

DM-NAX-XSP

DM NAX® 8K Smart Display Controller and Network Audio Encoder/Decoder with eARC Support



- *Audio-over-IP (AoIP) display controller and audio encoder/decoder*
- *Handles video resolutions up to 8K60 4:2:0 and 4K120 4:4:4*
- *Supports HDR10, HDR10+, and Dolby Vision® video formats*
- *Supports all Dolby® audio formats up to Dolby Atmos® and all DTS® formats up to DTS:X®*
- *eARC support available on HDMI® connection to display*
- *HDCP 2.3 compliant*
- *Connected device control via CEC, RS-232, IR, and relays*
- *Connects directly to a managed network to route audio to or from other DM NAX® and DM NVX® devices*
- *Interoperable with Dante® audio networking devices via AES67 compatibility*
- *Streamlined configuration through a web interface*
- *Seamless Crestron system integration with SIMPL Windows programming*
- *Compact, surface-mountable design*
- *PoE+ powered device*

The [DM-NAX-XSP](#) is an 8K display controller with a local HDMI input and HDMI passthrough, DM NAX AoIP encoder and decoder functionality, and eARC support. Its compact form factor facilitates mounting the device behind a display, or it can be mounted to a single rack rail using included hardware.

DM NAX audio-over-IP is built on the AES67 standards, with additional ease of configuration via a web interface, SIMPL Windows, C#, and/or a RESTful API. It is compatible with DM NVX® AV-over-IP through the AES67 secondary audio stream, and also with third-party AES67 solutions and Dante® Networking via the compatibility mode enabled through Dante Controller.

8K60 4:2:0, 4K120 4:4:4, and HDR Support

The DM-NAX-XSP supports video resolutions up to 8K60 with 4:2:0 color sampling, 8K30 4:4:4, or 4K120 4:4:4. HDR10, HDR10+, and Dolby Vision video formats are also supported.

eARC Support

The HDMI output of the DM-NAX-XSP supports Enhanced Audio Return Channel (eARC) connectivity, allowing audio to be extracted from a connected display and transmitted over the network as a DM NAX AoIP stream. Extracting audio from the display via the eARC connection means only a single cable is required for video and bidirectional audio. This connection also allows local audio content from the display (such as smart TV streaming applications) to be encoded as streams available to an AoIP audio distribution system.

Surround Sound and Downmixing

The HDMI input and eARC connections of the DM-NAX-XSP support Dolby audio formats including Dolby Atmos and DTS formats including DTS:X. Digital audio formats received at the HDMI input can be passed through to the HDMI output. Supported surround sound formats can be downmixed to stereo via the built-in DSP to transmit a 2-channel AoIP stream onto the network.

Device Control via RS-232, IR, Relay, and Digital Input Ports

The DM-NAX-XSP includes built-in COM (RS-232), IR, relay, and digital input ports for controlling source devices and accessories.

CEC Control

CEC (Consumer Electronics Control) can control compatible source and display devices via the HDMI connection, eliminating the need for dedicated serial cables or IR emitters. CEC over the HDMI output can also turn the connected display on or off without additional programming.

Audio-over-IP

DM NAX takes audio distribution to a whole new level by putting it on the network. The DM-NAX-XSP sends and receives DM NAX and AES67 encoded audio over a standard IP network. A single DM NAX system can handle audio distribution between 32 DM NAX devices and supports up to 256 audio output zones. DM NAX devices can seamlessly pull and distribute the audio from DM NVX sources.

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Specifications

Audio

Input Signal Types	HDMI, DM NAX audio-over-IP, AES67
Output Signal Types	HDMI (multichannel pass-through), DM NAX audio-over-IP (2-channel downmix), AES67(2-channel downmix)
Digital Formats	Dolby Digital®, Dolby Digital EX, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos, DTS®, DTS ES, DTS 96/24, DTS HD® High Res, DTS HD Master Audio, DTS:X®

Video

Input Signal Types	HDMI with HDR10, HDR10+, Dolby Vision, Deep Color, 8K30 4:4:4 12-bit, and 4K120 4:4:4 12-bit support
Output Signal Types	HDMI with HDR10, HDR10+, Dolby Vision, Deep Color, 8K30 4:4:4 12-bit, and 4K120 4:4:4 12-bit support
Copy Protection	HDCP 2.3

