CHANNEL
Smarter Safety

Induction Loop

Induction Loop Systems

from Channel Safety Systems

Induction Loop Systems

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, ordering goods or services, listening 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).

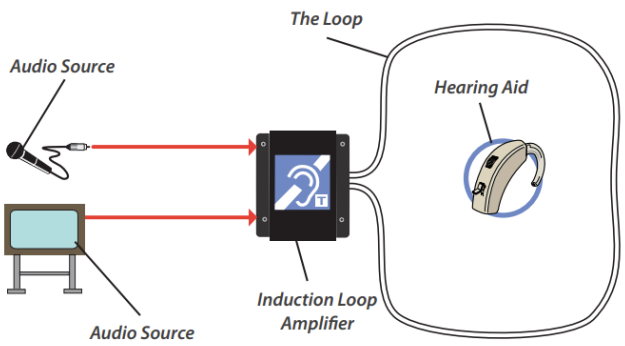
The induction loop amplifier

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.

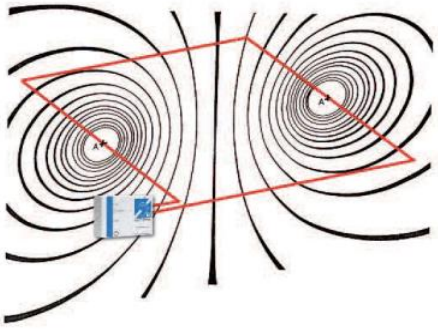
The signal from an audio source is fed into an induction loop amplifier, which amplifies and sets the signal level in the same way as a conventional amplifier.

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 fi eld will 'bleed' outside the perimeter of the loop and therefore a loop system cannot be considered confidential.

Magnetic field in a plane through one axis of a square loop.



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.

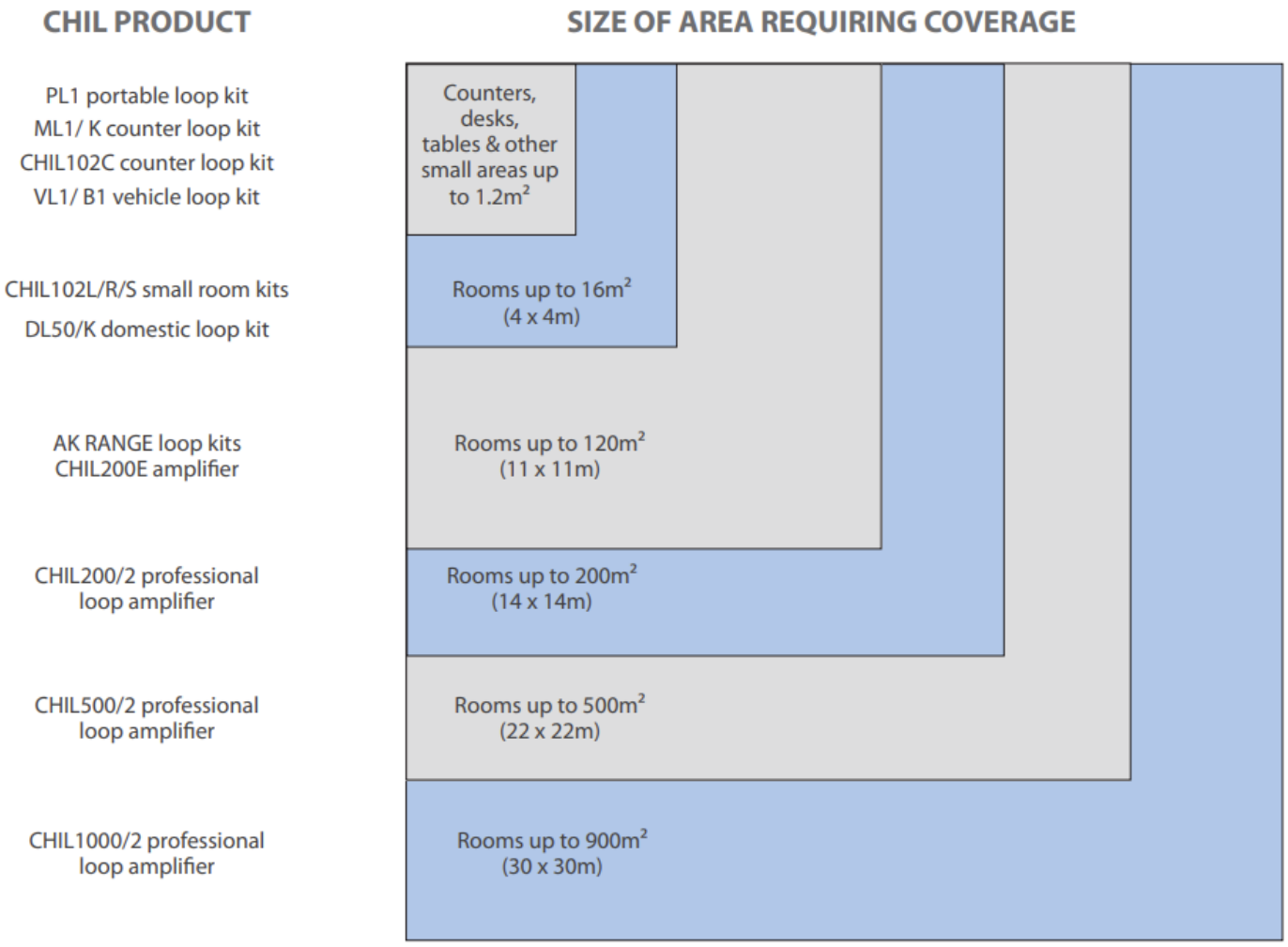
Before deciding which induction loop system to use, you first need to ascertain the size of the area to be covered in square metres (m^2). Bear in mind it may not be necessary to cover the whole of the area, for example in a church only the pews may require coverage.

