

ILD9 Large Area Audio Induction Loop Driver

The ILD9 is the industry standard large area induction loop driver. Installed in thousands of locations Worldwide, it is unrivalled in audio quality, performance and reliability, delivering superior vocal and musical reproduction to the hearing aid user for greater intelligibility and enjoyment. It is backed by a 5 year warranty and free comprehensive technical support. It boasts all the usual features found on Ampetronic equipment such as metal loss correction and is compatible with our unique Ultra-low Spill™ and Parallel Drive™ technologies. With the highest voltage headroom of any driver in its class, it is capable of driving longer loop cables than any of its competitors and can be located several hundred metres away from the point of use.



Features

- **Area coverage to >1000m²**
- **Low lifetime cost**
 - Proven reliability
 - 5 year warranty
- **Superior audio quality for speech and music**
- **Metal loss correction**
0 to 3dB / octave
- **Ultra-low spill™** capability for confidential and adjacent room applications
- **Parallel drive™** capability for very large area coverage to >4000m²
- **Loop condition monitor option** for safety critical applications
- **Remote operation** feed cable from amplifier to loop can be hundreds of metres long

Applications include:

- Theatres
- Auditoriums
- Large conference rooms
- Stadiums
- Large Churches and Cathedrals
- Court rooms
- Shopping Centres
- Transport Hubs

Perimeter Loops – Area Coverage (maximum)

Room aspect ratio	1:1	2:1	3:1
Maximum area m ²	500	900	1050

For maximum coverage, the follow conditions are assumed:

- the loop is suitably displaced above or below the receiver height. (See installation guide)
- there are no metal structures in the plane of the loop
- there is sufficient voltage to drive the loop – check table below

Low Overspill or Low Loss Systems

ILD9 Loop drivers are compatible with Ampetronic's Ultra-Low Spill™ technology. For this and metal loss compensation, an SP5 phase shifter and an array design are required – Ampetronic can provide designs or guidance for any application.

Used to drive an array, two or more ILD9s can:

- Minimise 'spill' – confine signal to within 1.5m of loop perimeter, suitable for adjacent rooms, cinemas, theatres, classrooms and installations where confidentiality is important.
- Compensate for high losses due to metal structures – the only effective solution for high loss environments to meet IEC60118-4

Maximum Cable Length

The ILD9 is designed for SINGLE TURN loops for optimum audio quality:

- Loops with DC resistance from 0.4 to 3.5Ω
- Impedance up to a maximum of 3.8Ω

Cable type	Maximum Total Cable Length (m)	
	Normal use*	Transient speech*
1.0mm ² copper	142	164
1.5mm ² copper	168	204
2.5mm ² copper	194	246
1.8mm ² flat copper tape	250	290

* Short term speech (e.g. service counter, airport PA system) can cope with limited clipping at high frequencies – Ampetronic recommends delivery of full current up to 1.2kHz for these applications. Longer term usage or signals with music or high quality audio must deliver full current to at least 1.6kHz to prevent fatigue and give acceptable intelligibility. Many commercially available systems do not deliver sufficient voltage to reproduce critical high frequencies – ask Ampetronic for more details.

ILD9 Product Information

Equipment supplied as standard with the ILD9

- Handbook, installation instructions and design guide
- 1 x Loop connector
- 197 x 252mm loop system present sign (deaf logo)
- 1 x AC power cable (region specific)

Installation accessories

Ampetronic can supply a range of accessories to meet the specific needs of your installation:

Description	Part no
Copper tape – 18mm x 0.25mm x 50m roll	FB1.8
PVC extrusion – to protect copper tape	EXT
Installation / warning tape	PWT
Rack mount kit – mounts in 2U space	RM9
Phase shifter – to use an SP5, an array design will be required. This can be provided by Ampetronic	SP5

Input adaptors and preamplifiers

By using the appropriate adaptor or preamplifier, the ILD9 will accept multiple additional inputs or audio inputs from other sources:

Input type	Adaptor
Unbalanced microphones	MAT1 (with pre amp)
Additional line and / or microphone inputs	MP101 / MP221 / MP522 mixers and preamps can drive up to 5 mics and 2 line inputs
70V / 100V line input	ATT100
40V / 70V / 100V line inputs with transformer isolation	ATT T series
Low impedance speaker line transformer isolated	ATT30 adaptor

ILD9LCM Continuous monitoring option for safety systems

The loop condition monitor is factory fit option. It continuously monitors the loop integrity and the operating condition of the driver for Voice Alarm and similar applications. The status is signalled by a simple isolated relay contact.

INPUTS

Power	160W 230V AC, 45-60 Hz 115V AC option available Power switch and LED indicator on front panel
Line input	6.4mm jack socket balanced; sensitivity – 40dBu Overload protected CMRR >50dB below 500Hz Recessed control on front panel
Slave I/O	6.4mm Jack insert point for connection of SP5 phase shifter. 0dBu signal can be used for recording

OUTPUTS

Drive voltage	>36V peak at max drive current
Drive current	<ul style="list-style-type: none"> • 1kHz sine wave peak >9.6A • Short term peaks > 13A • Recessed control on front panel • Drive current indicated on 6 LED display in 3dB increments
Loop connector	Wieland ST17/2 (supplied)

AUDIO SYSTEM

Freq. response	80Hz to 6.5kHz ± 1.5 dB at low level
Automatic Gain Control	AGC optimised for speech. Dynamic range >30dB Recessed input level control and 5 LED display in 6dB increments on front panel <0.25dB output change for 25dB input change
Metal loss correction	Corrects system frequency response degraded by metal structures the building. Gain constant at 1kHz, adjustable gain slope from 0 to 3dB / octave. This does not compensate for amplitude loss due to metal structures.

ADDITIONAL FUNCTIONS

Ancillary	± 15 V DC 150mA regulated power outlet on rear.
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PHYSICAL

Cooling	Natural convection
Dimensions	Full width 2U: width 432mm, depth 220mm, height 88mm
Weight	5.5Kg
Environment	IP20: 20 to 90% relative humidity, 0 to 35°C

Standards compliance

The ILD9 is CE marked to all relevant safety and EMC standards. It has CSA approval for sale in the USA and Canada. Audio induction loop systems based on the ILD9 or other Ampetronic loop drivers will meet the requirements of IEC60118-4 and the relevant recommendations of BS7594 if specified and installed according to Ampetronic's instructions.



AMPETRONIC



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