DM-NAX-AMP-X300

DM NAX® X-Series Flexible Output Amplifier, 300W

- *Audio-over-IP (AoIP) amplifier*
- *Native Dante® networking support*
- *Full DSP capabilities*
- *Streamlined configuration through a web interface*
- *1 RU high, half-rack width form factor supports surface and rack mounting*
- *Configurable for LoZ (4or 8 Ω) or Hi-Z (70V or 100V) operation*
- *Configurable for 4 x up to 75 W output, 2 x up to 150 W output, 1 x up to 300 W (bridged) output, and 2 x up to 75 W + 1 x up to 150 W (bridged) output*
- *Matrix mixing of any input to any output*
- *Always On feature bypasses standby with minimal power consumption*
- *Connects directly to a managed network to route to or from DM NAX® Audio-over-IP, DM NVX® AV-over-IP, AES67, or Dante devices*
- *Supports mic/line level analog inputs and balanced/unbalanced line level outputs*
- *Individual zone power control and global standby*
- *Seamless Crestron system integration with Crestron Home® OS and SIMPL Windows programming*

The DM-NAX-AMP-X300 is a high performance, space saving, energy efficient, professional grade Audio-over-IP (AoIP) amplifier. Supporting DM NAX® AoIP, Dante® networking, AES67, and local inputs, all with full DSP capabilities, this multichannel amplifier is suitable for both residential and commercial configurations.

Audio-over-IP

DM NAX takes audio distribution to a whole new level by putting it onto the network. The DM-NAX-AMP-X300 sends and receives DM NAX AoIP, Dante networking, and AES67 encoded audio over a standard IP network. A single DM NAX system can handle distribution of audio 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® A/V-over-IP sources.

Digital Sound Processing (DSP)

The DM-NAX-AMP-X300 has two DSP modes: Residential and Commercial. Residential mode allows the quick and easy configuration of outputs as zones - preset groups of output channels with simple speaker profile, protection, and layout settings. Commercial mode makes full use of the device's true mixing matrix, and provides advanced options for equalization and dynamics processing on each output channel individually.

Encoder and Decoder Functionality

The DM-NAX-AMP-X300 can operate as an AoIP encoder and decoder. The local input sources on one amplifier can be sent as AoIP streams to any other DM NAX, Dante, or AES67 capable device on the network. Simultaneously, the DM-NAX-AMP-X300 can receive AoIP streams from the same devices and decode them for local output.

Lo-Z (4 or 8 Ω) and Hi-Z (70V or 100V) Output

TheDM-NAX-AMP-X300 is a highly configurable amplifier, capable of operating in any of the following modes:

- 4-channel Lo-Z (4 or 8 Ω) operation, up to 75 W output per channel
- 3-channel Lo-Z bridged operation, up to 75 W output per single ended channel and up to 150 W for the bridged channel
- 2-channel Lo-Z bridged operation, up to 150 W output per channel
- 1-channel Lo-Z bridged operation, up to 300 W output
- 2-channel Hi-Z (70V or 100V) operation, up to 150 W output per channel
- 1-channel Hi-Z operation, up to 300 W output

Balanced/Unbalanced inputs are provided for connection to two stereo or four mono sources through detachable terminal blocks.

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Energy Efficient

In addition to its high efficiency under operation, the DM-NAX-AMP-X300 draws no added inrush current during power-up, thereby reducing AC circuit requirements and allowing multiple units to be connected to a single switched circuit. To reduce energy usage further, the DM-NAX-AMP-X300 can be configured to enter a low-power standby state if no input signal is detected on any channel for 25 minutes. Signal detection has been optimized for sensitivity to improve response time when waking the amplifier, allowing it to return to full operation within a half-second. The **REMOTE** input can be connected to a contact closure to place the amplifier outputs into a controlled standby mode.

Modular Design

The DM-NAX-AMP-X300 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 modular amps, allowing multiple units to be installed vertically in an equipment rack without needing extra ventilation space. An optional rack-mounting kit (RMK-AMP-X, sold separately) is available to gang the amplifier alongside another half-width model or two quarter-width models. Whether mounting in a rack, attaching to a flat surface, or placing on a shelf, it is easy to combine two amplifiers into a single assembly.

Fully Protected

The DM-NAX-AMP-X300 features protection against overheating, shorted or overloaded speaker lines, excessive input signals, and other faults. In the case of a shorted speaker line or overheating condition, both outputs mute automatically until the fault condition is resolved. In the event of a prolonged fault, the outputs mute automatically until the fault condition is resolved.

Specifications

Audio

Input Signal Types	Balanced/unbalanced analog line/mic-level and AoIP streams.
Output Signal Types	Analog speaker-level, balanced/unbalanced analog line-level, and AoIP streams.

