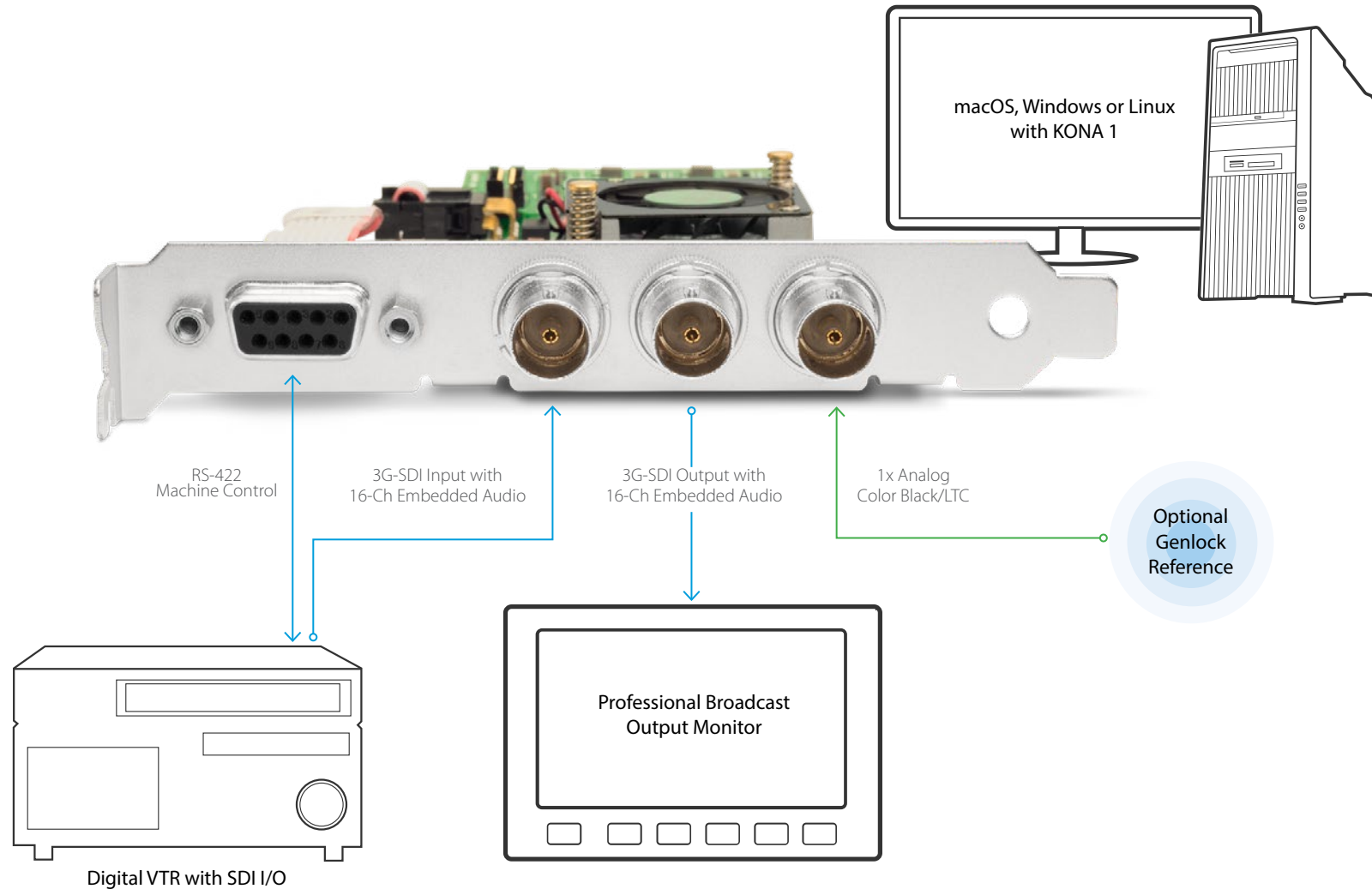
macOS, Windows or Linux
with KONA 1

RS-422
Machine Control

3G-SDI Input with
16-Ch Embedded Audio

3G-SDI Output with
16-Ch Embedded Audio

1x Analog
Color Black/LTC

Optional
Genlock
Reference

Digital VTR with SDI I/O

Professional Broadcast
Output Monitor

KONA® 1

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
- (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

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

Machine Control

- RS-422, Sony 9-pin protocol
- 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			

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)

KONA® LHi

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

Find a Reseller

The most flexible card for analog and digital standard and high definition workflows.

