contacta

Quality • Service • Experience

Guide to Hearing Loops

What they are, why they are needed, and
how they will help your business

Contents

Section	Page
Introduction	3
What is a Hearing Loop?	4
Types of Hearing Loops	6
Installation	8
Maintenance	12
Government Standards and Regulations	14
Frequently Asked Questions	18
Facts and Figures	19

Introduction

Hearing loss impacts one-sixth of the population[1] and a third of over-sixty-five-year-olds.[2] Therefore, hearing loss must be a top priority when providing accessibility and promoting inclusivity.

Three out of four people with disabilities have walked away from businesses – including supermarkets, banks, restaurants and transport companies – due to a lack of disability awareness and poor service.[2]

Hearing loops are an **assistive listening technology** installed in millions of locations throughout the world, providing the accessibility many need to engage and communicate freely.

Devices such as hearing aids amplify all sounds. In noisy environments this can make it difficult for those living with hearing loss to distinguish the speech, music or conversation they are trying to hear.

Hearing loops **improve communication** by enabling hearing device users to hear sound sources directly, cutting out background noise.

Note: For more detailed statistics on hearing loss, consult Facts and Figures (see page 19).
1: NHS Action Plan on Hearing Loss / Global Burden of Disease Study, Collabators 2015
2: Business Disability Forum, 2015

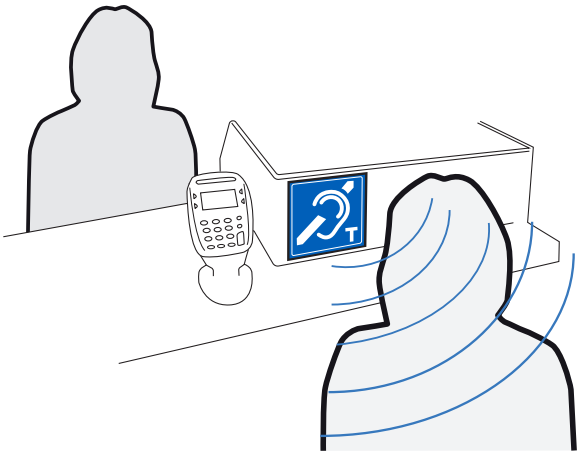
What is a Hearing Loop?

How a Hearing Loop Works

When signs indicate that a hearing loop system is installed, all a user needs to do is turn their telecoil enabled hearing device to the 'T' position and they will be able to hear with clarity.

A hearing loop provides a direct link to a sound source such as a microphone, sound system or television so people with hearing loss can clearly hear what they are trying to listen to.

Speech is picked up by a microphone, converted to a magnetic signal by an amplifier, and transmitted towards a user via a hearing loop aerial. The magnetic signal is then picked up by a telecoil within a user's hearing device and they will be able to hear with clarity.



Contacta offers a variety of powerful and discreet solutions with both fixed and portable installation. All of them are simple to install and easily recognisable to people with hearing loss.

The Benefits of Hearing Loops

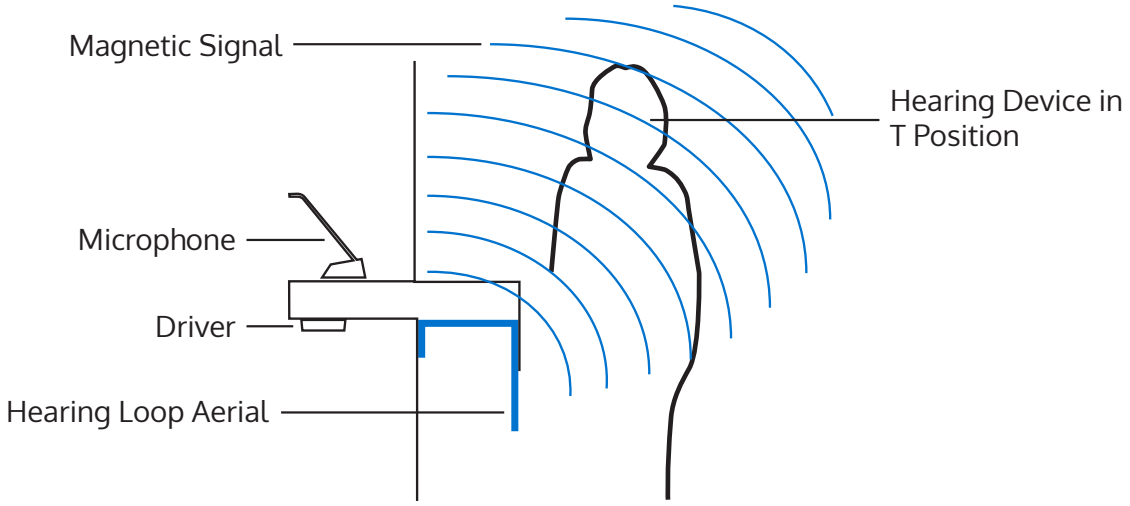
Through enhanced communication and by pro-actively engaging with the millions of people with hearing loss you can:

