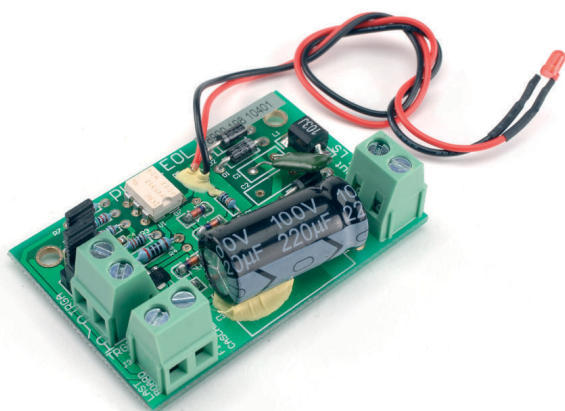




# PLN-1EOL Plena End-of-Line Boards



- ▶ **Pilot tone detection on 100 V loudspeaker lines**
- ▶ **Voltage free switch 200 V 1 A and LED indications of pilot tone**
- ▶ **10 kohm resistors on board for optional supervised connection**
- ▶ **Daisy chainable for monitoring multiple zones on a single input contact**
- ▶ **Fits on built-in mounts on selected Bosch loudspeakers**

A Plena end-of-line board is a PCB designed to detect the 20 kHz pilot tone generated by a supervised public address or voice alarm system. It activates a voltage free switch in the presence of a 20 kHz signal (pilot tone) above 5 V, as well as an LED for easy visual confirmation of operation.

Since the background music also includes a 20 kHz pilot tone signal, there is no need to interrupt background music.

## Functions

Plena end-of-line boards monitor the presence of a pilot tone on a loudspeaker line. The board connects at the end of a loudspeaker line and detects the 20 kHz pilot tone signal. This signal is always present on the line: when background music (BGM) is playing, when a call is in progress, and when no signal is present. The 20 kHz tone is inaudible and at a very low level (-20dB). When the pilot tone signal is present, an LED lights up, and a contact on the board is closed. When the pilot tone fails, the contact opens, and the LED goes off. If mounted at the end of the loudspeaker line, this applies to the integrity of the whole line. Presence of the pilot tone signal does not depend on the number of loudspeakers on the line, the load on the line, or the line capacitance. The contact can be connected to a PA system, such as the Bosch Voice Alarm System, to detect and report faults on a loudspeaker line.

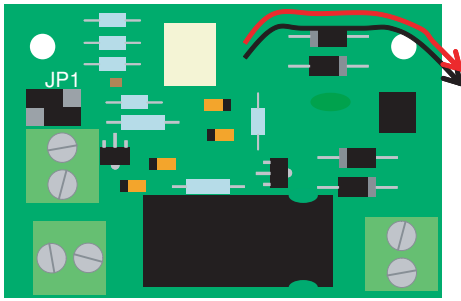
Several EOL boards can be daisy-chained to a single fault input. This allows a loudspeaker line with several branches to be monitored.

## Certifications and Approvals

Region	Certification
Europe	CE Declaration of Conformity
Immunity	acc. to EN 55103-2
EVAC (TÜV certified)	acc. to IEC 60849*

*\* When used with the Voice Alarm System and installed according to the Installation and User Instructions*

**Installation/Configuration Notes**

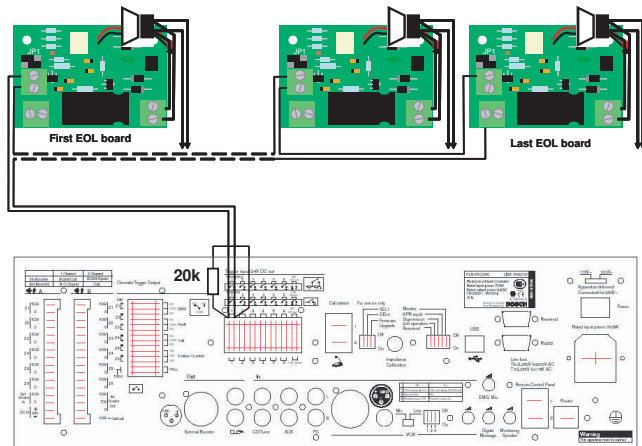


JP1 configuration for trigger output configuration

Using a daisy chain configuration it is possible to:

- Supervise several loudspeaker lines with only one fault input.
- Supervise several branches of a loudspeaker line with just one fault input

When connecting more than one EOL board on a single trigger input, and to supervise the boards, a 20 kohm or 22 kohm resistor should be connected in parallel with the trigger input. The boards are connected as shown in the following drawing.



Multiple boards on a single trigger input

**Parts Included**

Quantity	Components
6	PLN-1EOL Plena End of Line Board
1	Application note

**Technical Specifications**

**Electrical**

Input	1 x
Voltage	100 V loudspeaker line
Detection threshold	5 to 50 V @ 20 kHz
Output	2 x
Indicator	Red LED
Contact	Normally closed fail safe Bipolar MOS switch 250 Vp 190 mA max
Detection threshold*	5 to 50 V @ 20 kHz (contact and LED)

\* LED threshold and switch threshold may be slightly different.

**Mechanical**

Dimensions (H x W x D)	17 x 60 x 40 mm
Mounting	WLS II
Weight	Approx. 40 g

**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%

**Ordering Information**

**PLN-1EOL Plena End-of-Line Boards** **PLN-1EOL**  
set of 6 end-of-line supervision boards

**Americas:**  
Bosch Security Systems, Inc.  
Communications Systems  
12000 Portland Avenue, South  
Burnsville, Minnesota 55337, USA  
Phone: +1-800-392-3497  
Fax: +1-800-955-6831  
audiosupport@US.bosch.com  
www.boschcommunications.us

**Europe, Middle East, Africa:**  
Bosch Security Systems B.V.  
P.O. Box 80002  
5600 JB 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  
11 Bishan Street 21  
Singapore 573943  
Phone: +65 6571 2600  
Fax: +65 6571 2698  
apr.securitysystems@bosch.com  
www.boschsecurity.com

**Represented by**