ASHLY

ne800
ne800.10
ne800.70
ne800.25

ne1600
ne1600.10
ne1600.70

ne2400
ne2400.10

Network Enabled
Two Channel Power Amplifiers

Operating Manual

Important Safety Instructions
Consignes de sécurité à lire attentivement

CAUTION
Risk Of Electric Shock
Do Not Open

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons. The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance instructions in the literature accompanying the device.

Le symbole de la flèche dans un triangle équilatéral symbolisant la foudre est prévu pour sensibiliser l'utilisateur à la présence de tension de voltage non isolée à l'intérieur de l'appareil. Elle pourrait constituer un danger de risque de décharge électrique pour les utilisateurs. Le point d'exclamation dans le triangle équilatérale alerte l'utilisateur de la présence de consignes qu'il doit d'abord consulter avant d'utiliser l'appareil.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
6. Do not use this apparatus near water.
7. Clean only with dry cloth.
8. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
9. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus.
10. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
11. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
12. Only use attachments/accessories specified by the manufacturer.
13. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
14. Unplug this apparatus during lightning storms or when unused for long periods of time.
15. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

1. Lisez ces instructions.
2. Conservez ces instructions.
3. Observez les avertissements.
4. Suivez ces instructions.
5. Pour réduire le risque de feu ou la décharge électrique, ne pas exposer cet appareil pour pleuvoir ou l'humidité.
6. Ne pas utiliser l'appareil près de l'eau.
7. Le nettoyer à l'aide d'un tissus sec.
8. Ne pas bloquer les ouvertures de ventilation, installer selon les consignes du fabricant.
9. Eloigner des sources de chaleur tel: radiateurs, fourneaux ou autres appareils qui produisent de la chaleur.
10. Ne pas modifier ou amputer le système de la mise à terre. Une prise avec mise à terre comprend deux lames dont une plus large ainsi qu'une mise à terre: ne pas la couper ou la modifier. Si la prise murale n'accepte pas la fiche, consulter un électricien pour qu'il remplace la prise désuète.
11. Protéger le cordon de secteur contre tous bris ou pincement qui pourraient l'endommager, soit à la fiche murale ou à l'appareil.
12. N'employer que les accessoires recommandés par le fabricant.
13. N'utiliser qu'avec les systèmes de fixation,chariots, trépied ou autres, approuvés par le fabricant ou vendus avec l'appareil.
14. Débrancher l'appareil lors des orages électriques ou si inutilisé pendant une longue période de temps.
15. Un entretient effectué par un centre de service accrédité est exigé si l'appareil a été endommagé de quelque façon: si il a été exposé à la pluie,, l'humidité ou s'il ne fonctionne pas normalement ou qu'il a été échappé.

WARNING:
THIS APPARATUS MUST BE EARTHED

Table Of Contents

ASHLY

1. INTRODUCTION

Thank you for your purchase of this NE (network enabled) two channel power amplifier. Ashly NE power amplifiers combine lightweight, state of the art, high efficiency switching technology with integrated Ethernet control, and use optional modular expansion cards to provide comprehensive internal DSP processing, AES/EBU input, or networked digital audio input. Please read the entire manual to fully understand the features and capabilities of this product.

About Ashly

Ashly Audio was founded in 1974 by a group of recording engineers, concert sound professionals, and electronics designers. The first products were elaborate custom consoles for friends and associates, but business quickly spread to new clients and the business grew. The philosophy we established from the very beginning holds true today: to offer only the highest quality audio tools at an affordable cost to the professional user – ensuring reliability and long life. More than thirty years later, Ashly remains committed to these principles.

Ashly's exclusive Five Year, Worry Free Warranty remains one of the most liberal policies available on any commercial grade product. The warranty covers every product with the Ashly brand name, and is offered at no extra cost to you, our customer.

FCC Compliance

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference

2. This device must accept any interference received, including interference that may cause undesired operation.

2. UNPACKING

As a part of our system of quality control, every Ashly product is carefully inspected before leaving the factory to ensure flawless appearance. After unpacking, please inspect for any physical damage. Save the shipping carton and all packing materials, as they were carefully designed to minimize the possibility of transportation damage should the unit again require packing and shipping. In the event that damage has occurred, immediately notify your dealer so that a written claim to cover the damages can be initiated.

The right to any claim against a public carrier can be forfeited if the carrier is not notified promptly and if the shipping carton and packing materials are not available for inspection by the carrier. Save all packing materials until the claim has been settled.

