

DM-NAX-8ZSA

DM NAX™ 8-Zone Streaming Amplifier



- *Audio-over-IP (AoIP) amplifier, puts Crestron® multiroom distributed audio on the network*
- *Robust, high-efficiency, audiophile grade amplification*
- *Built-in streaming services support*
- *2 RU form factor, low power consumption, cool-running operation*
- *Built-in chime support*
- *Voice control support for Crestron Home™ OS*
- *150 Watts/Ch. @ 8 Ohms or 300 Watts/Ch. @ 4 Ohms, with zones bridgeable up to 500 Watts/Ch.*
- *Provides eight amplified stereo zone (16-channel) outputs*
- *Four stereo line-level outputs mirror speaker zone outputs 1-4*
- *Output Bussing — enables linked operation of multiple adjacent zones*
- *Connects directly to a managed network to route to or from other DM NAX and DM NVX® devices*
- *Interoperable with Dante® audio networking devices via AES67 compatibility*
- *Includes 4 stereo unbalanced analog RCA and 4 SPDIF (2 TOSLINK® and 2 Coaxial) audio inputs*
- *Full DSP capabilities*
- *Individual zone power control and global standby*
- *Streamlined setup and adjustment via the device's web interface*
- *Seamless Crestron system integration with Crestron Home and SIMPL Windows programming*

The Crestron DM-NAX-8ZSA is a next generation Audio-over-IP (AoIP) amplifier that puts Crestron multiroom audio distribution on the network. It provides eight amplified stereo zone (16-channel) outputs. Four stereo line-level outputs mirror speaker zone outputs 1-4. A dedicated streaming service player for each of the eight zones enables complete freedom to stream different content in every zone.

DM NAX™ 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® through the AES67 secondary audio stream and also with

third-party AES67 solutions and Dante® via the compatibility mode enabled through Dante Controller. Full DSP capabilities are available on the line and speaker outputs.

Voltage triggers corresponding to the 4 stereo line-level analog outputs can be used to power on and off connected external amplifiers.

Audio-over-IP

DM NAX takes audio distribution to a whole new level by putting it onto the network. The scale of DM NAX far exceeds the capabilities of previous generations of Crestron distributed audio. DM NAX units integrate with DM NVX devices to pull audio from video feeds for rooms without displays.

Streaming and Casting Services

A dedicated streaming service player for each of the zones supporting AirPlay® 2, Internet Radio, Spotify Connect™, Pandora®, SiriusXM®, and more. The DM-NAX-8ZSA delivers streaming, routing, distribution, and amplification in a single device. Streams can be routed to other non-streaming AoIP amplifiers.

Chimes

A library of chimes is built into the unit. Chimes can be assigned to different zones to help identify them. Whenever a chime is triggered, the zone audio will duck or pause, so the chime can be clearly heard over active media until the chime concludes.

DSP

DSP capabilities such as bass and treble boost and cut, loudness, adjustable delay, speaker protection and limiting, tone profiles, a full 10-band EQ per output, and an option to have line output as a fixed or variable level with or without DSP applied are available.

Zones can be permanently bussed together (up to 4 buses available per unit, and up to all 8 zones can join a given bus) for simultaneous routing and control, or grouped dynamically with other zones for a temporary collection of zones that playback the same media.

Encoder and Decoder Functionality

The DM-NAX-8ZSA is configurable to operate as a network AV encoder and decoder. The analog line level sources, digital S/PDIF sources or media streams on one DM NAX can be sent to any other DM NAX or AES67 capable endpoint on the network.

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Specifications

Audio

Input Signal Types	4 stereo analog (RCA); 4 digital S/PDIF (2 TOSLINK® and 2 Coaxial)
Output Signal Types	4 stereo analog outputs (mirrors speaker zone outputs 1-4), Outputs 1 and 2 have a balanced 5-pin stereo Phoenix connection and an unbalanced RCA connection
Sampling Rates and Bit Depths	Digital Input (Coaxial): Up to 192 kHz, 24-bit; Digital Input (Optical): Up to 96 kHz, 24-bit; Media Players: Up to 192 kHz, 24-bit
Source Compensation	±10.0 dB per input
Input Monitoring	Source Signal Detect
Output Power	150 Watts per channel at 8 Ohms; 300 Watts per channel at 4 Ohms; 500 Watts per channel at 8 Ohms bridged
Amplifier Monitoring	Over Current, Over/Under Voltage, Over Temperature, DC Offset, Clipping
Frequency Response	20 Hz to 20 kHz ±0.6 dB
THD	0.006%
S/N Ratio	110 dB digital in, 108 dB analog in
Stereo Separation	85 dB @ 1 kHz, 8 ohm; 80 dB @ 1 kHz, 4 ohm
Zone Separation	100 dB @ 1 kHz, 8 ohm; 95 dB @ 1 kHz, 4 ohm
Zone Volume Level Control	-80.0 to +20.0 dB, adjustable from 0% to 100% plus mute
Bass Control	±12.0 dB
Treble Control	±12.0 dB
Loudness Compensation	On/Off
Dynamic Range Control	Off/Low/Medium/High
Balance Control	Left/right adjustable
Zone Configuration	Stereo Single Ended, Mono Single Ended, Stereo Bridged, Mono Bridged, Bridged 2.1, and Bridged 2.1 with Bridged Sub
Power Limiting	Configurable 5 to 150 Watts @ 8 Ohms; 5 to 300 Watts @ 4 Ohms; 5 to 500 Watts @ 8 Ohms bridged

