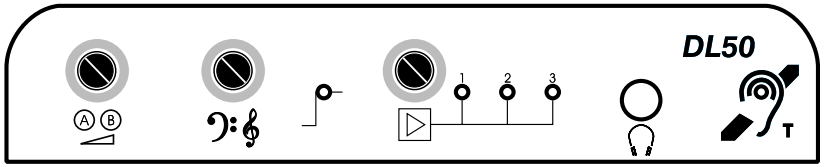
DL50/K

AUDIO-FREQUENCY INDUCTION LOOP KIT



INSTALLATION & SET-UP MANUAL

Please read these instructions carefully before installing your DL50 induction loop system

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About this kit

This kit includes everything you need to create a high quality stand-alone loop system for a living room, bedroom, TV lounge, study or any other room up to 7m x 7m (23ft x 23ft) in size.

Please ensure that the following accessories are included in your kit:-

1 x DL50 audio frequency induction loop amplifier

1 x Plug-top power supply

1 x 33m (108ft) reel of induction loop cable

1 x SCART to phono audio connection lead

1 x Microphone c/w 1.5m (5ft) lead and mounting attachments

1 x Installation manual (i.e. this manual)

1 x Accessory pack containing four stick-on cabinet feet and a small flat-headed screwdriver

Should any of the above items be missing, please contact your vendor.

What is an induction loop system?

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 a telephone earpiece. This signal is converted by the hearing aid into a sound suited to its user's specific hearing requirements.

An induction loop system uses this same principle but generates a much larger magnetic field than that created by a telephone earpiece and radiates it around a room via a 'loop' of cable. Any hearing impaired person positioned within the loop can hear the loop signal by switching their hearing aid to the correct position.

An induction loop system therefore comprises four main elements:-

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

The induction loop amplifier

The loop – a single turn of wire usually run around the perimeter of the room.

The receiver(s) – any behind-the-ear type hearing aid with a 'T' or 'MT' switch.

The Disability Discrimination Act has led to an increasing number of induction loop systems being fitted in cinemas, theatres, churches, post offices, etc, allowing people with hearing difficulties to participate fully in general conversation, public performances and other social/work related activities. This kit, specially designed by one of the UK's leading manufacturers of induction loop equipment, helps you to bring these same benefits into the comfort of your own home.

Technical specifications

POWER REQUIREMENTS	12V a.c. 1.5A max (via plug-top power supply)
MAX. COVERAGE AREA	50 square metres (7m x 7m or 23ft x 23ft)
CONTROLS	Input signal level control
	Tone control (boost +16dB; cut -20dB at 1KHz)
	Loop signal control
	Microphone priority control
	(all controls are screwdriver adjustable to prevent them being accidentally altered once they have been set up)
INDICATORS	Power on (green)
	Input signal (red)
	Loop strength meter (green to yellow to red)
INPUTS	Two 3.5mm mono microphone inputs with phantom power
	Two phono (line level) inputs
	Alert trigger input - normally open (close to trigger)
OUTPUTS	One loop output (via push-and-hold connector) - only use the loop cable supplied with your DL50/K kit
	One headphone output (confirms audio input signal level)
DIMENSIONS	40mm (Height) 85mm (Depth) 185mm (Width)
WEIGHT	550g (amplifier only)

Troubleshooting

If no sound is being picked up by the hearing aid or induction loop test receiver, first check that the amplifier's power indicator is lit.

If the power indicator IS NOT lit:-

Check that the plug-top power supply is correctly plugged into the mains supply and the amplifier.

If the power indicator is still not lit, the power supply or the amplifier could be faulty. Return the amplifier and PSU to your vendor for repair.

If the power indicator IS lit:-

Check that the amplifier's input signal indicator is lit.

If the input signal indicator IS NOT lit, make sure all microphone and audio connection leads are correctly plugged in.

Adjust the amplifier's input signal and microphone priority controls until its input signal indicator flickers.