Connectors

Ethernet 1	(1) 8-pin RJ-45 connector, female; 100BASE-TX/1000BASE-T Ethernet port; PoE+ PD (powered device) port, IEEE 802.3at Type 2 PoE+ Class 4 (25.5 W) compliant
Ethernet 2	(1) 8-pin RJ-45 connector, female; 100BASE-TX/1000BASE-T Ethernet port
HDMI IN	(1) HDMI Type A connector, female; HDMI digital video/audio input
HDMI OUT	(1) HDMI Type A connector, female; HDMI digital video/audio output, pass-through from HDMI IN ; eARC audio return support
COM	(1) 3-pin 3.5 mm detachable terminal block; Bidirectional RS-232 port; Up to 115.2k baud, hardware and software handshaking support
IR	(1) 2-pin 3.5 mm detachable terminal block; IR output up to 1.1 MHz; 1-way serial TTL (0-5 V) up to 19200 baud

RELAY	(1) 4-pin 3.5 mm detachable terminal blocks; Comprises (2) normally open, isolated relays; Rated 1A, 30VAC/VDC; MOV arc suppression across contacts
G	(1) 6-32 screw; Chassis ground lug
IN	(1) 2-pin 3.5 mm detachable terminal block; Programmable digital input; Input Voltage Range: 0-24VDC, referenced to GND; Logic Threshold: 2.5VDC nominal with 1V hysteresis band; Pull-up Resistor: 2.2k Ω

Communications

Ethernet	For control, and/or console, 100/1000 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, DHCP
RS-232	2-way device control and monitoring up to 115.2k baud with hardware and software handshaking via control system
IR	1-way device control via infrared up to 1.1 MHz or serial TTL (0-5V) up to 19.2k baud via control system
HDMI	HDCP 2.3, EDID, CEC

Controls and Indicators

PWR	(1) Green/amber bicolor LED; Amber indicates unit is powering up/loading firmware; Green indicates unit is fully powered and ready for use
HDMI IN	(1) Green LED, indicates sync detection at the HDMI input
HDMI OUT	(1) Green LED, indicates video signal transmission at the HDMI output
Ethernet 1	Left amber LED indicates 1000 Mb link status; Left green LED indicates 100 Mb link status; Flashing right amber LED indicates Ethernet activity

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Ethernet 2	Left amber LED indicates 1000 Mb link status; Left green LED indicates 100 Mb link status; Flashing right amber LED indicates Ethernet activity
RESET	(1) Push button: Used for factory reset procedures; (1) LED, illuminates red when the button is pressed, flashes red when reset has been initiated

Power

PoE+	IEEE 802.3at Type 2 Class 4 (25.5 W) compliant; Compatible with Crestron DM-PSU-ULTRA-MIDSPAN, PoE+ compliant Ethernet switch, or third-party IEEE 802.3at compliant PSE
Power Consumption	14 W maximum

Environmental

Temperature	32° to 104° F (0° to 40° C)
Humidity	10% to 90% RH (non-condensing)

Construction

Chassis	Metal, black finish, vented sides
Mounting	Surface-mountable or attachable to a single rack rail

Dimensions

Height	5.03 in. (128 mm)
Width	8.36 in. (213 mm)
Depth	1.12 in. (29 mm)

Weight

1.82 lb (0.83 kg)

Compliance

Regulatory Model: M202116001

Intertek® Listed for US & Canada, CE, IC, FCC Part 15 Class B digital device

To search for product certificates, refer to support.crestron.com/app/certificates.

Model

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Available Accessories

For a list of available accessories, visit the [DM-NAX-XSP](https://support.crestron.com/app/certificates) product page.

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 contact us for additional information by visiting www.crestron.com/contact/our-locations for your local contact.

The original language version of this document is U.S. English. All other languages are a translation of the original document.

The product warranty can be found at www.crestron.com/warranty.

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

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

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HDMI

Dolby Atmos

dts x

Specifications are subject to change without notice.

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