Enova® DGX 4K HDMI Input Board

DGX-I-HDMI-4K (FG1061-540)

Overview

The DGX-I-HDMI-4K is a 4K and Ultra High Definition (UHD) capable and HDCP compliant HDMI input board for the Enova DGX 800, Enova DGX 1600, Enova DGX 3200, and Enova DGX 6400. It has four connections and supports HDMI with embedded audio, 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, allowing direct digital inputs into the system and eliminating the need for external transmitters.

Features

- **4K and Ultra High Definition (UHD) Support** – Experience high-quality video resolution for 4K devices
- **InstaGate Pro® Technology** – Easily integrate HDMI/HDCP into system designs and enjoy hassle-free matrix switching to all compliant displays. No tools, no delays, and no key constraints – it just works
- **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
- **3D Support –** Pass through latest video formats including 3D and Deep Color
- **Surround Sound Support –** Dolby TrueHD, Dolby Digital, DTS-HD Master Audio, DTS, and 2-channel through 8-channel L-PCM

Specifications

GENERAL	
Compatible AMX Products	Must be used in conjunction with an Enova DGX 800, 1600, 3200 or 6400 Digital Media Enclosure
Regulatory Compliance	See Enova DGX Digital Media Switcher Enclosure for regulatory compliance
Recommended Accessories	•CBL-HDMI-FL2-16, HDMI 4K60 MyTurn Ready Flat Cable, 16 Feet (FG10-2192-16) •CBL-HDMI-FL2-32, HDMI 4K60 MyTurn Ready Flat Cable, 16 Feet (FG10-2192-32)

HDMI w/HDCP	
Compatible Formats	HDMI, HDCP, DVI
Signal Type Support	HDMI DVI-D (Single Link With HDMI Cable Adapter) DisplayPort ++ (Input Only, With HDMI Cable Adapter)
Connectors	4 HDMI Type A Female Ports
Video Data Rate (Max)	8.91 Gbps (max)
Video Pixel Clock (Max)	297 MHz
Progressive Resolution Support	480p up to 4096x2160p,60 Hz* *Y/Cb/Cr 4:2:0 & 4K RX Scaler in Bypass NOTE: See full list of supported formats at AMX.com
Interlaced Resolution Support	480i, 576i, 1080i NOTE: If input is interlaced, all scaled outputs will deinterlace video to a progressive resolution format. If in scaler Bypass mode interlaced input will pass through unaltered.
4K Resolution Support	3840x2160p@24/25/30 Hz 4096x2160p@24/25/30 Hz 3840x2160p@60 Hz, 4:2:0* 4096x2160p@60 Hz, 4:2:0* * Supported by DX-RX-4K when in Bypass Scaling mode.
HDMI Cable Requirement	HDMI High Speed Cable, Category 2, Required
Input Equalization	Yes, adaptive to 21 ft. (7 m)* *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 when the HDMI Output Board or DXLink RX Scaler is in Bypass mode and format is 1080p60 or less.
Color Space Support	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 • 4:2:0 only supported at 2160p 50/60 Hz with 4K RX Scaler in Bypass
3D Format Support	• Frame Packing 1080p up to 24 Hz • Frame Packing 720p up to 50/60 Hz • Frame Packing 1080i up to 50/60 Hz • 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 NOTE: The Scaler on corresponding output board or RX must be set to Bypass mode.
Audio Format Support	Dolby TrueHD, Dolby Digital, DTS-HD Master Audio, DTS, 2 CH through 8 CH L-PCM • 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
Local Audio Support	Yes, insertion and/or extraction of 2 CH L-PCM selectable by channel
Audio Switching Board Support	• Supports break-away audio switching of 2 CH L-PCM for all channels • Supports downmix from one input channel of Dolby True-HD, Dolby Digital, DTS-HD, DTS, or 2 to 8 channel L-PCM
DDC/EDID Support	• EDID provided by Enova DGX Digital Media Switcher to the digital (HDMI) input on the DXLink Transmitter • EDID is user re-programmable
HDCP Support	Yes, full matrix HDCP 1.4 support (includes any input to any or all outputs) • Key Management System • AMX HDCP InstaGate Pro® Technology • Key support up to 16 devices per output, independent of source device
CEC Support	None
Input Propagation Delay	2 us
Connectors	4 HDMI Type A Female Ports

4K HDMI INPUT DEFAULT SHIPPING EDID[1]	
Detailed Timing Descriptors (DTD)	3840x2160p* @ 30 Hz CTA (VIC 95) 1920x1080p @ 60 Hz CTA (VIC 16) 1920x1080p @ 50 Hz CTA (VIC 31) 1920x1200 @ 50 Hz CVR 1920x1200 @ 60 Hz CVR *This is the preferred format DTD identified in the EDID.
Standard Timing Identification	1920x1200 @ 60 Hz 1680x1050@ 60 Hz 1600x1200 @ 60 Hz 1440x900 @ 60 Hz 1360x765 @ 60 Hz 1280x1024 @ 60 Hz 1280x800 @ 60 Hz 1280x720 @ 60 Hz
Established Timing	1280x1024 @ 75 Hz 1152x870 @ 75 Hz 1024x768 @ 60 Hz, 70 Hz, 75 Hz, 87 Hz 832x624 @ 75 Hz 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.

[1] The default EDID can be overwritten to include a broad range of features, including HDMI mode, based on installation requirements