DigitalMedia

DM NVX[®] 4K60 4:4:4 HDR Network AV Encoder/Decoder



- 4K60 4:4:4 video over standard Gigabit Ethernet
- HDR10, HDR10+, and Dolby Vision® video support
- Real-time video performance over the network
- Pixel Perfect Processing technology
- Enterprise-grade security including 802.1X, Active Directory® credential management, TLS, and AES-128
- HDCP 2.3 compliant
- Configurable as an encoder or decoder
- One HDMI® input
- One HDMI output with 4K60 4:4:4 scaler
- Video wall processing
- Dynamic text overlay capability
- Adaptive bit rate
- Analog audio embedding or de-embedding
- 7.1 surround sound audio
- AES67 audio embedding or de-embedding
- Breakaway audio
- USB 2.0 and KVM signal extension and routing
- Copper and fiber Ethernet connectivity
- Device control via RS-232, IR, and CEC
- Easy setup via built-in web pages
- Interoperable with a Crestron 3-Series[®] or later control system
- Streamlined management using DM NVX Director™ virtual switching appliances
- Crestron XiO Cloud® service support
- Compact, surface-mountable design
- Powered via POE+ or optional power pack (sold separately)

Crestron® <u>DM NVX®</u> technology transports ultra high-definition 4K60 4:4:4 video over standard Gigabit Ethernet with no perceptible latency or loss of quality. Using standard network switches and CAT5e UTP wiring, a DM NVX system delivers a high-performance virtual matrix routing solution that is economically advantageous and infinitely scalable for any enterprise or campus-wide 4K content distribution application. Professional onboard scaling, HDR (High Dynamic Range) support, and HDCP 2.3 compliance ensure the ultimate in picture quality and compatibility for all of today's varied media sources.^{1, 2}

The DM-NVX-360 is a compact AV-over-IP encoder/decoder designed to function as either a transmitter or receiver. Capable of handling a network AV installation of any size, the DM-NVX-360 includes features such as secure web-based control and management, a scaling HDMI® output, video wall processing, an analog audio input or output, native AES67 transmit and receive capability, USB 2.0 and KVM integration, and support for copper and fiber Ethernet connectivity.^{2, 3}

Real-Time 4K60 Video Distribution

Engineered for demanding conference room and classroom applications, DM NVX technology ensures real-time, full-motion 4K60 video performance for the presentation of multimedia, videoconferencing, and live camera images. Interactive functions such as gameplay and using a mouse are fluid and natural.

A DM NVX system also provides stability and reliability. Line-synchronized outputs ensure perfect synchronization of content across multiple displays for applications such as digital signage and video walls. Variable Multicast TTL (Time To Live) enables traversing multiple network routers for optimal flexibility.

Pixel Perfect Processing Technology

A DM NVX system incorporates Pixel Perfect Processing technology, which provides flawless video transport in all applications. Depending on the operating mode, the DM-NVX-360 can encode or decode a video signal to achieve imperceptible end-to-end latency of less than 1 frame. The image quality of the source is maintained across a 1-Gigabit network at any resolution up to 4K60 4:4:4.

Enterprise-Grade Security

Using advanced security features and protocols such as 802.1X authentication, Active Directory® credential management, AES-128 content encryption, PKI authentication, TLS, SSH, and HTTPS, a DM NVX system delivers a true enterprise-grade network AV solution engineered to fulfill demanding IT policies.



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Encoder or Decoder Functionality

The DM-NVX-360 is configurable to operate as either a network AV encoder or decoder:

- As an encoder, the DM-NVX-360 allows the HDMI signal of a laptop computer, camera, or other media source to be transmitted over the network to one or many decoders.¹
- As a decoder, the DM-NVX-360 receives the signal from a DM NVX encoder and feeds it to a display device via the HDMI output. The decoder can quickly and easily switch between multiple encoders on the network alongside a locally connected HDMI source.¹

The DM-NVX-360 provides a versatile and cost-effective solution for applications that require encoder and decoder operating modes in a single device. The operating mode can be reconfigured dynamically in less than 1 minute via a control system or web browser or can be changed by using the onboard Setup button.

