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Telecoils, Hearing Loops and Auracast: A Hybrid Solution to Client Satisfaction

Karen MacLennan, AuD

Juliëtte Sterkens, AuD



Karen MacLennan, AuD

Dr. Karen MacLennan has been an Audiologist for 26 years. She earned a Doctoral Degree in Audiology from Arizona School of Health Sciences. Prior to earning her doctoral degree, she earned a Bachelor of Arts degree as a Teacher of the Speech and Hearing Handicapped with honors and an Associate degree in Applied Science in American Sign Language Studies. Throughout her professional career, she has provided audiological and educational audiology services in hospitals, private practices, and nonprofit educational and rehabilitation agencies. Karen also teaches graduate courses in audiology and aural rehabilitation at Long Island University in New York. She is an advocate for people with hearing loss. Her company, North East Hearing, has been installing hearing loops throughout the United States for last 12 year.



Juliëtte Sterkens, AuD

Juliëtte Sterkens, AuD serves as the Hearing Loss Association of America Professional Hearing Loop Advisor. She has over 40 years of experience in the field of audiology and hearing rehabilitation. Educated in the Netherlands in Speech-Language Pathology/Acoupedics, she focused on audiology after her move to Wisconsin in 1981. When she learned hearing loops were making a US comeback, she decided to bring loops to Oshkosh to the benefit of her patients. Retired from private practice in 2012, she has since lectured extensively on the topic of telecoils and the benefits of hearing loops to professionals and consumers in North America and Europe. Her efforts have led to some 900 professional loop installations (including 500 places of worship) in Wisconsin and many more beyond. For her work she has received the Wisconsin Audiologist of the Year, Arizona School of Health Sciences 2013 Humanitarian of the Year, and the American Academy of Audiology Presidential Awards.

Disclosures

- **Presenter Disclosure:** Financial: Karen MacLennan is the owner of North East Hearing, a hearing loop installation company. She received an honorarium for this presentation. Non-financial: Karen MacLennan has no relevant non-financial relationships to disclose. Financial: Juliette Sterkens serves as the Hearing Loss Association of America Professional Hearing loop Advisor. She received an honorarium for this presentation. Non-financial: Juliette Sterkens has no relevant non-financial relationships to disclose.
- **Content Disclosure:** This course does not focus exclusively on any specific product or service.
- **Sponsor Disclosure:** There is no external sponsor for this course.

Learning Outcomes

After this course, participants will be able to:

- List the benefits of two different T Coil programs & when/where they may be used.
- Explain why consumers prefer telecoils inside their hearing instruments versus having a telecoil inside an accessory.
- Explain how long consumers will likely need access to telecoils in addition to having Auracast-ready hearing instruments.



Karen MacLennan, AuD

North East Hearing



Juliëtte Sterkens, AuD

My national outreach is funded
by the David and Carol Myers Foundation



Session Outline

- Notable achievements in hearing access
- Hearing devices & assistive listening systems
- T Coils
- Auracast
- Resources

Hearing Access at Airports

- Austin, TX
- Detroit, MI
- Grand Rapids, MI
- Memphis, TN
- Muskegon, MI
- LaGuardia New York City, NY
- JFK – in the planning
- Phoenix, AZ
- Sarasota/Bradenton, FL
- South Bend, IN
- Kalamazoo/Battle Creek, MI
- Minneapolis/St. Paul, MN
- Oshkosh, WI.
- Rochester, NY
- Eugene, OR
- Syracuse, NY
- Key West Airport
- Internationally: Australia, Denmark, France, Ireland, New Zealand, Oman, Russia, South Korea, Spain, Sweden, Switzerland, UK: London, Manchester, Edinburgh

Statue of Liberty Museum



New York City Taxi Cabs





Lincoln Center, New York City



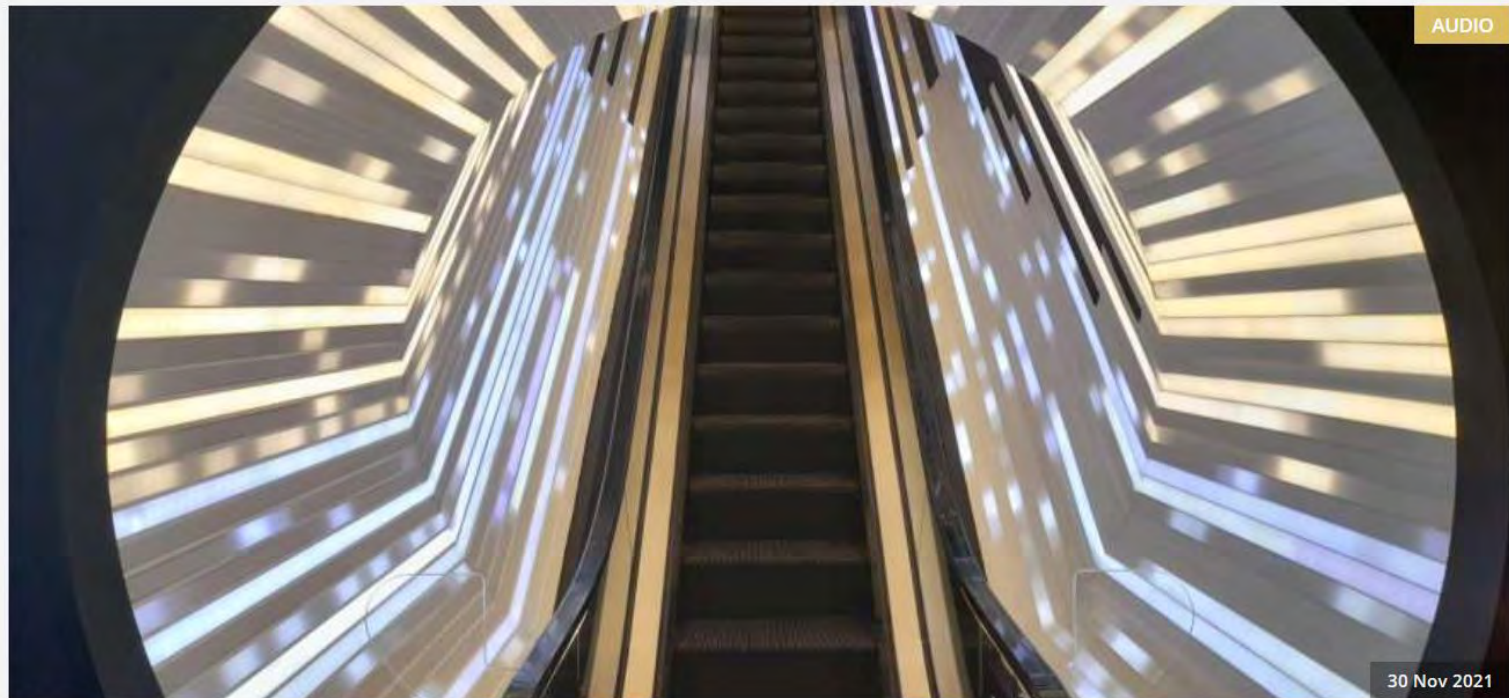
Type 10 Green Line Trains, Massachusetts





3,000 Taxi Cabs in Madrid, Spain

An Escalator Gets Three Hearing Loops



The escalators are looped so visitors can enjoy the sound en-route

Contacta brings assistive listening to Belgium pavilion

Amtrak's Commitment to Access



1971 – 2021

The future rides with us

NEWSRELEASE

FOR IMMEDIATE RELEASE

July 7, 2021

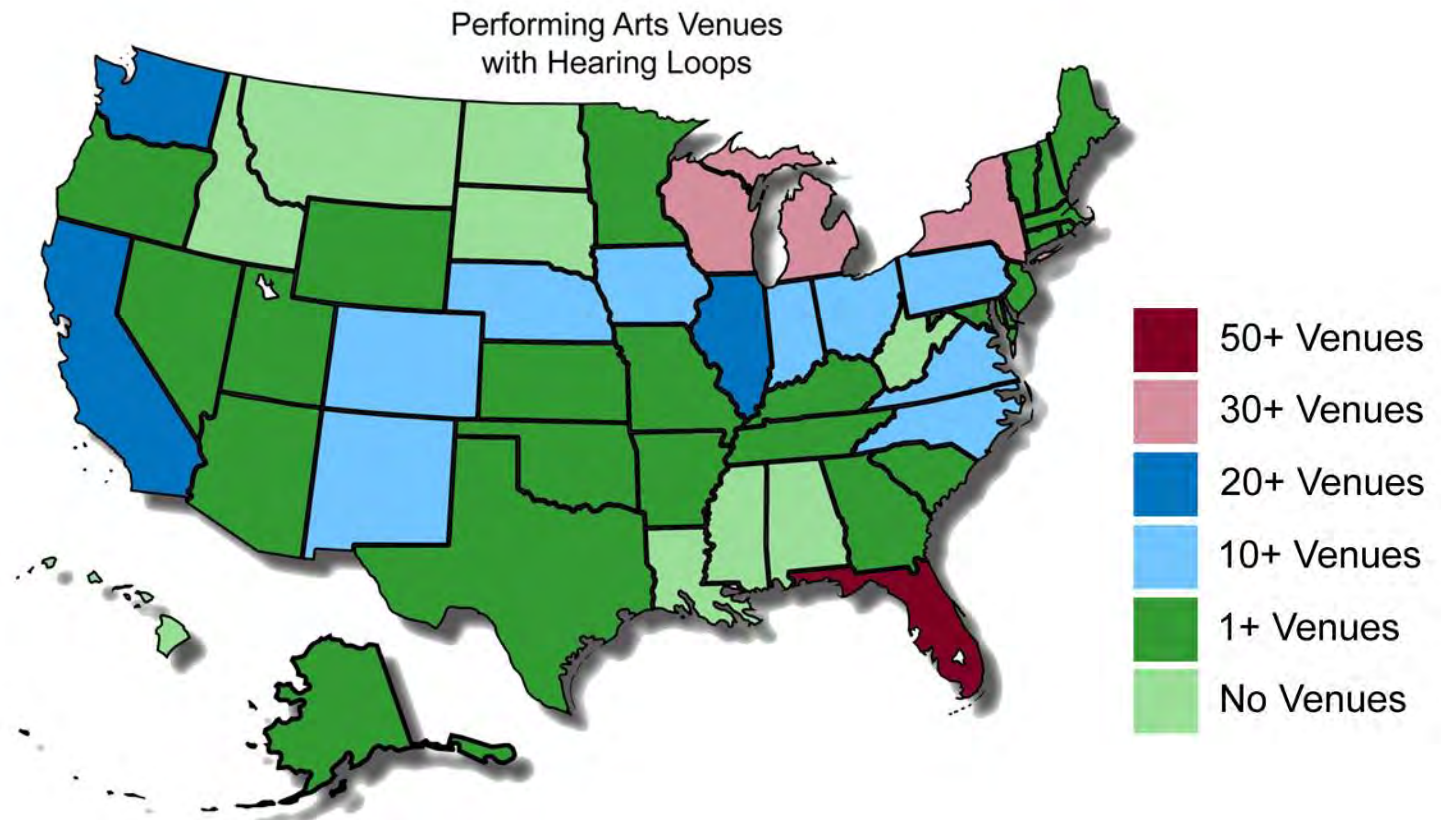
Amtrak to Transform Rail Travel with \$7.3 Billion Investment in State-of-the-Art Equipment

