Phonak Work Life

hearing solutions for the classroom and workplace
Agenda

1. Mission
2. Why consider hearing assistive technology - Justification
3. Phonak Work Life Solutions
4. e-Learning options
5. Safety/Disinfecting Roger
6. What next?
Mission

• Provide innovative hearing solutions for adults in the post-secondary education and the workplace
  – Holistic approach
• More than a hearing aid – complete solution
Current United States Landscape:

- According to research conducted by Johns Hopkins Medicine 20% of adults report some degree of hearing loss; about 48 million people.
  - 60% of the people with hearing loss are either in the workforce, or in educational settings

- Of those who could benefit from hearing accommodations, some hesitancy to identify themselves still persists
  - Stigma
  - Lack of knowledge regarding resources available, especially new resources!

- When hearing loss is identified a hearing aid is typically the first device prescribed…BUT
  - Hearing aids are a solution for near field situations
    - Workplace/classroom is typically a far field situation
Noise

- Background noise negatively impacts signal to noise ratio; masking important speech information necessary for understanding

- Hearing aid directional microphones only improved the SNR between 3-5 dB. (Ricketts, 1999).
  - For individuals with hearing impairment, the SNR loss is around 12 dB, dependent on severity of loss (Wilson and McArdle, 2005)
  - An FM/DM system can boost the SNR at the hearing impaired individuals ear by 15-25 dB. (Hawkins, 1984; Crandell and Smaldino, 2000).

- Adds a extra layer of difficulty in sound localization
Distance

• The greater the distance the poorer the sound quality

• With greater distance the lower the dB SPL reaching the ear
  -Inverse square law: with each doubling of distance there is a 6 dB SPL decrease
Reverberation

• Reflection of sound (especially late reverberation) from hard surfaces in a room can increase the background noise = lower signal to noise ratio; as well as a degraded signal reaching the ear.

• Examples
  1: Brick walls
  2. High ceilings
  3. Bare or tile floors
  4. Chairs with no dampening
Noise + Distance + Reverberation = help!

- With conversational speech in 60 dB of noise the SNR degrades to 0 dB after only 2 meters (about 3 feet).
Where Roger excels:

- Distance
- Loud hallway
- Noisy meeting
- Quiet environment
- Face to face
- Up to 100 feet
- Omni microphone
- Directional
- StereoZoom
- Noise
…So, why FM/DM wireless technology?

- Hearing aids/directional microphones alone cannot effectively solve all issues!

- What can best improve SNR?
  - FM/DM wireless technology

- FM/DM is not only for hearing impairment!
  - Recent studies have shown FM/DM benefit with CAPD, attention disorders and autism.
Phonak Roger Technology

- Adaptive, wireless transmission on the 2.4 GHz band
- Frequency hopping
  - Avoids interference issues
  - No channels to program or manage
- Fast transmission time
  - No time delay, no echo
- Encrypted signal
- Up to 66-100 ft. range
- Full audio frequency bandwidth
  - 200 Hz to 7,300 Hz
- Bluetooth compatibility – *Roger Pen & Select only*
- Hearing aid/CI Compatibility
- Maximum performance
  - Roger offers the industry’s best ever speech-in-noise performance, with proven improvements of up to 35 % over Dynamic FM technology and 54 % over other FM systems.
Phonak Roger: Products
Roger Pen

*Ideal for lecture, 1 on 1 conversation and dynamic high noise situations*

- The microphone modes in the Roger Pen are chosen automatically (based on the acoustic scene and the orientation of the device), though a manual override is available
  - Lecture (vertical)
  - Interview (45° angle)
  - Conference (flat/lying on table)
- Roger microphones continuously monitor the surrounding background noise level
  - With increasing noise, the output of the Roger receivers increases too, maintaining the good signal to noise ratio delivered by the hearing aids to the ear.
  - This unique behavior has been scientifically proven to deliver outstanding speech understanding in even high noise levels.
Roger Table Mic II