HDMI[®] Input

The DM-NVX-360 includes one HDMI input. When the DM-NVX-360 is used as a decoder mounted behind a typical conference room display device, the HDMI input provides a convenient way to connect to a Crestron <u>AirMedia®</u> presentation gateway, videoconferencing codec, or small form factor computer.¹

HDMI Output with 4K60 4:4:4 Scaler

When the DM-NVX-360 is configured as a decoder, the HDMI output feeds the decoded signal to the HDMI input of a local display device or other equipment. The built-in scaler ensures an optimal image, scaling the encoded source resolution up or down to match the native resolution of the display device. When the DM-NVX-360 is configured as an encoder, the HDMI output can be used to feed a local display, confidence monitor, or audio system.^{1,4}

Video Wall Processing

A video wall composed of up to 64 individual displays can be configured using multiple DM NVX endpoints. Each endpoint provides fully adjustable zoom capability and bezel compensation to accommodate a range of video wall configurations and display types. One DM NVX endpoint is required per display, supporting configurations of up to eight wide by eight high.

Text Overlay

The ability to display dynamic or fixed text on screen provides a means to label the video source or to display special instructions, schedules, announcements, alerts, and other messaging.

Adaptive Bit Rate

In DM NVX encoder mode, adaptive bit rate can be enabled or disabled using the web interface or a control system. Adaptive bit rate enables the encoder to automatically set the bit rate required for the input resolution of the stream; for example, the adaptive bit rate for a common resolution such as 1920x1080p@60Hz (1080p60) would automatically be set to 400 Mbps. The bit rate is adjusted to make better use of the available bandwidth.

Analog Audio Embedding or De-embedding

A balanced stereo analog audio port is included, which can be configured as either an input or output. As an input, the port allows a stereo audio source to be connected and combined with the video signal from the HDMI input or the incoming network video stream. As an output, the port can provide a stereo line-level signal to feed a local sound system or soundbar. The output volume is adjustable via a control system or web browser.⁵

7.1 Surround Sound Audio

DM NVX technology supports the lossless transport of 7.1 surround sound audio signals, including Dolby® TrueHD, Dolby Atmos®, DTS HD®, DTS:X®, and uncompressed linear PCM. In decoder mode, the DM-NVX-360 can receive both multichannel and 2-channel downmix signals from a

DM-NVX-363, DM-NVX-363C, DM-NVX-351, or DM-NVX-351Cencoder, allowing either signal to be selected at the HDMI output while the 2-channel signal is automatically routed to the analog output.⁵

AES67 Audio Embedding or De-embedding

AES67 support allows the selected audio source to be transmitted as a 2-channel AES67 source while another AES67 2-channel audio stream is received from a Crestron DSP or other third-party device and combined with the video signal.

In DM NVX encoder mode, the received AES67 audio stream can be output via the local HDMI output, primary AV stream, secondary audio stream, and analog audio output. In DM NVX decoder mode, the received AES67 audio stream can be combined with the video and then output via the HDMI output and analog audio output.

NOTE: An AES67 stream that is received by a DM NVX endpoint cannot be transmitted from that endpoint.

