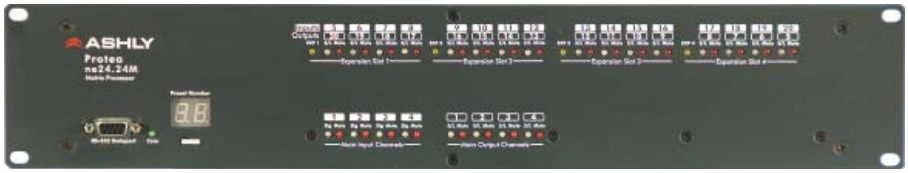
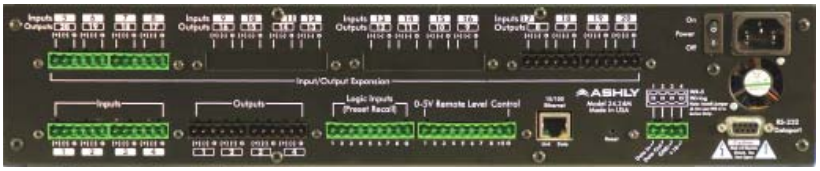
# NE Series

Protea ne24.24M Matrix Processor






Connecting and controlling an audio processor for networked systems has now been simplified with Ashly's NE-Series Protea ne24.24M digital signal processor. This Network Enabled (NE) processor offers ease of use, setup and control using standard 10/100 Ethernet protocol and Protea NE Software. No special outboard control units are needed.

The ne24.24M Matrix Processor uses modular expansion cards to provide up to twenty-four channels of audio matrixing and processing. The base unit offers a four-input/four-output configuration. Each input and output expansion card has an individual DSP processor allowing you to expand the base unit's total inputs or outputs four channels at a time. These cards are easily installed in the field without the need to reprogram the device.

Matrixing allows you to route any input to any output and control individual levels once they have been assigned. Fixed path architecture and extensive processing power per channel will reduce the amount of time it takes to set up your system. All programming is accomplished using Ashly's Protea NE Software on a PC platform. No front panel controls and multi-level software security assures you a tamperproof audio system. Input channel processing blocks include Mic Preamp with Phantom Power, Gain, Delay, fifteen EQ Filters, Gate, Autoleveler and Ducker. Inputs may be configured as either mic or line level. Output channel processing blocks consist of a Cross Point Mixer, HPF/LPF, Delay, fifteen EQ Filters, Gain and Limiter. The cross point mixer in the output section allows you to route any input to any output at any level and mute any input at any output without affecting the true input configuration. The HPF/LPF block offers Bessel, Butterworth and Linkwitz-Riley filters with 12, 18, 24 and 48dB/octave slopes.

Whether you are designing or installing a system for corporate boardrooms, restaurants, courtrooms, houses of worship, left/center/right theatres, auditoriums or conference centers, the Protea ne24.24M will more than satisfy your requirements for any zoned system requiring input/output matrixing with signal processing.

## Features:

- 10/100 Ethernet and RS-232 computer interface Is standard
- Extensive DSP Available
- Easy and intuitive user interface
- Mic/Line inputs
- 24-bit A/D–D/A audio resolution
- 24-bit/150 MHz DSPs
- Up to 24 channels of audio processing
- 4x4 base unit configuration
- Expand inputs or outputs 4 channels per module
- Modules easily field installable
- Euroblock connectors for audio, preset recall, DC remote level control and data in/out
- 31 preset locations
- Four dedicated remote controls for Level, Preset Recall and Program mable Functions
- Third Party Control Friendly
- Input and output metering viewable in dBu
- Multi-level Security
- Five year worry-free warranty
- Safety/Compliance: (FCC, CE, RoHS)

Rear panel:

- 10/100 Ethernet port
- RS-232 Port
- Euroblock inputs
- Euroblock outputs
- Remote level control
- Preset Recall
- Data in and out ports

