

Guide to selecting your Induction Loop System

What is an Audio-Frequency Induction Loop System?

Audio-frequency induction loop systems allow hearing impaired people to hear more clearly. Most hearing aids have a 'T' or 'MT' switch which allows them to pick up the electromagnetic field generated by an induction loop system. The hearing aid converts this signal into a sound suited to its user's specific hearing requirements.

Any person with a hearing aid positioned within or near the loop can hear the loop signal by switching their hearing aid to the correct position, allowing them to participate more effectively in general conversation, order goods or services, listen to public performances, etc.

An induction loop system therefore comprises the following main elements:-

The audio source - typically a microphone, television or radio (or a combination of these).

The Induction Loop Amplifier

The loop - typically a single turn of wire usually run around the perimeter of the room or a special counter loop fixed to the underside of a table.

The receiver(s) - any hearing aid with a 'T' or 'MT' switch or a specially designed loop listening device. In addition to the many routine benefits for hearing aid users, induction loop systems can also be used for other limited area broadcasting applications such as museum 'walk through' guided tours and surveillance talkback systems.

The Main Elements Of An Audio-Frequency Induction Loop System

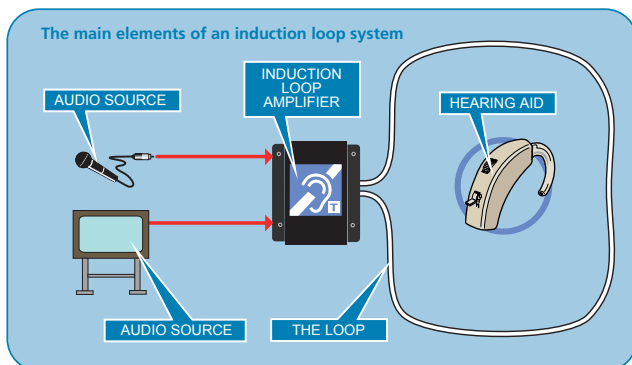
Some induction loop systems may require additional audio sources such as multiple microphone or line level inputs. To facilitate this, many CHIL range amplifiers include an 'Outreach' socket which allows the connection of multiple inputs via a range of specially designed single gang audio connector plates.

How Does An Induction Loop System Work?

Audio-frequency induction loop systems do not use radio frequencies; they operate at audio frequencies. The signal from an audio source is fed into an induction loop amplifier, which amplifies and sets the signal level in the same way as a conventional amplifier.

The amplified signal, instead of going to a loudspeaker, is fed to a closed loop of cable that is normally placed around the perimeter of the room. Employing a constant current amplifier ensures the current is maintained at the set level whilst providing a flat frequency response without the need for equalisation circuitry.

The current flowing through the loop generates a magnetic field that radiates in the space around the loop cable. Any lines of magnetic flux that pass through the telecoil in a receiver, such as a hearing aid, will generate a current in the coil that is then converted back to audio and fed into the listener's ear. It is important to remember that the magnetic field will 'bleed' outside the perimeter of the loop and therefore a loop system cannot be considered confidential.



Why We Have Induction Loop Systems

In normal use, hearing aids utilise a microphone for amplifying localised speech. Whilst this is effective for local conversations/quiet environments, it is less effective for listening to speech or music at a distance or in front of a security screen at a ticket counter. This is because the hearing aid's microphone also picks up any background noise in the room and unwanted speech from other conversations. An induction loop system works by moving the required sound closer to the hearing aid via the hearing aid's telecoil which is activated by turning it to the 'T' or 'MT' position. As telecoils are fitted as standard to most hearing aids (over 90% are said to have the 'T' position) induction loop systems can be considered cost-effective compared to other hearing assistance systems. Infrared systems, for example, require special receivers, the cost and maintenance of which must be met by the service provider. Many modern hearing aids do not just amplify all frequencies equally; they are tailored to suit the user's hearing problem and amplify different bands by different amounts. This gives maximum intelligibility, so the user has the best chance of understanding what is said.

