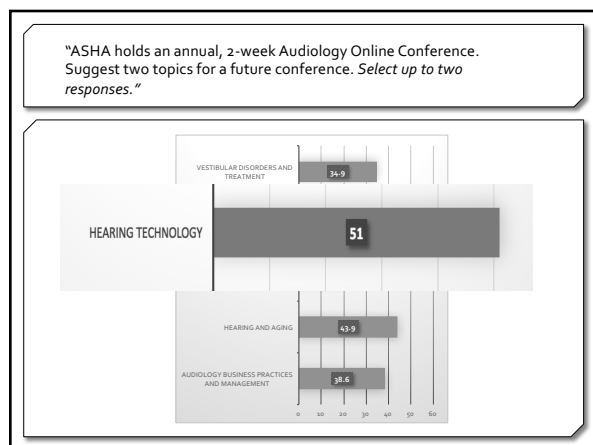
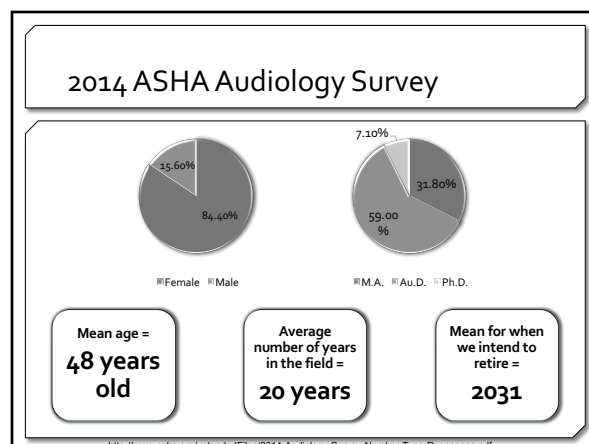


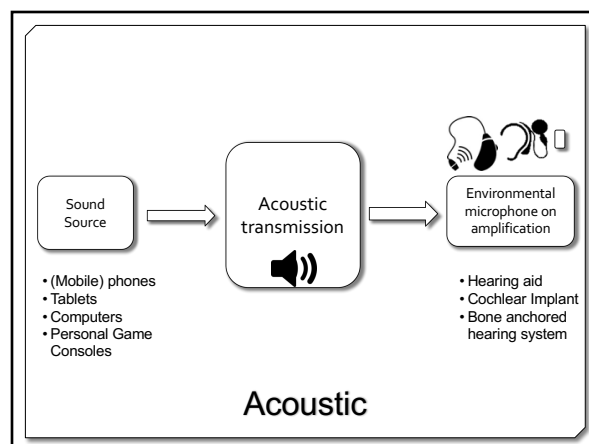
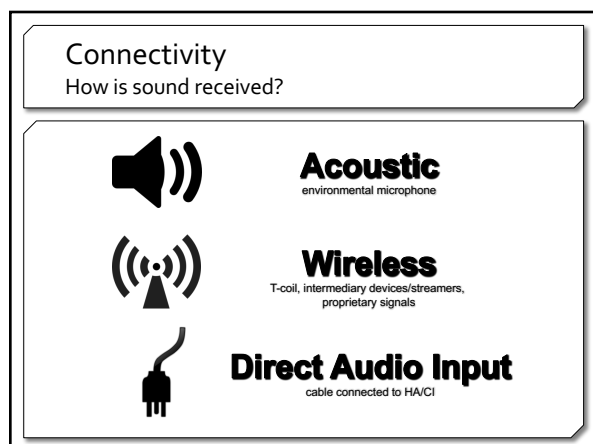
Please download the app called "Socrative Student"
or
go to <https://b.socrative.com/login/student/>
and
join the Room HLPUEAR

Connectivity in the Classroom
Tina Childress, Au.D., CCC-A



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)



Environmental microphone

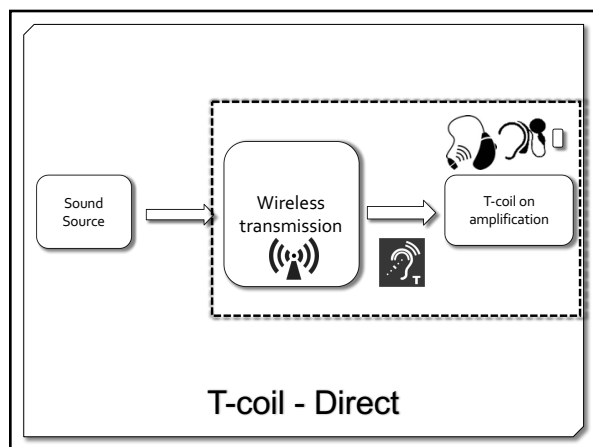
Location, location, location



○ = microphone location

Acoustic

- + Hold phone up to ear
- + Speakerphone
- + External speaker
- + Headphones

T-coil (Telecoil)