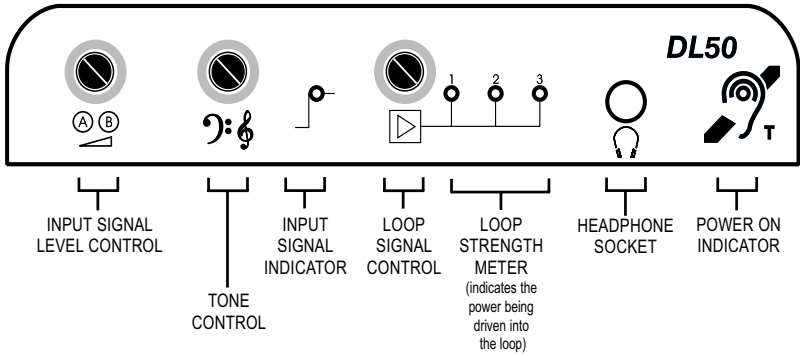
If there is still no sound being picked up by the hearing aid or induction loop test receiver, check that the loop cable is not broken or misconnected.
Tip: The loop strength meter WILL NOT illuminate if there is a break in the loop cable or if it is misconnected.

Familiarisation with your DL50 induction loop amplifier

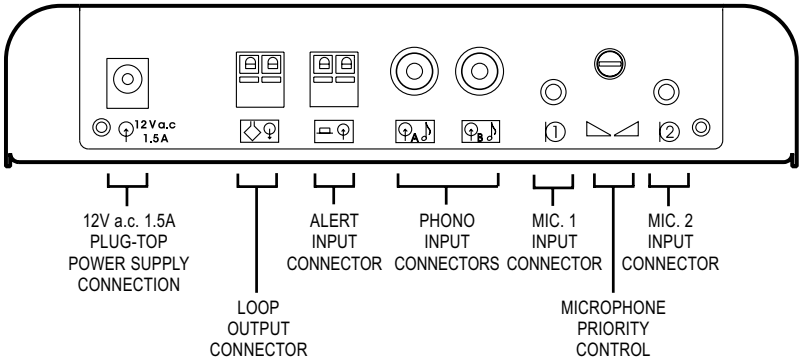
Below is an overview of the indicators, controls and connectors on your DL50 induction loop amplifier. The amplifier has one set of phono inputs (for the direct connection of televisions, etc), two microphone inputs and an alert input (the alert input is normally used for special applications only). It also includes four screwdriver-adjustable level controls plus a number of indicators to assist you in setting up the system. Connections are also provided for the attachment of the induction loop cable.

Detailed connection diagrams, system planning and system set-up information can be found later in this manual.

DL50 amplifier : front view



DL50 amplifier : rear view



Planning the system

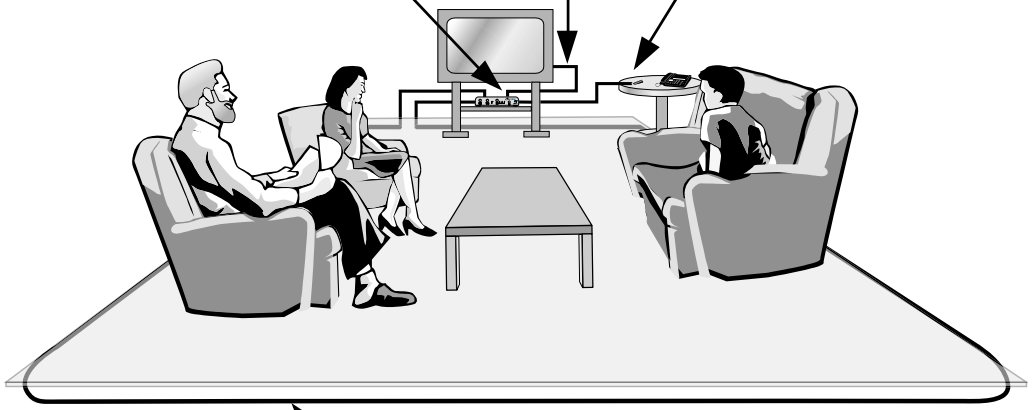
Careful planning of the induction loop system prior to installation is essential. Please refer to the diagram below and the hints and tips section on the adjacent page to help avoid poor performance and the need to re-position the amplifier or loop cable at a later stage.

A typical DL50 domestic loop system

Amplifier location
The amplifier should be sited as close as possible to the equipment to which it is connected. Due consideration should be given to ensure any microphones you wish to use have long enough leads to reach the required sound source.

Audio input
Most televisions, DVD players, etc, can be connected to the DL50 using the SCART-to-Phono lead supplied.

