

# Helping the world to hear clearly

through market leading  
assistive listening technology

**AMPETRONIC**

Listen to the difference

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“One in six people lives with a hearing loss. That’s a huge number of people whose lives we can make a difference to, every day. We’re proud to be leading the field in assistive listening technologies, sharing our expertise, educating others and finding out what people with a hearing loss really want. It’s about constantly raising standards, being innovative and improving lives.”

**Julian Pieters**  
MD, Ampetronic



### Lugner City Complex, Austria

Lugner City is a 11-screen multiplex cinema. with a total capacity of 1,840. The Lugner approach is inclusive as well as exclusive, and the cinema owner has sought to appeal to hearing-impaired customers by insisting that all 11 of the multiplex screens are equipped with induction loops. This has the added bonus of ensuring that Lugner Kino City complies fully with the requirements of the European Union’s new Disability Discrimination Act.

“Being able to tune into a film soundtrack using a hearing aid transforms the movie going experience for the hearing-impaired.”

**Richard Lugner**, owner  
Lugner City Complex

### Gungahlin College, Canberra, New South Wales, Australia

Gungahlin College is purpose built, offering a dynamic educational experience designed to ‘inspire individual achievement and confidence for life’. This institution describes themselves as:

“the finest example of senior secondary education in Australia”.

Genuine passion for the wellbeing of their students, helped make their purchase decision, to pursue Equality of Access for those with hearing loss. This college identified that assistive listening devices are an essential component for achieving equal auditory access for students with hearing loss.

After assessing suppliers, this academic institution decided that Ampetronic’s hearing loop technology, was the one for them, as the most reliable and transient solution on the market.

Equipment used to furnish key areas included: 12 ILD500 amplifiers, and six SP5 phased shifters. Wired in and working fabulously, Ampetronic’s systems are available for use by students, lecturers and visitors alike, in more than ten educational areas.

# Providing genuine benefit

## Making a real difference to lives of people with hearing loss.

Established in 1987 by Leon Pieters, a highly skilled engineer and local preacher, Ampetronic has built a reputation as the worlds' leading authority on hearing loop technology, and a champion of standards of best practice.

Based in Nottinghamshire, UK, Ampetronic makes hundreds of customer sites in more than 20 countries around the world accessible and enjoyable for people with hearing loss. End users can enjoy and experience high quality sound independently.

Passionate advocates of equality of access, Ampetronic also promotes the use of hearing loops, and informs architects, designers, consultants, specifiers, installers and supporting organisations, about innovative assistive listening solutions.

Ampetronic has a growing employee roster of around 50, comprising sales, marketing, distribution and R&D functions. Within Ampetronic resides the worlds largest dedicated hearing loop technical support and design team, ensuring continuous product innovation, using a combined experience of over 200 years, to provide a comprehensive service to all our clients.

A family business at heart, owner MD Julian Pieters has followed in his father's footsteps to lead the

company for over a decade. Under his guidance, Ampetronic has achieved phenomenal growth and commercial sustainability whilst cherishing the values and verve of Leons' vision, for developing technically innovative products that make a real difference to peoples' lives.

"Nothing compares to the experience I had tonight listening to the entire show through a hearing loop. This IS the first time that I was able to understand crystal clear, words of songs being sung and words being spoken... WOW oh WOW!"

**Jeff Nakashima** - customer, end user  
The Hale Centre Theatre, Utah

## Our values

Everything we do must result in a genuine benefit for our customers and end users. We do not simply create products to sell, we develop systems with...

- **technical accuracy**
- **integrity**
- **credibility**
- **compassion**
- **education**

### Eiffel Tower, Paris, France

Wired for sound with Ampetronic products, the Eiffel Tower offers equal accessibility to people with hearing loss.

Following planned construction of new facilities for receptions, dinners, private concerts, product launches and other events on the first floor, it was quickly identified that an assistive listening device was required to comply with accessibility legislation and to allow people with hearing loss to make the most of what this facility had to offer.

BIM Concept France were chosen to complete this project in what proved to be a very challenging and demanding environment, 57 meters above floor level.

"Principle is simple, non-discriminatory, reliable and inexpensive. Magnetic field generated by an induction loop propagates in the air and also passes through all insulating materials: wood, plaster, concrete, plastic, brick, glass, and more. However, it has an enemy - metal.

The presence of metal in the environment of an Induction loop leads to a weakening and deformation of the magnetic field, and a silencing of audio response. Therefore installation and design of loop systems that comply with IEC 60118-4 Standard in an environment, such as the Eiffel Tower 7300 tons of metal, requires a perfect mastery of these systems."

### Marc Beaufiles of BIM, installer

BIM worked with Ampetronic to design and simulate appropriate systems. Low spill phased array systems were designed to flawlessly compensate disturbances to magnetic, field due to the presence of metal.

