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JPEG 2000 1080p Low Latency Video over IP Encoder with KVM, PoE, SFP, HDMI

NMX-ENC-N2135 (FGN2135-SA), Stand Alone
NMX-ENC-N2135-C (FGN2135-CD), Card

Overview

The SVSI JPEG2000 NMX-ENC-N2135 and NMX-DEC-N2235 encoder and decoder solution provides users with the industry's most versatile solution for distributing AV over a converged network. JPEG2000 compression is the codec of choice for users demanding low-latency cinema grade HD quality video in their system. SVSI video over IP encoders are used to encode and distribute sources of almost any format onto an existing IP network making that stream available to any endpoint in the facility utilizing copper and/or fiber connectivity. SVSI Video over IP Decoders are used to decode Networked AV streams for display. With the ability to direct any source stream to any display, large, low-cost switching and distribution systems are simple to deploy without proprietary cabling or dedicated switching hardware. User selectable bandwidth control (10Mbps-200Mbps) allows for precision tuning considering network load and video quality.

The NMX-ENC-N2135 and NMX-DEC-N2235 both feature keyboard and mouse extension over IP. Users can set security options for device control. Security can be turned off allowing any decoder to connect to any computer connected to an encoder – for example within a call center where security of this type is not an issue and access to all end points is necessary. Security can be set allowing access to only specified computers or defined groups of computers – sensitive environments such as command and control centers benefit from this kind of customized security.

The SVSI solution allows for any number of inputs to connect to any number of outputs creating a video matrix of unlimited size and expandability. Plug-n-play, auto-detect technology reduces installation and programming time and all SVSI encoders and decoders include built in control capability.

Features

• **Design Flexibility** – Compatible with all AMX SVSI N2000 series products so designers can choose the right product for each end point

• **Input and Output Scaling** – scaling performed in encoders or decoders for maximum flexibility with sources and displays

• **Power Over Ethernet (POE)** – eliminates requirement for local power supply and speeds installation. Units can still be powered locally from 12VDC allowing for easy rack-mountable, high-density installations

• **Infrared (IR**) – Emitter connection allows control of IR-only display devices

• **Fast Install** – With Phoenix connectors for Power, IR, RS232 serial, and analog audio interfaces

• **Balanced and Unbalanced Audio** – Embedded 7.1 audio (balanced and unbalanced)

• **Pass-through HDMI** – allows easy installation with local display such as desktop PC applications

• **Multiple Connection Options** – RJ-45 and SFP network connectors and HDMI video connections

• **KVM** – Single USB-B and Dual USB-A control for KVM applications

• **Control Flexibility** – Built-in or third-party control

Specifications

VIDEO	
Digital Video Input	HDMI, DVI-D, Dual-Mode DisplayPort (DP++), RGB/VGA DVI-D and Dual-Mode DisplayPort (DP++) are supported through a passive adapter
Analog Video Input	HD-15 VGA, Component Component is supported through a passive adapter
Video Output	Network video over Ethernet via RJ45 port or fiber via 1G SFP port, HDMI, DVI-D DVI-D is supported through a passive adapter
Formats	HDMI, DVI-D (through adapter), HDCP content protection support, RGBHV, YPbPr
Progressive Input Resolutions	Supports most common HD up to 1920x1200. See website for all supported resolutions.
Interlaced Input Resolutions	Supports 1080i60. 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
Output Resolutions	Matched to inputs.
Analog-To-Digital Conversion	8-bit 165 MHz per each of three color channels
Note	The N2135 Encoder does not accept Composite or S-Video (YC)

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
Note	HDMI output refers to pass-through video on the

	HDMI OUT port.