Railroad to contract with Siemens Mobility as new equipment vendor

WASHINGTON – Amtrak is contracting with California-based [Siemens Mobility Inc.](#) to manufacture a new fleet of up to 83 multi-powered modern trains that will be leveraged for state and northeast services, with further options for up to 130 additional trains to support Amtrak [growth plans](#). The new fleet will offer modern rail amenities that better serve Amtrak customers.



Performing Arts Centers



Over 440 looped theaters: www.hearingloop.org/uploads/LoopedLiveVenues.pdf

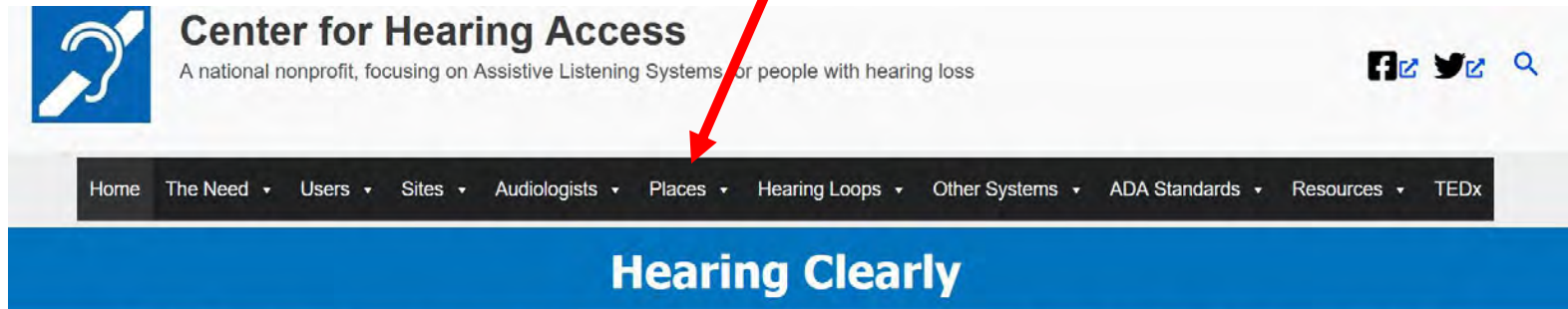
Hearing Loop at Starkey HQ



Hearing Loop System Used to Enhance Training Experience at Starkey

The Center for Hearing Access

Find hearing loops in your state.



Assistive listening systems clarify sound by eliminating the negative effects of distance, noise, and reverberation.

“Places” at the Center for Hearing Access



Hearing Loop List

Massachusetts

USA

Note: locations may have more than one hearing loop.

Acton

- Acton Congregational Church

Allston

- D.E.A.F., Inc.

Amherst

- Applewood Retirement Community

Auburndale

- Lasell Village

Barnstable

- St. Mary's Episcopal Church

Bedford

- Carleton Willard Village

Boston

- Boston City Hall
- Boston Symphony Hall
- Children's Hospital - Boston, Mass
- Massachusetts State House
- Museum of Fine Arts
- Old South Church
- Resolutions LLC
- Symphony Hall
- TD Garden
- UU Association Boston

Brookline

- MIT Museum-Gambrill Center

Canton

- Orchard Cove (HSL)

Chelmsford

- Chelmsford Center for the Arts

Chestnut Hill

- Wegmans - Chestnut Hill
- Wingate Residences at Boylston Place

Concord

- New England Deaconess
- Tricon Trinitarian Congregational Church

Dedham

- Newbridge on the Charles

Devens

- Fort Devens
- Ft. Devens: Guantanamo Military Tribunals

Dover

- Caryl Community Center
- The Dover Council on Aging

Duxbury

- First Parish Duxbury

Lincoln

- Lincoln Public Library

Lynn

- St. Pius V Parish

Marblehead

- Old North Church, Congregational

Medford

- Wegmans - Medford

Milford

- Ruth Anne Bleakney Senior Center

Natick

- Wegmans - Natick

New Bedford

- New Bedford Whaling National Historical Park

Northampton

- Clarke Hearing Center

Northborough

- Wegmans - Northborough

Norwood

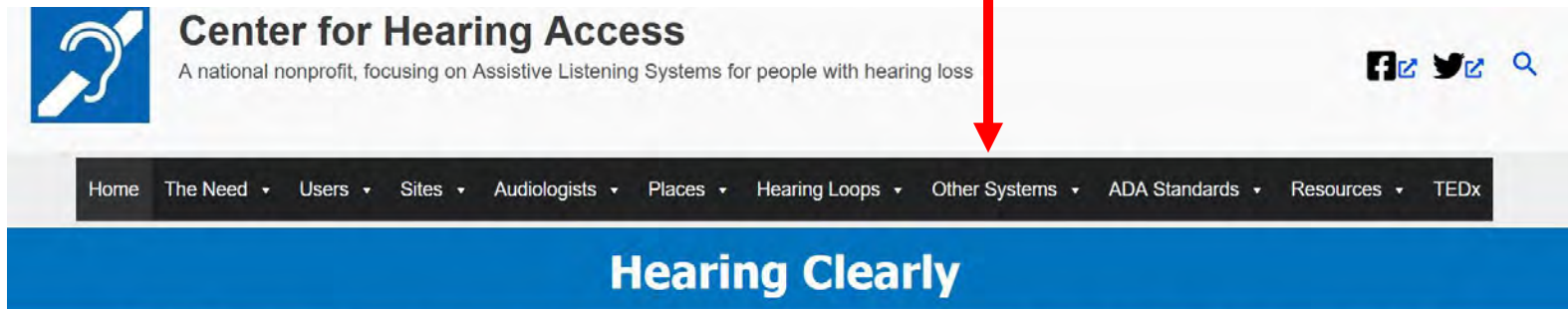
- Norwood Hearing Center

Pittsfield

- Barrington Stage Company
- Pittsfield First Baptist Church

The Center for Hearing Access

Find up-to-date information on all types of assistive listening systems



Assistive listening systems clarify sound by eliminating the negative effects of distance, noise, and reverberation.

