### NXP Multi-Mode Amplifiers

Power Amplifiers w/ Selectable Outputs & Protea DSP

**NX Multi-Mode Power Amplifiers** are designed to meet the most demanding live sound and fixed installation sound systems in stadiums, arenas, performance venues, worship spaces and convention centers.

Available in three amplifier series, NX offers 2 or 4-channel models as NX (base model series), NXE (networkable), or NXP (networkable + DSP).

All NXP Models Include:

- **Class-D Switching Amplifier Technology.** NXP features a universal switch-mode power supply with Power Factor Correction (PFC) that operates from 70VAC to 270VAC.

- **Multi-Mode Operation.** Selectable Outputs allow you to choose the desired output mode on each channel. Set the DIP-switch configuration for Low Impedance (2, 4, and 8 Ohm), or 25V, 70V, or 100V Constant Voltage Output mode.

- **Energy Efficiency.** NXP has power-saving Ashly EMS™ (Energy Management System) which provides an automatic sleep-mode (factory-installed).

### Ethernet Control using Protea™ NE software.
Also, serial data control by Ashly programmable remotes or third party controllers, aux preamp outputs, instant standby mode, preset recall, fault condition logic outputs, optional Dante™, CobraNet™, or AES3 digital audio capability (factory-installed).

### Real-Time Clock with Event Scheduler.
Assign automatic execution of selected functions and tasks. The event scheduler is programmed from software and stored in the amplifier.

### Ashly Remote Control via iPad® app.
Use our free Ashly Remote app available for custom design of secure wireless control over network.

### 32-bit SHARC DSP Processing at 48kHz or 96kHz Sample Rates.
Comprehensive software control of digital signal processing, matrix and auto-mixing, built-in signal generator for test tone and noise-masking, swept output load impedance monitoring. Use Ashly Remote iPad control to select DSP functions including gain, mute, matrix, A/B source select, PEQ filter level, and meters.

### FIR Filter-Ready.
Our PneS software will load a speaker manufacturer’s .fir or .csv file to achieve precision tuning.

### Specifications:

- **Thermal Dissipation:** BTU/hr, Typical Input, for all Channels
- **Sleep Mode:** < 1
- **Standby Mode:** 25
- **Idle (no signal):** 53
- **% Max Power @ 2 Ohms:** 230
- **Total AC Mains Power Draw:** Measured in Watts, Typical Input, all channels driven, 120VAC
- **Sleep Mode:** 94mA
- **Standby Mode:** 0.27
- **Idle (no input signal):** 0.50
- **% Max Power @ 2 Ohms:** 2.2
- **Total AC Mains Power Draw:** Measured in Watts, All Channels Driven at Rated Load

### Energy Efficiency:
NX has power-saving Ashly EMS™ (Energy Management System) which provides an automatic sleep-mode drawing less than 1 Watt (deletable).

Note: 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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### Table of Specifications:

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<thead>
<tr>
<th>Channels</th>
<th>nXp 1504</th>
<th>nXp 1502</th>
<th>nXp 754</th>
<th>nXp 752</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Ohms</td>
<td>150</td>
<td>150</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>4 Ohms</td>
<td>150</td>
<td>150</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>8 Ohms</td>
<td>150</td>
<td>150</td>
<td>75</td>
<td>75</td>
</tr>
</tbody>
</table>

### NXP Series

- **nXp Series**
  - **nXp 1504**
  - **nXp 1502**
  - **nXp 754**
  - **nXp 752**

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<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.
NXP Additional Features:

- Selectable 80Hz 2nd-order Hi-pass filter, limiter, and input gain per channel
- Remote DC level control per channel
- Extensive protection circuitry, continuously variable cooling fan
- Ethernet port for software control and monitoring of amplifier functions, with front panel COM activity LED
- Serial data port available for Ashly WR-5 and RD-8C programmable remote control (optional RS-232 converter INA-1 available for third party controllers)
- Instant Standby Mode, 40% reduction in idle power consumption, triggered by contact closure, software control, or event scheduler
- Preset recall via contact closure, software control, remote control, or event scheduler
- Programmable power-on delay
- Aux preamp line outputs for driving other amplifiers
- Fault condition logic outputs per channel
- Comprehensive software controlled DSP including dynamics, gain, equalization, matrix mixer, crossover, delay, and metering.
- Additional iPad control of select DSP functions including gain, matrix, A/B source select, PEQ filter level, and meters
- Precision swept load impedance monitoring of individual amplifier channels for remote diagnosis of speaker problems
- Signal generator function for test and noise masking
- Remote gain and zone control with neWR-5 and FR-8/Fr-16 programmable networked remotes
- Euroblock input connectors
- Euroblock loudspeaker connectors
- Detachable AC mains line-cord connector
- Safety/Compliance: cTUVus (pending), CE, FCC, RoHS

