

# Good Practice Guide Hearing Loop Systems:

A guide to best practice for Service Providers



## About this guide

This is a guide for service providers, employers and businesses.

Topics covered in this guide include how hearing loop systems work, how to look after them and how to make your business more accessible to people who are hard of hearing.

This guide will help to make sure that whatever investment is made produces the best possible return for both the service provider and the customer.

## Some facts about Hearing Loss

- According a 2015 estimate by the World Health Organization (WHO) 360 million people worldwide (5% of the world population; 328 million adults and 32 million children) have moderate to profound hearing loss in both ears and the number of people worldwide with all levels of hearing loss is rising.
- Worldwide, approximately one-third of people over 65 years of age are affected by disabling hearing loss. The prevalence in this age group is greatest in South Asia, Asia Pacific and sub-Saharan Africa.
- Adding to these numbers, statistics from Western countries show that more than 10% of their population is hard of hearing.
- According to the Essen Declaration 2015 by the European and International Federations of Hard of Hearing People there are 51 million hard of hearing people in the EU who are at greater risk of exclusion from the labour market, and this cost the UK economy an estimated £25bn (€33.5bn) in 2013, for example.
- By 2031, it is estimated that there will be 14.5 million people with hearing loss in the UK alone.
- One of the main impacts of hearing loss is on the individual's ability to communicate with others. Spoken language development is often delayed in children with deafness.
- Limited access to services and exclusion from communication can have a significant impact on everyday life, causing feelings of loneliness, isolation and frustration, particularly among older people with hearing loss.
- Adults with hearing loss also have a much higher unemployment rate.
- Among those who are employed, a higher percentage of people with hearing loss are in the lower grades of employment compared with the general workforce.

- Improving access to education and vocational rehabilitation services, and raising awareness especially among employers about the needs of people with hearing loss, would decrease unemployment rates among this group.
- In addition to the economic impact of hearing loss at an individual level, hearing loss substantially affects social and economic development in communities and countries.
- WHO estimates that there are 56 million potential users who would benefit from the use of a hearing instrument.

Financially, it also makes sense to be accessible – the one in six people in the UK, for example, who are deaf or hard of hearing are potential customers.

- UK disabled annual spend in excess of £80 billion (people with hearing loss are the largest group within the disabled community)\*.
- The UK over 65's spending power is set to reach £100 billion per annum (15% of the total household UK spend)\*.
- UK people over 65 hold an unmortgaged equity estimated £460 billion\*.
- Similar figures can be expected for many Western countries.

*\*source: gov.uk/government/publications/family-resources-survey-201112*

## What are Hearing Loops?

An audio frequency induction loop system (AFILS) or hearing loop is used to make communication easier for hearing instrument wearers. It provides a magnetic signal that is picked up by a hearing instrument when this is set to its 'T' (Telecoil) setting. The technology has been around for many years and is relatively straightforward in its basic form. However, many loop systems do not work well for hearing instrument users because of a lack of understanding of the technology and the user's needs.

## How do Hearing Loops work?

A loop system will have: a microphone/s to capture the spoken word or a source of audio signals such as a TV or sound system, an induction loop amplifier, to process the audio signal which is then output through the final piece; the loop cable covering a specific area to act as an aerial to create the magnetic signal required by the hearing instrument. In some cases the loop system may be built into a counter or reception desk.

When a user selects the 'T' setting on their hearing instrument, he or she can pick up sounds directly from the loop system instead of via the hearing instrument's internal microphone, bridging the 'acoustic gap' from sound source to listeners' ears that allows noise and reverberation to intrude. This process regularly increases one's comprehension from 0-10% up to as much as 90%.

## Who benefits from Hearing Loops?

People with hearing loss may find it difficult to hear the spoken word in places where there is ambient noise or poor room acoustics (which can create feelings of isolation for them). This can include: shops, supermarkets, banks, Post Offices, cinemas, theatres, meeting rooms, worship facilities and many other venues. A correctly installed loop system overcomes these problems and helps alleviate background noise.