- Improve communication and expand customer engagement.
- Fulfil legal obligations and boost your social responsibility.
- Help people feel understood, included and supported.
- Enhance customer experience and satisfaction.
- Attract new customers.
- Encourage brand loyalty and stand out from your competitors.

Types of Hearing Loops

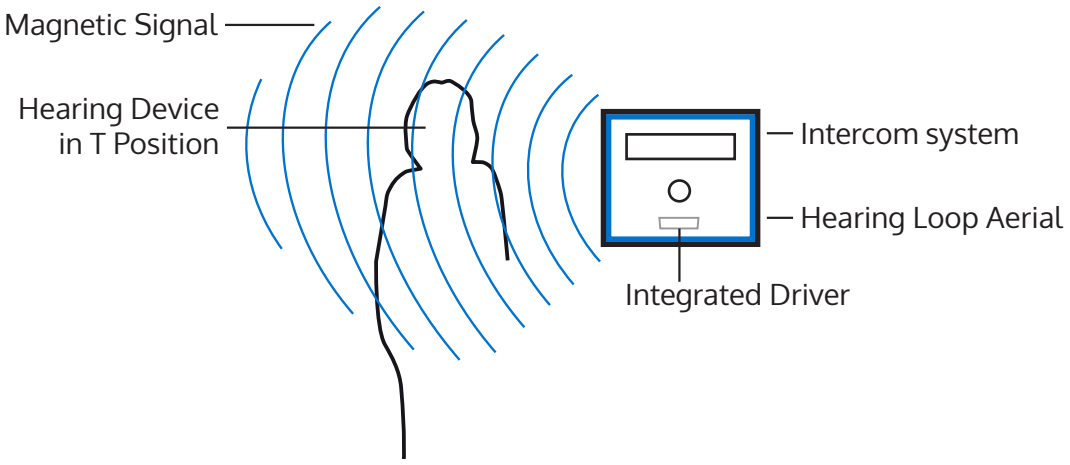
One-to-One Hearing Loops

One-to-one hearing loops are used in a variety of environments such as bank counters, ticket offices and supermarket checkouts. They assist in situations where conversation between two people takes place and can be either fixed or portable.