Breakaway Audio

A DM NVX decoder can select and combine separate video and audio signals from two different inputs—even two different encoders. Combining signals from two separate encoders is limited to 2-channel stereo audio.⁶



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Copper and Fiber Ethernet Connectivity

The DM-NVX-360 includes two RJ-45 1000BASE-T ports (Ethernet ports 1 and 2), one RJ-45 100BASE-TX port (Ethernet port 3), and one SFP port (Ethernet port 4). The SFP port enables connection to a fiber-optic network with the use of the appropriate Crestron <u>SFP-1G</u> Series transceiver module (sold separately). A selection of modules is offered to accommodate various multimode and single-mode fiber types.³

Ethernet port 1, 2, or 4 can be used to transport video over a Gigabit Ethernet network. Ports 1 and 2 can also be used to provide network connections for an <u>AirMedia</u> gateway, display device, or other local device. In addition, the ports can be used to daisy-chain multiple endpoints feeding a single-source video wall or individual displays that show the same video image. Port 1 is also capable of receiving power from a Crestron power injector (<u>DM-PSU-ULTRA-MIDSPAN</u>), POE+ compliant Ethernet switch, or third-party IEEE 802.3at compliant PSE (power sourcing equipment).^{2,7}

An RJ-45 100BASE-TX port is included for connection to a dedicated audio network or for use as a convenience port.

A DM NVX system can be deployed on an existing corporate or campus network or on a dedicated network. For information about network requirements and guidelines, refer to the DM NVX AV-over-IP System Design Guide, Doc. 7977, at https://www.crestron.com/nvx.

USB 2.0 and KVM Integration

DM NVX technology supports the extension of USB signals, which can be switched and routed alongside the AV signal or separately via a control system. USB 2.0 HOST and DEVICE ports are provided on the DM-NVX-360, allowing a USB mouse, keyboard, or other peripheral device to be connected to a remote endpoint and routed to a computer or other host at the local endpoint. In addition to KVM switch functionality, various types of USB peripherals are supported, including whiteboards, touch screens, game controllers, cameras, mobile devices, headsets, and flash drives.⁸

USB 2.0 data transport can be configured for Layer 2 or Layer 3. Layer 2 supports USB signal extension in point-to-point and multipoint applications. USB signals can be routed from the HOST port of up to seven remote DM NVX endpoints to the DEVICE port of a single local DM NVX endpoint. Layer 2 also supports Crestron USB over Ethernet Network devices (<u>USB-NX2-LOCAL-1G</u> and <u>USB-NX2-REMOTE-1G</u>), which can be used in locations that do not include DM NVX endpoints. USB signals can be routed between DM NVX and USB-NX2 devices under the management of a control system.

USB 2.0 Layer 3 data transport supports USB signal extension in DM NVX point-to-point applications across VLANs. USB-NX2 devices do not support Layer 3.

Device Control

The DM-NVX-360 includes built-in COM (RS-232) and IR ports for control of the connected display, camera, or other devices under the management of a control system. Additional control capability is provided by CEC (Consumer Electronics Control) over the HDMI connections. Under the management of a control system, the DM-NVX-360 can control the display and source devices, potentially eliminating the need for dedicated serial cables or IR emitters.

The COM port, IR port, and CEC over the HDMI output can also enable the display device to be turned on or off automatically without the use of a control system.

Web-Based Setup

Setup of the DM-NVX-360 is accomplished by using a web browser. Full control and monitoring of the device is enabled through integration with a control system or with a DM NVX Director[™] virtual switching appliance.

Streamlined Management Using DM NVX Director Virtual Switching Appliances

Use of a DM NVX Director virtual switching appliance (DM-NVX-DIR-80, DM-NVX-DIR-160, or DM-NVX-DIR-ENT) streamlines the entire configuration and control process. A DM NVX Director appliance provides a central point of management and enables the creation of multiple virtual matrix switchers through one easy-to-use web-based portal.

Crestron XiO Cloud® Service Support

The DM-NVX-360 is compatible with the Crestron XiO Cloud service, which is a platform for remotely provisioning, monitoring, and managing Crestron devices across an enterprise or an entire client base. The service enables installers and IT managers to deploy and manage thousands of devices in the amount of time it previously took to manage a single device. For more information, visit www.crestron.com/xiocloud.

