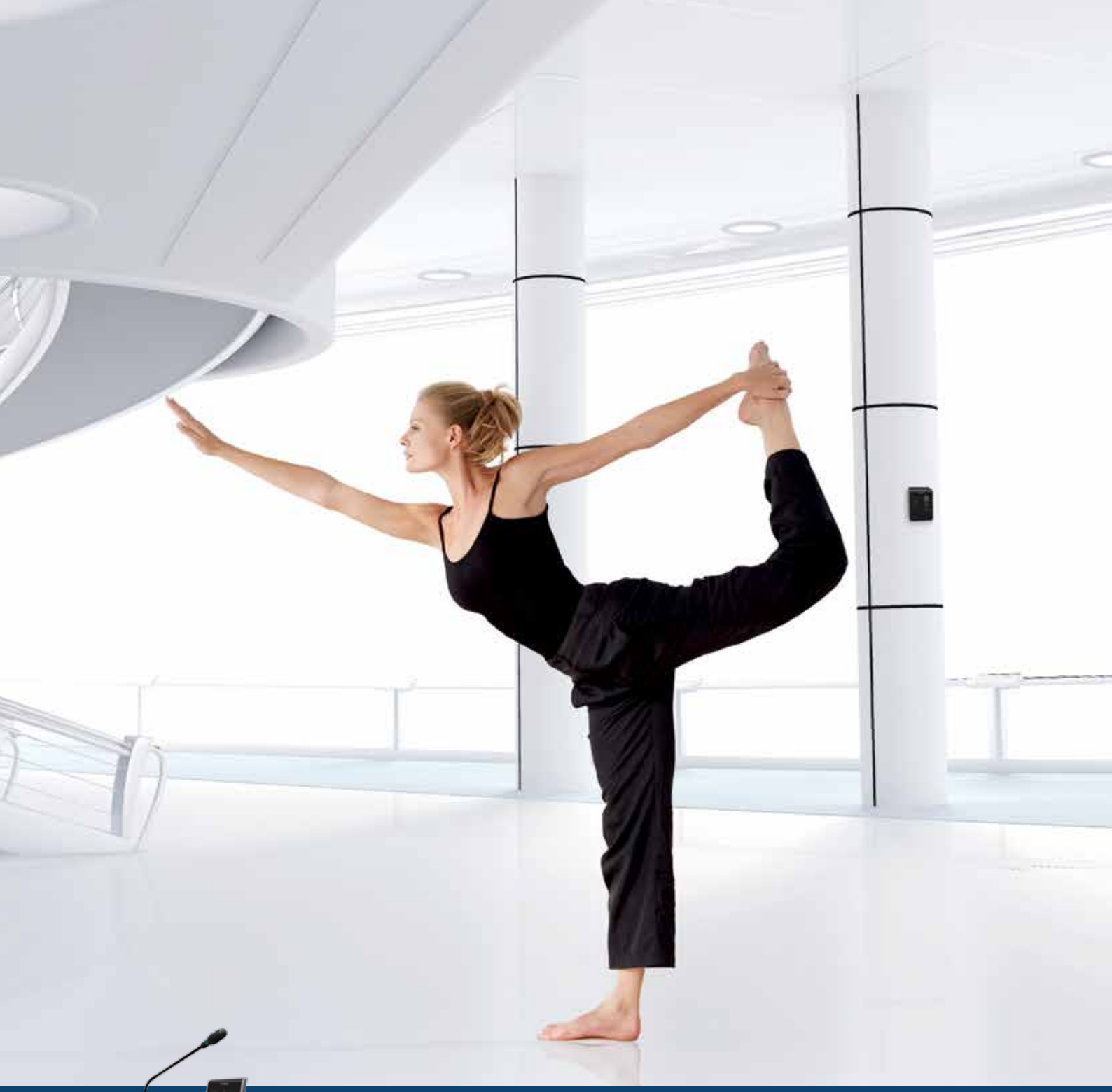


PLENA matrix Digital Sound System

Surprisingly Flexible. Powerful Control.

