Enova® DGX DXLink™ Twisted Pair Output Board

DGX-O-DXL (FG1058-580)

Overview
The DGX-O-DXL is a HDCP compliant twisted pair cable output board for the Enova DGX 8, Enova DGX 16, Enova DGX 32, and Enova DGX 64. It has four connections per DXLink Output Board and is designed to transmit audio and video to DXLink Twisted Pair Receivers while passing bi-directional control and Ethernet over one standard twisted pair cable up to 100m. DXLink Power is available from the DXLink Output Board to power DXLink Twisted Pair Receivers.

Common Applications
The Enova DGX DXLink Twisted Pair Output Board is ideal for applications where destination devices are located up to 100 meters away from the Enova DGX Digital Media Switcher and need to be distributed throughout a commercial or residential environment.

Features
- **Only One Cable** – Send audio and video while passing control, Ethernet and power over one twisted pair cable
- **Send HDMI signals up to 100 Meters** – Extend the reach of the HDMI with HDCP signals far beyond the capabilities of typical HDMI cabling
- **Standard Twisted Pair Cable** – Save time and effort in installation by leveraging pre-existing cost effective twisted pair cable, see the Cabling for Success with DXLink white paper for more details
- **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
- **HDCP Compliant**

Additional Features

- **Remotely Powered Receivers** - DXLink Power* is available from the DXLink Output Board to power DXLink Receivers
- **3D Support** - Pass through latest video formats including 3D and Deep Color
- **Surround Sound Support** - Pass through high definition surround sound including Dolby TrueHD, Dolby Digital, DTS-HD Master Audio, DTS, and 2-channel through 8-channel L-PCM

*Power over DXLink to DXLink Receivers must be supplied by one of the following DXLink Power sourcing devices: Enova DGX 8/16/32/64 Digital Media Switcher (with a DXLink Twisted Pair Output Board installed), Compatible Enova DVX All-In-One Presentation Switcher (2155HD or 2150HD), PS-POE-AT-TC High Power PoE Injector or PDXL-2 Power over DXLink Controller. AMX only supports the use of these approved Power over DXLink solutions. Other third party power supplies or non-compatible standard PoE solutions may damage the DXLink equipment. The DXLink Receiver Module can also be powered via the included desktop power supply (ENERGY STAR® qualified) with power cord

Specifications

GENERAL	
Compatible AMX Products	Must be used in conjunction with an Enova DGX 8, 16, 32 or 64 Digital Media Enclosure and DXLink Twisted Pair Receiver Compatible with AMX DXLink Twisted Pair Receiver
Recommended Accessories	•DX-RX, DXLink HDMI Receiver Module (FG1010-500)

USB (HID) KEYBOARD & MOUSE	
USB (HID)	Use the Enova DGX Digital Media Switcher in conjunction with DXLink Transmitters and Receivers (twisted pair and/or fiber), connect a DXLink Transmitter to a PC and a DXLink Receiver to a keyboard and mouse, the system then emulates commands from the receiver back to the PC For a list of HID devices which have been tested and found to be working well with the latest firmware please visit: http://www.amx.com/products/AVB-RX-DXLINK-HDMI.asp and view the document "DXLink HID Keyboard and Mouse Supported Devices"

Signal Transport – DXLink w/HDCP	Description
Compatible Formats	HDMI Video / Audio / Ethernet / USB (HID) / Power and Control
Signal Type Support	DXLink Twisted Pair
DXLink Twisted Pair Power	The DXLink Twisted Pair Output Board provides Power over DXLink DXLink Twisted Pair Receiver can have power supplied over twisted pair cable when connected to a DXLink Output board of the Enova DGX Digital Media Switcher DXLink Receiver Modules can be powered via DXLink Power or desktop power supply (ENERGY STAR® qualified) with power cord Approved Power over DXLink sourcing devices for DXLink Twisted Pair Receiver include: •Enova DGX 8/16/32/64 Digital Media Switcher (with a DXLink Twisted Pair Output Board installed) •Compatible Enova DVX All-In-One Presentation

		Switcher (2155HD and 2150HD) •PS-POE-AT-TC High Power PoE Injector •PDXL-2 Power over DXLink Controller Use the Enova DGX Configuration Tool located at AMX.com/enova to determine the power requirements of a configuration and whether any of the DXLink Transmitters or Receivers should be powered with the local power supply. The configuration tool contains instructions on how to determine power requirements.
	Connectors	(4) RJ-45 Ports
	Transport Layer Throughput (Max)	10.2 Gbps
	Twisted Pair Cable Type	Shielded Cat6, Cat6A and Cat7 **DXLink twisted pair cable runs for DXLink equipment shall only be run within a common building where a common building is defined as: the walls of the structure(s) are physically connected and the structure(s) share a single ground reference** For more details and helpful cabling information, reference the white paper titled Cabling for Success with DXLink, or contact your AMX representative
	Twisted Pair Cable Length	Up to 328 ft (100 m)
	Video Data Rate (max)	4.95 Gbps / 6.75 Gbps 6.75 Gbps supported when the HDMI Output Board Scaler or DXLink HDMI RX Scaler is in Bypass mode and format is 1080p60 or less
	Video Pixel Clock (max)	165 MHz / 225 MHz 225 MHz supported when the HDMI Output Board Scaler or DXLink HDMI RX Scaler is in Bypass mode and format is 1080p60 or less
	Progressive Resolution Support	480p up to 1920x1200 @ 60 Hz
	Deep Color Support	24-bit, 30-bit, 36-bit 30-bit, 36-bit supported when the HDMI Output Board Scaler or DXLink HDMI RX Scaler is in Bypass mode and format is 1080p60 or less
	Color Space Support	RGB 4:4:4 YCbCr 4:4:4 and 4:2:2 Input signal support for YCbCr 4:4:4 and 4:2:2, output color-space is converted to RGB 4:4:4
	3D Format Support	Yes (HDMI Primary Formats, when used with DXLink Output Boards and the DXLink HDMI RX Scaler is in Bypass mode) 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
	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, 192kHz
	Local Audio Support	Yes, Insertion and/or Extraction of 2 CH L-PCM selectable by channel when used in conjunction with the Enova DGX Audio Insert / Extract Board

EDID Support	EDID provided by Enova DGX 8/16/32/64 to the connected DXLink TX EDID is user re-programmable
HDCP Support	Yes, full matrix HDCP 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
ICSP, TCP/IP, USB, IR, Control Management	Control distribution is managed by the Enova DGX 8/16/32/64 Digital Media Switcher on-board NetLinx Master and Ethernet Switch
DXLink Output Board Propagation Delay	5 us