Low-Profile Installation

The DM-NVX-360 mounts conveniently onto a flat surface or rack rail, and fits easily behind a flat panel display, above a ceiling-mounted projector, beneath a tabletop, or inside a lectern, AV cart, or equipment cabinet. All connectors and LED indicators are positioned on the front and rear of the device, offering optimal access and visibility for a clean, serviceable installation. Power is provided using POE+ or the optional Crestron PW-2412WU power pack (sold separately).⁷

For additional design tools and reference documents, refer to the DM NVX web page at https://www.crestron.com/nvx.



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Specifications

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Specificatio		Scan Type	Resolution	Frame Rate	Color Sampling	Color Depth
Encoding/De	coding		4096x2160	24 Hz	4:4:4	36 bit
Video Codec	Pixel Perfect Processing		DCI 4K and 3840x2160	30 Hz	4:4:4	36 bit
Video	Up to 4096x2160@60Hz (DCI 4K60); 4:4:4			60 Hz	4:2:2	36 bit
Resolutions	color sampling; HDR10, HDR10+, Dolby Vision, and Deep Color support	Progressive	4K UHD	60 Hz	4:4:4	24 bit
Audio Formats	Primary multichannel (up to 8-channel LPCM or encoded HBR 7.1 surround sound), secondary 2-channel LPCM ⁹	Μ	2560x1600 WQXGA 1920x1080	60 Hz	4:4:4	36 bit
Bit Rates	200 to 950 Mbps ¹⁰		HD 1080p	60 Hz	4:4:4	36 bit
Streaming Protocols	RTP, SDP	Interlaced (Input Only)	1920x1080 HD 1080i	30 Hz	4:4:4	36 bit
Container:	MPEG-2 transport stream (.ts)					
Session	Multicast via secure RTSP					
Initiation		Audio				
Copy Protection	HDCP 2.3, AES-128, PKI	Input Signal Types	HDMI (Dual-Ma compatible ¹²), a			ace
Video		Output Signal Types	· · ·			
Input Signal Types	HDMI with HDR10, HDR10+, Dolby Vision, Deep Color, and 4K60 4:4:4 support ^{1, 11} (Dual-Mode DisplayPort™ interface and DVI compatible ¹²)	Digital Formats			S®, DTS S HD	
Output Signal	HDMI with HDR10, HDR10+, Dolby Vision,				JM UP to 8 c	nanneis
Types	Deep Color, and 4K60 4:4:4 support ¹ (DVI compatible ¹²)	Analog Formats	Stereo 2-channel			
Switcher	2x1 in decoder mode (HDMI, Stream), manual or auto-switching, breakaway audio, ⁶ Crestron QuickSwitch HD™ technology	Analog-to- Digital Conversion	24-bit 48 kHz			
Scaler (Decoder Mode Only)	4K60 4:4:4 video scaler with motion-adaptive deinterlacing, intelligent frame rate conversion, Deep Color support, HDR10, HDR10+, and Dolby Vision support, widescreen format selection (zoom, stretch, maintain aspect ratio, or 1:1), video wall processing up to 8 wide x 8 high, static or dynamic text overlay	Digital-to- Analog Conversion	24-bit 48 kHz			
		AES67	24-bit 48 kHz			
		Analog Performance	Frequency Response: 20 Hz to 20 kHz ±0.5 dl S/N Ratio: >95 dB 20 Hz to 20 kHz A-weighte THD+N: <0.005% @ 1 kHz			
Copy	HDCP 2.3		Stereo Separati			
Protection Maximum	Common resolutions are shown in the	Analog Output	-80 to +20 dB			
Resolutions	following table. Custom resolutions are supported at pixel clock rates up to 600 MHz.	Volume Adjustment				