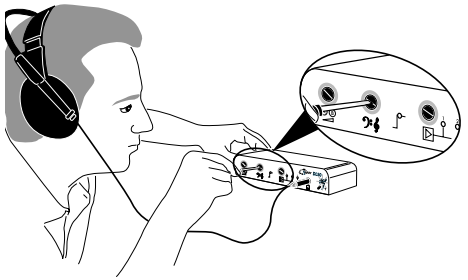
Microphones
One microphone is supplied with the DL50 and this is sufficient for most applications. It is normally positioned where it will best pick up general conversation and/or the sound of telephones or doorbells ringing.



Loop cable
The loop cable (supplied) should be run around the perimeter of the room. It should be located at least 1.2 metres away from the nearest hearing aid and is therefore best tucked under the edge of the carpet or fixed to skirting boards or the ceiling.

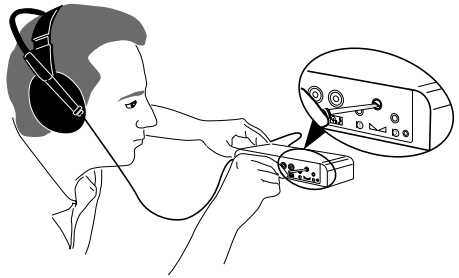
Should you encounter a doorway, window or passageway, run the cable up and over (using cable clips) or below the obstruction but try to keep such deviations to a minimum. Ensure that the cable is adequately protected from being crushed in walkways and by furniture.

Detailed connection diagrams and system set-up information can be found later on in this manual.

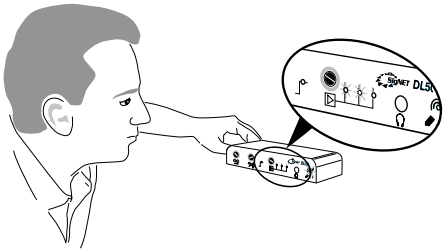


6 Adjust the tone control to suit the user. Turning the control clockwise usually improves speech intelligibility and makes the sound more 'natural'. Turning it anti-clockwise makes the sound 'warmer'. Large turns in either direction may lead to you having to adjust the loop signal control accordingly (see step 4).

TIP: If the user is not present, plugging a set of headphones into the amplifer's 🎧 socket will indicate the effect of any adjustments.



7 If two microphones are used, more emphasis can be given to one over the other by turning the amplifier's microphone priority control clockwise or anti-clockwise to suit. When the control is in the centre position (its default setting), equal emphasis is given to both microphones.



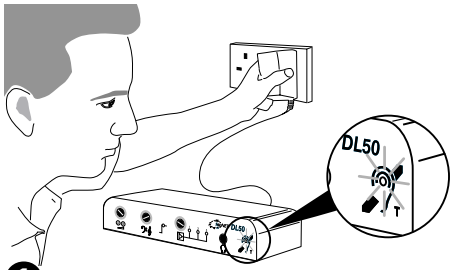
8 Check that the loop strength meter is not permanently lit red. The meter is designed to light progressively from 1 to 3 (green to yellow to red) in line with the loop signal strength. If it is continually lit red, the signal will be distorted and the amplifier may overheat. If necessary, re-adjust the loop signal control accordingly and re-test the sound quality following steps 4 and 5.

⚠ Important note

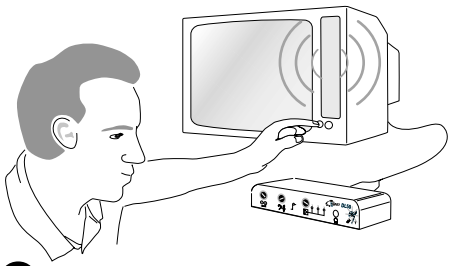
When testing the installation, you may hear a slight 'humming' noise in the background, especially if using an induction loop test receiver. This IS NOT a fault with the induction loop system but a common occurrence caused by mains wiring. This hum will normally NOT be heard by hearing aid users as most modern hearing aids are equipped with built-in filters which cancel this noise out.

System set-up and testing

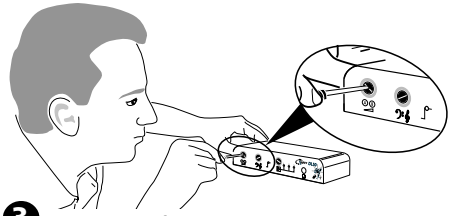
Always run a trial loop to ensure correct operation. Only when you are happy with the sound quality should you permanently fix the loop using tape, cable clips or a staple gun.



