

Installation Guide

EOL10K

Resistance 10k±1% / 3 Watt
 Temperature Characteristic of Resistance 20 ppm drift per degree centigrade



LBC2W to LBC63W

Blocking Capacitor Types (power tapping / capacitance):

LBC2W 2 W / 0.33 µF
 LBC6W 6 W / 1 µF
 LBC14W 14 W / 2.2 µF
 LBC30W 30 W / 4.7 µF
 LBC63W 63 W / 10 µF
 All Types 10% 250 V DC polyester capacitors

LBC6W



The EOL10K and LBCxxW products are intended for installation into 3rd party loudspeaker enclosures or “junction boxes” and are therefore supplied as small radial leaded devices for ease of installation.

Failure to use the equipment in the manner described in the product literature will invalidate the warranty.



This product must be disposed of in accordance with the WEEE directive.

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DC Line Surveillance Operation and Requirements

One EOL10K device is required in parallel with the terminations of the *last* physical loudspeaker of each loudspeaker line. Any associated ‘spurred’ cabling runs require additional EOL10K devices to be fitted. Open and short-circuit faults on loudspeaker lines are detected by the measurement of a small direct current through each EOL10K device fitted.

The following surveillance interfaces are used by the ASL range of amplifier mainframes.

- LSIDC Surveillance Interface Card fitted to the V400 Amplifier Mainframe

The LSIDC caters for a single speaker circuit. The system requires a minimum of one and a maximum of ten EOL10K devices (and spurs).

- LSDDC Surveillance Interface Card fitted to the V400 Amplifier Mainframe or built-in to the Intellevac DAU Distributed Amplifier Unit

The LSDDC caters for single or dual A&B speaker circuits. The system requires a minimum of one and a maximum of ten EOL10K devices (and spurs).

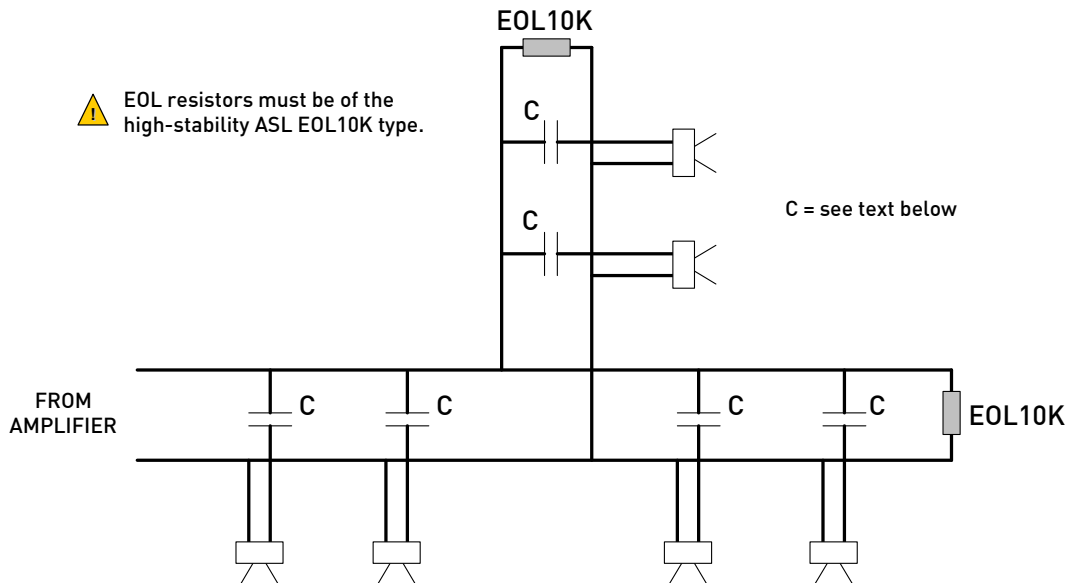


Both circuits of the dual A&B circuits must have identical numbers of EOL10K devices. That is each circuit can have a maximum of five EOL10K devices fitted.

- Surveillance circuit integral to the Amplifier Mainframe, such as the iPAM400 and X400 Amplifier Mainframes:

The surveillance circuit caters for single or multiple speaker circuits. The system requires a minimum of one EOL10K device per speaker circuit. Each speaker circuit in multiple circuit configurations can have different number of EOL10K devices (and cable spurs) provided that the total number of EOL10K devices (and cable spurs) per amplifier slot does not exceed ten.

Figure 1 Loudspeaker line using DC surveillance



All loudspeakers connected to the system must be fitted with DC blocking capacitors. Loudspeakers are available with suitable capacitors pre-installed from a variety of suppliers. ASL supply capacitor kits for a variety of loudspeaker sizes; see Table 1.




