

## LOOPS IN YOUR HOME

Andrew Stewart has been installing loop systems for 20 years. He is hearing impaired and has two hearing impaired children â€" all use a loop to watch TV at home. Andrew helps us to unravel the mysteries of loops.

What is a loop?

An AUDIO INDUCTION LOOP SYSTEM consists of a microphone (or TV etc), a special amplifier and, in the place of a speaker, a loop of wire placed around the room. Sound waves from the speaker's voice going into the microphone (or the TV signal) is changed into an electric current, amplified, and then sent through the loop, which emits a magnetic field in the room. The field is picked up by the "T" switch of a hearing aid, amplified, and converted back into sound. Hearing aid users sitting within the loop system can pick up the speaker's voice or TV without distortion and no background noise, simply by turning on the "T" switch on their aids. The loop is fully adaptable to television, radio, stereo, tape recorder or movie projector.

Why would parents install a loop in their home?

Most people think that hearing aids are perfect (especially some professionals). They think that once a person has hearing aids, all their hearing difficulties are solved. What the hearing aid does is pick up all the sounds. This enables the hearing aid user to hear all the sounds around them, and solves the problem of volume.

However, the ear of a hearing impaired person has lost the ability to "focus" on a sound. For example, in a noisy room hearing people can focus on the one person they are trying to hear, even though the background noise can be nearly deafening (pun intended)!

The hearing aid cannot provide that focus (although directional microphones do help).

In a room that has no background noise, hearing is still a problem. When I talk to someone face to face, I can hear and understand them very well with my hearing aids (normally).

If I then stand 10 feet away, I can still hear them, as my hearing aids give me volume, but I struggle to understand the words. The words sound mumbled, and turning my hearing aids up only makes the mumble louder.

The reason for this is that when someone talks

from 10 feet (or more) away, their voice bounces off the walls, floor, furniture etc, and blurs the sound. Hearing people can differentiate the direct sound from the reflections, whereas hearing impaired people struggle.

To overcome this problem, I either have to move closer to the sound source, such as the person speaking or the TV or radio or I can put a loop or FM on the person speaking or the TV or radio.

The result of this is that my hearing aid receives direct sound without any reflections, and is giving the hearing aid the best possible signal with which to work.

A lot of hearing impaired people don't know what they are missing out on until they try it. I have had some kids come round and try the loop at my home and I see their face light up.

Also, the clearer a child can hear, the more he/she can focus on what they are hearing, rather than on trying to hear. This means that more is taken in, and literacy can also improve as a result.

What are the differences between a loop and an FM system?

When correctly supplied and installed, the loop and the FM are almost identical, except using the microphone on the FM or a microphone with the loop amp may pick up some background noise. A direct connection from either of the Loop or FM is definitely preferred.

The main difference between the two is the way in which it is used. With the loop system my kids (and I) can sit almost anywhere in the room. I simply switch the telecoil (T switch) on my hearing aid on, and hear the TV. We don't have any of the battery or maintenance issues as with the FM. Also, and most importantly, the kids can feel "normal". They don't have to wear an extra device to hear the TV.

Are there other advantages?

In some cases, connecting to the "audio out" on the TV means that we can turn the sound off on the TV and it still comes through the loop. So, I often turn the sound off when I get home from work so my wife and I can talk, without the TV blaring, and my children keep listening on the loop. Certainly for me, without the loop I have to ask my wife to repeat a lot, which drives her up the wall. With the loop it is so clear, and we

can both just sit back and enjoy the program.

With the loop I have, I also get an alarm tone when the phone rings, and a different alarm when the doorbell goes. This is necessary for older kids and adults, because when on the T switch, the microphone on the hearing aid is switched off, providing crystal clear sound but this does mean that you cannot hear other sounds around you.

Who can benefit from a loop?

Hearing aid and cochlear implant users with a T switch can use a loop.

Any problems?

â€¢ Interference - I normally resolve that issue when I do an installation. Many people think that interference comes from fluorescent lighting but the problem comes from the power cabling, particularly if there are two - way switches for the lights. The best way to monitor loops is with a loop receiver. Unfortunately, the reasonable units are \$290.00. Basically, the person putting the loop in should identify the presence of interference and where to avoid, or resolve it.

â€¢ I should also mention, that connecting the loop or the FM to the audio out on TV doesn't always work with videos. It is a case of try and see. In these cases the only option is for the microphone for the FM or loop to be â€˜blu-tackâ€™ed in front of the speaker.

â€¢ Cinemas - loops in only some of them work. You need to make sure you find out which seats are covered by the loop.

Where can you purchase a loop for your home?

Loop systems cost between \$290 and \$405.  
(Depending on type of floor â€˜ wood or concrete, and size of area).  
The loop amplifier is totally portable. I recommend that the loop cable be installed permanently. The roll of cable costs around \$40 and I recommend that new cable is laid if you move home.

The following organisations sell different home loop systems:-

Printacall  
Deafness Resources Australia  
WA Electronics

Word of Mouth Technology

For further enquiries, contact Andrew Stewart  
(Technical Manager) at Printacall  
Ph: (02) 9809 2392 TTY: (02) 9809 1283 Fax: (02)  
9809 2345  
Email: [astewart@printacall.com.au](mailto:astewart@printacall.com.au)

An audio induction loop system for home -  
<http://www.aussiedeafkids.com/>