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 $36m^2$.

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.



Designed to meet or exceed the requirements of BS7594 and EN60118-4 when correctly installed, all of the amplifiers in the CHIL range off er 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

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.

Features

- Ready for use in seconds
- Free-standing lightweight design – ideal for counter, table or desktop use
- Simple one button operation
- Generates a loop listening fi eld of approximately 1.2m2
- Limited horizontal throw of loop fi eld helps maintain privacy in applications where confidentiality is essential (i.e. banks, meeting rooms, police stations, etc)
- Excellent sound quality
- Integral high performance microphone accommodates different operator voice levels
- Plugtop charger included in all kits (amplifier charges fully overnight)
- Remote microphone socket for optional tie/desk microphone
- 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 9 V 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

Basic Operation

1. Take the induction loop amplifier out of its box and position it so its front is angled towards the hearing aid user and its back is facing you.
2. Ask the hearing aid user to switch their hearing aid to the ‘T’ position.
3. Press the amplifier’s on/off button once - the amplifier will beep to confirm it is ready to use.
4. Talk to the hearing aid user as normal (you do not need to talk directly into the microphone as it has a wide pick up range)
5. Check the amplifier’s ‘AFILS working’ indicators to ensure they illuminate in line with your speech (1 & 2 is normal, 2 & 3 is too loud).

Product Dimensions

- Height 300mm
- Width 250mm
- Depth 100mm

Typical PL1/K1 meeting room

Typical PL1/K1 counter/ticket booth application

SPECIFICATIONS	
Coverage	1m operating range at 1KHz providing an AFILS fi eld strength of >100mA/m
Plugtop Charger	Only use the PL1/PSU1 charger included in our PL1 & PL4 kits
Distortion	<1%THD@1KHz, 1m distance & 100mA/M field strength
Internal Microphone	0.5m optimum operating distance
Remote Mic Socket	3.5mm mono jack (disables internal mic. when inserted)
Automatic Shut-Off	Nominally set to 10 minutes, user adjustable to 30 minutes or 60 minutes
Frequency Response	100Hz-5Khz frequency response
Compressor	Fully automatic (up to 5:1 max.)
Indicators	Power on, input level, charging required and charging in progress
Battery	Internal 12V VRSLA (Valve Regulated Sealed Lead Acid) battery
Weight	1.7kg approx. (including battery)

