

# All About Counter Induction Loops

## What is an Induction Loop?

An Induction Loop, also known as a Hearing Loop or T-Loop, is an assistive listening system that provides access to facilities for those with a hearing impairment. It takes a sound source and transfers it directly to a hearing aid without background noise. The presence of an Induction Loop should always be indicated by the use of the sign on the right.

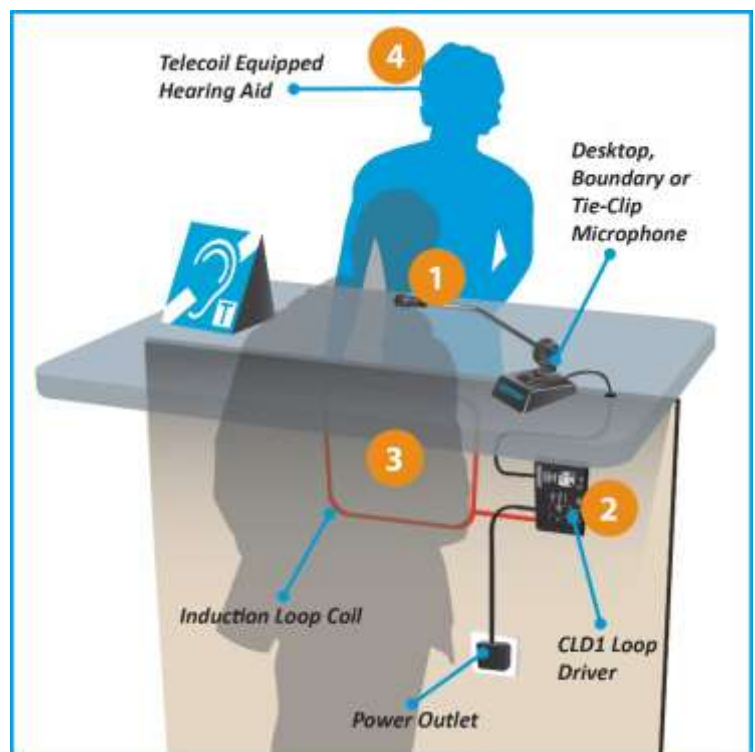


Over the last 25 years Hearing Loops have become the default assistive listening solution in Scandinavia, Europe and Australasia, and are now becoming increasingly prevalent in America. Due to their benefits and ease of use, hard of hearing advocates are mandating the use of counter induction loops in locations such as shops, banks, post offices, reception desks, ticket counters and door intercoms.

## The way a Counter Induction Loop works is quite simple:

1. A sound source, in this case the voice of a member of staff, captured using a directional microphone placed close to their mouth.
2. The sound signal is then transferred to an Audio Induction Loop Amplifier which generates a current to pass the signal to an induction loop, usually made of multiple turns of copper wire.
3. The copper wire induction loop is (usually) located under the counter on the front panel and produces a magnetic field.
4. The magnetic field is picked up by the Telecoil (or T-coil) inside the hearing aid of hearing impaired members of the audience.

The hearing aid tailors the sound to the specific needs of the individual. Sound is delivered directly into the ear canal, without background noise and with the full spectrum of sound frequencies required for intelligibility.



To use the system a hearing impaired customer needs only to switch the hearing aid to the 'T' position. Expensive receivers are not required and users don't suffer the inconvenience of asking for and wearing a headset that marks them out as hard of hearing.

Hearing Loops are an inherently simple technology, but care should be taken (and professional advice sought) in their design, specification and installation so that the facility conforms to the International Standard and is of optimum benefit to the end user.

# Frequently Asked Questions About Counter Loops

## Question: Why are Counter Loops needed?

Assistive listening devices are required for any environment where audible communication is integral to the space by both disability access legislation, such as the Equality Act 2010, and building codes. They help the hearing impaired community who represent almost one in six people. Hearing Loops are the preferred assistive listening system by the hearing impaired as they are discreet and generate a hearing experience specific to the individual's needs (the user's hearing aid is set up to deliver the volume and frequency range personally required by each individual). Induction Loops are the only viable Assistive Listening solution for environments where the users are 'passing by' in large numbers as they already have the receiver (hearing aid), removing the need to distribute and clean them.

