

# ILD1000G Installation Handbook

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- 1 x Deaf logo



**This symbol is used to alert the user to important operating or maintenance instructions.**



**The Lightning bolt triangle is used to alert the user to the risk of electric shock.**

## SAFETY

1. It is important to read these instructions, and to follow them.
2. Keep this instruction manual in an accessible place.
3. Clean only with a dry cloth. Cleaning fluids may effect the equipment.
4.  Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
5. Do not install this equipment near any heat sources such as radiators, heating vents or other apparatus that produces heat.
6.  **WARNING – THIS APPARATUS MUST BE EARTHED / GROUNDED.**
7. Only power cords with the correct power connector may be used to maintain safety. Cables incorporating the UK 13A fused plug, Schuko with earthing contacts and UL approved "grounding type" are acceptable. These must be plugged into power outlets which provide a protective earth.
8. Refer all servicing to qualified personnel. Servicing is required when the apparatus has been damaged in any way, such as a power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to any rain or moisture, does not operate normally or has been dropped.
9.  **WARNING – To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.**



**TO PREVENT ELECTRIC SHOCK DO NOT REMOVE THE COVER. THERE ARE NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL.**

## INTRODUCTION

The ILD1000G Induction loop driver has been designed as a high quality amplifier for use with conference rooms, stadia, theatres, sports halls, confidential rooms, lecture halls and cinemas. Depending on a number of factors regarding the installation of the loop and the set-up of the amplifier the ILD1000G can provide compliance with IEC60118-4 for areas >1300m<sup>2</sup>.

Ease of installation and use have been major factors in the design, combined with optimised performance, and the freedom from R.F.I. generation.

The ILD1000G has three inputs. A balanced line (INPUT 3), a balanced microphone (INPUT 1) and one (INPUT 2) which can be configured to either. For more complex installations, you may need ancillary equipment such as microphone pre-amplifier(s), adaptor(s) for use with 100V line, or signal processing units. See **Accessories** or contact Ampetronic for advice.

## QUICK START

For those who have a good appreciation of loop systems, the following is a very quick guide to setting up the amplifier: All you need is an ac power source, a signal source and a loop. See 'Designing Induction Loops' handbook (supplied) or contact Ampetronic for advice.

### Installation

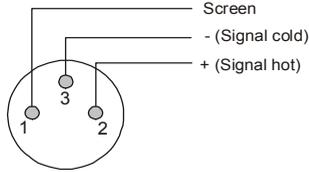
1. Turn all controls fully anti-clockwise.
2. Connect loop cable of appropriate length / gauge.
3. Connect signal input(s).
4. Connect power. See points 6 and 7 in **SAFETY** section.
5. If rackmounted remove all rubber feet from units. DO NOT re-fit the feet fixing screws as this may cause damage and invalidate the warranty

### Operation

6. Switch ON – check green POWER LED flashes during self test and illuminates continuously when checks are complete.
7. Apply input signal and increase the input control until two green COMPRESSION LEDs are illuminated on the peaks of the signal.
8. Adjust the CURRENT control until the CURRENT LED illuminate to achieve the desired peak current.
9. Repeat step 6 for any other inputs used.
10. Listen to the magnetic field produced inside the loop area using a receiving device (e.g. Ampetronic ILR3), or examine the performance in more detail with a field strength meter.
11. Adjust MLC control to achieve a flat frequency response.

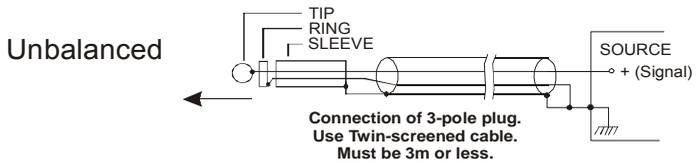
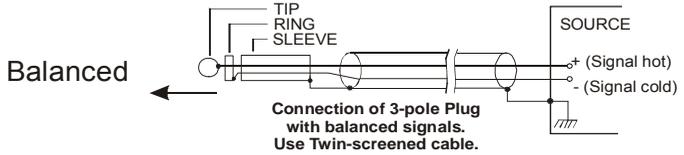
# Connections

