

## Induction loops and infrared systems

### What they used for?

A loop system helps deaf people who use a hearing aid or loop listener to hear sounds more clearly because it transmits sound directly to the person's ear.

At home, for example, loops are used to hear sound from televisions, stereos or radios. In the theatre, a loop can help hear the show more clearly. Normally a loop system cannot give stereo sound. If this is important, consideration should be given to using an infrared system.

### How do loop systems work?

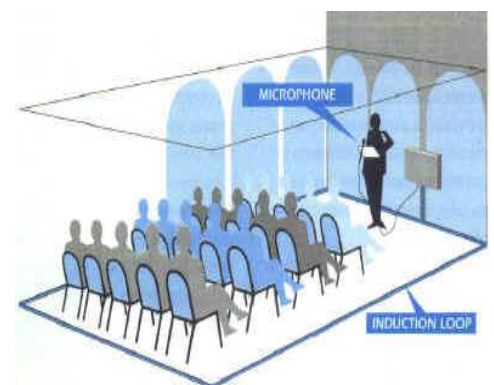
An induction loop is a cable that goes around the listening area. A current from a loop amplifier powers the cable. The amplifier gets its signal from a direct connection with another sound source. This can be a sound system or TV set, or a microphone placed in front of the person speaking. The resulting electric current in the loop produces a magnetic field that matches the sound. The hearing impaired person can then pick up this magnetic field if they are sitting within the area of the loop and their hearing aid – or loop listening aid – is switched to the 'T' setting.

Some telephones have a very small loop, called an inductive coupler, in the earpiece.

### How to use an induction loop system

If the hearing impaired person's hearing aid has a 'T' setting, they simply need to switch to 'T'. If they do not have a suitable hearing aid they can still use a loop, but they will also need a 'loop listener'. Some loop listeners are small boxes with headphones – others are worn as an earpiece.

More than one person can benefit from a loop installed in a room as long as they each have their hearing aids set to 'T' or they are using loop listeners. They are not wired to any other equipment so they are free to move around and listen from anywhere within the loop.



Infrared neckloop



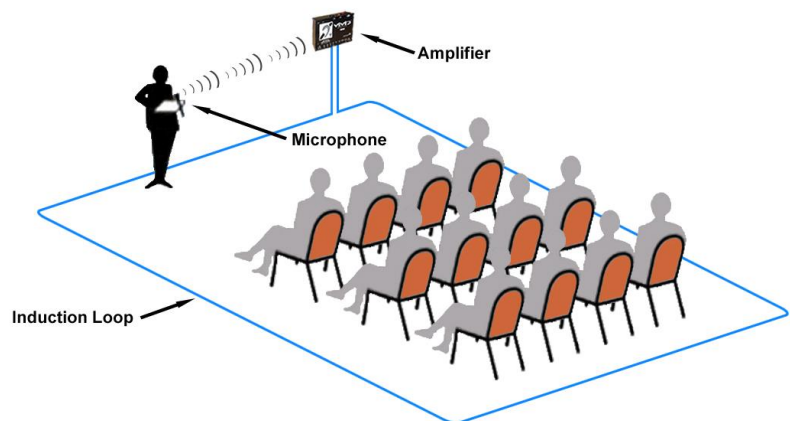
The users may find they have to turn up the volume on their hearing aids a little when they switch to 'T'.

But this should not be a problem if the loop has been set up properly. However, even if the loop system works correctly, they might pick up buzzing noises when the hearing aid is set to 'T', or when using a loop listener. This is caused by interference on the hearing aid from electrical equipment such as fluorescent lights, dimmer switches or electric cables.

Be aware that the loop signal can spill out beyond the area within the loop to other rooms. Walls, ceilings and floors do not block the magnetic waves from a loop. So a person using a system may be able to overhear sounds or conversations from rooms next door or directly above and below the loop. This could be a problem if a similar system is in use in an adjoining room, or if a confidential discussion is taking place. To get round this problem, the size of the loop could be reduced with perhaps some rearranging of seating. Alternatively, you could use an infrared system.

## What is an infrared system?

An infrared system consists of a transmitter and a listening receiver. Sound is fed to the transmitter in the same way as with a loop system – either by a direct electrical connection or via a microphone. It is then transmitted to the hearing impaired person as invisible infrared light.



To hear sound you need to use an infrared receiver: The under-chin 'stetoclip' type receiver is suitable for people who do not have a hearing aid. If someone normally uses a hearing aid, they will need to remove it before they can use this type of receiver.

A neck loop receiver is for use with a hearing aid set to 'T'. So, this type of receiver is suitable for people with a greater level of hearing loss.

Infrared receivers are sometimes built into headphones, but you will probably need a model designed for hard of hearing people. All infrared receivers are battery operated so give you complete freedom of movement. Infrared systems are less likely than loops to have



problems with interference, and sound will not spill over into other rooms. However, strong sunlight and dark wall coverings can reduce the quality of sound and the area over which they can work.

Several infrared systems can be used at the same time in rooms next to each other and so they are suitable for confidential meetings or workshops with breakout sessions. They provide high quality sound. Stereo versions are available

## Identification of the system being used

When a building has been fitted with a loop or infrared system, it is usually mentioned in their adverts, newsletters and at the entrance to the building. Informative signs and symbols should be displayed. Unfortunately, not all service providers remember to advertise that they have installed a system, so it is always worth asking if it is not obvious.

There may be 'dead' spots" or seating areas where the reception is not good. These should be marked with a special sign. If not or if there any doubt check with everyone before beginning the meeting.

At any venue there should be at least one member of staff responsible for keeping the system up and running, and for looking after infrared receivers and giving them out.

When making a booking it is important to request as early as possible the need for a system.

Systems that don't work are often simply down to the fact they might not have been switched on or not set correctly. Any difficulties with a loop or infrared system in a building you are visiting should initially be reported to the member of staff responsible for the system or the building manager.

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## Useful links

Action on Hearing Loss

[www.actiononhearingloss.org.uk](http://www.actiononhearingloss.org.uk)

**Address:** Berkeley House,  
Lower Bristol Rd,  
Bath BA2 3BH

**Phone:** 01225 485777

National Registers of  
Communication  
Professionals working with  
Deaf and  
Deafblind People

[www.nrcpd.org.uk](http://www.nrcpd.org.uk)

**Phone:** 0191 383 1155

National Association of  
Deafened People

[www.napd.org.uk](http://www.napd.org.uk)

**Phone:** 0845 0559663