The number of EOL resistors fitted is accomplished during system commissioning.

Additional reference information is available from the ASL website: www.asl-control.co.uk

Table 1 DC blocking capacitor kits and capacitance values

Maximum Loudspeaker Power Rating (Power Tapping - W)	ASL Part Number (10 pack)	Capacitance Value (µF)
2	LBC2W	0.33
6	LBC6W	1
14	LBC14W	2.2
30	LBC30W	4.7
63	LBC63W	10

 1) The capacitance values listed above will provide negligible attenuation of -3 dB at 100 Hz.

2) If alternative capacitors are to be fitted, they must be non-polarized and rated to at least 250 V DC and 160 V AC. Polyester sealed case types are recommended.

3) If improved low-frequency performance is required, the DC blocking capacitors may be increased in value. Doubling the value will halve the '-3 dB' frequency.

4) Other values may be calculated from the following formula:

$$C = (16 \times P) \div F$$


C = Minimum capacitor value in µF (round up to preferred value)
 P = Power tapping of loudspeaker in watts
 F = Required bottom end (-3dB) frequency response in Hz


Safety and Precautions

Environmental

This product can get hot during normal operation. It is important that adequate clearance is maintained between the EOL10K body and other materials during use.

Electrical Safety

 This product connects to wiring that is energised to 100 V RMS with audio signals at up to 20 kHz.

Terminals marked with the  symbol are hazardous, and the external wiring connected to these terminals requires installation by an instructed person.

It is important to ensure all fixing screws and covers are correctly replaced so that wiring energised to dangerous voltages is not left exposed.

Equipment and Tool

- One EOL10K per loudspeaker line spur.
- A suitable DC blocking capacitor for each loudspeaker (if not pre-installed).
See ASL DC blocking capacitor kits listed in Table 1.
- Appropriate tools to gain access to terminations of the loudspeaker enclosure(s) or junction box(es).

Recommended Installation Procedure



Ensure that the all loudspeaker line cabling is not live prior to commencing any work.

EOL10K

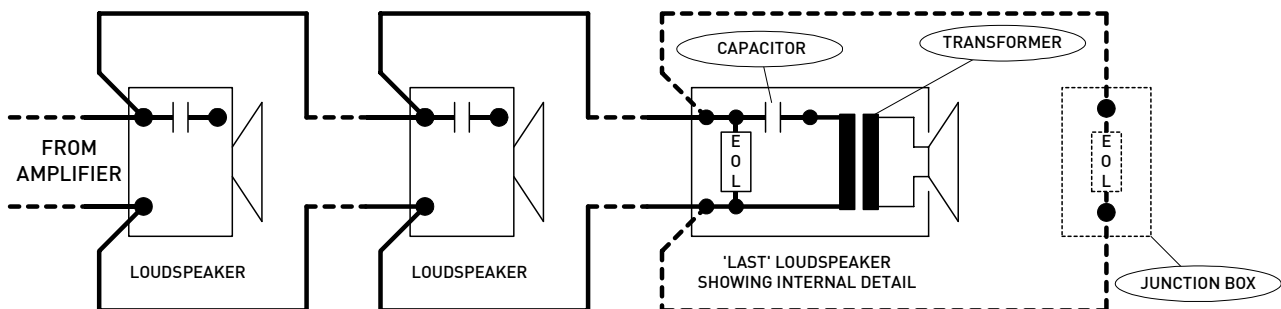
1. Remove the termination cover from the last loudspeaker of all spurs and fit the EOL10K across the 100 V line input terminal block on the line side of the DC blocking capacitor (see diagram below).



Ensure that:

- 1) The supplied sleeving is fitted and is providing adequate electrical insulation.
- 2) At least 10 mm of clearance is provided all around the EOL10K body to prevent heat damage to adjacent materials.

2. Refit any termination covers ensuring that the above 10 mm clearance is maintained.
3. If space constraints do not permit installation of the EOL10K into the loudspeaker enclosure, then an additional 'junction box' may be fitted to house the device. Cabling to the junction box must be made directly from the last loudspeaker of the spur (see diagram below).



Adding extra EOL10K devices along the loudspeaker line and not just at the end can assist in locating loudspeaker line breaks. In the event of a line break, the number of EOL10K devices measured from the PA/VA system will indicate a rough location for the break.

DC Blocking Capacitors

These should be fitted into the termination area of each loudspeaker in series with the 100 V line input (see diagram above).



Ensure that suitable sleeving is fitted (supplied with ASL kits listed in Table 1) and is providing adequate electrical insulation.