## Why should I provide Hearing Loops?

As a service provider you should provide hearing loops because it will make your goods and services accessible and raise customer service levels, therefore increasing and opening new revenue streams. Also, many countries have enacted legislation that makes discrimination against the hearing-impaired unlawful. For example; the UK's Equality Act 2010 states that you must make 'reasonable adjustments' so that your service is accessible.

Without making these changes you may be discriminating against disabled people, and you could face legal action. Other benefits could include an improved image over your competitors; encourage customer loyalty, increased brand awareness and good publicity (perhaps more importantly, avoiding bad press!).

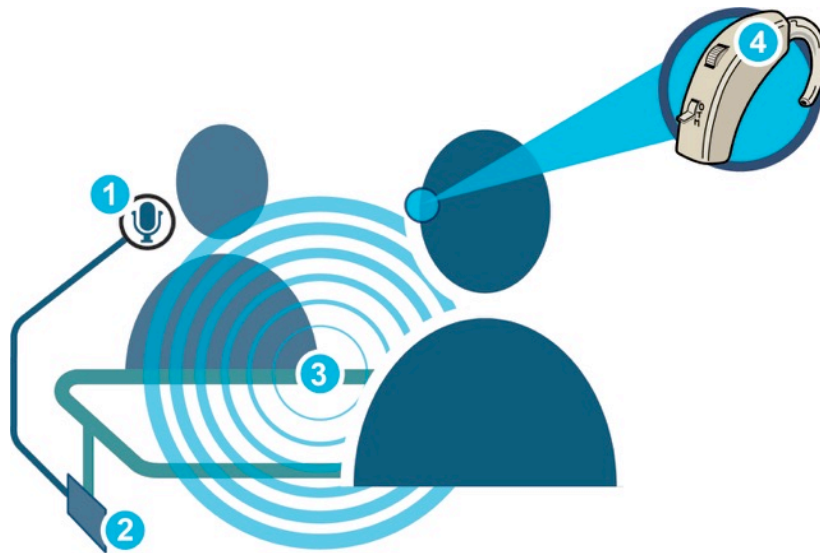
## Where can I buy Hearing Loops?

You can buy induction loops from a number of suppliers in the UK. When you select a supplier, be sure that they have specialist knowledge and that the product conforms to the relevant standards (see standards section). Often loop manufacturers don't install their products so approved installers need to be sourced; a good source of information for this is from the ISCE website [www.isce.org.uk](http://www.isce.org.uk). Any person intending to specify, design, install or maintain a Hearing Loop should know and understand the requirements of the IEC 60118-4 standard.

## What kinds of Hearing Loops are there?

### Fixed or Counter Loop (for one-to-one use)

These systems are designed for one-to-one use and are normally found at service tills, bank counters (where glazed security screens are used the loop is often provided in conjunction with a duplex intercom system), reception desks and checkouts. The loop aerial is often mounted under the counter. Another version of this called an 'above counter loop' can be found in Supermarkets and retail environments. Fixed loops should always be considered as the appropriate solution in service till/counter/checkout applications.



### Portable loop (for one-to-one use)

Many service providers have used portable loop systems as a way of enabling them to 'tick a box' to say they had loop provision, which in many cases has proven to be of very limited benefit to the end user. To use a portable system properly its batteries need to be charged-up, it must be easily accessible to staff and positioned correctly for the talker and the user (which means staff must be trained accordingly).

Many hearing instrument wearers do not like to ask to use this kind of equipment as it can bring attention to their disability. Because of these challenges many service providers are now specifying fixed loops as the best way for hearing instrument wearers to access their goods and services.

Portable loop systems are often fitted with an Omni directional microphone which in most cases will only achieve as good an effect as the microphone in the user's hearing instrument. A portable loop will provide a much better performance for the user if an external microphone is used that is placed close to the sound source.