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

Multi-Format Analog and Digital I/O

KONA LHi provides the maximum compatibility for diverse workflows.

If your postproduction facility works with a wide variety of formats, frame rates and audio/video sources, the KONA LHi provides the connectivity you need, bridging the gap between analog devices and the latest 3G SDI and HDMI enabled products to provide editing, monitoring and mastering of professional quality video in an affordable, powerful, easy to use product.
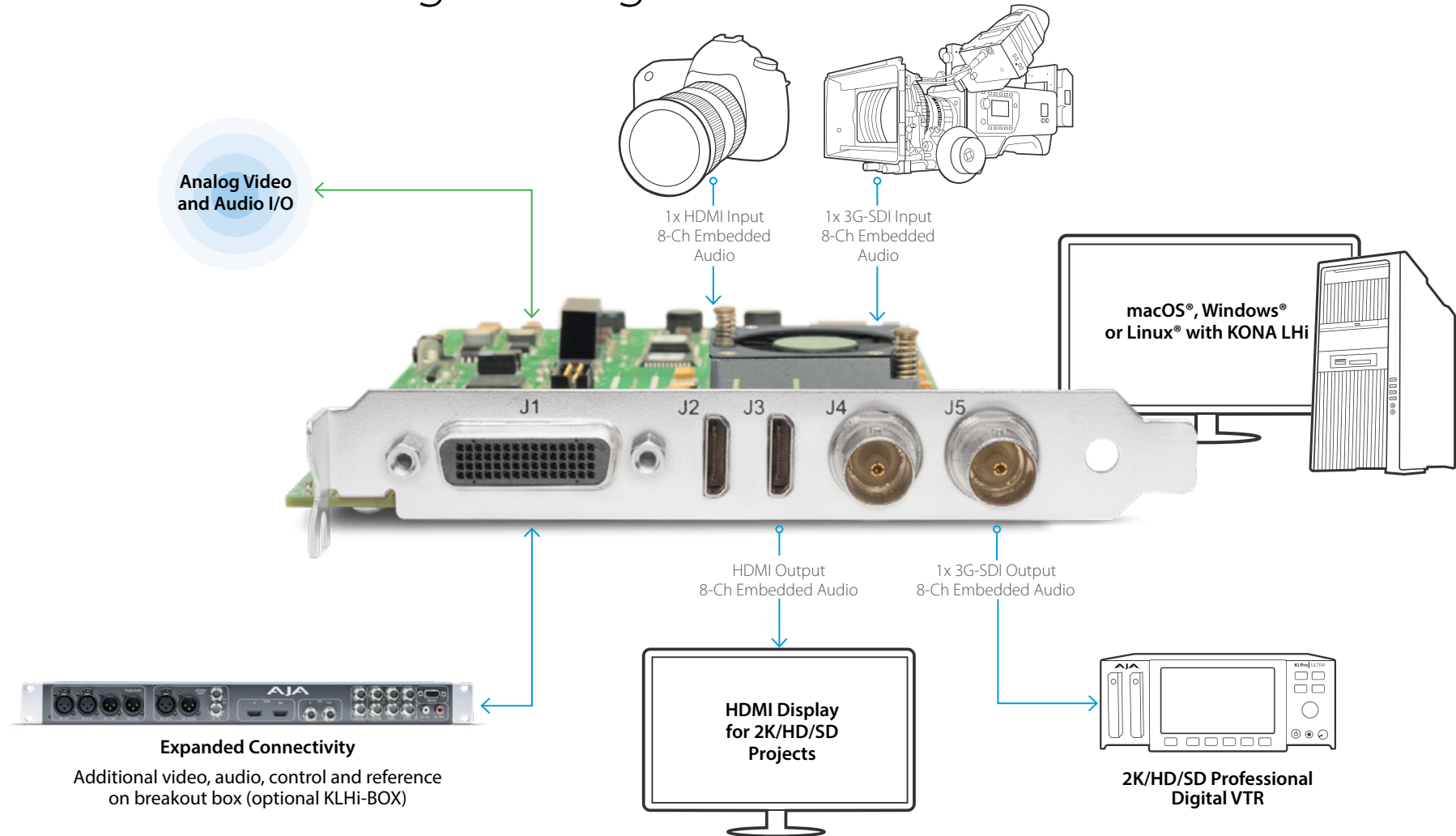
Connecting to everything from an HDMI enabled camera to an HD-SDI VTR, KONA LHi offers a full host of no compromise features, including 10-bit or 8-bit uncompressed video, 2-Channel AES digital audio and 8-Channel SDI embedded digital audio, analog composite or S-video or SD/HD component video I/O, 2-Channel balanced analog audio I/O, and broadcast quality hardware based up, down, cross-conversion for flexible SD and HD postproduction. 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.

