



CURRENT TECHNOLOGIES AND RESOURCES FOR STUDENTS WHO ARE DEAF AND HARD OF HEARING (DHH)

EDMONTON REGIONAL LEARNING CONSORTIUM
MAY 31, 2018
WEBINAR

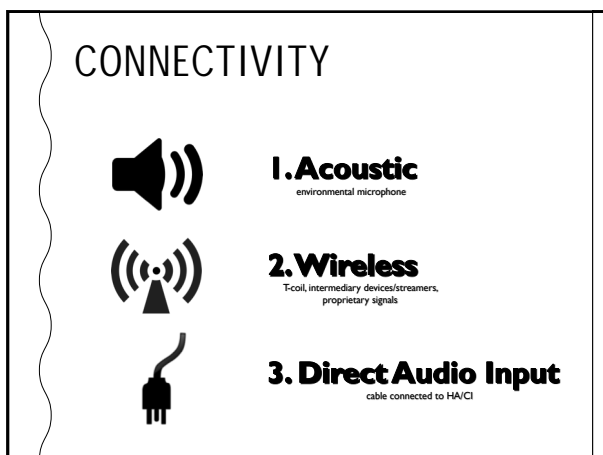
- Educational audiologist in the mainstream and residential school setting
- Former employee at a CI company
- Loves all things techy including hardware, software and social media to spread the word
- Curator of the list “Apps for Kids (and Adults) with Hearing Loss”
- Mentor / Advocate

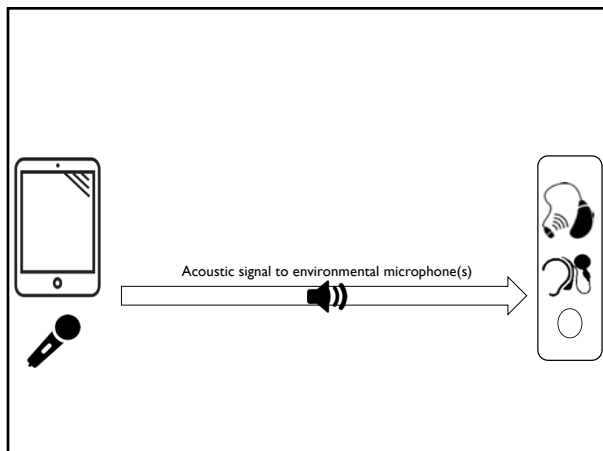


DID YOU KNOW...

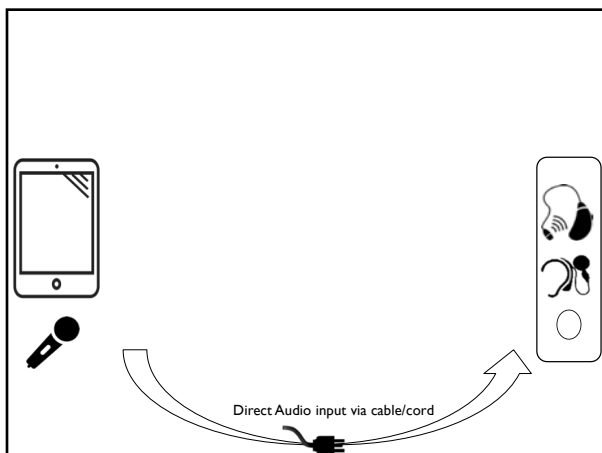


Formerly known as...	Now known as...
Assistive Listening Device (ALD)	Hearing Assistive/Assistance Technology (HAT)
Soundfield systems	Classroom Audio Distribution Systems (CADS)
FM systems	Remote Microphone Hearing Assistive/Assistance Technology (RMHAT)








