
SHHH Australia Inc.

Self Help for Hard of Hearing People

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AUDIO LOOP SYSTEMS IN PUBLIC PLACES

Many hearing impaired people, although they may be using hearing aids, have difficulty understanding speech in some situations. Theatres, cinemas, churches, transport passenger terminals, ticket offices, and service counters may all present problems.

General background noise, including nearby conversations, the effects of reverberation, and distance from the speaker are the main causes of the problem. People with normal hearing are usually less affected by these conditions because they can focus to a greater extent on the sounds they want to hear.

There are several assistive listening devices which can significantly improve the situation for many people. One of the most effective is an audio induction loop system – known simply as a ‘Loop’.

- A loop can be small enough to be used on a one to one basis, or large enough to encompass a whole room or a public hall.
- A loop can be used by a hearing aid wearer with an aid fitted with a T switch (See SHHH Information Sheet *What is a T switch?*) simply by changing a switch position on the aid.
- Others can benefit from a loop by using a special device – a loop receiver.

WHAT IS A LOOP SYSTEM?

It is basically a loop of wire installed around the perimeter of an area where hearing impaired people may need listening assistance. The loop of wire is connected, in place of the usual loudspeakers, to the output of an audio amplifier. The amplifier may be connected to an existing public address system, microphone, or other audio source such as a tape recorder, television receiver or radio.

The amplifier causes an electric current to flow in the loop. This produces a magnetic field which varies in the same way as the speech or music signals being amplified. This magnetic field can be picked up on a tiny coil which may be installed inside a hearing aid or other special receiver. All the listener has to do to receive the amplified sound is to switch to the T or telecoil position on the hearing aid, press T on a remote control unit or use a special loop receiver with headphones.

ARE ALL SITES SUITABLE?

In an ideal situation the strength of the magnetic field is fairly constant over most of the area inside a loop.

- A preliminary survey of the site is highly desirable before proceeding with loop design and installation. The performance of a temporary loop placed approximately in its final position would

enable an investigation of possible interference. Any effects of the loop on other nearby equipment, such as an audiovisual system or computer terminals, could also be monitored.

- Metal used in the construction of a building, or in fixtures, may cause changes in the loop's magnetic field and reduce its effectiveness. In addition, the operation of a loop system can be adversely affected by magnetic interference from electrical powerlines and equipment. Spillover from nearby loops can sometimes superimpose signals into the looped area.

HOW IS A LOOP INSTALLED?

Effective loops can be simply installed where the installation is remote from other loop systems. The loop can be placed around the room under the floor, along the skirting board or the picture rail, under the edge of the carpet or in the ceiling space if less than about 4 metres above the floor. The loop wire should not be coiled. Suitable amplifiers, microphones, and accessories are available from a number of suppliers, some loop systems are in kit form with instructions for easy self installation.

Large installations, eg those required in theatres or cinemas, or where more than one system is to be installed in the same building, need careful design. In these circumstances, it is recommended that advice be obtained from skilled technical people or consulting engineers. Acoustic consultants are recommended for advice on the more complex acoustical situations, eg where stage shows are involved.

Installers of loop systems should use a magnetic field strength meter or other suitable device to ensure the performance complies with the Australian Standard AS 1088.4 – 1987 over the area in which it will be used. They should also supply the customer with a method of regularly checking correct operation. With some experience, a loop receiver can be used satisfactorily for this purpose by normally hearing people.

WHAT WILL A LOOP SYSTEM COST?

The cost of purchasing a loop amplifier and accessories suitable for a room perimeter of about 25 to 30 metres is in the order of \$300. Kits are available from Deafness Resources, Printacall and Auditec Pty Ltd. *See the list on the following page.*

The cost will increase where commercial installation is required and microphones and other audio facilities are purchased. Significant cost increases can be expected for more complex systems.

Loop receivers suitable for testing purposes and for use by hearing impaired people not wearing a hearing aid with T switch are available from Deafness Resources and Printacall at a cost of about \$65.

WHAT ARE THE SAFETY CONSIDERATIONS?

The installation of a loop system, even if temporary, should comply with the appropriate requirements for safety and all relevant regulations relating to electrical installations. Temporary loops laid on the floor should always be taped in the appropriate places to avoid the danger of people tripping over them.

WHAT SHOULD BE DONE AFTER A LOOP IS INSTALLED?

