

DM-NAX-AMP-X300

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



- *Audio-over-IP (AoIP) amplifier*
- *Native Dante® mode*
- *Full DSP capabilities*
- *Streamlined configuration through a web interface*
- *ENERGY STAR® certified power amplifier*
- *1 RU high, half-rack width form factor supports surface and rack mounting*
- *Configurable for Lo-Z (4/8 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 allows constant on connection with very low power consumption*
- *Connects directly to a managed network to route to or from DM NAX/DM NVX®, 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, Dante, 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 on the network. The DM-NAX-AMP-X300 sends and receives DM NAX, Dante, 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.

Digital Signal Processing (DSP)

The DM-NAX-AMP-X300 has two DSP modes. Residential mode enables the quick and easy configuration of layout, speaker protection output limits, and speaker profiles for each zone. In Commercial mode, make full use of the DM-NAX-AMP-X300's true mixing matrix as well as advanced options for equalization and dynamics processing on each individual speaker, line, and network channel.

Encoder and Decoder Functionality

The DM-NAX-AMP-X300 can operate as a network AV 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-AMP-X300 can receive AoIP streams from these same devices and decode them for local output.

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

The DM-NAX-AMP-X300 is a 4-channel amplifier (up to 75 W per channel) which can also be configured for 3-channel bridged operation (up to 75 W per single ended channel and up to 150 W for the bridged channel), 2-channel bridged operation (up to 150 W per channel), or 1 channel bridged operation (up to 300 W). A choice of Lo-Z outputs to drive 4- or 8-Ω speakers, or Hi-Z outputs to drive a distributed speaker system (70V or 100V) can be used. Balanced/Unbalanced inputs are provided for connection to two stereo or four mono sources through detachable terminal blocks.

ENERGY STAR® Certified

An energy-efficient design enables the DM-NAX-AMP-X300 to meet demanding ENERGY STAR requirements. In addition to its high efficiency under operation, the amplifier draws no added inrush current during power-up, thereby reducing AC circuit requirements and allowing multiple amplifiers 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 either channel for 25 minutes. Signal detection sensitivity has been optimized to improve response time when triggering the amplifier to the on state, 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 in 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. Rack and surface mount parts are included, so no additional mounting accessories or rack shelves are required.

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, full rack-width assembly.

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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, paired outputs mute automatically until the fault condition is resolved. In the event of a prolonged fault, all outputs mute and the amplifier shuts down.

Specifications

Audio

Input Signal Types	Balanced/unbalanced analog line/mic-level and AoIP streams.
Balanced Analog Input	Maximum signal level: +21 dBu (8.7 Vrms) Impedance: >10k Ohms f 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
Mic Input	Maximum gain: 60 dB Impedance: >10k Ohms f 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
Balanced Analog Output	Maximum signal level: +21 dBu (8.7 Vrms) Impedance: 200 Ohms f 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
Speaker Output	f 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

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.

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)
IN1-IN4	(4) 3-pin 3.5 mm detachable terminal block; Balanced/unbalanced line or mic-level audio inputs; Maximum Input Level: 8.7 Vrms, +21 dBu; Input Impedance: 10k Ω 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/unbalanced line-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

NOTE: Output is direct-coupled, not transformer isolated.

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**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 when Hi-Z mode is enabled (70V or 100V)

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

AoIP (1) White LED;
Indicates an active AoIP stream

FAULT (4) Red LEDs (one per speaker output);
Indicates that the input channel has a fault or is clipping

SIGNAL (4) White LEDs (one per speaker output);
Indicates an active input signal

LOCKOUT (1) Red LED;
Indicates that rear panel slide switches are being overridden by programmatic or web UI control

Lo-Z 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.
- **SUM:** The input signals sent to a channel pair (1 + 2 or 3 + 4) are summed and sent to their respective individual outputs.
- **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.

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) Red LED and push button;
Utilized in some restore procedures

Power

Main Power 1.2-0.6A @ 100-240VAC, 50/60 Hz

Power Consumption 75 W (All channels driven at 1/8th power, 8 ohms)

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)

Width 9.38 in. (238 mm)

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.

Note:

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

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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.

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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