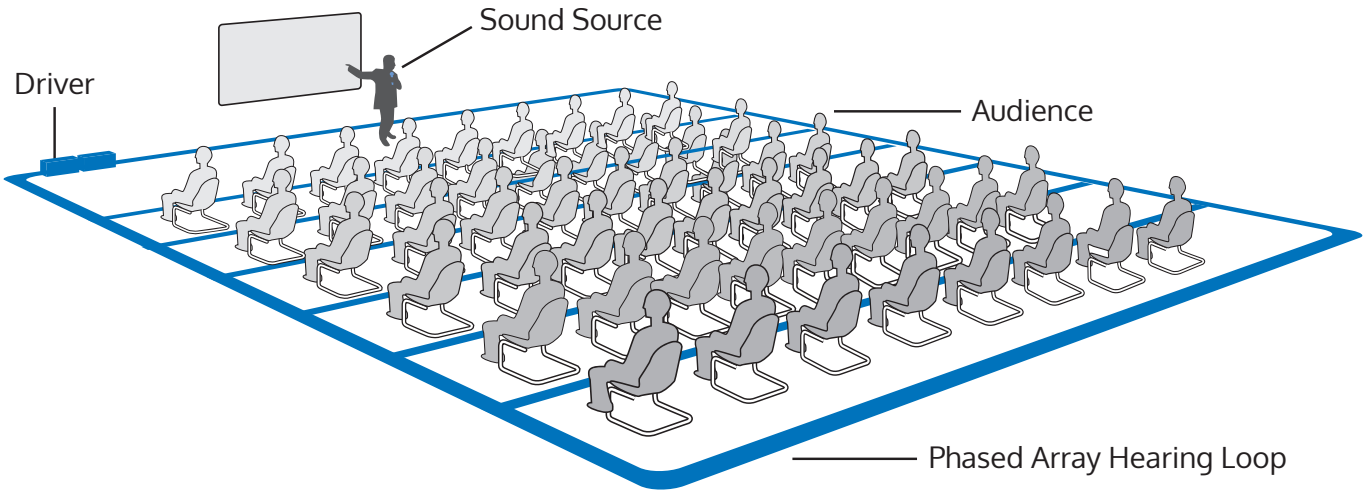
Integrated Hearing Loops

Integrated hearing loops are used in systems such as ticket machines, door entry intercoms and supermarket checkouts. They allow self-service counters, help points and a variety of automated machines to provide audio instruction to those with hearing loss.

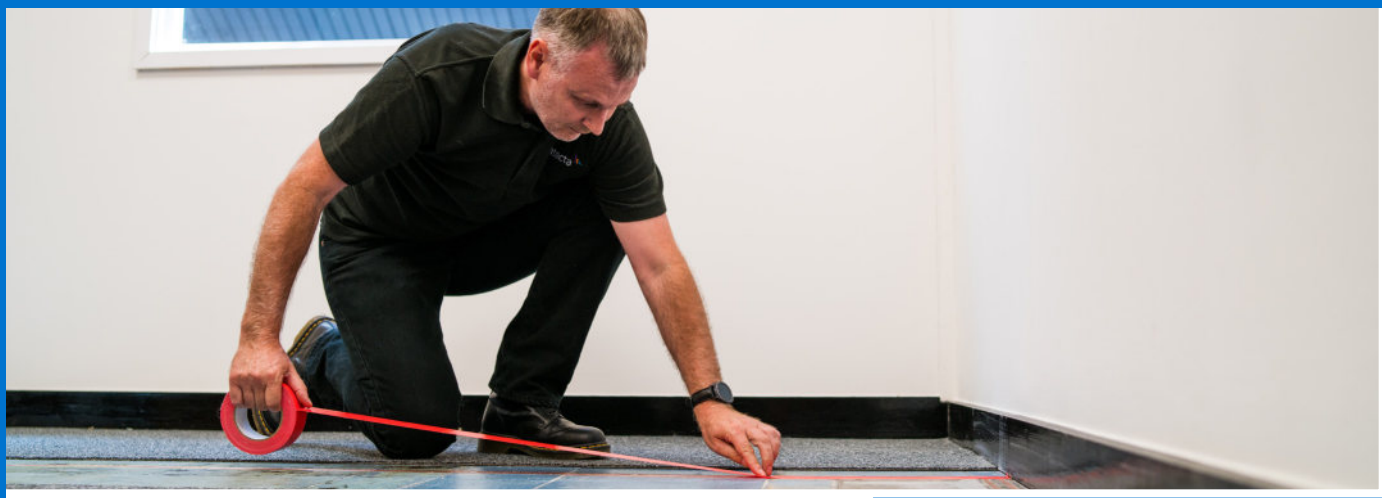


Large Area Hearing Loops

Large area hearing loops are installed in settings where a large number of people can benefit from a superior listening experience, such as theatres, classrooms and conference centres.



