PRODUCT DATA SHEET
EWIS-ALIM
Audio Line Isolator Module

FEATURES

- ✓ Used for balancing inputs and matching input devices to audio line inputs
- ✓ Can be used as a means of isolation
- ✓ Simple DIN rail mount
- ✓ Approved with EWIS Panel

PRODUCT DESCRIPTION

The Audio Line Module EWIS-ALIM is an audio isolation and balancing/matching device with variable or fixed gain. It was designed for use with EWIS systems, and also for general audio isolation purposes.

The EWIS-ALIM provides independent isolation of two audio signals (channels), with the gain separately selectable for each channel.

The EWIS-ALIM can be used for various purposes, including:

- ✓ As an isolation and/or line balancing transformer (with optional volume control) for background music inputs connecting to the Local Inputs of EWIS Amplifiers (Refer to Fig.1 below.)
- ✓ To allow spurs on the WIP speech and PA speech buses in a networked EWIS system. (Refer to Fig. 4 and 5 below.)
- ✓ To provide the isolation and voltage reduction required when connecting the amplifier primary or 100V line output of a EWIS, T-GEN 50 or similar system into the low level input of another amplifier (or vice versa). (Refer Fig 3 below.)

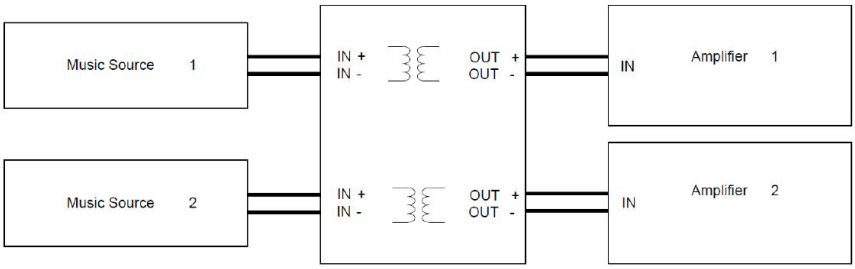

Figure 1 - Typical Use of ALIM for Background Music Isolation

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GAIN SETTINGS

Each audio channel of the EWIS-ALIM can be set for one of four different gains (Refer to Table 1 below):

- ✓ If no volume control is required, links LK1 and LK2 on the EWIS-ALIM should be installed, and LK3 not installed. In this mode, the EWIS-ALIM has unity gain.
- ✓ When volume control is required, links LK1 and LK2 should be removed, and link LK3 installed in the 2-3 position. In this mode, the EWIS-ALIM has a maximum gain of about 0.3, but it can be adjusted down to zero.
- ✓ If one of links LK1 or LK2 is fitted and LK3 is installed in the 1-2 position, then a fixed gain of 0.04 is selected.
- ✓ If neither links LK1 nor LK2 are fitted and LK3 is installed in the 1-2 position, then a fixed gain of 0.02 is selected.

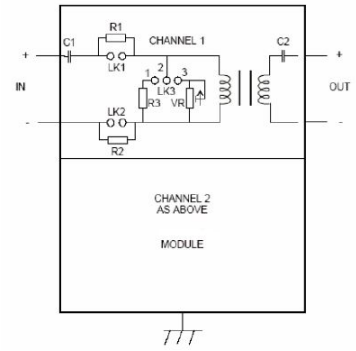

Figure 2 - EWIS-ALIM Schematic

LINK SETTINGS SUMMARY

Table 1 - Gain Settings

LK1	LK2	LK2 - 1-2	LK3 - 2-3	Gain	Max Input Voltage
Fitted	Fitted	Not Fitted	Not Fitted	1	3 Vrms
Not Fitted	Not Fitted	Not Fitted	Fitted	Variable 0-0.3	10 Vrms
Not Fitted	Not Fitted	Fitted	Not Fitted	0.02	15 Vrms
Fitted	Not Fitted	Fitted	Not Fitted	0.04	10 Vrms
Not Fitted	Fitted	Fitted	Not Fitted	0.04	10 Vrms

NB: On circuit board encoding:
Links LK1A, LK2A, LK3A apply to Channel A
Links LK1B, LK2B, LK3B apply to Channel B

Other link settings should generally not be used.

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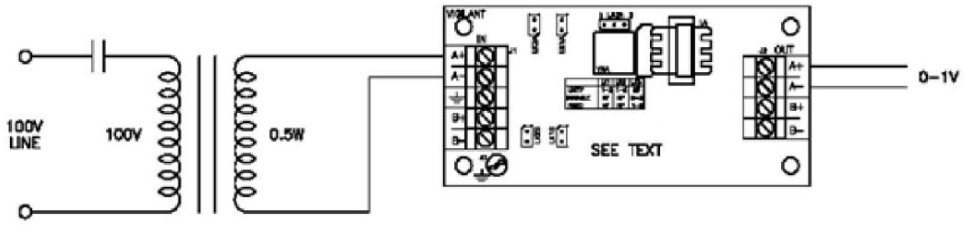
100V LINE COUPLING/ATTENUATION

The EWIS-ALIM can be used to couple an existing 100V speaker line into the low-level input of another amplifier. The best method of achieving this is to use a capacity-coupled 100V: 0.5 – 2.0W 8 ohms line-matching transformer (e.g. off a 100V line loud speaker) to reduce the voltage first, and feed this into the EWIS-ALIM to provide volume control, as shown in Figure 3A.



The links on the EWIS ALIM should be: LK1 and LK2 not fitted, LK3 in position 2-3 to provide volume control.

