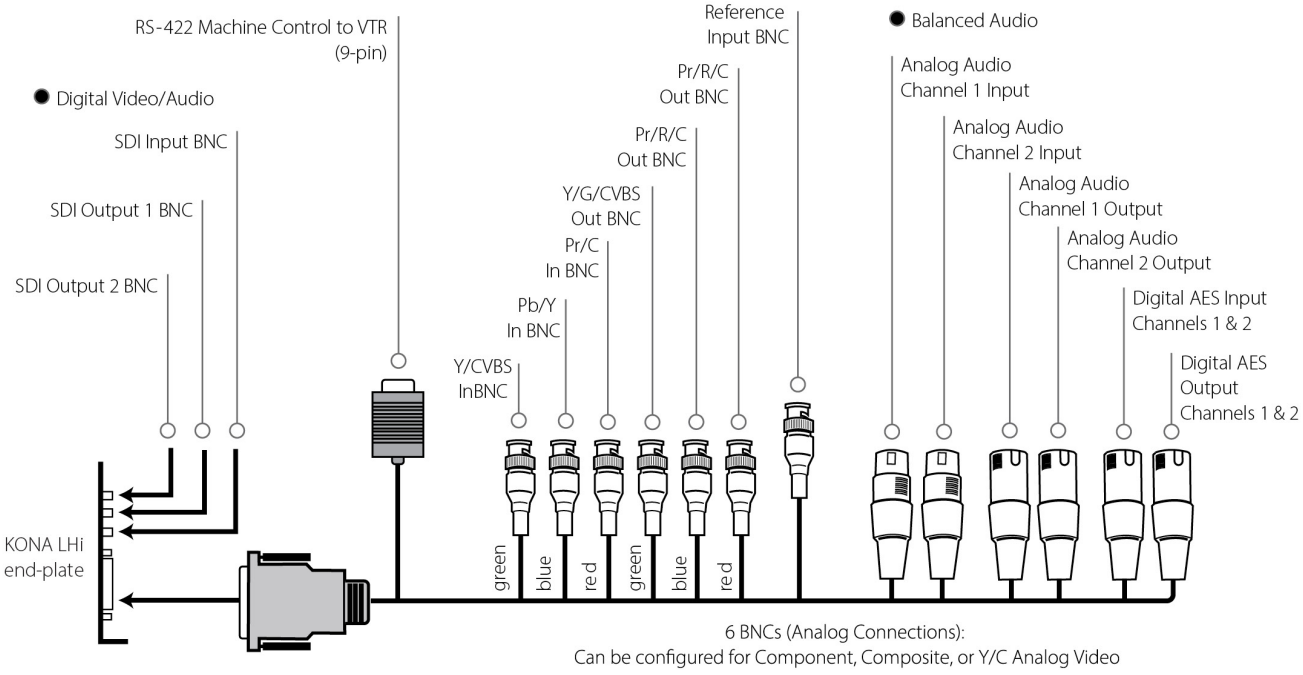
KONA LHi

The most flexible card for analog and digital Standard and High Definition workflows.

$1,955 US MSRP

https://www.aja.com/products/kona-lhi



Video Formats

- (2K) 2048x1080p 23.98, 24, 25
- (2K) 2048x1080PsF 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-SDI, SMPTE 425
  - YCbCr 4:2:2 10-bit
- 1.5G-SDI, SMPTE 292M
  - Single Link HD-SDI YCbCr 4:2:2 10-bit
- 270 Mbps SDI, SMPTE 259M-C
  - YCbCr 4:2:2 10-bit, 8-bit
- HDMI v1.3
  - 30-bits/pixel, RGB or YUV, 2.25 Gbps
  - SD, HD, 1080p 50/60 (1x mini-HDMI)

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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

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- +/- .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 ohm 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
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)

- 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

Envrionment

- 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)