



Why Do We Need Hearing Augmentation?

People with hearing loss commonly use hearing devices, like hearing aids or cochlear implants to improve their hearing. These hearing devices are generally great one to one, with no background noise. But in an auditorium, the person with hearing loss hears the noise, but cannot understand what is being said.

This is due to the “echoes” in the room (also called reverberation) which people cannot distinguish, but “blurs” the sound.

The solution is to install a Hearing Augmentation system, which allows a deaf, hearing impaired or hard of hearing user to hear the output signal directly in their ear using a hearing device. With such a device the user can hear the sound without reverberation or background noise. Furthermore, they can hear speech clearly where otherwise they would have struggled or been unable to understand anything.

What Are Hearing Augmentation Systems?

There are two types of Hearing Augmentation Systems:

Hearing Loop Systems

Receiver Systems - Which consist of either

- **FM/Digital wireless Systems**
- **Infrared Systems**

What does NOT qualify as Hearing Augmentation Systems are SoundField systems, PA systems, Public Wi-fi systems (that use the client’s smart phone) and Personal hearing assistance systems.

Hearing Augmentation systems typically connect to the output of an existing PA/sound system/sound source. This can include wireless microphones, TVs, and music systems both in the home and in public places.

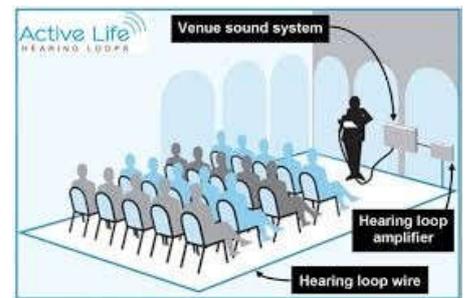
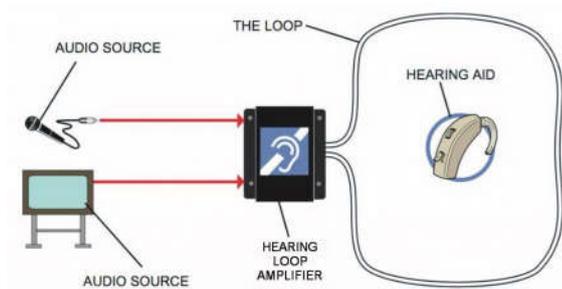
The systems are received by the consumer using a hearing aid or cochlear implant on the telecoil setting (previously known as the "T Switch"), however all systems can be used with headphones if the user does not wear hearing devices.

Types of Hearing Augmentation

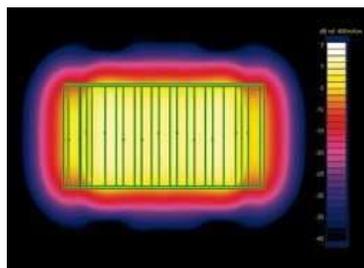
HEARING LOOP SYSTEM

A hearing loop (sometimes called an audio induction loop) is a system for use by people with hearing devices with a Telecoil. Alternatively, receivers are available for those not using hearing devices or whose hearing devices do not have a Telecoil.

Hearing loops require installation by a professional experienced in hearing loops (such as **Hearing Connections**). If not installed correctly users may be required to tilt their head at an awkward angle to pick up the signal or find unexpected dead spots in the area.



Hearing Loop concept where no metal is present in the building structure



Complex Hearing Loop arrays for adjacent areas, concrete and steel framed buildings.

FM System



Transmitter

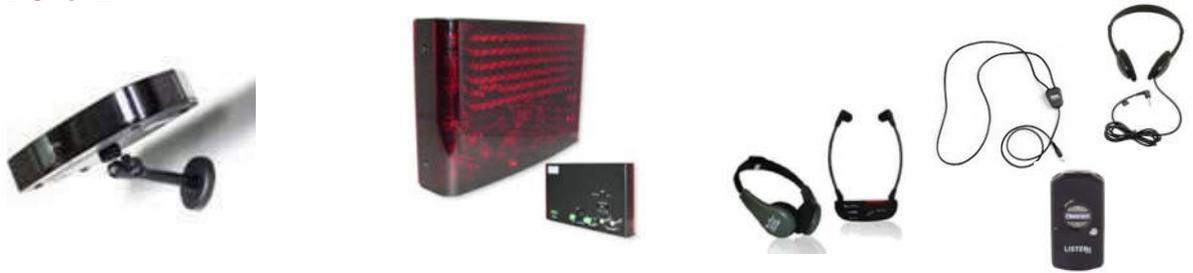


An FM System is for use by people with or without hearing devices.