PRODUCT CODE	DESCRIPTION
I/CHIL/PL1	Portable induction loop system
I/CHIL/PL3	Portable induction loop system complete case
I/CH/FPROK/1	Fosmeter Pro Induction loop test kit complete with signal generator
I/CHIL/CASE1	Carry case for induction loop kits
I/CH/PIL/L	Desktop portable induction loop display sign
I/CH/PIL/SA	Portable induction loop self-adhesive sign

Counter Induction Loop Kit

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 fi eld of 1.2m2 approx. making it ideal for counters, desktops and tables.

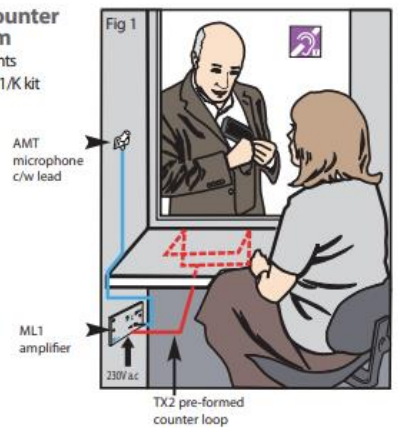
In addition to its 3.5mm microphone input, the ML1 amplifier also features a balanced line input, loop strength, input peak and mains on indicators and a selection of user and engineer controls. As well as being used as part of the ML1/K counter loop system, the ML1 is capable of covering rooms up to 20m2 (approx. 4.5m x 4.5m) using a loop made from four core burglar alarm cable wired as four turns.

Features

- Generates a loop listening fi eld of approx. 1.2m2 dependent on loop position
- 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
- Balanced/unbalanced line level in and 12V d.c. out connectors offer full compatibility with a unique outreach plate audio input extension system
- User-adjustable microphone sensitivity and engineer-adjustable loop drive and input level controls
- Input Peak, Mains On and Loop Strength indicators
- Automatic compressor limiter
- 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 Disability Discrimination Act and the Care Standards Act

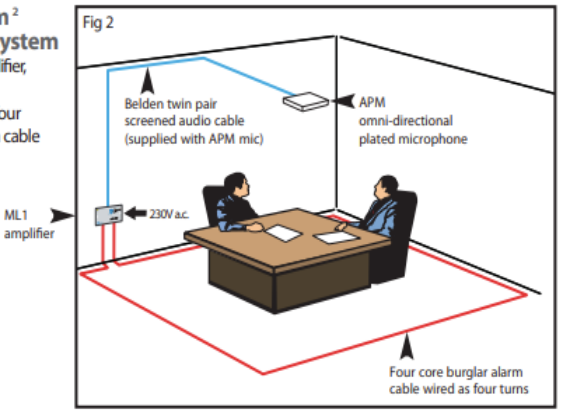
A typical counter loop system using components included the ML1/K kit

Fig 1



A typical 20m² small room system using an ML1 amplifier, an APM plated microphone and four core burglar alarm cable

Fig 2



Product Dimensions

- Height 143mm
- Width 83mm
- Depth 32mm

SPECIFICATIONS	
Mains Voltage	230V AC ± 10%
Max. Primary Current	45mA
Fuses	A non - replaceable thermal fuse is located in the transformer
Microphone Input Connector	3.5mm mono jack (located on the front of the ML1)
Input Impedance	600Ω
Sensitivity	2-5mV (-46dB to -50dB)
Phantom	+9V
Balance Line Input Impedance	10kΩ
Sensitivity	0dB (300mV rms to 1.5V rms)
Loop Coverage (Counter Loops)	≤1.2m²(using TX2 counter loop)
Loop Coverage (Small Rooms)	Up to 20m2 i.e. 4.5m x 4.5m (using four core burglar alarm cable wired as four turns)
Loop Drive Current	250mA average, 600mA max.
Loop Impedance	0.2 to 2Ω
Bandwidth	40Hz to 8kHz
Input Stage Dynamic Range	33dB
Distortion	<0.5%THD
Weight	300g (amplifier only)