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Communications

Communications		HDMI OUTPUT	(1) HDMI Type A connector, female;		
Ethernet	Auto-switching, auto-negotiating, auto- discovery, full/half duplex, TCP/IP, UDP/IP,		HDMI digital video/audio output ¹ (DVI compatible ¹²)		
	CIP, DHCP, SSL, TLS, SSH, SFTP (SSH File Transfer Protocol), IEEE 802.1X, IPv4, Active Directory authentication, variable Multicast TTL, HTTPS web browser setup and control, Crestron 3-Series or later control system	HDMI INPUT	(1) HDMI Type A connector, female; HDMI digital video/audio input; ¹ (DVI and Dual-Mode DisplayPort interface compatible ¹²)		
	integration	AUDIO I/O	(1) 5-pin 3.5 mm detachable terminal block; Balanced/unbalanced stereo line-level audio		
USB	USB 2.0 host or device signal extension and routing, Layer 2 or Layer 3		input or output; ⁵ Input Impedance: 24k Ohms balanced/		
RS-232	2-way device control and monitoring up to 115.2k baud with hardware and software handshaking (via control system); computer console (for setup)		unbalanced; Maximum Input Level: 4 Vrms balanced, 2 Vrms unbalanced; Output Impedance: 200 Ohms balanced, 100 Ohms unbalanced.		
IR/Serial	1-way device control via infrared up to 1.1 MHz or serial TTL (0-5 V) up to 19.2k baud (via control system)		100 Ohms unbalanced; Maximum Output Level: 4 Vrms balanced, 2 Vrms unbalanced		
HDMI	HDCP 2.3, EDID, CEC	IR 1 – 2	(1) 4-pin 3.5 mm detachable terminal block; Comprises (2) IR/Serial ports;		
DM NVX (via Ethernet)	HDCP 2.3, AES-128 AV content encryption with PKI authentication, RTP, secure RTSP, SDP, ONVIF, IGMPv2, IGMPv3, SMPTE 2022,		IR output up to 1.1 MHz; 1-way serial TTL (0-5 V) up to 19200 baud; IRP2 emitter sold separately		
	FEC (Forward Error Correction)	СОМ	(1) 5-pin 3.5 mm detachable terminal block;		
Connectors			Bidirectional RS-232 port; Up to 115.2k baud, hardware and software handshaking support		
USB DEVICE	 (1) USB 2.0 Type-C[™] connector, female; USB 2.0 device port; USB signal extender port for connection to a computer or other USB 2.0 host⁸ 	24VDC 1.25A	(1) 2.1 x 5.5 mm DC power connector; 24 VDC power input; <u>PW-2412WU</u> power pack (sold separately)		
USB HOST	(1) USB Type-A connector, female; USB 2.0 host port; USB signal extender port for connection to a	G	(1) 6-32 screw; Chassis ground lug		
	mouse, keyboard, or other USB 2.0 device; ⁸	Controls and Indicators			
USB HID	Available Power: 500 mA at 5 VDC ¹³ (1) USB Type-A connector, female; USB 2.0 host port; USB signal extender port for connection to a mouse, keyboard, or other USB 2.0 device;	PWR	(1) Bi-color green/amber LED, indicates operating power is being supplied, illuminates amber while booting and green when operating		
Ethernet 1	Available Power: 500 mA at 5 VDC ¹³ (1) 8-pin RJ-45 connector, female;	SETUP	(1) Red LED and (1) pushbutton for onscreen IP address display and changing operating modes		
	100BASE-TX/1000BASE-T Ethernet port; ² PoE+ PD (powered device) port,	RESET	(TX or RX) (1) Recessed pushbutton for hardware reset		
	IEEE 802.3at Type 2 PoE+ Class 4 (25.5 W) compliant ^{7, 14}	INPUT SEL	 (1) Pushbutton for manual input selection and (2) bi-color green/amber LEDs, indicate the 		
Ethernet 2	(1) 8-pin RJ-45 connector, female; 100BASE-TX/1000BASE-T Ethernet port ²		current active input and signal presence at each corresponding input (HDMI and NV)		
Ethernet 3 (10/100)	(1) 8-pin RJ-45 connector, female; 100BASE-TX Ethernet port	OL	(1) Green LED, indicates an online connection to a control system via Ethernet		
Ethernet 4	(1) SFP port; Accepts one Crestron <u>SFP-1G</u> Series transceiver module ³				