Specifications:

- Voltage Gain: Selectable at 25dB, 32dB, 38dB, or 1.4V
- Damping Factor: >250 (8 Ohm load <1kHz)
- Input High Pass Filter: 80Hz 2nd order
- Distortion (SMPLTE, typical): <0.5%
- Distortion (THD-N, typical): <0.3% (8 Ohms, 10dB below rated power, 20Hz-20kHz)
- Channel Separation: >75dB (dB from full output, 1kHz)
- Signal-to-Noise (unweighted): >99dB (all 150x models), >96dB (all 75x models)
- Frequency Response: 20Hz-20kHz, +/-0.05dB
- Balanced Input Connector: Euroblock 3.5mm
- Input Impedance: 10k Ohms
- Maximum Input Level: +21dBu
- Speaker Output Connector: Euroblock 7.62mm
- Control Network: RJ-45 connector, 100MB Ethernet
- AUX Output Connector: Balanced Euroblock 3.5mm
- AUX Output Maximum Level: +21dBu
- Remote Standby Contact Closure: Euroblock 3.5mm, close contact pin to ground (G) for standby mode
- Preset Recall Contact Closure: Euroblock 3.5mm, close contact to ground (G) for preset 1-4 recall
- Data Connection: Euroblock 3.5mm – Gnd, +18V, Data Out, Data In
- Fault Condition Logic Outputs: Euroblock 3.5mm – fault indicated by loss of 1Hz "heartbeat" pulse signal
- Remote DC Level Control: Euroblock 3.5mm – Gnd, CV, V+ per input
- Attenuators (per channel): Rear panel, software, offset link group, remote control. Fully off = Mute
- Amplifier Protection: Shorted output power limiting, over-temperature, DC-output, power-supply fault, mains-fuses & inrush-current limiting
- Cooling: Continuously variable temperature controlled fan
- Environmental: 32°F-120°F, (0°C-49°C) non-condensing

Power Requirements (50 – 60Hz):

- Nominal Voltage Input: 100 – 240VAC
- Operating Range: 70 – 270VAC
- Minimum power-up: 70VAC
- Power Supply Type: SMPS with active PFC (Power Factor Correction)
- AC Mains Line Cord Connector: Detachable Nema 5-15 for USA (May vary for export)

Weights and Dimensions:

- Unit Dimensions: 19”W x 1.75”H x 14.54”D (483mm x 45mm x 369mm)
- Shipping Dimensions: 25.2”W x 2.5”H x 19.5”D (641mm x 64mm x 495mm)
- Unit Weight: 150/7S5 13.1lbs (5.9kg), 150/7S2 12.1lbs (5.5kg)
- Shipping Weight: 150/7S5 16.0lbs (7.3kg), 150/7S2 15.0lbs (6.8kg)
Protea™ DSP Specifications for nXp Amplifiers

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

Input Source Selection

Input Source Select Options

Brick Wall Limiter

Threshold

Range

Attack

Release

Compressor

Threshold

Ratio

Attack

Release

Detector

Attenuation Bus

Metering

In, Out, Attenuation, superimpose on graph

Autoleveler Controls

Target Level

Action

Maximum Gain

Metering

Ratio

Threshold Below Target

Gain Increase/Decrease Rate

Hold Time

Ambient Noise Compensation: Output Only

Max Gain

Min/Max Gain

Gain Change Rate

Link Group

ANC Input Channel

Noise Threshold

Program/Ambient Gain Ratio

Metering

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

Trigger Threshold

Ducking Release

Ducking Depth

Enable Ducking at Matrix Mixer

Metering

Gate

Threshold

Range

Attack

Release

Metering

Advanced Gate Controls

Key Engage Enable

Key Frequency

Key Bandwidth

Gain

Gain (with/without VCA)

Remote DRC Gain

WR-5 (n=W-5) Remote Gain

EQ: FIR Filter (Output only, 48kHz only, 2–384 Taps)

File Type

EQ: 31-Band

Filter Type

Bandwidth

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

Frequency

Level

EQ: Notch/Bandpass

Frequency

Level

EQ: High/Low Shelf 6/12 dB/Oct

Frequency

Level

EQ: Variable Q HP/LP

Frequency

Q Value

EQ: Notch/Bandpass

Frequency

Q Value

Feedback Suppressor: inputs Only, 4kHz only

Filters

In/Out (per filter)