3. THE NE TWO CHANNEL AMP SERIES

ne800 Models	ne800			ne800.10			ne800.70			ne800.25		
	RATED WATTS	RATED VOLTS	RATED LOAD Ω	RATED WATTS	RATED VOLTS	RATED LOAD Ω	RATED WATTS	RATED VOLTS	RATED LOAD Ω	RATED WATTS	RATED VOLTS	RATED LOAD Ω
Stereo Mode Both Channels Driven 20Hz - 20KHz 1% THD				400	100	25	400	70	12.3	400	25	1.6
	225	42.4	8	128*	32*	8*	261*	45.7*	8*	78	25	8
	400	40	4	64*	16*	4*	131*	22.9*	4*	156	25	4
	200*	20*	2*	32*	8*	2*	65*	11.4*	2*	313	25	2
Bridged Mode	800	80	8	800	200	50	800	140	24.5	800	50	3.1

* Values indicated by an asterisk are intended as guidelines only. Amplifier is not rated for this load impedance and may self-protect depending on load and program.

ne1600 Models	ne1600			ne1600.10			ne1600.70		
	RATED WATTS	RATED VOLTS	RATED LOAD Ω	RATED WATTS	RATED VOLTS	RATED LOAD Ω	RATED WATTS	RATED VOLTS	RATED LOAD Ω
Stereo Mode Both Channels Driven 20Hz - 20KHz 1% THD				800	100	12.5	800	70	6.1
	450	60	8	512*	64*	8*	613	70	8
	800	56.6	4	256*	32*	4*	522*	45.7*	4*
	400*	28.3*	2*	128*	16*	2*	261*	22.9*	2*
Bridged Mode	1600	113	8	1600	200	25	1600	140	12.3

ne2400 Models	ne2400			ne2400.10		
	RATED WATTS	RATED VOLTS	RATED LOAD Ω	RATED WATTS	RATED VOLTS	RATED LOAD Ω
Stereo Mode Both Channels Driven 20Hz - 20KHz 1% THD				1200	100	8.3
	700	74.8	8	1152*	96*	8*
	1200	69.3	4	576*	48*	4*
	600*	34.6*	2*	288*	24*	2*
Bridged Mode	2400	139	8	2400	200	16.7

* Values indicated by an asterisk are intended as guidelines only. Amplifier is not rated for this load impedance and may self-protect depending on load and program.

All NE two channel power amplifiers come standard with XLR and Euroblock input connectors, and SpeakON/Euroblock output connectors. All models include balanced analog inputs, bridge mono mode, an 80Hz hi-pass filter, input sensitivity switch, full Ethernet control using **Protea^{ne}** software, remote standby for power up, and DC remote level control. Also included are Analog Aux Outputs on XLR and Euroblock connectors. The Aux Outputs are buffered signals taken just before the power amplifier stage. If there is no DSP installed in the amplifier, the Aux Outputs are simply a buffered signal matching the inputs. If the amplifier has DSP, Aux Outputs can be independently configured along with the two main amplifier channels with custom DSP processing and input source, including AES3 or network audio sources if installed.

Additional Factory installed options are available for the NE two channel power amplifiers including the following:

1) Internal DSP Processing - With this option installed and using **Protea^{ne}** (network enabled) software, each amplifier input channel can be configured with pluggable DSP blocks to have its own dynamics control, gain functions, graphic and/or parametric EQ, Hi-pass/Lo-pass filters, time delay, metering, and test signal generator. A mixer section with assignable routing allows any input to drive any or all amplifier outputs. Outputs have the same DSP functions as inputs, with the addition of a fast, automated crossover setup. Both inputs and outputs can copy/paste their settings to other channels, or can link with one or more other channels to track their settings.

Presets can be used to store and retrieve global parameters of an amplifier's control surface and DSP section from a file. In addition, Sub Presets allow for a collection of individual DSP function parameters within and across both channels of an amplifier to be stored and recalled as a set, affecting only those parameters which have been tagged. Up to 35 presets/subpresets can be stored within the amplifier, and can be recalled in real time via Ethernet from a computer using **Protea^{ne}** software.

2) AES3 Input - With the OPAES1 option installed, this amplifier can accept AES3 stereo digital inputs. This protocol allows 2 channels of digital audio to be transmitted over a single cable, thus maintaining a completely digital signal path until just before the power amplification stage. 48kHz & 96kHz data rates are supported.

3) Network Digital Audio - Ashly supports CobraNet and Dante network audio options that can be ordered and factory installed when purchasing the amplifier. CobraNet® www.cobranet.info is a combination of software, hardware and network protocol which allows distribution of multiple channels of real-time, high quality digital audio over a standard Ethernet Network. Dante™, created by Audinate, is an Ethernet based digital AV network technology that uses existing 100MB or 1GB network infrastructure for delivery of high performance, high channel count audio signals.

Protection

This amplifier come standard with several protection circuits:

Over Current Protection - Is controlled in the output stage.

Thermal Protection - When the internal temperature is below 40°C the fan runs at its slowest speed. Above 40°C the speed is increased until it reaches its maximum value. If the temperature exceeds 100°C, the input on that channel is reduced. If the temperature exceeds 110°C, the power supply is switched off.

Mains Protections – protection within the power supply includes: Inrush Current Limitation during power up, Mains Over Voltage Detection, and internal Mains Fuse Protection. To protect the Mains fuse against AC overcurrent due to excessive audio output current, there is a protection scheme controlled in **Protea**^ne software and indicated on the amplifier front panel which reduces audio output level until the overcurrent condition is no longer present.

Physical Description

Each model in the NE two channel series is 2RU, and weighs 22 pounds (10kg) or less. The model number is indicated in the lower left corner of the front panel.

