

MADE IN THE USA Hand-built with Pride in Webster, NY



PROGRAMMABLE OUTPUT POWER AMPLIFIERS

NX SERIES

Ashly's new line of nX Power Amplifiers feature lightweight, energy efficient Class D switching amplifier technology combined with a switch mode power supply. The nX amplifiers are available in three product families designed to meet the most demanding live sound and fixed installation sound systems in stadiums, arenas, performance venues, worship spaces and convention centers.

- **nX Series** is the base level amplifier, available in either 2 or 4-channel models. Use rear panel DIP switches to program each channel output for either High-Z (70V or 100V Constant Voltage) or Low-Z (stable down to 2 Ohms) operation. When in Sleep Mode, the nX amplifiers draw less than 1 Watt.
- **nXe Series** is the networkable version of the nX amplifier with the addition of Ethernet control, serial data control, aux preamp outputs, instant standby mode, preset recall, fault condition logic outputs, and optional network audio and digital audio capability. All controlled using Ashly Audio's Protea™ Software Suite.
- **nXp Series** amplifiers add 32-bit SHARC DSP processing (with 48kHz & 96kHz sampling) as standard equipment for comprehensive audio processing, with built-in signal generator for test tone, and noise-masking. Plus precision load impedance monitoring on each amplifier channel output.

nX Series: (Standard Features)

- 2 and 4-channel high-output, lightweight amplifiers with programmable output on each channel (Hi-Z or Lo-Z, selected via rear panel DIP switches)
- Power-saving, *Energy Management System*† (Ashly EMS) automatic <1W sleep-mode (defeatable)
- Front panel power switch and level controls (can be disabled for security)
- Front panel LEDs for temperature, current, signal, clip, mute, bridge mode, protect, sleep, and disable (of front panel controls)
- Neutrik® Combo XLR – 1/4" TRS jack plus Euroblock input connectors
- Neutrik® speakON® twist locking loudspeaker connectors for security, safety, and reliability
- Rear panel DIP switches per channel for selection of high pass filter, limiter, input gain, and High-Z or Low-Z speaker output configuration

- Remote DC level control on each input channel
- Neutrik® powerCON® detachable AC mains connector
- Switch mode power supply automatically detects 120V or 240V AC operation
- Extensive protection circuitry, continuously variable cooling fans
- Multiple independent internal power supplies provide increased channel separation and reliability

nXe Series: (Includes nX Features)

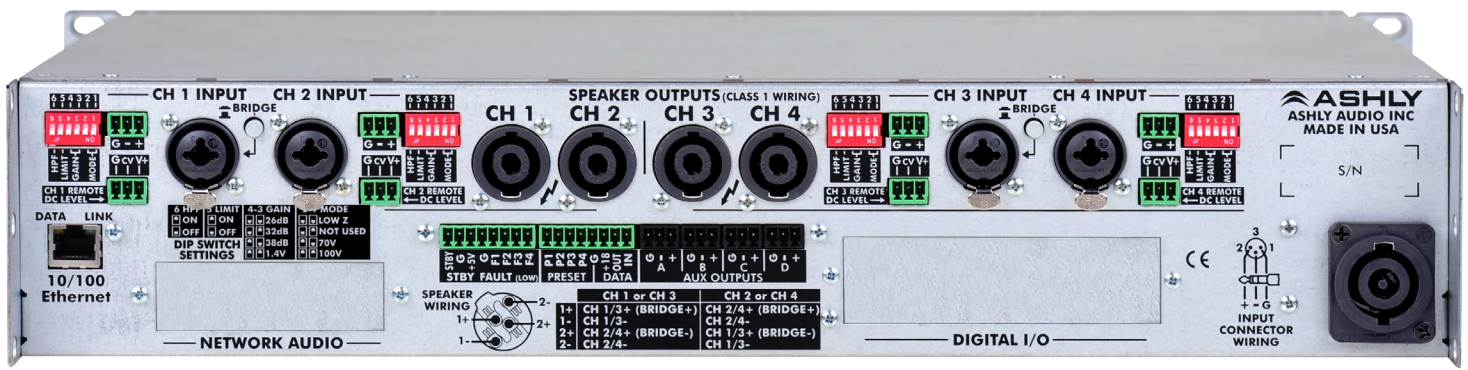
- Ethernet port for use with control and monitoring of amplifier functions, with front panel COM activity LED
- Serial data port for use with Ashly remote control devices, or optional RS-232 converter for third party controllers (INA-1)
- Use Protea™ Software to remotely disable all front panel controls, including the on/off switch, for a tamper-proof installation
- Real Time Clock with Event Scheduler
- Instant Standby Mode, 30% reduction in power consumption with on/off triggered by contact closure, software control, or event scheduler
- Programmable power-on delay
- Preset recall via contact closure, software control, remote control, or event scheduler
- Aux preamp outputs, and fault condition logic outputs
- Optional Cobranet® or Dante®** network audio and AES3 digital audio input with pass-through

