

Analog & Digital

Video • Audio

AVS-ENOVADGX16-ENC

Enova® DGX 16 Enclosure

(FG1058-16)



OVERVIEW

The Enova DGX 16 Enclosure is a Digital Media Switcher that includes an integrated NetLinx Controller, redundant power supplies and can be populated with Enova DGX video input and output boards in addition to optional audio insert/extract boards. There are four connections per video board, and each enclosure holds four video input boards and four video output boards for a maximum matrix of 16x16.

The Enova DGX 16 is far beyond a modular media switcher with built-in controller - it functions as the centerpiece of a complete integrated solution that manages and distributes analog and digital audio and video including HDMI/HDCP, control and Ethernet. Easily integrate HDCP into system designs and enjoy hassle-free plug-and-play operation. No tools, no delays and no key constraints – it just works with AMX's exclusive InstaGate Pro® Technology. Built for today's and tomorrow's needs, a comprehensive set of Enova DGX hot swappable boards can be used in conjunction with DXLink and DGX Transmitters and Receivers to provide an end-to-end distribution system over twisted pair cable or fiber*. An integrated NetLinx Controller and embedded Ethernet switch enables management of the entire solution including source equipment and display devices located throughout the environment – all from a single point of control.

In addition to eliminating HDCP delays, InstaGate Pro allows traditionally key limited sources to be switched freely to all connected HDCP compliant displays – eliminating HDCP key limitations that plague large applications. Built-in SmartScale® Technology on every output provides video that is perfectly scaled for each connected display, eliminating the integration challenges that can occur when sources and displays have different supported resolutions - making it easy to specify, easy to install and easy to use. With the powerful combination of analog-to-digital signal conversion, video scaling and high speed digital switching the system delivers perfect video every time – regardless of signal type.



As part of a complete distribution system, easily send analog or digital audio and video including HDMI with HDCP signals, plus control and power up to 100 meters over one standard twisted pair cable to and from the Enova DGX using the DXLink Transmitters/Receivers.

*Fiber input and output boards provide support for non-HDCP signals only

COMMON APPLICATION

The Enova DGX 16 is ideal for commercial or residential installations requiring the highest quality video to be shared between 16 local or remote AV sources and destinations. Compact form factor allows for installation in locations where space is limited and included redundant power supplies provides for constant uptime for mission critical applications.

FEATURES

- **HDMI/HDCP Switching with Simplicity of Analog** – End-to-end distribution of HDMI/HDCP without interruption or key constraints using InstaGate Pro Technology
- **AV and Control over Twisted Pair** – Send audio, video, bi-directional control and Ethernet up to 100m over one standard twisted pair cable
- **Embedded NetLinx Controller** – Allows any connected device to be managed, monitored or controlled
- **Integrated Ethernet Switch** – Pass Ethernet or stream IP video through the attached DXLink Transmitter or Receiver
- **Analog to Digital Video Conversion with Scaled Outputs** – Converts any source signal to digital and uses SmartScale Technology to automatically output video that is perfectly scaled for each connected display
- **4 RU Enclosure** – Comparatively speaking, that's half the space of the competition
- **InstaGate Pro Technology** – Easily integrate 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

- **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
- **DXLink Twisted Pair Input and Output Boards** – HDCP Compliant boards send audio, video, control, Ethernet and power over one standard twisted pair cable up to 200 m – 100 m to the matrix switcher and 100 m after the matrix switcher, see the Cabling for Success with DXLink white paper for more details
- **Built-in NetLinx Controller** – Easily program and manage the entire solution including source equipment and display devices located across multiple rooms – all from a single point of control
- **Easily Convert Analog to Digital Signals** – Use legacy analog sources with the Enova DGX and automatically convert their signals to digital
- **Hot Swappable Video Input / Output Boards** – Easily add or replace I/O boards at any time after deployment - the system automatically recognizes the new configuration and activates the boards
- **Audio Insert / Extract Boards** – Add audio from a local source or breakaway embedded audio and send to a separate audio system to distribute throughout an environment
- **Fiber Input and Output Boards** – Use in conjunction with DGX Fiber Transmitters and Receivers to send analog and digital audio and video* over fiber
- **3D Support**** – Pass through latest video formats including 3D and Deep Color
- **Surround Sound Support** – Pass through high definition surround sound including Dolby Digital, DTS and up to 8-channel L-PCM at 32 kHz, 44.1 kHz, 48 kHz, 96 kHz, 192 kHz
- **High Speed Digital Switching** – 12.8 Gbps ensures perfect pixel for pixel reproduction of video
- **Fully Redundant Power Supplies With Independent Power Paths** – Ensures maximum reliability for applications that require 24/7 uptime