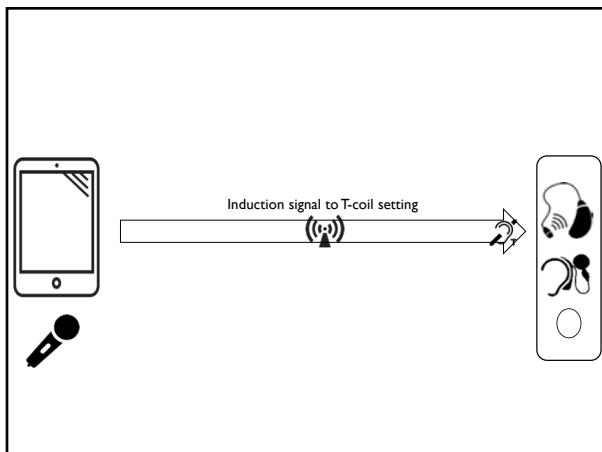


DIRECT AUDIO INPUT

- Hearing aid users
 - Will need an audioshoe (adapter) with 3-hole plug
- Cochlear implant recipients
 - WARNING: If using with a cochlear implant recipient, device must be battery-operated (NOT powered by a plug into the wall) unless using a cable with surge protection
 - Each manufacturer has their own proprietary cables

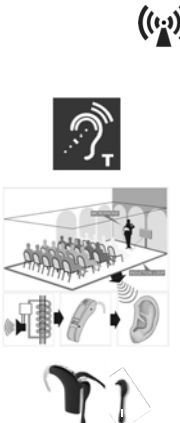


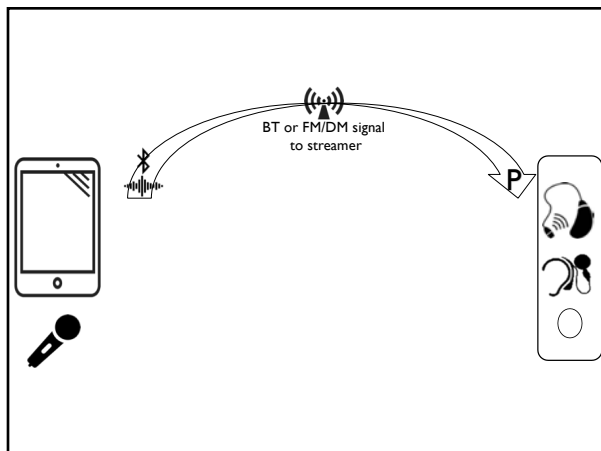
The diagram includes several images: a 3-hole audio cable connector, a coiled black cable, a small electronic device, and a close-up of a cable connector.



T-COIL (TELECOIL)

- (Program) button press or remote control
- Confirm mixing ratios (e.g., all or part T-coil)
- Provides access to:
 - Specific signal from T-coil compatible (mobile)phones
 - (RM)HAT
- All devices except for N5/N6 do well with looped rooms and neckloops coupled to HAT
 - N5/N6 was designed for phone use, can get a Room Loop Booster accessory