PRODUCT CODE	DESCRIPTION
I/CHIL/ML1/K	Counter induction loop kit
I/CHIL/ML1	20m² wall mounting double gang

Audio Frequency Amplifier Kits

Audio frequency induction loop amplifier kits are ideal for any application requiring restricted or small area coverage. The amplifier's input(s) can be easily adjusted for optimum performance using the rotary level control provided on its front and an adjustable drive control is also included, allowing the amplifier's output stage to be set-up to suit the exact characteristics of any room.

The amplifier is designed to be free-standing or wall-mounted using the keyholes provided and installation is further aided by the provision of two set-up indicators (Peak and Limit) and a Power on LED.

Features

- Provides max. square room coverage of 49m2 (7m x 7m). Kitted 'counter loop' version provides approximately 1.2m^2 coverage
- Input Limit, Output Peak and Power On indicators Adjustable Limit and Drive controls
- Compact free-standing design with keyholes provided for optional all-mounting
- Designed to meet or exceed the requirements of BS7594 and EN60118-4 when correctly installed
- Can be used to help building managers and service providers comply with the requirements of BS8300, the Disability Discrimination Act and the Care Standards Act

The I/CHIL/102 is fully compatible with the 'Outreach Plate' audio input extension system. This system allows the connection of multiple microphone or line level inputs via a range of specially designed single gang connector plates covering the most common variants of audio connector including XLR line, XLR mic., 3.5mm jack, dual phono and 1/4" jack. A maximum of 10 plates (any mix) can be daisychained to the amplifier's Outreach socket using standard two pair audio cable such as Belden 8723.

The I/CHIL/102's are ideal for the following applications:

- Small meeting rooms
- Ticket counters
- TV lounges
- Other small sized applications

I/CHIL/102C COUNTER LOOP KIT
Everything required for a stand-alone counter loop system for a ticket office, reception desk, meeting room or any other area where a degree of privacy is required.

I/CHIL/102L SMALL ROOM KIT (tie/desk mic. version)
Ideal for council chambers, seminar rooms and doctors' surgeries up to 7m x 7m in size

I/CHIL/102R SMALL ROOM KIT (plated mic. version)
The I/CHIL/102R is similar to the I/CHIL/102L but instead of an AMT tie/desk mic. it includes an APM omni-directional plated microphone which is ideal for mounting in suspended ceilings.

I/CHIL/102S TV/MUSIC LOUNGE KIT
The I/CHIL/102S is designed for use in areas such as nursing home TV lounges where it allows hearing aid users to enjoy TV/ radio broadcasts.

Product Dimensions

- Height 56mm
- Width 136mm
- Depth 175mm

SPECIFICATIONS	
Rated Supply Voltage and Frequency	230VAC @ 50/60Hz
Rated Power Consumption	20W
Maximum R.M.S Output Current	2.1A
Maximum Peak Output Current	2.8A
Maximum R.M.S Load Voltage	5.5V
Total Harmonic Distortion	<0.1%
Maximum Area of a Square Loop	49m^2 (7m x 7m)
Recommended loop conductor size	0.5mm2 @ <35metres loop length or 1.0mm2 @ >35metres to <50metres loop length (inc. tails)
Recommended number of turns	1
Frequency response –3dB	120Hz to 5kHz as per IEC 60118-4
Input signal level: Mic	50dBV Unbalanced, Outreach: -10dBV balanced (referenced to full output 1kHz sine wave into 1ohm load with controls at max.)
Input impedance: Mic	1k-Ohm; Outreach: 20k-Ohm
Microphone phantom power	9V DC
Signal to noise ratio	-62dB
AGC Ratio	2:1
Amplifier Mode	True Current Mode
Control & indicator labels / functions	Green Power LED, Red Limit LED, Red Peak LED, Limit control, Drive control
Special features	Outreach plate connector allowing the connection of up 10 outreach plates
Connections	Mains - IEC Socket 230V 20W; Loop Output 2 Way Push Terminal; Outreach 4 Way Plugable screw terminal; Microphone – 3.5mm mono jack socket
Weight	1.25 kg (excluding packing and accessories)