“Other Systems” at the Center for Hearing Access

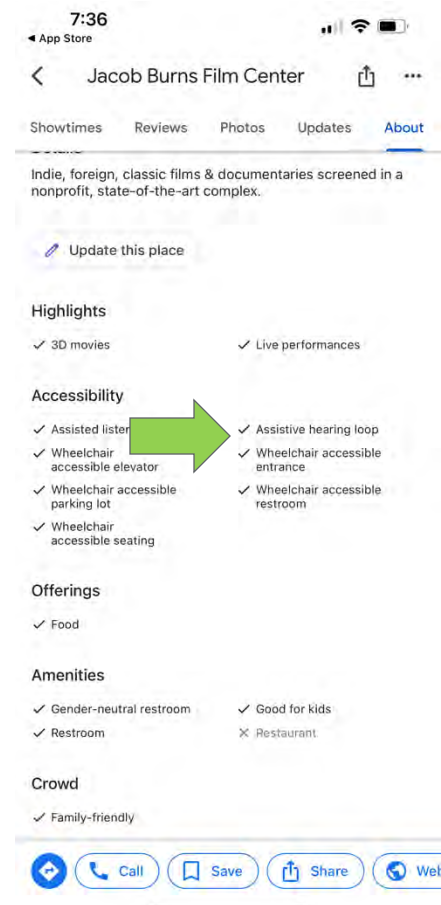
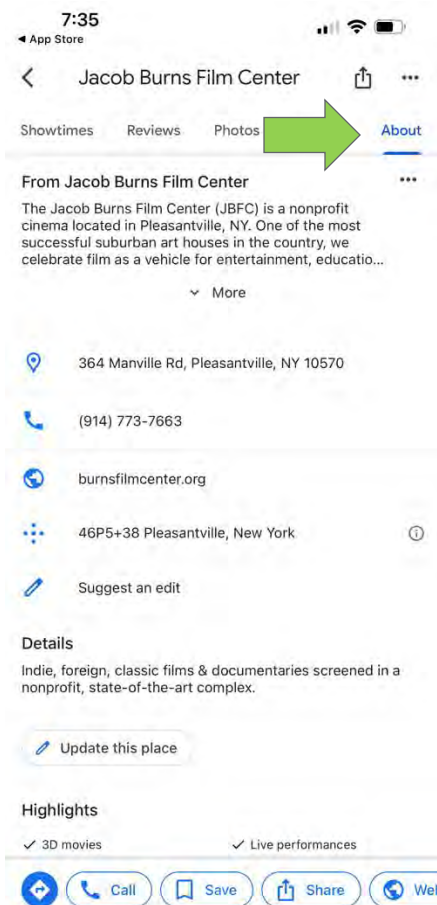
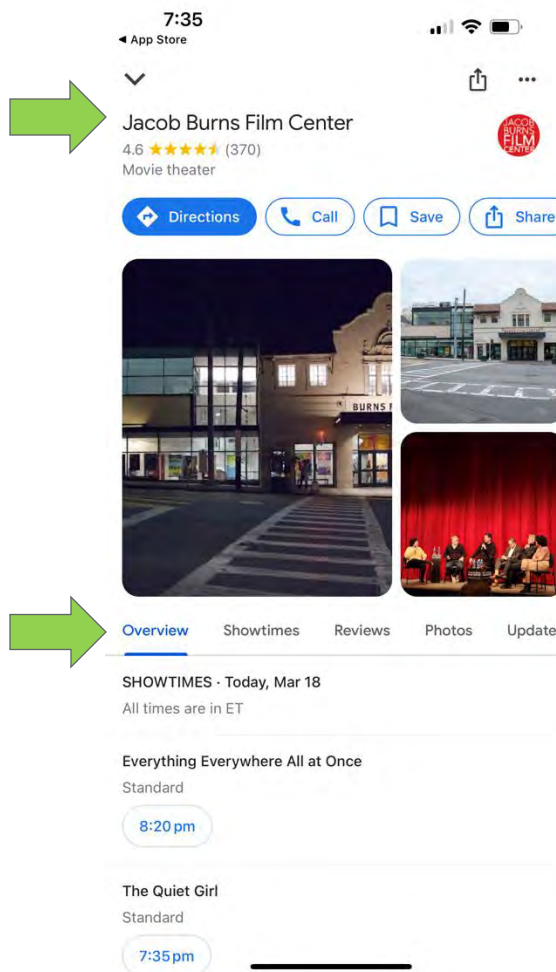
Overview-Other Systems

There are several types of assistive listening systems: FM/RF, [Audio Over Wi-Fi](#), [Auracst Broadcast audio](#) used as an ALS, and infrared. Compare them, learn more about each one, and if needed, do some basic troubleshooting.

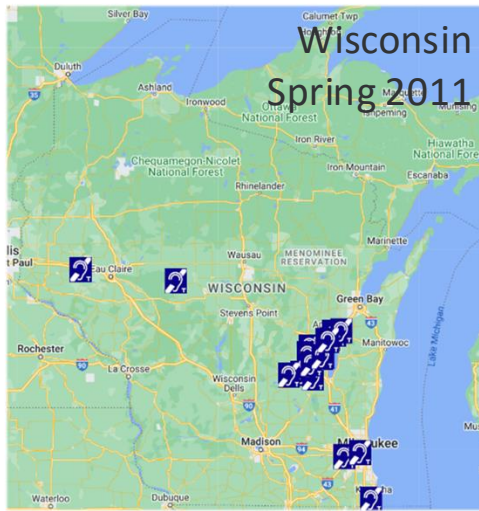
Check out these sections:

- [Comparison](#) of all assistive listening systems
- [Audio Over Wi-Fi](#)
- [Auracast Broadcast Audio](#) used as an [assistive listening system](#)
- [FM/RF](#)
- [FM/RF and Infrared troubleshooting](#)
- [Infrared](#)

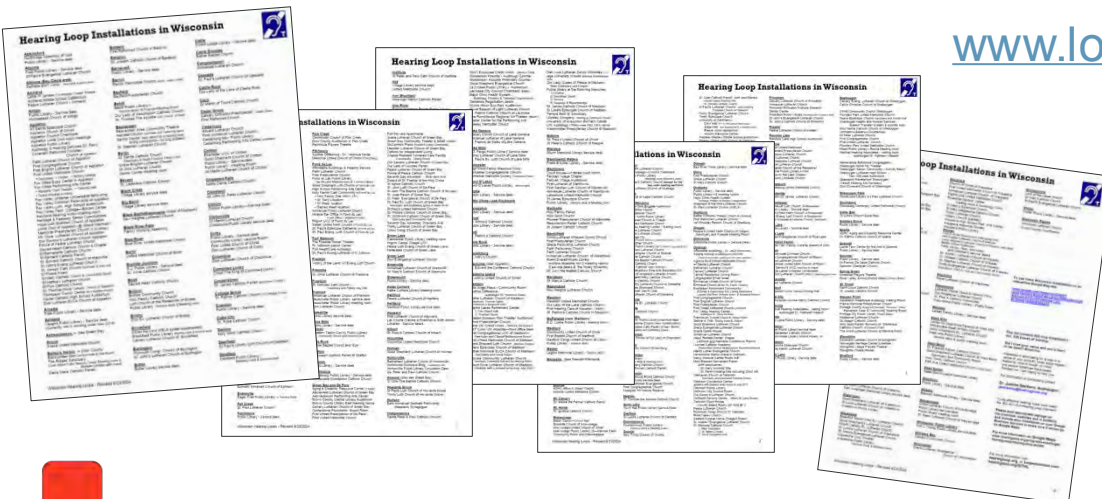
Google Maps Wants You to Know about Hearing Access



Progress in Wisconsin

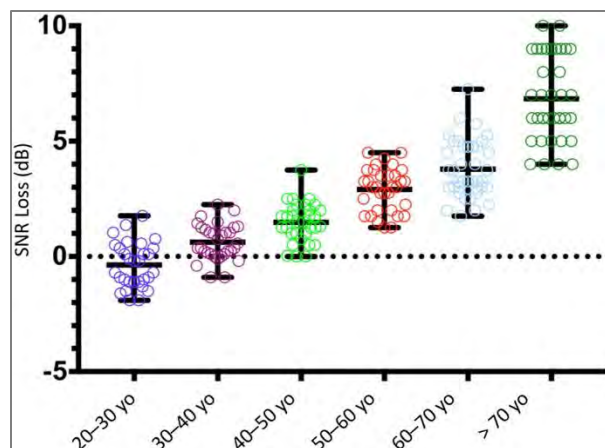


www.loopwisconsin.com



Limitations of Hearing Aids

- Hearing deficit following prescribed gain can be significant
- The effective range of the hearing aid microphone is limited (<50")
Matt Bakke, PhD www.youtube.com/watch?v=vayx9M66AoY
- Directional mic benefits are insufficient to overcome SNR loss experienced by most people with hearing loss



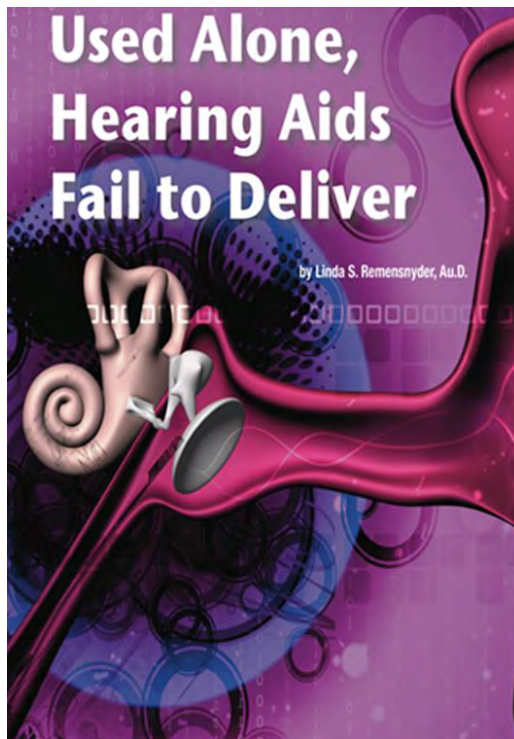
HEARING LOSS LEVEL	TYPICAL PRESCRIBED GAIN	RESIDUAL HEARING DEFICIT in dB HL
16 to 25 Slight	4 to 10	12 to 15
26 to 40 Mild	10 to 20	16 to 20
41 to 55 Moderate	20 to 30	21 to 25
56 to 70 Mod/Severe	30 to 40	26 to 30
71 to 90 Severe	40 to 50	31 to 45
91+ Profound	46+	45 to 55

Source: Clark and English, 2019

Decambron, M; www.sciencedirect.com/science/article/pii/S1879729621000879

Image on the right - retrieved from <https://hearingreview.com/practice-building/practice-management/how-to-differentiate-your-patient-care-with-5-best-practices>