Balanced Analog Inputs - Line Level

Maximum signal level	+21 dBu (8.7 Vrms)
Impedance	>10 kΩ
ƒ Response	20 Hz to 20 kHz±0.5 dB
THD+N	<0.005% @ 1 KHz
S/N Ratio	105 dB A-weight
Channel Separation	100 dB @ 1 KHz

Balanced Analog Inputs - Microphone Level

Maximum gain	60 dB
Impedance	>10 kΩ
ƒ Response	20 Hz to 20 kHz±0.5 dB
THD+N	<0.005% @ 1 KHz @ 60 dB gain
S/N Ratio	71 dB @ 60 dB gain A-weight
Channel Separation	69 dB @ 60 dB gain @ 1 KHz

DM NAX Audio-over-IP

Input Channels	(4) 48 kHz, 24 bits
Output Channels	(4) 48 kHz, 24 bits

Balanced Analog Outputs

Maximum signal level	+21 dBu (8.7 Vrms)
Impedance	200 Ω
ƒ Response	20 Hz to 20 kHz ±0.5 dB
THD+N	0.005% @ 1 kHz at max output
S/N Ratio	113 dB digital in, 105 dB analog in, 20 Hz - 20 kHz, A-weight
Channel Separation	100 dB @ 1 KHz

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Speaker Outputs

Output Power Per Channel

Mode	1 Channel Driven	2 Channels Driven	3 Channels Driven	4 Channels Driven
Lo-Z, 8 Ω (single ended)	150 W	150 W	75 W[1]	75 W
Lo-Z, 4 Ω (single ended)	200 W	150 W	75 W[1]	75 W
Lo-Z, 8 Ω Bridged	300 W	150 W	150 W[1]	N/A
Hi-Z 70V	300 W	150 W	N/A	N/A
Hi-Z 100V	300 W	150 W	N/A	N/A

NOTES:

- Total output power from all channels combined (simultaneously) is up to 300 W.
- Each mode will output power in watts up to the value listed in the table.

Frequency Response	20 Hz to 20 kHz ±0.5 dB at 1 W
High-Pass Filter (70V and 100V operation only)	-3 dB @ 80 Hz, -12 dB/octave
THD+N	<0.1% at 1 kHz @ -3 dB full rated output power
S/N Ratio	>103 dB, 20 Hz to 20 kHz, balanced
Crosstalk	-75 dB at 1 kHz
Gain	29 dB @ 8 Ω
Protection	Over current, under voltage, over temperature, DC offset, extreme high frequency
Go to Sleep Time	25 minutes with no signal present (when set to POWER SAVER)
Wake Time	0.5 s typical

Connectors

CH1-CH4	(2) 4-pin 5.08 mm pitch, 12A plug with screw locking retainers; Power amplifier output; Terminals accept up to 12 AWG (3.31 mm) **NOTE:** Output is direct-coupled, not transformer isolated.
IN1-IN4	(4) 3-pin 3.5 mm detachable terminal block; Balanced line/mic-level audio inputs; Maximum Input Level: 8.7 Vrms, +21 dBu; Input Impedance: 10 kΩ Wake threshold is -65 dBu; Phantom power is available when used as mic-level inputs
OUT1-OUT4	(4) 3-pin 3.5 mm detachable terminal block; Balanced line/mic-level audio outputs; Maximum Output Level: 8.7 Vrms, +21 dBu
REMOTE	(1) 2 pin 3.5 mm detachable terminal block; Connect to dry contact closure to place amplifier in standby mode
G	(1) 6-32 screw; Chassis ground lug
100-240V~ 1.2-0.6A 50/60 Hz	(1) IEC 60320 C14 main power inlet; Mates with removable power cord, included
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

Controls and Indicators

PWR	(1) LED; White indicates amplifier is on and ready for use; Amber indicates the amplifier is booting; Red indicates amplifier is in standby
HI-Z	(1) White LED; Indicates Hi-Z mode is enabled (70V or 100V)
LAN	(1) White LED; Indicates the device has a valid IP address
AoIP	(1) White LED; Indicates an active incoming or outgoing AoIP stream
FAULT	(4) Red LEDs (one per input); Indicates that the input channel is faulted or clipping
SIGNAL	(4) White LEDs (one per input); Indicates an active input signal

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LoZ MODES	(2) Slide switches, one switch controlling channels 1 and 2, and one switch controlling channels 3 and 4; Selects stereo, summed, or bridged operation: • **STEREO**: The input signal received on each channel is sent to its respective output for use in applications where left and right channel separation is required. The four **GAIN** controls are independently adjustable. • **SUM**: The input signals sent to a channel pair (1 + 2 or 3 + 4) are summed and sent to their respective individual outputs. The four **GAIN** controls are independently adjustable. • **BRIDGE**: The input signals sent to a channel pair (1 + 2 or 3 + 4) are summed and sent to a bridged output (1 + 2 or 3 + 4) for use in high power applications. The **GAIN 1** control adjusts the bridged 1 + 2 output, and the **GAIN 3** control adjusts the bridged 3 + 4 output.
Operations Mode	(1) Slide switch; Sets the amplifier for Lo-Z (4 or 8 Ω) or Hi-Z operation (70V or 100V)
Power Mode	(1) Slide switch; Selects Power Saver or Always On operation
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	1.2-0.6A @ 100-240VAC, 50/60 Hz
Power Consumption	75 W (All channels driven at 1/8th power, 8Ω)

