



## HEARING AUGMENTATION FOR LIVE PERFORMANCE SPACES

The minimum legal requirements (as distinct from best practice) are set out in the National Construction Codes - NCC (formerly Building Code of Australia - BCA) D3.6 and D3.7. Articles explaining these requirements can be found at [www.hearconnect.com.au/articles](http://www.hearconnect.com.au/articles)

Best practice for live performances requires a special approach, as there are usually no microphones for performers to use.

### 1. Shotgun microphones are essential for live performance spaces.

Minimum number of shotgun microphones needed: 2

Specification: The microphones should have a polar pattern equal to or better than -2.5dB (at 1kHz) at 30 degrees off-axis and be situated on the side walls of the performance space, no more than 8 metres from the stage

### 2. Hearing loop systems must cover all seats in the space, and be installed according to

- National Construction Codes
- AS1428.5

### 3. Loop listeners must be available.

Number of listeners required:

5 for spaces up to 100 seats

5% of the number of seats where the seating exceeds 100

Example: 60 seats requires 5 receivers; 100 seats requires 5 receivers; 300 seats requires 15 receivers, etc

Note: these are required because:

- 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)!

#### 4. Signage

The signage should be

- Braille and tactile at the entrance.
- Printed at the ticket counter
- Printed inside the performance space theatre, and mounted in the front third of the space at 1.8 metres from finished floor level.

The Braille and tactile signage shall include

- the international symbol of deafness
- indicates the type of hearing augmentation

The printed signage shows

- the international symbol of deafness
- indicates the type of hearing augmentation
- where to get loop listeners

Hearing Connections has also written an interpretation of the minimum requirements for signage as per NCC D3.6 – this is available at [www.hearconnect.com.au/articles](http://www.hearconnect.com.au/articles)

#### 5. Test the system monthly.

Use one of the loop receivers.

Keep a record of the results.

**AS 1428.5 – 2010 – *Communication for people who are deaf or hearing impaired***  
This standard may be downloaded [here](#).

**NCC** may be downloaded at no charge from [ncc.abcb.gov.au](http://ncc.abcb.gov.au)

## FURTHER INFORMATION

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

Therefore, Hearing Connections, its directors, agents and or employees do not accept any liability or responsibility arising in any way from the use of the information provided. The information should not be relied upon for accuracy or completeness. © Hearing Connections, 2020

