

PLM-8M8 PLENA matrix 8-Channel DSP Matrix Mixer

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Invented for life



- ▶ Complete DSP 8-zone matrix mixer and loudspeaker processor
- ▶ 4 microphone/line, 3 music-source, call station and emergency inputs
- ▶ 8 independent output zones, plus 'Amp Link' outputs
- ▶ Ethernet control and Windows PC GUI, plus 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 reliability. 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 DSP Amplifiers, it is suitable for almost any application that requires up to 8 zones of high-fidelity speech and live or recorded music.

Typical applications include: shopping centres, schools, restaurants, bars, nightclubs, cafes, gyms, recreational facilities, houses of worships, 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 stadiums.

Functions

Controls and Indicators

Status indicators on the front panel include: phantom power active, signal/clip, call station audio bus in use, output signal present, RS485 and Ethernet.

There are no controls on the front or the back of unit to eliminate unauthorised 'passer-by' adjustments. The mains power switch is located on the rear of the unit.

Graphic User Interface (GUI)

The PC GUI for Windows and the iOS app enable the user to select the background music source and mix any of the microphone/line inputs for any or all zones in the system. The PC GUI also provides an intuitive installation package, packed with powerful DSP features that will make any install easier. Both the PC GUI and iOS app can be customized to provide different levels of control access for each user.

DSP features

The DSP features are accessed via either the PC GUI software or the iPad and iPhone PLENA matrix iOS app.

Input:

- ▶ Input gain: -16 dB pad, +48 V phantom power, 100 Hz HPF.
- ▶ Input Dynamic Range Compressor: Threshold, ratio, attack, release and gain.
- ▶ Input parametric EQ: Bands are selectable as bell, shelf, or notch filters.
- ▶ Cross-over provides: HPF and LPF up to 8th order.
- ▶ Output parametric EQ: Each of the 7 bands are selectable as bell, shelf, notch, or all-pass filters.
- ▶ Output delay, up to 120 ms 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 selection of music sources and an individual mix 4 mic-/line inputs, per zone. The zone mixer control is available through an iPhone, iPod or iPad app.
- ▶ Access to the advanced functions of the PC GUI is protected with an administrator password login.
- ▶ Output assignment: Allows an output to mimic the inputs from another zone, particularly useful when room combining or when using an active 2-way speaker system or a subwoofer.
- ▶ Drag and drop settings from one processing block into another zone, making it simple to duplicate EQ, compression, delay and similar settings.
- ▶ The PC GUI software and files are streamlined so that they can be easily emailed, if required.
- ▶ Priorities and Overrides: Any of 4 priorities can be assigned to each 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: 5 presets (snapshots) of DSP configurations can be stored and recalled. The user can quickly and easily recall these settings without the need of administrator's access. This is 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 paired Cinch RCA-style connectors.

Output

- ▶ All 8-zone outputs are via Phoenix Euro terminal block (balanced). The 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 DSP Amplifier via one STP CAT5 cable. This feature makes the rack neater, cuts down installation time and labour cost.

Other connectors

- ▶ Ethernet data and connection to a PC are 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 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
	Power cord
	Set of 19" mounting brackets
1	Safety documentation

Technical specifications

Electrical

Power supply

Mains voltage:	
• Nominal input voltage	100 to 240 V AC, 50/60 Hz
• Input voltage limits	90 to 264 V AC
Power consumption:	
• No devices connected	<10 W
• Max. load/ max. devices connected	54 W

Performance

Frequency response (-1 dB)	20 Hz to 20 kHz (+0/-3 dB)
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Mic/line input **4x**

Input clip level:	
• Pad off	8.4 dBu
• Pad on	24.2 dBu
CMRR (1 kHz, 0 dBFS)	>46 dB Outputs
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
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Logic inputs

Connector	2-pole Phoenix terminal (Metric)
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CS 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
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Mechanical

Dimensions (H x W x D)	45 x 440 x 358 mm; 1.8 x 17.3 x 14.1" (19" wide, 1RU high)
Mounting	Stand-alone, or 19" rack
Colour	Traffic black (RAL 9017) Silver (RAL 9006)
Weight	Approx. 6 kg Approx. 13.2 lb

Environmental

Operating temperature	-10 °C to +45 °C
Storage temperature	-40 °C to +70 °C
Relative humidity	<95 %

