

End-Of-Line Terminator and  
Line Blocking Capacitor Kits

Type Nos: EOL10K  
LBC2W to LBC63W

## Product Description



The EOL10K is a close tolerance, high stability “End-Of -Line” power resistor for use with the “DC line monitoring” feature integral to the LSIDC interface card.

The LBC2W to LBC63W are suitably rated line blocking capacitor kits for fitting to each loudspeaker on the line. These are required for DC line monitoring.

The LSIDC is used in conjunction with the M100, M200 and M400 Class D Amplifiers in a V400 Amplifier Mainframe for Public Address and Voice Alarm applications.

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

Alternative components may be used in place of the LBCxxW if the guidelines stated below are followed.

Alternatives to the EOL10K must not be used due to power handling, temperature stability and tolerance characteristics required for accurate loudspeaker line monitoring.

For further details please refer to the Amplifier Mainframe Handbook and the Application Solutions PA/VA Systems Design Handbook.

## CE Declaration



This equipment is designed and manufactured to conform to the following EC standards:

EMC	EN 55103-1 Environment E1, EN 55103-2 Environment E5
Safety	EN 60065

Failure to use the equipment in the manner described in the product literature will invalidate the conformity. A ‘Declaration of Conformity’ statement to the above standards and a list of auxiliary equipment used for compliance verification is available on request.

## Safety and Precautions

### ELECTRIC SHOCK SAFETY

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

### ENVIRONMENTAL PRECAUTIONS

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.

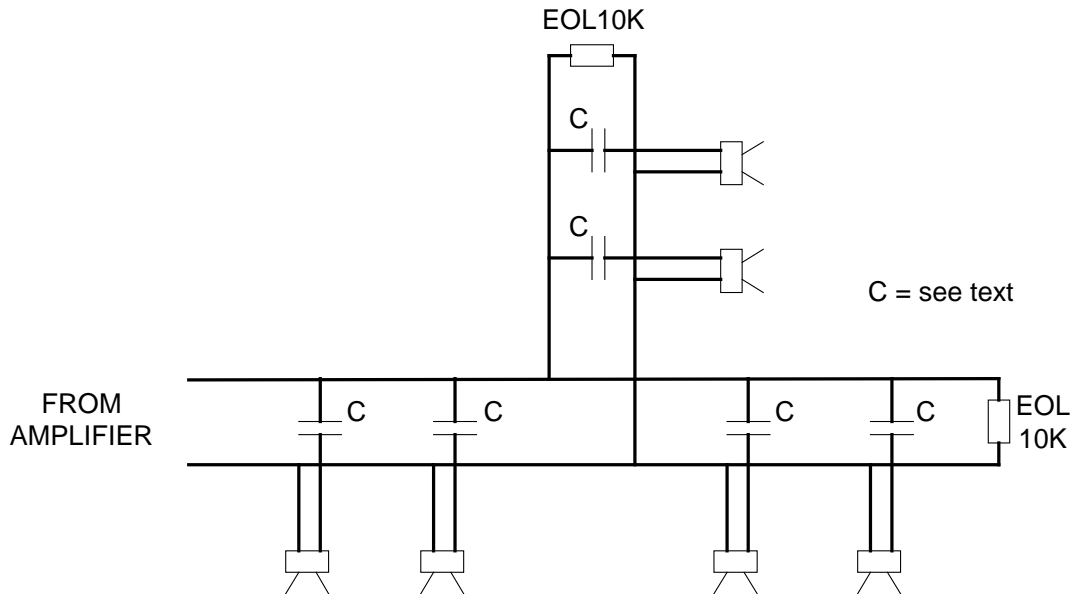
## To install these products you will need;

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

## DC Line Surveillance Operation and Requirements

Loudspeaker line integrity monitoring carried out using the LSIDC surveillance card automatically detects open circuit and short circuit faults on loudspeaker lines by the measurement of a small direct current through each EOL10K fitted. One 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.

The system caters for a minimum of one and a maximum of ten EOL10K devices (and spurs). Automatic detection and operator confirmation of the number of EOL resistors fitted is accomplished during system commissioning. Surveillance operation is sufficient to resolve an open circuit fault on a single EOL device or circuit spur. Note: EOL resistors must be of the high-stability EOL10K type provided through your Application Solutions stockist



**Figure1, 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. Alternatively, blocking capacitors may be retro-fitted. The following range of kits are available your Application Solutions stockist:-

Maximum Loudspeaker Power Rating (Power Tapping - W)	ASL part name	Capacitance Value (uF)
2	LBC2W-10PACK	0.33
6	LBC6W-10PACK	1
14	LBC14W-10PACK	2.2
30	LBC30W-10PACK	4.7
63	LBC63W-10PACK	10

**Table 1 - 'DC Blocking' Capacitor Kits and Capacitance Values**

If alternative capacitors are to be fitted, they must be non-polarised and rated to at least 250Vdc and 160Vac. Polyester sealed case types are recommended.

The capacitance values listed above will provide negligible attenuation of (-3dB) at 100Hz. If improved low-frequency performance is required, the "DC blocking" capacitors may be increased in value. Doubling the value will halve the "-3dB" frequency.

## Installation Instructions

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

### EOL10K

Remove the termination cover from the last loudspeaker of all spurs and fit the EOL10K across the 100V line input terminal block on the line side of the dc blocking capacitor.

Ensure that the supplied sleeving is fitted and is providing adequate electrical insulation.

Also ensure that at least 10mm of clearance is provided all around the EOL10K body to prevent heat damage to adjacent materials.

Refit any termination covers ensuring that the above 10mm clearance is maintained.

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).

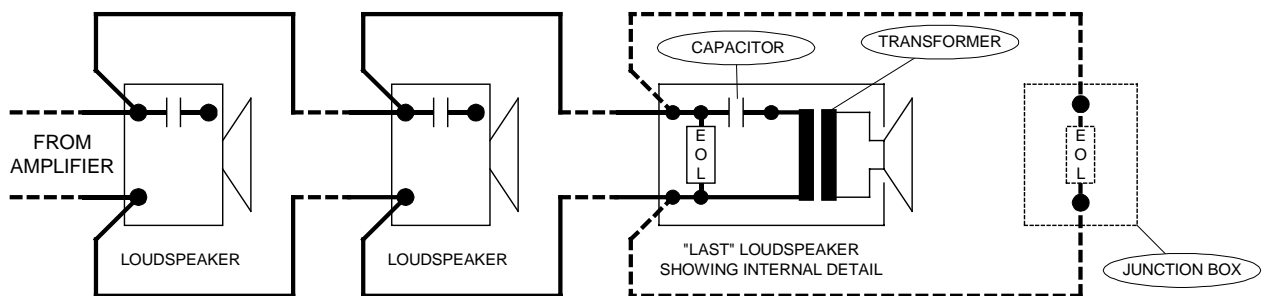


Figure 2, Loudspeaker Line Using DC Surveillance

To assist in locating loudspeaker line breaks, additional EOL10Ks may be fitted at various known points along a loudspeaker line (up to a maximum of 10). In the event of a fault, interrogation of the ACU01 or VAR router display will show the number of EOL10Ks remaining on the line and therefore 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 100V line input (see diagram above). Ensure that suitable sleeving is fitted (supplied with ASL kits listed over the page) and is providing adequate electrical insulation.

### Manufacturer

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This equipment is designed and manufactured in the UK by Application Solutions Ltd to a quality system certified to the internationally recognised quality standard: BS EN ISO 9001: 1994

Certificate number: 96-LON-AQ-041

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