Lock (per filter) and Global Lock

Filter Modes

Filter Type

Filter Frequency Range

Notch Filter

Parametric Filter

Filter Bandwidth

Detector Sensitivity

Float Time

Crossover: 2-Way, 3-Way, 4-Way

Linkwitz-Riley Filter

Frequency

Delay: @ 48kHz Sampling Rate

Speaker Delay

Delay: @ 96kHz Sampling Rate

Speaker Delay

Audio Metering Tool

Range

Increments

Peak Hold Indicator

Signal Generator Tool: Pink Noise, White Noise, Sine Wave

Signal Level

Sine Wave Frequency

Matrix Mixer

Gain (0.5dB increments)

Mute

Auto-Mixer Enabled

Global Auto-Mixer Response

Enable Ducking at Mixer

Ducking LED

Metering

Level, Auto-mixer Level

Processors

Input A/D, Output D/A

DSP Processors

Sample Rates

Propagation Delay @ 96kHz

Propagation Delay @ 48kHz

The power amplifier shall be an Ashly nXp1504. The unit shall be a 4 channel multi-mode amplifier capable of driving 2 Ohm loads at full power. The maximum rated output power shall be 75W per channel at Low Z, 75W per channel in 25V mode, 75W per channel in 70V mode, and 75W per channel in 100V mode. There shall be an automatic but defeatable sleep mode consuming <1W, and instant standby mode controlled by contact closure or software. A switch mode power supply with active power factor correction (PFC) shall auto-detect 100 – 240VAC mains and operate from 70 – 270VAC. Each channel shall have selectable output mode of Low Z, 25V, 70V, or 100V, an 80Hz high-pass filter, input limiter, and input gain settings of 26dB, 32dB, 38dB, or 1.4V. Each channel shall have remote DC level control. Input connectors shall be 3.5mm Euroblock, while output connectors shall be 7.62mm Euroblock. The unit shall have a front panel power switch and rear level controls that can be disabled. LEDs shall indicate Protect, Sleep, Disabled, and Bridge mode status, as well as Temperature, Output Current, Output Signal, and Clipping/Mute status per channel. The unit shall have Ethernet control with a real-time clock for event scheduling. The unit shall have serial data remote control, aux preamp outputs, preset control, and fault condition logic output per channel. The unit shall have optional factory installed network audio or AES3 digital audio capability. The unit shall have 32-bit DSP processing at 48kHz or 96kHz sampling rate. DSP functions shall include swept load impedance, gain, dynamics including autoleveler and ambient noise compensation, equalization including graphic, parametric, feedback suppressor, and FIR filters, a matrix mixer including automixing, crossover, delay, and a signal generator. The amplifier shall have temperature dependent variable speed forced-air cooling. The unit shall weigh <13.1 lbs (5.9kg), measure 19”W x 1.75”H x 14.54”D (483mm x 45mm x 369mm), and mount in a standard 19” rack. There shall be a five year warranty for units purchased in the US. No other unit shall be acceptable unless all specifications represented herein are met or exceeded and submitted in writing by an independent testing agent.

The power amplifier shall be an Ashly nXp1502. The unit shall be a 2 channel multi-mode amplifier capable of driving 2 Ohm loads at full power. The maximum rated output power shall be 150W per channel at Low Z, 150W per channel in 25V mode, 150W per channel in 70V mode, and 150W per channel in 100V mode. There shall be an automatic but defeatable sleep mode consuming <1W, and instant standby mode controlled by contact closure or software. A switch mode power supply with active power factor correction (PFC) shall auto-detect 100 – 240VAC mains and operate from 70 – 270VAC. Each channel shall have selectable output mode of Low Z, 25V, 70V, or 100V, an 80Hz high-pass filter, input limiter, and input gain settings of 26dB, 32dB, 38dB, or 1.4V. Each channel shall have remote DC level control. Input connectors shall be 3.5mm Euroblock, while output connectors shall be 7.62mm Euroblock. The unit shall have a front panel power switch and rear level controls that can be disabled. LEDs shall indicate Protect, Sleep, Disabled, and Bridge mode status, as well as Temperature, Output Current, Output Signal, and Clipping/Mute status per channel. The unit shall have Ethernet control with a real-time clock for event scheduling. The unit shall have serial data remote control, aux preamp outputs, preset control, and fault condition logic output per channel. The unit shall have optional factory installed network audio or AES3 digital audio capability. The unit shall have 32-bit DSP processing at 48kHz or 96kHz sampling rate. DSP functions shall include swept load impedance, gain, dynamics including autoleveler and ambient noise compensation, equalization including graphic, parametric, feedback suppressor, and FIR filters, a matrix mixer including automixing, crossover, delay, and a signal generator. The amplifier shall have temperature dependent variable speed forced-air cooling. The unit shall weigh <12.1 lbs (5.5kg), measure 19”W x 1.75”H x 14.54”D (483mm x 45mm x 369mm), and mount in a standard 19” rack. There shall be a five year warranty for units purchased in the US. No other unit shall be acceptable unless all specifications represented herein are met or exceeded and submitted in writing by an independent testing agent.