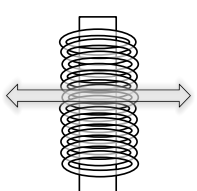
- + Please confirm your students have this OPTION!
- + Can activate manually with a remote control or setting on HA/CI
- + Can have different "mixing ratios" (e.g., all or part T-coil)
- + Provides access to:
 - + Specific signal from T-coil compatible (mobile)phones
 - + Hearing Assistive Technology



T-coil Orientation

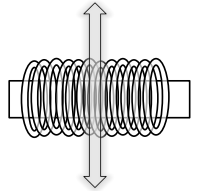
Vertical

- + Looped rooms
- + Neckloops



Horizontal

- + Telephone
- + Induction earhooks/ HATIS



<http://www.hearinglosshelp.com/articles/tcoorient.htm>

Advanced Bionics



Naida Q70/Q90 (vertical)



Harmony (slanted)



Neptune with T-Comm (vertical)



External T-coil (adjustable)

Cochlear Corporation





Freedom
(vertical)



Nucleus 5
(horizontal)



Nucleus 6
(horizontal)



Room Loop
Booster

Med-El





Sonnet
(vertical)

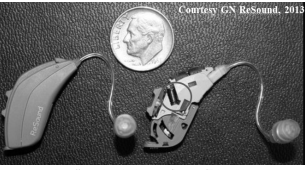


Rondo
(vertical)

Hearing aids



- + A study in the JAAA found that a majority of T-coils were oriented in the VERTICAL position in BTE hearing aids
- + Phone use was variable, as a result
- + Some hearing aids companies may orient the T-coils at a slight angle which means people need to tilt their heads or the phone to get that "sweet spot"



Courtesy GN ReSound, 2013

<http://www.hearingloop.org/images/Telecoil.jpg>

<http://www.ncbi.nlm.nih.gov/pubmed/22031676>

T-coil - direct



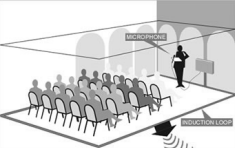
- + Landline and mobile phones
 - + Hold phone up to HA/CI with T-coil setting
- + Headphones
 - + Good option for kids that get feedback from HA
 - + May need to turn up volume
 - + Need to find "sweet spot"




T-coil – direct (large area)



- + Large area loops
 - + Just switch to T-coil – no additional accessory needed








T-coil – direct (smaller area)

