DATA SHEET

JPEG 2000 4K UHD Video over IP Encoder with KVM

NMX-ENC-N2151 (FGN2151-SA), Stand Alone
NMX-ENC-N2151-C (FGN2151-CD), Card

Overview

The NMX-ENC-N2151 4K encoder and NMX-DEC-N2251 4K decoder provide users with the industry's most versatile solution for distributing AV over a converged network at resolutions up to 4096×2160. JPEG2000 compression allows Ultra HD media to be switched and distributed over standard Gigabit Ethernet networks. Ultra HD signals from the NMX-ENC-N2151 encoder are provided simultaneously as: 1) a JPEG2000-compressed 200-600 Mbps stream through the RJ45 connector or small-form-pluggable (SFP+) port (10Gb), and 2) an uncompressed stream through the SFP+ connector (via a fiber module). Any source can be sent to any number of displays by routing through layer-3 switches. System scalability is limited only by uplink and stacking connector bandwidths.

Standard features like output scaling (decoder), bi-directional serial, IR output, embedded 7.1 audio, and KVM-over-IP extension are included. The NMX-ENC-N2151-C and NMX-DEC-N2251-C form-factors are compatible with the NMX-ACC-N9206 card cage for high-density applications.

Common Applications

- The NMX-ENC-N2151 and NMX-DEC-N2251 together create the perfect solution for video matrix applications where resolutions up to 4K are required. Common applications include classrooms, conference rooms, performing arts centers, and sports bars.

Features

- **Output Scaling** — Video scaling at the output (decoder) allows seamless switching from any source, at any resolution, to any display or projector, while preserving video fidelity.
- **Infrared (IR)** — Infrared emitter connection allows control of low-cost, IR-only display devices.
- **Onboard Control** — All N-Series encoders and decoders have on-board, built-in control capability via events that can trigger any number of TCP/UDP commands to other IP controllable devices.
- **Pass-through HDMI interface** (encoder) - allows easy installation with local display such as desktop PC applications.
- **Unlimited Scalability** – Grow the video matrix by adding encoders or decoders as needed (within the bandwidth limits of the uplink and stacking connectors).
- **Stand Alone or Card** — Available as a stand-alone device or card for use with NMX-ACC-N9206.

Specifications

VIDEO	
Digital Video Input	HDMI, DVI-D (through adapter)
Analog Video Input	HD-15 VGA, Component Component is supported through a passive adapter
Video Output	Compressed network video over Ethernet via RJ45 port or fiber via 10G SFP+ port, HDMI, DVI-D Uncompressed networked video over 10G SFP+ DVI-D is supported through a passive adapter
Formats	HDMI, DVI-D, Dual-Mode DisplayPort (DP++), HDCP content protection support, RGBHV, YPbPr DVI-D and Dual-Mode DisplayPort (DP++) are supported through a passive adapter
Progressive Input Resolutions	Supports most common HD up to 4096x2160. See website for all supported resolutions.
Interlaced Input Resolutions	Supports 1080i60. All interlaced modes are deinterlaced. See website for all supported resolutions.
Analog Input Resolutions	Supports most common HD up to 1920x1200. See website for all supported resolutions.
Note	Input resolutions supported @60Hz refresh rates are also supported @59.94Hz
Analog-To-Digital Conversion	8-bit 165 MHz per each of three color channels
Note	The N2151 Encoder does not accept Composite or S-Video (YC)
Output Resolutions	Matched to inputs

AUDIO	
Input Signal Types	Embedded audio on HDMI (DVI-D through adapter) or Analog Stereo (Balanced or Unbalanced)
Output Signal Types	Ethernet, Embedded audio on HDMI or DVI-D (through adapter) HDMI output refers to pass-through video on the HDMI OUT port
HDMI Audio Formats	8ch PCM
Analog Audio Format	Stereo 2-channel
Analog-To-Digital Conversion	16-bit 32 kHz, 44.1 kHz and 48 kHz

LATENCY	

Latency	• Uncompressed:
	  • 25 ms at 60 fps
	  • 50 ms at 30 fps
	• JPEG2000:
	  • 50 ms at 60 fps
	  • 100 ms at 30 fps

Note	• This is the combined encode plus decode latency. Total latency from source to screen will also include any network latency. • Scaling adds one frame of latency (16ms at 60fps).

COMMUNICATIONS	
Ethernet	P0 10/100/1000 Mbps, auto-negotiating, auto-sensing, full/half duplex, DHCP, Auto IP, and Static IP P1 Full duplex, DHCP, Auto IP, and Static IP **10 Gbps** port which accepts compatible fiber transceivers or direct attach cables (fiber or copper cabling)
HDMI	HDCP, EDID management

PORTS	
+12V 2A	One 12 Volt DC power input
P0	8-wire RJ45 female for JPEG2000 compressed networked AV video 10/100/1000 Mbps 10/100/1000Base-T auto-sensing gigabit Ethernet switch port Provides network control connections and compressed network AV output
P1	SFP+ port (SFP+ fiber transceiver or direct attach cable not included) for uncompressed or compressed networked AV and allows network control connections
IR	2-pin terminal Phoenix connector Provides Infrared (IR) output only (33-60 kHz; typically 39 kHz). Emitter may be necessary (not included).
RS232	3-pin terminal Phoenix connector Provides a serial control interface. Full duplex communication. Available terminal speed settings: 1200-115200 baud rate.
AUDIO	5-pin terminal Phoenix connector Provides user-selectable balanced/unbalanced input. Dedicated audio input.
HDMI OUT	HDMI video output (passive pass-through from **HDMI IN**)
HDMI IN	HDMI video input
VGA IN	DB15 analog input

