



BASIC CHECKLIST FOR HEARING LOOP INSTALLATIONS

This document is for Access Consultants, Building Surveyors and Building Certifiers. It sets out a number of basic checks of a hearing loop system to check against likely problems.

These tests are indicative only. A full test is still needed, as set out in **AS 1428.5**

1. Design Characteristics:

- a. That the system is designed to comply with **AS1428.5**
- b. A perimeter loop on concrete (whether polished concrete, timber on concrete or carpet on concrete) or a steel framed floor, should not be more than 7 metres wide.
- c. A perimeter loop in a room with no metal content (e.g. timber floor on timber frame, on brick pylons) should not be wider than 15 metres.
- d. If installed in the ceiling, cabling not more than 3 metres above finished floor level.

Notes:

- The above constraints are based on an amplifier capable of generating 9A RMS continuous into the loop.
- Some loop amplifier specifications relate only to bench testing, and not to real-life installations.
- These are general rules of thumb and do not allow for detailed analysis. However, they indicate the kind of questions to ask early in the design process.

2. Listening Check

Use a [Hearing Loop Listener](#)

The Loop Receiver is easy to use, and comes with a pair of headphones. Have someone speak into the microphone of the PA system, and walk around the expected coverage area while wearing the loop receiver. Keep the Loop Receiver vertical at all times, as this corresponds to the hearing aid polarity.

- a. Check that it is loud enough, as set out in **AS 1428.5**
- b. Check that it is clear, and without distortion
- c. Check that there are no dead spots within the coverage area.

Note: for a standard perimeter hearing loop, the centre is likely to have the weakest field strength.

3. Adjacent rooms

Standard hearing loops installed around the perimeter of the room spill over into adjacent rooms causing 'crosstalk'. Therefore, if hearing loop systems are to be used in adjacent rooms, complex phased arrays consisting of two loop drive modules and phase shifter must be installed in each room.

Note: to test such a system...

- a. Have someone talk into the microphone in Room A, and do the standard test for that room as above in point 2.
- b. Walk into adjacent Room B while the talking continues using the Room A microphone. Stand about two metres from the common wall between Rooms A and B. Without adjusting the volume on the loop receiver, you should not hear the person talking in Room A.
- c. Repeat the above two steps in reverse, starting by talking into Room B microphone.

4. Compliance with AS 1428.5 - 2010

AS1428.5 is the best standard for meeting requirements for Hearing Loop Systems, FM systems and Infra-red Systems. Insist on compliance with this standard.

5. Ask for a demonstration!

References:

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

The NCC may be downloaded at no charge from ncc.abcb.gov.au

FURTHER INFORMATION

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

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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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