Amplifier Front Panel
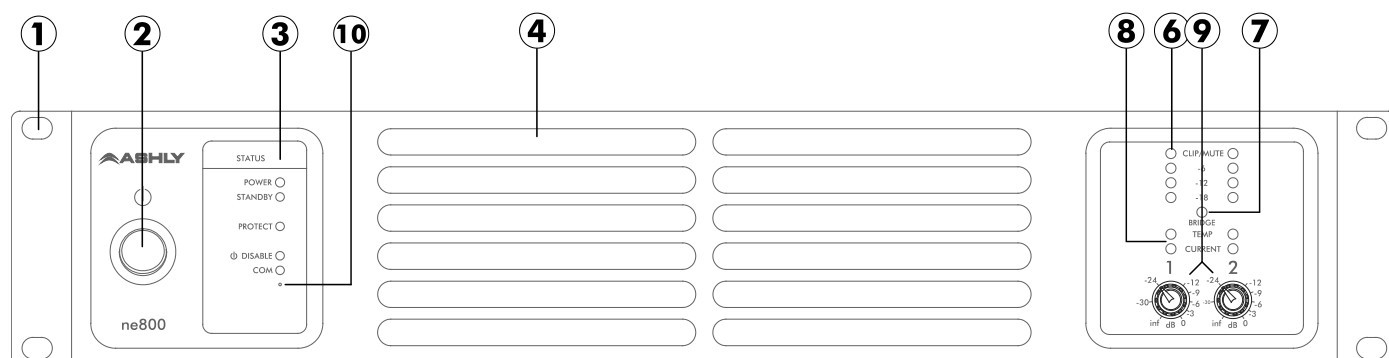
1. Mounting Holes – For rack mounting.

2. Power Switch – Switches the unit on or off. *Note: The power switch can be disabled from* **Protea**^ne *Software.*

3. Status LEDs – Indicate status of: Power, Standby, Protect, Power Switch Disable, and Com (Ethernet activity).

4. Air Inflow Vents – Cool air enters here and is blown out the sides.

6. Signal LEDs – The lowest LED will begin to light when the output voltage reaches -18dBu below rated output. The Clip LEDs will begin to flash when output voltage is 1/2 Volt below the output power supply voltage.

7. Bridge – This LED indicates that the two channels are selected to BRIDGE mode from the back panel switch, and that only channel 1 level control is active.

8. Temp and Current LEDs – The Temp LED indicates that the amplifier has reached an excessively high operating temperature. The Current LED confirms that the amplifier output is delivered to a speaker load.

9. Channel Attenuators – These control the input signal level to the amp, and can be disabled from software.

10. Factory Reset – To reset all internal configurations (including passwords) back to their original factory settings, press and hold this recessed front panel tact switch during power up until all channel LEDs are lit. Upon reset completion, the LEDs will turn off and the amp will be in normal operating mode.

Amplifier Rear Panel
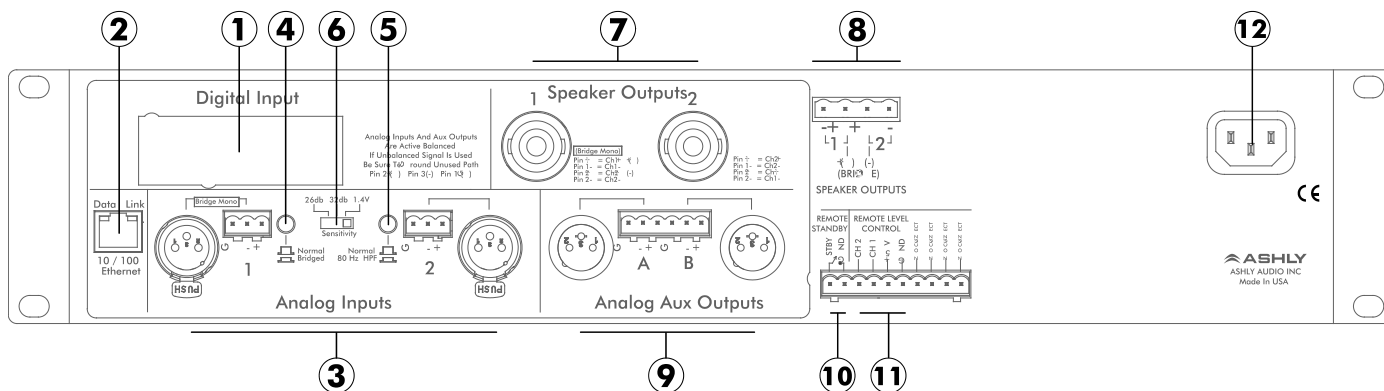
1. Optional Digital Audio Input Slot – Factory installation of an optional CobraNet CNM-2, OPDante, or AES3 module allows this amplifier to be part of a network audio or digital audio system.

2. Ethernet Port - This offers 10/100 Ethernet control and monitoring of amplifier functions using **Protea**^{ne} software.

3. Analog Inputs - XLR inputs are pin 2 (+), pin 3 (-), and pin 1 (G). Euroblock inputs are wired in parallel to the XLRs. If an unbalanced (single ended) input is used, be sure to ground the unused input pin.