KONA LHi features full 10-bit, broadcast quality, motion adaptive SD to HD up-conversion, HD to HD cross-conversion, HD to SD down-conversion, and automatic HD/SD 12-bit component analog output. Since KONA LHi's conversions are hardware based, they are available all the time - during ingest or playback. Outputs can be configured independently allowing you to have simultaneous HD and SD output - or two different types of HD: 720 or 1080 - output at the same time via cross-conversion.

In addition to a full set of video and audio I/O, KONA LHi can lock to external reference signals, accept timecode in and out and control a variety of tape decks via the industry standard RS-422 9-pin connection.

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

KONA® LHi

Multi-format Analog and Digital I/O

Analog Video and Audio I/O

1x HDMI Input
8-Ch Embedded Audio

1x 3G-SDI Input
8-Ch Embedded Audio

macOS®, Windows® or Linux® with KONA LHi

J1   J2   J3   J4   J5

HDMI Output
8-Ch Embedded Audio

1x 3G-SDI Output
8-Ch Embedded Audio

Expanded Connectivity

Additional video, audio, control and reference
on breakout box (optional KLHi-BOX)

**HDMI Display
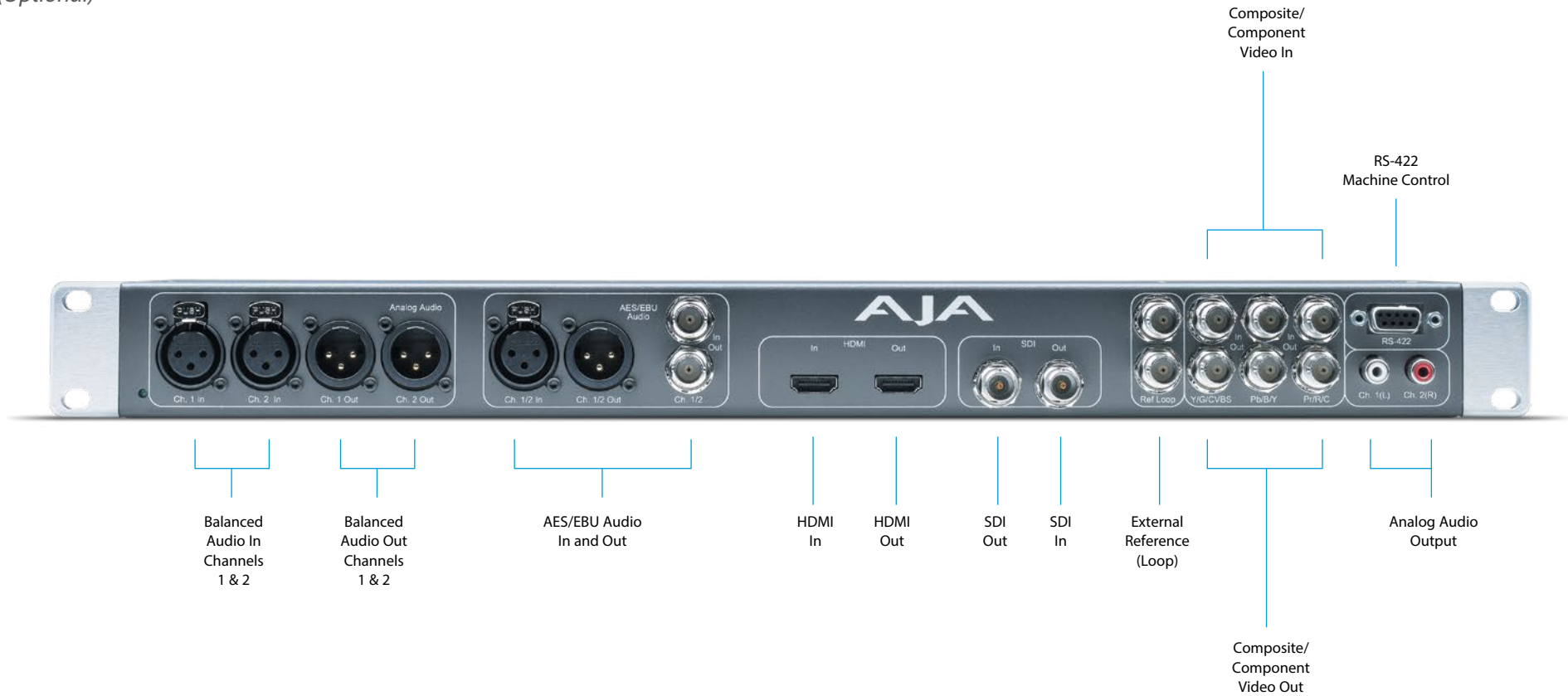for 2K/HD/SD
Projects**

**2K/HD/SD Professional
Digital VTR**

Connect your digital sources via HD/SD-SDI or HDMI to KONA for capture and editing via a wide variety of formats.
Master to any digital or analog device through high quality professional SDI, HDMI or component outputs.

KONA® LHi

Connections

KLHI-BOX Breakout Box
(Optional)

Composite/
Component
Video In

RS-422
Machine Control

Balanced
Audio In
Channels
1 & 2

Balanced
Audio Out
Channels
1 & 2

AES/EBU Audio
In and Out

HDMI
In

HDMI
