CINOS.net

Archived resources

For further resources and
documentation please visit us:
www.cinos.net

Enova® DGX 64 Enclosure

ENOVADGX64-ENC (FG1060-64)

Overview

The new Enova DGX 64 Enclosure includes all of the features that have made the Enova DGX Series the leader in the world of digital media switchers, and now with the addition of new DXLink Fiber boards it transmits audio, video including HDCP protected video, control and Ethernet over fiber up to 10 Km at 10 Gpbs. This robust solution includes an integrated NetLinx Controller and redundant power supplies. There are four connections per video board, and each enclosure holds 16 video input boards and 16 video output boards for a maximum matrix of 64x64. The Enova DGX 64 is fully capable of supporting 4K and Ultra High Definition (UHD) content.

The Enova DGX 64 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 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.

Common Applications

The Enova DGX 64 can route and transmit up to 64 pure high resolution analog and digital video sources up to 6 miles making it the perfect solution for government agencies, command-and-control environments, universities, hospitals, casinos, retail environments or any facility that demands the highest quality video be shared campus-wide.

Features

- **HDMI/HDCP Switching with Simplicity of Analog** – End-to-end distribution of HDMI/HDCP without interruption or key constraints using InstaGate Pro Technology
- **4K and Ultra High Definition (UHD) Content Ready** – Designed to support future resolutions for years to come
- **Fiber Your Way** – Compatible DXLink Fiber boards are available in single mode or multimode; simplex or duplex to meet the needs of any installation
- **AV and Control over Twisted Pair or Fiber or Both** – Send audio, video, bi-directional control and Ethernet over twisted pair or fiber cable, or integrate both into the same system
- **Embedded NetLinx Controller** – Allows any connected device to be managed, monitored or controlled
- **Integrated Ethernet Switch** – Pass Ethernet through the attached DXLink Transmitter or Receiver
- **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
- **Analog to Digital Video Conversion with Scaled Outputs** – Use the Enova DGX Digital Media Switcher in conjunction with DXLink Multi-Format Transmitters and Receivers (Twisted Pair or Fiber) and the system automatically converts any source signal to digital and uses SmartScale Technology to automatically output video that is perfectly scaled for each connected display
- **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
- **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
- **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

- **Easily Convert Analog to Digital Signals** – Use the Enova DGX Digital Media Switcher in conjunction with DXLink Multi-Format Transmitters (Twisted Pair or Fiber), and easily integrate legacy analog sources and automatically convert their signals to digital
- **Audio Insert / Extract Boards** – Add audio from a local source or extract embedded audio and send to a separate audio system to distribute throughout an environment
- **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
- **High Speed Digital Switching** – 26 Gbps ensures perfect pixel for pixel reproduction of video
- **Fully Redundant Power Supplies With Independent Power Paths** – N+1 Redundant power system ensures maximum reliability for applications that require 24/7 uptime

Specifications

GENERAL	
Supported Signal Styles/Compatible Input and Output Boards	For audio, video and transport specifications 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) •ENOVADGX-VI-DXLINK-MMF-D, Enova DGX DXLink Multimode Fiber Input Board, Duplex (FG1058-622) •ENOVADGX-VO-DXLINK-MMF-D, Enova DGX DXLink Multimode Fiber Output Board, Duplex (FG1058-632) •ENOVADGX-VI-DXLINK-MMF-S, Enova DGX DXLink Multimode Fiber Input Board, Simplex (FG1058-623) •ENOVADGX-VO-DXLINK-MMF-S, Enova DGX DXLink Multimode Fiber Output Board, Simplex (FG1058-633) •ENOVADGX-VI-DXLINK-SMF-D, Enova DGX DXLink Single Mode Fiber Input Board, Duplex (FG1058-620) •ENOVADGX-VO-DXLINK-SMF-D, Enova DGX DXLink Single Mode Fiber Output Board, Duplex (FG1058-630) •ENOVADGX-VI-DXLINK-SMF-S, Enova DGX DXLink Single Mode Fiber Input Board, Simplex (FG1058-621) •ENOVADGX-VO-DXLINK-SMF-S, Enova DGX DXLink Single Mode Fiber Output Board, Simplex (FG1058-631) •AVS-ENOVADGX-AUD-INS-EXT, Enova DGX Audio Insert / Extract Board (FG1058-705) Note: The Enova DGX 64 is not compatible with AVS-ENOVADGX32-AUD-INS-EXT, Enova DGX Audio Insert / Extract Board (FG1058-700) 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" for details.
Dimensions (HWD)	22 3/4" x 19" x 20 1/16" (57.79 cm x 48.26 cm x 51 cm)
Dimensions (HWD) with Extractors	22 3/4" x 19" x 21 1/16" (57.79 cm x 48.26 cm x 53.54 cm)
Rack Units	13
Weight	Approximately 150 lbs (68 kg) per loaded enclosure
Shipping Weight	Approximately 257 lbs (116.6 kg) per loaded enclosure
MTBF	86,000 hrs
Per Channel Aggregate Data Rate (Max)	26 Gbps
Noise Level	< 50.1 dBA @ 1m (Typical @ 25°C)
Airflow	Forced Air (inlet on sides, exhaust on back & top)
Regulatory Compliance	UL 60950-1 CSA 60950-1 IEC 60950-1 CE EN 60950-1, CE EN 55022 Class A, CE EN 55024 FCC CFR Title 47 Part 15 Subpart B Class A ICES-003 Class A RoHS / WEEE Compliant
Recommended Accessories	•EXB-IRS4 ICSLan IR/S Interface, 4 IR/S and 4 Inputs (FG2100-23) •EXB-COM2 ICSLan Serial Interface, 2 Ports (FG2100-22) •EXB-REL8 ICSLan Relay Interface, 8 Channels (FG2100-20) •EXB-I/O8 ICSLan Input/Output Interface, 8 Channels (FG2100-21) •EXB-MP1 ICSLan Multi-Port, 1 COM, 1 IR/S, 2 I/O, 1 IR RX (FG2100-26) •CBL-HDMI-FL HDMI High Speed Flat Cable with RedMere Technology (FG10-2180-16) •CBL-RGB+A-FL RGB with Audio Flat Cable (FG10-2183-16) Note: Compatible boards are listed above under "supported signal styles/compatible input and output boards". Transmitter and receiver compatibility is dependent on board selection, please see the data sheet for the selected board for compatible transmitters and receivers.