*Image Credit - Benh LIEU SONG*

# Setting a gold standard in assistive listening

## Why hearing loops?

Most hearing aid users would say that when they use their aids in one-to-one conversations they work very well. Difficulties arise when the level of ambient noise is too great, as in a classroom, or the distance between the speaker and listener is increased for example in a theatre or conference hall. Problems are exacerbated if an assistive listening system in use, has been poorly specified or installed.

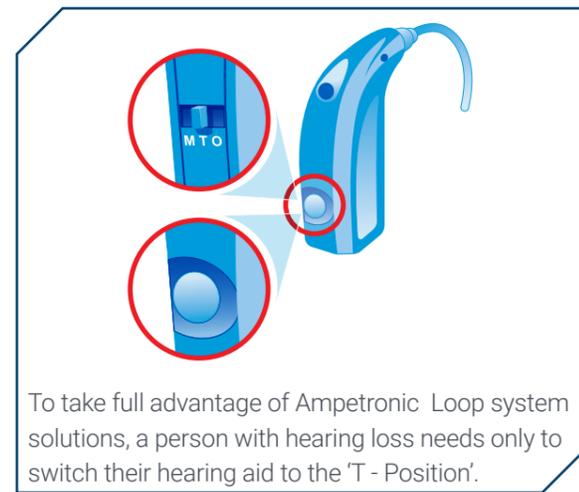
Hearing loops are one of three currently accepted types of assistive listening technology; Infra-red and Radio - personal frequency modulation (FM) systems, are also used.

At Ampetronic we offer a variety of assistive listening solutions, however, hearing loops are the absolute, stand-out best choice for:

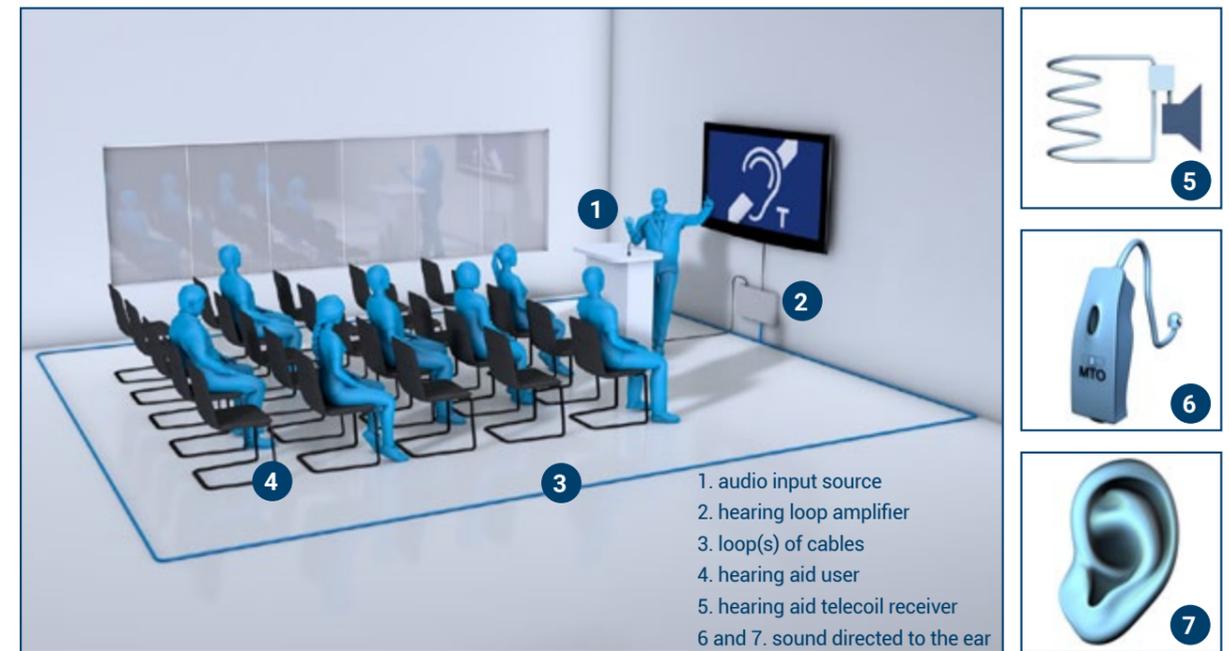
- pure clarity of sound and intelligibility
- phenomenal reliability
- discretion

Tuning into a Hearing Loop means no need to ask for help, or carry a receiver identifying the listener as somebody who experiences hearing loss. Market research shows users like the simplicity of using a loop system, and the independence it gives them.