Installation



Hearing loop system installation and maintenance should be completed by a provider with "**specialist knowledge**" to comply with the BS 8300 Buildings Code of Practice 2018. This is due to a number of factors which must be considered if users are to gain the full benefits of the systems.

Our expert installers use their specialist training and experience with hearing loops to account for a wide variety of factors during installation. These include:

- The impact of metal loss and unanticipated distortion.
- Head height and end-user movement and location.
- The type of hearing loop driver required to provide the required current and avoid signal distortion.
- The pattern and cable type or copper tape required for laying loops in uncommon situations such as ceiling installations.
- Use of specialist measurement equipment such as the Contacta Field Strength Meter, along with an understanding of how these readings can impact users' listening experience and how to adjust accordingly based on those readings.
- Compliance with the IEC 60118-4 standard.

We always install hearing loops as efficiently as possible without compromising the quality of a hearing loop's signal, greatly reducing disruption to venues during installation.

Large Area Installation Techniques

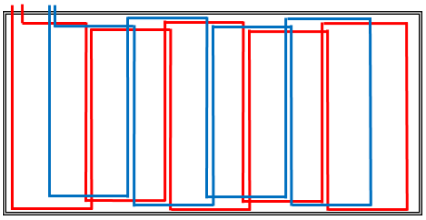
There are two basic installation configurations for hearing loops in large areas: **perimeter** and **phased array**.

Perimeter hearing loops are a cost-effective solution for small areas where hearing device users need to communicate effectively with a presenter.

Hearing loop cable is positioned around the outside of a room and a signal radiates out in a circle, straight into users' hearing aids.

- Provides small areas with clear audio.
- Can be susceptible to signal loss when users' heads are tilted.
- Less effective when there is a substantial presence of metal within a building.
- Unsuitable if confidentiality is required, as signals overspill fitted environments.

Phased array hearing loops offer the highest quality large area hearing loop performance. They can be installed in halls, sports venues, theatres, and both small and large meeting areas.



Two hearing loop cables are positioned in a specially arranged pattern, providing even signal coverage. This allows users to move freely in a room and maintain high-quality reception.

- The tilt of users' heads has little effect on their signal pickup.
- Very large areas can be covered.
- Metal has far less of an impact on performance.
- A confidential environment is created with minimal signal overspill.

Our engineers will inform you during specification about the most suitable large area hearing loop option for your needs.

Signage

Signage must be displayed clearly so customers can easily see that a hearing loop is installed. Below are examples of what must be readily visible:

Sound Sources

Sound sources are a vital yet often overlooked part of hearing loop systems. They are a key component for delivering excellent sound quality to users.

When using a microphone, for example, factors such as positioning and input type (i.e. cardioid versus omni-directional) greatly impact the audio experience of customers. A microphone thoughtlessly installed away from a person speaking will provide poor quality sound, which adversely affects the performance of a hearing loop system.

We provide a variety of microphones for one-to-one and large area hearing loops, selected to suit a wide array of environments.

Whether a system uses an external sound source such as a public address system or its own microphone, we will ensure that audio is clear and factors such as background noise don't impact sound quality.

Specification

We have a fresh approach to the specification of our hearing loops to provide the best performance possible.

Area size has traditionally been used to work out which hearing loop driver is needed. This often leads to inaccurate representations of requirements and, in many cases, poor performance.

Our method is user-focused and based on the requirements of individual areas. We take into account a variety of factors to assess the best layout for your hearing loop to ensure they provide a faultless listening experience, such as:

- The size of the hearing loop area to determine the type of driver required.
- Magnetic background noise, as electrical equipment and mains wiring can interfere with hearing aids on the 'T' setting.
- Surrounding metal in the construction of the building which could impact the hearing loop signal.
- If more than one hearing loop is being installed, signals should not overlap as this can compromise privacy—your installer will be able to advise on this.
- Positioning of hearing loop aerials. Seating and standing arrangements of users – even their head positioning – must be carefully considered.

Our specialist engineers are able to share their knowledge through guides and tools, all of which have been produced to make the survey and installation process even simpler for you.