4. Normal/Bridge Switch - This switches the amplifier to Bridge Mode.

5. Normal/80 Hz HPF - This switch enables a second order High-Pass filter set to 80Hz on both inputs.

6. Input Sensitivity Switch - This switch selects the input sensitivity for both channels to 26dB, 32dB, or 1.4V.

7. Speakon Speaker Connectors - Used to connect the speakers.

8. Euroblock Speaker Connectors - This connector is wired in parallel to the Speakon speaker outputs.

9. Analog Aux Outputs - Used to drive additional amplifiers.

10. Remote Standby - Connect these two contact closure pins to remotely place the amp in standby.

11. Remote Level Control - These pins can be wired to remote potentiometers such as the Ashly WR-1 for level control of individual channels.

12. AC Inlet - Used for the detachable AC cord.

WARNING: Do not remove or lift the mains connector ground.

Installation

Before connecting to mains power, make sure that switches, wiring, Ethernet, and software are properly configured to your application. Failure to do so could result in damage to the unit or other components in your system. **CAUTION:** When mounting or connecting the amplifier, always disconnect it from the mains. Use four screws and washers when mounting the amplifier to the front rack rails. Rear support is also recommended, especially for mobile or touring use.

Requirements

Ashly NE two channel amplifiers have specific physical, electrical and signal requirements for proper operation. These requirements will vary depending on your specific application, setup, and the settings on the amplifier. When setting up and testing your system, please take special care to double check all connections and settings. Please refer to the specifications section of this manual for specific input, output and other figures.

4. REMOTE AMPLIFIER CONTROL

ON/OFF/Remote Standby

The NE two channel amplifiers have three possible states, OFF, ON, and STANDBY, each with a status LED on the front panel. Control for these three states is managed by the following:

1) **Power Switch** - When the power switch is turned off the amplifier is completely off, UNLESS the power switch has been disabled from within **Protea**^{ne} software, in which case the power switch on the amplifier has no effect at all. If the power switch has been disabled from software, the front panel DISABLE LED will be lit. *Even if the AC power is removed, the amplifier's internal memory will maintain the <power switch disabled> status until changed again from* **Protea**^{ne} *software. Performing a factory reset will clear and restore all internal amplifier memory to factory settings.*

2) **Remote Standby Contact Closure** - When these two euroblock pins on the back of the amplifier (see amplifier rear panel illustration #10) are wired to a switch and *connected*, the amp will go into Standby mode, whereby the amp is active but not fully powered up. For Remote Standby to work, the power switch must be turned on OR be disabled through **Protea**^{ne} software.

3) **Protea**^{ne} **Software On/Standby** - On/Standby in software functions the same as the Remote Standby contact closure on the back panel. Clicking on STANDBY places the amp in standby mode. The On/Standby in software does not override the hardware Remote Standby, they both remain active.

4) **Protea**^{ne} **Software Power Switch Enable/Disable** - Use this software feature to disable the front panel power switch. If the power switch has been disabled from software, the front panel DISABLE LED will light on the amplifier. The power switch will remain inactive until enabled again from software, even if the amp is removed from power.
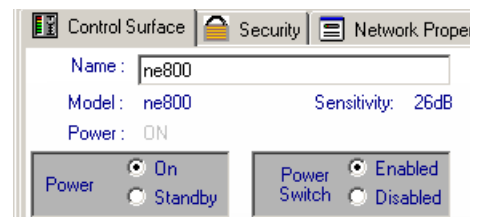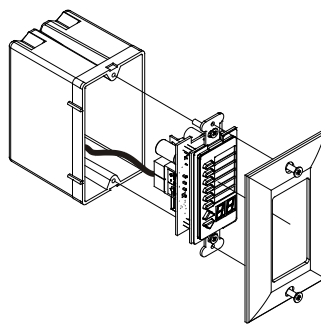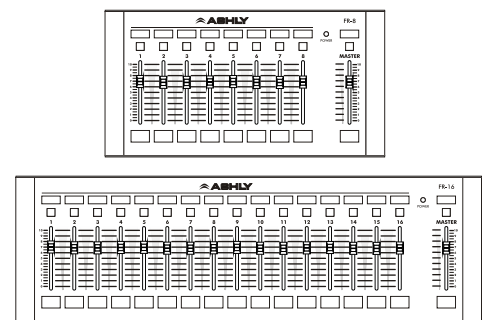

Protea^{ne} *Software Remote Power Control*

Other Ashly Remote Controls for NE Two-Channel Amplifiers:
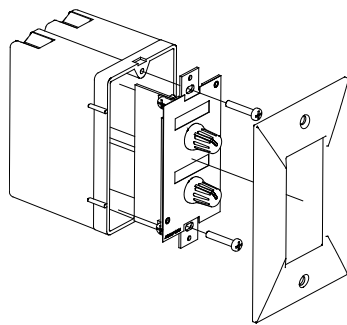
1) WR-1 DC Level Controller

2) neWR-5 Programmable Button Controller

3) FR-8 or FR-16 Programmable Fader Controller

1) WR-1 DC Level Controller - The WR-1 (WR-1E) is a dual potentiometer remote DC level controller designed to fit in a standard US (UK) electrical wall box. Each volume control can be wired to an amplifier's "Remote Level Control" connector.