nXp Series: (Includes nX & nXe Features)

- Dynamics, gain, equalization, 2x4 or 4x4 matrix mixer, crossover, delay, metering, and signal generator functions for test and noise masking applications
- Precision swept load impedance monitoring of each amplifier channel for quick and easy diagnosis of sound system problems remotely via Ethernet

nX Models	nX3.04	nX3.02	nX1.54	nX1.52
<i>Max Output Power Per Channel, EIAJ Test Standard, 1kHz, 20Hz-20kHz, 1%THD, Low Z Output, All Channels Driven</i>				
2 Ohms	3,000W	3,000W	1,500W	1,500W
4 Ohms	2,000W	2,000W	1,500W	1,500W
8 Ohms	1,250W	1,250W	1,250W	1,250W
<i>Low Z output, Bridge Mode, 20Hz-20kHz, 1%THD, All Channels Driven</i>				
4 Ohms	6,000W	6,000W	3,000W	3,000W
<i>70V, 100V Output, All Channels Driven</i>				
70V (per channel)	2,450W	2,450W	1,500W	1,500W
100V (per channel)	1,250W	1,250W	1,250W	1,250W
<i>Total Power Draw All Channels Driven</i>				
Sleep Mode	< 1W	< 1W	< 1W	< 1W
Standby Mode	70W	40W	70W	40W
Idle (no signal)	100W	55W	100W	55W
<i>Current Draw 120VAC Mains (divide in half for 240V)</i>				
Sleep Mode	0.1A	0.1A	0.1A	0.1A
Standby Mode	1.30A	0.70A	1.30A	0.70A
Idle (no signal)	1.85A	1.00A	1.85A	1.00A
<i>Maximum Current Draw All Channels Driven, Divide by 2 for 240VAC</i>				
Typical	29.5A	14.7A	16.0A	8.0A
<i>Thermal Dissipation BTU/hr, All Channels Driven</i>				
Sleep mode	< 3.4	< 3.4	< 3.4	< 3.4
Standby mode	238	136	238	136
Idle (no signal)	340	187	340	187
Typical (1/8 max pwr)	2,720	1,360	1,700	850

Front Panel LED Indicators	
<i>White LED</i>	
POWER	Switch: On, Off, Standby (flashing)
<i>Red LED</i>	
CLIP/MUTE	Per Channel: Clip @ 1dB below full output / Mute
PROTECT	On, Off
<i>Green LED</i>	
SIGNAL	Per Channel: -18dBu
BRIDGE	Per Channel Pair: On, Off
COM	On, for Ethernet data or Device ID
CURRENT	Per Channel: Proportional to output
<i>Yellow LED</i>	
TEMP	Per Channel: On dim at 90% max operating temperature, full bright + protect at 100%
SLEEP	On, amplifier is asleep from audio inactivity
DISABLE	On, power switch & front panel attenuators are disabled