Accessories

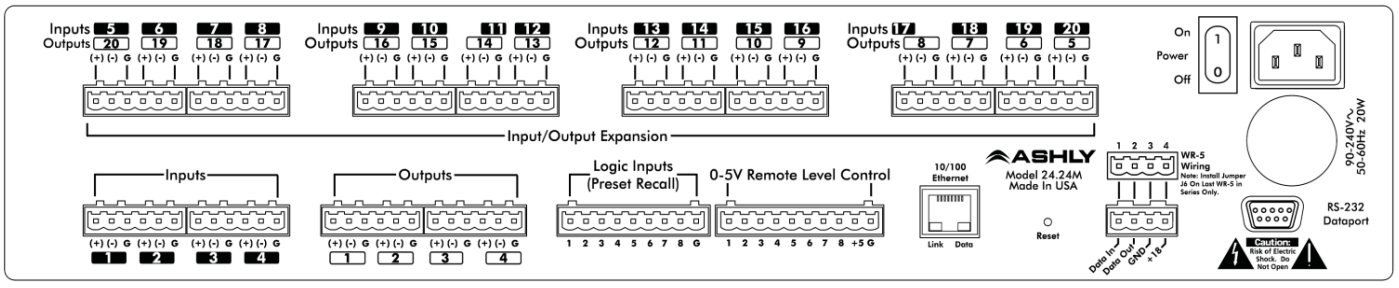
Four Channel Input Module
Four Channel Output Module
GPO Logic Output Option Module
Eight Channel GPO Logic Module
WR-1 2-ch Level Control
WR-2 Four Position Switch
WR-5 Programmable Wall Remote
RD/RW8 8-ch Level Control
ne-WR-5 Programmable Network Remote
ne-RD-8/16 Network Fader Remotes