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NV	(1) Green LED, indicates unit is encoding (transmitting) or decoding (receiving) network video
тх	(1) Green LED, indicates unit is in encoder (transmitter) mode
RX	(1) Green LED, indicates unit is in decoder (receiver) mode
Ethernet 1-2	(2) LEDs per port, green indicates Ethernet link status, amber indicates Ethernet activity
Ethernet 3	(2) LEDs, amber indicates Ethernet link status, green indicates Ethernet activity
Ethernet 4 LNK	(1) Green LED, indicates Ethernet link status
Ethernet 4 ACT	(1) Green LED, indicates Ethernet activity
HDMI OUTPUT	(1) Green LED, indicates video signal transmission at the HDMI output
HDMI INPUT	(1) Green LED, indicates sync detection at the HDMI input
Power	
PoF+	IEEE 802 3at Type 2 Class 4 (25 5 W)

PoE+	IEEE 802.3at Type 2 Class 4 (25.5 W) compliant; Compatible with Crestron <u>DM-PSU-ULTRA-</u> <u>MIDSPAN</u> , PoE+ compliant Ethernet switch, or third-party IEEE 802.3at compliant PSE ¹⁴
Power Pack (Optional)	Input: 1.5 A maximum @ 100-240 VAC, 50/60 Hz Output: 1.25 A @ 24 VDC Model: <u>PW-2412WU</u> (sold separately)
Power Consumption	20 W typical

Environmental

Temperature	32° to 104° F (0° to 40° C)
Humidity	10% to 90% RH (non-condensing)
Heat Dissipation	74 BTU/hr
Acoustic Noise	33 dBA typical

Enclosure

Chassis	Metal, black finish, integral mounting flanges, fan cooled; vented top, front, rear, and sides
Mounting	Freestanding, surface mount, or attachment to a single rack rail

Dimensions

Height	8.61 in. (219 mm)
Width	9.27 in. (236 mm)
Depth	1.25 in. (32 mm)

Weight

2.0 lb (0.91 kg)

Compliance

Intertek $^{\odot}$ Listed for US and Canada, CE, IC, FCC Part 15 Class B digital device

Model

DM-NVX-360

DM NVX 4K60 4:4:4 HDR Network AV Encoder/Decoder

Available Accessories

PW-2412WU

Wall Mount Power Pack, 24 VDC, 1.25 A, 2.1 mm, Universal

SFP-1G-SX

SFP Transceiver Module for DM NVX Encoders/Decoders, Duplex Multimode Fiber, 850 nm

SFP-1G-LX

SFP Transceiver Module for DM NVX Encoders/Decoders, Duplex Single-Mode Fiber, 1310 nm

SFP-1G-BX-U

SFP Transceiver Module for DM NVX Encoders/Decoders, Simplex Single-Mode Fiber, 1310/1490 nm, Uplink

SFP-1G-BX-D

SFP Transceiver Module for DM NVX Encoders/Decoders, Simplex Single-Mode Fiber, 1490/1310 nm, Downlink

DM-PSU-ULTRA-MIDSPAN Power Injector

IRP2:

IR Emitter with Terminal Block Connector

USB-NX2-LOCAL-1G USB over Ethernet Network Wall Plate with Routing, Local

USB-NX2-REMOTE-1G USB over Ethernet Network Wall Plate with Routing, Remote

CBL-HD-6 Crestron Certified HDMI Interface Cable, 18 Gbps, 6 ft (1.8 m)

DM-CBL-ULTRA-PC-10 DigitalMedia[™] Ultra Patch Cable, 10 ft (3 m)