2) neWR-5 Programmable Button Controller - The neWR-5 is an Ethernet based programmable button controller for networked Ashly products that have Protea DSP. The neWR-5 mounts in a standard US electrical wall box. Using Protea^{ne} software, buttons can be programmed for preset recall/scroll, mute, zone source selection, individual channel and matrix point level control.

3) FR-8/FR-16 Programmable Fader Controller - The FR-8 and FR-16 are Ethernet based programmable fader controllers for networked Ashly products that have Protea DSP. Using Protea^{ne} software, faders and LED buttons can be programmed for individual or group channel level control, matrix point level control, signal level display, mute, and A/B source selection. The FR remotes can be wall mounted in an electrical box, panel mounted, or freestanding, and have a back panel contact closure for a user lockout switch.

5. PROTEA^{ne} SOFTWARE

Protea^{ne} software offers a comprehensive suite of tools for controlling Ashly NE amplifiers as well as other Ashly products.

Standard amplifiers without DSP have Ethernet control and monitoring of amplifier functions including level, mute, polarity, password protected security functions, and network property management. Device options also include Flash Reprogramming, Link Group Configuration, and Power On Delay. Factory installed digital audio options such as CobraNet, Dante, or AES3 are auto-detected, and appropriate software user interfaces are displayed.

Amplifiers with DSP offer the same controls as standard amplifiers with the addition of DSP functions including Speaker Load Analysis, Dynamics controls, Matrix Mixing, Gain and Remote Gain functions, Graphic and Parametric EQ, Crossover functions, Delay, Metering, and a Signal Generator, and can be custom configured on a per channel basis, as well as through linked channels. *Complete details of DSP features can be found in the Protea^{ne} software online help.*

Device Options Menu

Flash Reprogram - This amplifier can be flash reprogrammed by downloading a firmware file from the Ashly website, then running Flash Reprogram. The amplifier's current firmware version number can be seen by clicking on the Network Properties tab of the amplifier's software interface. When the amplifier is put into flash reprogram mode, all audio functions are suspended and the amp is placed in Standby until flash reprogram is completed. If there is a problem with the amplifier after flash reprogramming, restart Protea^{ne} software or perform an amplifier factory reset (see page 5). NOTE: A factory reset will erase all passwords and presets stored on the amplifier, be sure to first save all presets to a computer.

Link Group Configuration - Linking allows for multiple signal processing function blocks to track each other. For example - if two graphic equalizer blocks are "linked", any change made to a control within either of the equalizers will result in an identical change to the other. Blocks may be linked within one Ashly device, or across multiple networked devices. Linking of multiple devices is managed through LINK GROUPS.

Each NE two channel amplifier will support up to 16 Link Groups. DSP function blocks may be assigned to these groups though Protea^{ne} Software. Once assigned to a group, all matching functions within the group will track parameter changes, however more than one function type may be assigned to a group. Each Link Group may be assigned a name by the user, and also be assigned a color for easy identification. For further details about linking, see the online help in Protea^{ne} software.

Power On Delay - Use this feature to delay the amplifier turning on after power is provided, as well as after the amplifier is turned on from software standby mode. Delay is measured in mS, with the limit at 655,350 mS, or about 11 minutes. The power amplifier should always be the last device to power up, after other system components have turned on and stabilized. The amplifier must first be on for this change to take effect. *Note: The Power On Delay feature is ignored when the amplifier is held in standby by the back panel Remote Standby contact closure.*

Preset Options - The Preset Options tab in the main amplifier window allows amplifier setups to be saved to and recalled from the amplifier as well as a computer. Presets are a snapshot of all current settings on a given amplifier.

Sub Presets - Sub Presets are user defined groups of DSP functions within one channel or across multiple   channels. Sub Presets allow the end user to instantly recall a pre-determined set of DSP parameters to quickly address changing environmental conditions, without the risk of making undesirable or irrecoverable system changes.

The Amplifier Control Surface *(see image next page)*

This is the main user interface for the NE two channel amplifier. Key features of this window include:

1) Channel/Offset Link Group Faders - The level control provides up to 40dB of analog input attenuation. More than 40dB of cumulative attenuation causes the channel to mute. If a channel has been assigned to an offset link group, a colored triangular marker appears on the left side of the fader graticule for secondary level control of all channels in that group. The main level control faders can not be linked to a group.

2) Mute button - This mutes the input channel.

3) Polarity button - This inverts the phase of the input channel.

4) Offset link group - Up to 16 groups are available for the purpose of linking similar function parameters across multiple channels. In addition to the control surface secondary level control (not the main fader), most DSP functions have a link group check box in their work window to assign a specific parameter to one of the 16 link groups. Link groups can be renamed by clicking on any group name and entering the new name then pressing <enter> on the keyboard.

5) Attenuators - These two dials indicate the physical position of hardware controls on either the amp front panel or on a remote level control. Note that these will display the current position of attenuators even when disabled in software.