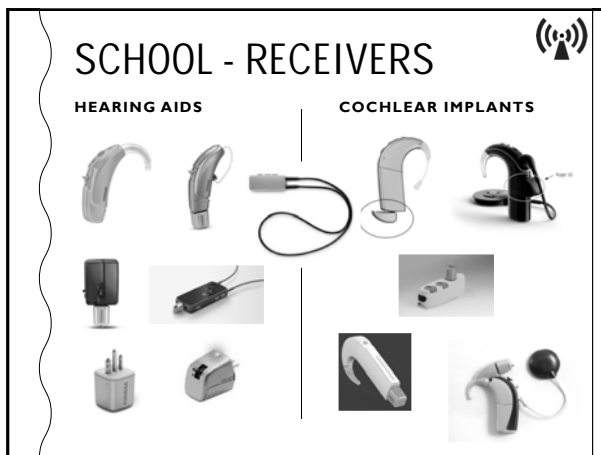


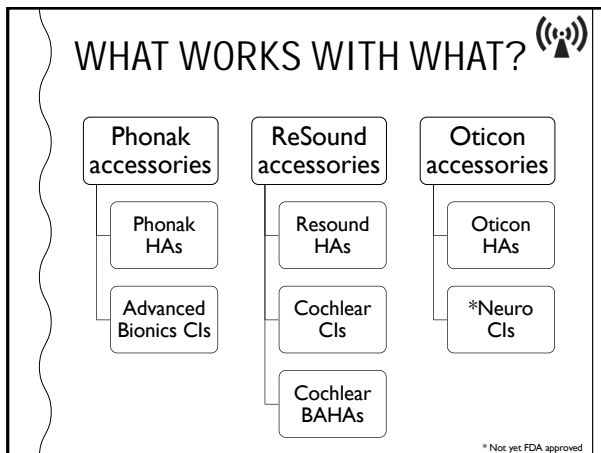


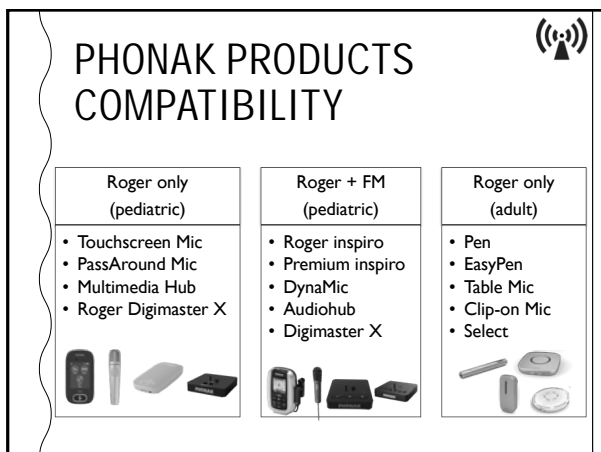
SCHOOL - TRANSMITTERS

MICROPHONE STYLES









PROPRIETARY PHONES/ACCESSORIES



<https://support.apple.com/en-us/HT201466>





- Sonova SWORD chip which allows for direct connection via Bluetooth
- Only available in the Audeo B-Direct currently but market will be expanding