PRODUCT CODE	DESCRIPTION
I/CHIL/102C	Counter induction loop kit complete with AMT tie/desk microphone and x2 induction loop stickers
I/CHIL/102L	Small room induction loop kit complete with AMT tie/desk microphone,30m of loop cable x2 induction loop stickers
I/CHIL/102R	Small room induction loop kit complete with APM omni-directional plated microphone, 30m of loop cable and x2 induction loop stickers
I/CHIL/102S	TV/music lounge induction loop kit APS scart lead, an APL dual phono outreach connection plate, 30m of loop cable and x2 induction loop stickers

Audio Frequency Amplifier Kits

The CHIL/200E is a current mode induction loop amplifier and is unlike any other induction loop amplifier. Designed to meet or exceed the requirements of BS7594 and EN60118-4 when correctly installed.

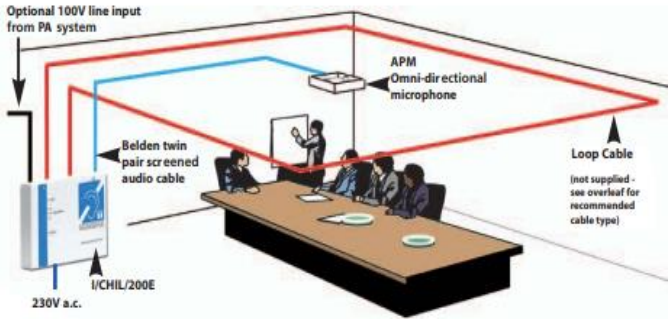
Features

- Provides max. square room coverage of 120m2 (11m x 11m) or max. rectangular room coverage of 250m2 (10m x 25m)
- Straightforward internal screw connectors
- Wall-mounting metal enclosure for permanent installation
- Internal tamper-resistant drive, level and tone controls
- One balanced/unbalanced microphone input
- One balanced/unbalanced line level input
- Alert tone switch input for doorbells, fire alarms, security systems, etc
- 100V line input for PA system connection
- External loop drive current and power on LED indicators
- Optional 'outreach plate' input extension system allows a greater variety of inputs to suit virtually any application

The CHIL/K's are ideal for the following applications;

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

A typical meeting/seminar room installation (using our AKM1 kit)



Product Dimensions

- Height 56mm
- Width 136mm
- Depth 175mm

SPECIFICATIONS	
Microphone Input	Impedance: Balanced 8kΩ Unbalanced 5kΩ Sensitivity: - 65 dB Phantom power: 12V d.c. 5 mm plug-on screw connectors. Sensitivity 65 dB.
Line Level Input	Impedance: Balanced ->20kΩ, Unbalanced –16kΩ Sensitivity: 0 dB
100V Line Input	For direct connection to 100V line PA systems Impedance: > 20kΩ Sensitivity: +40 dB
Input Level Control	Line: -∞ to +3 dB Microphone -∞ to +45 dB
Tone Control	Mid-range tone control with cut and boost function. Frequency: 1 kHz Cut: -17 dB Boost: +17 dB
Alert Input	For audible alert tone, triggered by switch to 12V
Voltage Input	12V DC @ 250 mA for triggering alert input and providing auxiliary power for outreach plates.
Performance	Bandwidth: 100 Hz - 5 kHz @ 0 dB Dynamic range: > 70 dB Noise: < -67 dB CMRR: > 84 dB Distortion: <0.33% THD @ 1 kHz 0 dB
Mains Voltage	230V AC +10 / -20 %
Power Consumption	<80 VA
Output Drive Current	Max peak: > 8A EBU PPM: > 5.5A Sine 1 kHz: >2.1A RMS Loop coverage: 120m² Loop impedance: 0.2 to 2Ω
Indicators	Power on: Green LED Audio in limit: Red LED Loop Drive: Yellow LED
Weight	2.9 kg