6) Total Attenuation - This indicates the total amount of attenuation being applied to the channel. This is the sum of the following attenu-ators: main fader, offset link group attenuation, front panel and remote attenuators.

7) Meters - Input and Output meters display the real time activity per channel, in dB below rated output. Also, the amplifier's operating temperature and output current are shown. Output current shows that the amplifier channel is actu-ally delivering output to a connected speaker load.
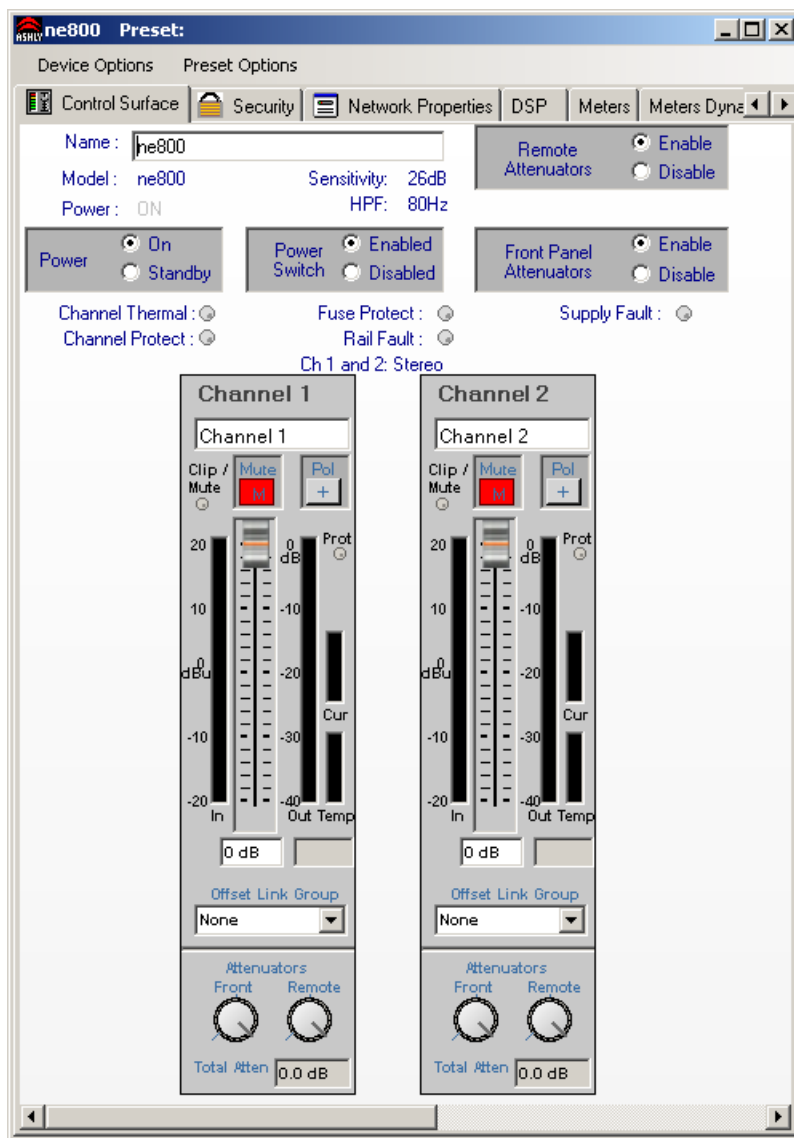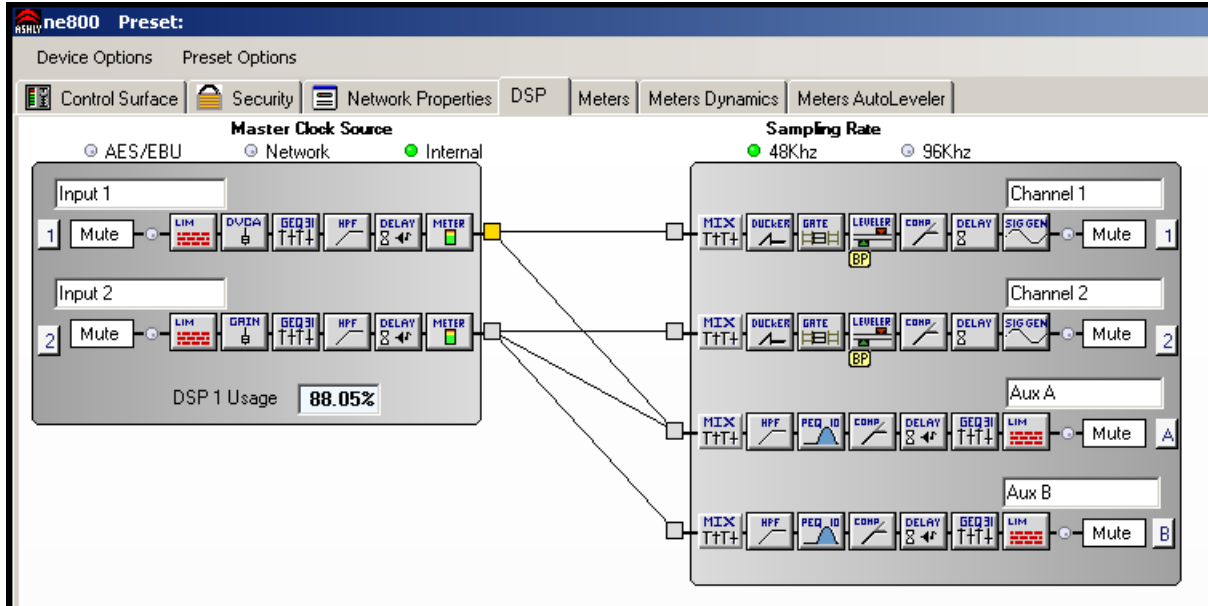

