the facts

A GUIDE TO INDUCTION LOOP SYSTEMS

The concept behind induction loop systems is quite simple.

All NHS and many other manufacturers' hearing aids have a 'T' position which allows them to pick up the electro-magnetic field generated by a telephone's earpiece and convert it into a sound suited to an individual's specific hearing requirements.

Induction loop systems use this principle but generate a much larger field than that created by a telephone earpiece and radiate it around a room via a 'loop' (usually a single turn of wire) for the benefit of any hearing impaired person(s) located within it.

The size of field required can vary depending on the application, from 1m^2 for ticket booths or bank counters to in excess of 600m^2 for larger installations such as theatres and cinemas (larger fields can be created via muliple loop arrangements).

New legislation, aimed at improving the quality of life of disabled people, has led to an increased demand for induction loop systems.

This guide outlines the main areas of legislation which refer to loop amplifiers and, in particular, when and where they should be used.

For additional information, please contact our Sales Desk on 01942 322744.

FIVE percent of the population suffer from hearing impairment. The combination of an ageing population, the effects of listening to high intensity music, and more people being diagnosed is increasing the number of sufferers all the time. As a result, new legislation is being introduced to encourage the use of induction loop systems.

BUILDING REGULATIONS (1992)

Current building regulations state that non-domestic buildings which are newly erected or have been substantially reconstructed must provide aids for the hearing impaired *(1)*. The object of these regulations is to provide facilities for the benefit of disabled visitors and staff and aims to help people with hearing impairment to play a full part in conferences, committee meetings, performances, etc.

The areas requiring cover are booking and ticket offices where the customer is separated from the vendor by a glazed screen; and reception areas, auditoria and meeting rooms in excess of 100 M^2.

The regulations state that a person with impaired hearing needs to receive a signal some 20dB above that received by a person with normal hearing. The system should be able to suppress reverberation and audience or other environmental noise.

THE DISABILITY DISCRIMINATION ACT (1999)

This act brought in new laws aimed at ending the discrimination many disabled people face and gives them new rights in, among other things, the area of getting goods and services.

It states that people who provide goods and services to the public, and most employers with over 20 staff, have to take "reasonable measures" to make sure they are not discriminating against disabled people. It makes it against the law for someone to run a service, or provide goods or facilities, in a way which makes it impossible or unreasonably difficult for a disabled person to use the service or goods.

People have a duty to provide equipment or other helpful items which make it easier for disabled people to use their service, if it is reasonable to do so. Government literature gives, as an example of a 'reasonable' provision, the installation of an induction loop system which makes it easier for people who use hearing aids *(2)*.

Service providers cannot charge a disabled person more to meet the cost of making it easier for them to use their service. This means that assistive hearing systems which involve the provision of separate receivers must be funded by the service provider, whereas all National Health and many other European hearing aids have a 'T' (Telecoil) facility and automatically work with induction loop systems.

(1) Building Regulations 1991, Second Edition 1992, Document M, Access and Facilities for Disabled People; Section M2 Access and Use. *(2)* Document DL40; A Brief Guide to the Disability Discrimination Act.

WHY USE THE PDA RANGE OF INDUCTION LOOP AMPLIFIERS?

C-TEC's PDA Range encompasses the widest range of induction loop amplifiers available, so you can use the product most suited to your budget and application. All PDA amplifiers have unique 'floating sense' circuitry which allows more current to be pumped into the loop than would normally be possible, avoiding clipping and leading to better audio quality. All PDA amplifiers also have true current mode amplification, which means that you need only a single turn of wire around a room which reduces inductance and results in a wider frequency response.

PDA100

- Up to 50 M^2 coverage.
- Ideal for counter loops and small systems.
- Microphone and line level inputs.
- An automatic tracking compressor allows widely varying input levels.
- Fully automatic with no adjustments required.
- An alert switch input can generate a tone for doorbells, alarms etc.
- A neat and quickly installed counter loop is available.
- Available in four different versions with all ancillaries for ticket counters, TV lounges, small meeting rooms, etc.

PDA200

- Up to 120 M^2.
- Ideal for unskilled users such as churches, schools, offices, etc.
- An automatic tracking compressor compensates for poor microphone use and allows widely varying input levels.
- Hidden controls reduce tampering.
- Popular 5 pin DIN input connectors.
- Input level peak LED to aid setting up.
- Output current meter to monitor loop activity.
- An 'X-Talk' connector for linking to SigNET's Impulse 75 mixer amplifier allows both units' inputs to be shared with each other and simplifies installation where a loop and a PA are both required.
- An alert switch input generates a tone for doorbells, alarms etc.
- Free standing case ideal for small installations.

PDA800

- As PDA 200 but up to 400 M^2 coverage.

PDA500

- Up to 250 M^2 coverage.
- One U, 19" professional rack mounting case.
- The amplifier can deliver 12 Amp short term peaks, giving higher speech intelligibility and preventing high frequency harmonics which may interfere with other equipment.
- Designed for professional use as part of a high quality audio system in theatres etc.
- Hidden controls reduce tampering.
- Outstanding sound quality.
- The studio quality compressor is inaudible in operation and is ideal for use with music sources and professionally mixed microphones. It alters its characteristics to suit different program materials, preventing overloading but giving highly intelligible speech and retaining the dynamic character of music.
- A selectable automatic compander compensates for poor microphone use or varying levels from microphones in conferences etc.
- Professional XLR connectors (one line, one microphone).
- Input level peak LED to aid setting up.
- Output current meter to monitor loop activity.
- A 'duck' facility can be selected. An audience response microphone feeds in ambient noise which is automatically attenuated as the line input increases, but loud noises such as a cough will still be heard. This is ideal in theatres, cinemas etc. as it avoids the claustrophobic effect of hearing no ambient noise.

PDA1000

- As PDA 500, but with up to 550 M^2 coverage.
- Two U, 19" professional rack mounting case.
- The amplifier can deliver 17 Amp short term peaks.

OTHER APPLICATIONS

THERE are many other applications for induction loop amplifiers - helping the hard of hearing; museums, galleries, exhibitions; hidden communication; limited area communication.

Induction loop systems may also be used in museums, galleries, exhibition halls, etc., to provide a tour guide facility. By loaning receivers such as the RXTI to visitors (which can be charged for), different commentaries can be broadcast in different areas and picked up by visitors on the move.

Induction loops can also be used to provide hidden communication. For example, store detectives wearing a normal hearing aid can receive directions from Closed Circuit TV observers. Hidden therapy systems can allow an external observer to prompt the mother of a traumatised child to ask certain questions, making it easier to get useful information.

Other applications include wireless talk-back systems for TV and film where one way communication to a large area is required. Also, multi-lingual translation systems can be set up, with individual loop pads on each desk allowing different program material in one room.