Out

SDI
Out

SDI
In

External
Reference
(Loop)

Analog Audio
Output

Composite/
Component
Video Out

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

KONA® LHi

Connections

Breakout Cables
(Supplied)

● *Analog Video*   Reference Input BNC

● *SD-SDI/HD-SDI and HDMI Video/Audio*   Pr/R/C Out BNC   ● *Balanced Audio*

RS422 Machine Control to VTR   Pb/B/Y Out BNC   Analog Audio Channel 1 Input
(9-pin)

Y/G/CVBS Out BNC   Analog Audio Channel 2 Input

Pr/C In BNC   Analog Audio Channel 1 Output

HDMI Input (1)   Pb/Y In BNC   Analog Audio Channel 2 Output
and Output (1)

Digital AES Input Channels 1 & 2

SDI Input BNC   Y/CVBS In BNC

SDI Output BNC   Digital AES Output Channels 1 & 2

green blue red green blue red

6 BNCs (Analog Connections):
Can be configured for Component, Composite, or Y/C

KONA® LHi

Tech Specs

Video Formats

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

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 Digital

- 3G/SD/HD SDI, SMPTE-259/292/296/424, 8 or 10-bits
- Single Link 4:2:2 (1x BNC)
- HDMI v1.3 30-bits/pixel, RGB or YUV, 2.25 Gbps, SD, HD, 1080p 50/60 (1x mini-HDMI)

Video Input Analog

- Composite/S-Video (Y/C) (1x BNC/2x BNC+Adapter)
- NTSC, NTSCJ, PAL
- Component (3x 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

Video Output Digital

- 3G/SD/HD SDI, SMPTE-259/292/296/424
- Single Link 4:2:2 or 4:4:4 (1x BNC)
- HDMI v1.3 30-bits/pixel, RGB or YUV, 2.25 Gbps, SD, HD, 1080p 50/60 (1x mini-HDMI)

Video Output Analog

- Composite/S-Video (Y/C) (1x BNC/2x BNC+Adapter)
- NTSC, NTSCJ, PAL
- Component (3x 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

- 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 KLHi-Box)

