DM-NAX-4ZSA-50

DM NAX® 4+1 Zone Streaming Amplifier

- *Audio-over-IP (AoIP) amplifier*
- *Built-in streaming services support*
- *Full DSP capabilities*
- *Gallium Nitride (GaN) Class D amplification*
- *50 W of output power per channel*
- *Provides four amplified output zones and one additional line-level output zone*
- *1 RU high, half-rack width modular form factor*
- *Interoperable with Dante® audio networking devices via AES67 compatibility*
- *Built-in chime support*
- *Streamlined configuration through a web interface*
- *Seamless Crestron system integration with SIMPL Windows programming*

The Crestron DM-NAX-4ZSA-50 is a next generation Audio-over-IP (AoIP) amplifier that puts Crestron multiroom audio distribution on the network. It provides four amplified stereo speaker outputs and one analog line-level stereo output for a total of five zones. A dedicated streaming service player for each zone enables complete freedom to stream different content in every zone.

DM NAX® is built on 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. DM NAX is also compatible 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.

Audio-over-IP

The DM-NAX-4ZSA-50 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.

Streaming and Casting Services

A dedicated streaming service player is built-in for each zone, supporting Internet Radio, Spotify Connect™, Pandora®, SiriusXM®, TIDAL™, Deezer®, Qobuz®, SOUNDMACHINE®, Podcasts and more. The DM-NAX-4ZSA-50 delivers streaming, routing, distribution, and amplification in a single device. Streams can be routed to other non-streaming AoIP devices.

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.

Digital Signal Processing (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. Speaker profiles for first and third party speaker models are built in to simplify output DSP tuning.

Encoder and Decoder Functionality

The DM-NAX-4ZSA-50 can operate as a network AoIP encoder and decoder. The local input sources on one amplifier can be sent as AoIP streams to DM NAX, Dante, or AES67 capable devices. Simultaneously, the DM-NAX-4ZSA-50 can receive AoIP streams from these same devices and decode them for local output.

Modular Design

The DM-NAX-4ZSA-50 is housed in a half-width rack-mountable form factor that can be installed individually or ganged together in a single rack space. The amplifier is high-density stackable with other Crestron DM NAX or X-Series amplifiers, allowing multiple units to be installed vertically in an equipment rack without needing extra ventilation space. Rack mount parts are included, so no additional mounting accessories or rack shelves are required.

Whether mounting in a rack or placing on a shelf, it is easy to combine two amplifiers into a single, full rack-width assembly.

Gallium Nitride (GaN) Amplification

The DM-NAX-4ZSA-50 is the first Crestron amplifier to feature GaN Class D technology. GaN amplification allows higher output power to fit into small form factors without sacrificing efficiency or audio performance. The DM-NAX-4ZSA-50 is capable of 50 W per channel of amplifier output power in a half-width 1RU housing that matches the depth of the DM-NAX-AMP-X300.

DM NAX® 4+1 Zone Streaming Amplifier

Specifications

Audio

Input Signal Types	2 stereo analog (RCA); 2 digital S/PDIF (1 TOSLINK® connection and 1 coaxial connection, PCM only)
Output Signal Types	4 stereo speaker-level amplified outputs; 1 stereo analog line-level output
Sampling Rates and Bit Depths	Digital Input (Coaxial): Up to 192 kHz, 24-bit; Digital Input (Optical): Up to 192 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	50 W per channel at 4 or 8 Ohms
Amplifier Monitoring	Over Current, Over/Under Voltage, Over Temperature, DC Offset, Clipping
Frequency Response	20 Hz to 20 kHz ±0.5 dB
THD	0.006%
S/N Ratio	110 dB digital in; 108 dB analog in
Stereo Separation	95 dB @ 1 kHz, 8 Ohm; 90 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
Power Limiting	Configurable 5 to 50 W @ 4 or 8 Ohms
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 Hz to 20 kHz per band
EQ Gain	-40.0 to +20.0 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

Connectors

SPEAKER ZONES 1-4	(4) 4-pin 5.08 mm detachable terminal blocks; Stereo speaker-level audio outputs; Maximum Wire Size: 12 AWG
LINE OUT 5	(2) RCA female comprising (1) unbalanced stereo line-level audio output; Output Impedance: 100 Ohms; Maximum Output Level: 2Vrms
DIGITAL INPUT 1	(1) RCA female; S/PDIF coaxial digital audio input; Input Impedance: 75 Ohms
DIGITAL INPUT 2	(1) JIS F05 female TOSLINK® optical fiber connector; S/PDIF optical digital audio input
ANALOG INPUTS 3-4	(4) RCA female comprising (2) unbalanced stereo line-level audio inputs; Input Impedance: 10 kOhms; Maximum Input Level: 2Vrms
ETHERNET 1-2	(2) 8-pin RJ-45 connectors, female; 100BASE-TX/1000BASE-T Ethernet port; Green LED indicates Ethernet link status; Flashing amber LED indicates Ethernet activity
100-240 VAC 1.0-0.4A 50/60HZ	(1) 100-240V~50/60Hz Universal AC; IEC 60320 C14 main power inlet, mates with removable power cord (included)

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
LAN	(1) White LED; Indicates that the device has a valid IP address

DM NAX® 4+1 Zone Streaming Amplifier

NAX	(1) White LED; White indicates that audio-over-IP traffic is passing in or out of the DM NAX unit
SOURCE 1-4	(4) LEDs; White indicates signal presence on the specified input/source; Red indicates there is clipping on the specified input/source
ZONE 1-5	(5) 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) Push button: Pressing and holding the **SETUP** button for 15 seconds with power supplied clears network settings and restores the default DHCP mode; To perform a factory restore, press and hold the **SETUP** button with power disconnected, then connect the power supply and continue to hold the **SETUP** button for 30 seconds; (1) LED, illuminates red when the button is pressed, flashes red when reset has been initiated

Power

Main Power	1.0-0.4A @ 100-240VAC, 50/60 Hz
Power Consumption	50 W (all channels driven at 1/8 output power, 8 Ohms)

Environmental

Temperature	32° to 104°F (0° to 40°C)
Humidity	10% to 90% RH (non-condensing)
Heat Dissipation	85 BTU/hr (all channels driven at 1/8 output power, 4 Ohms)

Construction

Chassis	Metal, black and silver finish, vented front and rear panels
Mounting	1 RU rack-mountable

Dimensions

Height	1.72 in. (44 mm)
Width	8.66 in. (220 mm)
Depth	10.97 in. (279 mm)

Weight

4.15 lb (1.88 kg)

Compliance

Regulatory Model: M202123001
Intertek® Listed for US & Canada, CE, IC, FCC Part 15 Class B digital device

Model

DM-NAX-4ZSA-50
DM NAX® 4+1 Zone Streaming Amplifier

Available Accessories

For a list of available accessories, visit the DM-NAX-4ZSA-50 product page.

10.69 in.
(272 mm)

10.97 in.
(279 mm)

8.66 in.
(220 mm)

1.72 in.
(44 mm)