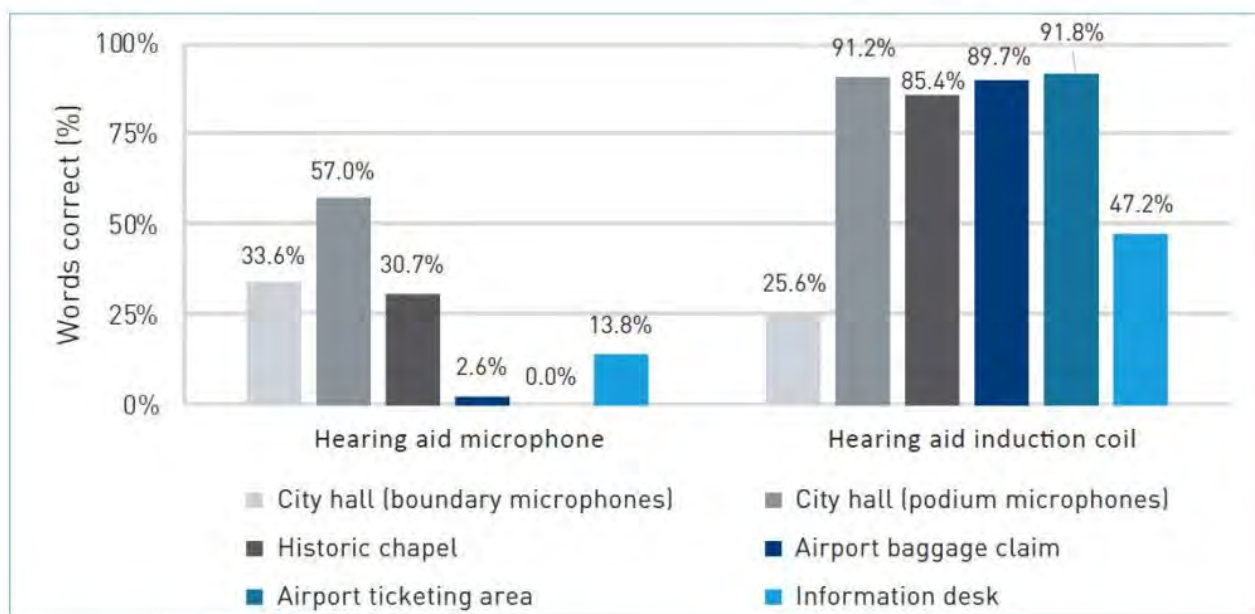
Used Alone, Hearing Aids Aren't Enough



Remensnyder, Linda
AUDIOLOGY PRACTICES 2013
VOL. 5, NO. 3, 30-33

- Do not restore hearing to normal
- Have a limited effective microphone range
- Make all sounds louder
- To overcome these shortcomings
- It's imperative to couple hearing aids to Assistive Listening Systems (ALS)
- Today, the telecoil is the most efficient way

Assistive Listening Systems are Clearer than Hearing Aids Alone



“The observed improvements in signal-to-noise ratio (SNR), ranging from approximately 5 to 30 dB, highlight the substantial benefits these technologies offer individuals who use hearing instruments in real-world listening situations.”⁴

Burwinkel et al., A Sound Investment: Hearing loops and Induction Coils in Genesis AI Yield Dramatic Improvements in Public Spaces

Assistive Listening Systems Make a Big Difference

Sue B. Spouse of a hearing loop user. Oshkosh WI	Thank you Juliette, The TV hearing loop has made such a difference for my husband. Now when I miss a word or sentence in a show, I ask him what was said and he usually always hears what I missed. Great difference for me, too, volume is normal again!
---	---

I used to clap when others clapped.
I used to laugh when others laughed
though I usually didn't hear
what it was about.

Now I hear every word in church.
I absolutely love the hearing loop.

Subject: Your TED talk changed my husband's world
Size: 83 KB

Thank you for priceless info you generously made available to wide audiences that make seemingly weak hearing aids gain effectiveness!!! My husband is very expensive and carefully adjusted.

User quote

"Assistive communication technologies
have given me my life back.

Hearing aids alone do not allow me
to adequately and safely live in the hearing world."

Frazier, S. et. al. Committee for Communication Access in America.
[Survey Sheds Light on Why Many People with Hearing Loss
Don't Use Assistive Communication Technology](#) January 2024.

Sr. R, bilateral
hearing aid user
Oshkosh WI

"If people in church only knew how much
better loops make us hear, they would have
them installed. I stopped attending at St. R's
because I just cannot hear the sermon."

The Americans with Disabilities Act mandates the use of Assistive Listening Systems

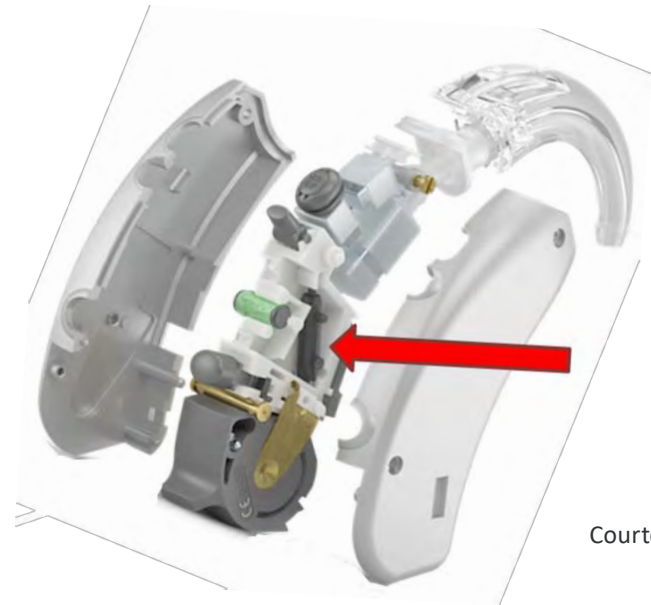
- An assistive listening system shall be provided in each assembly area where audible communication is *integral* to the use of the space.
- **An Assistive Listening System (ALS) defined as a system** to bypass the acoustical space between a sound source and a listener by means of **hearing loop, radio frequency (FM), infrared (IR), or direct-wired equipment.**
- **Exception:** Other than in courtrooms, assistive listening systems shall not be required where audio amplification is **not** provided.

Note:

- In a **hearing loop** – the telecoil *is* the receiver – all the user needs to do is turn the T-coil on.
- For **FM or IR systems** - the user must pick up a receiver with a neckloop to use telecoil(s) in their hearing devices
- For persons without telecoils or non-hearing aid users – the user must locate a receiver with headphones

The T Coil

- A fabulous transducer for many reasons...
 - A receiver: Wireless connection to hearing loops
 - T Coils + Neckloops
 - Orientation
 - Efficient



Courtesy Widex

Programming T Coils

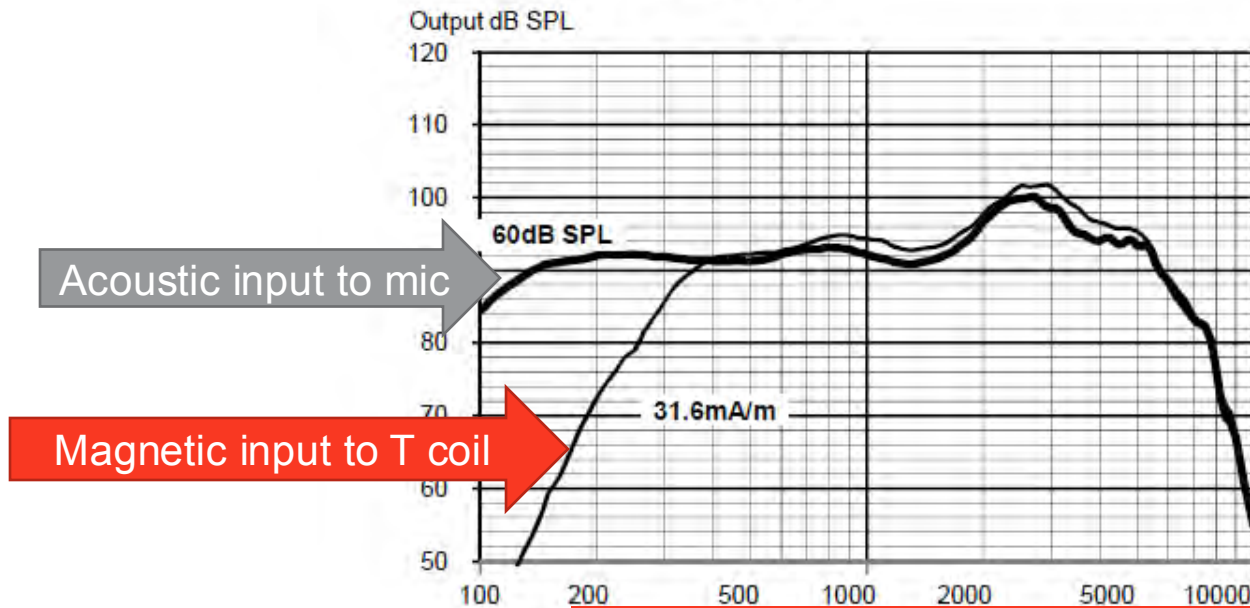
Considerations:

- Auto vs Manual T Coils
- MT program vs T Only program
 - Manual T Coil Program Options
 - Verification should always be performed....

Gain & Frequency Response

Output - 2cc coupler

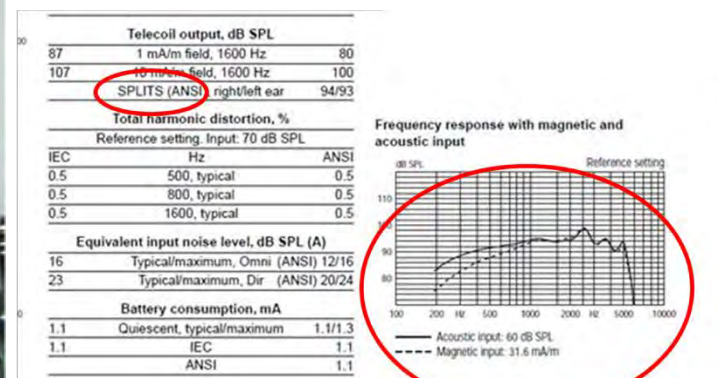
IEC 60118-7 / ANSI S3.22-2003



31.6 m/A (magnetic input) is the equivalent of 60dB (acoustic input)

Verification

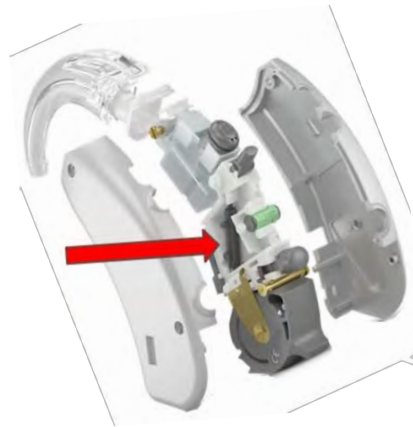
SPLITS: Coupler **SPL** in an **I**nductive **T**elephone **S**imulator
(In effect, the reference test gain curve for the telecoil)



Verification

SPLIV: Coupler **SPL I** In a **V**ertical Magnetic Field

(In effect, the reference test gain curve for the T Coil “as worn”)



Note: The position of the device is the “as worn” position for verification.