The power amplifier shall be an Ashly nXp754. The unit shall be a 4 channel multi-mode amplifier capable of driving 2 Ohm loads at full power. The maximum rated output power shall be 75W per channel at Low Z, 75W per channel in 25V mode, 75W per channel in 70V mode, and 75W per channel in 100V mode. There shall be an automatic but defeatable sleep mode consuming <1W, and instant standby mode controlled by contact closure or software. A switch mode power supply with active power factor correction (PFC) shall auto-detect 100 – 240VAC mains and operate from 70 – 270VAC. Each channel shall have selectable output mode of Low Z, 25V, 70V, or 100V, an 80Hz high-pass filter, input limiter, and input gain settings of 26dB, 32dB, 38dB, or 1.4V. Each channel shall have remote DC level control. Input connectors shall be 3.5mm Euroblock, while output connectors shall be 7.62mm Euroblock. The unit shall have a front panel power switch and rear level controls that can be disabled. LEDs shall indicate Protect, Sleep, Disabled, and Bridge mode status, as well as Temperature, Output Current, Output Signal, and Clipping/Mute status per channel. The unit shall have Ethernet control with a real-time clock for event scheduling. The unit shall have serial data remote control, aux preamp outputs, preset control, and fault condition logic output per channel. The unit shall have optional factory installed network audio or AES3 digital audio capability. The unit shall have 32-bit DSP processing at 48kHz or 96kHz sampling rate. DSP functions shall include swept load impedance, gain, dynamics including autoleveler and ambient noise compensation, equalization including graphic, parametric, feedback suppressor, and FIR filters, a matrix mixer including automixing, crossover, delay, and a signal generator. The amplifier shall have temperature dependent variable speed forced-air cooling. The unit shall weigh <13.1 lbs (5.9kg), measure 19”W x 1.75”H x 14.54”D (483mm x 45mm x 369mm), and mount in a standard 19” rack. There shall be a five year warranty for units purchased in the US. No other unit shall be acceptable unless all specifications represented herein are met or exceeded and submitted in writing by an independent testing agent.

The power amplifier shall be an Ashly nXp752. The unit shall be a 2 channel multi-mode amplifier capable of driving 2 Ohm loads at full power. The maximum rated output power shall be 75W per channel at Low Z, 75W per channel in 25V mode, 75W per channel in 70V mode, and 75W per channel in 100V mode. There shall be an automatic but defeatable sleep mode consuming <1W, and instant standby mode controlled by contact closure or software. A switch mode power supply with active power factor correction (PFC) shall auto-detect 100 – 240VAC mains and operate from 70 – 270VAC. Each channel shall have selectable output mode of Low Z, 25V, 70V, or 100V, an 80Hz high-pass filter, input limiter, and input gain settings of 26dB, 32dB, 38dB, or 1.4V. Each channel shall have remote DC level control. Input connectors shall be 3.5mm Euroblock, while output connectors shall be 7.62mm Euroblock. The unit shall have a front panel power switch and rear level controls that can be disabled. LEDs shall indicate Protect, Sleep, Disabled, and Bridge mode status, as well as Temperature, Output Current, Output Signal, and Clipping/Mute status per channel. The unit shall have Ethernet control with a real-time clock for event scheduling. The unit shall have serial data remote control, aux preamp outputs, preset control, and fault condition logic output per channel. The unit shall have optional factory installed network audio or AES3 digital audio capability. The unit shall have 32-bit DSP processing at 48kHz or 96kHz sampling rate. DSP functions shall include swept load impedance, gain, dynamics including autoleveler and ambient noise compensation, equalization including graphic, parametric, feedback suppressor, and FIR filters, a matrix mixer including automixing, crossover, delay, and a signal generator. The amplifier shall have temperature dependent variable speed forced-air cooling. The unit shall weigh <12.1 lbs (5.5kg), measure 19”W x 1.75”H x 14.54”D (483mm x 45mm x 369mm), and mount in a standard 19” rack. There shall be a five year warranty for units purchased in the US. No other unit shall be acceptable unless all specifications represented herein are met or exceeded and submitted in writing by an independent testing agent.

The power amplifier shall be an Ashly nXp752.