Maintenance

We can give you peace of mind

After spending time and money on technology to provide the best customer experience possible, it is important to fully protect your investment.

With regular preventative maintenance visits, we ensure that your equipment is inspected and maintained to our high standards.

Our **Preventative Planned Maintenance** programme is designed to remove all doubt surrounding the reliability of your systems. Have confidence knowing that:

- We send only qualified, experienced engineers to inspect your equipment.
- Thorough inspections will be made on each of your systems.
- Necessary repairs or replacements are tailored to your budget.
- Our fault call service gives you a guaranteed response if problems arise between routine inspections.
- With regular maintenance, you will protect the value and extend the life of your equipment.
- We provide UK-wide coverage, including Northern Ireland and the Channel Islands.
- Our service allows you to comply with standards such as IEC 60118-4, BS 8300, and others detailed in Standards and Regulations (see page 14).

Let us protect your investment.

What do maintenance inspections involve?

Our engineers carry out the following tasks when performing a routine maintenance inspection:

Checks	1-to-1 Loop	Portable Loop	Speech System	Large Area Loop
A visual check on equipment's condition	✓	✓	✓	✓
Check cable condition and connections	✓	✓	✓	✓
Check power connections	✓		✓	✓
Check microphone fixing/ positioning	✓		✓	✓
Check staff/customer volume levels and make any adjustments to the amplifier			✓	
Check and clean microphone heads, thus improving microphone performance			✓	
Check hearing loop aerials for correct fixing/positioning	✓		✓	
Check compliance of hearing loop system with AFILS meter	✓	✓	✓	✓
A sound check on the system using AFILS meter.	✓	✓		✓
Check shelf condition and fixing		✓		
Check the system charges when connected to mains charger		✓		
Check the system works on battery power		✓		

You will receive a completion certificate at the end of each maintenance visit to confirm the status and compliance of the equipment, as well as optional staff training.

Standards and Regulations

There are numerous documents worldwide stating where and how hearing loops should be installed to comply with government legislation and regulations.

International Electrotechnical Commission: **IEC 60118-4**

The International Electrotechnical Commission's **IEC 60118-4** standard specifies magnetic field strength and frequency response requirements for providing peak performance in hearing loops.

It is used **worldwide** as a benchmark for performance.

It also states that hearing loop signage must be displayed in a prominent place so customers can easily see that hearing loops are installed.

United States: **ADA Standards**

Section 219 of the **2010 ADA Standards** states that assistive listening systems are needed in facilities used for entertainment, educational, or civic gatherings where communication is integral to the space and audio amplification is provided, or where there is an occupant load of 50 or more people with fixed seating; this also applies to courtrooms.

25% of receivers, or no fewer than two of those available, must be hearing-aid compatible. Assembly areas served by an induction [hearing] loop do not need to provide hearing-aid compatible receivers.

United Kingdom: **Equality Act 2010**

The Equality Act 2010 combines a number of laws including the Disability Discrimination Act, and states that **everyone should be treated equally**. It serves to protect certain groups of people from discrimination and improve public services.

"Service providers are required to make changes, where needed, to improve service for disabled customers or potential customers." It is important to note the reference to "potential customers" and ensure you are not just addressing issues within your business but providing an environment that is inclusive and accessible for everyone.

The Act states that service providers are legally required to provide information to everyone in an accessible format and "provide auxiliary aids and services," including hearing loops.

United Kingdom: **Part M of 'The Building Regulations 2010' – Access to and use of buildings**

"The aim is for all people to have access to, and the use of, all the facilities provided within buildings." - Section 4.1 of Part M

Part M is an Approved Document by the Department for Communities and Local Government which provides guidance on compliance with building regulations. It states that to obtain the full benefit of situations such as discussions or performances **"a person with hearing loss must receive a signal that is amplified in both volume and signal to noise ratio,"** and provision must be made for a permanent system in larger spaces.

Hearing Loops: Hearing loops, infrared and radio frequency systems are listed as commonly used solutions. Requirements of Part M are only met if "the presence of an induction [hearing] loop or infrared hearing enhancement system is indicated by the standard symbol," demonstrating the importance of clear signage in buildings.