DM-CONN-ULTRA-RECP-20

DigitalMedia Ultra Keystone RJ-45 Jack, 20-Pack with Termination Tool



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Management Tools

DM-NVX-DIR-80

DM NVX Director Virtual Switching Appliance for 80 Endpoints

DM-NVX-DIR-160

DM NVX Director Virtual Switching Appliance for 160 Endpoints

DM-NVX-DIR-ENT

DM NVX Director Virtual Switching Appliance for 1000 Endpoints

Notes:

- 4K60 4:4:4 performance and HDR support require the use of HDMI cables and couplers with a minimum TMDS bandwidth of 18 Gbps. If 4K60 4:2:0 or 4K30 4:4:4 performance is acceptable, cables and couplers with a minimum bandwidth of 10.2 Gbps may be used. Bandwidth loss is cumulative; therefore, performance may be reduced when inserting multiple cables and couplers inline.
- The minimum cable required for DM NVX over 1000BASE-T Ethernet (copper) is unshielded CAT5e. All Ethernet ports on the DM-NVX-360 are for connection to an Ethernet network or device. The Ethernet ports cannot be connected to the DM® ports of other Crestron devices.
- Use of the SFP port requires the purchase of a Crestron <u>SFP-1G</u> Series transceiver module (sold separately). All Ethernet ports on the DM-NVX-360 are for connection to an Ethernet network or device. The Ethernet ports cannot be connected to the DM ports of other Crestron devices.
- 4. When the DM-NVX-360 is in encoder mode, the HDMI output resolution is matched to the resolution of the encoded source.
- The analog audio port can function as an input or output—not both. Analog audio output is functional only when the DM-NVX-360 is receiving a 2-channel stereo input signal. A 2-channel downmix signal from a multichannel surround sound source requires the use of a Crestron DM-NVX-363, DM-NVX-363C, DM-NVX-351, or DM-NVX-351C.
- 6. Combining audio from one encoder with video from another encoder is possible using the secondary 2-channel audio stream only. Multichannel audio from one encoder cannot be combined with video from another encoder.
- 7. Refer to the "Power" specifications section for powering options.
- The DM-NVX-360 can be configured to accept the connection of a USB device or a USB host—not both. Crestron DM NVX products are engineered to deliver maximum compatibility with the widest possible range of USB products. Crestron does not guarantee that all USB products are compatible with DM NVX products. Consult the DM NVX AV-over-IP System Design Guide, Doc. 7977, for USB bandwidth considerations.
- As an encoder, the DM-NVX-360 transmits audio via the secondary 2-channel stream when it receives a 2-channel stereo input signal via the HDMI or analog input. The DM-NVX-360 does not transmit audio via the secondary 2-channel stream when it receives multichannel audio.

- 10. The minimum bit rate for 4K60 video is 350 Mbps. A bit rate below 350 Mbps may display a black screen.
- 11. 3D formats are not supported.
- 12. HDMI connections require an appropriate adapter or interface cable to accommodate a DVI or Dual-Mode DisplayPort signal. <u>CBL-HD-DVI</u> interface cables are available separately.
- 13. When PoE+ is used to power the DM-NVX-360, a maximum of 500mA is available to power both the USB HOST and USB HID ports. To prevent possible instability issues, it is recommended that the <u>PW-2412WU</u> power pack (sold separately) be used.
- 14. In order for Ethernet port 1 to receive PoE+, the port requires connection to a PoE+ compliant Ethernet switch or other equipment that has a PoE+ PSE port. Cabling that connects to a PoE+ PSE port is designed for intrabuilding use only.

This product may be purchased from select authorized Crestron dealers and distributors. To find a dealer or distributor, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/How-To-Buy/Find-a-Representative or by calling 855-263-8754.

This product is covered under the Crestron standard limited warranty. Refer to www.crestron.com/warranty for full details.

The specific patents that cover Crestron products are listed online at patents.crestron.com.

Certain Crestron products contain open source software. For specific information, please visit www.crestron.com/opensource.

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