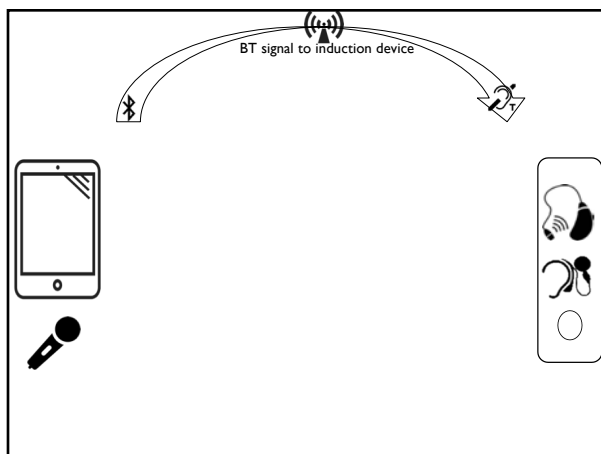
INTERMEDIARY DEVICES

I. Near-field magnetic induction (NFMI)

- Neckloop style

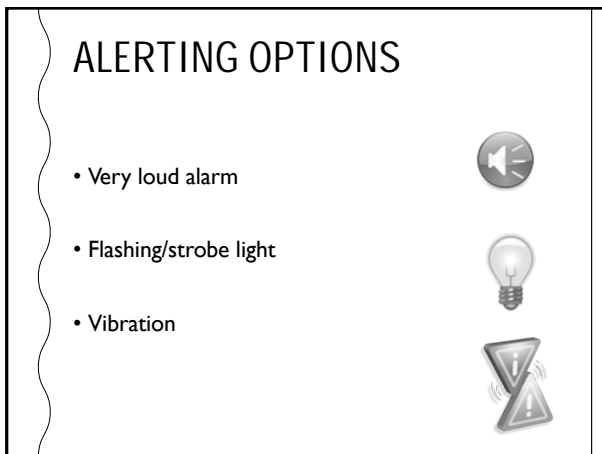


- 2.4 GHz signal
- Clip style









VISUAL/VIBRATORY ALERT SYSTEMS

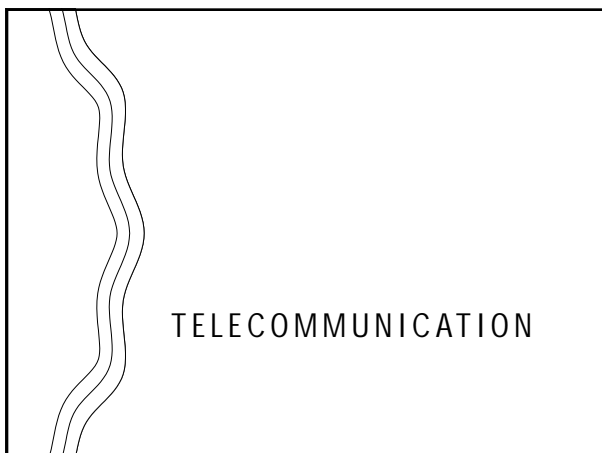


ALERTING DEVICES THAT WORK WITH YOUR SMARTPHONE



WEARABLE ACCESSORIES

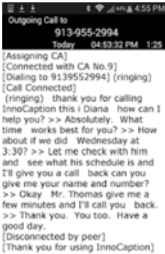

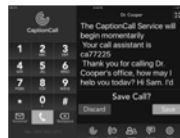









CAPTIONING FOR MOBILE DEVICES

CELL PHONES



- Cell phone makers and service providers to make phones hearing aid compatible (HAC) for people using hearing aids and cochlear implants.
- Devices that are HAC compliant have:
 - Less interference (e.g., buzzing, whining, static)
 - Robust speakers for adequate loudness
 - Better telecoil connections
- HAC compliant device packages are marked with “M” or “T” ratings
- Check the packaging/description card in the store
- Search online if you know the make and model of the phone

WHAT ARE “M” AND “T” RATINGS?

“M” RATING

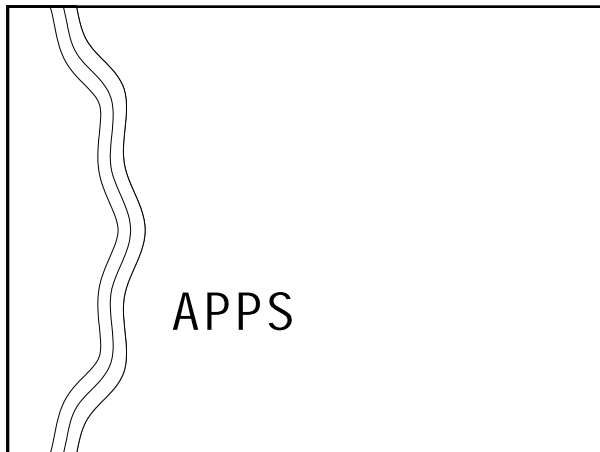
- “M” rating refers to the microphone mode.
- Wireless devices rated M3 or M4 are likely to generate less interference.
- M4 is the better/higher of the two ratings.

“T” RATING

- “T” rating refers to the telecoil mode.
- Wireless devices rated T3 or T4 are likely to be more usable with a hearing device’s telecoil (“T Switch” or “Telephone Switch”).
- T4 is the better/higher of the two ratings.

Look for M4/T4 to have the best chance of being interference free whether used with your hearing aids or cochlear implants in microphone or t-coil mode.

ANSI C63.19:2007 (Reference standard)



