

DXLink™ HDMI Receiver Module

DX-RX (FG1010-500)



Overview

The DXLink HDMI Receiver is a distance transport solution that features built-in SmartScale® Technology to deliver HDMI with HDCP that is perfectly scaled for each connected display automatically, eliminating the integration challenges that can occur when sources and displays have different optimal resolutions. It accepts audio, video, control and Ethernet over one standard twisted pair cable up to 100 meters away from a compatible Enova DVX All-In-One Presentation Switcher, Solecis Digital Switcher, DXLink Transmitter Module or DXLink Wallplate; it accepts all this plus power over the same twisted pair cable when used in conjunction with the Enova DGX 8/16/32/64 Digital Media Switchers, Enova DVX-2150HD or DVX-2155HD. Mount the low-profile DXLink Receiver behind a display or above a ceiling mounted projector and control it using the built in RS-232 or IR ports. Plus monitor the connected display's settings, and send IR control signals back to the head end using the same twisted pair cable.

Common Applications

DXLink HDMI Receiver Modules is perfect for receiving HDMI and control signals over long distances from a remote DXLink Transmitter Module, DXLink Wallplates, Solecis Digital Switchers, Enova DGX or compatible Enova DVX. The receiver's built-in control ports can be used to control a destination device and the ICS Lan port provides IP an access point with used in conjunction with the Enova DGX or compatible Enova DVX.

Features

- **Only One Cable** – Receive audio and video while passing control, Ethernet and power over one twisted pair cable
- **SmartScale Technology** – Automatically responds to the display's declared EDID information and scales the video to the best resolution and video parameters for that display without manual setup; this prevents inferior video quality when sources are forced to lower resolutions to support the least capable display in the system
- **Native NetLinx® Control Everywhere** - Control connected destination devices using the built-in IR and RS-232 ports
- **Standard Twisted Pair Cable** – Save time and effort in installation by leveraging cost effective twisted pair cable, see the Cabling for Success with DXLink white paper for more details
- **HDCP Compliant**
- **DXLink Direct Connection with DXLink Wallplates** – When DXLink Wallplates are receiving Power over DXLink from the PS-POE-AT-TC or PDXL-2, they can be connected directly to a DXLink Receiver for a point-to-

point solution. Solecis Digital Switchers can also be used in point-to-point applications with a DXLink Receiver.

* AMX only supports the following DXLink Power sourcing devices for the DX-RX: Enova DGX 8/16/32/64 Digital Media Switcher, Compatible Enova DVX All-In-One Presentation Switcher (Enova DVX-2150HD or DVX-2155HD), PS-POE-AT-TC High Power PoE Injector, PDXL-2 Power over DXLink Controller or SDX-510M-DX. 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 HDMI RX can also be powered via the included desktop power supply (ENERGY STAR® qualified) with power cord.

Specifications

GENERAL	
Dimensions (HWD)	1" x 8 3/4" x 5 1/5" (2.54 x 22.12 cm x 13.08 cm)
Weight	Approx. 1.1 lb (0.50 kg) Shipping Weight: Approx. 2.20 lb (1.00 kg)
Mounting Options	Compatible with all V Style versatile mounting options including rack, surface or pole
Compatible AMX Products	<ul style="list-style-type: none"> •Enova DGX 8/16/32/64 Digital Media Switchers •Enova DVX-3155HD, DVX-3156HD, DVX-2155HD, DVX-3150HD and DVX-2150HD All-In-One Presentation Switchers •DXLink Multi-Format Wallplate Transmitters as a point-to-point solution (when Wallplates are powered by PS-POE-AT-TC or PDXL-2) •DXLink Multi-Format TX Module •PS-POE-AT-TC High Power PoE Injector •PDXL-2 Power over DXLink Controller •SDX-410-DX, Solecis 4x1 HDMI Digital Switcher with DXLink Output (FG1010-304) •SDX-510M-DX, Solecis 5x1 Multi-Format Digital Switcher with DXLink Output (FG1010-315) •SDX-810-DX, Solecis 8x1 HDMI Digital Switcher with DXLink Output (FG1010-308)
MTBF	381,000 hours
Approvals	CE, FCC, UL, cUL, RoHS / WEEE Compliant
Included Accessories	Each HDMI RX ships with a desktop power supply (ENERGY STAR® qualified) with power cord
Recommended Accessories	<ul style="list-style-type: none"> •AVB-VSTYLE-SURFACE-MNT, V Style Module Surface Mount (FG1010-722) •AVB-VSTYLE-RMK-1U, V Style Module Tray (FG1010-720) •AVB-VSTYLE-RMK-FILL-1U, V Style Module Tray w/fill Plates (FG1010-721) •AVB-VSTYLE-POLE-MNT, V Style Module Pole Mount (FG1010-723) •CC-NIRC, NetLinX IR Emitter Cable (FG10-000-11) •IR03, External IR Receiver Module (FG-IR03) •PS-POE-AT-TC High Power PoE Injector (FG423-84) •PDXL-2 Power over DXLink Controller (FG1090-170)
DXLink	
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)