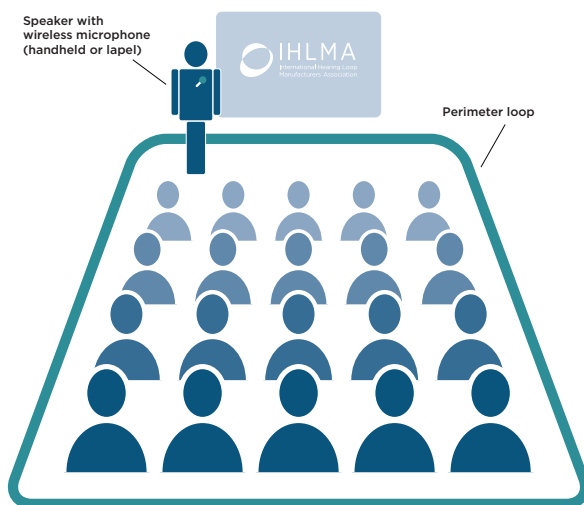
## Room loops

Room loop systems are designed to provide hearing loop facilities over a much wider area, for example meeting rooms, auditoriums and lecture halls, school rooms, places of worship and entertainment venues.

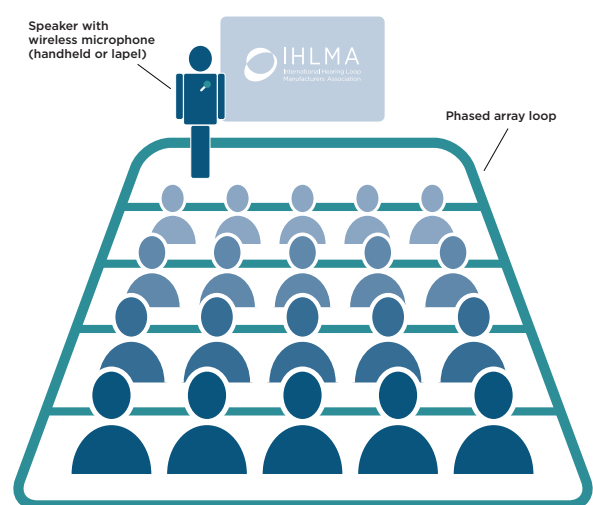
It is important to note there are many different loop designs and the selection process is a very important part of ensuring the correct loop system is best for you. How the room is used, room area and the construction of the building are all factors which need to be covered in ensuring that the correct solution is specified.

There are a range of room hearing loop solutions available ranging from a basic perimeter loop to low-spill phased array system that substantially reduces the amount of magnetic field that can 'spill over' into the space served by other loops or that might cause confidentiality problems.

### Perimeter loop



### Phased array loop



## Portable room loops

These systems will normally be provided in a carry case and will come in the format of a perimeter loop; they will need to be set up by a competent person within the organisation prior to any event/meeting they are being used for.

## **Other kinds of loop systems**

Hearing loop systems can also be found in other applications for example vehicles (taxis), lifts (elevators), help points, self-service checkouts, etc.

## **Do I need specialist advice?**

Yes, specialist advice is imperative if you want your loop system to operate properly and provide a real benefit to the hearing instrument wearer thus making your organisation accessible to this large user group.

## **How will my loops be installed?**

Before a loop system is fitted, the installer should carry out a site survey. This will include testing the site for magnetic background noise, because electrical equipment and AC power wiring can interfere with hearing instruments on the 'T' setting. The installer will also need to determine the area that needs to be covered and whether any surrounding metal in the construction of the building might need to be taken into account in the design of the hearing loop system.

If you are installing more than one loop or if there is an existing hearing loop nearby you will need to ensure their signals don't overlap thus compromising privacy; your installer will be able to advise on this. Positioning of the loop antenna is critical; if this is not fitted correctly it will not provide the required signal for the user.

Finally, the type and positioning of microphones must to be considered. Microphones are a critical part of the loop system and therefore using the correct type of microphone is imperative to the system's performance. Also, if the microphone is too far away from the person speaking, this will adversely affect the overall performance of the loop system. This is also the case if external sound sources are not set up correctly.

## **Standards**

In terms of hearing loops, the purpose of standards is to ensure that systems are compatible (i.e. guaranteed to work) with hearing instruments. The most often quoted standard is the international standard IEC 60118-4. If a hearing loop system complies with this, it guarantees that the following conditions are met:

- The background magnetic noise is sufficiently quiet.
- The magnetic field is strong (loud) enough, but not too strong
- The frequency response (tone) of the signal is correct for hearing instruments to handle.

- The orientation of the magnetic field is correct.