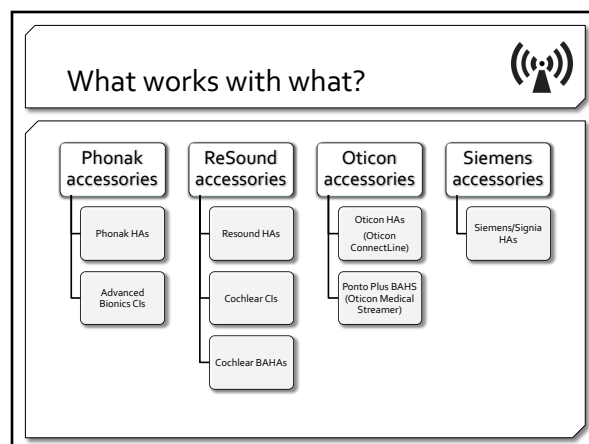
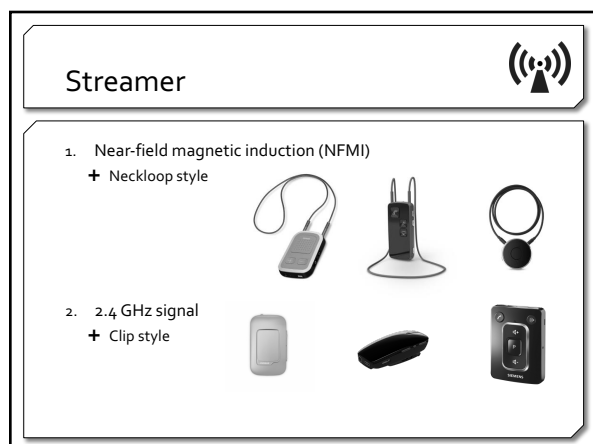
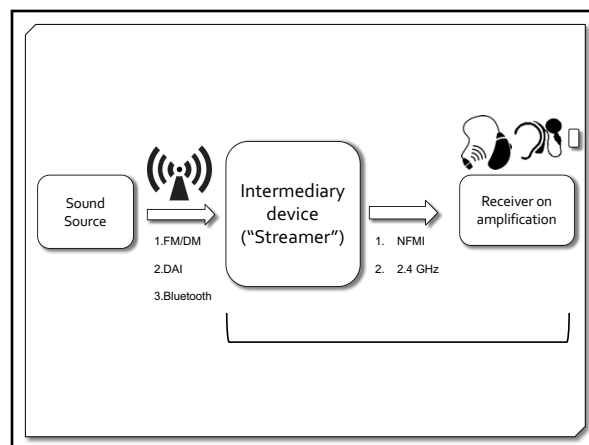
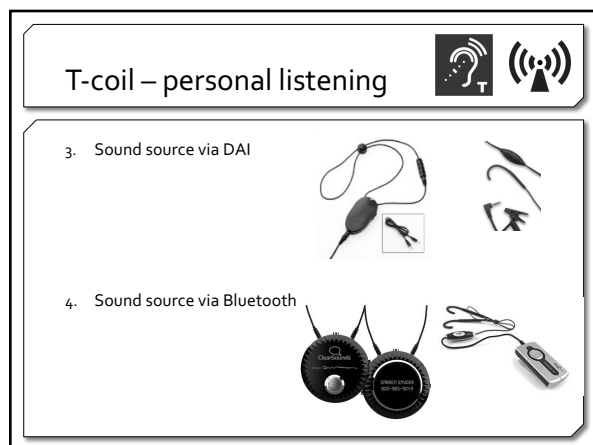
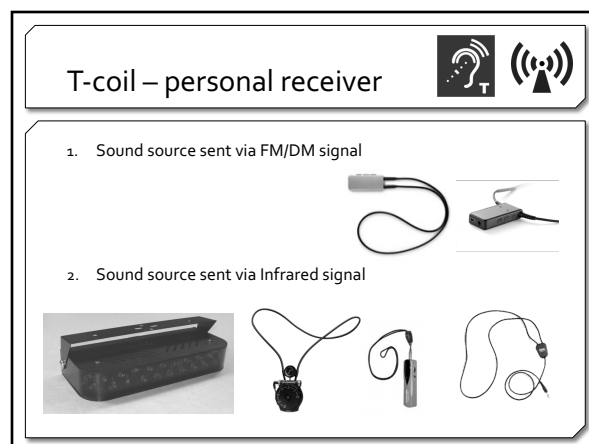
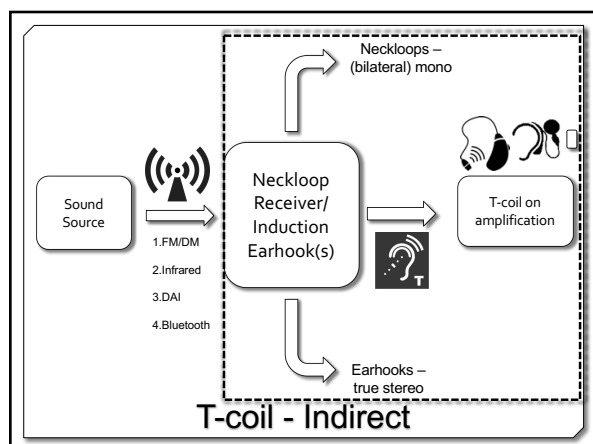


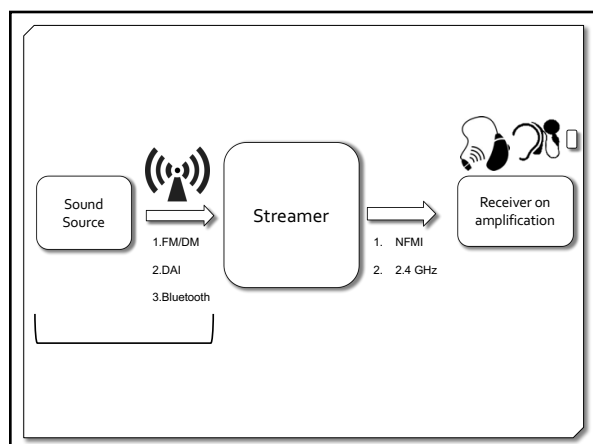
- + Small area loops
 - + Just switch to T-coil – no additional accessory needed





