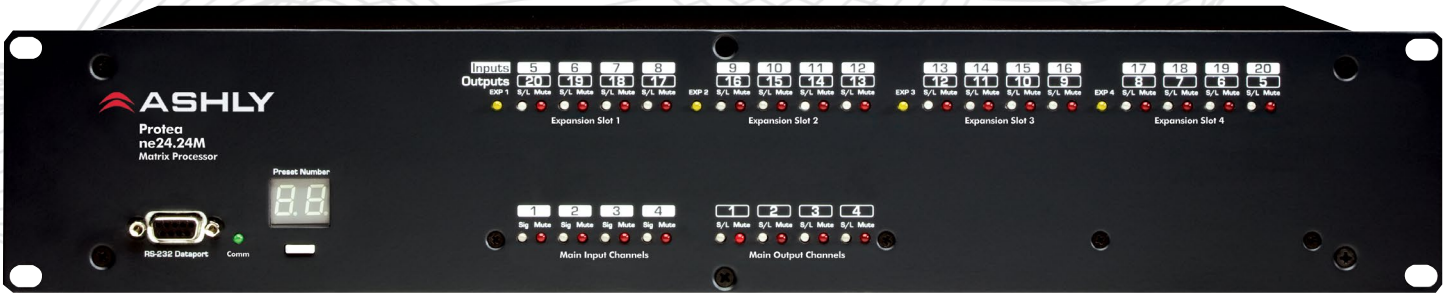
Ashly Audio, Inc. | 847 Holt Road | Webster, NY 14580-9103 USA | US toll free: +1-800-828-6308 | tel: +1-585-872-0010 | fax: +1-585-872-0739 | sales@ashly.com | www.ashly.com | Ashly is a division of Jam Industries, Ltd.

5-Year Warranty

Hand-built in Webster, NY



NE 24.24M

Network-Enabled Matrix Processing with Protea™ DSP

Whether you are designing or installing a system for corporate boardrooms, restaurants, courtrooms, houses of worship, left/center/right high output speaker systems in performance spaces, auditoriums or conference centers, our widely-popular ***Protea™ ne24.24M Matrix Processor*** will more than satisfy your requirements for any zoned system. When your install requires input/output matrixing with signal processing it doesn't get much easier than programming your channels using *Protea™ ne Software* on your PC.

The ne24.24M uses modular expansion cards to provide up to 24-channels of audio matrixing and processing. The base unit offers a 4-input/4-output configuration. Each input and output expansion card has an individual DSP processor allowing you to expand the total input or output 4 channels of DSP processing 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.

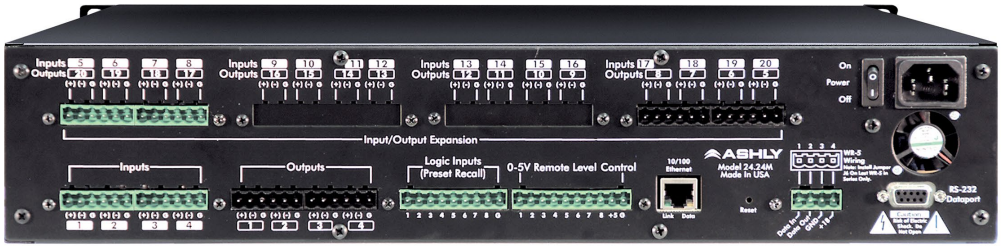
An optional GPO Logic Card allows the ne24.24M to trigger projection screens, curtains or lights. The logic card is installed in place of a 4-input or 4-output card and occupies one of the four expansion slots.

ne24.24M Features:

- 10/100 Ethernet & RS-232 computer interface standard
- Extensive DSP available
- Easy and intuitive user interface
- Mic/line inputs
- 24-bit A/D–D/A audio resolution
- 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
- Remote controls for level, preset recall and programmable functions
- Third-party control-friendly
- Input and output metering viewable in dBu
- Multi-level security
- Safety/Compliance: cTUVus, FCC, CE, RoHS

Specifications	Note: 0dBu = 0.775 VRMS
Input	Active Balanced, 18k Ohms
Input Gain Range	-50dB – +12dB, Selectable Polarity
Output	Active Servo Balanced, 112 Ohms
Input/Output Level	+20dBu (Max)
Output Gain Range	-50dB – +12dB, Selectable Polarity
Frequency Response	20Hz–20kHz, ±0.25 dB
THD	<0.01% @ 1kHz, +20 dBu
Dynamic Range	>110dB (20Hz–20kHz) Unweighted
Output Noise	<-90 dBu Unweighted
Environmental	40–120 deg. F, (4-49 deg, C) noncondensing
Rear Panel	
Controls	Remote level control, Data In/Out ports, Preset Recall, Logic Inputs, On/Off switch
Connections	10/100 Ethernet port, RS-232, Euroblock In/Out
Power Cord	3-Prong, Detachable
Weight, Dimensions & Power	
Dimensions	19"L x 3.5"H x 8.5"D (483mm x 89mm x 216mm)
Unit Weight	8.9lbs (4.04kg)
Shipping Weight	12lbs (6kg)
Power Requirements	90 – 240VAC, 50/60Hz, 40W

Accessories	
Internal Modules	
4-Channel, Input Module	
4-Channel, Output Module	
GPO Logic Output Option Module	
External Remotes	
WR-1	2-Channel Level Control
WR 1.5	Preset Recall and Level Control
WR-2	Four-Position Preset Recall Switch
WR-5	Programmable Button Controller
RD/RW8	8-Channel Fader Remote
neWR-5	Programmable Network Button Controller
FR-8	8-Channel Network Fader Remote
FR-16	16-Channel Network Fader Remote
Ashly Remote	Remote Application for Apple® iPad®



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Protēa™

Digital Signal Processing for the ne24.24m

Protea is compatible with Microsoft® Windows 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.

Protēa™ DSP Specifications	
All DSP functions can be linked to 1 of 16 link groups	
Compressor	
Threshold	-20dBu to +20dBu
Ratio	1.2:1 – ∞
Attack	0.2 to 50ms
Release	5ms/dB to 1000ms/dB
Detector	Peak/Average
Attenuation Bus	1 available
Metering	In, Out, Attenuation, Graphical
Autoleveler Controls	
Target Level	-40dBu to +20dBu
Action	Gentle, normal, aggressive, user defined
Maximum Gain	0dB to +27dB
Metering	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
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	Gate LED, Graphical

Gain	
Gain	-50dB to +12dB, off, polarity invert
Remote Level Control	8 available, 0dB to -∞
Remote RD8C Gain	Enable per channel, 0dB to -∞
WR-5 (neWR-5) Remote Gain	0 to -50dB, Mute
EQ: *Parametric 15 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
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
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
Enable Ducking at Mixer	Yes
Ducking LED	Per channel if enabled
Processors	
Input A/D, Output D/A	24-bit
DSP Processors	24-bit signal, 48-bit filters, 56-bit accumulator
Sample Rate	48kHz
Propagation Delay @ 48kHz:	1.46ms

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NE 24.24M

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**