Protea^ne Two-Channel Amplifier Control Surface

The DSP Control Tab *(Image on next page)*

Extensive online help information is available for all DSP blocks. Look in the Protea^ne Software Help Menu/Contents and Index/Contents/Protea NE Products/NE Amplifiers/DSP Control for details of all DSP functions. The key features include:

1) Input Channel Number - Right click on this to bring up Clear, Copy, Link, and Sub Preset functions for that input channel.

2) Input Channel Name - The user can name each input channel.

3) Input Mute Button - Mutes the input.

4) Pluggable Input DSP Tools - Six boxes are available for custom configuration of pluggable DSP processing blocks. Available DSP blocks include Dynamics controls, Gain and Remote Gain functions, Graphic and Parametric EQ, Crossover functions, Delay, Metering, and a Signal Generator.

5) Input/Output Matrix Router - Any input can be routed to any or all outputs. Click and drag from the input to output to assign routing. To delete a route, right click on the routing line and delete.

6) Output Mixer - For a given amplifier output channel, all inputs that have been routed in the matrix router are mixed together here.

(DSP control tab continued)

Protea^ne Two Channel Amplifier DSP Control Surface (DSP option must be installed)

7) Pluggable Output DSP Tools - Output DSP tools are the same as those available to the inputs.

8) Output Mute Button - Mutes the output.

9) Output Channel Name - The user can name each output channel.

10) Output Channel Number - Right click on this to bring up Clear, Copy, Link, and Sub Preset functions for that output channel.

6. SPECIFICATIONS

GENERAL POWER AMPLIFIER SPECIFICATIONS

Power Output Per Channel

Stereo Mode, Both Channels Driven	**ne 800**	**ne 1600**	**ne 2400**
8Ω , 20Hz-20kHz 1%THD	225W	450W	700W
4Ω , 20Hz-20kHz 1%THD	400W	800W	1200W

Bridge Mode

	ne 800	**ne 1600**	**ne 2400**
8Ω , 20Hz-20kHz 1%THD	800W	1600W	2400W
25V (ne 800 only), 70V, and 100V models	400W	800W	1200W
20Hz-20kHz 1%THD, per channel			

Line Current Draw (both channels driven 4Ω /Ch, 120VAC Mains)

	ne 800	**ne 1600**	**ne 2400**
Line Current, Standby mode	200mA	165mA	200mA
Line Current, Idle (no signal)	475mA	500mA	475mA
Line Current, Typical (1/8 power pink noise)	2.81A	4.95A	6.75A
Line Current, Maximum (1/3 power sine wave)	4.93A	8.80A	12.6A

Thermal Dissipation (BTU/hr, both channels driven 4Ω /Ch)

	ne 800	**ne 1600**	**ne 2400**
BTU/hr, Standby mode,	40	40	40
BTU/hr, Idle (no signal)	109	109	109
BTU/hr, Typ (1/8 power pink noise)	287	447	682
BTU/hr, Max (1/3 power sine wave)	297	466	717

	ne 800	**ne 1600**	**ne 2400**
Signal to Noise (20Hz-20KHz, unweighted)	>107dB	>110dB	>112dB

Distortion (SMPTE, typical) - 8 ohm load, 10dB below rated power: . . . .<0.5%
Distortion (THD-N, typical) - 8 ohm load, 10dB below rated power, 20Hz-20kHz: . . . .<0.5%
Frequency Response . . . . .20Hz-20kHz, +/-1dB
Damping Factor (8 ohm load, <1kHz) . . . .>250

ASHLY

Input Impedance. . . . .*20K Ohm, balanced*
Input Sensitivity Switch *26dB, 32dB, 1.4V*
Maximum Input Level . . . .*+21dBu*

Cooling. . . . . *temperature dependent speed-controlled fan*
                                        Black Chassis - in through front and out through sides
                                        Silver Chassis - in through sides and out through front
Control Network. . . . . *onboard, compatible with standard 100MB Ethernet hardware*
Front Panel Indicators. . . *per channel: Clip/Mute, -6dB, -12dB, -18dB, Temp, Current, Bridge*
                                        overall: Power, Standby, Protect, Power Switch Disable, Com
                                        Control Surface and Amp LEDs: Level meters are dB below RATED output
Attenuators: . . . . *per channel: front panel, software, offset link group, and remote*
Input Connections . . . . . . *XLR Female /Euroblock*
Analog Aux Outputs . . . . *XLR Male / Euroblock*
Output Connections . . . . . *Speakon / Euroblock*
Remote Standby . . . . *Euroblock*
Remote Level Control. . . . *Euroblock*
Compatible Ashly Remotes . . *WR-1, neWR-5 (with DSP), FR-8 and FR-16 (with DSP)*
Factory Options . . . . *DSP processing (pe), AES3 digital audio (OPAES1), CobraNet or Dante network audio (CNM-2 or OPDante)*