## INPUT 1 & 2

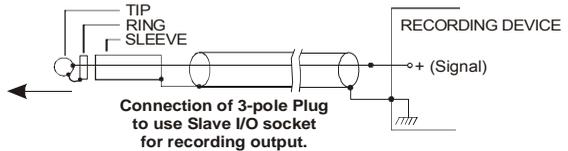


Connection of balanced male XLR

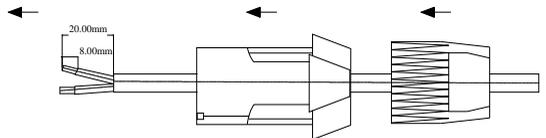
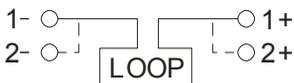
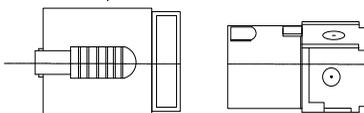
## INPUT 3



## SLAVE I/O

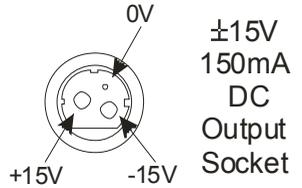
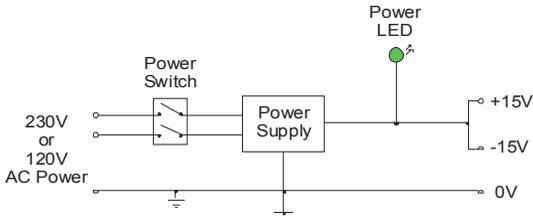
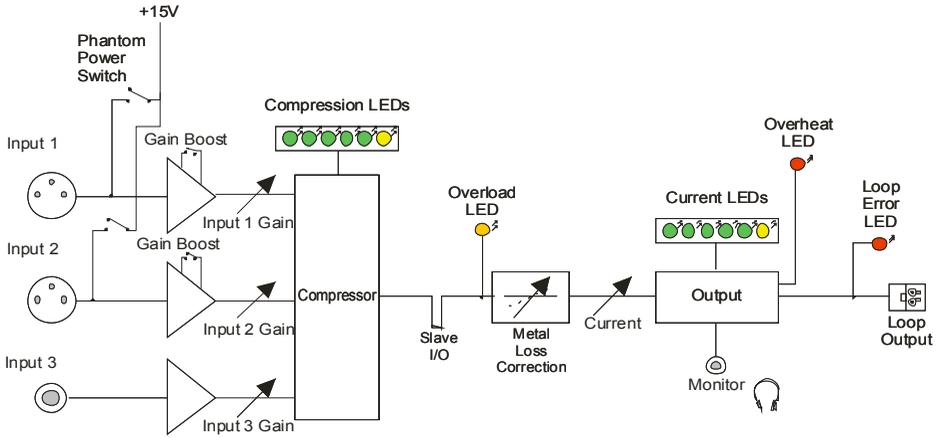


## LOOP CONNECTOR



Refer to technical specifications for connection details

# Block Diagram



**±15V  
150mA  
DC  
Output  
Socket**

**Use cable supplied.  
Must be 3m or less.**

## INSTALLATION

### Location

The unit may be free standing or 19" rack mountable using the rack 'ears' supplied. Fitting of the 'ears' is achieved by removing the two left hand side for the smaller 'ear' and all three right hand side panel screws for the larger 'ear'. The same screws are then re-used to secure the 'ears' in place. (A PH2 screwdriver will be required). For 19" rack mounting the four rubber feet must be removed.



The location must provide adequate ventilation for the unit.

An internal fan provides forced ventilation using air vents at the left side (intake) and rear (exhaust) of the unit. Both of these vents must be unobstructed for satisfactory cooling. If the unit is installed in an enclosed environment, sufficient airflow into the enclosure must be provided through vents fans or other means, such that the units exhaust air is not recycled to the inlet – causing a reduction in output current or OVERHEAT LED to be illuminated.

Contact Ampetronic for advice on cooling requirements for your installation.

### Tools and Equipment

Small hand tools including a wire stripper and a small flat blade screwdriver will be required.

An ILR3 loop receiver or a magnetic field strength meter is vital to check that the loop system is providing the desired level of performance.

A pair of stereo headphones with a 3.5mm jack plug connection is also useful to monitor the loop signal.

### System Requirements

The induction loop cable itself should be already installed according to the 'Designing Induction Loops' handbook, or as per specific design instructions provided by Ampetronic. As a result, a target current should be known, based on achieving acceptable field strength across the area to be covered.