T Coil Verification AudiologyOnline

- Dave Smriga 1/2023 AO Course #38362: The Whys & Hows of Modern T-Coil Testing/Verification

Accessory T Coil Options

Resound MultiMic



Widex Sound Assist



Starkey Remote Mic



Neckloops

for use with assistive listening systems



Validation....

- Waiting room hearing loop
- Counter hearing loop system at your office
- Refer to the local Hearing Loss Association Chapter
- Find local loops at the Center for Hearing Access or Google Maps

As per the ADA, Anyone Must be Able to Use an Assistive Listening System

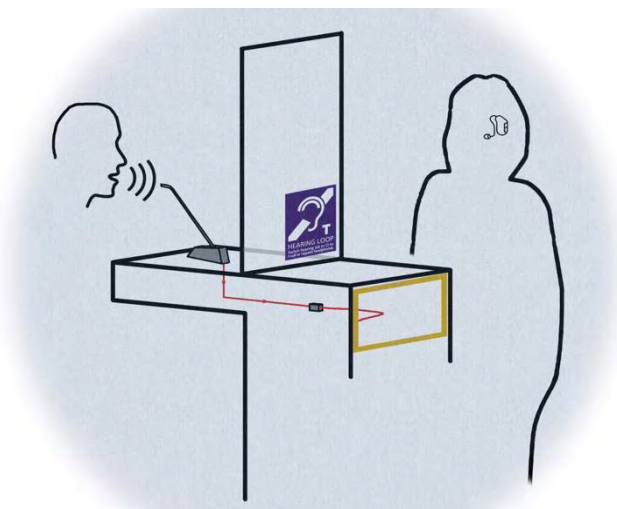
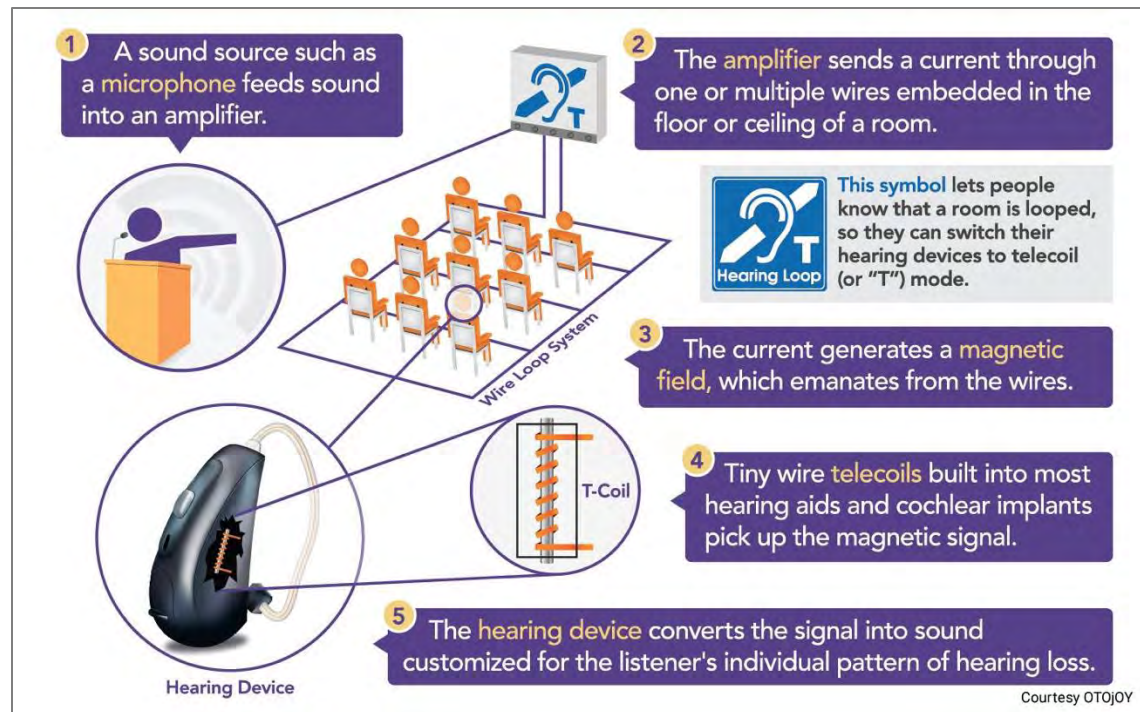
- People with hearing instruments*
(Meaning users of hearing instruments with or without **telecoils**)
- People without hearing instruments *, #

*Hearing instruments: hearing aids, cochlear implants, bone conductive devices

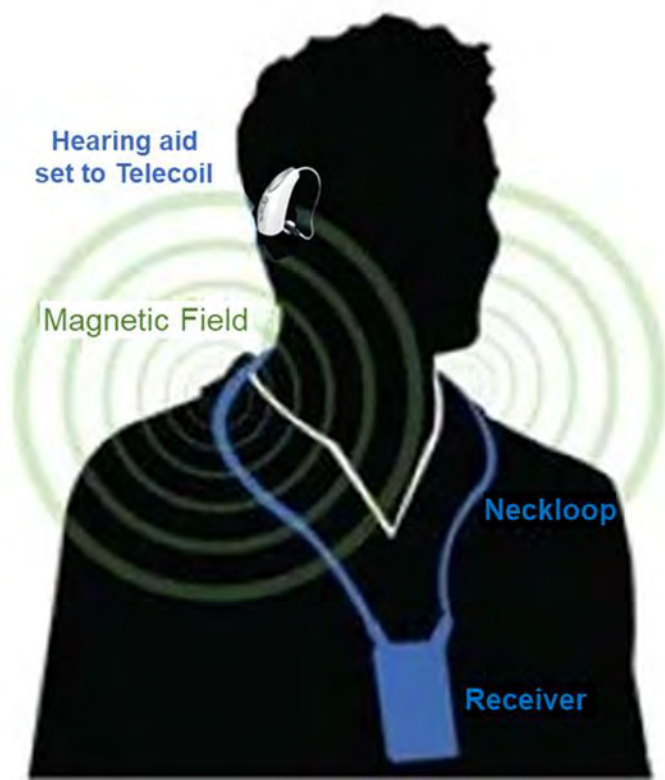
Individuals with hearing loss and those with other disabilities who benefit from improved SNRs (such as autism, ADHD, low vision, etc.)

How HA users with Telecoils Benefit in Hearing Loops

(in a lecture room or at a service counter)



How HA Users with telecoils benefit from FM and Infrared systems (and soon Auracast systems)

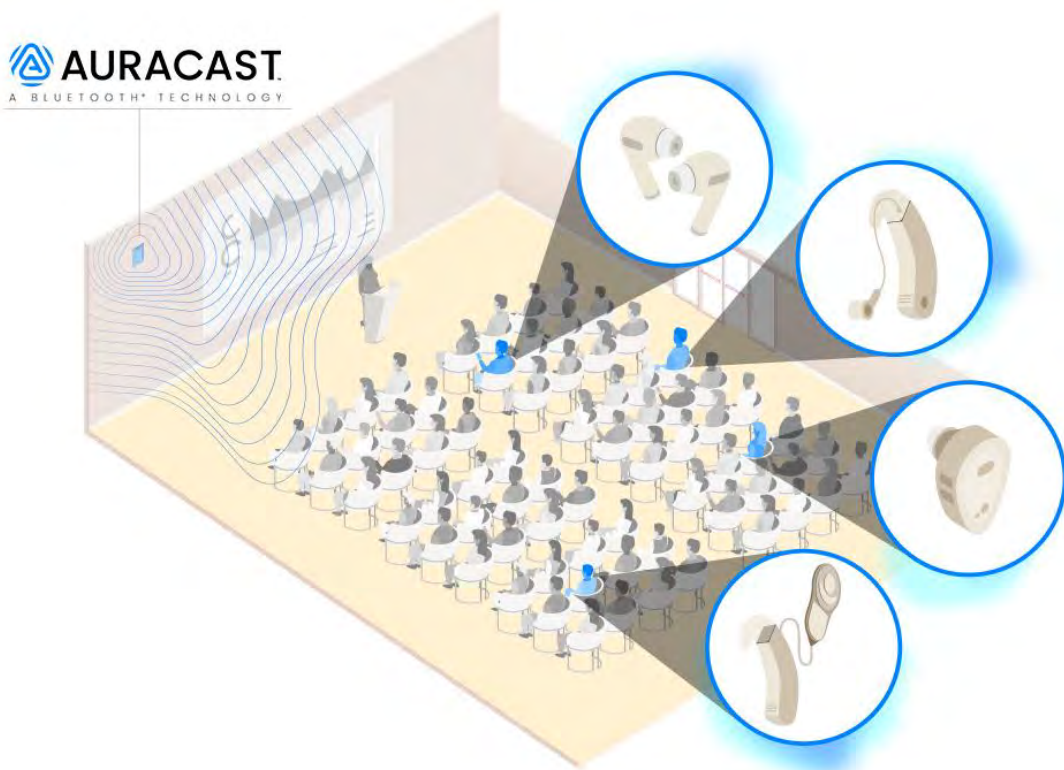


How HA Users without telecoils (or non-hearing aid users) benefit from FM and Infrared systems

Headphones
for those without
hearing aids
or
hearing aid users
without telecoils



Is the Auracast Future Here?



