

Enova® DGX 4K60 4:4:4 HDMI Input Board

DGX-I-HDMI-4K60 (FG1061-542)



Overview

The DGX-I-HDMI-4K60 is a 4K60 4:4:4 input board for 4K 60 4:4:4 compatible* Enova DGX 800, Enova DGX 1600, Enova DGX 3200, and Enova DGX 6400 enclosures. The board is Ultra High Definition (UHD) capable and HDCP 2.2 compliant, with support for full 4K60 4:4:4 video and High Dynamic Range (HDR) for optimum image quality and full bandwidth, pixel-for-pixel image reproduction without compression or chroma subsampling. It has four connections and supports HDMI with embedded audio (including support for Dolby Atmos), DisplayPort++ or DVI signals.

Common Applications

The Enova DGX HDMI Input Board is ideal for applications where source devices are located within 7 meters of the Enova DGX Digital Media Switcher, providing 4K60 4:4:4 HDMI routing for video wall processors, divisible rooms, and more without the need for external transmitters.

Features

- **4K60 4:4:4 Support** – Experience pixel-for-pixel video reproduction with full bandwidth 4K60 images without chroma subsampling.
- **HDCP 2.2 Support with InstaGate Pro® Technology** – Support the latest entertainment devices and enjoy hassle-free matrix switching to all compliant displays.
- **High Dynamic Range (HDR)** – Dramatically improve the viewing experience with broader color range for improved clarity.
- **Hot Swappable** – Easily add or replace I/O boards at any time after deployment - the system automatically recognizes the new configuration and activates the boards.
- **Surround Sound Support** – Pass through high definition surround sound including Dolby Atmos®, Dolby TrueHD, Dolby Digital, Dolby Digital Plus, DTS-HD MA, DTS, and 2-channel through 8-channel L-PCM.

Specifications

GENERAL	
Compatible AMX Products	Supported enclosures are Enova DGX 800, 1600, 3200 or 6400 Digital Media Enclosure built after June 1, 2016
Regulatory Compliance	See Enova DGX Digital Media Switcher Enclosure for regulatory compliance

HDMI w/HDCP	DESCRIPTION
Compatible Formats	HDMI 1.X, HDMI 2.0, HDCP, HDCP 1.X, HDCP 2.2, DVI
Signal Type Support	HDMI, DisplayPort++ (Input Only) DVI-D (Single Link With HDMI Cable Adapter)
Video Data Rate (Max)	When used with compatible Enova DGX 100 series enclosures*: 18 Gbps (Max)
Video Pixel Clock (Max)	When used with compatible Enova DGX 100 series enclosures*: Up to 600 Mhz
Progressive Resolution Support	When used with compatible Enova DGX 100 series enclosures*
Interlaced Resolution Support	480i, 576i, 1080i NOTE: If input is interlaced, all scaled outputs will de-interlace video to a progressive resolution format. If non-scaled output board or if scaler is in Bypass mode, interlaced input will pass through unaltered.
4K Resolution Support (Max)	When used with compatible Enova DGX 100 series enclosures*: 3840x2160p@24/25/30/60 Hz, 4:4:4 4096x2160p@24/25/30/60 Hz, 4:4:4 3840x2160p@50/60 Hz, 4:2:0** 4096x2160p@50/60 Hz, 4:2:0** ** Supported by DX-RX-4K when in Bypass Scaling mode.
HDMI Cable Requirement	Premium Certified High Speed Cable Category 2, Recommended. HDMI High Speed Cable Category 2, Required
Input Equalization	Adaptive up to 21ft (7m). Cable distance support dependent on cable quality and signal format
Input Re-clocking (CDR)	Yes
Deep Color Support	24-bit, 30-bit***, 36-bit*** ***30-bit and 36 bit are only supported in CTA-861 formats. When switched to an output board or RX with Scaling support the Scaler must be in Bypass mode.
HDR Support	Yes HDR10 Output signal follows input format Note: Requires the use of HDR compatible output board such as 4K60 HDMI Output Board
Color Space Support	sRGB, BT.601, BT.709, BT.2020 RGB 4:4:4, YCbCr 4:4:4, 4:2:2, and 4:2:0 • Input signal support for YCbCr 4:4:4 and 4:2:2, output color-space is converted to RGB 4:4:4 on scaled output • Output signal follows input format on non-scaled output boards • If 4:2:0 is switched to a 4K RX the RX scaler must be set to bypass
3D Format Support	<ul style="list-style-type: none"> • Frame Packing 1080p up to 24 Hz • Frame Packing 720P up to 50/60 Hz • Frame Packing 1080i up to 50/60 Hz

