



NXP1504
NXP1502
NXP754
NXP752



Dante™ SPOKEN HERE

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 and you're set to go.

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

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.

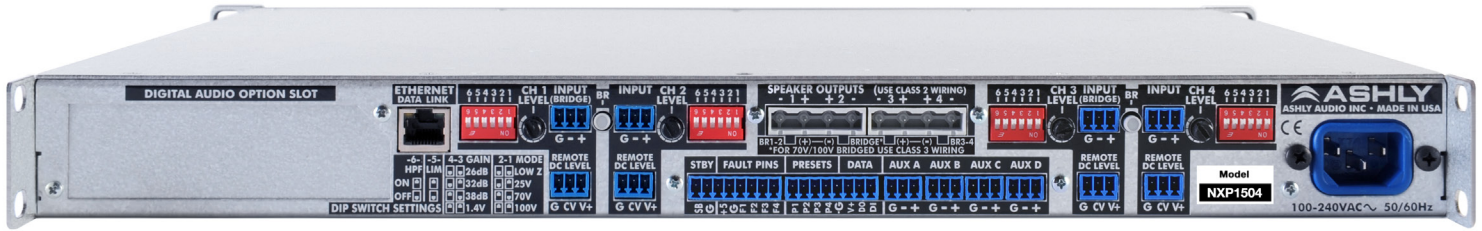
FIR Filter-Ready. Our PnE software will load a speaker manufacturer's .fir or .csv file to achieve precision tuning.

nXp Series	150 Watt Models		75 Watt Models	
	nXp 1504	nXp 1502	nXp 754	nXp 752
Channels	4	2	4	2
<i>*Max Output Power: Measured in Watts Per Channel, Low Impedance Output Mode, All Channels Driven at Rated Load</i>				
2 Ohms	150	150	75	75
4 Ohms	150	150	75	75
8 Ohms	150	150	75	75
<i>*Low Impedance Output Mode, Bridged Output: Measured in Watts, All Channels Driven at Rated Load</i>				
4 Ohms	300	300	150	150
8 Ohms	300	300	150	150
<i>*25V, 70V, 100V Constant Voltage Output Mode: Measured in Watts, All Channels Driven at Rated Load</i>				
25V (per channel)	150	150	75	75
70V (per channel)	150	150	75	75
100V (per channel)	150	150	75	75
<i>Total AC Mains Power Draw: Measured in Watts, Typical input, all channels driven, 120VAC</i>				
Sleep Mode	< 1	< 1	< 1	< 1
Standby Mode	25	15	25	15
Idle (no signal)	53	33	53	33
½ Max Power @ 2 Ohms	230	133	142	82
<i>Current Draw: Measured in Amps, Typical Input, Total for all Channels, 120VAC, Divide by 2 for 240VAC</i>				
Sleep Mode	94mA	94mA	94mA	94mA
Standby Mode	0.27	0.2	0.27	0.2
Idle (no input signal)	0.50	0.35	0.50	0.35
½ Max Power @ 2 Ohms	2.2	1.16	1.24	0.76
<i>Thermal Dissipation: BTU/hr, Typical Input, Total for all Channels</i>				
Sleep mode	2.14	2.14	2.14	2.14
Standby mode	86.4	51	86.4	51
Idle (no input signal)	180	112	180	112
½ Max Power @ 2 Ohms	505	325	355	215

* Measurements based on CEA-2006/490A, 20ms 1kHz 1% THD+N, 480ms 1kHz -20dB.

† <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.

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.



Rear Panel Configuration (4-Channel nXp Shown)

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	Notes: 0dBu = 0.775 VRMS
Voltage Gain	Selectable at 26dB, 32dB, 38dB, or 1.4V
Damping Factor	>250 (8 Ohm 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 (unweighted) 20Hz-20kHz, Gain@26dB	>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	1504/754 13.1lbs (5.9kg), 1502/752 12.1lbs (5.5kg)
Shipping Weight	1504/754 16.0lbs (7.3kg), 1502/752 15.0lbs (6.8kg)

Front Panel LED Indicators	
POWER (white)	Switch: On, Off, Standby (flashing)
PROTECT (red)	On (fault condition or shut down), Off
SLEEP (blue)	On, amplifier is asleep from audio inactivity
DISABLE (yellow)	On, power switch & attenuators are disabled
COM (green)	On, for Ethernet data or Device ID
Per Channel	
CLIP/MUTE (red)	Clip @ 1dB below rated output / Mute
SIGNAL (green)	-18dB below rated output
CURRENT (green)	Brightness is proportional to output current
TEMP (yellow)	On dim at 90% max operating temperature, On full bright + protect at 100%
BRIDGE (green)	Per Channel Pair, On, Off

Remote Accessories	
WR-1	2-Channel Level Control
WR-1.5	Level and Preset Recall
WR-2	Four-Position Preset Recall Switch
WR-5	Programmable Button Controller
neWR-5	Programmable Network Button Controller
FR-8	8-Channel Network Fader Remote
FR-16	16-Channel Network Fader Remote
RD/RW-8C	Serial Data Fader Remote
Ashly Remote	Remote Control Application for Apple® iPad®, iPhone®, and iPod Touch®

Digital Input Options (Factory installed)	
Dante® Digital Interface <small>(NXE, NXP only)</small> part number: OPDante	
CobraNet® Digital Interface <small>(NXE, NXP only)</small> part number: CNM-2	
AES3 2-ch input w/ AES3 pass-thru <small>(2-ch models only)</small> part number: OPAES2	
AES3 4-ch input w/ AES3 pass-thru <small>(4-ch models only)</small> part number: OPAES4	



Protēa™

DIGITAL SIGNAL PROCESSING FOR NXP AMPLIFIERS

Protea is compatible with Microsoft® Windows 10, 8, 7 (Vista/XP) 32 & 64 bit systems.

Audio professionals find our Protea DSP to be very intuitive and easy to navigate—and you will too. No need to attend a one-week training class away from home to learn our software. Common sense layout of controls and features, on-line help, or a visit to the Technical Support page on our website provides answers to all of your questions. Protea DSP is designed for the nXp Amplifier, Pema™, ne Series Amplifiers and Processors, the ne24.24M Matrix Processor, and Protea System Processors.



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	Analog (optional Network, AES3)
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	0.2mS to 50mS
Release	5mS/dB to 1000mS/dB
Detector	Peak/Average
Attenuation Bus	2 available
Metering	In, Out, Attenuation, superimpose on graph
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 +20dBu
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 50mS/dB
Release	5mS/dB to 1000mS/dB
Metering	Key Signal, Gate LED, Graphical
Advanced Gate Controls	
Key Engage Enable	Yes
Key Frequency	20Hz-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: FIR Filter (Output only, 48kHz only, 2-384 Taps)	
File Type	.CSV, .FIR (input FBS is disabled on channel using output FIR)
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	92.436 to 0.267
EQ: Hi/Low Shelf 6/12 dB/Oct	
Frequency	20Hz-20kHz
Level	-15dB to +15dB
EQ: All Pass	
Frequency	20Hz-20kHz
EQ: Variable Q, HP/LP	
Frequency	20Hz-20kHz
Q Value	3.047-0.267
EQ: Notch/Bandpass	
Frequency	20Hz-20kHz
Q Value	92.436 to 0.267
Feedback Suppressor: Inputs Only, 48kHz only	
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-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



NXP SERIES

ARCHITECT & ENGINEERING SPECS

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 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 <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 **nXp1504**.

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 **nXp1502**.

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 **nXp754**.

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**.