



12G-AMA

The 12G-AMA is a 4-channel analog audio embedder/disembedder Mini-Converter with support for 12G-SDI input and output up to 4K/UltraHD. Fiber models offer single link fiber I/O including LC and ST options.

Audio disembedding is always functional, providing four analog outputs. Audio embedding is user selectable, on a channel pair basis, to either pass 12G-SDI input audio or to embed input analog audio from the breakout cable.

Analog audio levels are selectable. The 12G-AMA automatically detects and configures the input video standard.

<https://www.aja.com/products/12g-ama>

Video Formats

- (4K) 4096x2160p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (UltraHD) 3840x2160p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (2K) 2048x1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (HD) 1920x1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (HD) 1920x1080i 50, 59.94, 60
- (HD) 1280x720p 50, 59.94, 60
- (SD) 625i 50
- (SD) 525i 59.94
- RGB and YCbCr, 4:4:4/4:2:2, 10-bit

Note: Raster and frame rate dependent, please see 12G-AMA Video Formats in Documents and Manual.

Video Input Digital

- 1x 12G-SDI BNC, SMPTE 259/292/424/2081/2082
 - Single Link SD/HD/2K/UltraHD/4K
 - Single Link 3G-SDI Level A, B-DL, or B-DS, SMPTE 425

Fiber Input

(12G-AMA-R, 12G-AMA-TR)

- 1x 12G-SDI Fiber LC connector, SMPTE 297/259/292/424/2081/2082
 - Wavelength: Rx 1260 nm (min), 1620 nm (max)
 - Optical Sensitivity: -10 dBm (min 12 Gbps), -14 dBm (min 3 Gbps)
 - Overload Power: -2 dBm (min)

Fiber Input

(12G-AMA-R-ST)

- 1x 12G-SDI Fiber ST connector, SMPTE 297/259/292/424/2081/2082
 - Wavelength: Rx 1260 nm (min), 1620 nm (max)

- Optical Sensitivity: -10 dBm (min 12 Gbps), -14 dBm (min 3 Gbps)
- Overload Power: -2 dBm (min)

Video Output Digital

- 1x 12G-SDI BNC, SMPTE 259/292/424/2081/2082
 - Single Link SD/HD/2K/UltraHD/4K
 - Single Link 3G-SDI Level A, B-DL, or B-DS, SMPTE 425

Fiber Output

(12G-AMA-T, 12G-AMA-TR)

- 1x 12G-SDI Fiber LC connector, SMPTE 297/259/292/424/2081/2082
 - Nominal Wavelength: Tx 1260 nm (min), 1310 nm (typ), 1360 nm (max)
 - Optical Power: -5 dBm (min), 0.5 dBm (max)
 - Extinction Ratio: 5.4 dB (min)

Fiber Output

(12G-AMA-T-ST)

- 1x 12G-SDI Fiber ST connector, SMPTE 297/259/292/424/2081/2082
 - Nominal Wavelength: Tx 1260 nm (min), 1310 nm (typ), 1360 nm (max)
 - Optical Power: -5 dBm (min), 2 dBm (max)
 - Extinction Ratio: 3.4 dB (min)

Cable Equalization

(Belden 1694A coax)

- 12 Gbps, 65m
- 6 Gbps, 125m
- 3 Gbps, 190m
- 1.5 Gbps, 200m

- 270 Mbps, 405m

Video Path Delay

Video Out is a delayed, reclocked version of Video In, at the same frame rate, etc. Video Out is undefined when no input.

- Video Latency, time measured between video input and video output connector:
 - 12G = 3.2 μ sec
 - 6G = 3.2 μ sec
 - 3G level B (Dual Stream HD mode) = 6.3 μ sec
 - 3G level A = 3.2 μ sec
 - HD (1.5 Gb) = 6.3 μ sec
 - SD (270 Mb) = 17.2 μ sec

Audio Inputs and Outputs

- Balanced Analog Audio, 1x 25 pin D female connector on the converter, 4-channels in, 4-channels out
- Breakout cable provided with 1x 25 pin D male connector:
 - 4x XLR female input breakout connectors
 - 4x XLR male output breakout connectors

Digital Audio Converters

- 24-bit

Embedded Audio

- SMPTE 272M (SD): 20-bit, 48 kHz synchronous
- SMPTE 299M (12G/6G/3G/1.5G): 24-bit, 48 kHz synchronous
- Incoming embedded audio can be passed, removed, or overridden
- Up to 16 channels supported

Note: 2048x1080p/PsF 29.97 and 30 formats support a maximum of 8-channels embedded audio.

Path Audio Latency

- Embed Path 1100 μ sec
- Disembed Path 1200 μ sec

Analog Audio Levels

Configured via Mini-Config software:

- Pro 1: 0 dBfs = +24 dBu
- Pro 2: 0 dBfs = +18 dBu
- Pro 3: 0 dBfs = +15 dBu
- Consumer 1: 0 dBfs = +12 dBu

User Interface

- External DIP switch
- USB port used with Mini-Config software application to configure the device via PC/Mac

Size (w x d x h)

- 5.8" x 3.1" x 1.0" (147.32 x 78.74 x 25.4 mm)

Weight

- 0.6 lb (0.3 kg)

Power

- +5-16VDC, 10 watts. power supply required, included with purchase

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)