




Advanced Bionics







Naida Q70
(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






Opus 2
(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


T-coil - direct



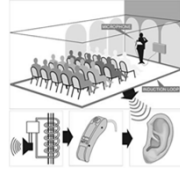



- + Landline and mobile phones
 - + Hold phone up to HA/CI with T-coil setting
- + Headphones
 - + Good option for kids that get feedback from HA
 - + May need to turn up volume
 - + Need to find "sweet spot"

T-coil – direct (large area)

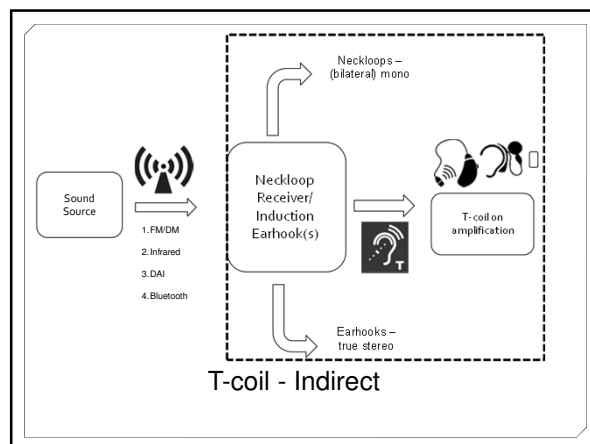
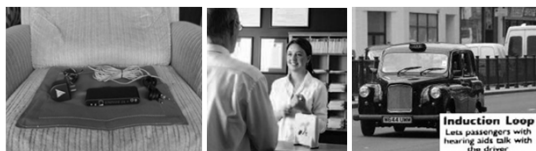


- + Large area loops
 - + Just switch to T-coil – no additional accessory needed

T-coil – direct (smaller area)

