



HEARING AUGMENTATION IN SCHOOLS, UNIVERSITIES & EDUCATION

This document applies to facilities for teaching from pre-school through to adult. The minimum legal requirements are set out in the National Construction Codes - **NCC** (formerly Building Code of Australia - BCA) **D3.6** and **D3.7**, and the Australian Human Rights Commission (**AHRC**) Premises Standards.

Below are the recommendations of **Hearing Connections** which puts together a full approach to both the legal obligations and the needs of students with hearing loss.

1. Why is Hearing Augmentation important

People with hearing loss require Hearing Augmentation to reduce not just the background noise, but the reverberation, while providing independent volume control via the Hearing Augmentation receiver and/or the user's hearing aid/cochlear implant processor.

Numerous research studies prove that SoundField systems are not a replacement for Hearing Augmentation, which is why children with moderate, severe and profound hearing loss continue to use Hearing Augmentation systems in conjunction with SoundField Systems. This in itself shows that SoundField is not a satisfactory alternative to Hearing Augmentation systems. SoundField is clearly not an alternative to Hearing Augmentation for "occupants who are deaf or hearing impaired" as stated in **NCC/AHRC DP9**. However, if the SoundField system is capable of having receivers, and the minimum number of receivers are provided per room, then SoundField is hearing augmentation.

More details about Hearing Loop Systems are available [here](#) and articles may be found [here](#).

We know from the Australian Access Economics Report that:

- currently 1 in 6 people in Australia have hearing loss
- increasing to 1 in 4 in 2050

2. Assembly Halls (and indoor equivalents) and Lecture theatres

Hearing augmentation is required by NCC/AHRC, with a minimum coverage of 80%.

- a. Hearing loop systems should be installed in these locations, under the floor.
- b. All seating locations should be included.
- c. Connect the hearing loop system to the installed audio system.

Hearing Connections can design and install all types of hearing augmentation systems.

Using receiver systems of any type are a recipe for disaster in these locations:

- particularly as some students (and adults) refuse to wear receivers
- not enough receivers will necessarily be available, particularly when these areas are used by others (e.g. grandparent days)
- receivers must be charged and maintained.
- All users of the space must have access to the receivers (including others that rent the space)

More details about Hearing Loop Systems are available [here](#).

3. Outdoor COLAs, outdoor assembly areas (and equivalents)

Exactly the same applies to these areas as to Assembly Halls.

Hearing loop systems can easily be installed in these outdoor areas by **Hearing Connections**.

4. Classrooms, music rooms, science labs, specialist rooms, tutorial rooms (and equivalents)

Each room should include:

- a. A SoundField system
- b. A minimum of two receivers
- c. Each receiver has a neckloop and a headset
- d. Connect the SoundField to any laptop, music box and any other sound source.
- e. Full Coverage of the rooms by the radio signal for the receivers (NCC/AHRC requires a minimum of 95%).

Some people justify not supplying or having reduced quantities of receivers because of the mistaken impression that all hearing impaired students are issued with a Personal FM system. This is not true, and is explained in more detail in [this](#) article which explains common myths about schools.

More details about SoundField systems are available [here](#).

5. All Hearing Augmentation Systems should be installed and used as per the Australian Standard AS1428.5.

6. Hearing Loop Listener should be provided for testing the hearing loop systems.

These are also required because:

- those who do not have hearing aids, cochlear implants, BAHA or other hearing devices
- Some hearing aids do not have a telecoil fitted
- Some people have fluctuating hearing loss, and cannot be fitted with hearing aids
- Many people with mild or moderate loss cannot afford to buy hearing aids
- Some people forget to put their hearing aids in their ears – people with hearing loss are human too!

This article has been written by the Managing Director of **Hearing Connections**, Andrew Stewart. Having grown up with hearing loss, and being a parent of two hearing impaired children, I strongly recommend that only hearing loop systems be installed in assembly halls, under COLAs and in other assembly areas. Teachers have confirmed my own experience that many children are reluctant (as in absolutely refuse) to wear a receiver.

Therefore, hearing loop systems are the only practical solution for assembly areas – inside or out!

Articles explaining these requirements can be found [here](#).

This includes an article titled [Hearing Augmentation & Soundfield Systems in Classrooms](#) which explains common errors made in school.

FURTHER INFORMATION

If you have any questions, email Andrew Stewart: Managing Director of Hearing Connections at andrew@hearconnect.com.au

Other articles are available [here](#)
Sign up to receive our newsletter [here](#)

About the Author

Andrew Stewart is qualified in electronics and has been leading research into hearing augmentation systems for over 30 years – including designing, installing, testing and commissioning of Hearing Augmentation Systems. He and his team have conducted their own research of comparison methodologies of installing hearing loop systems and designed and constructed test equipment. He's been involved in installations at Sydney Opera House, First Class Qantas Club Singapore, art galleries, museums, theatres and many others.

Andrew was a key leader in the development of AS 1428.5 - 2010, the authoritative document on Hearing Augmentation in Australia. He is also a life member of Deafness Forum of Australia (the peak body for hearing impaired people in Australia) and continues to represent them, as he has on many committees for over 20 years. Andrew has been hearing impaired all his life, with a progressive loss, and now wears two cochlear implants. He has 9 other family members who wear hearing aids and/or cochlear implants.

Why choose Hearing Connections

Hearing Connections is built on experience of Andrew Stewart, who:

- Has been **wearing hearing aids** since age 7, and now wears two cochlear implants.
- Knows both sides of the story – the **lived experience**, and the **electronics qualifications**.
- Has been **specialising** in Hearing Augmentation Systems for over 33 years.
- Was **instrumental** in the writing of the definitive Australian Standard **AS 1428.5**.
- Has conducted **research and development** of Hearing Augmentation systems for improved outcomes.
- Has over **33 years of design, installation and commissioning** of Hearing Augmentation systems (loop systems, FM systems, sound field systems and public address systems) for a range of public access buildings, from small halls to significant buildings and venues, including Sydney Opera House and airports.
- **Lectures** in Hearing Augmentation for building professionals.
- Provides **training** in Hearing Augmentation for Access Consultants, Building certifiers and surveyors, and architects.
- Over 20 years of **advocating** for the needs of deaf and hearing impaired people.
- Is a **life member** of Deafness Forum of Australia.
- Has won **numerous awards** for service in advocating for the needs of deaf and hearing impaired people.

Legal

This document is not a legal interpretation of the NCC. It is the opinion of the principal of this company and is based on more than 30 years of experience with hearing augmentation. He himself is hearing impaired. The information provided is general advice only and does not take into account your building site objectives, building site design and or building materials used or other relevant factors and cannot be relied upon for your specific needs.

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