# HEARING LOSS TECHNOLOGY

## *Leveling The Playing Field*

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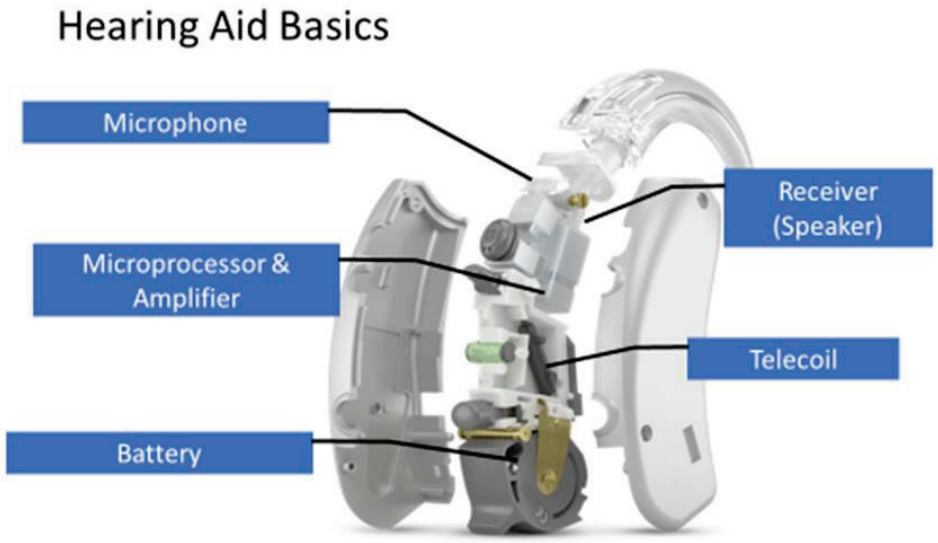
# Objectives

- Demonstrate three technology advances with hearing aids.
- Demonstrate at least one accessibility solution for each of the following: school, work, home, and community access.
- Demonstrate three apps that create access for hearing loss on mobile technology devices.

# Hearing Aid Sizes

# Hearing Aid Basics



# Features and Functions

- Telecoil
- Programs
- Directional microphones
- Bluetooth
- Connectivity
- Fall detection
- Health and body data

# Telecoils

- Telecoil: small coil of wire inside a hearing aid that is designed to pick up a magnetic signal.
- T-Coil
- T-Switch
- Telephone Switch

- Telecoil (T) only

*No other sounds*

- Telecoil/Microphone (T/M)

*Telecoil and Microphone sound combined*

# Telecoil FAQ

- Position matters
- Size matters
- Fits in most aids and implants
- Activated by switch or program button
- “Doubles” what the hearing aid can do

# Telecoils Work with

- Telephones
- Neckloops
- FM systems
- Looped facilities

Telecoil must be in "manual" mode not automatic mode

# Telecoil Mishaps

- Not installed in the hearing aid
- Not activated by the audiologist or hearing instrument specialist
- Automatic setting
- No training on what it can do
- Provider bias

# Bluetooth

- An option for some hearing aids
- Requires a “streamer” (in most cases)
- Pairs the streamer to phones and audio devices
- Does not replace the need for a telecoil