The need for an intermediary device (smartphone, smartwatch, remote, etc.) is highly likely.

Without an intermediary device, there will be no **direct** connection between the hearing instrument and Auracast Broadcast Audio.

Auracast Broadcast Can Be Used In Two 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 or remote mic to multiple Auracast compatible wireless earbuds with friends and family.
 Will make receiving sound from *every make and model* smartphone, TV, laptop, hearing device, and non-proprietary remote accessories (if Auracast compatible) possible. Requires new hardware and dongles.
- Auracast™ Broadcast Audio **used as part of an Assistive Listening System** (live sound) - identified as **Auracast ALS** in this presentation
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 compliant with disability regulations.
 Very few Auracast transmitters exist on the market today. Auri is one of the first, but adoption rates will be slow.

What is Still Needed for Auracast ALS to be Available And Usable?



- **International Standard**

The International Electrotechnical Commission (IEC) 60118-17 is yet to publish guidelines for Auracast like they have done for hearing loops. These guidelines are slated to be released in **December 2027 and will** finalize guidelines regarding latency limits, sound quality, connectivity requirements, and more.

- **Dedicated Auracast ALS stream** option from Auracast transmitters – *not yet developed*.

In large venues, consumers need a unique sound mix w/ enhanced SNR – in large venues, this is not simply plug & play

- **Direct-to-hearing instrument connections are strongly preferred** (w/o handshake device) – *not yet developed*

Not known if M + A capability will be standard. Users need to be able to quickly switch back and forth between M, A or, a mix of M+A (M=microphone, A=Auracast) – like current “M + Telecoil” setting

- **Third-Party verification**

Practical, reputable third-party studies that include people with hearing loss (PWHL) need to confirm that all transmitters, receivers, and hearing instruments* can work together so that *any* Auracast transmitter – regardless of brand or manufacturer can be used with *any* hearing aid receiver.

- **End-to-end latency**

Must be acceptable for ALS users; as a rule of thumb (currently under review), it should be less than ~30-40ms. This includes the delays caused by microphones, sound systems or audio-visual equipment, Auracast transmission, smartphones or receivers, and hearing instruments.*

- **Educated Users**

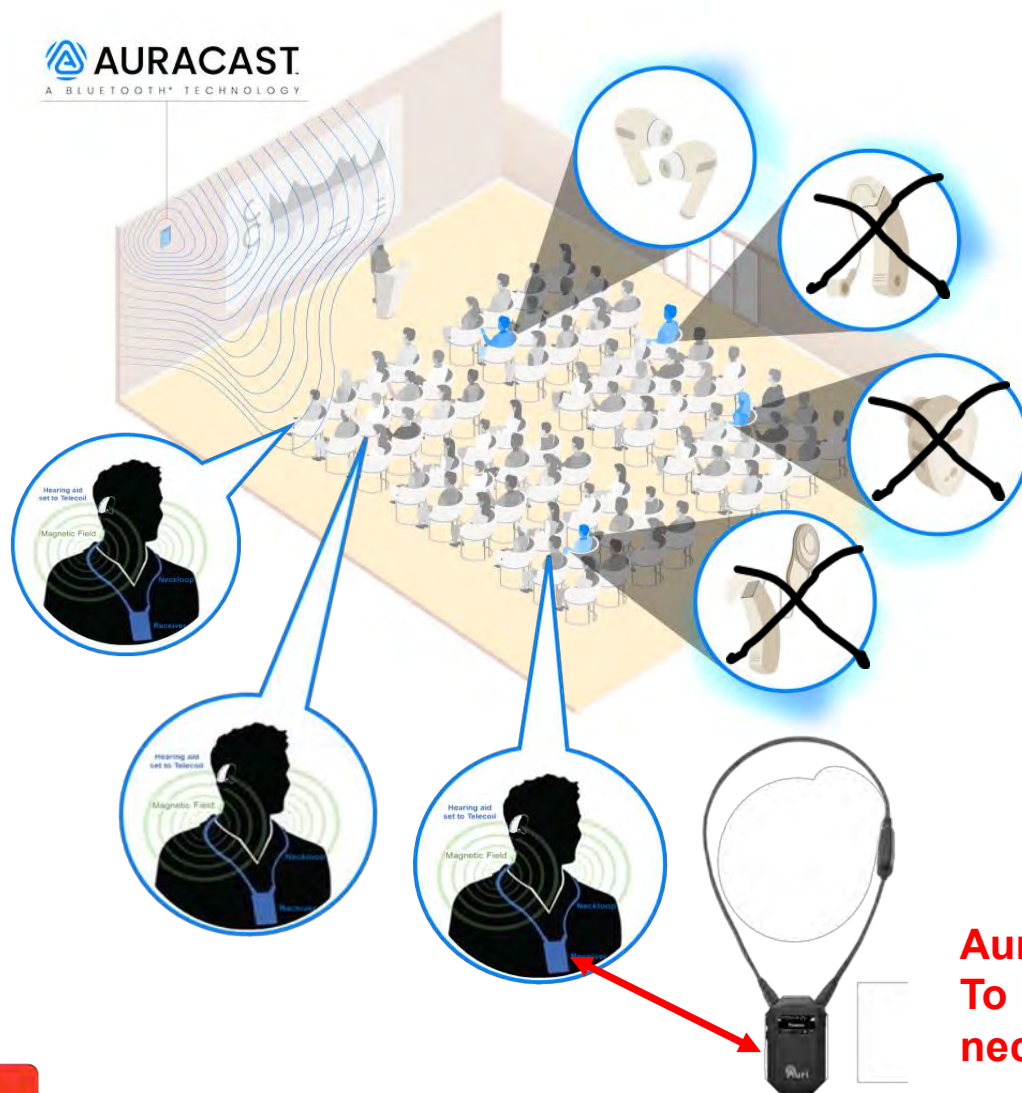
Be informed by the MFR[†] and educated by their audiologist^{††}

*Hearing aids (prescription or OTC), cochlear implants, and bone conductive devices.

† Information on telecoil and Auracast ALS benefits be explained in the user-instruction guide provided by the hearing instrument manufacturer.

††As per EN15927 “Services offered by hearing professionals,” the practitioner will demonstrate the telecoil (and a future Auracast ALS).

For the Foreseeable Future



- If most hearing aids or CIs are incompatible with Auracast, most users must borrow a receiver from the venue.
- It is expected that Auracast will *initially* function as an FM system, requiring everyone to borrow an Auracast receiver with headphones or neckloop.

**Auracast receiver:
To be used with a
neckloop or headphones**

Hearing Access via *Telecoils* or Auracast? For the next decade, Users need both.



Consumer Organizations Plead for Inclusion of Telecoils

Center for
Hearing Access
— at The Sherrill Institute —

**ADA Access Ready Hearing Instruments
Telecoils and Auracast™**

We declare that as people with hearing loss

We have the right to hear, anywhere in the world, today and in the future, using public or private assistive listening systems.

We must have hearing instruments* that connect directly and easily via both telecoils and Auracast to assistive listening systems. Only these are "ADA Access Ready" hearing instruments.

The criticality

To ensure access for all, it is critical that both telecoils and Auracast be included in hearing instruments for at least the next decade and probably longer. We aim to ensure that people with hearing loss can benefit from both current and emerging technologies to guarantee equal access to communication for everyone for years to come.

Both technologies are crucial in ensuring high-quality, ADA-accessible audio experiences for individuals with hearing loss in public and private spaces. Combining both technologies gives every person with hearing loss the option to access existing ADA assistive listening systems (hearing loops, FM, and infrared systems) and the capability to access the emerging Auracast ALS.¹ This ensures flexible and universal access in the United States and wherever people travel throughout the world.

Since 2009, national and international groups have written multiple declarations about the criticality of including BOTH telecoils and Bluetooth.

To make this a reality, we declare that

1. Hearing instrument manufacturers

Hearing device manufacturers must enhance their product lines to meet the critical needs of users.² They must acknowledge and communicate that even with the latest hearing instrument technology, hearing instruments alone cannot overcome many daily challenges in public and private places. The hearing instruments themselves must be able to fully extend their capability by coupling to assistive listening systems. Manufacturers must make this connection easy for both providers and users by providing the following:

(393) 443-2507 • info@hearingloop.org • www.hearingloop.org

Page 1

INTERNATIONAL
FEDERATION OF
PEOPLE

Siketek és Nagyothallók Országos Szövetsége

Budapest Declaration – IFHOH World Congress 2022

**Auracast – New Bluetooth Technology:
Implications for Hard of Hearing Persons**

At the 2022 IFHOH World Congress in Budapest Hungary, IFHOH praises the Bluetooth SIG for its work with the European Hearing Instrument Manufacturers Association (EHIMA) toward creating a wireless universal technology, known as Auracast, that promises to assist hard of hearing individuals to hear better in venues where their hearing aids and cochlear implants are insufficient to function.

It is understood that the Auracast concept may offer several useful and innovative features currently unavailable to the hearing aid user, such as the ability to transmit different languages, captions, audio descriptions, better quality of sound, and even stereo listening. IFHOH will be glad to help make Auracast a success. Until it becomes widely available and proves its promises to the satisfaction of all concerned, it is important that the globally used and proven systems of Hearing Loops, FM, IR + Telecoils, not be dismissed. As a new technology, Auracast will take time to become stable, reliable, and easy enough to use for potential users. Therefore, it is important to have both Telecoil and Auracast technologies in hearing aids and cochlear implants, until most hard of hearing users will feel they can rely on the new Auracast technology.

The Telecoil is the key element that enables all types of systems to work for Hard of Hearing persons. IFHOH recommends that manufacturers of hearing aids and cochlear implants continue to integrate Telecoils in their products. Telecoils need to come with clear user instructions, and with clear information and training to the hearing health professionals.