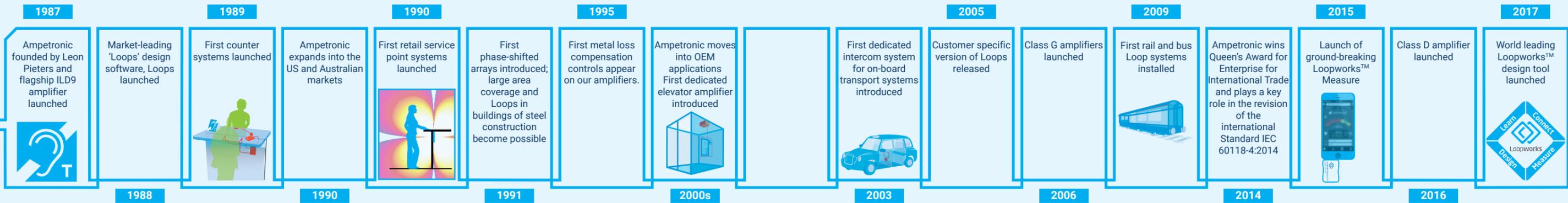
In addition, the number of people who can benefit from a loop system at one time, is only limited by the capacity of the 'looped' area.



# How a hearing loop works



An audio frequency induction loop (AFIL), commonly referred to as a hearing loop, induction loop or T-Loop, depending on your country of origin, is an assistive listening system that provides access to facilities for those with a hearing impairment. The system takes a sound source and transfers it directly to a hearing aid without background noise, interference or acoustical distortion.



# Technology customers trust

## Assistive listening solutions

Wherever people gather and communicate Ampetronic solutions can assist by ensuring those who experience hearing loss have the same opportunities as others to experience life without hindrance or discrimination. Our products and services are rarely seen yet ever present in:

- corporate offices and meeting rooms
- education in Universities, schools, colleges
- entertainment in theatres, cinemas and concert venues
- government and public buildings
- healthcare facilities
- intercoms and help points at ticket machines, car parking barriers and at kiosks
- hospitality and conference facilities
- leisure activities and stadia
- places of worship
- retail areas
- tourism and attractions
- transport concourses and stations
- trains, taxis, buses and trams

### St. Paul's Cathedral, London

St. Paul's Cathedral is one of London's most recognised buildings. To ensure that St. Paul's Cathedral adhered to equal access legislation RG Jones were hired and chose to install an Ampetronic hearing loop system.

"One key challenge was the fact that the crypt is, as you would expect, directly beneath cathedral's nave, we discussed issues of vertical spill, and how a system could best be controlled, and the answer was a loop system divided into five zones, each zone covering a different area of cathedral floor."

The finished result, an IEC60118-4 standard compliant system, received positive feedback...

"It's all working very well, it's straightforward to control and cathedral staff are very happy with it."

**Jon Berry, RG Jones**, installer



D7-2 Class D networkable DSP hearing loop amplifier

Operating in such diverse environments drives us to constantly innovate new solutions, which can provide a genuine benefit to our customers, and to their end users. This innovation driven evolution has led us to developing the worlds most extensive and effective range of hearing loop products, including:

### Original equipment manufacturer (OEM) special projects:

- on-board vehicles
- transport concourse areas
- lifts and elevators

### Area coverage:

- **D Series** - global benchmark for digital audio induction loop systems featuring the most powerful and versatile digital signal processing and networking functionality available
- **Multi-loop™ driver (MLD) series** - dual channel amplifiers for multiple loops or phase shifted array systems, meeting the most challenging requirements



- **Induction loop driver (ILD) series** - for high performance professional perimeter hearing loop systems



### Test and measurement systems:

- hearing loop receivers
- iOS Loopworks Measure App and R1 receiver field strength meter
- field strength meters

