Center for Hearing Access
at The Shedd Institute

What is Needed for an Auracast™ Assistive Listening System* to be Available and Useable?

About Auracast™ broadcast audio

Auracast is a new low-energy Bluetooth® technology that allows transmission from one to many. By broadcasting to many, it has the potential to provide an assistive listening system (ALS) for people with hearing loss.

Auracast broadcast audio can be used in two very different ways:

- *Auracast broadcast audio for Audio Sharing* (no live sound). Examples: Sports bar TVs and personal sharing audio. Audio sharing transmits from one smartphone or laptop computer to multiple Auracast compatible wireless earbuds, with friends and family.
- *Auracast broadcast audio used as part of an Assistive Listening System (ALS)* (live sound). Examples: theaters, lectures, and meetings. Auracast broadcast audio has the potential to form the basis of an assistive listening system, but it is unknown if and when various systems will be ADA-compliant.

What is needed for an Auracast ALS to be available and usable?

- **Auracast broadcast audio ALS transmitters need to be compliant with the IEC 60118-17 Standard**. The standard, which is scheduled to be released in December 2027, will include latency limits, sound quality, connectivity requirements, and more. While manufacturers are now developing new equipment, *until IEC 60118-17 is published, it cannot be known if these will meet its requirements*. New systems need to also meet all ADA 2010 Standards, 706 Assistive Listening System requirements.
- **Skilled installers** to integrate Auracast ALS with any existing audio-visual system. Auracast ALS is NOT "Plug and play."
- **End-to-end latency** is the summation of all the individual latencies of the components in the ALS signal chain that occur from source to user. This includes microphones, sound system or audio-visual equipment, Auracast transmission, smartphones or receivers, and hearing instruments. The total end-to-end latency must be acceptable for ALS users; as a rule of thumb (and this is currently under review), it should be less than ~30-40ms.
- **Compatibility with Public Address (PA) systems.** Auracast ALS will connect with PA and paging systems, such as in airports or shopping malls.
- **Use of Auracast ALS at service desks and help points**. To be used at ticket windows, pharmacy counters, etc. Auracast broadcast audio would need to offer one-to-one communication, with privacy ensured.
- **Dedicated ALS stream**. At this stage, it is not clear whether Auracast broadcast audio will provide a dedicated ALS stream and, if provided, whether such a broadcast stream will connect to hearing instruments with minimal interaction required by the listener.

What do users need to be able to use any ALS today and in the future?
Purchase hearing instruments now with BOTH telecoil and Auracast broadcast audio capability. Years from now, when people have both technologies, they can go anywhere and use either an existing or a new system.

What is needed for an Auracast ALS to be available and usable?

- **Direct to hearing instrument† connections are strongly preferred.** Current designs for Auracast ALS require intermediary devices such as smartphones, smartwatches, hearing aid remotes, or special receivers. Intermediary devices add complexity for individuals with limited dexterity, limited cognitive abilities, or limited tech familiarity. (People needing hearing assistance are often older and not tech savvy.) For worship use, an ideal ALS will also allow simple, quick switching between the ALS (for speaking) and normal listening (for singing and congregational participation).
- **Hearing instruments must be Auracast broadcast audio capable**. Few are currently Auracast broadcast audio capable, but manufacturers are beginning to develop new ones. The typical user's hearing instrument life cycle is 5 to 7+ years.

In the midst of change, some expectations and considerations

User equipment for early Auracast ALS. Since the international standard is not finished and 99% of users do not have hearing instruments with Auracast capability, there are several workarounds. Thus, early systems are more equivalent to infrared or FM ALS, rather than a hearing loop. Users will likely use the Auracast ALS the same way as an infrared or FM ALS: with receivers and headphones (those without hearing aids or telecoils) and receivers and neckloops (those with telecoils).

Coexistence of hearing loops and Auracast ALS. "Where practical to install a loop system that should still be considered as a primary choice for accessibility now, little has changed since hearing loops and telecoils were the preferred technology of choice by 86% of hearing aid users††. Ideally existing loop installations should be maintained and supplemented with an Auracast transmitter to future proof the provision. In new installations where practical both technologies should be installed in parallel, allowing access for all." Ampetronic ALS equipment manufacturer, December 2023.

Hearing instruments. "Telecoils and Auracast features in the hearing devices can co-exist and add to greater independence and choice for hearing aids and cochlear implant users." European Federation of Hard of Hearing People (EFHOH), Position Statement, October 2024.

*The full technical name is "Auracast™ Broadcast Audio used as part of an Assistive Listening System (ALS)" and is simply identified as Auracast ALS in this document.

†Hearing instruments: hearing aids, cochlear implants, and bone conductive devices.

††Audio Engineering Society (AES). April 2015. Hearing Loops The Preferred Assistive Listening Technology.

About the Center for Hearing Access

Founded in 2024, the nonprofit Center for Hearing Access is a national advocacy and education initiative of The John G. Shedd Institute for the Arts in Eugene, OR. We champion and educate communities about ADA-compliant assistive listening systems and other strategies to increase access to theaters, libraries, conferences, government offices, courtrooms, and other public and private spaces. Effective hearing access can be life-changing for people with hearing loss to maintain community engagement. We create and provide advocacy materials, ADA information, a speaker's bureau, videos, templates for users and owners/operators, articles, and vendor lists.

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