THE APP LISTS

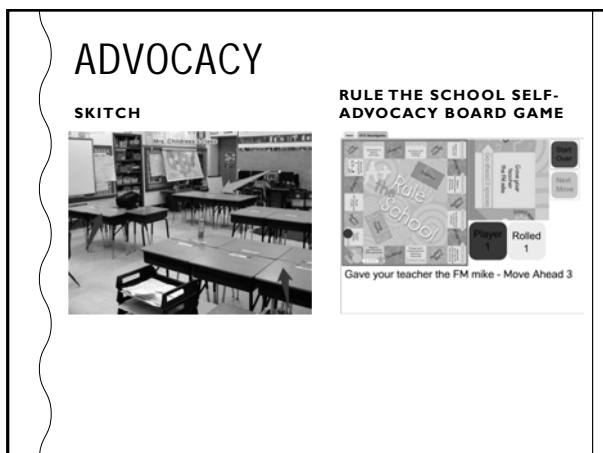
<http://bit.ly/Apps4HL-iOS>

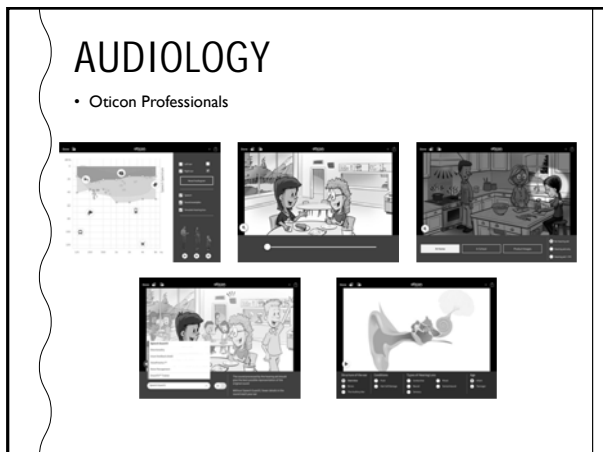
<http://bit.ly/Apps4HL-Android>

- Accessibility
- Advocacy
- Audiology
- Classroom Tools
- Hearing Test
- Listening Therapy
- Media Player
- Personal Amplifier
- Sign Language
- Sound Level Meter
- Speech/Language
- Telecommunication
- Master List*
- Resources (e.g., favorite developers, blogs, and websites)


	Title	Cost	Short description	Category	Company website	Date added to this list
	Hearing Aids	Free	Helping app that looks at a person's ability to hear in the presence of noise. This feature is available in quiet or noisy environments to help you hear better.	Audiology, Hearing Test, Listening Therapy	http://bit.ly/Apps4HL-iOS	9/11/2017
	Hearing Test	Free	From MED-EL, this is the 1st version of the Hearing Test, a tool used to help you understand your hearing. It is a simple, easy-to-use tool that can be used in a variety of environments.	Audiology, Hearing Test, Listening Therapy	http://bit.ly/Apps4HL-iOS	9/11/2017
	Listening Therapy	Free	From MED-EL, this is the 1st version of the Listening Therapy, a tool used to help you understand your hearing. It is a simple, easy-to-use tool that can be used in a variety of environments.	Audiology, Hearing Test, Listening Therapy	http://bit.ly/Apps4HL-iOS	9/11/2017
	Sign Language	Free	From MED-EL, this is the 1st version of the Sign Language, a tool used to help you understand your hearing. It is a simple, easy-to-use tool that can be used in a variety of environments.	Audiology, Hearing Test, Listening Therapy	http://bit.ly/Apps4HL-iOS	9/11/2017
	Sound Level Meter	Free	From MED-EL, this is the 1st version of the Sound Level Meter, a tool used to help you understand your hearing. It is a simple, easy-to-use tool that can be used in a variety of environments.	Audiology, Hearing Test, Listening Therapy	http://bit.ly/Apps4HL-iOS	9/11/2017
	Speech/Language	Free	From MED-EL, this is the 1st version of the Speech/Language, a tool used to help you understand your hearing. It is a simple, easy-to-use tool that can be used in a variety of environments.	Audiology, Hearing Test, Listening Therapy	http://bit.ly/Apps4HL-iOS	9/11/2017
	Telecommunication	Free	From MED-EL, this is the 1st version of the Telecommunication, a tool used to help you understand your hearing. It is a simple, easy-to-use tool that can be used in a variety of environments.	Audiology, Hearing Test, Listening Therapy	http://bit.ly/Apps4HL-iOS	9/11/2017
	Master List	Free	From MED-EL, this is the 1st version of the Master List, a tool used to help you understand your hearing. It is a simple, easy-to-use tool that can be used in a variety of environments.	Audiology, Hearing Test, Listening Therapy	http://bit.ly/Apps4HL-iOS	9/11/2017
	Resources	Free	From MED-EL, this is the 1st version of the Resources, a tool used to help you understand your hearing. It is a simple, easy-to-use tool that can be used in a variety of environments.	Audiology, Hearing Test, Listening Therapy	http://bit.ly/Apps4HL-iOS	9/11/2017