IFHOH foresees a world where FM, IR and hearing loop systems (including those found in taxis, ticket counters, airports, theatres etc.) will function for the foreseeable future alongside Auracast systems. Therefore, all assistive listening systems, hearing aids, and cochlear implants need to be A+T (Auracast + Telecoil) compatible.

Avi Blau – President of IFHOH

Dr. Adam Kosa – President of SINOSZ

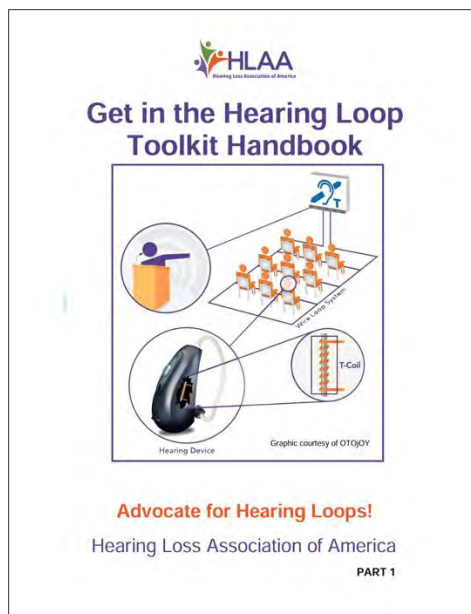
International Federation of Hard of Hearing People (IFHOH)

IFHOH is an international, non-governmental organization, which represents the interests of more than 460 million hard of hearing people worldwide. Email: info@ifhoh.org Website: www.ifhoh.org

The National Association of the Deaf and Hard of Hearing in Hungary (SINOSZ)

A member of IFHOH. Works to promote the social integration of deaf and hard of hearing people in Hungary. website: www.sinosz.hu

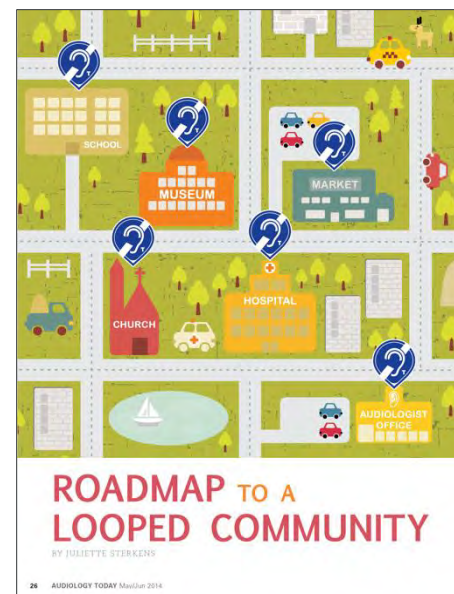
Roadmap to a Hearing-Accessible Community



www.hearingloss.org



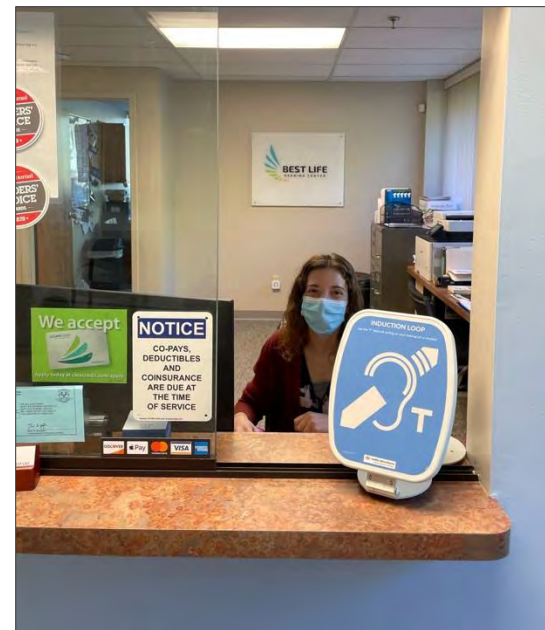
www.hearingloop.org



**Sterkens J, Audiology Today
26 (3): 26-31**

- Find/foster a local ALS specialist – visit www.Hearingloop/vendors
- With colleagues and clients, identify places in need of improved hearing access **Today, hearing loops** adding Auracast to existing ALS **when it makes sense**
- Build community awareness via newsletters and your website
- Empower clients with handouts about their rights under the ADA law and promote self-advocacy

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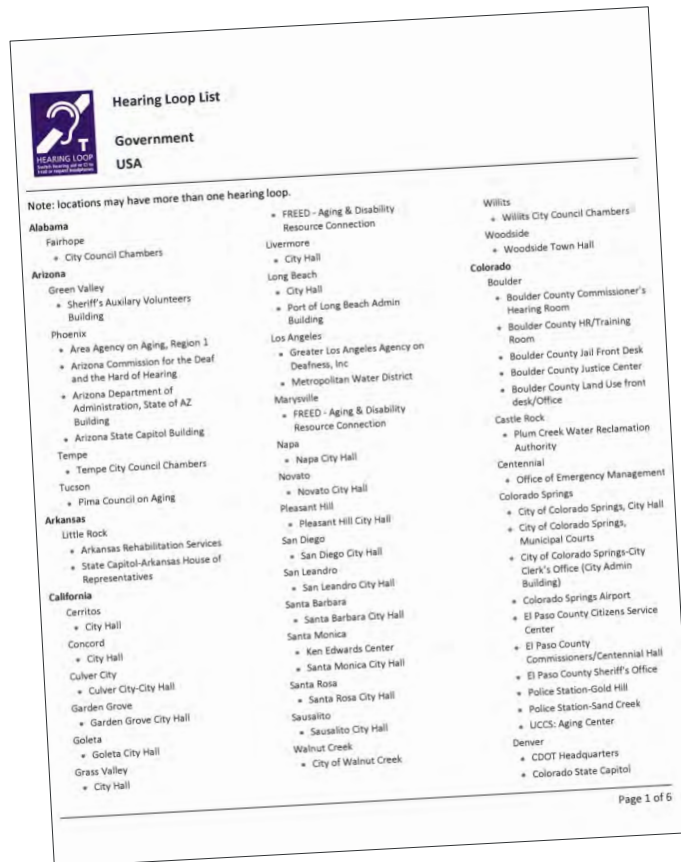
- Offer a hearing loop and, eventually, Auracast in your office for easy demos & training.
- **Speak up** for your clients - from assistive listening in senior centers, retirement facilities, places of worship, and local theaters to open captioning in local movie houses.
- Demand patient education materials from the hearing aid MFRs.
- Fit devices that include telecoil AND Auracast technology.
(Also known as “**ADA Access Ready**” hearing instruments.)

Start today!

For Custom Lists of Hearing Loops in Your State or Community

Email info@hearingloop.org

Mention your State in your email.



Hearing Loop List

Florida
USA

The following locations have hearing loop(s) at their service desks and/or in their meeting rooms, classrooms, theaters, auditoriums, and worship areas.

East Central Region

Apopka

- City of Apopka, City Council Chambers
- Forest Lake Seventh Day Adventist Church

Bushnell

- First Baptist Church of Bushnell

Clermont

- Liberty Baptist Church
- Summit Greens Residents Assn, Inc.

Daytona Beach

- Daytona Beach Regional Library
- First Presbyterian Church

DeLand

- Athens Theatre

Deltona

- Deltona Regional Library

Fruitland Park

- Community United Methodist Church

Lake Mary

- Sonata Senior Living

Leesburg

- First Baptist Church of Leesburg
- Lake Port Square
- Royal Highlands
- St. Mark Lutheran Church (WELS)

Longwood

- Brookdale Island Lake ALF

Maitland

- Congregation Ohav Shalom
- King of Kings Lutheran Church (WELS)
- Maitland Presbyterian Church

Melbourne

- Melbourne 7th Day Adventist Church

Merritt Island

- Divine Mercy Catholic Church
- Kennedy Space Center
- Redeemer Lutheran Church (WELS)
- St. Luke's Episcopal Church

New Smyrna Beach

- New Smyrna Beach Public Library

Orlando

- Congregation of Reform Judaism
- Costco Hearing Centers
- First Presbyterian Church of Orlando
- First Unitarian Church of Orlando
- Holy Family Catholic Church
- Orlando Public Library
- Prince of Peace Lutheran Church
- ProLingo
- St. Matthew's Episcopal Church
- Walt Disney World

Ormond Beach

- Ormond Beach Public Library

Palm Bay

- Peace Lutheran Church

Port Orange

- Port Orange Public Library
- Richard Polhill Professional Hearing Solutions, LLC

Rockledge

- Faith 'Viera' Lutheran Church
- Harbor City Hearing Solutions

Sanford

- Sam's Club Hearing Center

Titusville

- St. Gabriel Episcopal Church

Titusville Playhouse

Winter Park

- All Saints Episcopal Church
- Mayflower at Winter Park
- Rollins College-Kathleen W. Rollins Hall

North Central Region

Gainesville

- Abiding Savior Lutheran Church
- Campus View Church
- City of Gainesville
- Countryside Baptist Church
- Eldercare of Alachua
- First Lutheran Church
- First Presbyterian Church
- Gainesville Community Playhouse
- Gainesville First United Methodist Church
- Grace at Ft. Clark United Methodist Church
- Grace Marketplace Chapel
- Grace Presbyterian Church
- Hippodrome Theater
- Oak Hammock at the Univ of Florida
- The Village at Gainesville
- Trinity United Methodist Church
- Unitarian Universalist Fellowship of Gainesville
- Westside Baptist Church