Environmental

Temperature	41 to 104°F (5° to 40°C)
Humidity	10% to 90% RH (non-condensing)
Heat Dissipation	130 BTU/hr

Dimensions

Height	1.74 in. (44 mm) without feet; 1.83 in. (46 mm) with feet
Width	8.67 in. (220 mm) without rack mount hardware; Up to 19.00 in. (483 mm) with rack mount hardware
Depth	11.03 in. (280 mm)

Weight

5.3 lb (2.4 kg)

Compliance

Regulatory Model: M1845006

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

Model

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Available Accessories

For a list of available accessories, visit the DM-NAX-AMP-X300 product page.

Notes:

1. 3 channel operation requires two single ended loads and one bridged load.

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.

Specifications are subject to change without notice.

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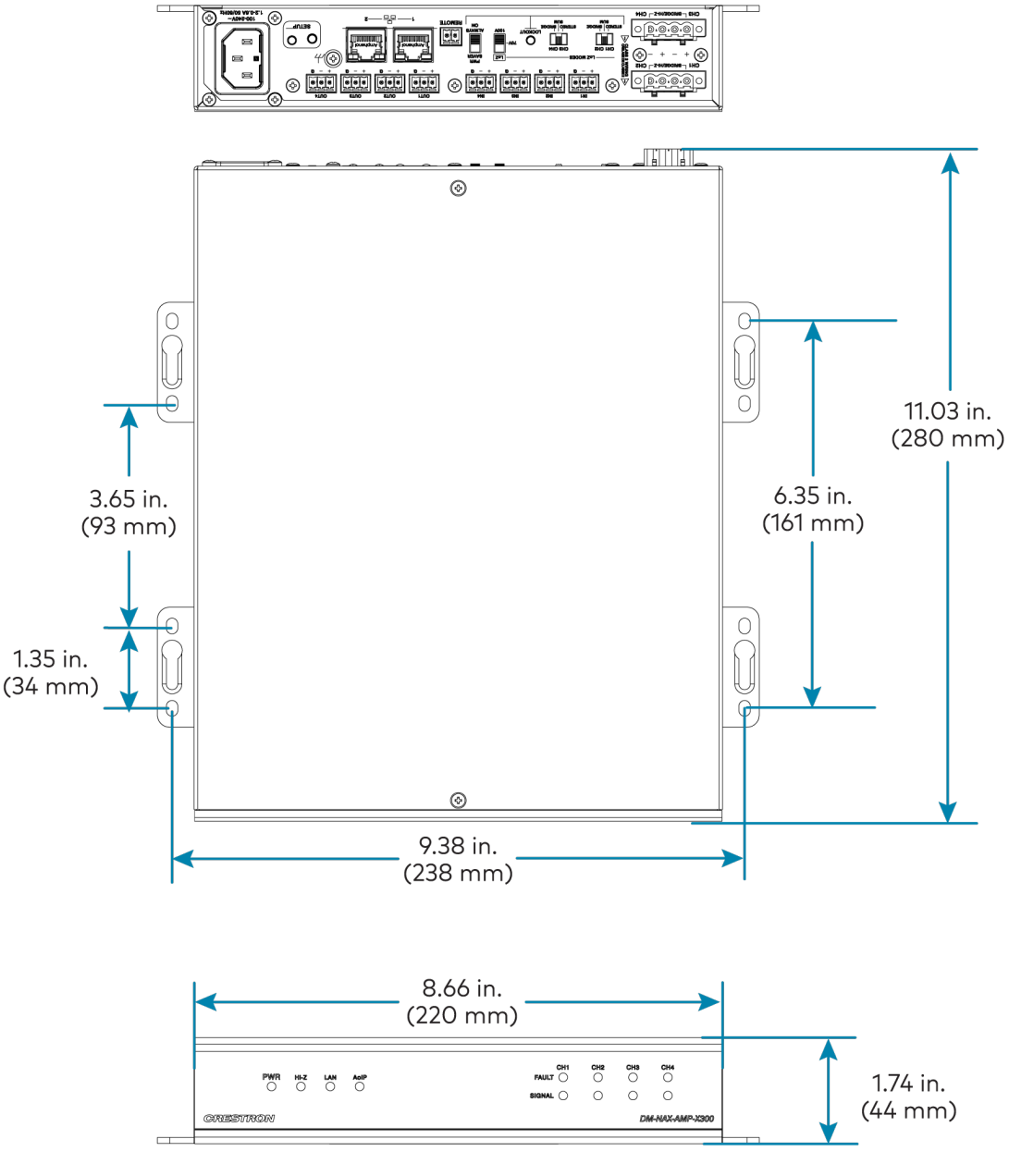

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