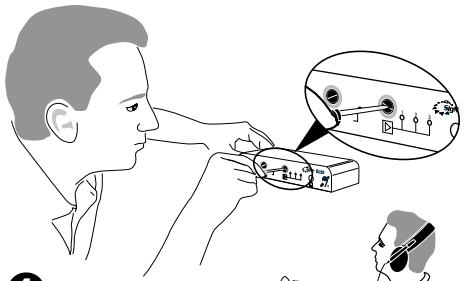
1 With all system connections in place (see pages 6 & 7), apply power to the amplifier and check its green 'power on' indicator is lit.

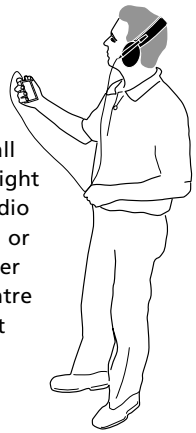


2 Turn on the system's audio input source (usually a television and/or a microphone) and ensure it is producing an audio signal. Note, SCART outputs have a fixed level signal and altering the TV's volume control will not affect this.



3 Using the flat-headed screwdriver supplied, turn the amplifier's input signal level control clockwise until its input signal indicator begins to flicker. This flickering is associated with peaks in the audio signal - if permanently lit, the signal will be distorted. Re-adjust the control accordingly.





4 Set the loop field strength by turning the loop signal control in small increments. After each slight adjustment, check the audio signal using a hearing aid or induction loop test receiver whilst standing in the centre of the loop/room. Repeat until an acceptable signal level is received.

5 When you are satisfied with the signal in the centre of the loop, move around the room to ensure coverage is consistent throughout. Pay particular attention to areas where the hearing aid user is likely to sit. Next, if possible with the hearing aid user in position, set the amplifier's tone and microphone controls to suit their personal preference following steps 6 and 7.

Hints & tips

Maximum area coverage
The maximum coverage provided by the loop system is 50m² (i.e. a room up to 7 x 7 metres in size). Longer rooms can be covered provided width x length measurements do not exceed 50 metres.

Trial loops
Always run a trial loop and test to evaluate performance by listening to the signal with either a hearing aid or a dedicated loop test receiver, such as SigNET's RxTI (loop testing equipment can be ordered using the ancillary order form attached). Refer to our dedicated 'system set-up and testing' section on pages 8 and 9 for further details.

Audio sources without output sockets
Some older televisions and other audiovisual appliances may not have a suitable output socket for direct connection to the loop amplifier. NEVER attempt to make your own connections by opening the appliance as high voltages WILL be present. Instead, place a microphone next to the audio source in question.

Ventilation
The amplifier can become quite warm during normal operation so the airflow around it must not be restricted. Ensure that the four rubber feet supplied in the accessory pack are attached to the bottom of the unit as shown on page 7.

The 'isolation' issue
When a hearing aid user switches his or her hearing aid to the 'T' position, its on-board microphone is switched off and the only noise that can be heard is the loop signal. If an induction loop amplifier is connected to just one sound source, such as a television, some hearing aid users (but not all) have said the lack of background noise makes them feel isolated. This issue can be overcome by positioning a microphone where it will convey background noise and pick up general conversation. (A maximum of two microphones can be connected to the DL50, one is supplied as standard, if you require another you can order one using the ancillary order form attached).

Overspill and 'cross-talk'
The signal generated by the loop will radiate outside as well as inside the loop. If there are any other loop systems in close proximity, overspill such as this may lead to 'cross-talk' (signals from different loops merging into one). Although not usually a problem in domestic applications, special designs of loop can be implemented to help reduce the overspill field. In the unlikely event of you encountering such problems, contact your vendor for assistance.

Safety precautions

Please refer to the safety precautions below before attempting to make any connections or operating your DL50 loop amplifier.

Ensure that the amplifier IS NOT located in areas with poor ventilation, high ambient temperatures or high humidity. It SHOULD NOT be exposed to direct sunlight, high dust levels or be placed next to vibrating or heat-generating equipment.

The 230Vd.c. to 12V a.c. plug-top power supply (supplied) is designed for use with the DL50 amplifier ONLY. DO NOT use any other plug-top power supply with the DL50 and DO NOT plug the lead into any other electrical appliances as this may cause irreparable damage. Replacement PSUs, if required, can be ordered using the ancillary order form attached.

DO NOT dismantle or attempt to modify the amplifier or its plug-top power supply. No user-serviceable fuses or parts are included. For repair, consult your vendor.