Audio Input Analog

- 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 KLHi-Box)
- +24 dBu full scale digital
- +/- 0.2 dB 20 Hz to 20 kHz frequency response

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 KLHi-Box)

Audio Output Analog

- 2-Channel, 16 and 24-bit D/A analog audio, 48 kHz sample rate, balanced (via 2x XLR on DB-25 breakout cable or optional KLHi-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 KLHi-Box)

Up-Conversion

- Hardware 10-bit
- Anamorphic: fullscreen
- 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 side bars
- Zoom Letterbox: results in image zoomed to fill fullscreen
- 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: 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

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

- Analog Color Black (1V) or Composite Sync (2 or 4V)
- Looping
- 75 ohms on optional KLHi-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 KLHi-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			

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

$995 US MSRP*

Find a Reseller

Powerful video and audio I/O with a full set of no compromise features for video professionals.

Utilize the KL-BOX-LH breakout box to easily integrate KONA LHe Plus into rackmount environments.

Affordable, Flexible KONA Power

Add the power of AJA's KONA I/O to your system for high quality capture and output that fits within any budget.

KONA LHe Plus offers video professionals at all levels an affordable desktop I/O solution that doesn't compromise on quality or essential functionality and features.

KONA LHe Plus supports both SD/HD 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 offers multiple output options to ensure you can deliver whatever formats are required.

For SDI video, the KONA LHe Plus features one input and two outputs and can be configured independently for HD or SD. It offers genlock input and three BNCs which may be configured for analog video input and output (HD or SD). Also included is a 9-pin connector for RS-422 Machine control. Because the KONA LHe Plus supports 12-bit analog component HD input and output, devices with analog HD output, such as decks and even game consoles, can be connected for a variety of workflows.
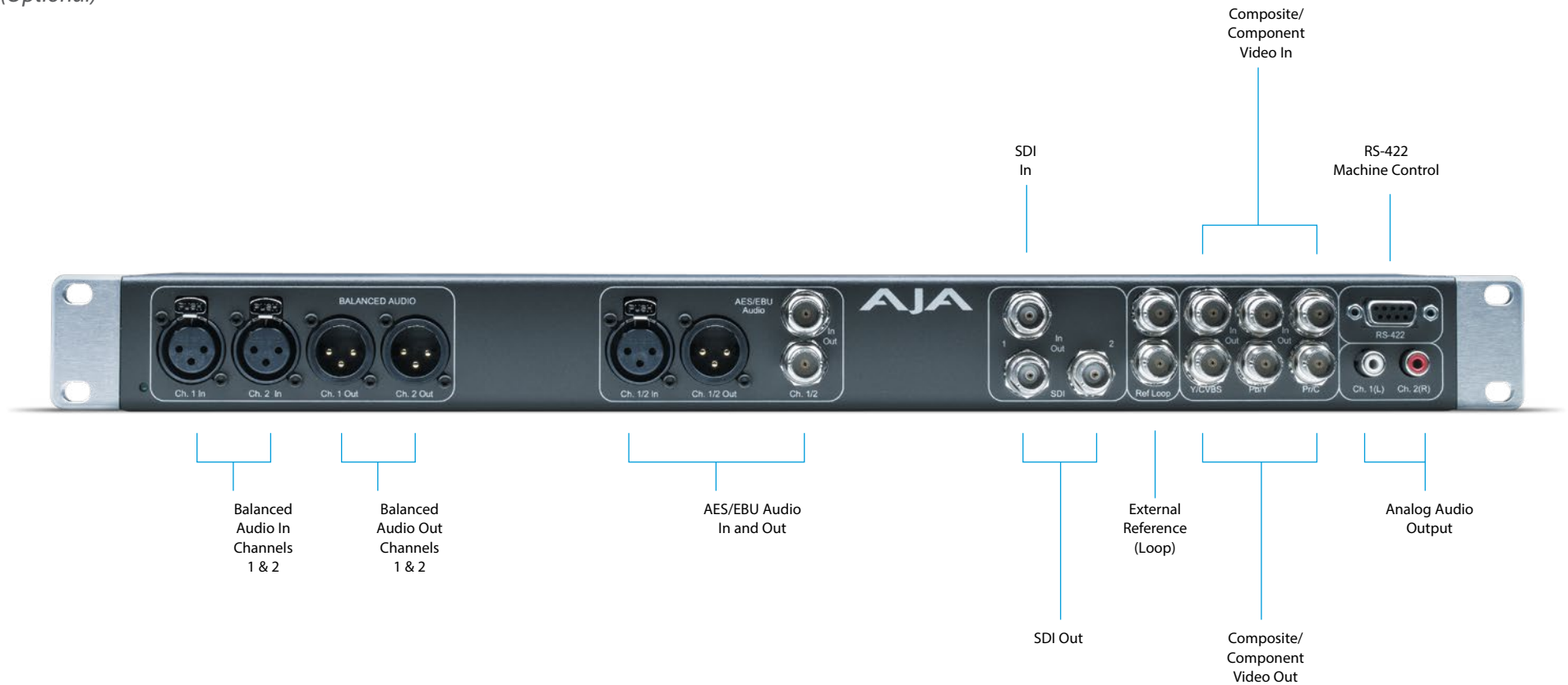
The broadcast quality down-converter in the KONA LHe Plus allows it to connect to analog SD devices for output. This can be used to Check framing and color for SD versions while still working in full resolution HD within your application, ensuring proper quality for multi-format deliveries. Since conversion is hardware based, it's available during ingest or playback.