*Fiber input and output boards provide support for non-HDCP signals only

**This feature will be available upon release of a future firmware update

DEALER BENEFITS

- **HDCP With Simplicity of Analog** – Hassle-free plug-and-play operation eliminates the need for time-consuming cumbersome work around tools to deal with HDCP key constraints and resolution incompatibilities
- **All-In-One Control and Distribution Solution** – Power combination of modular matrix switcher, built-in controller, embedded Ethernet switch and video scaling on every output simplifies the end-to-end distribution and management of audio, video and control throughout multiple rooms

- **Fast Easy Installation** – Leverage pre-existing standard twisted pair infrastructure to distribute high-definition video, audio, control and Ethernet

CUSTOMER BENEFITS

- **Picture Perfect** – Prevents degraded video due to incompatibilities between different display resolutions by scaling the video to match each display's preferred resolution using innovative SmartScale Technology
- **Interruption Free Content** – Exclusive InstaGate Pro Technology allows audio and video to be switched quickly and easily to every connected display without the difficulties typically associated with HDCP
- **Audio, Video and Control Everywhere** – Provides end-to-end distribution of audio, video and control signals throughout a residence or commercial facility over one twisted pair cable



BULLSEYE TARGET PRODUCT

This is a Target Product as defined in the U.S. BullsEye Partnership Program. Participating AMX Dealers can be rewarded for purchasing Target Products as a % of their total annual net revenue.



HELPFUL HINT

InstaGate Pro provides for true, non-limited matrix switching from any HDCP source device to any or all connected destination devices



WATCH THE VIDEO

For an inside look at the features, technical capabilities and benefits of our Enova DGX Digital Media Switchers, just visit our Enova 'Videos By Category' playlist at: youtube.com/amxtalk and for "how-to" videos, visit 'Videos By Category' at: youtube.com/amxconfigure.



TRAINING AVAILABLE

For important installation, configuration and programming techniques, AMX University training is available. Just visit www.amx.com/training



AWARD WINNER

- Winner of Commercial Integrator's "2012 Commercial Integrator's BEST Awards - Large-Scale Control Systems"
- Winner of CustomRetailer's "2011 EXC!TE Award"
- Winner of rAve Publications "Best New Product at InfoComm 2011"



InstaGate Pro® Technology

No tools, no delays and no key constraints. AMX's exclusive InstaGate Pro Technology allows traditionally key limited sources to be freely switched to any display without the typical HDCP delays.



SmartScale® Technology

Enjoy crystal clear perfect resolution on every display using AMX's exclusive SmartScale Technology which automatically outputs video that is perfectly scaled to each connected display.

SPECIFICATIONS

DIMENSIONS (HWD)

Supported Signal Styles:

For supported signal styles please see the data sheets for Enova DGX compatible Input / Output Boards:

- AVS-ENOVADGX32-VI-HDMI, Enova DGX HDMI Input Board (FG1058-540)
- AVS-ENOVADGX32-VO-HDMI, Enova DGX HDMI Output Board (FG1058-550)
- AVS-ENOVADGX32-VI-DVI, Enova DGX DVI Input Board (FG1058-600)
- AVS-ENOVADGX32-VO-DVI, Enova DGX DVI Output Board (FG1058-610)
- AVS-ENOVADGX32-VI-DXLINK, Enova DGX DXLink Twisted Pair Input Board (FG1058-570)
- AVS-ENOVADGX32-VO-DXLINK, Enova DGX DXLink Twisted Pair Output Board (FG1058-580)
- AVS-ENOVADGX32-AUD-INS-EXT, Enova DGX Audio Insert / Extract Board (FG1058-700)
- AVS-EPDGX32-OI-SC, 4 SC Fiber Connection Epica DGX Input Board (FG1056-500)
- AVS-EPDGX32-OO-SC, 4 SC Fiber Connection Epica DGX Input Board (FG1056-510)

Future Supported Signal Styles:

Passes USB (HID) Keyboard & Mouse**

AC Power:

100-240 VAC single phase, 50-60 Hz

Power Consumption (Max):

930 Watts, with redundancy
1760 Watts, without redundancy

Power Consumption (Typ):

362 Watts, fully loaded HDMI enclosure with redundancy

Power Consumption w/DXLink Power (Typ):

835 Watts, fully loaded DXLink Power enclosure without redundancy
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 to maintain PS redundancy in the Enova enclosure

Dimensions (HWD):

6 13/16" x 19" x 15" (17.4 cm x 48.3 cm x 38 cm)

Dimensions (HWD) with Extractors:

6 13/16" x 19" x 16" (17.4 cm x 48.3 cm x 40.6 cm)

Units:

4

Weight:

Approximately 55 lbs (24.95 kg) per loaded enclosure

Shipping Weight:

Approximately 65 lbs (29.5 kg) per loaded enclosure

MTBF:

168,000 hours

Per Channel Aggregate Data Rate (Max):

12.8 Gbps

Noise Level:

<58 dBA @ 1m (Typical @ 25°C)

Airflow:

Forced Air (inlet on side, exhaust on side)

Approvals (Pending):