ACTIVE POWER REQUIREMENTS	
AC Power	100-240 VAC single phase, 50-60 Hz 0.6 A @ 115 VAC max
DXLink Power	<p>Power can also be supplied by a DXLink Power sourcing device such as:</p> <ul style="list-style-type: none"> •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 (2150HD, 2155HD) •PS-POE-AT-TC High Power PoE Injector •PDXL-2 Power over DXLink Controller •SDX-510M-DX, Soleics 5x1 Multi-Format Digital Switcher with DXLink Output (FG1010-315) <p>When installed in conjunction with an Enova DGX use the Enova DGX Configuration Tool located at AMX.com/enova to determine the power requirements of the configuration</p> <p>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.</p>
Power Consumption (Max)	Local 12V supplied: 18 W Power over DXLink supplied: 15 W
Power Connector	2.1 mm DC Power Jack (local power) Included on DXLink Connection (Power over DXLink)

POWER SUPPLY	
External, Included	Each HDMI RX ships with a desktop power supply (ENERGY STAR® qualified) with power cord
External, Optional	<p>Power can also be supplied by a DXLink Power sourcing device such as:</p> <ul style="list-style-type: none"> •Enova DGX 8/16/32 Digital Media Switcher (with a DXLink Twisted Pair Output Board installed) •Compatible Enova DVX All-In-One Presentation Switcher (2150HD, 2155HD) •PS-POE-AT-TC High Power PoE Injector •PDXL-2 Power over DXLink Controller •SDX-510M-DX, Soleics 5x1 Multi-Format Digital Switcher with DXLink Output (FG1010-315) <p>When installed in conjunction with an Enova DGX use the Enova DGX Configuration Tool located at AMX.com/enova to determine the power requirements of the configuration</p> <p>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.</p>

ENVIRONMENTAL	
Temperature (Operating)	32° to 104° F (0° to 40° C)
Temperature (Storage)	-22° to 158° F (-30° to 70° C)
Humidity (Operating)	5% to 85% RH (non-condensing)
Humidity (Storage)	0% to 90% RH (non-condensing)
Heat Dissipation (Max)	Local 12V supplied: 61 BTU/hr Power over DXLink supplied: 51 BTU/hr

FRONT CONNECTORS	
Advanced Configuration Interface	USB Mini-B Connector

BACK CONNECTORS	
Local Power	2.1 mm DC Power Jack
DXLink Input	RJ-45
ICS LAN/Ethernet Port	RJ-45 Connector, TCP/IP Port (ICS LAN 10/100)
Serial	3.5mm Pluggable Phoenix Terminal Block Bidirectional RS-232 Standard NetLinx Baudrate 1200-115k Parity support Odd/Even/None
IR Control	Port for use with IR03 Receiver (Optional Accessory FG-IR03) Port for use with CC-NIRC Emitter (Optional Accessory FG10-000-11)
USB (HID) Keyboard & Mouse	USB Type B Connector
HDMI Output	HDMI Type A Female
Analog Stereo Output	3.5mm Mini-Stereo Jack