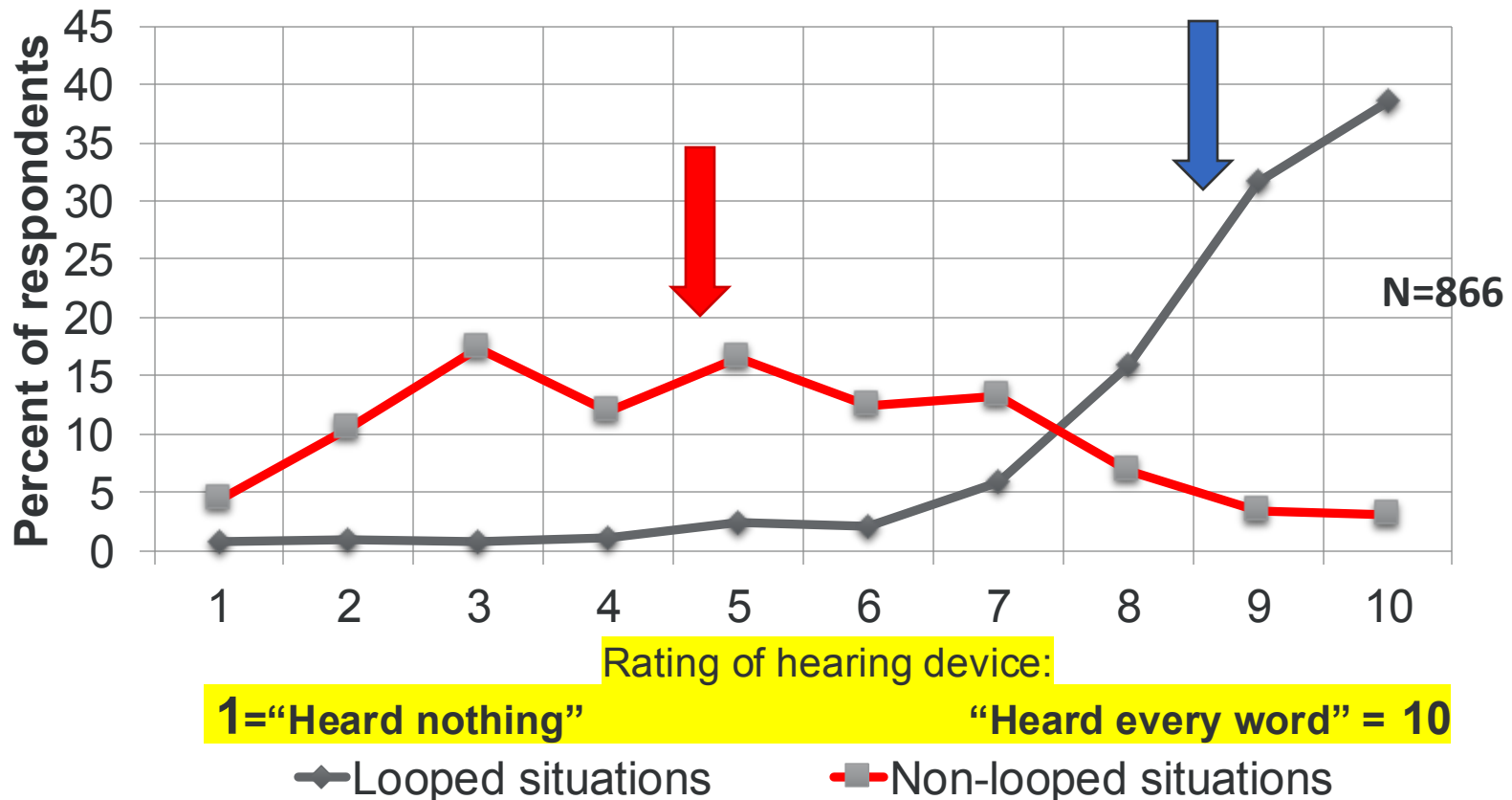
Lady Lake

- La Hacienda Rec Center
- St. George Episcopal Church
- St. Timothy Catholic Church
- Tri County Baptist Church

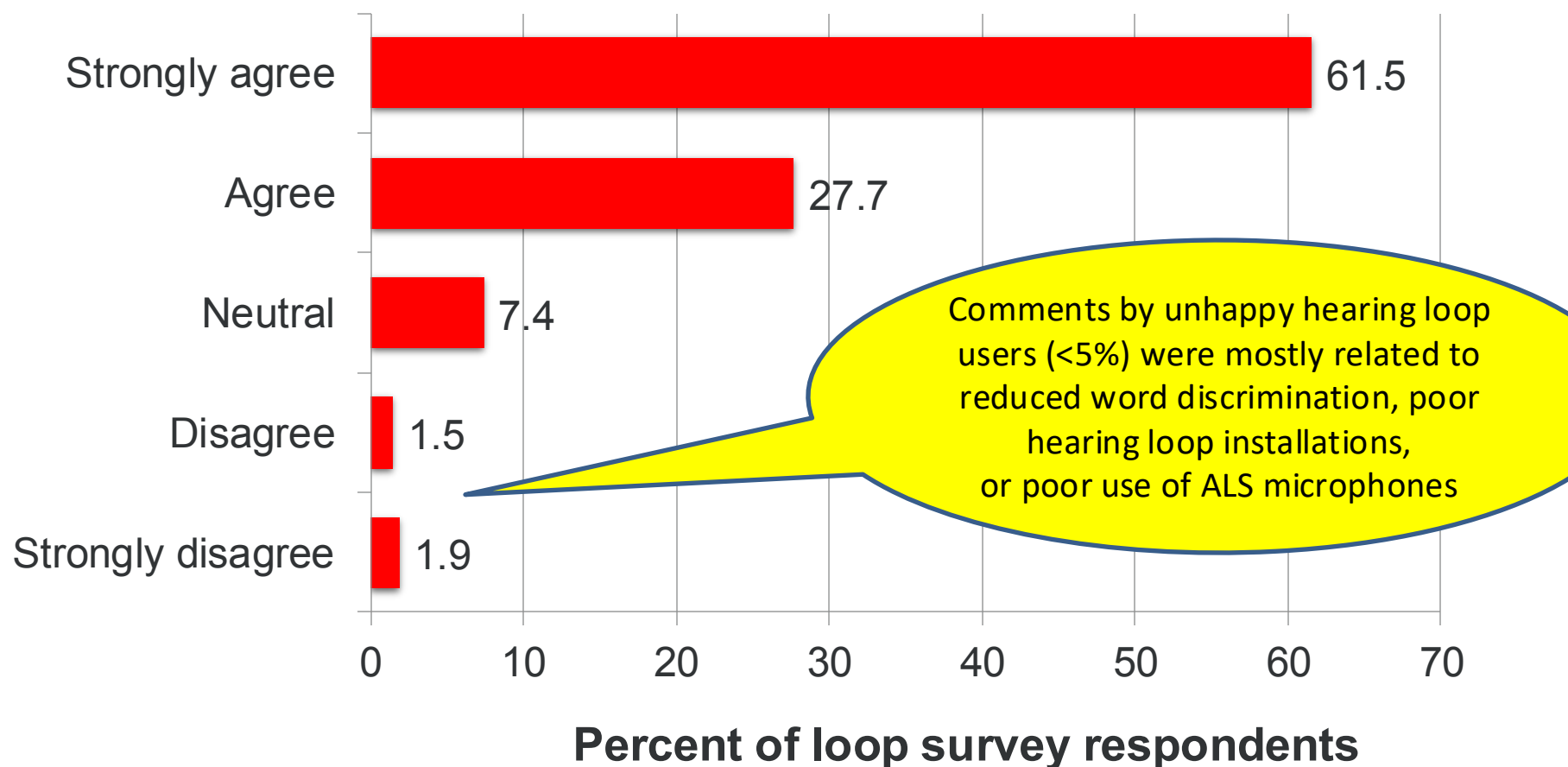
Rating of hearing device in looped situations compared to non-looped situations

Non-looped (Average = 4.9) & 13.5% of respondents rate hearing ability 8 or higher

Looped (Average 8.7) and 86% of respondents rate hearing ability 8 or higher

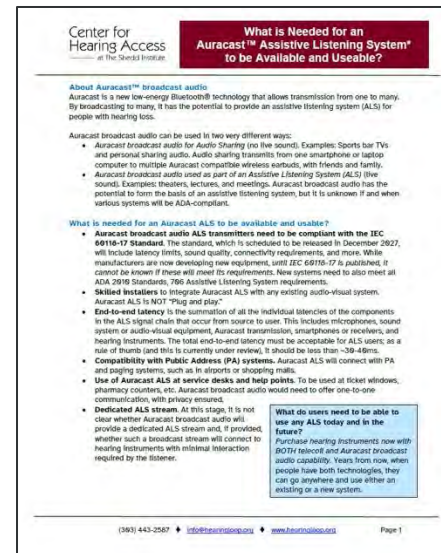


Consumer evaluation of increased satisfaction with hearing devices due to use in looped situations



More Resources

- **Center for Hearing Access** www.hearingloop.org
 - Champions and educates communities about ADA-compliant assistive listening systems and other strategies to increase access to theaters, conferences, libraries, government offices, courtrooms, and other public and private spaces.
 - Provides advocacy materials, ADA information, a speaker's bureau, videos, templates for users and owners/operators, accessibility language for websites, articles, audiology resources, vendor lists, etc.
- **Hearing Loss Association of America (HLAA)** www.hearingloss.org
 - Provides information, education, support, and advocacy for users.
 - Hearing Loop toolkit. Hearing Assistive Technologies. Free newsletter.
- **Articles, papers, and video**
 - Juliëtte Sterkens, TEDx talk. [What you don't know about hearing aids](#) March 2024.
 - Kaufmann, T. Hearing Review. [How 'Public Access Ready' Hearing Aids Could Offer a Competitive Edge](#) March 2024.
 - European Standard EN 15927:2010 (E) Services offered by hearing aid professionals



Thank you

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Congratulations!

- You completed the course and can move on to the exam!
- From your account:
 - Go to pending Courses
 - Choose take exam