



Self Help for Hard of Hearing People



The official website for Self Help for Hard of Hearing People (Australia) Inc

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## Information Sheets

SHHH's Information Sheets are provided as a service to members and those in the community at large who have an interest in hearing impairment. While every effort has been made to ensure the accuracy of the information provided, SHHH accepts no responsibility for any adverse consequences arising from the contents of these sheets.

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### Information Sheet Number 11

#### **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. (See SHHH Information Sheet No. 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 SHHH Information Sheet No. 8: *What is a Telecoil?*) 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 to the output of a specially designed 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. 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 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, 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 \$300. Commercial purchase and installation of microphones, other audio facilities and loop receivers, if required, can increase this 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 (i.e. the “blue ear” symbol at the top right corner of the first page of this sheet) should be placed in prominent positions around the looped area. Such notices are sometimes supplied by installers and 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.

**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, 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 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 AS60118.4 - 2007: *Hearing Aids – 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**

### **ACT**

**Deafness Resource 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, Email [actdre@iimetro.com.au](mailto:actdre@iimetro.com.au).

**GPT Designs** – Electronic Design and Production Services, PO Box 234, Mawson, ACT 2607. Ph (02) 6286 9700, Fax(02) 6286 9600, Mobile 0417 484 656.

## **NEW SOUTH WALES**

**Auditec Aust P/L** – 16 King St, Mt Kuring-gai, NSW 2050. PO Box 88, Mt Kuring-gai, NSW 1630. Ph (02) 9457 6000, Fax (02) 9457 6006, Email [sales@auditec.com.au](mailto:sales@auditec.com.au).

**Audio Advice** (also known as **Church Sound**) – 31 Dingle St, Riverstone, NSW 2765. Ph (02) 9627 1895, Fax (02) 9627 5018, Email [ken@audioadvice.com.au](mailto:ken@audioadvice.com.au).

**Clare Communications Co P/L** – Ph (02) 9519 4443, Fax (02) 9565 4545, Email [sound@clarecom.com.au](mailto:sound@clarecom.com.au).

**Deafness Technology** – PO Box 3010, Wareemba, NSW 2046. Ph/TTY (02) 9713 9903.

**Hearing & Sight Solutions** (Printacall Distributors), 41 Florence St, Taree, NSW 2430. Ph (02) 6550 2244, Email [sales@hearandseemore.com.au](mailto:sales@hearandseemore.com.au).

**Lightfoot Sound P/L** – 29 Eastern Arterial Rd, St Ives, NSW 2075. Ph (02) 9144 5449, Fax (02) 9975 4211, Email [info@lightfootsound.com.au](mailto:info@lightfootsound.com.au).

**Moore Hearing** – PO Box 171, Kyogle, NSW 2474. Ph (02) 6632 2817.

**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, Email [npe@oticon.com.au](mailto:npe@oticon.com.au).

**Printacall** – 2 Doig Ave, Denistone East, NSW 2112. Ph (02) 9809 2392, Fax (02) 9809 2345, Email [sales@printacall.com.au](mailto:sales@printacall.com.au).

**Tecsound** – Unit 4, 108 Warrane Rd, Willoughby, NSW 2068. Email [dean.plumridge@tecsound.com.au](mailto:dean.plumridge@tecsound.com.au).

**TJA Communications** – Unit 7, 14 Abbott Rd, Seven Hills, NSW 2417. Ph (02) 9838 4622, Fax (02) 9838 4688.

## VICTORIA

**Ampower Marketing Services** - 55 Kedleston Rd, Herne Hill, Geelong, Vic 3218. Ph (03) 5222 1180, Fax (03) 5222 1180, Mobile 0412 392 455, Email [ampower@ncable.net.au](mailto:ampower@ncable.net.au).

**Tecsound** – Unit 21, 35 Dunlop Rd, Mulgrave, Vic 3170. Ph (03) 8562 7575, Fax (03) 8562 7577, Email [rainer.menzel@tecsoundvic.com.au](mailto:rainer.menzel@tecsoundvic.com.au).

**Word of Mouth Technology Pty Ltd** – Shop 23, Macauley Place, Bayswater Village Shopping Centre, Bayswater, Vic 3153. Ph (03) 9729 9974, TTY (03) 9729 9969, Fax (03) 9729 8863, Email [info@wom.com.au](mailto:info@wom.com.au).

## TASMANIA

**Tasmanian Deaf Society** - 59 Cadbury Rd, Claremont, Tas 7011. Ph (03) 6249 5144.

## QUEENSLAND

**Hearing Solutions Aust Pty Ltd** - 6th Floor, 87 Wickham Terrace, Brisbane, Qld 4000. Ph (07) 3832 4541, TTY (07) 3832 4947, Fax (07) 3839 1043, Email [solutions@hearingsolutions.com.au](mailto:solutions@hearingsolutions.com.au).

**Phoenix Hearing Instruments Pty Ltd** – Unit 6/49, Butterfield St, Herston, Qld 4006. Ph (07) 3852 4622, Fax (07) 3852 4633, Email [vgm@phoenixhearing.com.au](mailto:vgm@phoenixhearing.com.au).

**Tecsound** – 11/441 Nudgee Rd, Hendra, Qld 4011. Ph (07) 3868 4900, Fax (07) 3868 3344, Email [phil.jeffries@tecsound.com.au](mailto:phil.jeffries@tecsound.com.au).

## SOUTH AUSTRALIA

**Deaf S.A.** – 262 South Terrace, Adelaide, SA 5000. Phone (08) 8223 3335, Fax (08) 8232 2217, TTY (08) 8100 8232, Email [sales@sadeaf.org.au](mailto:sales@sadeaf.org.au).

**Tecsound** – Unit 3, 4 Adelaide Terrace, St Marys, SA 5042. (P.O. Box 310, Edwards Town, SA 5039). Ph (08) 8177 2000, Fax (08) 8177 2300, Email [john.lee@tecsound.com.au](mailto:john.lee@tecsound.com.au).

## **WESTERN AUSTRALIA**

**Listening Solutions** - Shop 1, 20 Old Perth Rd, Bassendean, WA 6054.  
Ph (08) 6364 4805, TTY (08) 6364 4806, Fax (08) 6364 4807 Mobile  
0417 903 908, Email [sales@waelect.com.au](mailto:sales@waelect.com.au).

**Tecsound WA Pty Ltd** – 78B Collingwood St, Osborne Park, WA 6017  
(P.O. Box 1732, Osborne Park, 6916). Ph (08) 9445 8844, Fax (08) 9445  
8866, Email [ron.anderson@wa.tecsound.com.au](mailto:ron.anderson@wa.tecsound.com.au).

## **NORTHERN TERRITORY**

Deafness Association of the Northern Territory - Shop 14, Casuarina  
Plaza, 258 Trower Rd, Casuarina, NT 0810. Ph (08) 8945 2016, Email  
[dant@octa4.com.au](mailto:dant@octa4.com.au)

## **ACOUSTIC CONSULTANTS**

**Acoustic Dynamics P/L**- Suite 12, 38-46 Albany St, St Leonards, NSW  
2065. Ph (02) 9908 1270, Fax (02) 9908 1271, Email  
[acoustics@acousticdynamics.com.au](mailto:acoustics@acousticdynamics.com.au).

**PKA Acoustic Consulting** - Suite 16, 401 Pacific Hwy, Artarmon, NSW  
2064. Ph (02) 9460 6824, Fax (02) 9460 6823, Email  
[admin@pka.com.au](mailto:admin@pka.com.au)

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

(Revision 3)