

IS ANYONE LISTENING?

How churches can help 'hard-of-hearing' and deaf people feel welcome.

Part 3

by Graham Weir

In the first two parts of this series, we shared what is meant by partial hearing loss and what it is like to be totally deaf. We presented a brief history of how the education of the deaf was systematically depreciated during the nineteenth century and how it is still impacting education programs for the deaf in some parts of the world today. This final article will look at some practical ways to minimize existing barriers in our church-owned facilities. We also must address how to construct bridges that will facilitate the full participation of hard-of-hearing and deaf church members in our many different activities.

What are Assistive Listening Devices (ALDs), and how do they help the hard-of-hearing?

Assistive listening device systems are a group of technologies designed to help hard-of-hearing people overcome the reduction of speech clarity experienced in large, people-filled areas like churches. ALD Systems allow individuals to 'plug in' to existing public address systems to capture the highest quality speech and audio, with most of the problems with clarity and background noise removed. The following lists exhibit some of the available technologies.

What type of Assistive Listening Devices are available?

(1) Plug-in headphones.

The earliest form of an assistive listening device. Users need to sit only on seats fitted with headphones. Some older churches and cinemas still use these devices, but there are several disadvantages:

- (a) Limited seating choices.
- (b) There are no hearing aid interface options - hearing aids must be removed to avoid feedback squeal when covered by headphones.
- (c) Ear hygiene is a potential problem unless single-use earphone covers are used.

(2) Audio Loop systems.

Audio loops are the most common assistive listening system still available in many churches and auditoriums. 'Loops' consist of a rack-mounted amplifier located at the sound control desk and connected to a hard-wire antenna installed on or under the floor of a specified area. (Figure 1.)

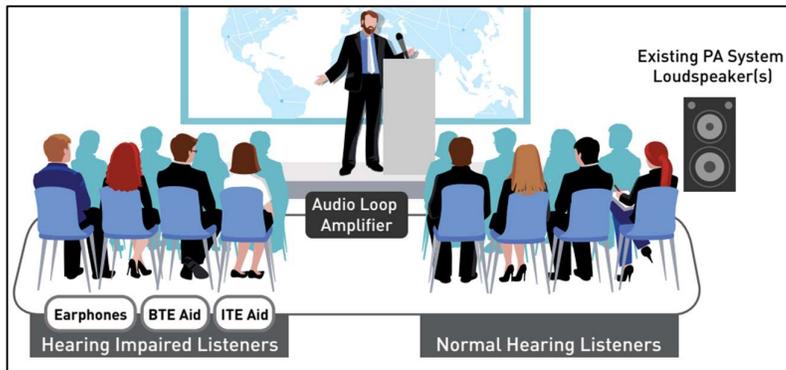


Figure 1. Diagram of a typical audio loop system.

In the late 1970s, when loops were first introduced in the United Kingdom, Australia, and North America, they were the only serious solution for hearing aid users in public venues. Still widely promoted by suppliers and consumer groups today as the assistive listening system of choice, they present significant disadvantages than currently emerging technologies.

- (a) Loops only work with hearing aids or cochlear implants fitted with loop receivers. Today, many new hearing aid models and implants are not equipped with loop receivers, so they cannot work with loops.
- (b) Loop receiver performance can vary significantly across different hearing aid models.
- (c) Loop systems are complex and expensive. If not installed under the supervision of a professional audio engineer, ‘dead spots’ or weak reception areas can result. Additionally, annoying feedback squeals in public address systems can also occur, causing operators to turn the loop off, rendering the system useless for any potential users.
- (d) Loops are not easily portable, making them impractical for external evangelistic programs, camps, or meetings in rented buildings.
- (e) Today, hearing aid manufacturers and Audiologists promote more advanced products fitted with “blue tooth” or “direct-streaming” technology. This new technology enables hearing aids and implants to wirelessly connect with cell phones, thus enabling the phone to function as a remote control for the hearing aids and enhance speech clarity during calls. This new technology eliminates all of the interference, drop-outs, and variable reception experienced with loops.
- (f) While loops are still valid for hearing aids fitted with loop receivers, they are increasingly redundant for newer hearing aids not equipped with loop receivers unless the user requests it from their hearing professional.