CONTROL	
Advanced Configuration Interface	USB Mini-B Connector

INDICATORS	
Power Indicator	Green indicates whether or not the module is powered on
Video Indicator	Green LED indicates the presence of video and audio signals through the module
Audio Indicator	Green LED indicates the presence of audio signals through the module
Scaling Button and LEDs	1 push button and 3 green LEDs; use Scaling button to select one of the 3 Scaling options: Bypass, Auto (SmartScale), or Manual. The factory default is Auto (SmartScale). If the RX power cycles, it defaults to the last persisted mode (achieved by pressing scaling button and holding it until the desired scaling mode LED flashes)
IR TX Indicator	Red LED lights during the transmission of IR data via the rear IR port
IR RX Indicator	Yellow LED lights during the receipt of IR data via the rear IR port
RS-232 TX Indicator	Red LED shows serial transmit (TX) data activity
RS-232 RX Indicator	Yellow LED shows serial receive (RX) data activity
LINK/ACT	Green LED lights when the Ethernet cable is connected and an active link is established. This LED also blinks when receiving Ethernet data packets

Status	Green LED lights when the Controller is programmed and communicating properly
CEC Indicator	Not currently supported
USB Indicator	Not currently supported
ID Pushbutton	Places system in NetLinX Device ID assignment mode

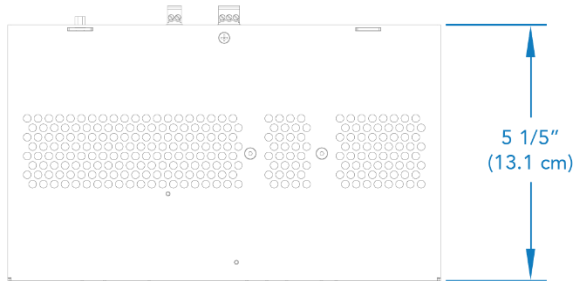
USB (HID) KEYBOARD & MOUSE	
USB (HID)	<p>(1) USB Type A Connector (“DEVICE”)</p> <p>Use in conjunction with an Enova DGX Digital Media Switcher, connect a DXLink TX (twisted pair or fiber) to a PC and emulate keyboard and mouse commands from a DXLink Fiber Receiver (twisted pair or fiber). The Solecis SDX-510M-DX functions as a DXLink Transmitter in this scenario.</p> <p>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”.</p>

HDMI	
Compatible Formats	HDMI , HDCP, DVI
Signal Type Support	HDMI DVI-D (Single Link with HDMI Cable Adapter)
Input Signal Type	DXLink from any of the following: DXLink HDMI Transmitter Module, DXLink Multi-Format Transmitter Module, DXLink Multi-Format Transmitter Wallplate, DXLink Enova DGX DXLink Twisted Pair Output Board, Enova DVX-3155HD, DVX-3156HD, DVX-2155HD, DVX-3150HD and DVX-2150HD All-In-One Presentation Switchers, Solecis Digital Switchers with DXLink Output
Output Signal Type	HDMI DVI-D (Single Link with Cable Adapter)
Output Connector	HDMI Type A Female
Output Scaling	SmartScale or Manual Configuration or Bypass
SmartScale Output Resolution Support	All resolutions between 480p and 1920 x 1200 @ 60 Hz via automatic SmartScale query of the display's declared EDID Detailed Timing Definition
Output Nominal Voltage	1.0 Vpp Differential
Output Re-clocking	Yes
+5V DDC Pin Output	50 mA when using Enova DXLink Power, 500 mA when using local 12V supply
+5V USB Output	150 mA when using Enova DXLink Power, 500 mA when using local 12V supply
Output Rise Time / Fall Time	425 ps typ (20% - 80%)
Propagation Delay (Typ)	25 ms when scaling, 5 us when in Bypass mode
HDMI Audio Synchronization	Video Formats @ 60Hz frame rate: Audio is actively delayed to match video within 9 ms leading to 10 ms lagging when scaling. When in Bypass mode the audio is matched to video within 1 ms.
Data Rate (Max)	4.95 Gbps / 6.75 Gbps 6.75 Gbps supported when the DXLink HDMI RX Scaler is in Bypass mode and format is 1080p60 or less

