

# Enova® DGX DXLink™ Single Mode Fiber Input Board, Simplex

DGX-I-DXF-SMS (FG1058-621)



## Overview

The DGX-I-DXF-SMS is a DXLink Fiber input board with field serviceable SFP modules designed for use with single mode fiber, and is compatible with the Enova DGX 8, 16, 32 and 64 Digital Media Switcher Enclosures. Use it as part of an integrated system to receive audio and video, over single mode fiber from up to 10 Km from a DXLink Fiber Transmitter. Fiber uses light to send data, rather than electric signals, making it both the highest quality and most secure way to transmit video as it is not susceptible to electronic noise or non-intrusive physical wiretapping. Further, by removing the fiber return path simplex models provide an added layer of security\*.

## Common Applications

The Enova DGX DXLink Input Board is ideal for applications where the demands of high-resolution video clarity, long distance transmission and maximum security need to be met without compromise including campus-wide distribution of sources that are shared between classrooms, secure military applications, casinos, arenas and museums.

## Features

- **HDCP Compliance Over Fiber** – Transmit HDCP compliant video including HDMI up to 10 Km
- **Industry Leading Data Rate** – DXLink is leading the way with an optical transport rate of 10 Gbps
- **Secure and Isolated** – Fiber inherently provides extra security and electrical isolation making it the transport method of choice for many mission-critical secure environments
- **Field Serviceable Fiber Modules** – Easily remove and replace SFP modules in the field

\*See Duplex models for bidirectional control over fiber. Simplex models do not support control transport over fiber (such as Ethernet, USB, IR, Serial Control or EDID); although when used as part of a complete Enova DGX solution, control can be provided if a supplemental independent network connection is used. See the "Instruction Manual – Enova DGX Digital Media Switchers" for details.

## Specifications

GENERAL	
Compatible AMX Products	<p>Must be used in conjunction with an Enova DGX 8, 16, 32 or 64 Digital Media Enclosure and a DXLink Multi-Format Single Mode Fiber Transmitter including DXF-TX-SMS (FG1010-361) and DXF-TX-SMD (FG1010-360)</p> <p>Note: Use fiber duplex models for bidirectional control over fiber. Simplex models do not support control transport over fiber; although when used as part of a complete Enova DGX solution, control can be provided if a supplemental independent network connection is used. See the "Instruction Manual – Enova DGX Digital Media Switchers"</p>
Regulatory Compliance	See Enova DGX Digital Media Switcher Enclosure for regulatory compliance
Safety Certification	Class 1 Eye safe per requirements of IEC 60825-1 / CDRH
Recommended Accessories	<ul style="list-style-type: none"> <li>•DXF-TX-SMS, DXLink Multi-Format Single Mode Fiber Transmitter, Simplex (FG1010-361)</li> <li>•DXF-TX-SMD, DXLink Multi-Format Single Mode Fiber Transmitter, Duplex (FG1010-360)</li> </ul>

Signal Transport – DXLink w/Single Mode Fiber, Simplex	
Compatible Formats	HDMI Video / Audio over fiber
Signal Type Support	DXLink Single Mode Fiber, Simplex/Duplex
Connectors	<p>(4) Duplex LC Fiber Ports, conforming to ANSI TIA/EIA 604-10 (FOCIS 10A)</p> <p>Only the receive portion of the SFP+ module is active</p>
Transport Layer Throughput (Max)	10.3125 Gbps
Fiber Transceiver Type	10G SFP+
Fiber Cable Type	9/125µm
Fiber Cable Length	Up to 10 Km (6.21 miles)
Optical Wavelength	1310 nm
Single Mode Optical Budget	<ul style="list-style-type: none"> <li>•7.4 dB (typ), 5.1 dB (stressed) between DXLink Fiber Transceivers</li> <li>•Optical Modulation Amplitude (OMA): -5.2 dBm (min)</li> <li>•Optical Modulation Amplitude (OMA) Sensitivity: -12.6 dBm (typ), -10.3 dBm (stressed)</li> </ul>
Single Mode Optical Transceiver Mean Output Power	-8.2 dBm to 0.5 dBm (average power)
DXLink Fiber Input Board Propagation Delay	5 us
Video Data Rate (Max)	<p>4.95 Gbps / 5.568 Gbps</p> <p>5.568 Gbps supported when the HDMI Output Board scaler or DXLink RX scaler is in Bypass mode using CEA-861 formats and resolution is 1080p60 or less</p>
Video Pixel Clock (Max)	<p>165 MHz/185.625 MHz</p> <p>185.625 MHz supported when the HDMI Output Board scaler or DXLink RX scaler is in Bypass mode using CEA-861 formats and resolution is 1080p60 or less</p>
Progressive Resolution Support	480p up to 1920x1200 @ 60 Hz
Interlaced Resolution Support	480i, 576i, 1080i

	System design 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 to DXLink Twisted Pair and Fiber Receivers; if in scaler Bypass mode local DVI and HDMI output boards will still deinterlace video to a progressive resolution format.
2K Resolution Support	2048x1024 @ 47Hz, 2048x1080 @ 60Hz, 2048x1152 @ 60Hz, 2048x1536 @ 24Hz  2K formats are only compatible with the DVI, HDMI and DXLink Fiber Input/Output boards and require the output or RX Scaler to be set in Bypass mode
Deep Color Support	24-bit, 30-bit 30-bit supported when the HDMI Output Board scaler or DXLink RX scaler is in Bypass mode using CEA-861 formats and resolution 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 (scaler on corresponding output board or RX must be set to 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 Side-by-Side Half 1080i 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, 192 kHz
Local Audio Support	Yes, Insertion and/or Extraction of 2 CH L-PCM selectable by channel when used in conjunction with Enova DGX Audio Insert / Extract Board
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 sinks per output, independent of source device
CEC Support	None
Note	Connectivity between DXLink Fiber Transmitters and DXLink Fiber Input Boards / DXLink Fiber Output Boards and DXLink Fiber Receivers products requires matching fiber cable types, Multimode to Multimode and Single Mode to Single Mode. Duplex / Simplex compatibility is allowed. A variety of boards can be used within a common enclosure

#### About AMX

AMX hardware and software solutions simplify the implementation, maintenance, and use of technology to create effective environments. With the increasing number of technologies and operating platforms at work and home, AMX solves the complexity of managing this technology with reliable, consistent and scalable systems. Our award-winning products span control and automation, system-wide switching and audio/video signal distribution, digital signage and technology management. They are implemented worldwide in conference rooms, homes, classrooms, network operation / command centers, hotels, entertainment venues, broadcast facilities, and more. ©2014 AMX. All rights reserved.

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AMX.com | 800.222.0193 | 469.624.8000 | +1.469.624.7400 | fax 469.624.7153