LATENCY	
Latency	50 ms at 60 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 (17ms at 60fps)

COMMUNICATIONS	
Ethernet	P0 10/100/1000 Mbps, auto-negotiating, auto-sensing, full/half duplex, DHCP, Auto IP, and Static IP P1 1 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 10/100/1000 Mbps 10/100/1000Base-T auto-sensing gigabit Ethernet switch port Provides the network connection, network AV video, and power to the Encoders and Decoders
P1	SFP port (SFP fiber transceiver or direct attach cable not included) Provides the network connection and network AV video
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: 9600-115200 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)	One USB-B and two USB-A control inputs

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
	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 (via PoE or local power supply)
	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

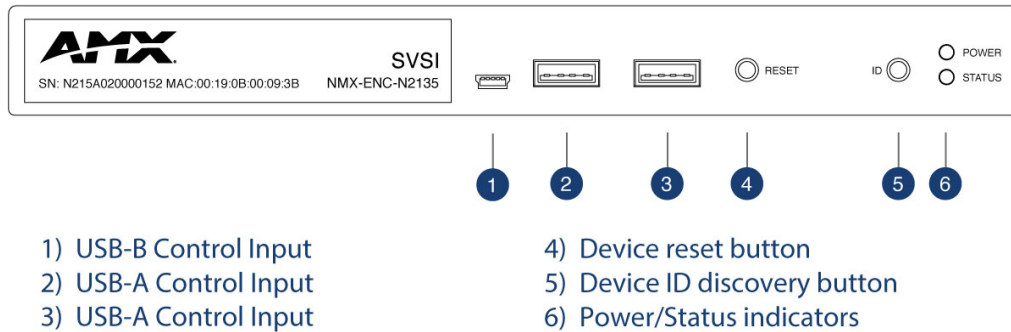| CONTROLS AND INDICATORS – REAR PANEL	
PWR LED	Same as **POWER** LED described above
HDMI LED	On (green) when there is a connection to a valid display
STAT LED	Same as **STATUS** LED described above
STRM LED	On (green) when the unit is streaming video

POWER SUPPLY	
Power Supply, External, Optional	2.0 Amp @ 12 Volts DC; 100-240 Volts AC power supply; optional. NMX-ACC-N9312 (FGN9312)
Power over Ethernet (PoE), External, Optional	Can be powered via a PoE switch or other equipment with a PoE source. Conforms to IEEE 802.3af Class 3 (802.3at Type 1)
Note	In order for the unit to receive Power over Ethernet (PoE), it must be connected to a switch or other equipment that has a PoE PSE (Power Sourcing Equipment) port.
	Warning: Do not run wiring that is connected to a PoE PSE port outside of the building where the PSE resides. It is for intra-building use only.

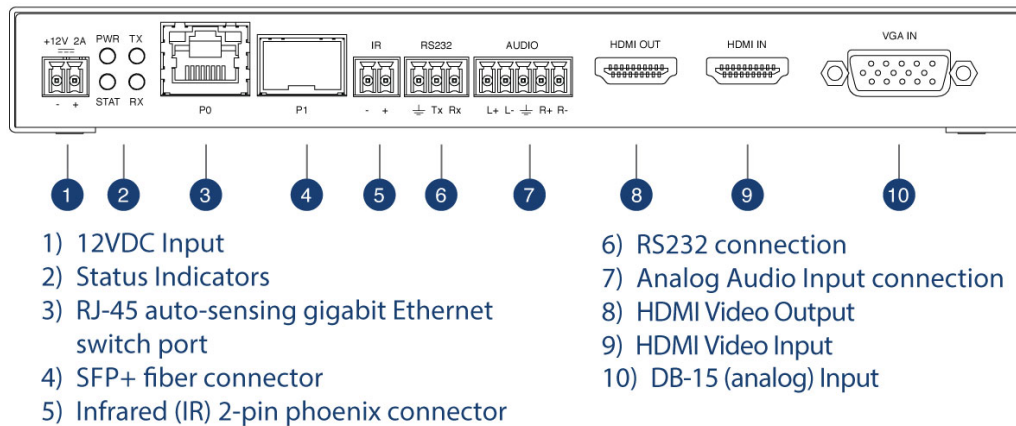| ENVIRONMENTAL	
Temperature	32° to 104°F (0° to 40°C)
Humidity	10% to 90% RH (non-condensing)
Heat Dissipation	Up to ~44 BTU/hr

GENERAL	
Dimensions (HWD)	1.05" x 7.888" x 5.5" (2.67 cm x 20.04 cm x 13.8 cm)
Weight	1.55 lbs (0.7 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 for 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-N9312 (FGN9312), Power Supply 12V External •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-N2135 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-N2135 Rear View

1) 12VDC Input
2) Status Indicators
3) RJ-45 auto-sensing gigabit Ethernet switch port
4) SFP+ fiber connector
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