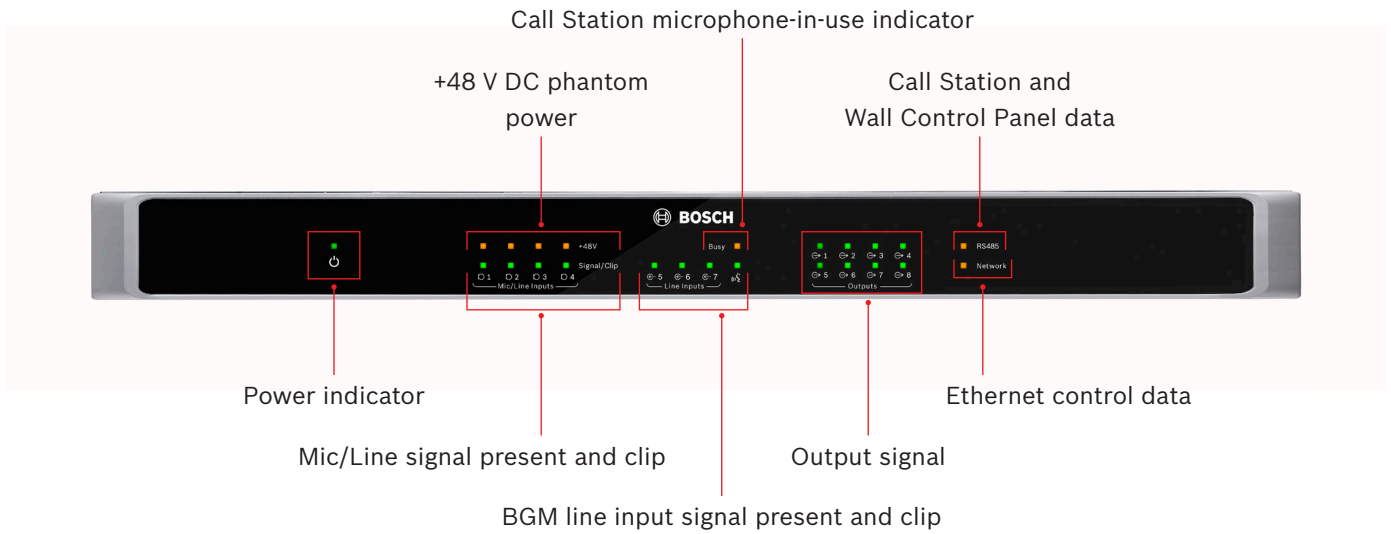
Ordering Information

PLM-8M8 PLENA matrix 8-Channel DSP Matrix Mixer	Order number PLM-8M8
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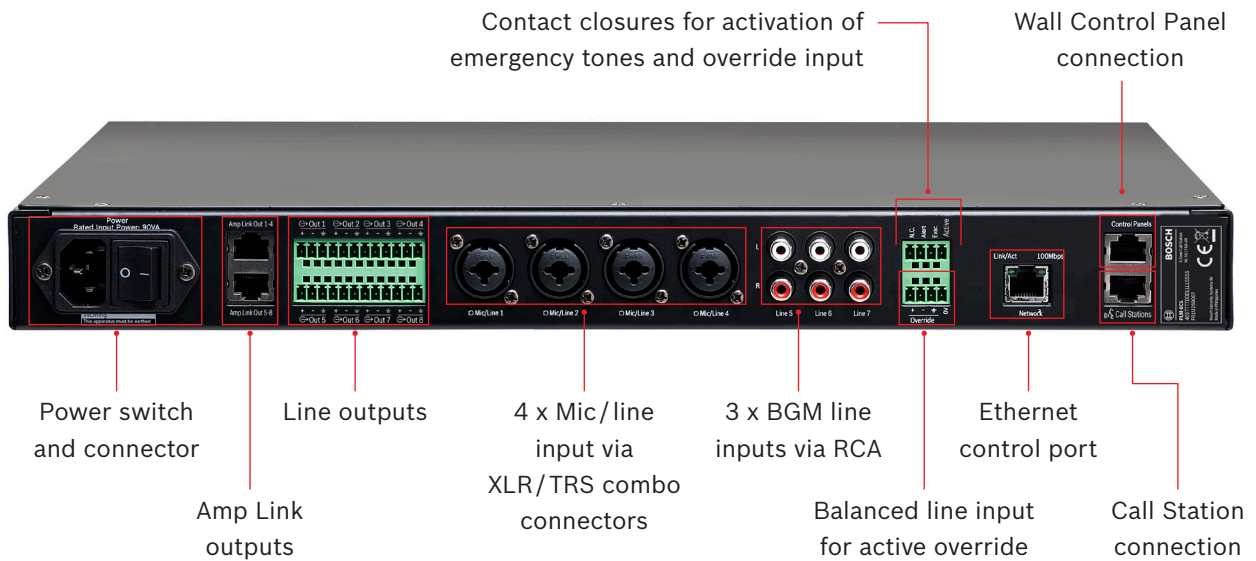
Accessories

PLM-4P125 PLENA matrix 4-Channel DSP 125W Amplifier	Order number PLM-4P125
PLM-4P220 PLENA matrix 4-Channel DSP 220W Amplifier	Order number PLM-4P220
PLM-8CS PLENA matrix 8-Zone Call Station	Order number PLM-8CS
PLM-WCP PLENA matrix Wall Control Panel	Order number PLM-WCP

Front panel layout



Rear panel layout



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