Which induction loop system should I use?

The CHIL range of induction loop equipment is one of the most comprehensive in the UK. It comprises a huge range of amplifiers, microphones, connector plates and test equipment covering virtually every conceivable AFILS application. Before deciding which induction loop system to use, you first need to ascertain the size of the area to be covered in square metres (m²). Bear in mind it may not be necessary to cover the whole of the area, for example in a church only the pews may require coverage.

To calculate the size of the area in square metres, multiply the length by the width. For example, a room 6m x 6m in size would equal 36m². (The coverage provided by an AFILS amplifier is also quoted in square metres).

The chart below, and information in the rest of this section, will help you select the best CHIL Range product(s) for the job.

SIZE OF AREA REQUIRING COVERAGE	CHIL PRODUCT
Counters, desks, tables & other small areas up to 1.2m ²	PL1 portable loop kit, ML1/ K counter loop kit, CHIL102C counter loop kit, VL1/ B1 vehicle loop kit
Rooms up to 50m ²	CHIL102L/R/S small room kits, DL50/K domestic loop kit
Rooms up to 200m ² (11 x 11m)	AK RANGE loop kits, CHIL200E amplifier
Rooms up to 200m ² (14 x 14m)	CHIL200/2 professional loop amplifier
Rooms up to 500m ² (22 x 22m)	CHIL500/2 professional loop amplifier
Rooms up to 1000m ² (30 x 30m)	CHIL1000/2 professional loop amplifier

Designed to meet or exceed the requirements of BS7594 and EN60118-4 when correctly installed, all of the amplifiers in the CHIL range offer excellent intelligibility, true current mode amplification, phantom power (for electret microphones) and full compatibility with the 'outreach plate' audio input extension system (except the PL1, VL1 and DL50).

Many are also available in kit format for ease of specification, purchase and installation.

Portable Induction Loop Kits

PRODUCT FEATURES

Attractively designed in tough ABS plastic, the I/CHIL/PL1 portable induction loop system is a truly portable and extremely durable audio frequency induction loop system, packed full of features and available at a very competitive price. Fully compliant with BS7594 and EN60118-4, it is ideal for use in schools, shops, nursing homes, leisure centres, hotels, banks, GP surgeries, reception desks and many other private, public and civic applications.

- Indicators provided for power on, input level, charging required and charging in progress
- I/CHIL/PL1 kit includes PL1 amplifier, plugtop charger, "induction loop available" sticker and durable cardboard storage/carry case
- I/CHIL/PL3 kit includes PL1 amplifier complete with battery & integral microphone, plugtop charger and 'AFILS available' sticker
- FPROK1 kit includes Fosmeter Pro, 1 x Audio Signal Generator, 2 x protective pouch, 1 x 32 ohm headphones for FPRO, 2 x 9V battery
- Ideal for restricted person to person contact in areas such as banks, post offices, small meeting rooms, reception desks, open plan offices and ticket booths
- Dimensions: 300mm (H) 250mm (W) 100mm (D)
- Battery Internal 12V VRSLA (Valve Regulated Sealed Lead Acid)
- Weight: 1.7Kg



INDUCTION LOOP KITS

I/CHIL/PL1	Portable induction loop system
I/CHIL/PL3	Portable induction loop system complete with carry case

TESTING EQUIPMENT

I/CH/FPROK/1	Fosmeter Pro Induction loop test kit complete with signal generator
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SIGNS AND STICKERS

I/CH/PIL/L	Desktop portable induction loop display sign
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Counter Top Kits

PRODUCT FEATURES

The ML1/K counter induction loop kit is ideal for use in post offices, banks, building societies, ticket offices and reception areas. Comprising a compact wall-mounting double gang induction loop amplifier, a self-adhesive microphone and pre-formed counter loop, it can generate a loop listening field of 1.5m² approx. making it ideal for counters, desktops and tables.