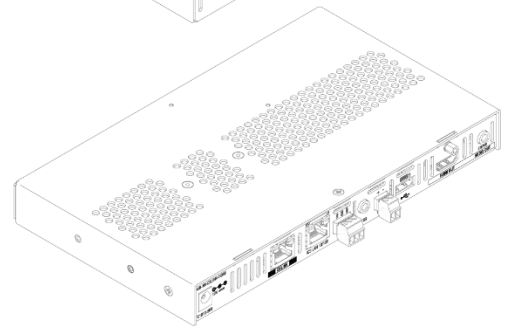
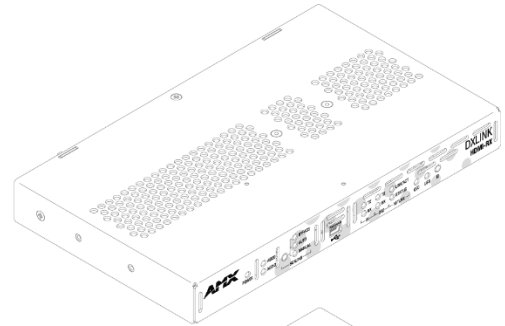
Pixel Clock (Max)	165 MHz / 225 MHz 255 MHz supported when the DXLink HDMI RX Scaler is in Bypass mode and format is 1080p60 or less
Progressive Resolution Support	480p up to 1920x1200 @ 60 Hz including but not limited to those resolutions show in the DXLink Twisted Pair Transmitters/Receiver Instruction Manual If input is interlaced, the scaled output will deinterlace video to a progressive resolution format. If in scaler Bypass mode interlaced input will pass through unaltered
Deep Color Support	24-bit, 30-bit, 36-bit 30-bit and 36-bit supported when the 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) Frame Packing 1080p up to 24Hz Frame Packing 720p up to 50/60Hz Frame Packing 1080i up to 50/60Hz Top-Bottom 1080p up to 24Hz Top-Bottom 720p up to 50/60Hz Side-by-Side Half 1080p up to 50/60Hz Side-by-Side Half 720p up to 50/60Hz 3D supported when the DXLink HDMI RX Scaler is in Bypass mode and format is 1080p60 or less
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 48kHz, 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 for audio extraction
HDCP Support	Yes
CEC Support	None

STEREO AUDIO	
Output Signal Types	Stereo Analog
Analog Output Level (Max)	+2 dBu, unbalanced
Analog Output Frequency Response	< +0 dB to -0.5 dB, 20 Hz to 20 kHz
Analog Audio Output THD+N	<0.03 %, 1 kHz, -10dBu to +2 dBu
Analog Audio Out SNR	>85 dB, 20 Hz to 20 kHz Vin=+2dBu
Digital to Analog Reference Level	0 dBfs = +0 dBu
Audio Synchronization	Video Formats @ 60Hz frame rate: Audio is actively delayed to match video within 9 ms leading to 10 ms lagging when scaling. When in Bypass mode the audio is matched to video within 1 ms
Output Connectors	3.5mm Mini-Stereo Jack (Analog Stereo)

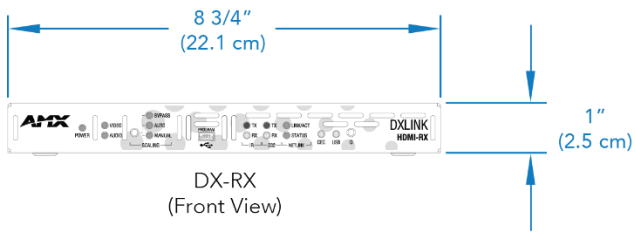
For a detailed PDF or DXF pictorial drawing please visit: <http://www.amx.com/products/DX-RX.asp>



DX-RX
(Top View)



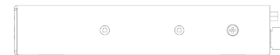
DX-RX
(Isometric Views)



DX-RX
(Front View)



DX-RX
(Back View)



DX-RX
(Right View)

About AMX by HARMAN

Founded in 1982 and acquired by HARMAN in 2014, AMX® is dedicated to providing AV solutions for an IT World. AMX solves the complexity of managing technology with reliable, consistent and scalable systems comprising control, video switching and distribution, digital signage and technology management. AMX systems are deployed worldwide in conference rooms, classrooms, network operation/command centers, homes, hotels, entertainment venues and broadcast facilities, among others. AMX is part of the HARMAN Professional Group, the only total audio, video, lighting, and control vendor in the professional AV market. HARMAN designs, manufactures and markets premier audio, video, infotainment and integrated control solutions for the automotive, consumer and professional markets. Revised 11.21.14. ©2014 Harman. All rights reserved. Specifications subject to change.