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



T-coil – personal receiver

1. Sound source sent via FM/DM signal



1. Sound source sent via Infrared signal

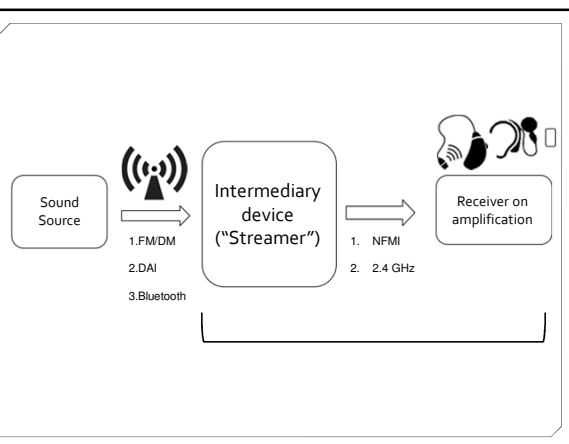


T-coil – personal listening

3. Sound source via DAI



4. Sound source via Bluetooth



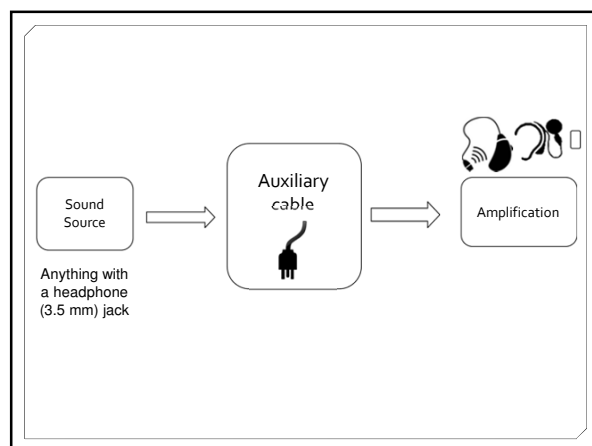
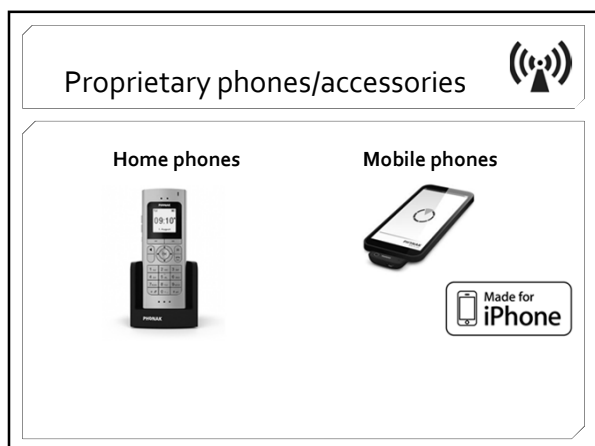
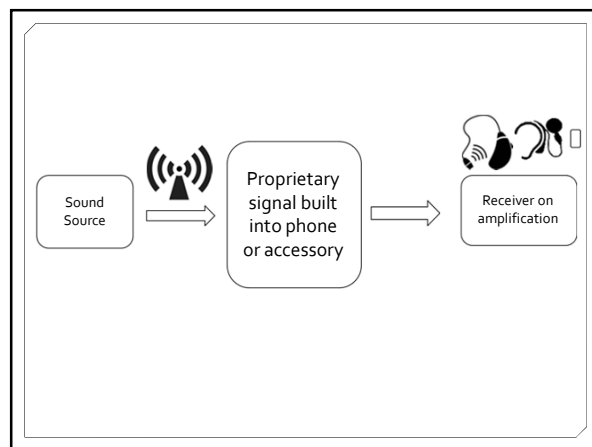
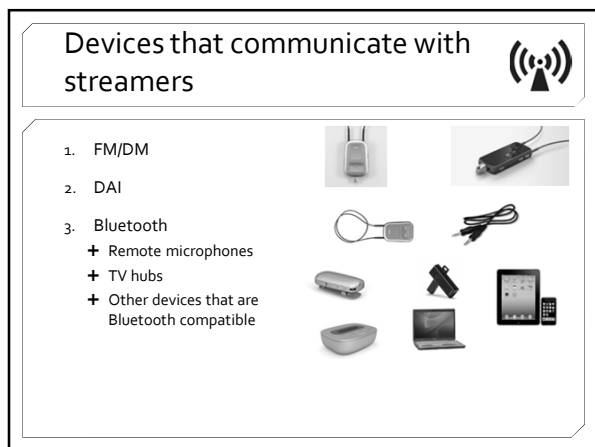
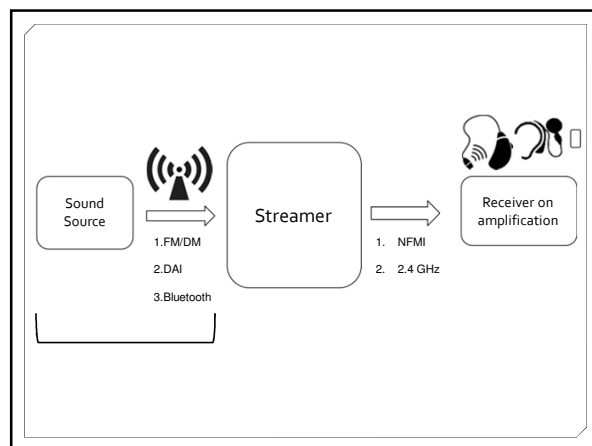
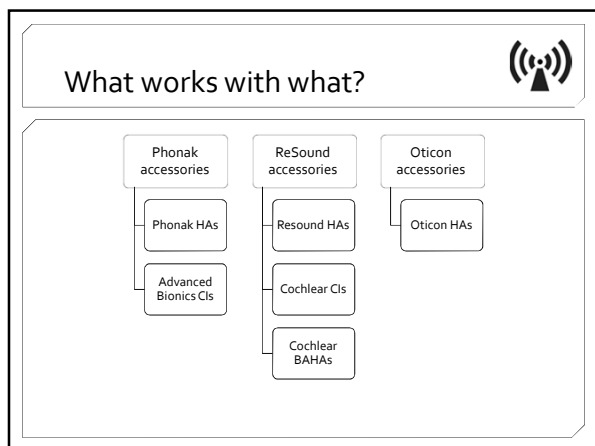
Streamer

1. Near-field magnetic induction (NFMI)
 - + Neckloop style



2. 2.4 GHz signal
 - + Clip style





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



Home

Alerting Options

- + Very loud alarm
- + Flashing/strobe light
- + Vibration
 - + Most effective



Would you use this?



Alarm clocks

- + <https://delicious.com/hlpuears/Alarms>
 - + Comprehensive list of alarm systems and articles
- + Stationary
- + Portable



Visual alerting systems

- + Fire/smoke
- + Carbon monoxide
- + Weather radio/smartphone app
- + Baby monitor



Serene Innovations RF-200 Cell Phone Signaler

- + Works with cell phones and landline phones
- + For cell phones, place the phone on the RF-200 cradle and it will flash when it detects the vibration of your cell phone
- + Unique flashing patterns to distinguish between incoming calls or messages
- + Indicator light lets you know when you have missed calls or messages
- + Detects and alerts to WEA (Wireless Emergency Alert) public emergency broadcast warnings (if provided by wireless carrier)
- + USB port for charging cell phone
- + Ringer tone Hi-Lo-Off
- + Bed shaker jack (bed shaker not included)
- + AC powered with battery backup (4 AA batteries not included)



Wearable accessories



Listening in the car

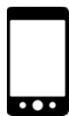
- + Communication
 - + FM/Roger system
 - + Bluetooth microphone to streamer
 - + Quattro 4.0 neckloop
 - + Car loop (!!!) – accessed via T-coil
- + Personal listening
 - + Headphones
 - + Amplified neckloops
 - + Streamers
 - + Direct Audio Input



Personal listening

Cell phones

- + The FCC require all 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 static
 - + Less interference
 - + 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.

