

HEARING LOSS TECHNOLOGY

Where have we been?
Where are we headed?

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BACK IN THE DAY



HEARING AIDS

- **Styles**
 - In-the-Canal
 - In-the-Ear
 - Receiver-in-the-Ear
 - Behind-the-Ear
- **Technology**
 - Analog
 - Digital
 - Programs
 - Streamers or Remotes



HEARING AIDS

• Features

- Directional microphones
- Telephone (telecoil) switch
- Direct audio input
- Bluetooth
- Streamers

TELECOIL - WHAT IS IT?



TELECOIL - WHAT IS IT?

- Telecoil (t-coil) – A telecoil is a small coil of wire inside a hearing aid that is designed to pick up a magnetic signal.
- When using the telecoil setting on your hearing aid it turns off the microphone so that it will only pick up the electromagnetic signal and converts it to sound.
- This allows you to hear only the magnetic signal from the sound source which can be from hearing aid compatible phones and a number of ALDs (Assistive Listening Devices).

TELECOIL - WHAT IS IT?

- Position Matters (horizontal vs vertical)
- "Most" hearing aids and cochlear implants
- Size (of hearing aid) Matters!
- Activated by switch, button or streamer control
- "Doubles" what the hearing aid can do
- Also known a telephone or t-switch

WHAT DOES IT WORK WITH?

- Telephones
- Neckloops
- FM Systems
- Looped Facilities

Must be in "manual mode" not automatic

- M/T = Microphone and Telecoil work together
- T = Telecoil only (no other sounds)

COMMON MISHAPS TELECOILS AND HEARING AIDS

- Not installed
- Not activated
- Automatic Setting
- Only activated on the streamer remote (no button)
- No training on what it can do = Get informed

SPEAK UP!

BLUETOOTH IS BETTER RIGHT?

- Bluetooth is an option for some hearing aids
 - Requires a “streamer” (in most cases)
- Pairs the hearing aid, via streamer, to phones or audio devices
 - DOES NOT REPLACE THE NEED FOR A TELECOIL



ASSISTIVE LISTENING DEVICES

- Personal Amplifiers (Pocket Talkers, Bean, etc.)
- Personal FM Systems
- Loop Systems
- Ear buds
- Headphones
- Ear pieces
- Neckloops

NECKLOOPS

- Create an electronic field to bring sound signal to the hearing aid
- **Analogy: Neckloops are headphones for hearing aids**
- Plugs or pairs with phones and audio devices



ASSISTIVE LISTENING DEVICES - HARD WIRED

- Single Unit listening device
- Several headset options (headphones, earbuds, neckloop)
- One to one settings, in the car, television
- Pocket Talker
- \$15 - \$425



ASSISTIVE LISTENING DEVICES - PERSONAL FM

- Consists of two parts – transmitter and receiver
- Can travel from room to room / through walls
- Wireless listening for churches, schools, theaters, etc.
- Loop and PA systems
- Multiple microphone and headphone options for the most flexibility



Self-contained, fully portable audio frequency induction loop system. The induction telecoil loop is built into a clipboard, so you can take it anywhere for assisted listening. It runs on rechargeable batteries, making it ideal for one-on-one conversations (within five feet), small group meetings, workplaces and more. \$275.00



The listener must have a telecoil program mode to receive the signal.

ASSISTIVE LISTENING DEVICES - INFRARED

- Consist of two parts – transmitter and receiver
- Generally used for television or movie theaters
- Must be in “direct line of sight”



LOOP SYSTEMS

- Entire area or room is looped
- Telecoil mode in the hearing aid will pick up the sound signal
- Telecoil users – no need for a receiver “box”
- Non-telecoil users will need a receiver “box”



COMMUNICATION OPTIONS

- Handwritten notes
- Typed notes
- Text Messages
- Instant Messaging
- Email
- Communication Access
Realtime Translation(CART)
- Sign language / interpreters
- Electronic
- Captions
- Relay Services
- Video Interpreting
- Video Relay

TELECOMMUNICATIONS

- Phone attachments
 - Amplified telephones
- TTY
 - Fax
- Electronic / Text

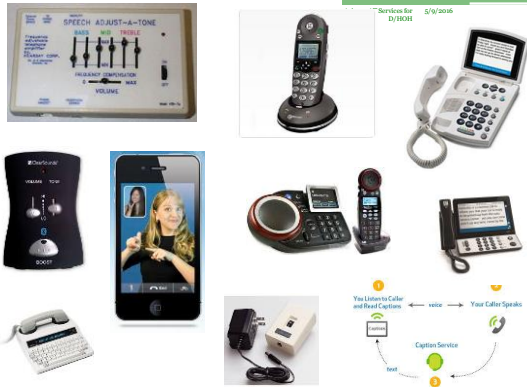
TELEPHONE ACCESS

- In-Line Amplification
- Amplified Telephones
- Voice Carry Over
- Phone line extenders
- Captel
- Large Print Captel
- Web / Mobil Captel
- Telebraille
- Cellular options