General Specifications *Notes: 0dBu = 0.775 VRMS*

Voltage Gain	Selectable at 26dB, 32dB, 38dB, or 1.4V
Damping Factor	>250 (8 Ohms load <1kHz)
Input High Pass Filter	80Hz 2nd order
Distortion (SMPTE, typical)	<0.5%
Distortion (THD-N, typical)	<0.5% (8 Ohms, 10dB below rated power, 20Hz-20kHz)
Channel Separation	-75dB (dB from full output, 1kHz)
Signal to Noise (20Hz-20kHz, unweighted)	>114dB (all 3.0x models) >111dB (all 1.5x models)
Frequency Response	20Hz-20kHz, +/-0.05dB
Balanced Input Connector	Euroblock 3.5mm, 1/4" TRS and XLR Combo jack
Input Impedance	10K Ohms
Maximum Input Level	+21dBu
Speaker Output Connector	Neutrik® speakON®
† Control Network	Compatible w/ standard 100MB Ethernet
† AUX Output Connector	Balanced Euroblock 3.5mm
† AUX Output Maximum Level	+21dBu
† Remote Standby Contact Closure	Euroblock 3.5mm, close contact to GND for standby mode
† Preset Recall Contact Closure	Euroblock 3.5mm, close contact to GND for preset 1-4 recall
Data Connection	Euroblock 3.5mm - Gnd, +18V, In, Out
Remote DC Level Control	Euroblock 3.5mm - Gnd, CV, V+ per input
Attenuators (per channel)	Front panel, software, offset link group, and remote. Fully off = Mute
Amplifier Protection	Inrush current limitation, temperature monitoring, output over-power protection, mains fuses
Cooling	Continuously variable temperature controlled axial fan(s)
Weight	< 28lbs (12.7kg)
Dimensions	19W x 3.5H x 16.84D in (483 x 89 x 428mm)
Environmental (noncondensing)	32-113 deg. F, (0-45 deg. C)

Power Requirements (@ 50/60Hz)

Nominal (Automatic Sensing SMPS)	120VAC	240VAC
Operating Range	70-135VAC	140-270VAC
Minimum power-up	85VAC	170VAC
Power Cable Connector	20A powerCON® (32A powerCON® 3.04 model only)	

Protēa™ DSP Specifications

All DSP functions can be linked to 1 of 16 link groups

Input Source Selection

Input Source Select Options	Analog, Auto (Net, AES3, Analog)
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Brick Wall Limiter

Threshold	-20dBu to +20dBu
Ratio	Infinite
Attack	0.2ms/dB to 50 ms/dB
Release	5ms/dB to 1000ms/dB

Compressor

Threshold	-20dBu to +20dBu
Ratio	1.2:1 to infinite
Attack	0.2 to 50ms
Release	5ms/dB to 1000ms/dB
Detector	Peak/Average
Attenuation Bus	2 available
Metering	In, Out, Attenuation, Graphical

Autoleveler Controls

Target Level	-40dBu to +20dBu
Action	Gentle, normal, aggressive, user defined
Maximum Gain	0dB to +22dB
Metering	Input, Gain, Attenuation
Ratio	1.2:1 to 10:1
Threshold Below Target	-30dB to 0dB
Gain Increase/Decrease Rate	5ms/dB to 1000ms/dB
Hold Time	0-6 sec

Ambient Noise Compensation: Output Only

Max Gain	-20dB to +20dB
Min/Base Gain	-40dB to +20dB
Gain Change Rate	0.2s/dB to 20s/dB
Link Group	16 available
ANC Input Channel	1-2 or 1-4
Noise Threshold	-40dBu to +20dBu
Program/Ambient Gain Ratio	0.3:1 to 3:1
Metering	Input level, Attenuation, Average noise

Ducking: High/Low Priority, Trigger, Filibuster, Ducked Program

Trigger Threshold	-80dBu to +20 dBu
Ducking Release	5ms/dB to 1000ms/dB
Ducking Depth	0dB to -30dB, -∞
Enable Ducking at Matrix Mixer	Yes
Metering	Input