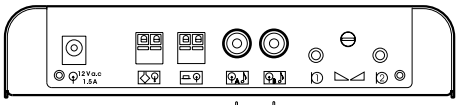
Ensure the plug-top power supply's lead, the loop cable and all relevant audio/microphone lead(s) are fixed securely into position before operation. Do not leave any trailing leads.

For added protection, during thunderstorms or when the amplifier is to be left unattended for prolonged periods of time, unplug the plug-top power supply from the wall outlet.

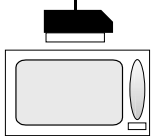
Connecting the unit

Connecting the phono inputs

Connection to most televisions, DVD players, etc, can be made using the SCART-to-Phono lead supplied:-



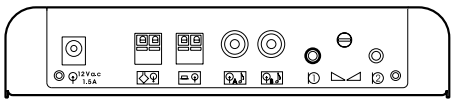
Note: it does not matter which phono plug goes into which socket



An optional Phono-to-Phono lead is available for use with certain types of satellite and cable TV boxes - refer to the ancillary order form attached.

Connecting the microphone input(s)

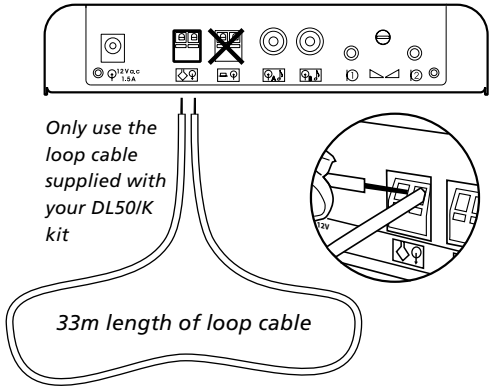
One microphone is supplied with the DL50. This should be connected to the rear of the amplifier as shown below:-



If required, an additional microphone can be connected to the amplifier's second microphone socket - refer to the ancillary order form attached.

Connecting the loop cable

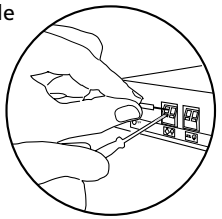
Both ends of the loop cable should be connected to the amplifier's loop cable push-and-hold terminals as shown below.



Only use the loop cable supplied with your DL50/K kit

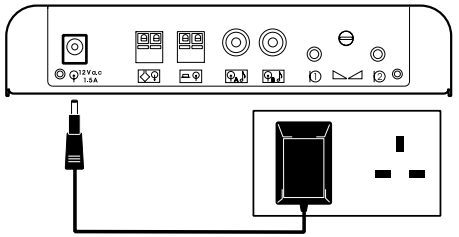
33m length of loop cable

Connect the loop cable by pushing one of its prepared ends into the left terminal and the other into the right terminal. The push-and-hold connectors will automatically grip the ends. Any excess cable should be neatly tied up and placed where it cannot be tripped over. If you need to remove the cable at any time, you must first insert a terminal screwdriver into the rectangular hole directly below the cable insertion hole (see right). This will open the insertion hole and allow the cable to be removed.



Connecting the plug-top power supply

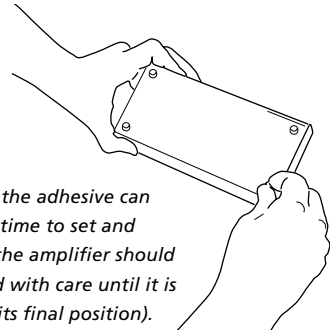
The plug-top power supply should be connected to a 230V d.c. wall socket and the 12V a.c input on the rear of the amplifier:-



Only use the plug-top power supply supplied with your DL50 kit. Note that there are no user-servicable parts on this power supply and in the event of failure you must purchase a replacement lead. Refer to the ancillary order form attached for details.

Attaching the cabinet feet

The four self-adhesive rubber feet provided in the DL50's accessory pack should be stuck to the underside of the amplifier as shown.



(Note that the adhesive can take some time to set and therefore the amplifier should be handled with care until it is located in its final position).

Connecting the alert input

The alert input is designed for use by specialist installers, i.e. qualified electricians, only. When triggered (by a normally open volt-free switch across its connectors) it causes a pulsed alert tone in the loop. This can be used to warn the user that a doorbell has rung or a fire alarm has sounded. DO NOT attempt to use this input unless you are qualified to do so. In domestic applications, alerting the user to a ringing doorbell, etc, can be achieved much more easily by placing a microphone in a strategic position in the room.