

PLN-1LA10 Plena Loop Amplifier

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Invented for life



- ▶ High power, current driven amplifier
- ▶ Two microphone/line inputs, one priority input (100 V)
- ▶ Selectable frequency range and tone controls
- ▶ Limiter and automatic gain control (AGC)
- ▶ Integrates in an EN 54-16 and EN 60849 compliant system

The Plena Loop Amplifier is a cost-effective amplifier designed to drive a wire loop installed in the floor or ceiling, covering an area of up to 600 m² per amplifier. This solution enables hearing-aid users in the area enclosed by the wire loop to hear all announcements, or music. Hearing-aid users can set their devices to the T-mode setting to receive the signal coming from the loop. They receive announcements in excellent audio-quality, without the background noise or reverberations that normally impair intelligibility for people with hearing disabilities.

Functions

The loop amplifier can be connected to a mixing amplifier's line level output, or it can accept up to two microphone/line signals directly. A 100 V priority input is available for uplink to a voice alarm system. This input can be monitored for the presence of a pilot tone. The built-in supervision monitors all key functions of the loop amplifier, and the fault state is available on a fail-safe relay. This makes it possible to use the Plena Loop Amplifier in an IEC 60849 compliant system, and to include the induction loop in the supervised transmission paths.

For added ease, the loop amplifier is equipped with a limiter that keeps the output field strength below the prescribed 100 mA/m. This circuitry can also be set to an automatic gain control (AGC) that amplifies weak signals for enhanced intelligibility, while attenuating loud signals. This ensures that all information is presented at a comfortable listening level.

The unit has tone controls and a metal loss compensation circuit to adjust the sound to the program material and the environment. The controls have locks to prevent unwanted access after they have been adjusted.

The Plena loop amplifier is stackable (master/slave configuration) to cover very large areas, and supports low spillover schemes. Its unique quadrature configuration provides uniform field strengths even over multiple loops.

Controls and indicators

Front

- LED power meter
- Current meter
- Four LEDs for fault, limiter, AGC, loop integrity
- Headphones socket
- Two tone controls

- Three input volume controls (master and two channels)
- On/off switch

Back

- Metal loss compensation control
- Supervision switch
- Voltage selector
- Frequency range switch
- AGC/Limiter switch
- AGC range control
- VOX/mix switch
- Pre/post amp switch
- Two phantom power switches
- Two Mic/line switches

Interconnections

Back

- Master input
- Two slave outputs
- Audio inputs
- Priority input
- Induction loop output
- Line output
- Fault output
- Ground screw
- Mains socket

Certifications and approvals

Safety	acc. to EN 60065
Immunity	acc. to EN 55103-2
Emission	acc. to EN 55103-1
Induction loop systems	acc. to EN 60118-4
EVAC	acc. to EN 60849 acc. to EN 54-16

Region	Certification
Europe	CE

Installation/configuration notes



PLN-1LA10 rear view

Parts included

Quantity	Component
1	PLN-1LA10 Loop Amplifier
1	Power cord

- 1 Set of 19" mounting brackets
- 1 Plena CD
- Installation and User Instructions

Technical specifications

Electrical

Mains power supply	
Voltage	230/115 VAC, ±10%, 50/60 Hz
Inrush current	7 A at 230 VAC / 14A at 115 VAC
Max power consumption	500 VA
Performance	
Output current	
	10 A
Frequency response	50 Hz to 10 kHz (+1/-3 dB at -10 dB ref. rated output)
Distortion	<1% at rated output power, 1 kHz
Bass control	-8/+8 dB at 100 Hz
Treble control	-8/+8 dB at 10 kHz
Mic/line input	
	2 x
Connector	3-pin XLR, balanced mic/line level (switchable)
Sensitivity	1 mV / 1 V (mic/line)
Impedance	>1 kohm
Dynamic Range	100 dB
S/N (flat at max volume)	75 dB
Headroom	25 dB
Phantom power supply	16 V (switchable)
VOX functionality	Input 1 (switchable) mutes input 2
VOX sensitivity	-10 dB ref nominal input
Priority input	
Connector	Screw
Sensitivity	100 V, transformer balanced
Impedance	>100 kohm
S/N (flat at max volume)	63 dB
Headroom	25 dB
Pilot tone detection	-20 dB, ref 100 V (10 V)
Pilot tone threshold	-26 dB, ref 100 V (5 V)
Master input*	
	1 x
Connector	1/4" TS jack
Line output	
Connector	3-pin XLR, balanced

Nominal level	1 V
Impedance	200 ohm
Loop output	
Connector	Screw
Slave output (for master input of other PLN-1LA10)	
Connector	1/4"TS jack 0° to 90°
Fault Relay	
Connector	Screw
Contacts	100 V, 2 A (voltage free, SPDT)

* Only intended for slave output of another PLN-1LA10. Plugging a jack into this input disables all other inputs and the limiter. The unit becomes a slave to the connected master. Only the master control on the front panel will function. To monitor the level, switch the VU meter switch to POST Amp.

Mechanical

Dimensions (H x W x D)	94 x 430 x 320 mm (19" wide, 2U high)
Weight	Approx. 11.6 kg
Mounting	Stand-alone, 19" rack
Color	Charcoal

Environmental

Operating temperature	-10 °C to +55 °C (14 °F to +131 °F)
Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Relative humidity	<95%
Acoustic noise level of fan	<35 dB SPL at 1m, temperature controlled

Ordering information

PLN-1LA10 Plena Loop Amplifier

drive a wire loop installed in the floor or ceiling, covering an area of up to 600 m² per amplifier.
Order number **PLN-1LA10**

Represented by:

Americas:

Bosch Security Systems, Inc.
12000 Portland Avenue South
Burnsville MN 55337, USA
Phone: +1-800-392-3497
Fax: +1-800-955-6831
audiosupport@us.bosch.com
www.boschsecurity.com

Europe, Middle East, Africa:

Bosch Security Systems B.V.
P.O. Box 80002
5617 BA Eindhoven, The Netherlands
Phone: + 31 40 2577 284
Fax: +31 40 2577 330
emea.securitysystems@bosch.com
www.boschsecurity.com

Asia-Pacific:

Robert Bosch (SEA) Pte Ltd, Security Systems
11 Bishan Street 21
Singapore 573943
Phone: +65 6571 2808
Fax: +65 6571 2699
apr.securitysystems@bosch.com
www.boschsecurity.asia

China:

Bosch (Shanghai) Security Systems Ltd.
201 Building, No. 333 Fuquan Road
North IBP
Changning District, Shanghai
200335 China
Phone +86 21 22181111
Fax: +86 21 22182398
www.boschsecurity.com.cn

America Latina:

Robert Bosch Ltda Security Systems Division
Via Anhanguera, Km 98
CEP 13065-900
Campinas, Sao Paulo, Brazil
Phone: +55 19 2103 2860
Fax: +55 19 2103 2862
al.securitysystems@bosch.com
www.boschsecurity.com