Like all KONA cards, KONA LHe Plus connectivity can be extended via the KL-Box-LH breakout box, enabling simple integration into rack environments, with quick access to all video and audio connections and additional AES/EBU audio connectivity without having to access the back of the computer tower.

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

KONA® LHe Plus

Connections

KL-BOX-LH Breakout Box
(Optional)

Composite/
Component
Video In

SDI
In

RS-422
Machine Control

Balanced
Audio In
Channels
1 & 2

Balanced
Audio Out
Channels
1 & 2

AES/EBU Audio
In and Out

External
Reference
(Loop)

Analog Audio
Output

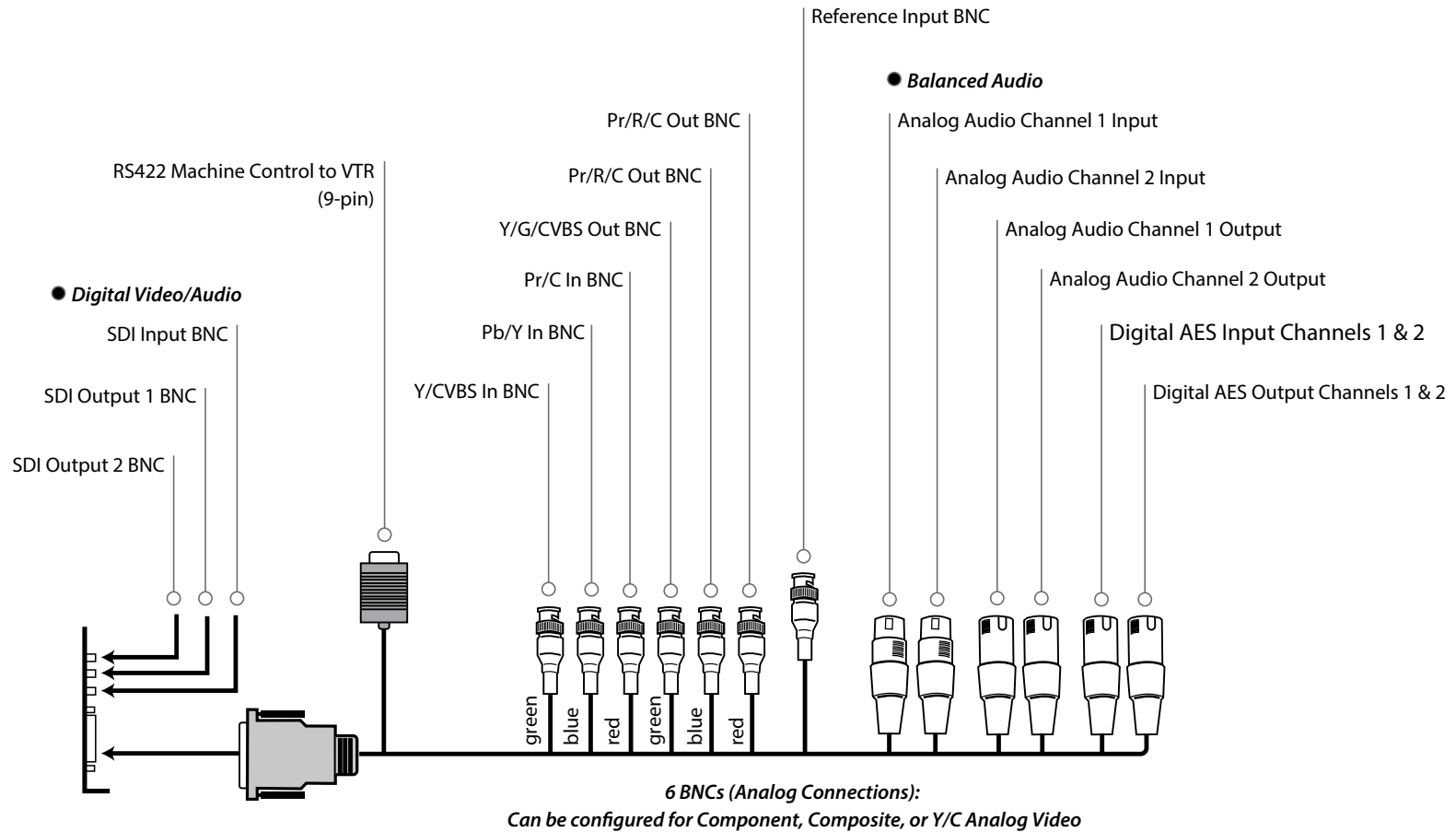SDI Out

Composite/
Component
Video Out

For full product specifications visit www.aja.com/en/products/kona-lhe-plus/#techspecs