TELEPHONE ACCESS

- Landline phones must be hearing aid compatible and they connect to the telecoil when the receiver is placed next to the aid
- Some need an added magnet to make the signal stronger (rare)
- Neckloops can be plugged into landlines or cellphones
- Bluetooth Neckloops can be paired with cell phones

Must be in "manual mode"
not automatic



SIGNALING

- Central Alert
- Silent Call
- Sonic Alert
- Alertmaster

- Telephones, doors, babies, motion, smoke, carbon monoxide, weather alerts, emergency vehicles, room noise



ELECTRONIC COMMUNICATION

- Cellular / Text
- Skype / IM
- Video Relay
- Video Interpreting





VRS VS VRI

Video Relay Services

- Telecommunications Based
- No Cost
- Videophones, computer based or smartphone/tablet apps
- Used to make or receive TELECOMMUNICATIONS from one location to another

Video Remote Interpreting

- Fee Based
- Provides INTERPRETING services
- Brings the interpreter into the room for communication between person who is Deaf and hearing people
- Videophone, computer based or smartphone/tablet access

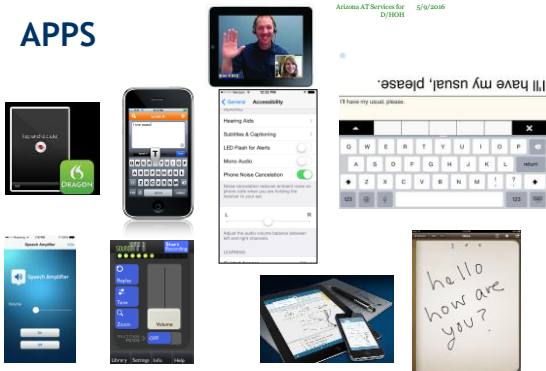


<http://www.wisconsinwistech.com/wp-content/uploads/2016/05/Apps-for-Deaf-and-Hard-of-Hearing.pdf>

Indeed, it's almost certain the phone you use now is bigger than the one you used a decade ago.



APPS



NOT TECHY TECH



ACCESS OPTIONS

- Landline / DSL
- Cellular / Repeater
- Cable
- Satellite
- WISP

ACCESS

Landline / DSL

- Traditional phone service
- High speed provided via traditional phone lines
- Speeds 1.5 – 6 mbps
- No special equip aside from a DSL filter

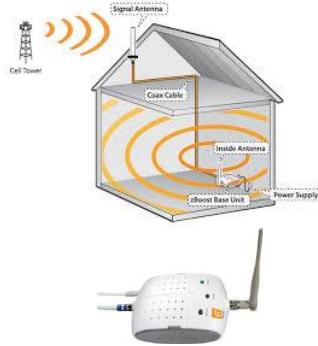
Cable

- Must be available – physical cable connection
- Can provide phone, television and high speed internet
- Speeds begin 3-5mbps and max out approx 60 mbps
- Requires cable modem

ACCESS

Cellular

- Must be available
- Phone, hot spot options
- Repeaters and Signal Boosters (terms vary) available
- SB require coax hi speed access



ACCESS

WISP

- Wireless Internet Service Providers
- Localized antenna services
- Speeds, costs and limits vary
- Can reach rural areas if available

Satellite

- Clear view of Southern sky
- Speed limits
- Expensive

NON-CONNECTED ACCESS

- Used for face to face or work situations
- iPod Touch, iPad, tablets
- Non-Connected apps (notes, images, etc.)
- Still teaches digital skills

DECISIONS

- What will the device be used for?
- Where will it be used?
- What is affordable?
- Connected device or not?
- What is affordable? (prepaid, package, etc.)
- Where will the device be used?
- If “connected”; what providers are available?
- What is affordable?
- Setup and Training options?

AZTEDP

- Arizona Telecommunications Equipment Distribution Program
- <http://www.acdhh.org/aztedp>

AZTAP

- Arizona Technology Access Program
- <http://aztap.org/>

QUESTIONS????

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