PRODUCT CODE	DESCRIPTION
I/CHIL/200E	120m² Wall mounted loop amplifier
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
I/CHIL/K4	Place of worship 1 loop induction kit complete with 1x I/CHIL/200E, 1x I/CH/AML lectern microphone, 1x I/CH/APJ outreach plate,1x I/CH/APL outreach plate (audio input for CD/tape deck) and 1x loop fitted sticker
I/CHIL/K5	Place of worship 2 loop induction kit (cavalier radio microphone version) complete with 1x I/CHIL/200E, 1x I/CH/AMR/L cavalier radio microphone (supplied in a separate storage case), 1x I/CH/APQM outreach plate, 2x I/CH/APXM outreach plates (for existing microphones) and loop fitted sticker
I/CHIL/K5H	Place of worship 3 loop induction kit (handheld radio microphone version) complete with 1x I/CHIL/200E, 1x I/CH/AMR/H handheld radio microphone, 1x I/CH/APQM outreach plate, 2x I/CH/APXM outreach plates (for existing microphones.) and loop fitted sticker
I/CHIL/K7	Health and fi tness club loop induction kit (cavalier radio microphone version) complete with 1x I/CHIL/200E, 1x I/CH/AMR/L cavalier radio microphone (supplied in a separate storage case), 1x I/CH/APQM outreach plate, 1x I/CH/APL outreach plates (for CD/tape deck) and loop fitted sticker

Professional Induction Loop Amplifiers

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.

Each amplifier has three inputs – Mic., Mic./Line and 'Outreach'. The Mic. and Mic./Line inputs will accept standard three pin XLR connectors. The four-way 'Outreach' input offers full compatibility with our unique Outreach Plate audio input extension system. This system allows the connection of up to ten additional microphone or line inputs via a range of specially designed single gang audio connector plates.

The pre-amplification stage of each amplifier utilises an advanced signal processing system that allows tight control over the audio signal without any degradation of output quality. A metal compensation control is also provided to help offset the frequency response problems caused by the excessive metal content of some rooms.

Other features include three level controls (one for each input), a loop drive control, an output current meter and a 'compression' activity display giving visible indication of the amplifier's compressor.

Features

- Attractive free-standing design (optional wall and 19"rack-mounting kits available)
- Improved drive current capability provides up to 50% extra coverage over other models
- Two XLR 3 pin input sockets - one balanced mic. and one switchable
- balanced mic./line
- Optional 11V phantom power available for electret or condenser microphones
- 'Outreach' input allows the connection of up to 10 additional mic. or line level inputs via a series of separately available single gang connector plates
- Adjustable level controls provided for all inputs - can be used individually or together as a three-input mixer
- Adjustable drive control allows the loop current to be adjusted to suit a room's individual characteristics
- Metal compensation control helps off set the frequency response problems associated with excessive metal in a building
- True output current meter
- Visible indication of the amplifier's compressor action via two LEDs • 3.5mm headphone socket allows true monitoring of the output signal
- Advanced audio signal processing with automatic gain control
- On-board cooling fan on PDA500/2 and PDA1000/2 promotes stable operating temperature and increased reliability
- All models designed to meet or exceed the requirements of BS7594 and EN60118-4 when correctly installed

PRODUCT CODE	MAX. SQUARE ROOM COVERAGE	MAX. RECTANGULAR ROOM (2:1 ASPECT RATIO) COVERAGE
I/CHIL/200/2	200m²	240m²
I/CHIL/500/2	500m²	600m²
I/CHIL/1000/2	900m²	1100m²