### Installation accessories:

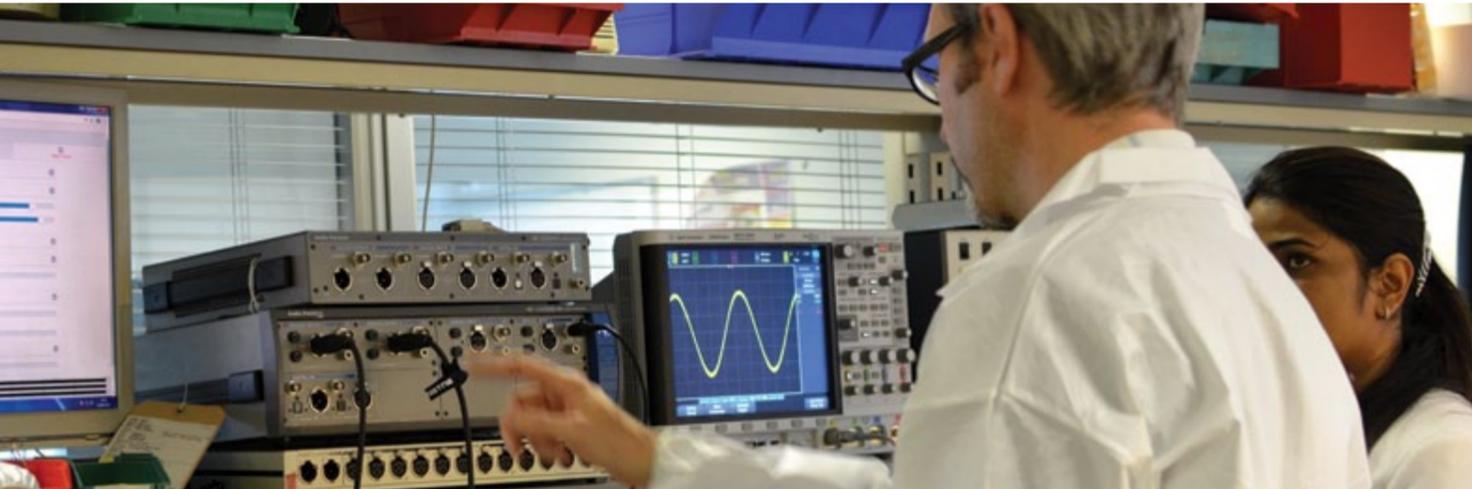
- cable and tape
- printed warning tape
- hearing loop signs
- crimps and crimp tools
- wall mounts and rack mount equipment
- counter loop accessories



### Reception areas and door entry, access and help points:

- CLS wall mount loop drivers