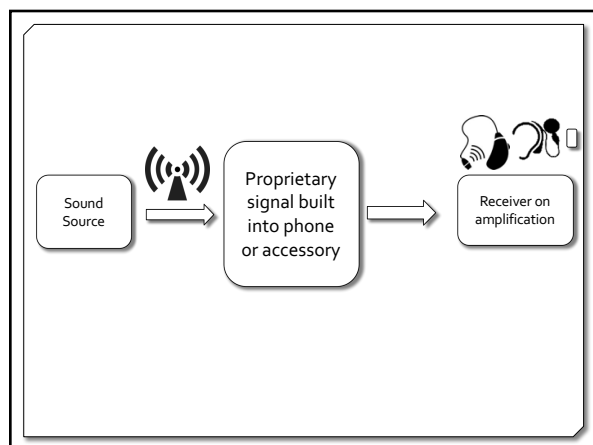
Induction Loop
Less passengers with hearing aids talk with the driver





Devices that communicate with streamers

1. FM/DM
2. DAI
3. Bluetooth
 - + Remote microphones
 - + TV hubs
 - + Other devices that are Bluetooth compatible

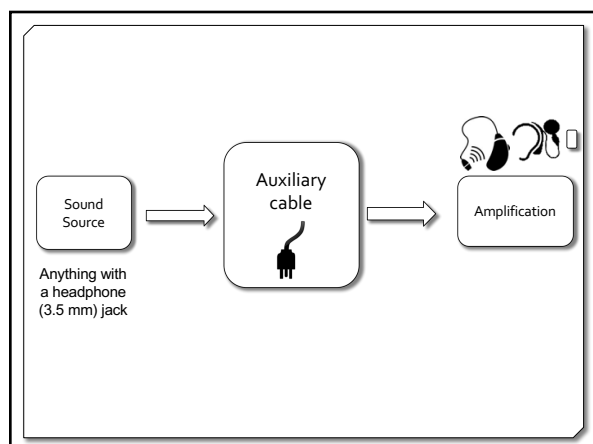


Proprietary phones/accessories

Home phones

Mobile phones

Made for iPhone



Direct Audio Input

- + Hearing aid users
 - + Will need an audioshoe (adapter) with 3-hole plug
 - + Monaural and binaural cables available
- + 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

Classroom Equipment

Solutions for group conversations



Monster iSplitter 1000

- + Ability to listen to what your student is hearing
- + Individual volume control settings



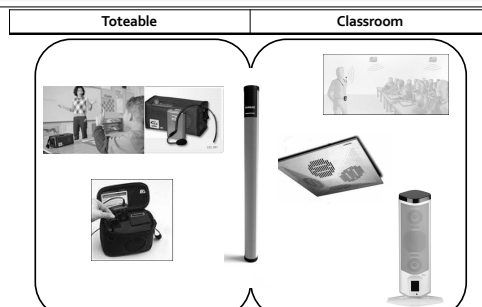
Transmitters



Receivers



CADS



Connectivity: Connection to CADS

- + So teachers don't have to wear two microphones if there is already CADS in the classroom and you have a student with personal FM/DM
- + So student can hear output to Interactive White Board and hear the teacher



Entertainment

(Hearing) Assistive Technology



- + Ask for (H)AT when you get your tickets
 - + Behind ticket counter
 - + Service desk
- + Tips
 - + Arrive early
 - + Ask for multiple devices
 - + Have staff member go with you



<http://www.ideasconsultinginc.com/stay-independent/entertainment.asp>

Assistive Listening Devices Headphone receiver options



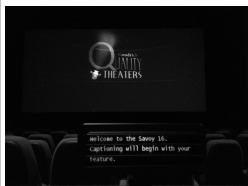
- + Over-the-head receiver styles work best for those with cochlear implants and/or hearing aids
- + Receivers with neckloops (t-coil) are few and far between



CaptiView

CV

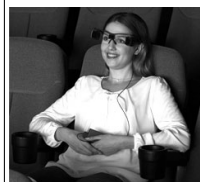
- + Need to get special device at the movie theater ticket counter
- + Words are displayed on a personal LED display



Sony's Entertainment Access Glasses

SONY DV

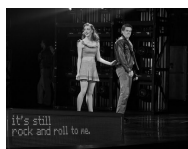
- + Need to get special device at the movie theater ticket counter
- + Words are displayed towards the bottom of the glasses



Open Captioning



- + Words are available for everyone to see
- + Includes dialogue as well as environmental sounds
- + Movies
 - + Often has limited showing times and limited selection
 - + Preferred by most deaf/hard of hearing people
- + Theater
 - + Display is often on stage
 - + It's like karaoke!