BOSCH

Invented for life

Your **versatile choice** for excellent audio performance

- Wireless control across multiple zones
- Easy installation and an intuitive interface
- Engineered with precision, designed for reliability
- Future-proof innovation for cost savings
- Optimum acoustic performance
- Full-featured DSP capabilities

Flexibility meets performance

The advanced features of the PLENA matrix Digital Sound System enable users to achieve superb audio performance with wireless control across up to eight output zones. With audio quality tailored for a wide range of applications – including live music, background music, high-demand speech environments and zone announcement – the PLENA matrix system delivers full featured digital audio control, with maximum flexibility and reliability.

Wireless control across multiple zones

Specially designed for versatility and ease of use, the PLENA matrix system enables users to control the audio settings and adjust volume levels wirelessly via an iPad® or iPhone® app.

The PLM 8M8 PLENA matrix 8-channel DSP Matrix Processor, the heart and soul of the PLENA matrix system, provides complete control over the audio configuration and signal processing. Users can simply walk into a particular zone and confidently mix and select inputs whilst controlling output levels. From live and background music environments to high demand speech applications, this iOS app sets new standards for end user control.

iPhone and iPad are trademarks of Apple Inc., registered in the U.S. and other countries.

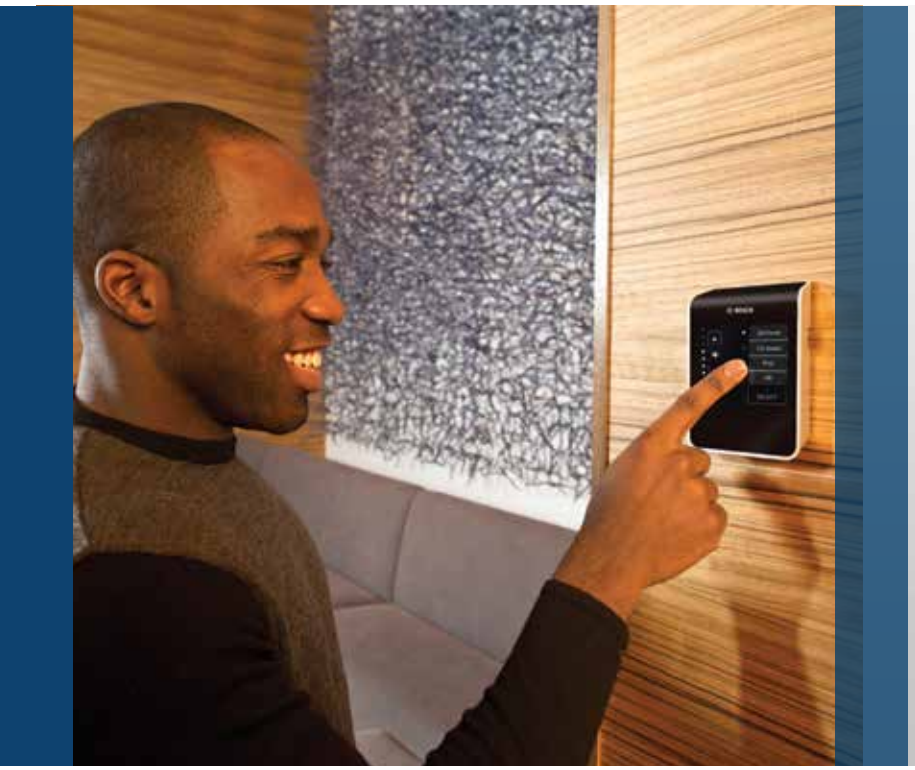
Designed for **flexible installation** and **easy configurability**

Easy installation and an intuitive interface

The PLENA matrix system provides flexible system control for background music, live performance, and paging applications. Simply use the Amp Link connection between the DSP processor and the amplifier to transport up to four channels of audio. Gone are the days when you were required to strip wires, solder connections or manually secure the terminals. With Amp Link, the entire system is simple and quick to install.

Basic user controls such as volume and source selection within a zone can be operated with ease by the wall mounted panel controller, *PLM-WCP. More advanced users who need control over multiple zones can use the attractive Graphical User Interface (GUI) for windows or the iOS app. These GUIs can be tailored by an administrator to only give the end user control over what they need. Within the windows GUI, the administrator can also use the powerful advanced configuration features of the PLENA matrix system. The PLENA matrix DSP mixer and amplifiers are controlled via Ethernet, making them easy to integrate with a wide range of building management and control systems.