Amplified telephones

- + Used in place of standard phones
- + Models have a variety of features including tone adjustment, volume boost, loud ringer, visual signalers, memory buttons, capacity for multiple lines, and power adapters.



Captioning for phones

- + Read the display on the desktop phone itself, a computer screen, a tablet or mobile phone (will need to use speakerphone) as well as listen to the other person's voice
- + Used by people who voice for themselves



Workplace

Conference and multiple microphones

- + RMHAT



Speech-to-text

- + Consistently accurate voice recognition software is not there yet
- + Apps
 - + Ava



Entertainment

Assistive Listening Devices



- + Plan ahead to make sure the individual has any necessary connections/cables and to allow time for troubleshooting
- + Especially true if the individual want to use their T-coil (which is not available in all theaters)
- + Arrive at least 30 minutes early and make sure that it is known who is turning on the system, channels are synched and the batteries are good

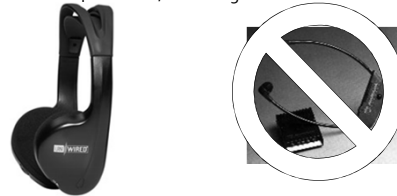


<http://www.ideasconsultinginc.com/stay-independent/entertainment.asp>

Assistive Listening Devices Headphone receiver options



- + Over-the-head receiver styles work best for those with cochlear implants and/or hearing aids



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

OC

- + 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



House of worship

Suggestions

- + One of the hardest to hear in older churches with lots of reverberation
- + Suggestions:
 - + Preferential seating
 - + Asking for copy of the sermons
- + HAT
 - + Infrared devices
 - + Looped sections



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>

HearingJourney
Cochlear Implant Forum

Cochlear
Community

HearPeers
COMMUNITY

Hearing
LikeMe
Real People. Real Stories.

Assistive Technology Project

http://isdoutreach.org/assistive_technology_project/index.html



Gallaudet University Regional Center
at John A. Logan College
Sharing the Research Network
Gallaudet University and the Midwest




TINA CHILDRESS
ILLINOIS SCHOOL FOR THE DEAF


SHERI COOK
GALLAUDET UNIVERSITY REGIONAL CENTER - MIDWEST

CHERI SINNOTT
ILLINOIS SERVICE RESOURCE CENTER


National Association of the Deaf (NAD)



- + <http://nad.org/issues/technology>
- + Information about applicable laws, news and recent developments
- + Resources to other websites



Hearing Loss Association of America (HLAA)




- + <http://www.hearingloss.org/content/technology>
- + Great resource that includes tutorials, explanations and videos




My social bookmarking site

<http://del.icio.us.com/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
- Resources (e.g., favorite developers, blogs, and websites)

	Title	Cost	Short description	Category	Company website	Date added to this list
	CaféBuddy	Free	Variety of sounds (e.g., coffee shop, lunch room) that you can use when practicing listening in noise	Listening Therapy	http://cafebuddy.com/	4/8/2015
	Soundboard	Free	Listeners to music to bring up artist, song, album and will also display synchronized lyrics	Accessibility Listening Therapy Media Player	http://support.soundboard.com/	3/26/2015
	Stream	Free	Listeners to music to bring up artist, song, album and will also display lyrics (and synchronized)	Accessibility Listening Therapy Media Player	http://www.phonak.com/us/web/Stream/	3/26/2015
	TuneWithLyrics	Free	Displays lyrics, listens to music (and retrieves lyrics) in your iTunes library	Accessibility Listening Therapy Media Player	http://www.tunewithlyrics.com/	3/26/2015
	MusicMatch	Free	MP3/FMP3 format app for displaying synchronized lyrics of music in your iTunes library or even music videos on YouTube	Accessibility Listening Therapy Media Player	http://www.musicmatch.com/us/itunes/	3/26/2015
	Lifesound	Free	Participate auditory training tool where you can listen for different contrasts, in a variety of conditions (e.g., quiet, noise) and keep track of your progress	Listening Therapy	http://lifesound.audiobuilder.com/	3/26/2015

Audiology – Hearing Aids

- + Oticon
+ <https://itunes.apple.com/us/artist/oticon-a-s/id815626994>
- + Phonak
+ <https://itunes.apple.com/us/artist/phonak/id621383955>
- + ReSound
+ <https://itunes.apple.com/us/artist/resound/id58579327>
- + Starkey
+ <https://itunes.apple.com/us/artist/starkey-laboratories/id33662271>
- + Widex
+ <https://itunes.apple.com/us/artist/widex-a-s/id514579854>



Questions

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