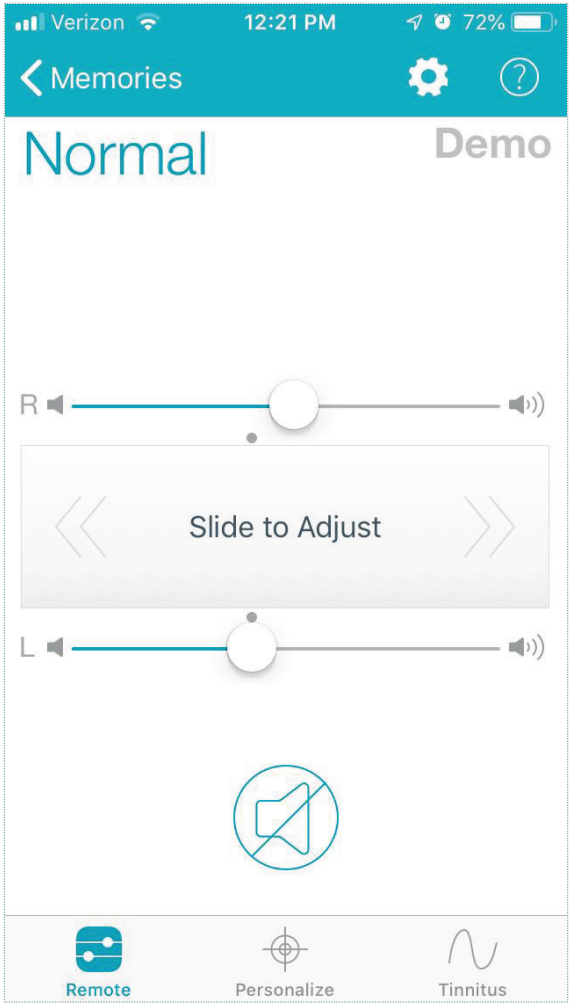
# Streamers

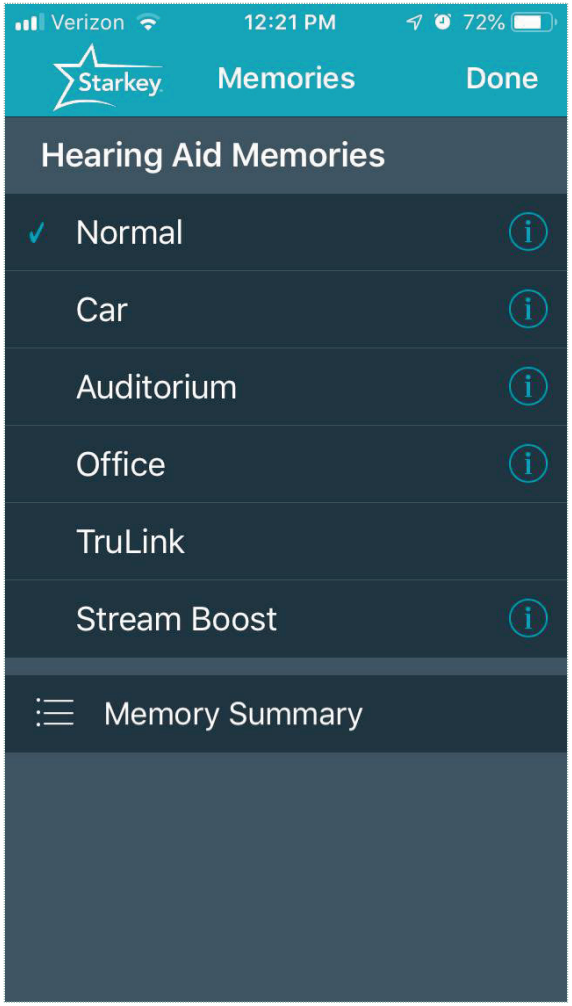
- Remote control
- A “go between” device
- Proprietary connection to the hearing aid

# Phones as Streamers

- Smartphone app becomes the “streamer” for remote control functions and Bluetooth communication
- Apple Accessibility (Live Listen, Mono Audio, Closed Captions)

# App Example


Verizon
12:21 PM
72%
Memories
Normal
Demo
R
Slide to Adjust
L
Remote
Personalize
Tinnitus


Verizon
12:21 PM
72%
Starkey
Memories
Done
Hearing Aid Memories
Normal
Car
Auditorium
Office
TruLink
Stream Boost
Memory Summary

# Assistive Listening Devices (ALDs)

- Personal amplifiers
- FM systems
- Loop systems
- Streamer ad-ons

# Ear Pieces

# Neckloops

# Personal Sound Amplifiers

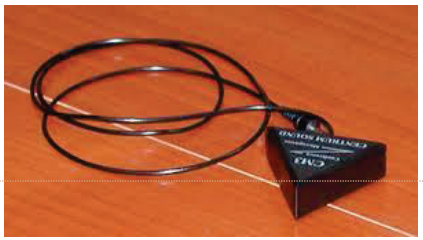
- Components: single or dual ear
- Amplification: 15-28dB amplification
- Options: telecoil and bluetooth (BT) models
- Considered: over-the-counter hearing aids
- Costs: $25-$800

# ALDs: Hard Wired

- Components: single unit with ear piece
- Operation: hard wire connection between speaker and listener
- Uses: one-to-one, car conversations, and television
- Cost: $15 - $450

# ALDs: Personal FM

- Components: transmitter, receiver, ear piece
- Operation: wireless, through walls, distance
- Uses: school, church, and community
- Costs: $200-1500



