

PLM-4Px2x PLENA matrix DSP Amplifiers

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Invented for life



- ▶ 4-channel, Class D power amplifier
- ▶ 100V/70V/8Ω/4Ω outputs
- ▶ Complete loudspeaker processing DSP with input mixing; controlled by PC GUI and iOS app
- ▶ Amp Link to connect easily with PLM-8M8
- ▶ Environmentally friendly auto standby mode

The PLM-4Px2x PLENA matrix Amplifiers are built to perform. Designed to be reliable, cost effective, multi channel amplifiers; they are suitable for almost any application that demands high quality audio and flexible control.

The built-in DSP processor is packed with powerful features. The loudspeaker library will allow the easy tuning of Bosch/EV/Dynacord loudspeaker products. The power saving mode on the amplifier allows the amplifier to save over 80% of its running costs when areas are not being used. Equipped with “Amp Link”, combining both the PLM-4Px2x amplifiers with the PLM-8M8 8 Channel DSP Matrix Mixer couldn’t be easier.

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; Signal/Clip, fault per channel and mains power. There are no controls on the front of the unit; this is to reduce the

assistance from “overly helpful” venue staff. However, on the rear of the unit there is attenuation for the 4 output channels, dip switches for changing the input sensitivity, bridging the amplifier channels; and the mains power switch. All other controls and indicators are available via the PC GUI software.

DSP features

The DSP features are accessed via the PC GUI software.

- Input Mixer: Each of the 4 amplifier channels has an separate input mixer. Via the PC GUI it is possible to mix any of the 4 line inputs and have level control over the override input and noise generator. Effectively creating a very powerful stand-alone mixer amplifier.
- Cross over: Provides HPF, LPF up to the 8th order for each channel.
- Output EQ: Every zone has a 8-band fully functional parametric EQ. It also contains the dynamic bass enhancement feature.
- Delay: Output delay for 120ms per channel.
- DRC (Dynamic Range Compressor): Threshold, ratio, attack, release, and gain per channel.
- Output level: Ability to limit an amplifier channels output.
- Output Level mixer: Each amplifier output is separately controlled on the one screen making it easy to adjust and operate.

- Fault and thermal indication per amplifier channel.
- Channel mute and system mute.
- Manual standby.
- Control via PC GUI and/or iOS control app. Third party control software can be used to control the output level mixer and standby modes over ethernet.

Dynamic Bass Enhancement

An area that is tuned well and sounds good at normal levels can sound thin when the volume is turned down. The Dynamic Bass Enhancement automatically gives a more full sound even at low SPL. When the zone is restored to the normal level the bass enhancement decreases proportionally to the restore the preset level and tuning.

Standby and auto standby mode

The standby mode reduces the environmental impacts and the running costs of owning power amplifiers, making it much more cost effective and environmentally friendly than other amplifiers. Standby can be engaged and disengaged manually via the PC GUI software, or with the addition of a Bosch motion detector it can become an “auto standby mode”. In zone(s) where activity has stopped the amplifier will automatically shift to a low power consumption mode after a pre determined time. When the area does become active again the amplifier simply restores to being fully active in under a second by ramping the background music back in smoothly. The amplifier also comes equipped with a 12 VDC power output, to make installation of motion detectors simple and easy.

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

Connections and Amp Link

Inputs

The PLM-4Px2x amplifiers are equipped to be used with either TRS jack, 3 pin XLR or Phoenix Euroblock on each of the input channels. As these connections are wired in parallel; simply loop out via the connection that isn't being used as the input. In addition the Amp Link input makes connection to the PLM-8M8 DSP matrix mixer very easy. Simply connect the supplied CAT 5 cable to the Amp Link ports on each unit and it carries 4 channels of audio from the DSP matrix mixer to the amplifier. No set up or configuration required.

In addition there is an balanced line level override input that can activated by a contact closure. This input will override all the other inputs in the amplifier.

Output

Connections to 100V, 70V, 8 ohm and 4 ohm outputs are available for each channel. Outputs can be bridged channels 1-2 and/or 3-4 via dip switches. All output impedances and configurations are supported simultaneously. So as an example: Ch1-2 are bridged with a 4 ohm load, Ch3 has 100V and Ch4 has a 8 ohm load; This is all possible with no loss of performance.

Parts included

Quantity	Components
1	PLM-4P125 or PLM-4P220 Power Amplifier
1	Power cord
1	Set of 19" mounting brackets
1	CAT 5 cable 26 AWG shielded (1 m)
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 (-6dB/idle/standby):	
• PLM-4P125	254 W / 27 W / 6 W
• PLM-4P220	412 W / 36 W / 6 W

Performance

Rated outputs voltage/impedance	100 V / 70 V / 8 ohm / 4 ohm
Rated output power per channel (continous *):	
• PLM-4P125	130 W
• PLM-4P220	220 W
Rated output power per channel (burst *):	
• PLM-4P125	130 W
• PLM-4P220	220 W
Bridged (CH 1-2 / 3-4) (continous *):	
• PLM-4P125	250 W
• PLM-4P220	385 W
Bridged (CH 1-2 / 3-4) (burst *):	
• PLM-4P125	250 W
• PLM-4P220	445 W

THD+N (1 kHz, 6 dBFS):	
• PLM-4P125	0.1 %
• PLM-4P220	0.03 %
Dynamic range (A-weighted):	
• PLM-4P125	>101 dB
• PLM-4P220	>102 dB
Frequency response (-1dB)	65 Hz to 20 kHz (+0/-3 dB)
Crosstalk @ 1 kHz	<-70 dB

* According to CEA-490-A R-2008

Connectors	
Inputs (wired in parallel):	• 4x 3-pin XLR balanced • 4x 3-pole balanced Phoenix terminal (Metric) • 1x RJ45 (Amp Link)
• Loudspeaker output	4x 3-pole balanced Phoenix terminal (Metric)
• Logic and standby override	2-pole Phoenix terminal (Metric)
Ethernet Network 10/100 Mbps	RJ45
12 V output power for motion sensor	2-pole Phoenix terminal (Metric)

Mechanical

Dimensions (H x W x D)	90 x 440 x 417 mm 3.5 x 17.3 x 16.4 in (19" wide, 2RU high)
Mounting	Stand-alone, 19" rack
Color	Traffic black (RAL 9017) Silver (RAL 9006)
Weight:	
• PLM-4P125	Approx. 15 kg Approx. 33 lb
• PLM-4P220	Approx. 18 kg Approx. 39.7 lb

Environmental

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

Ordering information

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

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**