ASHLY

**NE Series** specifications

## Protea ne24.24M Matrix Processor

| | | | |
|---|---|---|---|
| Input | Active Balanced, 18 kohms | Crossover High Pass Filter Type | Linkwitz-Riley, Bessel, Butterworth |
| Max Input Level | +20dBu | Crossover High Pass Filter Slope | 12, 18, 24 and 48dB/Octave |
| Input Gain Range | -50dB to +12dB, selectable polarity | Crossover High Pass Filter Range | Off to 20KHz, 1Hz incr |
| Output | Active Servo Balanced, 112 ohms | Crossover Low Pass Filter Type | Linkwitz-Riley, Bessel, Butterworth |
| Max Output Level | +20dBu | Crossover Low Pass Filter Slope | 12, 18, 24 and 48dB/Octave |
| Output Gain Range | -50dB to +12dB, selectable polarity | Crossover Low Pass Filter Range | Linkwitz-Riley, Bessel, Butterworth |
| Frequency Response | 20 Hz-20kHz, ±0.25 dB | Maximum Input Delay | 682.5ms, 20uS incr |
| THD | <0.01% @1 kHz, +20 dBu | Maximum Output Delay | 682.5ms, 20uS incr |
| Dynamic Range | >110 dB (20 Hz-20 kHz) unweighted | Gate Threshold | -80 to +20dBu, 1dBu incr |
| Output Noise | <-90 dBu unweighted | Gate Floor | Off, -80 to 0dBu, 1dBu incr |
| Power Requirements | 90 - 240VAC, 40W | Gate Attack | .2, .5, 1, 2, 5, 10, 20, 50ms/dB |
| Shipping Weight | 13lbs (Maximum) | Gate Release | 5, 10, 20 50, 100, 200, 500, 1000ms/dB |
| Dimensions | 19.0"L x 3.5"H x 8.5"D | Autoleveler Target Level | -40 to +20dBu, 1dBu incr |
| Connections | Euroblock | Autoleveler Ratio | 1.2:1, 1.5:1, 2:1, 3:1, 4:1, 6:1, 10:1 |
| Environmental | 40-120 deg. F, (4-49 deg, C) noncondensing | Autoleveler Hold Time | 0, 1, 2, 3, 4, 5, 6Sec |
| Mic Preamp Gain | 0dB, +20dB, +40dB, +60dB | Autoleveler Threshold Below Target | -30 to 0dB, 1dB incr |
| Mic Preamp Phantom Power | +48VDC (9.6ma/input) | Autoleveler Gain Increase Rate | 5, 10, 20 50, 100, 200, 500, 1000ms/dB |
| Mic Preamp EIN | -128dBu, 20-20KHz, 50 ohm source | Autoleveler Gain Decrease Rate | 5, 10, 20 50, 100, 200, 500, 1000ms/dB |
| Parametric EQ Bandwidth | 1/64th Octave to 4 Octave | Ducker Trigger Threshold | -80 to +20dBu, 1dBu incr |
| Parametric EQ Range | +15/-30dB, 0.1 dB incr | Ducker Depth | -30 to 0dBu, 1dBu incr |
| Parametric EQ Resolution | 1Hz | Ducker Release: | 5, 10, 20 50, 100, 200, 500, 1000ms/dB |
| Low-Shelf EQ Slope | 6 or 12dB/Octave | Cross Point Mixer Gain | -50 to +12dB, 1dB incr with Mute |
| Low-Shelf EQ Frequency Range | 20Hz to 2KHz | Compressor/Limiter Threshold | -20dBu to +20dBu, 1dB incr |
| Low-Shelf EQ Range | +/-15dB, 0.1dB incr | Compressor/Limiter Ratio | 1.2, 1.5, 2., 3, 4, 6, 10, 20,:1 |
| High-Shelf EQ Slope | 6 or 12dB/Octave | Compressor/Limiter Atack | 0.5ms to 50ms per dB |
| High-Shelf EQ Frequency Range | 3.886KHz to 20KHz | Compressor/Limiter Release | 10ms to 1sec. per dB |
| High-Shelf EQ Range | +/-15 dB, 0.1 dB incr | Input A/D \| Output D/A | 24 bit |
| All Pass Filter Type | Second-Order (-180 degrees) | DSP | 24-bit Freescale |
| All Pass Filter Frequency Range | 20Hz to 20KHz | Sample Rate | 48kHz |
| | | Propagation Delay | 1.46ms |




Notes:
0dBu = 0.775 VRMS
All features and specifications are preliminary and subject to change before release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# NE 24.24M Signal Processor

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## Architect & Engineering Specs

**ne24.24M**
The digital signal processor base unit shall consist of four inputs and four outputs and shall use modular expansion cards to provide up to twenty-four channels of input /output audio matrixing and processing. Each expansion card shall have an individual DSP processor allowing for expansion of the base unit's total inputs or outputs four channels at a time. Expansion cards shall be factory installed or easily installed in the field without the need to reprogram. The processor shall use fixed path architecture to reduce set-up time. The processor control and programming shall be accomplished using a PC platform through a standard Ethernet connection. An RS-232 jack shall be provided for control and monitoring by a third-party controller. Multi-level security and no front panel controls shall insure tamper-resistant operation. Input channel processing blocks shall include a Mic/Line Preamp with 48V Phantom Power, Gain, Pink Noise Generator, Delay, fifteen EQ Filters, Gate, Autoleveler and Ducker. Output channel processing blocks shall include a Cross-Point Mixer, HPF/LPF, Delay, fifteen EQ Filters, Gain, and Limiter. The cross point mixer shall allow any input to be routed to any output at any level and mute any input at any output without affecting the true input configuration. Rear panel Euroblock connectors shall include eight preset recall contact closures plus eight remote potentiometer level controls. The DSP processor shall mount in a standard 19" rack using 2 spaces (3.5" high).

The digital signal processor shall be an Ashly DSP Matrix Mixer model **ne24.24M**

Visit www.ashly.com to download Protea NE software and NE Series data sheets