# Loop Systems

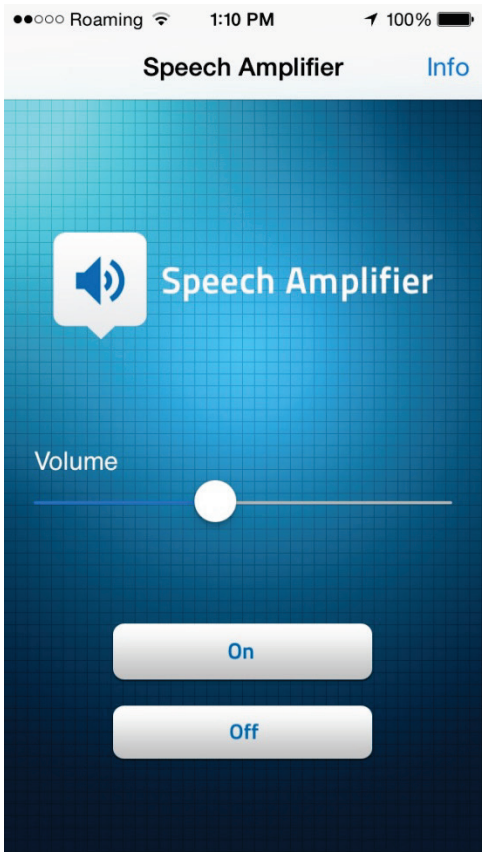
- Components: room or area
- Operation: wire creates area and telecoil picks up the sound signal from PA system or mic
- Uses: churches, meeting spaces, counters, theaters, and schools

# ALDs: Infrared Systems

- Components: transmitter and receiver
- Uses: television or movie theaters
- Operation: direct line of sight
- Costs: $100-$300

# ALD Apps

soundAMP R
Start Recording
Replay
Tune
Zoom
Volume
MULTITASK MODE
OFF
Library
Settings
Info
Help


Roaming
1:10 PM
100%
Speech Amplifier
Info
Speech Amplifier
Volume
On
Off

# Telephone Access Options

- In-Line amplification
- Amplified telephones
- Voice Carry Over (VCO)
- Phone line extenders
- Captioned phone services
- Large print caption phone services
- Web and mobile caption phone services
- TeleBraille
- Cellular options

# Telephone FAQ

- Landline phones must be hearing aid compatible
- Some need an added magnet to make the telecoil signal stronger (rare)
- Neckloops can be plugged into landlines or cellphones
- Bluetooth neckloops can be paired with cell phones and landlines (with hub)

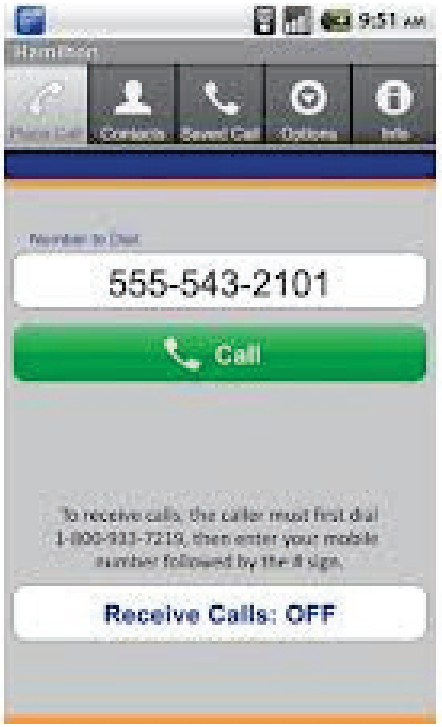
# Telephone Devices

# Captioned Telephones

- Analog only
- Analog and data combo

# Caption Services

- Web based captions
- Caption apps



# Relay Services

- Phone or internet based services
- Video Relay (VRS)
- Free

- Video Remote Interpreting (VRI)
- Fee based sign language interpreting

# How Relay Works

# VRS vs. VRI

**Video Relay Services**

- TELECOMMUNICATION
- No cost to users
- Videophones, computers, smartphone and tablets
- Used to make or receive telecommunication from one location to another

**Video Remote Interpreting**

- INTERPRETING
- Fee Based
- Videophones, computers, smartphone and tablets
- Used for remote interpreting between one or more

