



# HA5-12G

AJA's HA5-12G converts an HDMI 2.0 input to 12G-SDI for 4K/UltraHD single link outputs. HA5-12G includes two 12G-SDI distribution amplifier outputs with 8 or 2-channels of embedded audio from an HDMI source or two-channel analog audio (RCA) input.

**\$999 US MSRP**

HA5-12G also supports Extended Display Identification Data (EDID) emulation, which ensures the connected source continuously supplies custom preferred video formats on output.

HA5-12G-T and HA5-12G-T-ST Fiber SFP-equipped models are single channel transmitters capable of extending HDMI 4K/UltraHD signals over long distances, up to 10km over a single LC or ST Fiber link respectively. These models ship with SFPs installed, and include all functionality of the HA5-12G, with the added benefit of extending audio and video signals further.

<https://www.aja.com/products/ha5-12g>

## Video Formats

- (4K) 4096x2160p
- (UltraHD) 3840x2160p
- (2K) 2048x1080p
- (HD) 1920x1080p
- (HD) 1920x1080i
- (HD) 1280x720p
- (SD) 720x576p
- (SD) 720x576i
- (SD) 720x480p
- (SD) 720x480i

**Note:** Raster and Frame Rate Dependent, please see HA5-12G Video Formats in the Download / Documents section of the website product page.

## Video Input Digital

- 1x HDMI Type A connector, HDMI v2.0b
  - HDR Infoframe decoder as defined in CTA-861.3 and HDMI v2.0b
  - HDR VPID generation with pass-through or override for Colorimetry and Transfer Characteristic
  - YCbCr 4:2:2/4:4:4/4:2:0
  - RGB 4:4:4, SMPTE or Full level
  - 24, 30, or 36 Bits Per Pixel (HFR 4K/UltraHD 4:4:4 limited to 24 BPP)
  - (4K) 4096x2160p 23.98, 24, 25, 29.97, 30, 47.95, 48, 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, 47.95, 48, 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) 720x576p 50
- (SD) 720x576i 25
- (SD) 720x480p 59.94
- (SD) 720x480i 29.97

## HDCP Decryption

- Not supported. By definition, SDI outputs are unencrypted.

## Video Output Digital

- 1x 12G-SDI BNC, SMPTE 259/292/424/2081/2082
  - YCbCr 4:2:2/4:4:4
  - RGB 4:4:4, SMPTE or Full level
  - 10-bit, 12-bit\*
- 1x 12G-SDI
  - (4K) 4096x2160p 23.98, 24, 25, 29.97, 30, 47.95, 48, 50, 59.94, 60
  - (4K) 4096x2160PsF 23.98, 24, 25, 29.97, 30
  - (UltraHD) 3840x2160p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
  - (Ultra HD) 3840x2160PsF 23.98, 24, 25, 29.97, 30
- 1x 6 Gb SDI
  - (4K) 4096x2160p 23.98, 24, 25, 29.97, 30
  - (4K) 4096x2160PsF 23.98, 24, 25, 29.97, 30
  - (UltraHD) 3840x2160p 23.98, 24, 25, 29.97, 30
  - (Ultra HD) 3840x2160PsF 23.98, 24, 25, 29.97, 30
- 1x 3 Gb SDI (Level A or Level B Dual Link)
  - (2K) 2048x1080p 23.98, 24, 25, 29.97, 30, 47.95, 48, 50, 59.94, 60
  - (2K) 2048x1080PsF 23.98, 24, 25, 29.97, 30
  - (HD) 1920x1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
  - (HD) 1920x1080PsF 23.98, 24, 25, 29.97, 30
  - (HD) 1920x1080i 50, 59.94, 60
  - (HD) 1920x1080i\*\* 50, 59.94, 60
  - (HD) 1280x720p\*\* 50, 59.94, 60
- 1x 1.5 Gb SDI

- (2K) 2048x1080p 23.98, 24, 25, 29.97, 30
- (2K) 2048x1080PsF 23.98, 24, 25, 29.97, 30
- (HD) 1920x1080p 23.98, 24, 25, 29.97, 30
- (HD) 1920x1080PsF 23.98, 24, 25, 29.97, 30
- (HD) 1920x1080i 50, 59.94, 60
- (HD) 1280x720p 50, 59.94, 60
- 1x 270 Mb SDI
  - (SD) 625i 50
  - (SD) 525i 59.94

\*Some 12-bit formats not supported, please see HA5-12G Video Formats in the Documents tab and the Manuals.

\*\*1280x720p is Level A Only

## Video Output Digital - Additional for HA5-12G-T Only

- 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: 3.5 dB (min)

## Video Output Digital - Additional for HA5-12G-T-ST Only

- 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: 3.5 dB (min)

## Audio Pass-Through Formats

- PCM
- Dolby Digital (AC-3)
- Dolby Digital Plus (E-AC-3), including Atmos Immersive Sound (JOC)

## Audio Input Digital

- HDMI embedded audio, 24-bit, 8-channel

## Audio Input Analog

- 2x RCA style connector, 2-channel -10dBu (nominal)

## Audio Output Digital

- SDI embedded audio, 24-bit (SD limited to 20-bit), 16-channel

## User Interface

- USB port used with supplied cable and Mini-Config software application to configure and view device status via Mac or Windows

## Size (w x d x h)

- 4.6" x 4.02" x 0.9" (116.84 x 102.11 x 22.86 mm)

## Weight

- 0.5 lb (0.3 kg)

## Power

- 5-16VDC regulated, 11 watts, power supply required included with purchase
- AC Adapter: 100-240VAC, 50/60 Hz, universal input

## 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)

\*HA5-12G, HA5-12G-T, and HA5-12G-T-ST each use approximately 12 watts of power and convection cooling. It will be warm to the touch, which is normal. When installing the unit, mount in a location where it has access to air for proper cooling. Do not stack the HA5-12G converters with other Mini-Converters.