Gate

Threshold	-80dBu to +20dBu
Range	off, 100dB to 0dB
Attack	0.2ms/dB to 50 ms/dB
Release	5ms/dB to 1000ms/dB
Metering	Key Signal, Gate LED, Graphical

Advanced Gate Controls

Key Engage Enable	Yes
Key Frequency	20Hz to 20kHz
Key Bandwidth	0.016 to 3.995 Octave

Gain

Gain (with/without VCA)	-50dB to +12dB, off, polarity invert
Digital VCA Groups	4 available
Remote RD8C Gain	Enable per channel, 0dB to -∞
WR-5 (neWR-5) Remote Gain	0 to -50dB, Mute

EQ: 31-Band

Filter Type	Constant Q or proportional
Bandwidth	0.499oct to 0.25oct

EQ: Parametric 2,4,6, or 10 Band

Frequency	20-20kHz
Level	-30dB to +15dB
Q Value	0.016 to 3.995 Octave

EQ: Hi/Low Shelf 6/12 dB/oct

Frequency	20Hz-20kHz
Level	-15dB to +15dB

EQ: All Pass

Frequency	20Hz-20kHz
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EQ: Variable Q HP/LP

Frequency	20Hz-20kHz
Q Value	3.047 to 0.267

EQ: Notch/Bandpass

Frequency	20Hz-20kHz
Q Value	92.436 to 0.267

Feedback Suppressor: Only available with 48kHz sampling rate

Filters	12
In/Out per filter	Yes
Lock per filter and global lock	Yes
Filter Modes	Float, Restricted, Manual
Filter Type	Notch, Parametric
Filter Frequency Range	20Hz to 20kHz
Notch Filter	-∞
Parametric Filter	+15dB to -30dB
Filter Bandwidth	0.016 to 3.995 Octave
Detector Sensitivity	5 levels
Float Time	5 minutes to 24 hours

Crossover: 2 Way, 3 Way, 4 Way Crossover & High Pass/Low Pass Filters

Bessel & Butterworth Filters	12/18/24/48 dB/oct
Linkwitz-Riley Filter	12/24/48 dB/oct
Frequency	Off, 20Hz-20kHz
Delay: @ 48kHz Sampling Rate	(Input Time, Distance & Temperature)
Speaker Delay	0-21ms
Delay	0-682ms
Delay: @ 96kHz Sampling Rate	(Input Time, Distance & Temperature)
Speaker Delay	0-10.6ms
Delay	0-341ms

Audio Metering Tool

Range	-60dBu to +20dBu
Increments	1dB
Peak Hold Indicator	Yes

Signal Generator Tool: Pink noise, White noise, Sine wave

Signal Level	Off, -50dBu to +20dBu
Sine Wave Frequency	20Hz-12kHz

Matrix Mixer

Gain (0.5dB increments)	Off, -50 to +12dB
Mute	Per channel
Auto-mixer Enabled	Per channel
Global Auto-mixer Response	0.01sec to 2sec
Enable Ducking at Mixer	Yes
Ducking LED	Per channel if enabled
Metering	Level, auto-mixer level

Processors

Input A/D, Output D/A	24 bit
DSP Processors	32-bit floating point
Sample Rates	48kHz, 96kHz
Propagation Delay @ 48kHz:	1.42ms
Propagation Delay @ 96kHz:	0.71ms

Ashly Audio is a division of Jam Industries, Ltd.



*Dante in development. † Available on nXe and nXp models only.

‡ <1W sleep mode can be defeated for applications that are subject to third-party performance standards that prohibit a sleep mode, including those used for Mass Notification and Emergency Communication Systems and those subject to ANSI/UL 2572.

When making a true comparison of energy efficiency, one must look at the Thermal Dissipation (BTU/hr) numbers for a product. All other efficiency, i.e. "percentage" numbers are not standards based, and therefore may be marketing hype. Ashly Audio builds highly efficient Class-D amplification with SMPS that will equal or surpass the competition on BTU/hr thermal output (unused energy given off as heat). Please check our published BTU/hr specifications for more information.

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