- CLD service points
- HLS intercoms
- TalkPerfect speech transfer

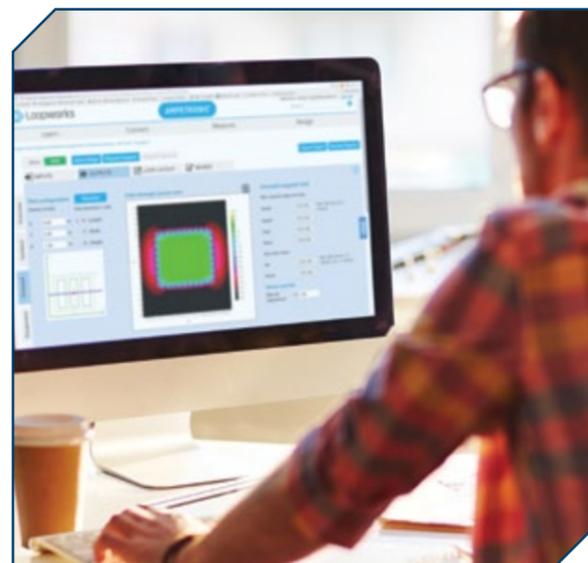
# Innovation is in our DNA



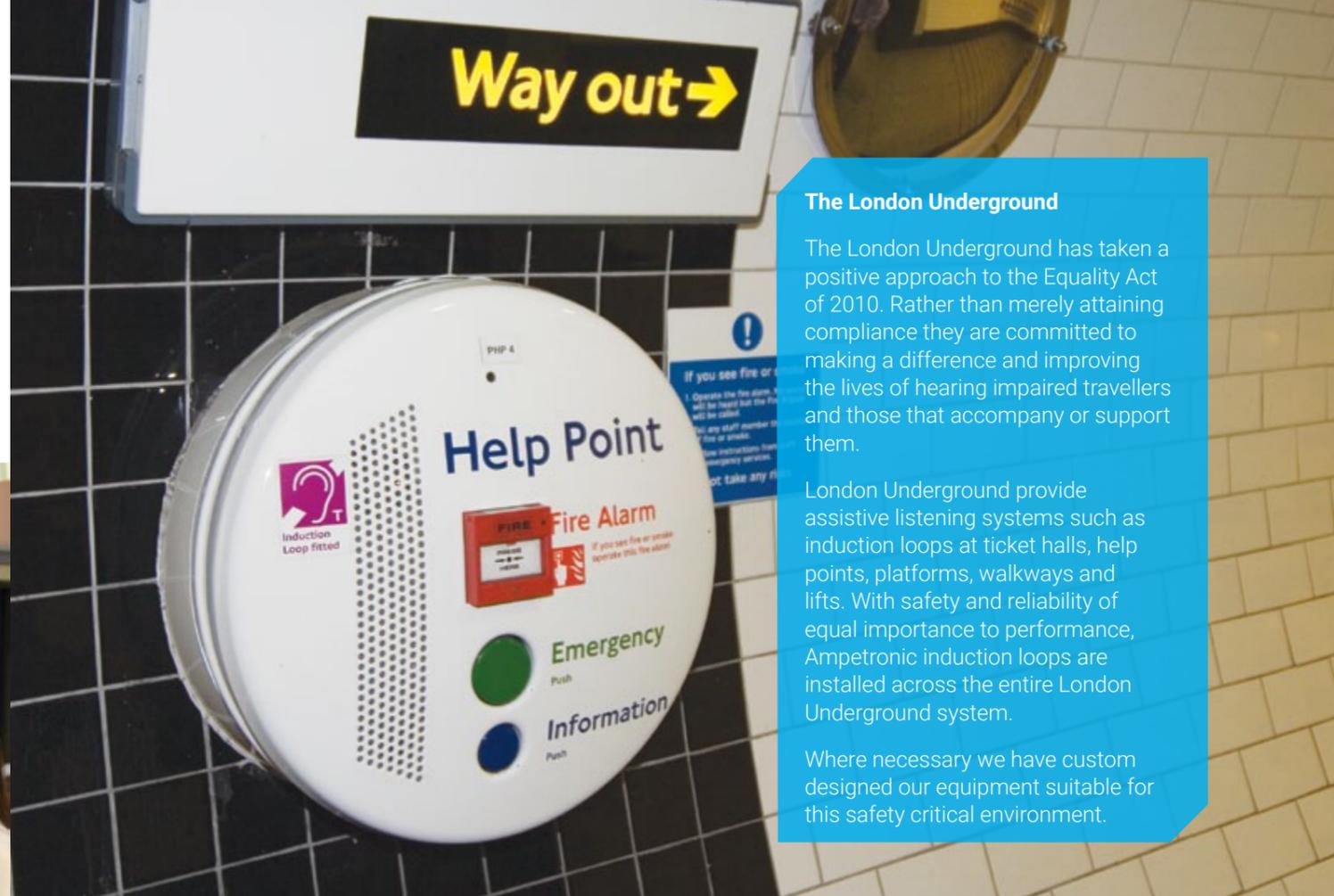
## We're technology pioneers, committed to continuous research and development