*Only for use with PLM-8M8 matrix mixer



Engineered with precision, designed for reliability

Reflecting Bosch's dedication to quality, PLENA matrix system products are engineered with precision at every stage of the design process to ensure operational reliability at all times. Our sound systems are depended upon in countless locations around the world — in business, education, or leisure environments.

The innovative technology that goes into the development of the PLENA matrix system enables users to enjoy premium audio quality for any application that requires top-notch quality speech or music.

Optimized for **high performance** and **cost savings**

Proven, future-proof innovation for cost savings

Innovative design and economical advantages go hand in hand in the PLENA matrix system. The PLENA matrix Class D power amplifiers feature an Auto Standby mode that – when activated by Bosch motion sensors in output zones that are unoccupied – helps to generate cost savings of up to 80% as compared with standard amplifiers.

By reducing overall power consumption, the environmental impact is significantly reduced.

Optimum acoustic performance

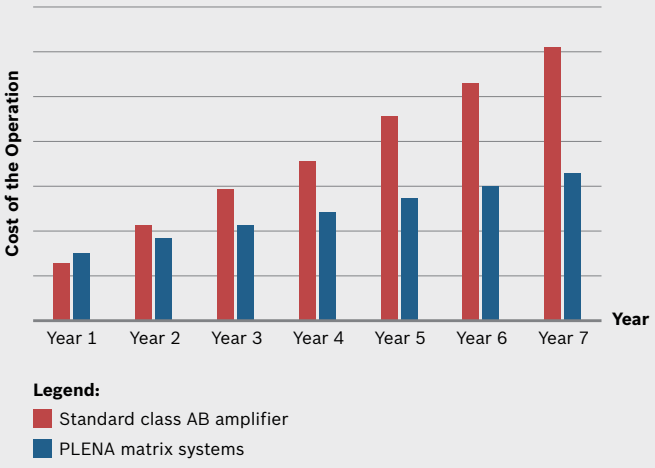
The built-in DSP processor of the PLENA matrix Power Amplifiers is packed with powerful features, including loudspeaker library to allow easy tuning of Bosch/EV/Dynacord loudspeaker products to deliver optimum acoustic performance that is comparable to professional sound audio systems.

From basic installations to more advanced system configurations, the PLENA matrix system makes it easy for users and installers to establish the desired acoustic environment in the following locations:

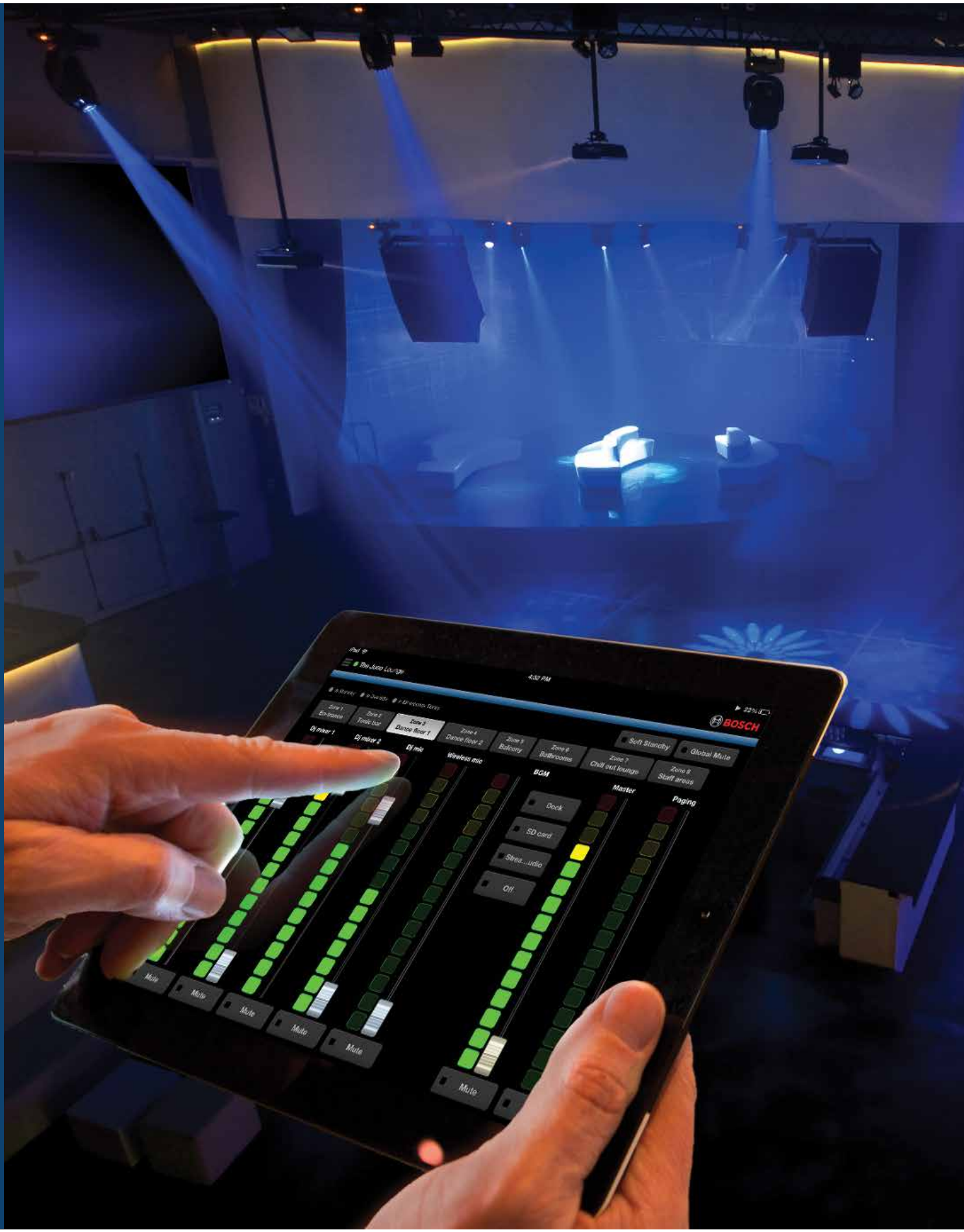
- Retail spaces
- Office buildings
- Fitness gyms
- Restaurants and bars
- Conference facilities
- Schools and public buildings
- Performance centers
- Transportation hubs

LOWER TOTAL COST OF OWNERSHIP (TCO)*

The Auto-Standby feature of PLENA matrix can help a venue save up to 80% of its operational cost, as compared to a standard class AB amplifier. The savings achieved is equivalent to the annual cost of operating an entire amplifier.



** Conclusion based on the analysis of the development team of Bosch Security Systems.*


BOSCH
Soft Standby
Global Mute
Dj mixer 1
Dj mixer 2
Dj mic
Wireless mic
BGM
Master
Paging
Dock
SD card
Off
Mute

Versatile capabilities at your fingertips

Full-featured DSP capabilities

The PLENA matrix system brings the benefits of the latest DSP technology to the fore. All DSP features of the PLENA matrix system can be accessed easily through a user-friendly Windows GUI that searches the network automatically so there is no need to remember IP addresses. The Windows GUI is designed to give installers maximum control over the setup, while the iPad®/ iPhone® GUI is designed for simplicity and ease of use for the end user. Both give end users the ability to select their own background music source and mix any microphone/line input without affecting other zones in the system.

The advanced capabilities of the PLENA matrix system include:

- Input mixing and zone level control
- Selection of background music source
- Presets - recallable scene memory
- Phantom power
- HPF, Pad
- Input Dynamic Range Compression
- Input (5 bands) and output (7 Bands) parametric EQ
- Speaker Processing Library
- Output assignment
- Output dynamic range compressor
- Crossover, delay, limiter
- Zone output level controller, priority
- Call station zone groups and announcement priorities
- Chimes
- Ducking levels
- Override and tone set up
- Password protection, tailored user and zone set up
- Fault and thermal monitoring
- Channel mute and system mute
- Dynamic bass enhancement
- Auto and manual standby mode

Quality sound system solution for all types of applications

Bosch's dedication to excellence and focus on quality is evident throughout the PLENA matrix system — from intuitive configuration interfaces and streamlined installation through simplicity of cabling to its power-packed acoustic capabilities. Users will appreciate the powerful wireless control capabilities of the PLENA matrix system, and be surprised at its flexibility across vertical applications such as shopping centers, schools, restaurants and bars, recreational facilities and office buildings.

iPhone and iPad are trademarks of Apple Inc., registered in the U.S. and other countries.