ACTIVE POWER REQUIREMENTS	
AC Power	100-240 VAC single phase, 50-60 Hz
Power Capacity (Max)	3960 Watts, @ 110 VAC 5189 Watts, @ 230 VAC
Power Consumption (Max)	3240 Watts, fully loaded DXLink Power enclosure
Power Consumption (Typ)	1024 Watts, fully loaded HDMI enclosure
Power Factor Correction	Supported, complies with EN60555-2 and EN61000-3-2

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

ENVIRONMENTAL	
Heat Dissipation Full Capacity	13524 BTU/hr, @ 110 VAC
Heat Dissipation (Max)	11065 BTU/hr, fully loaded DXLink Power enclosure
Heat Dissipation (Typ)	3497 BTU/hr, fully loaded HDMI 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)

INTEGRATED CONTROLLER	
LAN/Ethernet Port	(1) RJ-45 Connector, 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 7 Mbps, best case 100 Mbps when used with 64 DXLink Transmitters and 64 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
Processor	CPU 404 MIPS PowerPC
Program Port (USB)	USB Mini-AB (used for NetLinx Studio control)

MEMORY	
SDRAM	256 MB
NVRAM	1 MB
Flash	2 GB

ENCLOSURE CONTROL	
Control Port (Serial)	(1) DB-9 Connector, Bidirectional RS-232, Baud Rates of 9600 (default), 19200, 38400, 57600
Control Port (USB)	(1) USB Mini-B

For a detailed PDF or DXF pictorial drawing please visit: http://www.amx.com/products/ENOVADGX64-ENC.asp

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)**
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)**
ENOVADGX-VI-DXLINK-MMF-D, Enova DGX DXLink Multimode Fiber Input Board, Duplex   **(FG1058-622)**
ENOVADGX-VO-DXLINK-MMF-D, Enova DGX DXLink Multimode Fiber Output Board, Duplex   **(FG1058-632)**
ENOVADGX-VI-DXLINK-MMF-S, Enova DGX DXLink Multimode Fiber Input Board, Simplex   **(FG1058-623)**
ENOVADGX-VO-DXLINK-MMF-S, Enova DGX DXLink Multimode Fiber Output Board, Simplex   **(FG1058-633)**
ENOVADGX-VI-DXLINK-SMF-D, Enova DGX DXLink Single Mode Fiber Input Board, Duplex   **(FG1058-620)**
ENOVADGX-VO-DXLINK-SMF-D, Enova DGX DXLink Single Mode Fiber Output Board, Duplex   **(FG1058-630)**
ENOVADGX-VI-DXLINK-SMF-S, Enova DGX DXLink Single Mode Fiber Input Board, Simplex   **(FG1058-621)**
ENOVADGX-VO-DXLINK-SMF-S, Enova DGX DXLink Single Mode Fiber Output Board, Simplex   **(FG1058-631)**
AVS-ENOVADGX-AUD-INS-EXT, Enova DGX Audio Insert / Extract Board   **(FG1058-705)**

For further resources and
documentation please visit us:

www.cinos.net