Entertainment, Education and Social Venues: Everyone should "be able to participate in the proceedings at lecture/conference facilities and at entertainment or leisure and social venues, not only as spectators, but also as participants and/or staff." In buildings with entertainment or leisure and conference facilities, a solution such as a hearing loop must be provided to enable people with hearing loss to participate. This applies to hotels, schools, universities and community centres, as well as theatres and sports stadia.

Service and Reception Counters: A solution supporting people with hearing loss must be investigated for all buildings where service or reception counters are found. This includes many types of buildings, i.e. retail, worship, healthcare, transport, government and education.

Locations: It is not often sufficient to just address one area. When trying to meet the requirements laid out in Part M, it is important to consider that there may be many locations within a building where conversations or listening interactions take place. Focus on providing a good customer experience instead of simply providing the minimum required to comply with the regulations.

United Kingdom: **BS 8300: Buildings Code of Practice 2018**

BS 8300 is a code of practice compiled by the British Standards Institution detailing the required design of buildings for meeting the needs of disabled people, and promotes equal access to services and buildings.

Whether you're an architect, tender manager, store fit out provider, retailer or designer, the revised 2018 BS 8300 provides greater clarity on the appropriate level of provision and installation for hearing loops. It also **heavily influences European and US standards**.

Hearing Loops

A complete annex is included within the BS 8300-2 standard detailing hearing loop requirements. This annex covers hearing loop specifications, provisions, location variations, applications, best practice installation and maintenance, and staff testing and training.

BS 8300 also gives guidance on where hearing loops should be used, such as at help and refuge points, meeting rooms, halls, public sector buildings, cinemas, sporting venues, anywhere with points of sale and many more locations. It also provides instruction for microphone inputs and the various sound sources that can be selected for applications.

Specialists & Maintenance Required

There is a requirement for reactive and preventative maintenance of hearing loop systems using a provider with "specialist knowledge." Staff training should be given to ensure staff knowledge of hearing loops, ensuring they can engage with individuals with hearing loss, and there should also be proactive staff testing using an appropriate testing meter.

BS 8300's examples of where hearing loop systems are used

Application/location	Typical sound source	Type of loop / assistive listening system	Appropriate level of provision
Bank counter	Staff voice^	Counter loop	Ideally every counter provides a loop. If a glazed screen is present then a speech transfer system is needed in addition to the loop
Supermarket checkout	Staff voice^	Counter loop	Ideally every counter provides a loop
Reception desks	Staff voice^	Counter loop	
Customer service tills	Staff voice^	Counter loop	
Retail point of sale	Staff voice^	Counter loop	Minimum of every other counter provides a counter loop
Check in desks	Staff voice^	Counter loop	All check in desks
Payment window	Staff voice^	Counter loop and speech transfer system	All payment windows
Ticket window	Staff voice^	Counter loop and speech transfer system	All ticket windows such as transport, theatre, etc.
Retail point of sale (self service)	Audio from self-service unit	Integrated loop	All units
Help point or information point (that provides audio)	Audio from help point	Integrated loop	All help points
Refuge point	Audio from refuge point	Integrated loop	All refuge points
Door entry systems (entrance panel)	Audio from door entry panel	Integrated loop	All door entry panels
Lift emergency intercom	Audio from intercom	Integrated loop	All emergency intercoms
TV listening (home)	TV	TV loop system	
TV listening (communal areas)	TV	Large area loop	
Announcements (airports, train stations)	PA announcement system	Large area loop or a loop that covers a designated area (which will require signage)	A designated area (zone) is identified that relates to the announcement and gives maximum coverage (attention is needed to ensure specific zoned areas are looped accordingly)
Conference rooms	Presenter's voice / AV system	Large area loop	
Meeting rooms	Attendees' voices^ / AV system	Large area loop	Microphone type and coverage needs to be specified correctly
Boardroom	Attendees' voices^ / AV system	Large area loop	Microphone type and coverage needs to be specified correctly
School classrooms	Teacher's voice^ / AV system	Large area loop	Could be used in conjunction with a sound-field system
Lecture theatres	Tutor's voice^ / AV system	Large area loop	Could be used in conjunction with a sound-field system
Places of worship	PA system	Large area loop	Ideally the whole area of the congregation is covered, if this is unachievable a minimum of 50% is attained and clearly signed where the loop is operational
Entertainment venue	Venue sound / AV system	Large area loop*	
Consultation rooms	Consultant's voice^	Counter loop / small area loop	Where the acoustic environment is benign, and the consultant and patient are within 2 metres of each other an hearing loop might be unnecessary
Communal rooms	Presenter's voice / AV system	Large area loop*	Nursing, residential and care homes, day centres, community centres