It is important that the total resistance of loop and feed must be between  $0.5\Omega$  and  $3\Omega$  (at DC). If this is not achieved, the LOOP ERROR LED will become illuminated, and the amplifiers output will be disabled. See **Troubleshooting** section for details on how correct this, and get your system working.

The 'Designing Induction Loops' handbook contains more details on loop and feed cables. The correct design and positioning of the actual loop is vital for satisfactory system performance. If in doubt consult Ampetronic for advice.

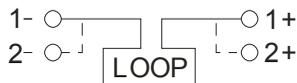
See next page for connection and set-up.

## Connection and Set-up

It is advised that the loop system is initially set up using a local audio source such as a CD player, which is not connected into any other system. This avoids the complication of ground loops and feedback etc, whilst the unit is set up.

The following procedure describes the installation of a stand alone ILD1000G, and does not incorporate connection of other ancillary units such as microphone pre-amps, mixing desks, or signal processing units.

1. Turn all controls fully anti-clockwise.
2. Connect the feed cable from the loop into the NL4 loop connector supplied as shown:



*Note: Where using a perimeter loop (floor/ceiling level), the feed cable should be tightly twisted to avoid unwanted stray magnetic fields.*

3. Connect the signal inputs appropriately:

**Microphones:** Suitable dynamic or condenser microphone with balanced cable feed. Select phantom power as required. Connect to INPUT 1 and INPUT 2 (with selector switch in the appropriate position) using a 3-pole XLR plug wired as per **Connections** drawing.

**Line level signals:** From other audio equipment such as PA system, mixing desk or CD player. Connect to INPUT 2 (with selector switch in the appropriate position) using a 3-pole XLR plug and INPUT 3 using a 3-pole balanced jack plug both wired as per **Connections** drawing.

You may use either or all three inputs.



Do not run input and output cables close together

The SLAVE I/O must **NEVER** be used as a separate input. It must only be used with Ampetronic signal processing equipment or for obtaining a signal for recording. See **Connections** for details.

4. Connect AC power to the ILD1000G. See points 6 and 7 in **Safety** section.
5. Switch ON. The POWER LED will flash for a few seconds whilst an internal self-test is performed and the loop resistance is tested. If both tests are successful, the POWER LED will illuminate continuously and the unit will be in an operational mode. If the POWER LED continues to flash, or the LOOP ERROR LED illuminates, consult the **Troubleshooting** section.
6. Select one input and apply a suitable audio signal (ideally a CD player

with music or continuous speech applied to INPUT 3, with no connection to INPUT 1 or INPUT 2). Turn the associated input control clockwise until two COMPRESSION LEDs are illuminated on the peaks of the signal.

7. Turn the CURRENT control clockwise until the target current is achieved – as indicated by the CURRENT LEDs. Note that consecutive LEDs illuminate at 3dB intervals. Headphones can be used with the MONITOR socket to listen directly to the loop current. If high frequency oscillation or low frequency hum is experienced, consult the **Troubleshooting** section.
8. The loop system should now be providing a magnetic field inside the area of the loop – use the ILR3 or field strength meter to examine its performance with respect to:
  - a. Magnetic field strength. This may vary across the coverage due to layout, metal loss and loop current.
  - b. Frequency response. Metal losses tend to increase with frequency, and may require the adjustment of the MLC control.

As a result of this analysis, adjust the CURRENT and set the MLC to achieve the best sound quality. This should result in adequate magnetic field strength and a level frequency response in order to satisfy IEC60118-4. Note: Do **NOT** adjust the MLC control whilst listening to the MONITOR socket as this will not give a true indication of the response of the actual loop.

Once the CURRENT and MLC controls have been adjusted to the correct level they should **NOT** need re-adjusting.

9. If not already done so, steps can now be taken to integrate the ILD1000G into a PA / mixer arrangement following standard audio techniques. If any unusual effects are experienced refer to the **Troubleshooting** section.

Note: Ideally, each input signal level should be set up to achieve 6dB (one LED) of COMPRESSION with the quietest level of input likely to be used. This will maximize the dynamic range of the system and ensure satisfactory performance.

10. Repeat the above procedure for each input used. When adjusting each input, make sure the signals are removed from the other inputs. This ensures that all signals are set to equivalent loudness and drive the compressor properly.