CE, FCC Class A, UL, cUL, RoHS / WEEE compliant

ENVIRONMENTAL

Heat Dissipation (Max):

3173 BTU/hr, with redundancy
6005 BTU/hr, without redundancy

Heat Dissipation (Typ):

1235 BTU/hr, fully loaded enclosure with redundancy

Heat Dissipation w/DXLink Power (Typ):

2849 BTU/hr, fully loaded DXLink Power enclosure without redundancy
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 to maintain PS redundancy in the Enova enclosure

Humidity (Operating):

5% to 85% RH (non-condensing)

Humidity (Storage):

0% to 90% RH (non-condensing)

Temperature (Operating):

32° to 104° F (0° to 40° C)

Temperature (Storage):

-22° to +158° F (-30° to +70° C)

RECOMMENDED ACCESSORIES

DESCRIPTION

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RECOMMENDED ACCESSORIES	DESCRIPTION	PART #	PAGE #
AVS-ENOVADGX32-VI-HDMI	Enova DGX HDMI Input Board	(FG1058-540)	14
AVS-ENOVADGX32-VI-DVI	Enova DGX DVI Input Board	(FG1058-600)	20
AVS-ENOVADGX32-VI-DXLINK	Enova DGX DXLink Twisted Pair Input Board	(FG1058-570)	17
AVS-ENOVADGX32-VO-HDMI	Enova DGX HDMI Output Board	(FG1058-550)	22
AVS-ENOVADGX32-VO-DVI	Enova DGX DVI Output Board	(FG1058-610)	24
AVS-ENOVADGX32-VO-DXLINK	Enova DGX DXLink Twisted Pair Output Board	(FG1058-580)	26
AVS-ENOVADGX32-AUD-INS-EXT	Enova DGX Audio Insert / Extract Board	(FG1058-700)	28
AVB-TX-HDMI-DXLINK	DXLink HDMI Transmitter Module	(FG1010-300)	34
AVB-TX-MULTI-DXLINK	DXLink Multi-Format Transmitters	(FG1010-310)	39
AVB-WP-TX-MULTI-DXLINK	DXLink Multi-Format Wallplate Transmitters	(FG1010-320-BL/WH)	45
AVB-RX-DXLINK-HDMI	DXLink HDMI Receiver Module	(FG1010-500)	50



INTEGRATED CONTROLLER

LAN/Ethernet Port:

NetLinX On Board Master is an NI-3100 Class Controller
 TCP/IP Uplink Port (LAN 10/100/1000)
 Supports up to 64-Port Unmanaged 10/100 Ethernet Switch (Cascaded architecture actual throughput dependent on loading. Worst case per port throughput 10 Mbps, best case 100 Mbps when used with 16 DXLink Transmitters and 16 DXLink Receivers)
 Static IP or DHCP/DNS, SSL, Auto-negotiating, Half/Full duplex, Auto MDI/MDI-X Cross-Over
 TCP/IP, UDP/IP, CIP, SMTP, SNMP, Built-in Web server
 Includes support for DXLink Devices
 RJ-45 Connector

Processor:

CPU 404 MIPS PowerPC

Memory:

SDRAM 256 MB
 NVRAM 1 MB
 Flash 2 GB

Program Port (USB):

USB Mini-AB (used for NetLinX Studio control)

ENCLOSURE CONTROL

Control Port (Serial):

Bidirectional RS-232
 Baud Rates of 9600 (default), 19200, 38400, 57600
 DB-9 Connector Control Port (USB): USB Mini-B

** This feature will be available upon release of a future firmware update.

For audio, video and signal transport specifications please see compatible input / output board data sheets:

Compatible Boards

AVS-ENOVADGX32-VI-HDMI, Enova DGX HDMI Input Board (FG1058-540)
 AVS-ENOVADGX32-VO-HDMI, Enova DGX HDMI Output Board (FG1058-550)

AVS-ENOVADGX32-VI-DVI, Enova DGX DVI Input Board (FG1058-600)
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AVS-ENOVADGX32-AUD-INS-EXT, Enova DGX Audio Insert / Extract Board (FG1058-700)

AVS-EPDGX32-0I-SC, 4 SC Fiber Connection Epica DGX Input Board (FG1056-500)

AVS-EPDGX32-0O-SC, 4 SC Fiber Connection Epica DGX Output Board (FG1056-510)

Note: Specifications are subject to change.

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EXB-IRS4	ICSLan IR/S Interface, 4 IR/S and 4 Inputs	(FG2100-23)	388
EXB-COM2	ICSLan Serial Interface, 2 Ports	(FG2100-22)	390
EXB-REL8	ICSLan Relay Interface, 8 Channels	(FG2100-20)	392
EXB-I/O8	ICSLan Input/Output Interface, 8 Channels	(FG2100-21)	394
EXB-MP1	ICSLan Multi-Port, 1 COM, 1 IR/S, 2 I/O, 1 IR RX	(FG2100-26)	396