(3) “Listen” Radio Frequency (RF) systems.

Radiofrequency (RF) assistive listening systems transmit audio directly from a headset microphone worn by a group leader or bleed from the venue sound system. People with hearing loss are given a pocket-sized RF receiver with an interface choice of either a neck loop (*for telecoil-equipped hearing aids*) or a pair of earphones for use without hearing aids. The ‘Listen-Talk’™ system www.listentech.com/listen/talk/ (Figure 6) can be configured as either listen-only for presentation or a talk-back function that enables all users to hear and talk to each other, such as in a Bible study group. (Figure 2)



Figure 2 'Listen-talk' portable RF assistive listening system.

Portable RF systems have several advantages over fixed audio loop installations, namely:

- (a.) Compact and portable—works indoors or outdoors-useful for rented venues, evangelistic programs, camps, and conferences.
- (b.) Simple to set up and use. No hardware installation or extensive cabling is needed.
- (c.) No 'dead spots', interference, or drop-outs. Users can sit anywhere within the 100m transmission range.
- (d.) Anyone with or without hearing aids can use it. Telecoil-equipped hearing aids can use a neck-loop interface. Other hearing aid users or people without hearing aids, can use 'open' headphones.
- (e.) Dual function—listen only or talk-back for small group participation.

(4) Infra-red (IR) systems.

Infra-red systems from "Listen" www.listentech.com/listenir/ look almost the same and have the same hearing-aid interface options as their RF systems. The only difference is that the audio transmission is via invisible infra-red light beams instead of radiofrequency. Unlike RF systems which can transmit audio signals through walls up to 100m in any direction, Infrared transmission will not pass through solid walls and is better for security. (Figure 3)



Figure 3 ‘Listen’ portable infra-red kit and audience using infra-red receivers with lightweight headphones.
 Images courtesy Steve Parkins and Listen Technologies Inc.

(5) WiFi live streaming to cellphones

Live-streamed audio via WiFi to cellphones is a new technology already in use in commercial venues. It is also effective as an assistive listening system in churches.

A small interface box captures the audio from the church sound desk and transmits it via a WiFi router. Anyone with a smartphone can pick up the audio by downloading a free app. <https://www.listentech.com/listen-everywhere/> The user presses a button on their app to scan and connect to the in-house WiFi. People with hearing aids equipped with the latest ‘direct streaming’ technology will hear the audio streamed directly via their phone. Users with hearing aids equipped with loop receivers can use a neck loop accessory available from the sound controller. Others can use their earbuds or headphones. The ListenEVERYWHERE WiFi system has additional channels for language translations and other features to enable announcements and invitations to upcoming events to be displayed on the phone. (Figure 4)



Figure 4: “Listen Everywhere” phone-based assistive listening system.
 Image courtesy Listen Technologies.

What does the law say?

Both Australian and North American anti-discrimination laws recognize the hearing access problems experienced by people with hearing loss in large public venues. It is a legal requirement for assistive listening systems to be installed in all new buildings with public assembly areas. Although these codes apply primarily to **new** buildings, the principle is a worthwhile standard for churches regardless of the age of the building. Australia and the USA are two of the few countries globally that have detailed legal requirements regarding assistive listening systems. United States legislation is detailed here: <https://www.listentech.com/support/ada-info/ada-legislation/>

In Australia, assistive listening systems using audio receivers, such as Infra-Red (IR) or radiofrequency (RF) transmitter/receiver systems, must cover at least 95 percent of the floor area of the room or space served by the inbuilt system. A minimum number of receivers must be provided in a ratio depending on the number of people who may be accommodated in the room (Figure 5)

NO. OF OCCUPANTS IN ROOM OR SPACE	NO. OF RECEIVERS REQUIRED
Up to 500	1 receiver for every 25 persons or part thereof, or 2 receivers whichever is greater
More than 500 persons, but not more than 1,000 persons	20 receivers, plus 1 receiver for every 33 persons or part thereof in excess of 500 persons
More than 1,000 persons, but not more than 2,000 persons	35 receivers, plus 1 receiver for every 50 persons or part thereof in excess of 1,000 persons
More than 2,000 persons	55 receivers, plus 1 receiver for every 100 persons or part thereof in excess of 2,000 persons

Receivers to be provided in the following ratios in each room or space served by an assistive listening system (BCA Clause D3.7 (b) (ii) and Premises Standards Part D3.7 (2) (b)).