An FM System is made up of one base station transmitter connected to the sound system output. Depending on the device, the transmitter can be located with the sound system or in a nearby room.

For both FM and the Infrared systems every receiver must be provided with a neckloop for Telecoil users and a headset for other users.

INFRA-RED SYSTEM



An Infrared System is for use by people with or without hearing devices.

An Infrared System is made up of usually two or more wall mounted emitters connected to the sound system output. These emitters use non-visible light to transmit the signal from the emitters to body worn receivers. Due to the light signal, this is a line-of-sight system and any disruption or blockage of the signal (even temporarily) can disrupt the sound. This can take the form of a person walking between the emitter and the user, or the user turning in another direction if there are not an adequate number of emitters.

For both FM and the Infrared systems every receiver must be provided with a neckloop for Telecoil users and a headset for other users.

Comparison of Features

	Hearing Loop	FM	Infrared	Soundfield	Roger
Complies with NCC Legal Requirements	Yes	Yes	Yes	Does not comply	Note 1
User Preferred	Yes	2nd option			
Venue Preferred	Yes	2nd option			
Lowest Maintenance	Yes				
Easiest to Install		Yes			
Receivers Required	No	Yes	Yes	na	
Maximum Privacy			Yes		
Connected to venue's Audio System	Yes	Yes	Yes	Yes	Note 1
Range	Within	Up to 750m	Various	10m	20m

Note 1: The Roger transmitters have built in batteries, and therefore are not suitable for permanent connection to a venue's audio system (as the batteries will eventually corrode and destroy the transmitter). Also, while repeaters are available to extend the range, these also include built in batteries. The Roger system is designed for, and is excellent as a personal microphone system, not as a Hearing Augmentation System.

Hearing Connections supplies all the above systems.

Legal Requirements

There are numerous legal requirements involving Hearing Augmentation Systems, and signs for them.

- NCC - National Construction Codes (previously BCA - Building Codes of Australia – DP9, and Sections D3.6 and 3.7
- DDA - Disability Discrimination Act 1992 – DP9, and Sections D3.6 and 3.7
- Fit for Purpose (each state has its own fair trading laws requiring all systems to be fit for purpose)
- Australian Standard AS 1428.5 - 2010 (applies if listed in a contract).

HEARING AUGMENTATION SIGNAGE

Hearing Connections can provide both Braille and printed signs for Hearing Loop Systems, FM systems and Infrared systems.

Braille Signs are required at the entry to indicate the room or area has a hearing augmentation system (Hearing Loop, or receivers system – i.e. FM or Infra-red system).

Printed signs are required inside the room.

Both signs require the International Symbol for Deafness to be included. The symbol must be white on blue, and the blue must be Ultramarine B21 or equivalent.

All signs display the International Symbol for Deafness, and the appropriate wording – both as required by

- National Construction Codes / Building Code of Australia 2016 – D3.6
- Disability (Access to Premises - Buildings) Standards 2010 – D3.6

Some signs modify the International Deafness Symbol with a “T” – this is not compliant with the legal requirements in Australia.



Correct Symbol



Not Valid in Australia

HEARING AUGMENTATION AUDITS

Hearing Connections can provide onsite Audits of any installed Hearing Augmentation System.

The audits can be based on:

- compliance with the minimum requirements for a working Hearing Augmentation System, or
- compliance with NCC requirements, or
- compliance with AS 1428.5, or
- Compliance with NCC and AS1428

Hearing Connections can discuss the best approach with you.

More Information

Visit our website to for updates at www.hearconnect.com.au

If you have any questions, email Hearing Connections at team@hearconnect.com.au

Kind Regards

Andrew Stewart

Managing Director
Hearing Connections