Founded by master engineer Leon Pieters, Ampetronic has continued to innovate throughout its history, bringing to market a number of key new technologies, including:

- **constant current drivers** - ensuring clarity and intelligibility
- **phase shifted loop arrays** - providing a consistent field strength, regardless of the shape and size of the looped area
- **measurement systems** - for testing system performance for functionality and against standards
- **CAD simulation** - allowing architects and system designers to accurately plan and communicate hearing loop installations



Today, our hearing loops bring you the highest quality audio and the most intelligible speech in the industry. Ampetronic technology has the lowest lifetime cost, running perfectly for years, rarely needing maintenance. In fact, every Ampetronic driver comes with a five-year warranty.

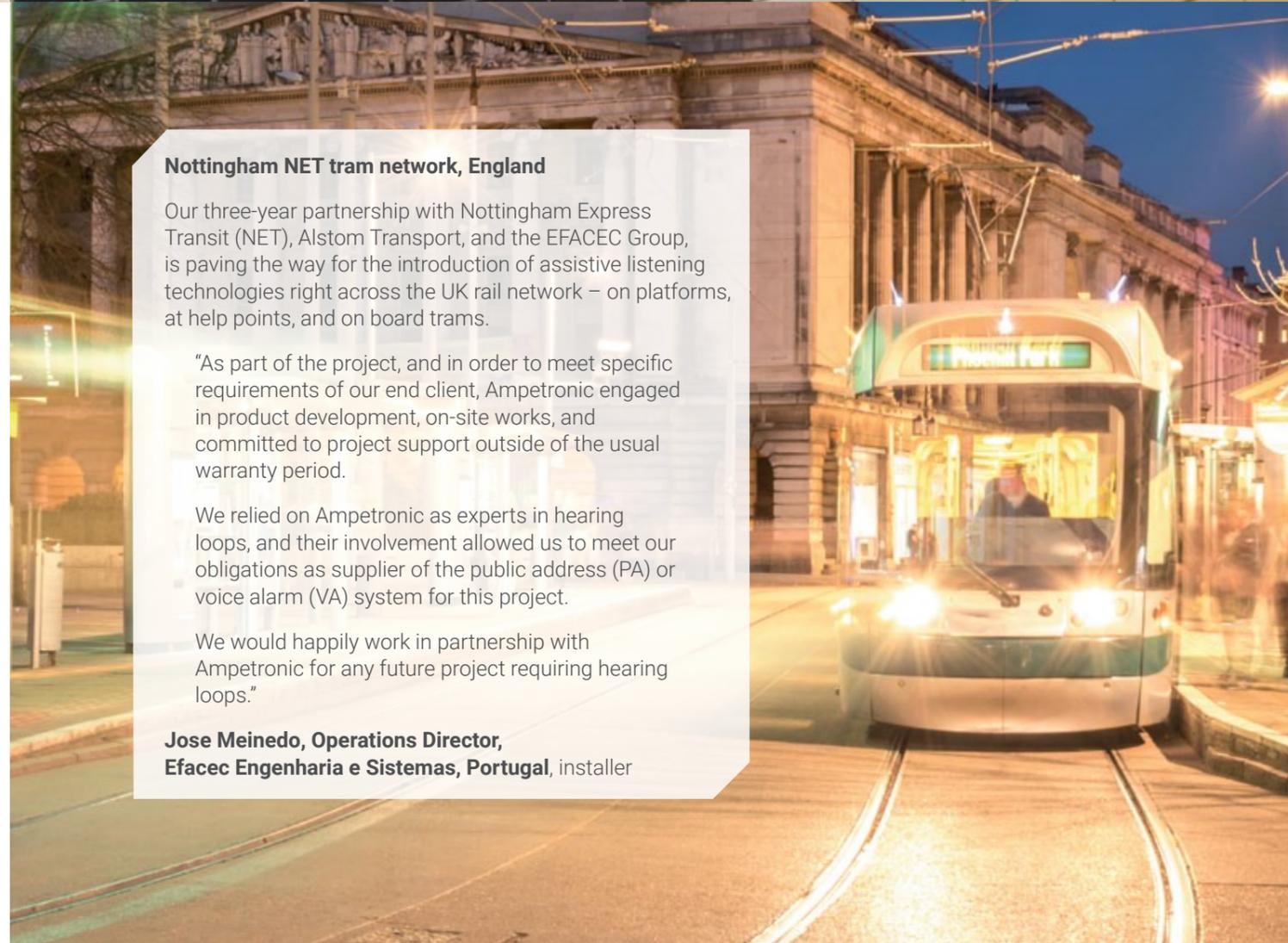


### The London Underground

The London Underground has taken a positive approach to the Equality Act of 2010. Rather than merely attaining compliance they are committed to making a difference and improving the lives of hearing impaired travellers and those that accompany or support them.

London Underground provide assistive listening systems such as induction loops at ticket halls, help points, platforms, walkways and lifts. With safety and reliability of equal importance to performance, Ampetronic induction loops are installed across the entire London Underground system.

Where necessary we have custom designed our equipment suitable for this safety critical environment.



### Nottingham NET tram network, England

Our three-year partnership with Nottingham Express Transit (NET), Alstom Transport, and the EFACEC Group, is paving the way for the introduction of assistive listening technologies right across the UK rail network – on platforms, at help points, and on board trams.

“As part of the project, and in order to meet specific requirements of our end client, Ampetronic engaged in product development, on-site works, and committed to project support outside of the usual warranty period.

We relied on Ampetronic as experts in hearing loops, and their involvement allowed us to meet our obligations as supplier of the public address (PA) or voice alarm (VA) system for this project.

We would happily work in partnership with Ampetronic for any future project requiring hearing loops.”

**Jose Meinedo, Operations Director,**  
Efacec Engenharia e Sistemas, Portugal, installer

# Effective, empowering support, by design

## Support

Our customers benefit from over 100 years of combined engineering experience. Our dedication to our customers, and our commitment to assistive listening standards, means you can be assured we will provide all the support and training needed. Our dedicated sales training and customer services teams will help you to get the best possible results from your Ampetronic hearing loop systems.

We provide comprehensive end-to-end solutions that will save you time and money. We support this delivery through highly skilled technical support teams who work to help you through even the most complex hearing loop designs, and installations. All we do is backed up by a customer service team, that is second to none.

In addition to our in-house technical support teams we enable and empower our customers by giving them access to our technology at their fingertips.

Our innovative Loopworks software platform gives you the tools to design, specify or measure an Ampetronic quality Hearing Loop system yourself. By controlling a design you can ensure compliance standards are met, and achieve outstanding results.