Personal Captioning in Theaters

- + Use a special device or tablet/SmartPhone to access captions



Resources



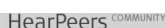
Sergei Kochkin

Only 2% of HHP refer their patients to peer-support groups. Check out our newest patient aural education article in today's eNewsletter on the value of Self-Help groups; guest author Brenda Battat. If you are not a subscriber please do so at www.betterhearing.org/professionals



Online communities

- + Hearing Journey (Advanced Bionics)
 - + <http://www.hearingjourney.com>
- + Cochlear
 - + <http://www.cochlearcommunity.com>
- + Hear Peers (Med-El)
 - + <http://www.hearpeers.com>
- + Hearing Like Me (Phonak)
 - + <http://www.hearinglikeme.com>



Online communities

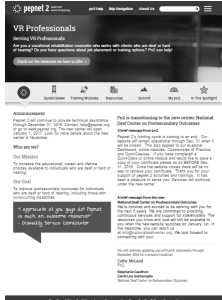
- + Hands & Voices
 - + <http://handsandvoices.org>
- + Ear Community
 - + <http://earcommunity.com>
- + Hearing Our Way
 - + <http://hearingourway.com>



Pepnet 2



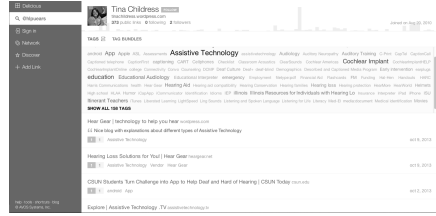
- + <http://pepnet.org>
- + Wealth of resources related to access in a post-secondary setting
- + Explanation of accommodations
- + Tip sheets
- + Learning modules



My social bookmarking site

<http://del.icio.us/hlpuears>

- + Scores of links related to hearing loss – including AT and vendors
- + Searchable via tags



The App List (<http://bit.ly/Apps4HL>)





- 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)

	A	B	C	D	E	F	G
	Title	Cost	Short description	Category	Company website	Date added to this list	
	Calibre	Free	Library of ebooks (e.g., pdf, epub, mobi) that you can use when reading. Library is free.	Listening Therapy	http://calibre-ebook.com	4/9/2015	
	SoundBoard	Free	Library of sounds to bring up on screen, using, album and will also display synchronized lyrics.	Accessibility, Listening Therapy, Media Player	http://soundboardapp.com	3/26/2015	
	Shazam	Free	Library of sounds to bring up on screen, using, album and will also display lyrics (not synchronized).	Accessibility, Listening Therapy, Media Player	http://www.shazam.com/track/1000000000	3/26/2015	
	Shazam Lyrics	Free	Displays lyrics, links to music (and videos) linked in your iTunes library.	Accessibility, Listening Therapy, Media Player	http://www.shazam.com/track/1000000000	3/26/2015	
	Shazam Lyrics	Free	WOW! Feedback app for displaying synchronized lyrics of music in your iTunes library or other music videos on YouTube.	Accessibility, Listening Therapy, Media Player	http://www.shazam.com/track/1000000000	3/26/2015	
	Shazam Lyrics	Free	Portable audio player that where you can take for different contexts, in a variety of functions (e.g., play, record and more) from your program.	Listening Therapy	http://www.shazam.com/track/1000000000	3/26/2015	
	Shazam Lyrics	Free	Fun way to work on listening/reading language and expository.	Classroom Tools	http://www.shazam.com/track/1000000000	3/26/2015	

Hearing Aid Companies on iTunes

- + 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/id8579327>
- + Starkey
+ <https://itunes.apple.com/us/artist/starkey-laboratories/id336622271>
- + Widex
+ <https://itunes.apple.com/us/artist/widex-a-s/id514579854>



Cochlear Implant Companies on iTunes

- + Advanced Bionics
+ <https://itunes.apple.com/us/artist/advanced-bionics-llc/id533826496>
- + Cochlear Americas
+ <https://itunes.apple.com/us/artist/cochlear-llc/id84903787>
- + Med-El
+ <https://itunes.apple.com/us/artist/med-el/id455935145>
- + Troubleshooting
- + Listening Therapy
- + Other resources