USB connectors (front panel)	USB-B control input and two USB-A control inputs Only USB-B connection currently supported in software

CONTROLS AND INDICATORS – FRONT PANEL	
RESET Button	Recessed pushbutton Press to initiate a 'warm restart' causing the processor to reset, but not lose power. A reset does NOT affect the current settings
ID Button	Recessed pushbutton Hold for 30 seconds for a factory reset of all settings, including IP address settings Press to send a notification out on the network to identify the unit (the notification causes a pop-up dialog in N-Able and N-Command)
POWER LED	On solid (green) when operating power is supplied This activity is also shown by the **PWR** LED on the rear panel
STATUS LED	On flashing (green) when there is software activity This activity is also shown by the STAT LED on the rear panel

CONTROLS AND INDICATORS – REAR PANEL	
PWR LED	Same as **POWER** LED described above
HDMI LED	On (green) when there is a connection to a valid video source
STAT LED	Same as **STATUS** LED described above
STRM LED	On (green) when the unit is streaming video

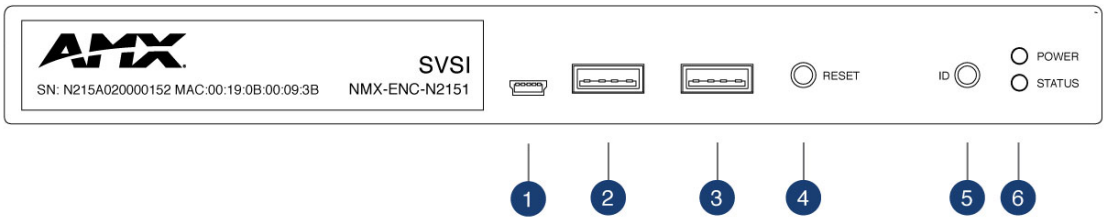
POWER SUPPLY	
Power Supply, External, Included	2.0 Amp @ 12 Volts DC; 100-240 Volts AC power supply; **included in shipment.** NMX-ACC-N9312 (FGN9312)

ENVIRONMENTAL	
Temperature	32° to 104°F (0° to 40°C)
Humidity	10% to 90% RH (non-condensing)
Heat Dissipation	Up to ~62 BTU/hr

GENERAL	
Dimensions (HWD)	1.05” x 7.888” x 5.5” (2.67 cm x 20.04 cm x 13.8 cm)
Weight	1.6 lbs (0.73 kg)
Mounting Options	Stand alone, surface mount, wall mount, or rack mount Surface and wall mounting requires (not included): • NMX-ACC-N9101 (FGN9101), Mounting Wings for SVSI N-Series Encoders and Decoders Rack mounting requires one of the following (not

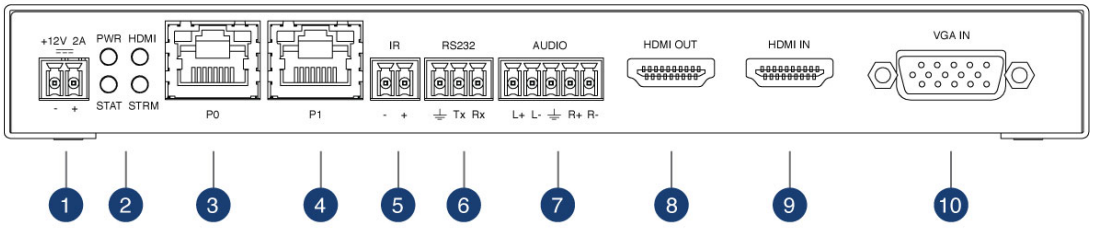
	included): • NMX-ACC-N9102 (FGN9102), 1RU Rack Shelf for Two Side-by-Side SVSI N-Series Encoders and Decoders • NMX-ACC-N9206 (FGN9206), 2RU Rack Mount Cage with Power for Six SVSI N-Series Card Units
Regulatory Compliance	FCC, CE, and NTRL
Recommended Accessories	• NMX-ACC-N9382 (FGN9382), 1RU Power Supply 16-Channel 12V for up to 16 SVSI N-Series Encoders and Decoders • NMX-ACC-N9101 (FGN9101), Mounting Wings for SVSI N-Series Encoders and Decoders • NMX-ACC-N9102 (FGN9102), 1RU Rack Shelf for Two Side-by-Side SVSI N-Series Encoders and Decoders • NMX-ACC-N9206 (FGN9206), 2RU Rack Mount Cage with Power for Six SVSI N-Series Card Units

NMX-ENC-N2151 Front View



1) USB-B Control Input
2) USB-A Control Input
3) USB-A Control Input
4) Device reset button
5) Device ID discovery button
6) Power/Status indicators

NMX-ENC-N2151 Rear View



1) 12VDC Input
2) Status Indicators
3) RJ45 auto-sensing gigabit Ethernet switch port
4) RJ45 auto-sensing gigabit Ethernet switch port
5) Infrared (IR) 2-pin phoenix connector
6) RS232 connection
7) Analog Audio Input connection
8) HDMI Video Output
9) HDMI Video Input
10) DB-15 (analog) Input

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 4.18.16.

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