Product specifications

	Power Supply	Performance
 PLM-8M8 – DSP Matrix Mixer	**Mains voltage:** • Nominal input voltage 100 - 240 VAC ±10%, 50/60 Hz	**Freq. response** (-1dB): 20 Hz to 20 kHz (+0/ 3 dB) **Phantom power supply:** 48 V **THD+N** (BGM): <0.004 % **Dynamic range:** >103 dB(A)
 PLM-4Px2x – DSP Amplifiers	**Mains voltage:** • Nominal input voltage 100 - 240 VAC ±10%, 50/60 Hz **Power consumption** (6dB/idle/standby): • PLM 4P125 254 W / 27 W / >6 W • PLM 4P220 412 W / 36 W / >6 W	**Rated outputs voltage/impedance:** • 100 V / 70 V / 8 ohm / 4 ohm **Rated output power per channel:** • PLM 4P125 130 W • PLM 4P220 220 W **Bridged (CH 1-2 / 3-4):** • PLM 4P125 250 W* • PLM 4P220 445 W* ** Burst in accordance to CEA-490-A R-2008*
 PLM-8CS – Call Station	**Power:** • Powered over Cat 5 by the PLM-8M8 Matrix Mixer	**Microphone Polarity:** Cardoid **Freq. response** (-3dB): 100 Hz to 20 kHz (+0/-3 dB) **Input Clip level:** -11 dBu (-13.3 dBV) **THD+N** (1 kHz, 6 dBFS): <0.03 % **Dynamic range:** >97 dB(A) **Output level:** 24.4 dBu (22.2 dBV)
 PLM-WCP – Wall Control Panel	**Power:** • Powered over Cat 5 by the PLM-8M8 Matrix Mixer	N/A

Connectors	Mounting Options
Inputs: • 4 x Mic/Line XLR/TRS combo • 3 x BGM inputs Cinch RCA pairs • 1 x Call station RJ45 • 1 x Override 3 pole Phoenix terminal **Outputs:** • 2 x Amp Link RJ45 (4 output channels per connector) • 8 x 3 pole Phoenix Line level outputs **Controls:** • 1 x RJ45 - Ethernet Network 10/100 Mbps • 1 x RJ45 - RS485 control bus • 2 x Logic 4 pole Phoenix terminal for activation of EVAC, Alert and Active override	1 x Pair of removable 19 inch rack ears
Inputs (wired in parallel): • 4 x Mic/Line XLR/TRS combo • 4 x 3 pole balanced Phoenix terminal • 1 x RJ45 (Amp Link) • 1 x 3 pole balanced Phoenix terminal (Override input) **Outputs:** • 4 x 5 pole Phoenix terminal loudspeaker output • 1 x 2 pole Phoenix Terminal 12 V power output for motion sensors **Controls:** • 1 x 2 pole Phoenix Logic standby activation • 1 x 2 pole Phoenix terminal Logic activation of Override input • 1 x RJ45 Ethernet Network 10/100 Mbps	1 x Pair of removable 19 inch rack ears
Loop-through: • 2 x RJ45 RS485 loop-through	N/A
Loop-through: • 2 x RJ45 RS485 loop-through	1 x Surface wall mounting bracket

A Tradition of Quality and Innovation
For over 125 years, the Bosch name stands for quality and reliability. Bosch is the global supplier of choice for innovative technology, backed by the highest standards for service and support.

Bosch Security Systems proudly offers a wide range of security, safety, communications and sound solutions that are relied upon every day in applications around the world, from government facilities and public venues to businesses, schools and homes.

Plena Product app (iPhone/iPad)

Plena Sales app (iPad only)

Bosch Security Systems
To learn more about our product offering, please visit www.boschsecurity.com or send an e-mail to emea.securitysystems@bosch.com

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