

PLM-8M8 PLENA matrix 8 Channel DSP Matrix Mixer

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Invented for life



- ▶ Complete DSP zone matrix mixer and loudspeaker processor
- ▶ 4 microphone/line, 3 music source, call station and emergency inputs
- ▶ 8 independent output zones, and “Amp Link” outputs
- ▶ Ethernet control and Windows PC GUI, and an iOS app for zone control via iPhone and iPad
- ▶ RS485 connection for call stations and wall control panels

The PLM-8M8 PLENA matrix 8 Channel DSP Matrix Mixer is designed for maximum flexibility and reliable. It is the heart and soul of the PLENA matrix system. When combined with PLM-8CS call stations, PLM-WCP wall control panels and the PLM-4Px2x amplifiers; it is suitable for almost any application that requires up to 8 zones of high fidelity speech and background music (BGM).

The audio quality is suitable for live music, background music, high demand speech environments and zone announcement applications.

Some typical application include: Shopping centres, schools, restaurants, bars, nightclubs, cafes, gyms, recreational facilities, churches, warehouses, office buildings, regional airports, train stations, bus terminals, boardrooms, meeting rooms, conference facilities, small theme parks, museums, back of house performing arts centres and sports stadia.

Functions

Controls and indicators

The indicators on the front panel are; Phantom power active, signal/clip, call station audio bus, output signal present, RS485 and Ethernet.

There are no controls on the front or the rear panels of the unit. This is to reduce the assistance from good intentioned end users who wish to assist in “improving” the sound levels.

The mains power switch is located on the rear of the unit.

Graphic User Interface (GUI)

The GUI for both PC Windows and iOS app, has a user screen; giving the end user the ability to select their own background music source and mix any microphone/line input without affecting other zones in the system. The Windows GUI also provides and intuitive installation package, packed with powerful DSP features that will make any install easier. Both the iOS app and PC GUI are able to be customized for different levels of user access.

DSP features

The DSP features are accessed via either the PC GUI software or the iPad application.

Input:

- Input gain: -16dB pad, +48V phantom power, 100Hz HPF.
- Input Dynamic Range Compressor: Threshold, ratio, attack, release and gain.

- Input parametric EQ: Bands are each selectable as either: bell, shelf, or notch filters.
- Cross over provides: HPF and LPF up to the 8th order.
- Output parametric EQ: Each of the 7 bands are selectable as either: Bell, Shelf, Notch, or as an All pass filter.
- Output delay, with 120ms per output.
- Output Dynamic Range Compressor: Threshold, ratio, attack, release, and gain per channel.
- Output level giving the ability to limit the maximum output level to the zone.
- Zone mute and global system mute.

Global Features

- Zone mixer: Allows each zone to select music sources inputs and mix 4 mic./line inputs individually, per zone. This zone mixer is available as an iPad or iPhone app.
- Administrator password protection of the advanced functions on the PC GUI. This will protect the installation set up from “enthusiastic” end users.
- Output assignment: Allows an output to mimic the inputs from another zone, particularly useful when room combining or when using and active 2-way speaker system or a sub woofer.
- Drag and drop settings on one processing block into another zone, making it simple to duplicate EQ, compression, delay etc.
- The PC GUI software and files are streamlined so that they can be easily emailed, if required.
- Priorities and Overrides: There are 4 priorities that can be assigned to any of the call stations. In addition there is an emergency input that is activated by a contact closure which will have the overall priority of the system.
- Presets: Store and recall 5 presets (or snapshots) DSP configurations. The user can quickly and easily recall these settings without the need of administrator access. Very useful for multipurpose venues.

Connections and Amp Link

Inputs

- Mic./line via 4x XLR/TRS combo 3-pin (balanced), BGM (music source) via 3x Cinch RCA style connectors.

Output

- All 8 zone outputs are via Phoenix Euro screw terminal block (balanced) these same outputs are duplicated in Amp link Zones 1-4 and 5-8 via two RJ45 connectors.

Amp Link

- Amp Link allows the simple and quick connection of 4 audio channels from a PLM-8M8 PLENA matrix 8 channel Matrix Mixer to a PLM-4Px2x amplifier via one STP CAT 5 cable. This feature makes the look of the rack neater and cuts installation time and labour cost.

Other connectors

- Ethernet data and connection to a PC is via RJ45 Ethernet port.

- iPad connection requires the addition of an off the shelf wireless router, connected to the Ethernet port.
- The mains power is via 1x ST3 IEC connector.
- Call stations and wall control panels are connected via RJ45 and use the RS485 control protocol.
- The logic override is via 1x Phoenix terminal block connector.

Certifications and approvals

Safety	According to EN 60065
EMC emission	According to EN 55103-1
EMC immunity	According to EN 55103-2

Installation/configuration notes

Accessories

The accessories such as the PLM-8CS call station and PLM-WCP wall control panel use the RS485 control protocol and can be installed in series (daisy-chain) reducing cable runs within an installation.

Parts included

Quantity	Components
1	PLM-8M8 8 Channel DSP Matrix Mixer
1	Power cord
1	Set of 19” mounting brackets
1	Safety documentation

Technical specifications

Electrical

Power supply	
Mains voltage:	
• Nominal input voltage	100 - 240 VAC $\pm$ 10%, 50/60 Hz
• Input voltage limits	90 - 264 VAC
Power consumption:	
• No devices connected	<10 W
• Max. load/max. devices connected	54 W

Performance

Frequency response (-1dB)	20 Hz to 20 kHz (+0/-3 dB)
Mic./line input	4x
Input Clip level:	
• Pad off	8.4 dBu (6.2 dBV)
• Pad on	24.2 dBu (21.9 dBV)
CMRR (1 kHz, 0 dBFS))	>46 dB

Phantom power supply	48 V
THD	<0.01 %
Dynamic range (A-weighted)	>103 dB
Connectors	4x XLR/TRS combo
BGM inputs	3x
Input clip (Pad on)	10.2 dBu (8 dBV)
THD	<0.004 %
Dynamic range (A-weighted)	>103 dB
Connectors	3x pair of Cinch RCA
Outputs	
Output level	17.7 dBu (15.5 dBV)
Logic inputs	
Connector	2-pole Phoenix terminal (metric)
CST and WCP (RS485)	
Call station connector	1x RJ45
Wall control panel connector	1x RJ45
Amplifier	2x
Connector	RJ45
Nominal level	1 V
Impedance	<100 ohm
Ethernet (10/100 Mbit/s)	1x
Connector	RJ45
Mechanical	
Dimensions (H x W x D)	45 x 440 x 358 mm 1.8 x 17.3 x 14.1 in (19" wide, 1RU high)
Mounting	Stand-alone, 19" rack
Color	Traffic black (RAL 9017) Silver (RAL 9006)
Weight	Approx. 6 kg Approx. 13.23 lb
Environmental	
Operating temperature	-10 °C to +45 °C
Storage temperature	-40 °C to +70 °C
Relative humidity	<95%

Ordering information

PLM-8M8 PLENA matrix 8 Channel DSP Matrix Mixer
8-channel DSP matrix mixer.
Order number **PLM-8M8**

Accessories

PLM-4P125 PLENA matrix 4 Channel DSP 125W Amplifier
125 W
Order number **PLM-4P125**

PLM-4P220 PLENA matrix 4 Channel DSP 220W Amplifier
220 W
Order number **PLM-4P220**

PLM-8CS PLENA matrix 8 Zone Call Station
8 zones.
Order number **PLM-8CS**

PLM-WCP PLENA matrix Wall Control Panel
8 zones.
Order number **PLM-WCP**