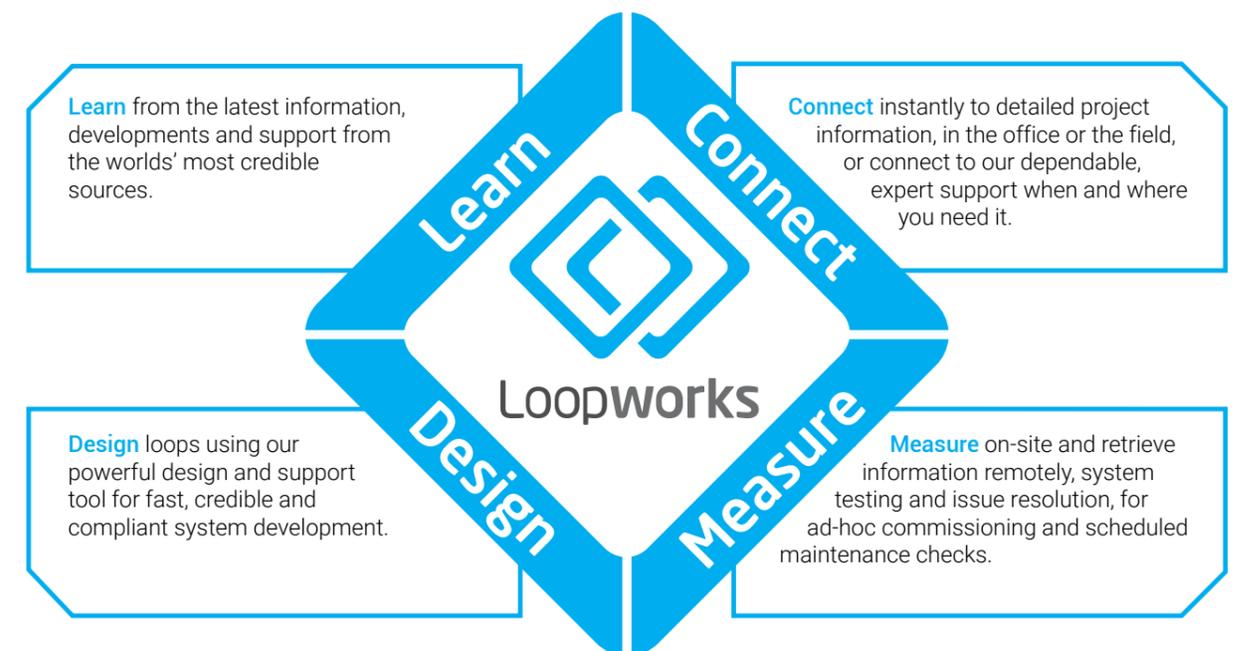
Loopworks offers instant access to your project information, the worlds' most credible loop information, and reliable, expert support, when and wherever you need it.



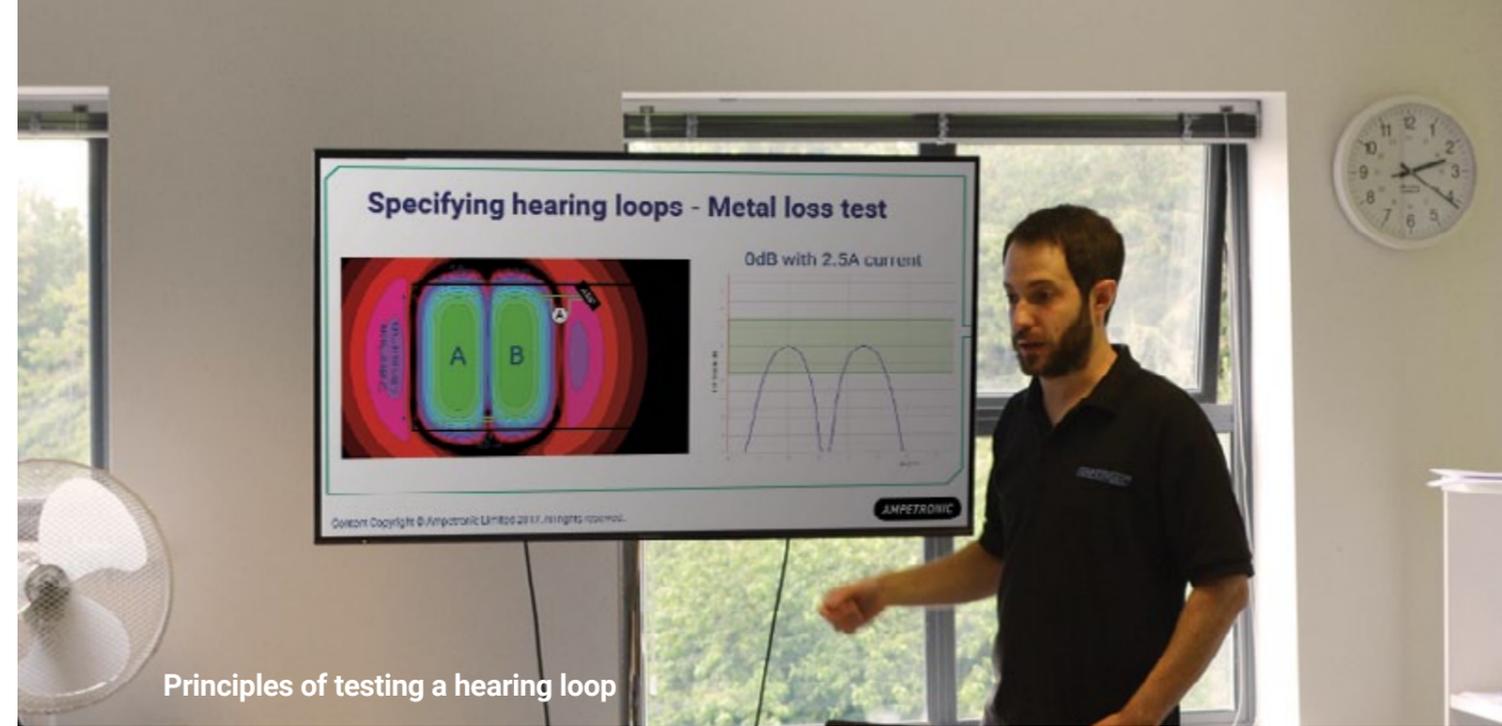
### Karolinska University Hospital, Sweden