Figure 5: Australian legal requirements for RF or IR assistive listening systems in new buildings with public auditoriums.

Legal requirements for prominent signage.

Laws in both Australia and the USA specify signage requirements for assistive listening systems. For example, Australian law says, “*Signage including the international symbol for deafness in accordance with AS 1428.1 must be provided within a room containing an assistive listening system identifying: (i) the type of assistive listening; and (ii) the area covered within the room; and (iii) if receivers are being used and where the receivers can be obtained.*” (Figure 6 and 7)



Figure 6: Example of compliant signage for an IR assistive listening system. (Australia)



Figure 7: Example of compliant user instruction card for an IR assistive listening system (Australia)

Free downloadable and printable compliant signage and instruction cards for all the assistive listening systems listed in this article are available from: www.csfbhi.adventistchurch.com/resources-page/ (scroll down to the bottom of page)

Reaching deaf sign language users.

Unlike the hard-of-hearing, people who are entirely deaf cannot benefit from any audio technology. Communication with the deaf must rely on visual formats such as sign language. A church can find the following strategies helpful:

- (1) Provide qualified sign language interpreters at centralised churches in areas with high concentrations of deaf people. *(In Australia, funds for sign language interpreter services are available from Christian Services for the Blind and Hearing-impaired <https://www.csfbhi.adventistchurch.com>)*
- (2) Raise funds to train and employ a Bible worker with fluent 'Auslan' or 'Ameslan' skills to work in selected urban areas near churches with interpreted services.
- (3) Create a long-term goal to establish dedicated signed services for the deaf in a separate room or adjoining building as an annex to a supportive church.

- (4) Create a scholarship fund to support a suitable person fluent in sign language – particularly a deaf person or couple – to train as a minister to the deaf.
(Example: in the USA Pr. Jeff Jordan is deaf, and his hearing wife works as his interpreter.)
- (5) Aim to have captions added to all streaming videos produced by the church or post them on YouTube, where auto-captions are available.
- (6) Aim to have all PowerPoints used in sermons captioned as much as possible.

These methods alone are not sufficient to fully integrate deaf people into hearing churches. In the long-term, efforts must involve careful research on the history and culture of deaf people and a planned approach in consultation with people skilled in deaf ministry. The scope of fully explaining practical outreach methods and what resources to use is beyond the limitations of this article. Thankfully, the General Conference of Seventh-day Adventists have a ministry dedicated to this task at <https://adventistdeaf.org/> Those in Australia can go to <https://www.facebook.com/SDADeafChurchDownUnder>

** NOTE: While many Assistive Listening Device systems are available in the marketplace, the products detailed in this article result from twelve months of extensive research by the author and Christian Services for The Blind and Hearing-impaired (CSFBHI) at the South Pacific Division of the Seventh-day Adventist Church. A free copy of this report is available here: [Equip for hearing impaired booklet.pdf \(adventistchurch.com\)](#).*

The research focused on identifying specific products that would meet the following criteria:

- (A) Designed and manufactured with hard-of-hearing people in mind.
- (B) Reliable and easy-to-use.
- (C) Available with all types of hearing-aid interface accessories.
- (D) Provide consistently clear audio with minimal latency problems (Latency = 'Lip sync' - the short period of delay (usually measured in milliseconds) between when an audio signal enters a system and when it emerges.)
- (E) Approved for sale by government regulators internationally.
- (F) Manufactured by a company with well-established global supply and service networks.

No financial relationships exist between CSFBHI or the author and any product manufacturers or suppliers. This article was written to provide the best information to our churches that would assist them in avoiding the arduous task of sorting through a maze of technical options and supply sources. (A fuller description of listed products can be found at www.listentech.com)

References:

- Weir, G. "How to equip your church or venue for people with hearing problems" *Christian Services for the Blind and Hearing-impaired, Sydney 2019*
[Equip for hearing impaired booklet.pdf \(adventistchurch.com\)](#)



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