	<ul style="list-style-type: none"> • Top-Bottom 1080p up to 24 Hz • Top-Bottom 720p up to 50/60 Hz • Side-by-Side Half 1080i up to 50/60 Hz <p>Note: If scale is present on corresponding output board or the RX it must be set to Bypass mode</p>
Audio Format Support	<p>Dolby Atmos, Dolby TrueHD, Dolby Digital, Dolby Digital Plus, DTS-HD MA, DTS, 2 CH through 8 CH L-PCM</p> <ul style="list-style-type: none"> • Dolby Digital and DTS support up to 48 kHz, 5.1 channels
Audio Resolution	16 bit to 24 bit
Audio Sample Rate	32 kHz, 44.1 kHz, 48 kHz, 96 kHz, 192 kHz
AIE Board Support	Yes, extraction of 2 CH L-PCM selectable by channel
Audio Switching Board Support	<ul style="list-style-type: none"> • Supports break-away audio switching of 2 CH L-PCM for all channels • Supports down-mix from one input channel of Dolby True-HD, Dolby Digital, DTS-HD, DTS, or 2 to 8 channel L-PCM <p>Note: Down-mix supported on 4K video inputs with pixel clocks up to 297 Mhz (up to 4096x2160p@30 Hz)</p>
DDC/EDID Support	<ul style="list-style-type: none"> • EDID provided by Enova DGX Digital Media Switcher to the digital (HDMI)port input and includes presets • EDID is user re-programmable
HDCP Support	<p>Yes, including HDCP 1.x and HDCP 2.x for full matrix HDCP support (includes any input to any or all outputs)</p> <p>HDCP 2.2 support required by input/output board for passage of HDCP 2.2 premium content</p> <p>Key Management System</p> <p>AMX HDCP InstaGate Pro™ Technology</p> <p>Key support up to 31 devices per output</p>
CEC Support	None
Input Propagation Delay	5 us
Connectors	4 HDMI Type A Ports

4K HDMI INPUT DEFAULT SHIPPING EDID¹	
Detailed Timing Descriptors (DTD)	<p>3840x2160p¹@ 30 Hz CTA (VIC 95)</p> <p>1920x1080p @ 60 Hz CTA (VIC 16)</p> <p>1920x1080p @ 50 Hz CTA (VIC 31)</p> <p>1920x1200 @ 50 Hz CVR</p> <p>1920x1200 @ 60 Hz CVR</p> <p>¹This is the preferred format DTD identified in the EDID.</p> <p>Note: The default EDID can be configured to include support for 4K 60 4:4:4, HDMI mode or audio capabilities or overwritten with custom EDID capture from output devices</p>
Standard Timing Identification	<p>1920x1200 @ 60 Hz</p> <p>1680x1050@ 60 Hz</p> <p>1600x1200 @ 60 Hz</p> <p>1440x900 @ 60 Hz</p> <p>1360x765 @ 60 Hz</p> <p>1280x1024 @ 60 Hz</p> <p>1280x800 @ 60 Hz</p> <p>1280x720 @ 60 Hz</p>
Established Timing	<p>1280x1024 @ 75 Hz</p> <p>1152x870 @ 75 Hz</p> <p>1024x768 @ 60 Hz, 70 Hz, 75 Hz, 87 Hz</p> <p>832x624 @ 75 Hz</p>

	800x600 @ 56 Hz, 60 Hz, 72 Hz, 75 Hz 720x400 @ 70 Hz, 88 Hz 640x480 @ 60 Hz, 67 Hz, 72 Hz, 75 Hz
CTA Video Information Code (VIC) Formats	SVD 001 VIC = 95 3840x2160p 29.97/30 Hz 16:9 SVD 002 VIC = 94 3840x2160p 25 Hz 16:9 SVD 003 VIC = 93 3840x2160p 23.98/24 Hz 16:9 SVD 004 VIC = 100 4096x2160p 30 Hz 256:135 SVD 005 VIC = 98 4096x2160p 24 Hz 256:135 SVD 006 VIC = 99 4096x2160p 25 Hz 256:135 SVD 007 VIC = 105 3840x2160p 30 Hz 64:27 SVD 008 VIC = 103 3840x2160p 24 Hz 64:27 SVD 009 VIC = 104 3840x2160p 25 Hz 64:27 SVD 010 VIC = 16 1920x1080p 59.94/60 Hz 16:9 SVD 011 VIC = 32 1920x1080p 23.97/24 Hz 16:9 SVD 012 VIC = 34 1920x1080p 29.97/30 Hz 16:9 SVD 013 VIC = 31 1920x1080p 50 Hz 16:9 SVD 014 VIC = 33 1920x1080p 25 Hz 16:9 SVD 015 VIC = 5 1920x1080i 59.94/60 Hz 16:9 SVD 016 VIC = 20 1920x1080i 50 Hz 16:9 SVD 017 VIC = 4 1280x720p 59.94/60 Hz 16:9 SVD 018 VIC = 3 720x480p 59.94/60 Hz 16:9 SVD 019 VIC = 19 1280x720p 50 Hz 16:9 SVD 020 VIC = 2 720x480p 59.94/60 Hz 4:3 SVD 021 VIC = 17 720x576p 50 Hz 4:3 SVD 022 VIC = 6 720(1440)x480i 59.94/60 Hz 4:3 SVD 023 VIC = 7 720(1440)x480i 59.94/60 Hz 16:9 SVD 024 VIC = 18 720x576p 50 Hz 16:9 SVD 025 VIC = 21 720(1440)x576i 50 Hz 4:3 SVD 026 VIC = 22 720(1440)x576i 50 Hz 16:9 SVD 027 VIC = 39 1920x1080i 50 Hz 16:9 SVD 028 VIC = 90 2560x1080p 60 Hz 64:27 SVD 029 VIC = 89 2560x1080p 50 Hz 64:27 SVD 030 VIC = 1 640x480p 59.94/60 Hz 4:3
Audio Data Block	Basic Audio: 2 Channel L-PCM 32, 44.1, 48 kHz Sampling Frequency at 16, 20 or 24 bits per sample.

*Compatible Enova DGX 100 Series Enclosures are those Enova DGX 800, 1600, 3200 or 6400 enclosures built on or after June 1, 2016.

About AMX by HARMAN

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www.amx.com | +1.469.624.7400 | 800.222.0193