We set the standard in safety



ClearConnect™

Empowering hearing aid users to take every journey with confidence

Ardent®



The ClearConnect™ hearing loop has been designed to make travelling on public transport an accessible, reliable, and relaxed experience for hearing aid users.

ClearConnect™ isn't just another hearing loop



By switching their aid to hearing loop, passengers gain access to crisp and clear announcements – such as next-stop information, driver communication, and more

Elevating the customer experience
We want all customers to receive the best possible experience when it comes to travel. Through ClearConnect™, we empower hearing aid users to take every journey with confidence, transforming what may once have been a daunting experience into a comfortable one.

Our aim is to provide a product that not only does the job, but one that does it better than every other product on the market – because being inclusive matters to us, and we hope it does to you too.

A legal and ethical responsibility
The Public Service Vehicles (Accessible Information) Regulations 2023 states that all new buses must be fitted with a hearing loop system, and some older buses should now be retrofitted.

Ensuring accessible travel for all is not only a legal obligation, but an ethical one too – which means taking the time to source solutions that make the best possible difference to your customer base is crucial.

ClearConnect™ is a sophisticated and effective system that's been designed with the user in mind

Having worked in close collaboration with experts and charities such as the Royal National Institute for Deaf People (RNID), we've developed a solution that truly addresses the needs of those who are hard of hearing – and which overcomes the drawbacks of many other commonly used devices, allowing you to provide the highest level of customer care.

Having undergone a rigorous three-year development programme, the result is a sophisticated system that provides the utmost comfort to the user. Passengers are not confined to 'priority seating', enhancing the overall experience of their journey.

The system experiences less interference than others on the market, and is leading in its intelligibility and in picking up natural speech, meaning clear communication at all times.

Plus, drivers get peace of mind the system is activated and working and will be auto-alerted if there is a fault.

Increased intelligibility for clear communication



ClearConnect™ provides direct communication between the driver and passengers

Entrance platform induction loop
The entrance platform induction loop allows the driver to communicate directly with passengers using hearing aids, regardless of physical barriers and ambient noise.

Direct delivery of vehicle information systems messages
The induction loop system allows for the delivery of vehicle announcements directly into the hearing aid.

Fault monitoring
Monitors power and the signal, allowing the bus driver to confirm the system is activated and working.

Extensive connectivity and coverage
The system has the ability to cover listening areas outside of 'priority seating' with minimal interference, aiding passengers' comfort and enabling them to choose where to sit.

Compliant with disability and safety regulations
The system has been specifically designed to conform to the BS EN 60118-4 code of practice for AFILS and the PSVAR, which took full effect in 2020.

Market-leading clarity
Easily picks up natural speech, and experiences less interference than other systems on the market.

Enhanced comfort and a wholly inclusive experience

Extensive connectivity and coverage

Compliant with disability and safety regulations

Direct delivery of vehicle announcements



Fault monitoring

Entrance platform induction loop

Market-leading clarity

Requirements and standards for induction loop systems

As society makes leaps towards creating a more inclusive environment for all, various acts, regulations, and standards are in place to help mitigate some of the challenges faced by people living with a hearing impairment.

The Equality Act (2010)
In the United Kingdom, the Equality Act (2010) aims to protect people from discrimination or unfair treatment on the basis of certain personal characteristics, such as disabilities.

The act requires service providers to make reasonable changes where required to improve accessibility for people with disabilities, including the hearing impaired. This includes the provision of auxiliary aids, such as induction loops for customers with hearing aids.

Approvals

E11 10R06/00*11815*00

Communication concerning approval granted of a type of electronic subassembly with regard to Regulation No. 10.06

BS EN 60118-4 is the code of practice for audio-frequency induction loop systems (AFILS), which aims to ensure that induction loops are fit for purpose, functioning correctly and of real benefit to the user.

The code of practice gives advice around the design, planning, installation, testing, operation, and maintenance of an audio-frequency induction loop system intended for communicating speech, music and/or other signals.
To comply with BS EN 60118-4, it must be demonstrated that the induction loop systems meet certain criteria, including being fit for purpose, in working order and having a field strength of 400 mA/m.

Key features

The Large Area Vehicle Hearing Loop Driver is a durable unit designed to enhance communication throughout transport vehicles such as buses and coaches.

This dual-output driver powers phased array and perimeter hearing loops with a Class-D amplifier output stage and an audio subsystem built around an advanced DSP core.