Product Dimensions

- Height 80mm
- Width 380mm
- Depth 220mm

SPECIFICATIONS	
Power	230-240 V a.c. mains (CHIL/200/2 <150 VA; CHIL/500/2 <225 VA; CHIL/1000/2 <300 VA) IEC 320 fused mains lead supplied)
Inputs	Line (3 pin XLR) - impedance: 6k8 + or – input to ground; Sensitivity: 200mV – 2.5V RMS balanced or unbalanced. Microphones (3 pin XLR) - impedance: 6k8 + or – input to ground; Sensitivity: 1 – 8 mV balanced Phantom power: 12V switchable (on/off) Outreach (Four way Weidmuller connector BL5. 08/4) - impedance: >10k; Sensitivity: 500mV - 6V RMS balanced Outreach Power: 16 – 21 V d.c. is available via the amplifier's Outreach Socket
Loop Connector	Four way binding posts
Recommended Loop Impedance	0.5 – 1 Ohm @ 1KHz. Will drive higher impedance loops with reduced area of coverage
Loop Drive Current @1 Ohm	CHIL/200/2 – 6A; CHIL/500/2 – 9A; CHIL/1000/2 – 12A
Peak loop drive current (Measured over 5mS integration time)	PDA200/2 - 8 Amps @ 1 Ohm, 13Amps @ 0.5 Ohm; PDA500/2 – 12 Amps @ 1 Ohm, 19 Amps @ 0.5 Ohm; PDA1000/2 – 14 Amps @ 1 Ohm, 24 Amps @ 0.5 Ohm
Headphones	3.5mm jack socket allows monitoring of the loop signal via >32 Ohm headphones
Performance	Frequency response: 20Hz – 14 KHz + - 3dB; Distortion: Less than 0.5 %; S to N ratio: Better than –65dB any input
Compressor	Gives dynamically variable compression ratio from 1:1 (no compression) to 17:1 Attack time: Approx. 10mS. Release time: Approx. 2.2S
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/1000/2	900m2 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

Outreach Plates

Any amplifier marked with the 'Outreach Compatible' symbol is compatible with our unique Outreach Plate audio input extension system. This system allows the connection of multiple microphone or line level inputs via a range of single gang connector plates. Carefully designed to cover the most common variants of audio connector (including XLR line, XLR mic., 3.5mm jack, dual phono and 1/4" jack), a maximum of 10 outreach plates (any mix) can be daisy chained to an amplifier's Outreach socket using standard two pair audio cable such as Belden 8723 (or equivalent).

Please note: Our I/CHIL/PL1 and I/CHIL/DOM amplifiers do not have outreach sockets and that our I/CHIL/MK1 amplifier can have a maximum of three outreach plates connected to it.

Features

- Provides max. square room coverage of 120m2 (11m x 11m) or max. rectangular room coverage of 250m2 (10m x 25m)
- Straightforward internal screw connectors
- Wall-mounting metal enclosure for permanent installation
- Internal tamper-resistant drive, level and tone controls
- One balanced/unbalanced microphone input
- One balanced/unbalanced line level input
- Alert tone switch input for doorbells, fire alarms, security systems, etc
- 100V line input for PA system connection
- External loop drive current and power on LED indicators
- Optional 'outreach plate' input extension system allows a greater variety of inputs to suit virtually any application

SPECIFICATIONS	
Supply Volts	12-32V regulated d.c
Supply Current	12-15mA
Input – Balanced/Unbalanced Line	1v (0dbv
Output – Balanced Line	1v (0dbv) + 6db (overload)
Frequency Response	40Hz - 20kHz
Input Impedance	>10L
Output Impedance	<100
Insertion Loss/Gain	< ±0.05db
Insertion Signal to Noise Ratio	>95db Insertion
THD+noise	<0.01%