Amplifier Protection. . . . . *inrush current limitation, temperature monitoring, output over-current protection, internal mains fuse*
Power Cable Connector. . *15A Edison, 3-Prong IEC*
Power Requirements . . . . *120VAC or 240VAC ±10%, 50/60Hz*
Unit Dimensions. . . . . *Black Chassis - 19"W x 3.5"H x 15.5"D (483 x 89 x 394mm)*
                                        Silver Chassis (spring 2014) - 19"W x 3.5"H x 16.84"D (483 x 89 x 428mm)
Shipping Dimensions . . . . *24.5"W x 5.25"H x 22"D*
Unit/Shipping Weight . . . . *<21 lbs (9.5kg) / <27 lbs (<12.1kg)*
Environmental: . . . . *40-120 deg. F, (4-49 deg, C) noncondensing*

DSP SPECIFICATIONS *(If DSP is installed)*

Input: . . . . *Active Balanced, 10k Ohms*
Max Input Level: . . . . *+21 dBu*

DYNAMICS
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*

Autoleveler
Target Level: . . . . *-40dBu to +20dBu*
Action: . . . . *gentle, normal, aggressive,*
                                        user defined
Maximum Gain: . . . . *0dB to +22dB*
Ratio: . . . . *1.2:1 to 10:1*
Threshold Below Target: . *-30dB to 0dB*
(Autoleveler continued)

Gain Increase Rate: . . . . . *5ms/dB to 1000ms/dB*
Gain Decrease Rate: . . . . *5ms/dB to 1000ms/dB*
Hold Time: . . . . *0-6 sec*

Ducker
Ducking Type: *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*

Gate
Threshold: . . . . *-80dBu to +20dBu*
Range: . . . . *off, 100dB to 0dB*
Attack: . . . . *0.2ms/dB to 50 ms/dB*
Release: . . . . *5ms/dB to 1000ms/dB*

GAIN
Gain: . . . . *off, -50dB to +12dB*
Gain w/VCA: . . . . *off, -50dB to +12dB*
WR-5 Remote Gain: . . . . . *off, -50dB to +12dB*

EQUALIZATION
31 Band Graphic
Filter Type: . . . . *constant Q or proportional Q*
Bandwidth: . . . . *0.499oct to 0.25oct*

(DSP SPECIFICATIONS, continued)

10, 6, 4, or 2 Band Parametric
Filter Types

Parametric:
Frequency: 20-20kHz
Level: . . . . -30dB to +15dB
Q Value: . . . . 0.016oct to 4oct

Hi/Low Shelf 6/12 dB
Frequency: 20Hz-20kHz
Level: . . . . -15dB to +15dB

All Pass
Frequency 20Hz-20kHz

Variable Q HP/LP
Frequency: 20Hz-20kHz
Q Value: . . . . 3.047 to 0.267

Notch/Bandpass
Frequency: 20Hz-20kHz
Q Value: . . . . 92.436 to 0.267

CROSSOVER
4 Way, 3 Way, 2 Way Crossover
High Pass/Low Pass Filters
Filter Types:
Bessel: . . . . 12/18/24/48 dB/oct
Butterworth: . . . . 12/18/24/48 dB/oct
Linkwitz: . . . . 12/24/48 dB/oct
Frequency: . . . . off, 20Hz-20KHz

DELAY
@ 48kHz Sampling Rate
Speaker Delay: 0-21ms
Long Delay: . . . . 0-682 ms

(Delay) @ 96kHz Sampling Rate
Speaker Delay: 0-10.6ms
Long Delay: . . . . 0-341 ms

TOOLS
Audio Meter
Range: . . . . -60dBu to +20dBu
Increments: 1dB
Peak Hold Indicator: . . . . yes

Signal Generator: . . . . . . pink or white noise, sine wave
Sine Wave Frequency: . . . 20Hz-12kHz
Signal Level: . . . . off, -50dBu to +20dBu

CROSS POINT MIXER
Gain: . . . . Off., -50 to +12dB,
0.5dB increments with Mute

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

DSP PROCESSORS
Input A/D: . . . . 24 bit (Burr Brown PCM4204)
Output D/A: . . . . 24 bit (Burr Brown PCM4104)
DSP Processors: . . . . 32-bit floating point
(Sharc ADSP-21262)
Sample Rates: 48kHz, 96kHz
Propagation Delay @ 48kHz: . . . . 1.42 ms
Propagation Delay @ 96kHz: . . . . 0.71 ms

AES/EBU DIGITAL AUDIO INPUT (If installed)
Type: . . . . 110 ohm transformer balanced XLR
Sample Rates: 48kHz, 96kHz
Max Cable Length: . . . . . 100 meters

Ashly Audio Inc. Limited Warranty (USA ONLY)

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