- Attractively-packaged kit includes:- 1 x I/CHIL/ML1 wall-mounting induction loop amplifier, 1 x I/CHIL/AMT self-adhesive microphone, 1 x I/CHIL/TX2 pre-formed counter loop & 1 x I/CHIL/TEAR 'loop fitted' sticker
- Double-gang wall-mounting I/CHIL/ML1 amplifier fits standard 25mm back boxes and is ideal for mounting under desks, counters or table tops
- Fully compliant with EN60118-4 (formerly BS6083) and BS7594:1993
- Installer-friendly design requires no specialist audio experience or connectors - the ML1 can be fitted by any competent electrician
- Can be used to help building managers and service providers comply with BS8300, the Equality Act and the Care Standards Act
- Dimensions 143mm(H) 83mm(W) 32mm(D)
- Weight 300g (amplifier only)



PRODUCT CODE

DESCRIPTION

I/CHIL/ML1/K	Counter induction loop kit
I/CHIL/ML1	1.5m ² wall mounting double gang

Induction Loop Amplifier Kits

PRODUCT FEATURES

A range of current mode induction loop amplifier designed to meet or exceed the requirements of BS7594 and EN60118-4 when correctly installed.

Ideal for the following applications:-

- Meeting rooms
- Lecture theatres
- Shops
- Churches
- Schools
- TV lounges
- Health and fitness club
- Other small to medium sized applications



1.5m² COUNTER INDUCTION LOOP AMPLIFIER KIT

I/CHIL/103C **Counter hearing loop kit with PDA 103 amplifier, AMT microphone and TX2 counter loop**

50m² INDUCTION LOOP AMPLIFIER KITS

I/CHIL/103L **Small room** induction loop kit complete with AMT tie/desk microphone, 30m of loop cable and x2 induction loop stickers

I/CHIL/103R **Small room** induction loop kit complete with APM omni-directional plated microphone, 30m of loop cable and and x2 induction loop stickers

PDA 200E AMPLIFIER

I/CHIL/200E 200m² Wall mounted loop amplifier

200m² INDUCTION LOOP AMPLIFIER KITS

I/CHIL/K1 **Meeting room** loop induction kit complete with 1x I/CHIL/200E, 1x I/CH/APM plated microphone and 1x loop fitted sticker

I/CHIL/K2 **Lecture room** loop induction kit: complete with 1x I/CHIL/200E, 1x I/CH/AMT tie/desk microphone, 1x I/CH/AML lectern microphone, 2x I/CH/APJ outreach plates and 1x loop fitted sticker

I/CHIL/K3 **TV & music room** loop induction kit complete with 1x I/CHIL/200E, 1x I/CH/AMH handheld microphone, 1x I/CH/APS scart lead, 1x I/CH/APJ outreach plate, 1x I/CH/APL outreach plate, 1x loop fitted sticker

TESTING EQUIPMENT

I/CH/FPROK/1 Fosmeter Pro Induction loop test kit complete with signal generator

Professional Induction Loop Amplifiers

PRODUCT FEATURES

Induction loop amplifiers are ideal for use in large prestigious applications such as theatres, churches, cinemas, conference halls; where first class sound and reliability are a must.

- Dimensions 80mm(H) 380mm(W) 220mm(D)
- Weight I/CHIL/200/2 – 3.74Kg, I/CHIL/500/2 – 3.46Kg; I/CHIL/1000/2 – 4.54Kg



PRODUCT CODE

DESCRIPTION

I/CHIL/200/2 200m² professional free-standing induction loop amplifier

I/CHIL/500/2 500m² professional free-standing induction loop amplifier

I/CHIL/RM 19 rack-mount kit for pro-range amp

I/CHIL/WM Wall-mount kit for pro-range amp

TESTING EQUIPMENT

I/CH/FPROK/1 Fosmeter Pro Induction loop test kit complete with signal generator