KONA® LHe Plus

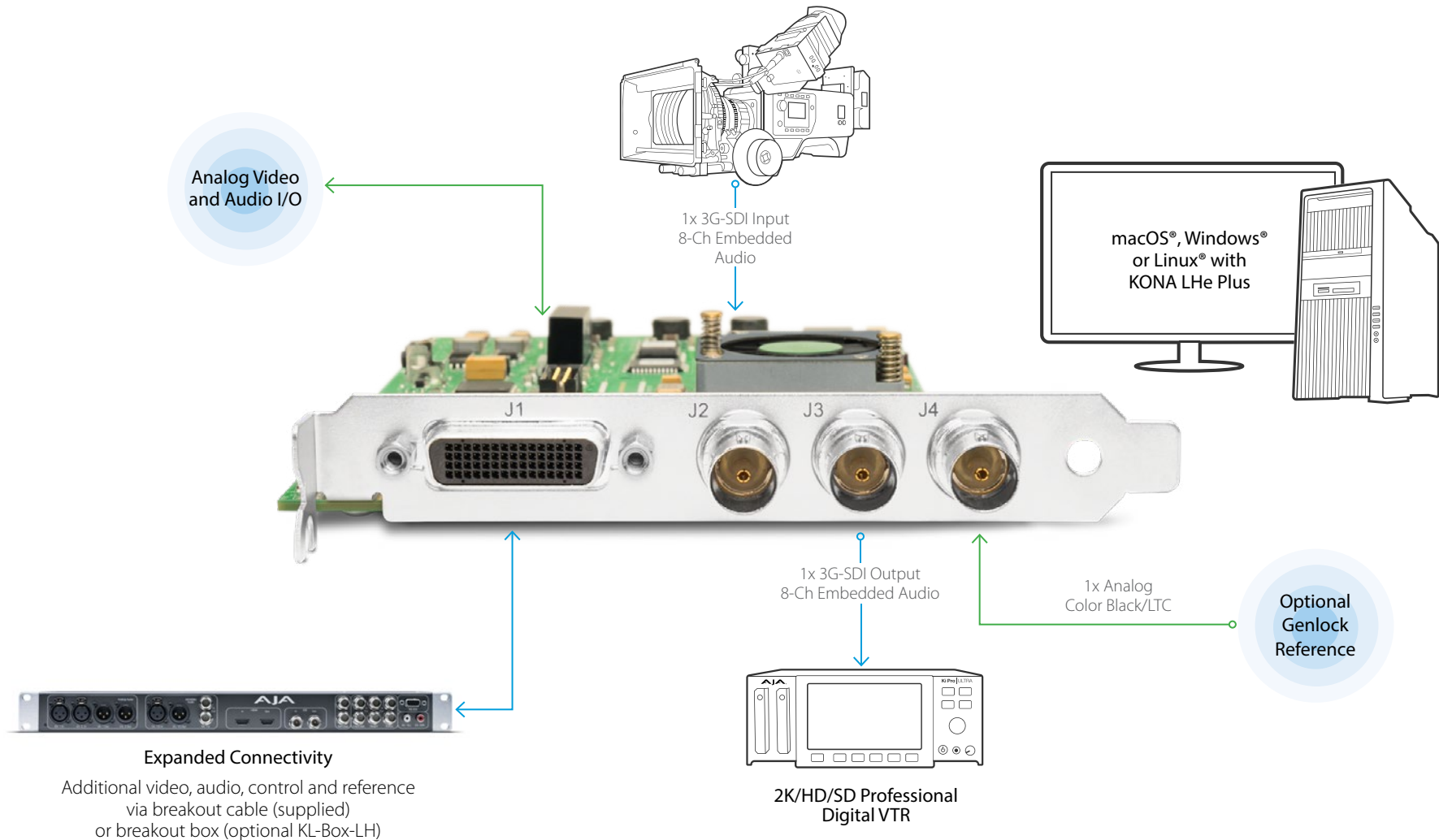## Connections

Breakout Cables
(Supplied)

Reference Input BNC

● *Balanced Audio*

Analog Audio Channel 1 Input

Pr/R/C Out BNC

Analog Audio Channel 2 Input

RS422 Machine Control to VTR
(9-pin)

Pr/R/C Out BNC

Analog Audio Channel 1 Output

Y/G/CVBS Out BNC

Analog Audio Channel 2 Output

Pr/C In BNC

● *Digital Video/Audio*

Digital AES Input Channels 1 & 2

SDI Input BNC

Pb/Y In BNC

SDI Output 1 BNC

Digital AES Output Channels 1 & 2

Y/CVBS In BNC

SDI Output 2 BNC

green blue red green blue red

6 BNCs (Analog Connections):
Can be configured for Component, Composite, or Y/C Analog Video

KONA® LHe Plus

Multi-format Analog and Digital I/O

Analog Video
and Audio I/O

1x 3G-SDI Input
8-Ch Embedded
Audio

macOS®, Windows®
or Linux® with
KONA LHe Plus

J1   J2   J3   J4

1x 3G-SDI Output
8-Ch Embedded Audio

1x Analog
Color Black/LTC

Optional
Genlock
Reference

Expanded Connectivity

Additional video, audio, control and reference
via breakout cable (supplied)
or breakout box (optional KL-Box-LH)

**2K/HD/SD Professional
Digital VTR**

Connect your digital sources via HD/SD-SDI or HDMI to KONA for capture and editing via a wide variety of formats.
Master to any digital or analog device through high quality professional SDI, HDMI or component outputs.

KONA® LHe Plus

Tech Specs

Video Formats

- (HD) 1080i 50, 59.94, 60
- (HD) 1080p 23.98, 24, 25, 29.97, 30
- (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

- 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: YPbPr, RGB
- SD: YPbPr, RGB (component mode)
- SMPTE/EBU N10, Betacam 525 line, Betacam 525J, RGB
- 12-bit A/D, 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

Video Output Analog

- Composite/S-Video (Y/C) (1x BNC/2x BNC+Adapter)
- NTSC, NTSCJ, PAL
- Component (3x BNC)
- HD: YPbPr, RGB
- SD: YPbPr, RGB (component mode)
- SMPTE/EBU N10, Betacam 525 line, Betacam 525J, RGB 12-bit D/A, 8x oversampling
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- +/- .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

- 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

- 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 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)

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- Hardware 10-bit
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Click here | For full product specifications visit www.aja.com/en/products/kona-lhe-plus/#techspecs

Three Year Warranty

AJA Video warrants that KONA® 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**

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