Public Awareness: Notices incorporating the International deafness symbol should be placed in prominent positions around the looped area. Such notices are sometimes supplied by installers. Suitable notices saying '**Hearing Help Available – Please Ask**' are also available from SHHH Australia Inc. With either back or front adhesive, these notices are suitable for use on glass doors or box office windows as well as relevant walls. Any advertising or promotional material for the venue should also alert hearing impaired people to the fact that a loop has been installed for their benefit.

Contact the office of SHHH Australia for some details about the availability of assistive listening systems, including loops, in public places within NSW or the ACT.

Operating the Loop: It is particularly important that staff are trained to operate the system. Staff on duty should be aware of how the system works and of the need to have it turned on. A procedure for routinely testing and monitoring, eg by using a loop receiver should be established and staff trained to carry it out.

In some places, particularly in theatres, cinemas, and public halls, announcements or music should be played into the loop system prior to the commencement of the show. This enables hearing impaired people to check the operation of the loop and their own receiving devices.

LOOP STANDARDS

The performance of loop systems should conform to Australian Standard AS1088.4 – 1987 *Hearing Aids Part 4 – Magnetic Field Strength in Audio-Frequency Induction Loops for Hearing Aid Purposes*.

British Standard BS 7594: 1993 *Code of Practice for Audio-Frequency Induction Loop Systems* is an extremely useful publication giving recommendations and guidance on design, planning, installation, testing, operation and maintenance of loop systems.

Copies of these Standards can be obtained from Standards Australia located in Sydney.

SUPPLIERS AND/OR INSTALLERS OF AUDIO LOOP SYSTEMS

Auditec Aust P/L – 16 King St, Mt Kuring-gai, NSW, 2080. PO Box 228 Hornsby NSW 1630. Ph (02) 9457 6000 Fax (02) 9457 6006.

Audio Advice – 31 Dingle St, Riverstone, NSW, 2765. Ph (02) 9627 1895, Fax (02) 9627 5018. Also known as Church Sound.

Clare Communications Co P/L – Suite 3, 39 ILighton Pl, Hornsby, NSW, 2077. Ph (02) 9482 3581, Fax (02) 9482 3582.

Deafness Resources Australia – 33 Argyle St, Parramatta, NSW, 2150. Ph (02) 9895 2970, TTY (02) 9895 2971, Fax (02) 9895 2972.

Deafness Technology – PO Box 10 Wareemba, NSW, 2046. Ph (02) 9713 9903, Fax (02) 9713 2539.

Hertz Electronics – 539 Glenmore Rd, Edgecliff, NSW, 2027. Ph (02) 9363 3029, Fax (02) 9327 7827.

JC Sound – 13 Avoca Ave, Belfield, NSW 2191. Ph/Fax (02) 9642 4738.

Lightfoot Sound P/L – PO Box W168, Warringah Mall 2100. Ph (02) 9144 5449

NESCO Services (NSW) P/L – Suite 1, 8 – 10 Wharf Rd, Gladesville, NSW, 2111. Ph (02) 9817 5733, Fax (02) 9817 4021.

Oticon Australia P/L – 5th Fl, 34 Charles St, Parramatta, NSW, 2150. Ph (02) 9635 8188 Fax (02) 9633 4021.

Printacall – 2 Doig Ave, Denistone East, NSW, 2112. Ph (02) 9809 2392 Fax (02) 9809 2345.

Sontec NSW – 101 Silverwater Rd, Silverwater, NSW 2128. Ph (02) 9748 2288 Fax (02) 9748 2444.

Trevan, Johns & Assocs. – Unit 7/14 Abbott Rd, Seven Hills, NSW, 2417. Ph (02) 9838 4622 Fax (02) 9838 4688.

ACOUSTIC CONSULTANTS

Acoustic Dynamics P/L – 57 Lombard St, Glebe, NSW, 2037. Ph (02) 9571 9633 Fax (02) 9571 9699.

PKA Acoustic Consulting – Level 1, 220 Pacific Hwy, Crows Nest, NSW, 2065. Ph (02) 9922 4199
Fax (02) 9923 1462.

Wilkinson Murray P/L – 123 Willoughby Rd, Crows Nest, NSW, 2065. Ph (02) 9437 4611 Fax (02) 9437 4393.