Other standards may sometimes be mentioned:

- International Standard IEC 62489 defines the characteristics of components used to build a loop system.
- British Standard BS 7594 is a code of practice for loop designers, installers, owners and maintainers

The thing to remember is that in many legal jurisdictions it is not illegal if a loop system fails to comply with the standards, but if a system does not comply, it cannot be claimed to work for every hearing instrument user.

There are other more general standards with which loop systems must comply, covering things like accidental interference with other devices, and electrical safety.

## How do I let users know where Hearing Loops are?

It is important to let hearing instrument wearers know if a loop is installed and where it is located. As part of the installation, your installer must provide one or more standard 'T' loop signs like this.



These should be set apart from other signage and be very visible. In the case of service tills, bank counters, reception desks and checkouts the sign must be placed at the point where the loop equipment is effective. In the case of a meeting room, the loop sign should be placed at the entrance of the room.

## How do I look after hearing loops?

Hearing loop systems need regular maintenance to ensure they are functioning properly, just like any other electronic equipment. It is not acceptable to rely on customers reporting problems with loops – you must be proactive in ensuring systems are fully functional at all times. To make sure you are providing an accessible service, induction loops should be checked at regular intervals, e.g. monthly, and before each major event.



Your installer may provide you with a 'personal listener', which allows a non-hearing instrument (hearing-aid, cochlear implant) wearer to listen to the hearing loop; this is useful for periodic testing of the equipment.

The checks should be performed by a properly trained person and the results should be recorded for audit purposes. An annual check should also be performed by your specialist supplier, ensuring the system is tested to the IEC 60118-4 standard.

## What else do I need to do?

As well as having hearing loops fitted and regularly maintained, it is vital that staff, including new employees, are aware that a loop system(s) is fitted, how it functions and how to use it. Without staff being trained in this way, customers and service users will find your service very difficult to use. A 'personal listener', for example, as mentioned earlier in this guide, will allow staff to experience the loop system in a similar way to a hearing instrument wearer.

## Some reasons hearing loop systems don't work for hearing instrument wearers

- The wrong equipment is specified
- They are installed incorrectly
- They are not maintained
- They are not signed correctly
- They are not where the user expects them to be
- They are not set up correctly
- They are not switched on!

## Get it right

Many hearing loop systems have been fitted throughout the world but unfortunately a large number do not work for the hearing instrument wearer and are often only provided as a 'box ticking' exercise. Organisations that provide hearing loop facilities for their customers need to ensure that the equipment provides a real benefit for the user. Otherwise the investment will be wasted and hearing instrument wearers left frustrated, the venue will get a bad reputation, and a bad reputation means lost business.

## Promote your service as being accessible to hearing instrument wearers?

Let people know what you have done by having good signage in place, also put details on your website and other promotional material you may use.

### Summing up

In short, these are the important points to remember:

- Hearing loops are vital to ensure accessibility for hearing instrument wearers.
- Increasing access for people who are hard of hearing to your business or service can increase your revenue stream and business image.
- Make sure you get a specialist supplier to install the loop system.
- Hearing loops should be checked on a monthly basis, with annual checks by a qualified supplier.
- Train your staff about the need for, function and usage of Hearing loops and how to respond to complaints from users.
- Promote the fact that you have a loop(s) fitted and that you are accessible to this large user group.

### Some Protocols

- Hearing loops can be provided in any application or situation where a person will be communicating or listening to the spoken word or an audio sound source.
- Hearing instrument wearers should not have to ask to be able to use a hearing loop system.
- You should always demand and check references from supplies/installers, they should be able to provide references from other customers and also hearing instrument wearers that have used the products/services.
- Put systems where people would expect them to be so they can get a benefit from them.

- Signs and systems should match up so that users understand where the loop is, they are not mind readers!
- Before a room/venue is going to be used make sure the loop is working and that it is set up in line with the function of the event that is being carried out.
- Involve local clubs/chapters from organisation such as Hearing Link (UK), in your decision making process, they will help you to get it right and spread the word what you are doing and that you are accessible.
- Always give as much information as possible to your loop provider, the more they understand about your operation the greater the chance of them making your venue as accessible as possible and help you maximise the return on your investment.