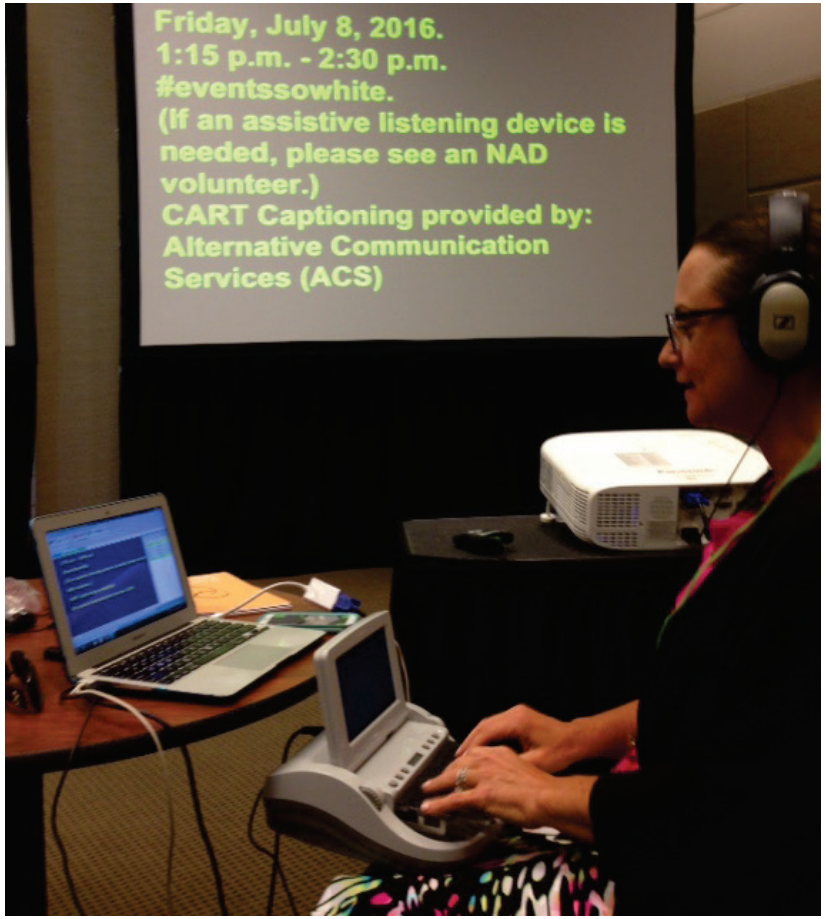
# Electronic Communication

- Text messaging
- Instant messaging (Skype or Hangouts)
- Apps (Glide or Convo)
- Video Relay
- Video Interpreting

# Captions and Text Interpreting

- Remote or Live?
- Transcription or Translation?
- C-Print
- Typewell
- Automatic

# Communications Access Real-Time Translation



# Speech to Text Considerations

- Technology
- Connectivity
- Environmental
- Experience
- Language or reading skills

# Communication Options Summary

- Handwritten notes
- Typed notes (laptop, Ubiduo, iPad)
- Text Messages
- Instant Messaging
- Email
- Fax
- Apps
- Text translation

- Sign Language Interpreting
- CART (Communication Access Realtime Translation)
- Relay services
- Video Interpreting
- Video Relay

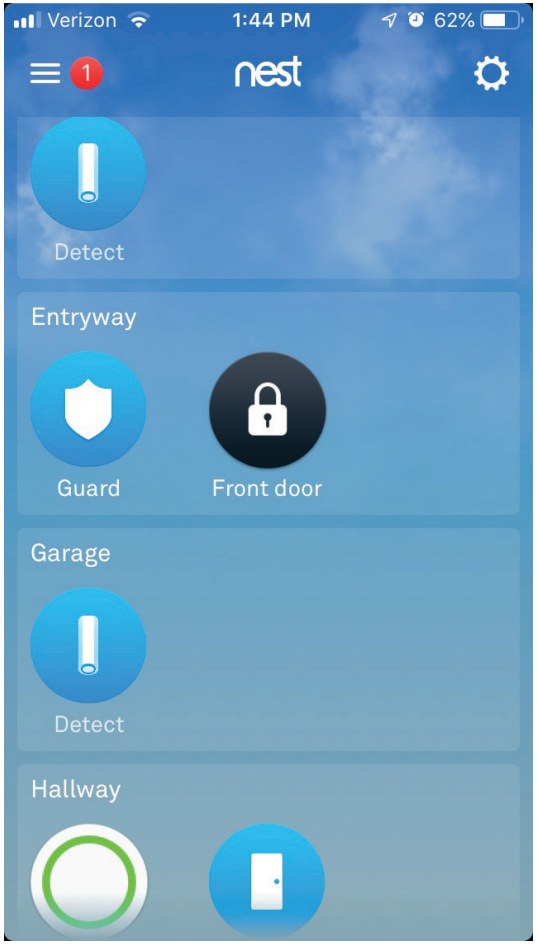
# Signaling

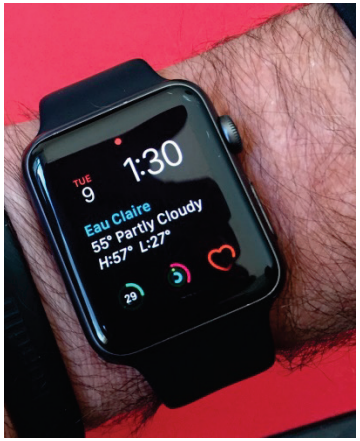
- Central Alert
- Silent Call
- Sonic Alert
- Alertmaster