Tone Profiles	Flat, Classical, Jazz, Pop, Rock, Spoken Word
EQ Filter Types	EQ, High Pass, Low Pass, Treble Shelf, Bass Shelf, Notch
EQ Center Frequency	10 to 20,000 Hz per band
EQ Gain	+20/-40 dB per band
EQ Bandwidth	0.1 to 4.0 octaves per band
Bus Volume Offset	±12.0 dB per zone for output bussing

Communications

Ethernet	For control, AoIP, and or console, 100/1000 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, DHCP
USB	For configuration management

Connectors

SPDIF SOURCES 1 – 2	(2) JIS F05 female (TOSLINK) optical fiber connector; S/PDIF optical digital audio input
SPDIF SOURCES 3 – 4	(2) RCA female; S/PDIF coaxial digital audio inputs; Input Impedance: 75 Ohms
ANALOG SOURCES L/R 5 – 8	(8) RCA female comprising (4) unbalanced stereo line-level audio inputs; Input Impedance: 10k Ohms; Maximum Input Level: 2 Vrms
ANALOG OUT L/R 1 – 4	(8) RCA connectors, female; Comprises (4) unbalanced line-level stereo audio outputs (mirror corresponding amplified output pairs 1 – 4); Output Impedance: 100 Ohms; Maximum Output Level: 2 Vrms
ANALOG OUT L/R 1 – 2	(2) 5-pin 3.5mm detachable terminal blocks; Balanced stereo line-level audio outputs (mirror corresponding unbalanced output pairs 1 – 2); Output Impedance: 150 Ohms; Maximum Output Level: 4 Vrms
Ethernet 1	(1) 8-wire RJ45 female; 100Base-T/1000Base-TX Ethernet port
Ethernet 2	(1) 8-wire RJ45 female; 100Base-T/1000Base-TX Ethernet port
USB	(1) USB Type B connector, female; USB computer console port (cable included); For setup only

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100-240V~50/60Hz Universal AC	(1) IEC 60320 C14 main power inlet, mates with removable power cord (included)
G	6-32 screw, chassis ground lug
SPEAKER OUTPUTS L/R 1 – 8	(16) 2-pin 7.62mm 15A detachable terminal blocks; Power amplifier outputs; Wire Size: Terminals accept up to 12AWG

Controls and Indicators

PWR	(1) LED. Amber indicates that the device is booting. White indicates that the device is switched on with audio passing. Red indicates that the device is in standby mode. Off indicates that there is no power from the power supply.
LAN	(1) LED. White indicates that the device is switched on and has a valid IP address. Off indicates that the device is not connected to a network or the IP address is invalid.
NAX	(1) LED. White indicates that AoIP is ready to pass and the unit's PTP clock is synced. Off indicates that no AoIP is passing to or from and/or PTP is not synced.
SOURCE 1-8	(8) LEDs. White indicates signal presence on the specified input/source. Red indicates there is a clipping on an analog input or a bitstream issue on a digital input. Off indicates that there is no signal detected on the specified input/source.
ZONE 1-8	(8) LEDs. White indicates there is audio output on the indicated zone. Red indicates a fault due to clipping, over current, over temperature, or low voltage.
SETUP	(1) LED. Blinking red indicates that a network reset or factory restore has been initiated via the adjacent SETUP button.

Power

Power Consumption	240 W (All channels driven at 1/8th power, 8 ohms)
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Environmental

Temperature	32° to 104°F (0° to 40°C)
Humidity	10% to 90% RH (non-condensing)
Heat Dissipation	450 BTU/hr

Construction

Chassis	Metal, black and silver finish, vented sides
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Mounting	2 RU rack-mountable
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Dimensions

Height	3.50 in. (89 mm)
Width	19 in. (482 mm) 17.28 in. (439 mm) without rack ears
Depth	14.52 in. (369 mm)

Weight

28 lb (12.70 kg)

Compliance

Regulatory Model: M1845004
FCC Part 15 Class B digital device, IC Class B, CE, ETL listed

Model

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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.

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