PRODUCT CODE	DESCRIPTION
I/CH/APJ	3.5mm mono jack plate for connection of CH/AMT, CH/AMH, CH/AML or CH/AMD microphones
I/CH/APL	Dual phono line level audio plate for connection of CH/APS SCART lead or other line level audio feeds
I/CH/APQM	6.35mm stereo jack plate for connection of CH/ AMR/L or H radio mic.
I/CH/APQL	6.35mm stereo jack plate for the connection of line level feeds from mixing desks, etc.
I/CH/APXM	XLR mic level plate for connection of CH/AMP microphone
I/CH/APXL	XLR line level plate for connection of mixing desk line level feeds
I/CH/APM	Omni - directional plated microphone for wall/ ceiling/desk mounting
I/CH/API	AFILS active indicator light
I/CH/APS	SCART to double phono lead (for use with I/CH/ APL plate)
I/CH/BELDEN/25	25m of Belden 8723 audio cable

Microphones

These Microphones have the highest tolerance of magnetic feedback and are therefore recommended for induction loop systems. Dynamic microphones should not be used as they contain moving coil magnets which can be affected by the magnetic field generated by the loop. Phantom power is provided on all Induction Loop amplifiers, so the microphones with internal batteries are not necessary. Please note: All microphones are supplied with a connection lead apart from the I/ CH/AMP. If using an AMP, a range of connection leads are available. To avoid interference, microphone cables should be sited at least one metre away from loop cable.

APPLICATION MICROPHONE TYPE	PRODUCT
Conference table (center of tabletop, counter, etc)	AMT tie/desk mic
	APM plated mic
	MH hand held mic + G121 stand
	AMP professional hand held mic + G121 stand
Lectern (for pulpits, lectures, etc)	AML fixed goose neck mic, long stem
	AMLS fixed goose neck mic, short stem
	AMD movable goose neck mic, long stem
	AMDS movable gooseneck mic, short stem
Lavalier (for the lapel of an after dinner speaker)	AMT tie/desk mic
	AMR/LA(radio mic) - 4 selectable frequencies
Ambient mic (for audience response etc)	APM at distances of ≤2.5m
	PRO45 at distances ≥ 2.5m
Ceiling (recessed in the ceiling above a table)	APM at distances of≤2.5m
	PRO45 at distances≥ 2.5m
Desk Microphone with Push To Talk (PTT)	AMD/P (as AMD with PTT)
Handheld	AMH hand held mic
	AMP professional hand held mic
	AMR/HA(radio mic) - 4 selectable frequencies

PRODUCT CODE	DESCRIPTION
I/CH/AMP	Professional handheld microphone for CHIL/200E or CH/APXM plate (requires CH/AXLR lead)
I/CH/AMH	Handheld microphone for CHIL/ML1, CHIL/DOM, CHIL/102, CHIL/200E, CHIL/PL1 or CH/APJ outreach plate
I/CH/AMR	Levalier radio microphone complete with microphone, receiver, transmitter, psu. Connects to CHIL/200E or CH/APQM outreach plate
I/CH/APM	Levalier radio microphone complete with microphone, receiver, transmitter, psu. Connects to CHIL/200E or CH/APQM outreach plate
I/CH/PRO45	Hanging ambient microphone for CH/PDA-RANGE or CH/APXM plate
I/CH/AMD	Desktop microphone for CHIL/ML1, CHIL/DOM, CHIL/102, CHIL/200E, CHIL/PL1 or CH/APJ outreach plate
I/CH/AML	Lectern microphone for CHIL/ML1, CHIL/DOM, CHIL/102, CHIL/200E, CHIL/PL1 or CH/APJ outreach plate
I/CH/AMLS	Short-stemmed version of CH/AML
I/CH/AMR/H	Handheld radio microphone c/w mic, receiver, transmitter, psu. Connects to CHIL/200E or CH/APQM outreach plate
I/CH/AMT	Tie/desk microphone for CHIL/ML1, CHIL/DOM, CHIL/102, CHIL/200E, CHIL/PL1 or CH/APJ outreach plate
I/CH/AMDS	Short-stemmed version of CH/AMP

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