Karolinska University Hospital is one of Europe's premier health facilities. Together with the world-respected Karolinska Institute, it is a leading centre for development and medical break-throughs.

Karolinska University Hospital is one of Europe's premier health facilities and features Ampetronic hearing loops in over 40 areas, requiring significant support due to size, type and scale.



# Raising standards across the industry



Principles of testing a hearing loop

## Standards

The International Electrochemical Commission standard, IEC 60118-4, defines requirements for operational performance characteristics of induction loop systems. This regulation should always be considered during specification, design, installation and maintenance of an Assitive Listening system. All Ampetronic specified systems are designed to comply with the IEC 60118-4 standard.

IEC 62489-1 defines internationally how performance of a hearing loop driver should be measured and reported on. This regulation aims to provide parity and consistency between manufacturers. Look for it on product data sheets, to ensure that advertised information is trustworthy. All Ampetronic driver information is compliant with IEC 62489-1.

Remember, if your driver performance hasn't been reported to the IEC 62489-1 standard, it's unlikely that your final system will achieve performance defined by IEC 60118-4.

## Building codes and regulation

In the UK, Building Regulations 2010 informs architects and builders about legally enforceable rules for new buildings, and requirements for equality of access. British Standards document number BS8300 is a code of practice that defines design of buildings, and the approach taken to meet needs of disabled people.

In the US, International Building Code (IBC) addresses accessibility in the built environment.

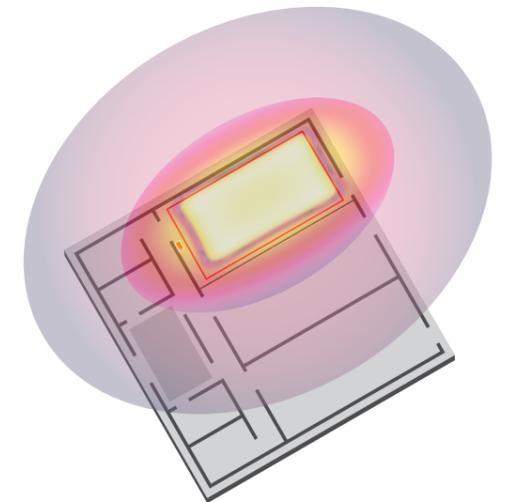
The Building Code of Australia (BCA) is produced and maintained by the Australian Building Codes Board (ABCB), on behalf of the Australian Government, and State and Territory Governments.

## Training

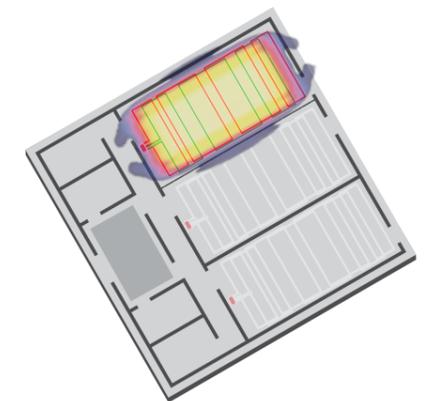
Ampetronic continuous personal development (CPD) training services, are designed to provide technical and general awareness for end-users clients and consultants. This training also provides a foundation for the professional installer, and systems integrator.

Ampetronic provides full day in-house training courses covering all aspects of hearing loop systems, aimed at audio-visual professionals, specifiers, and contractors. We also host free educational CPD seminars for general awareness, and sales team training, which can take place at a venue of your choice, or be viewed as a webinar.

Ampetronic training and support materials are also available free of charge from our website, and through our Loopworks Learn portal.



Perimeter loop with signal overspill



Low Spill Multi-Loop™ with overspill control



For more information on hearing loop design, meeting the Standards for hearing loop installations or if you would simply like to register for Loopworks , contact our friendly and knowledgeable team on:  
**UK: (01636) 602160**  
**Outside UK: +44 (0) 1636 602161**  
**email: sales@ampetronic.co**  
**or visit : www.ampetronic.co**

### Providing a genuine benefit

To find out what we can bring to your project, talk it through with our expert team on:

UK: **(01636) 602160**,  
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or email: **sales@ampetronic.co**

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