

PLN-1LA10 Plena Loop Amplifier



Security Systems



- High power current driven amplifier
- Two mic/line inputs, one priority input (100 V)
- Selectable frequency range and tone controls
- Limiter and Automatic Gain Control (AGC)
- Integrates in an IEC 60849 compliant system

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

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 means it is possible to use the Plena Loop Amplifier in an IEC 60849 compliant system and include the induction loop in the supervised transmission paths.

For added ease of use the Plena Loop amplifier is fitted with a limiter to limit the output field strength to the prescribed 100 mA/m. This circuitry can also be set to function as an Automatic Gain Control (AGC), so those soft signals are boosted for intelligibility while loud signals are attenuated so that all information is presented at a comfortable listening level.

To adjust the sound to the program material and the environment, tone controls and a metal loss compensation circuit is available. After installation the controls can be locked to prevent unwanted access.

Even though one Loop Amplifier can cover up to 600 m², the Plena Loop Amplifier is stackable (master/slave configuration), to cover very large areas. Also, low spill schemes are supported. Its unique quadrate configuration provides uniform field strengths over multiple loops.

Parts Included

Quantity	Component
1	PLN-1LA10 Loop amplifier
1	Mounting brackets
1	Power cord
1	Plena CD

Certifications and Approvals

EMC emission	acc. to EN 55103-1
EMC immunity	acc. to EN 55103-2
Safety	acc. to EN 60065
Induction Loop Systems	Acc. to EN 60118-4
	Acc. to IEC118-4

Technical Specifications

Electrical

Mains Voltage	230 / 115 VAC, ±10%, 50/60 Hz
Max Power Consumption	500 VA
Max Output Current	10 A
Max Mains Inrush Current	7 A @ 230 VAC / 14A @ 115 VAC

Performance

Frequency Response	60 Hz – 10 kHz (+1/-3 dB@ -10 dB ref. rated output)
Distortion	<1% @ rated output, 1 kHz
Bass Control	-8/+8 dB @ 100 Hz
Treble Control	-8/+8 dB @ 10 kHz

Inputs

Input 1 and 2	3-pin XLR, balanced mic/line level (switchable)
Sensitivity	1 mV/ 1 V (mic. / line)
Impedance	>1 kOhm
Dynamic Range	100 dB
S/N	75 dB (flat at max volume)
Headroom	25 dB
Phantom Power	16 V switchable
VOX Functionality	Switchable input 1 mutes input 2
Sensitivity	-20 dB ref nominal input
Priority Input	Screw terminals
Sensitivity	100 V transformer balanced
Impedance	>100 kOhm
S/N	63 dB (flat at max volume)
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	1/4" TS Jack

Electrical

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"

Outputs

Line Output	XLR balanced
Nominal Level	1V
Impedance	200 ohm
Loop Output	Screw terminal
Output current	10 A
Slave Outputs	1/4"TS Jack 0° – 90°
Only intended for Master input of other PLN-1LA10	
Fault Relay	Screw terminals
Contacts	Voltage free, max 100 V, 2 A

Environmental

Operating Temperature	+5°C to +45°C
Storage Temperature	-25°C to +55°C
Relative Humidity	<95%
Acoustic Noise Level Of Fan	<35 dB SPL @ 1m, temperature controlled
Dimensions	94 x 430 x 320 mm (19" wide, 2U high)
Weight	approx. 11.6 kg
Rack building	Mounting kit included

Controls

Supervision	On/off monitor functionality and presence of pilot tone on priority input
Metal Loss Compensation	Dynamic, level dependent equalizer
Frequency Range	5 khz / 10 kHz LPF (speech/music)
Pre/Post – Master/Slave	VU monitors pre limiter/AGC level or post limiter/AGC level

Ordering Information

Model & Description

PLN-1LA10 Plena Loop Amplifier
Induction Loop Amplifier 8900 191 80001

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