



HEARING MATTERS AUSTRALIA

Support from real life experience

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Information Sheets

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Information Sheet Number 11

AUDIO LOOP SYSTEMS IN PUBLIC PLACES

Many people with hearing loss, 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 the reverberation, and distance from the speaker are the main causes if 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 (See HMA Information Sheet 10: *Assistive Listening Systems in Public Places*). 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 Telecoil or T-Switch (See HMA Information Sheet 8: *What is a Telecoil?*)
- 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 to the output of a specially designated 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 audio-visual system or computer terminals, could also be monitored.
- Metal used in the construction of a building, or in fixture, 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. Spill-

over 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 loops 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. Some loop systems are in kit form with instructions for easy self-installation.

Large installations, e.g. those required in theatres or cinemas, or where more than one system is to be installed in the same buildings, 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, e.g. where stage shows are involved.

It is important for installers of loop systems to use a magnetic field strength meter or other suitable device to ensure the loop performance complies with the Australian Standard AS 60118.4 – 2007 over the area in which it will be used. They should also supply the customer with a method of regularly checking correct operation. A meter giving a visual indication of correct magnetic field strength is preferred.

WHAT WILL A LOOP SYSTEM COST?

The cost of purchasing a loop and amplifier suitable for a room perimeter of about 25 to 30 metres is in the order of \$400. Commercial purchase and installation of microphones, other audio facilities and loop receivers, if required, can increase the cost significantly.

Sources of expert advice, supply and installation are listed below.

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 (blue ear) should be placed in the prominent positions around the looped area. Such notices are sometimes supplied by the installers and are also available from Hearing Matters Australia. 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.

Operating the Loop: It is particularly important that staff is 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, e.g. 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 systems 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 AS60118.4 – 2007: *Hearing Aids- Magnetic Field Strength in Audio-Frequency Induction Loops for Hearing Aid Purposes*.

British Standards BS 7594: 193 *Code of Practice for Audio-Frequency Induction Loop Systems* is 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

ACT

Deafness Resources Centre – Grant Cameron Community Centre, Level 2a, 27 Mulley St, Holder, ACT 2611. Ph: (02) 6287 4393, TTY: (02) 6287 4394, Fax: (02) 6287 4395, E: actdre@iimetro.com.au

NEW SOUTH WALES

Audio Advice- (Also known as **Church Sound**) – 31 Dingle St, Riverstone, NSW 2765. Ph: 0412 600 676 E: ken@audioadvice.com.au

Clearasound – Unit A10/4 Central Ave Thornleigh NSW 2120 Ph: 9481 9750
TTY 9484 7263 E: sales@clearasound.com.au

Oticon Australia P/L – Suite 4, Level 4, Building B, 11 Talavera Rd, Nth Ryde, NSW 2113. Ph: (02) 9635 8188, Fax: (02) 9633 4021, E: npe@oticon.com.au

TJA Communications – Unit 7, 14 Abbott Rd, Seven Hills, NSW 2417. Ph: (02) 9838 4622

VICTORIA

Hearing Loops Melbourne – 13/45 Normanby Rd Notting Hill VIC 3168

Ph 1300 658986 E: info@hearingloopsmelbourne.com.au

Word of Mouth Technology Pty Ltd – 6 Sturt St Croydon VIC 3136 Ph: (03) 9723 0660 E: info@wom.com.au

TASMANIA

Expression Australia – 139 New Town Rd New Town TAS 7008 Ph (03) 6228 1955 E: infotas@expression.com.au

QUEENSLAND

Phoenix Hearing Instruments Pty Ltd – Unit 6/49, Butterfield St, Herston, Qld 4006. Ph (07) 3852 4622 E: vgm@phoenixhearing.com.au

SOUTH AUSTRALIA

Deaf Can Do – 59-61 Grange Rd Welland SA Ph: (08) 8100 8200 E: sales@sadeaf.org.au

WESTERN AUSTRALIA

Listening Solutions – Shop 1, 20 Old Perth Rd, Bassendean, WA 6054 Ph (08) 6364 4805 Mobile: 0415 903 908, E: sales@waelect.com.au

Techwest Solutions– 78B Collingwood St, Osborne Park, WA 6017 Ph (08) 9445 8844 E: admin@techwestsolutions.com.au

NORTHERN TERRITORY

Deafness Association of the Northern Territory – Shop 14 Casuarina Plaza, 258 Trower Rd, Casuarina, NT 0810. Ph (08) 8945 2016 E: dante@octa4.com.au

ACOUSTIC CONSULTANTS

Acoustic Dynamics P/L – Suite 2, 174 Willoughby Rd St Leonards, NSW 2065 Ph (02) 9908 1270 E: acoustics@acousticdynamics.com.au

PKA Acoustic Consulting – Suite 16, 401 Pacific Hwy, Artarmon, NSW 2064. Ph (02) 9460 6824 E: admin@pka.com.au

Wilkinson Murray P/L – Level 272 Pacific Hwy Crows Nest, NSW 2065. Ph (02) 9437 4611 E: neilgwilkinsonmurray.com.au