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

# Signaling Devices

# Smart Technology



# Computer Access

**Microsoft Access**

- Visual Alerts and notifications
- Captions (instructions)
- Sound settings
- Hearing loss tech resources

- Microsoft Accessibility Guide

**Apple Access**

- Facetime
- iMessage
- Captions
- Screen flash
- Sound settings

- Apple Accessibility Guide

# Computer Access and Apps

## Google Access

- Browser extensions
- Captions
- Alerts and notifications
- Hangouts

- Google Accessibility Guide

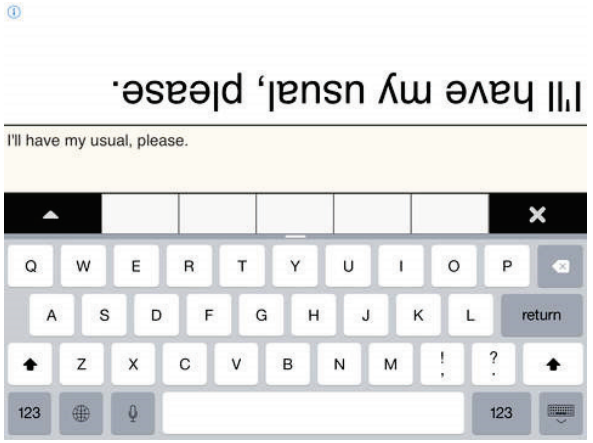
## Apps

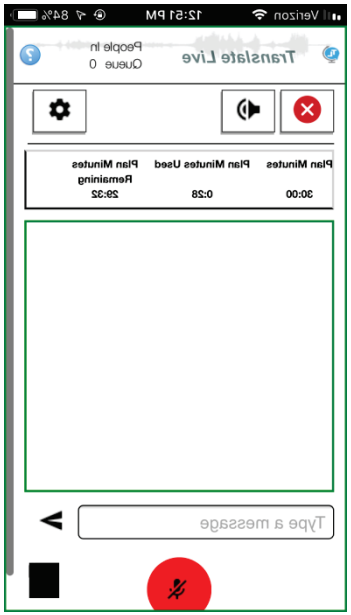
- Outreach Apps Handout
- APPS for iOS Handout
- APPS forAndroid Handout

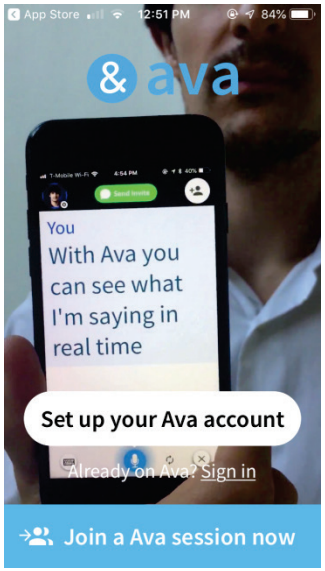
# Apps

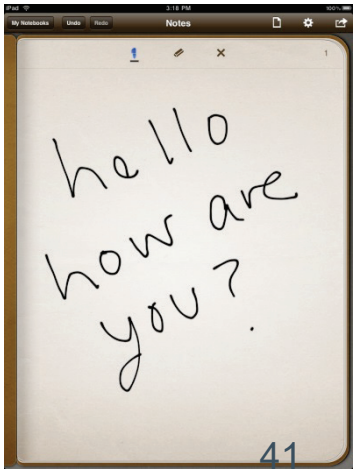
3:15 PM
Speak it!
I love peanu
Done
Speak it!
T
Q W E R Y U I O P
A S D F G H J K L
Z X C V B N M
123
space
return

Ben 4303


I'll have my usual, please.
I'll have my usual, please.
Q W E R T Y U I O P
A S D F G H J K L
return
Z X C V B N M
123
123


Translate Live
Queue 0
People In
Plan Minutes
Plan Minutes Used
Plan Minutes Remaining
30:00
0:28
29:32
Type a message


App Store
12:51 PM
84%
&ava
You
With Ava you can see what I'm saying in real time
Set up your Ava account
Already on Ava? Sign in
Join a Ava session now


Notes
hello
how are you?

# Non Techy Tech

# RESOURCES

- Hearingloss.org
- Harris Communications(vendor site)
- Hear Wisconsin (vendor site)
- Hearing Loops
- Hearing Loss Association of America

# QUESTIONS?

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