## Question: Isn't this what hearing aids are for?

Hearing aids enhance sound in close conversational settings, or where there is little background noise or distance to the source. Many modern digital hearing aids can filter out a great deal of background noise; however this does not resolve the issue of distance between the sound source and the hearing aid, particularly in a busy shop. A Hearing Loop magnetically transfers the sound from a microphone, TV or audio signal directly to hearing aids and cochlear implants without interference.

## Question: How much does a Counter Loop cost?

The cost of an Induction Loop system is proportional to the complexity of the installation required and the quality of the components, however, a simple 'fit-for-purpose' retail Counter Loop should cost under £500. It is worth remembering that the cost of one Counter Loop will likely be less than a quarter of the cost that a single user has paid for their professionally fitted hearing aid(s).

## Question: How are they installed?

Counter Loops consist of three main components that are required for installation, the microphone, the amplifier and the loop. The microphone selection and position is essential to capture a 'clean' signal, free of background noise. The microphone is normally sited on the counter top. The amplifier and loop are normally attached underneath the counter on the front face (towards the customer) and may require additional cable routing to access a power source.

## Question: Could I fit it myself?

You can purchase and fit a Counter Loop yourself; however it is always worth contacting us for advice before doing so. The selection and position of the microphone and loop are vital to produce a successful installation and are variable depending on the counter dimensions and construction (particularly metal counters). The system will need to operate to the International Standard for performance; if it doesn't, then it can't be considered to be working and will not comply with the Equality Act 2010.

## Question: Does interference from electrical equipment prevent the magnetic field from working?

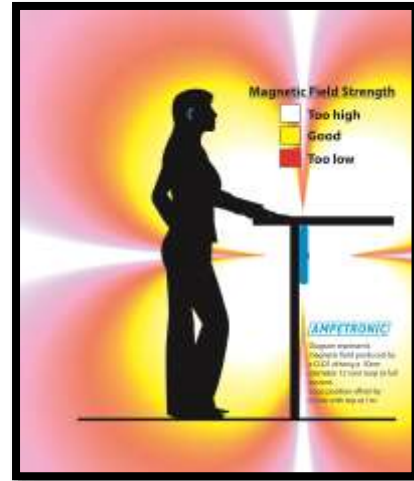
In some cases, the environment may contain a significant amount of cabling or high voltage electricity making an Induction Loop either uneconomical or unsuitable. However, with the use of modern equipment and the correct design, these cases are now very limited.

## Question: Can multiple Counter Loops be in the same room?

The magnetic field produced by a Counter Loop can 'spill' into adjacent areas causing interference with other loops very close by. It is possible to install Counter Loops directly next to each other depending on the counter dimensions and field spill, but this should be calculated by a professional.

## Question: What is meant by 'Magnetic Field'?

A Counter Loop works by generating a harmless magnetic field that 'spills' out towards the user, rather than by surrounding them as it would with a room loop. The loop must be placed in a specific position and the current adjusted to produce a field strength that is correct in the position that the user's hearing aid will be located.



## Question: Can't I use a portable desk-top Counter Loop?

There are many reduced cost all-in-one Counter Loop systems available on the market. Ampetronic do not manufacture their own because they are unlikely to function properly and will not meet with the international Standard of operation for the following reasons:

- When placed on top of the average counter, the magnetic field produced by the loop will not be at the correct strength to provide comfortable listening for the user.
- The microphone is often 'built-in' to the unit and remains some distance away from the person who is speaking. Capturing background noise and amplifying it through the loop, achieving no tangible benefit to the user.
- Because they are portable they are easily moved from their intended position and no longer face the user, achieving no tangible benefit.

## Question: Do all hearing aids have a telecoil?

The increasing popularity of Induction Loops has seen a steady increase in the inclusion of telecoils in hearing aids. At present just under 70% of hearing aid models on the market are fitted with them. This number is as high as 95% in countries where Hearing Loops are already established, and all new model cochlear implants now offer telecoils.

## Question: Don't wireless technologies like Bluetooth offer an easier and less costly solution?

Wireless technologies are not suitable for assistive listening solutions in their current form as they cause significant battery drain and have a limited range. In the case of Bluetooth, as an example, the area cover is between 5-100 square meters (depending on type), the technology can only support the connection of up to 7 users at the same time and also requires the 'pairing' of devices in order to connect them.

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