LISTENING THERAPY

AUDITORY WORKOUT


BITSBOARD PRO


SIGN LANGUAGE

- Story signing
 - ASL
 - PSE/CASE
- Alphabet
- Tutorials
- Dictionaries
- Games









RESOURCES

JOIN EAA!

- Discounts on materials and conference fees
- EAA List-serve
- Ed Auds, Ped Auds, TOD/HH, Researchers



EDUCATIONAL
AUDIOLOGY
ASSOCIATION

<https://edaud.org/>

SOCIAL BOOKMARKING SITE

- #HearingAssistiveTechnology
- #Apps
- #Advocacy



https://app.raindrop.io/?#/collection/2663069

GUIDE TO SELF-ADVOCACY SKILL DEVELOPMENT SUGGESTIONS FOR SEQUENCE OF SKILL ATTAINMENT

Suggested sequence	The student will:
1.1	Be responsible to put own hearing device on and report when problems occur
1.2	Be encouraged to ask for repetition when it is evident that the did not hear message
1.3	Recognize effect of distance on voice ability to follow to close speech unless for speech clearly
1.4	Recognize function of own communication, discussion on the speech level
1.5	Self select or move to an appropriate seat in proximity to the teacher or desired class peers
1.6	Discuss on the speech level
1.7	Appropriate ask for repetition of messages missed (i.e., more slowly, clearly, louder)
1.8	Recognize effect of interfering noise that occurs in hearing environment demonstrated by closing classroom door, moving away from noise or requesting reduction in noise
1.9	Use an appropriate signal with teacher to indicate challenges listening understanding
1.10	Request that the microphone be placed closer to teacher to hear on the microphone
1.11	Request simple names and positions of hearing device parts and what one is wearing (in sound)
1.12	Describe how the microphone works and how to use the device, the signal
1.13	Describe the purpose and use of the microphone to the classroom teacher, with assistance
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<https://successfordeafandhardofhearing.com/wp-content/uploads/2011/12/Guide-to-Self-Advocacy-Skill-Development.pdf>

SOCIAL MEDIA



HARRIS COMMUNICATIONS

- (Hearing) Assistive Technology resource
- Order catalogs for your office
 - <https://www.harriscomm.com/catalog-request>
- Assistive Technology Guide
 - <https://www.harriscomm.com/freeguide>
 - Download for free



<https://www.harriscomm.com/>


GREAT REFERENCE

- Hearing Assistive and Assistance Technology by Drs. Samuel R. Atcherson, Clifford A. Franklin, Laura Smith-Olinde




https://www.pluralpublishing.com/publication_haat.htmhttps://www.pluralpublishing.com/publication_haat.htm

AUDIOLOGY HEARING AIDS



- Oticon
 - <https://itunes.apple.com/us/artist/oticon-a-s/id815526994>
- Phonak
 - <https://itunes.apple.com/us/artist/phonak/id621383955>
- ReSound
 - <https://itunes.apple.com/us/artist/resound/id585579327>
- Starkey
 - <https://itunes.apple.com/us/artist/starkey-laboratories/id336622271>
- Widex
 - <https://itunes.apple.com/us/artist/widex-a-s/id514579854>

AUDIOLOGY COCHLEAR IMPLANTS



- Advanced Bionics
 - <https://itunes.apple.com/us/artist/advanced-bionics-llc/id533826496>
- Cochlear Americas
 - <https://itunes.apple.com/us/artist/cochlear-ltd/id489503787>
- Med-El
 - <https://itunes.apple.com/us/artist/med-el/id455935145>
- Troubleshooting
- Listening Therapy
- Other resources