Automatic gain control and high-frequency compensation provide control in environments with metal loss. Applications for use in vehicles requiring coverage across large areas, such as buses and coaches.

Features include:

- 2 x Independent loop outputs (selectable 0° and 90° phase shift)
- Voltage: >12VRMS | Current: >4ARMS
- Line level input (balanced and transformer isolated)
- Line high voltage level input (balanced and transformer isolated)
- Universal line or microphone input (microphone bias: optimised for Ardent microphones)
- DSP-controlled automatic gain control and high-frequency compensation for metal loss
- Integrated protection circuits with temperature, voltage, short-circuit and DC detection
- Compact chassis with mounting brackets
- Flexible signal routing:
  - Line/mic input can feed one loop output whilst other inputs feed the second output, or,
  - All inputs can feed both outputs – outputs can then be selected as 0° and 90° phase shift
  - Connector: WAGO 769 series
- Digital audio input [optional extra]





ClearConnect™ by Ardent

Considerations when scoping out a hearing loop system

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Although installing a hearing loop system from any provider will ensure legal compliance, opting for a cheap but inferior system is a false economy

Inclusivity is a rapidly growing area, and one which shows no signs of stalling.

A system that doesn't work as it should may result in a poor experience for customers, bus downtime, and increasing customer complaints – all elements that can reduce the chance of securing new routes.

Subpar equipment and a failure to invest in levelling up a customer's experience can also serve as a sign that inclusivity isn't high on a provider's agenda – a conclusion that can reflect poorly upon a company's reputation.

Choosing Ardent's installation service ensures:

System quality bespoke to your buses
We spend time assessing and surveying one of your buses to identify exactly where the hearing loop should be placed to guarantee its best performance. We then fit and rigorously test the hearing loop. Once the system is up and running, bespoke to the bus, it's a quick process to install it across the rest of the fleet, with minimal downtime for your service.

Optimum placement
Many operators opt to place the hearing loop at the front of the bus. However, this may not always be the most appropriate location. Our audit takes this into account and settles on a placement that ensures passengers enjoy a comfortable and well-informed journey.

Servicing and maintenance
We pride ourselves on our customer care and a truly end-to-end service, from initial conversations through to bus surveys, installation and aftercare. We're here to support you at every stop on the journey.

Key technical specification

Physical data

Dimensions	Height – 143mm (5.62″) Width – 294mm (115.7″) (361mm (142″) inc. brackets) Depth – 41mm (16.1″)
Construction	Zintec / mixed
Finish	Powder coated

Technical data

Audio inputs		
1 x line level input (balanced and transformer isolated)	Voltage Frequency range Topology	-45dBV – 0dBV (optimised for -10dBV – 0dBV) 100Hz-6000Hz Balanced and transformer isolated
1 x line high voltage Level Input (balanced and transformer Isolated)	Voltage Frequency range Topology	+5dBV – +45dBV (0.562Vrms -100Vrms) 100Hz-6000Hz Balanced and transformer isolated
1 x universal line or microphone Input (microphone bias: optimised for Ardent microphones)	Voltage Frequency range Topology Microphone bias	-45dBV – 0dBV (optimised for -10dBV – 0dBV) 100Hz-6000Hz Electronically balanced Optimised for Ardent microphones
1 x digital audio Input (optional extra feature, not fitted on standard units)	Connection Encoding Sample rate	SPDIF PCM 16 bit 44.1KHz, 48KHz, 96KHz
Outputs		
2 x independent loop outputs (selectable 0°and 90° phase shift)	Voltage Current Selectable 0° and 90° phase shift	>12Vrms >4Arms
1 x line level output	The line outputs should have the following characteristics: Format Phase shift Gain	 Audio mix of all drivers 0° 0dB
System connections		
1 x power connection	Voltage Current Connector	Nominal 24V (9V-24V) Maximum 6.6Arms @ 9VDC WAGO 769 series detachable 2-way block
1 x USB connection (for factory configuration and system setup, adjustments and updates)	The input should have the following characteristics: Connector Use	 USB type-A Firmware/config/update
2 x enable/disable (mute) connections	The input should have the following characteristics: Trigger Threshold	 Configurable (high-low or low-high) Production configurable (resistor change)
Connector type	WAGO 769 series	

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To find out more about ClearConnect™, or to explore how we can help you enhance the safety of your vehicles, contact the sales team on +44 (0) 1423 326 740

Find out more about ClearConnect™

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