Figure 3A - 100V Line Coupling Using Transformer

However, by modifying the EWIS-ALIM and using external resistors a similar effect can be obtained, as shown in Figure 3B below:

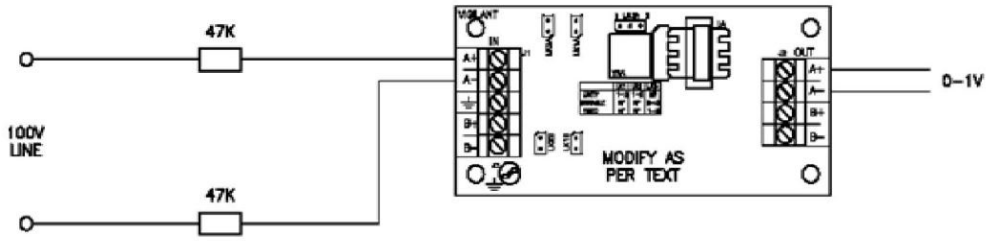


Figure 3B - 100V Line Coupling Using Resistors

Modify the ALIM as follows:
(ALIM Revision 1 only). Remove D1A and D2A for Channel A, and/or remove D1B and D2B for channel B. Not required on ALIMs Revision 2 or later.

Set the links as follows:
Remove LK1 and LK2. Insert LK3 in position 2-3. This link must be installed even if you don't need the volume control.

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EWIS NETWORK SPURS

Both the input and output of each EWIS-ALIM audio channel are capacity-coupled, allowing the use of a DC supervision signal to detect the presence of an EOL resistor. The capacitors prevent the EWIS-ALIM transformer from shorting out the DC supervision signal. With this feature the ALIM can be used to provide spurs for PA speech and WIP Speech in a networked EWIS system, as shown in the following diagrams.

Figure 5 shows in more detail the wiring of the EWIS-ALIM at the location where the spur joins the main bus (Location 2 in Figure 4). Other locations will not have a spur and so will not require the EWIS-ALIM.

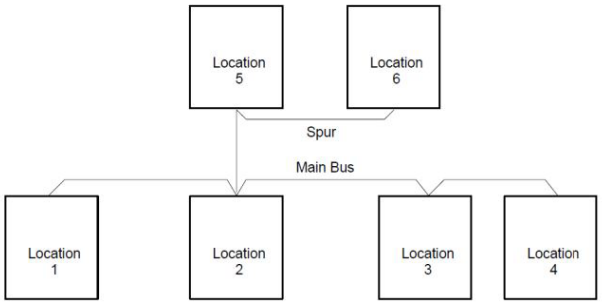

Figure 4 - Typical EWIS Network System (with Spur)

Figure 5 shows in more detail the wiring of the EWIS-ALIM at the location where the spur joins the main bus (Location 2 in Figure 4). Other locations will not have a spur and so will not require the EWIS-ALIM.

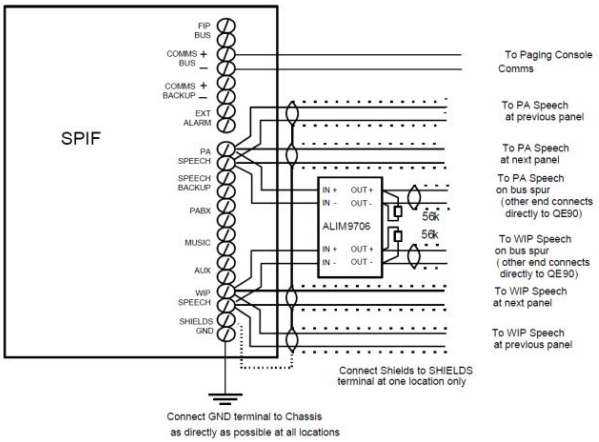

Figure 5 - Use of EWIS-ALIM at EWIS Network Spur

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MOUNTING & EARTHING

The EWIS-ALIM may be mounted:

- ✓ on a DIN rail (see Fig 6)
- ✓ on a gearplate or chassis using PCB standoffs. Suitable standoffs are listed under “Ordering” at the end of this document.

The EWIS-ALIM should be connected to a suitable earth stud. An earth connection is provided for this purpose and is located at the centre of the five-way input connector on the EWIS-ALIM. Refer to Figure 3A/3B and to the circuit board encoding.

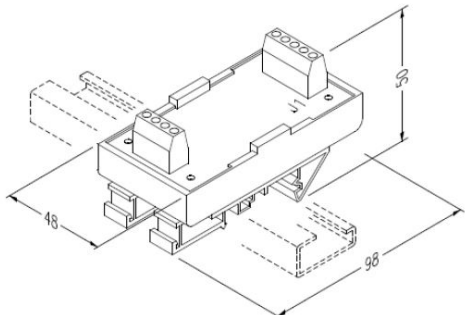

Figure 6 - Layout and Dimensions with plastic DIN rail mounts (supplied)

TECHNICAL SPECIFICATIONS

Physical Size	**PCB only:** 94mm x 45mm x 25mm + PCB standoffs **In plastic holder:** 98mm x 48mm x 50mm
Mounting Type	PCB standoffs or DIN rail adaptor
Mounting Hole Pattern	83mm x 34mm rectangular footprint
Operating Temperature	-5°C to +45°C
Max Input Voltage	See Table 1
Max Current	Nil
No. of Channels	2
Voltage Isolation	Limited by maximum common mode voltage to earth (275V protection MOVs)
Gain	Up to unity gain. Set by links LK1, LK2, LK3 & VR (See Table 1)

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