^Via a microphone
*In phased array configuration

British Standards Institution bsi. Committee Member

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Frequently Asked Questions

How do people know if there is a hearing loop installed?
Signage should be visible wherever a hearing loop is installed. Hearing loops are often out of sight, so it is vital to ensure people are aware they are available.

How do I know if a customer is using a hearing loop?
You don't! One of the key benefits of hearing loops is that they provide a discreet solution to your customers with hearing loss; you therefore shouldn't be able to distinguish customers with hearing loss from anyone else.

Will a hearing loop interfere with any other equipment?
With modern technology it is rare that there is any interference. Older computer monitors, electrical wires and transformers can cause interference or produce low pitched buzzing. However, this can be avoided with specialist configuration and installation.

Do I need a portable hearing loop or a fixed loop?
Fixed loops are the perfect for one to one communication, giving the highest quality listening experience for hearing device users. A portable hearing loop can be moved between rooms as required and is used in small rooms for conversations between two people. It is important to make sure a portable hearing loop is charged at all times so that it can be used when requested.

Is a fixed counter loop always on?
Yes. Our fixed loops are always ready to use. Our unique amplifiers are extremely energy efficient, with an automatic standby mode, saving energy by up to 80% during quiet periods.

What maintenance is required?
It is important to regularly inspect your hearing loop equipment so that your customers can always benefit from using it. We recommend a visit once a year by our qualified engineers to make sure everything is in full working order. If you are UK based, we have our own fleet of engineers countrywide who can maintain your system, offering peace of mind that your investment is protected.

How can I tell if a hearing loop is working?
If you don't wear a hearing aid, you will need a Loop Listener (IL-RX20) to listen through the hearing loop. A number of our sophisticated systems also include indicators such as LEDs to indicate to your staff that the system is functioning.

Facts and Figures

- Hearing loss impacts **1.1 billion people worldwide**[1] (1 in 6) and **a third of over-65-year-olds**.[2]
- **119 million people in Europe** have hearing loss.[3]
- Hearing aid usage **grew by 11% in Europe** between 2009 and 2015.[3]
- Over **10 million people** (1 in 6) have hearing loss in the UK.[4] **6.4 million** of those **are of retirement age**.[4]
- **42% of over 50 year olds** and **71% of over 70 year olds** have congenital or acquired hearing loss.[4]
- People over 50 account for **more than 47% of UK household consumer spending**,[5] meaning the 'Grey Pound' is potentially the most valuable demographic to engage.
- By 2031, an estimated **14.5 million people** in the UK will have hearing loss (20% of people, or around 1 in 5).[4]
- The World Health Organization estimates that adult onset hearing loss will be in the **top ten disease burdens** by 2030, above diabetes and cataracts.[2]
- People with hearing loss are **the largest group within the disabled community**.[6]

1: Global Burden of Disease Study, Collaborators 2015.
2: WHO Fact Sheet No. 300, March 2015
3: EuroTrak Surveys From 2009 to 2015: Hearing Loss Prevalence, Hearing Aid Adoption, and Benefits of Hearing Aid Use, American Journal of Audiology, October 2017
4: NHS Action Plan on Hearing Loss, 2015
5: ONS, Cebr Analysis
6: Gov.uk Family Resources Survey 2018

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