

NP48 is the flagship of Marani's digital speaker management systems. Designed for maximum versatility, it provides all the processing and control necessary for both live and fixed installation use. It offers 4 analog inputs, 8 analog outputs and 2 digital S/PDIF inputs, managed by a powerful 48kHz 24 Bit DSP Engine, in addition to high performance 24 Bit AD/DA converters.

Each input channel provides a choice of EQ with 5-band Parametric EQ, Noise Gate function, Gain control and configurable Delay. In addition each input includes Pink/White noise internal generator which may be used for tuning

sound reinforcement systems during installations. Each output offers up to 7-band of parametric equalization, in addition to the crossover filters which themselves provide slopes from 6dB/Octave up to 48dB/Octave. Each output path also features RMS compressor, Peak Limiter and configurable delay. The **NP48** supports a full matrix mixing mode where inputs may be routed/mixed in any ratio to any output. For remote configuration and control the **NP48** can be connected via Ethernet, USB or RS485. The control remote PC software allows simultaneous control up to 32 units, setting all parameters and showing real time levels.



Features

Outstanding Performance

Excellent sonic performance with 24bit high end converters coupled with 48Khz sample rate

4 inputs, 8 outputs with full matrix mixing

Top-grade DSP Engine

5 band parametric equalization per input channel

7 band parametric equalization per output channel

Each band can be switched to Bell, Low/High Shelving, Low/High Pass, All Pass, Band Pass and Notch

Low/High Shelving, Low/High Pass, can be selected as 1st and 2nd order, variable Q response

Crossover filters with slopes from 6dB/Octave up to 48dB/Octave including Butterworth, Bessel, Linkwitz-Riley and customizable topologies

Each output features a precision dynamic range controller composed of a Peak Limiter and a RMS Compressor with selectable ratio and variable knee

Adjustable Delay Time up to 850 mS for every input and output channel

Pink/White noise internal generator per input channel for setting and tuning audio system

Direct PC/Network Connection

Front panel USB connector for direct PC communications

Ethernet interface, RS485 connections for system setup, monitoring and control via manageable remote PC software

Control

Front panel interactive LCD display for local access and configuration

Front panel 7-LED level meter indicators per channel

Front panel Memory Card reader/writer for preset storage

Simultaneous control up to 32 units via PC software

Security Lockout

Applications

- Auditoriums
- Houses of Worship
- Theaters
- Performing Art Centers
- Convention Centers
- Stadiums and Arenas
- Touring Musicians
- Stage Monitoring System



Audio

Analog Input	-----	4 x XLR electronically balanced
Analog Output	-----	8 x XLR electronically balanced
Digital Input	-----	2 SPDIF; Gain 0dBu
Minimum Load	-----	450 ohm
THD+N	-----	0.001% at 1KHz 0dBu
S/N	-----	> 110dB
Frequency Response	-----	20Hz - 20KHz; -0.5dBu at 20Hz and 20KHz
AD & DA Converters	-----	1x AK5388 24bit, 4x AK4396 24bit

DSP & Processing

DSP Engine	-----	2 x Dream SAM3716, 24bit (data) x 96 bit (coeff.)
DSP Resolution	-----	24x32 bit for filtering process; 96 bits resolution on intermediate computation results
Parametric Equalization	-----	5 filters per input selected as Bell or Shelving 7 filters per output selected as Bell or Shelving
Filter Type	-----	Bell, 1st /2nd Order Shelvings with -3dB at cutting Freq.; Symmetrical Shelving with variable Q; HiPass/LoPass with variable Q, 1st /2nd Order; All Pass (90°/180° Phase rotation at the cutting freq.), BandPass and Notch.
Filter Gain	-----	From -15dBu up to +15dBu by 0.5dBu resolution steps
Center Frequency	-----	Selectable with a 1/24th of octave resolution step from 20Hz up to 20kHz
Filter Q/BW	-----	Q from 0.3 up to 20 by 0.1 resolution steps, BW from 4.8 up to 0.009
Crossover section HPF/LPF	----	Butterworth 6/12/18/24/48dB per octave Bessel, Linkwitz-Riley and custom 12/18/24/48dB per octave Filter resolution 1/24th of octave
RMS Compressor and Peak Limiter	-----	Threshold from 20dBu up to -10dBu Attack time from 5ms up to 200ms (1ms resolution up to 20ms, 10ms resolution up to 100ms and 20ms resolution up to 200ms) Release time from 0.1 sec up to 3 sec (0.1 sec resolution) Ratio from 1:1 to 32:1 (Compressor only) Adjustable Soft or Hard Knee (Compressor only)
Delay	-----	848,998 ms 21us increment/decrement steps per output channel only

General

Device Presets	-----	8 User Presets + 8 Memory Card
Front Panel	-----	2x24 character LCD display with white/blue LED backlight 7-LED meter per input channel -20dBu to +15dBu, clip 7-LED meter per output channel -15dBu to +15dBu, clip and limit mode Red/Blue Led (Edit/Mute) per channel PM1/ENTER, PM2/ESC, PM3/UTILITY rotary encoder push buttons EDIT/MUTE push button per channel PC Card reader USB type B connector
Rear Panel	-----	4 x XLR female connector (Input) 8 x XLR male connector (Output) 2 x RCA connector (SPDIF input) 2 x RJ45 for RS485 In/Out connection 1x RJ45 for Ethernet connection (10/100 TCP-IP) IEC C13 16A connector; Power on/off switch
Main AC	-----	90-240VAC (50/60Hz) - 40W
Dimension	-----	19"x 1.75"x 9" (483x44x229mm) 1RU
Weight Net / Shipping	-----	7.71 lbs (3.5 Kg) / 8.82 lb (4 Kg)

Specifications subject to change without notice.

Designed in Italy Assembled in China