*ideal for group work*

- Especially designed for meetings
- **MultiTalker Network** with several Roger Table Mics or other Roger microphones in the Roger Work Life portfolio
- **Range** – up to 100+ ft to receiver
- **Compatibility** – with virtually every hearing aid & CI there is a compatible Roger receiver.
- Short & Long pick up range (5/10ft)
- **Remote control** – control your listening environment
- **MultiBeam Tech**
- 16 hour battery life
Roger Select

ideal for when MTN is not necessary

- Lapel mode, selection mode, table mode
  - MultiBeam Technology
- Adaptive, wireless transmission on the 2.4 GHz band
- Bluetooth capable
- Frequency hopping
  - Avoids interference issues
  - No channels to program or manage
- Fast transmission time
  - No time delay, no echo
- Encrypted signal
- Up to 66 ft. range
- 8 hour battery life
- Full audio frequency bandwidth
  - 200 Hz to 7,300 Hz
Roger Receivers

• Roger X
  – Mini receiver worn on the HA/Ci or BAHA
  – Excellent compatibility
  – Uses the hearing aid battery as power source

• Roger MyLink
  • Body worn receiver with neck loop
  • Used with T or MT setting on hearing aid
  • Visual indication for on/off
  • Volume control
  • Utilize with t-coil on HA, CI or BAHA
Roger Focus

• On ear solution for students with APD, ADHD, or autism spectrum disorders

• Uses standard 312 hearing aid battery

• Works with all Roger microphones

• Comes in wide variety of colors to match skin or hair
Wireless Tech Survey

- How many DHOH students utilize accommodation services?
- How many DHOH students at your college in total?
- How many students utilize an FM system?
- If you know your current FM system, who manufacturers it?
- What is your name and college?
- What is your best email and phone?

- Email answers to:
  - Bill.Bielski@Sonova.com
Using Roger™ technology to assist in classroom Speech-to-Text solutions

Overview

By connecting a Phonak Roger MyLink into a student's or classroom computer, students can receive live, automated captions. The voice of a teacher or peer using Roger microphone technology is transmitted to third-party software to create automated captions. Then students can read, in real-time, the captions created during the lesson. Archival and translation of the lessons is also available through these captioning services.
What is it?

Students can follow the lesson on their personal computer, mobile device or embedded in the instructor’s presentation.

- Produce live, automated captions for your teaching session
- Create automated speech-to-text notes and a “history” of what was said
- Provide translations in over 60 languages
- Read captions on a student’s mobile device, tablet, laptop, (“personal device”) or the classroom’s white board
- Can be used with the PowerPoint software or the web-based PowerPoint app
- Can be used with non-ear level Roger receivers (ex Roger MyLink)
- Each captioning service will interact with your computers or tablets slightly differently, so partnering with your school’s IT department will be important

Live, automated captioning providers

To learn more about these services, visit the provider’s website:

Microsoft Translator
https://translator.microsoft.com/help/education/
Roger technology to optimize captions

Roger MyLink

What is the MyLink?

- It is a personal, non-ear level Roger receiver.
- It has a telecoil loop and headphone output.
- The headphone output is 2.5mm.
- It is portable, battery operated and rechargeable.
When to use the MyLink

- For students who change classrooms or have their own computer, they should have a dedicated MyLink to connect to their personal device. The student can connect the MyLink at the start of the day, then leave it connected to their personal device, to have captioning throughout the day.
- In the classroom, where captioning benefits multiple students.
- It is great for students with hearing loss and also for language learners who may not speak or understand the language of the classroom well.

For captions with the MyLink, you'll need:

- a dedicated MyLink (it cannot be in use by the hearing aids for Roger audio input),
- audiocables (see next page),
- a stable and fast internet connection throughout the day, and
- any Roger microphone, including Roger for Education microphones (e.g. Touchscreen Mic and Roger inspire) AND Roger for Home microphones (e.g. Roger Select and the Roger Pen).
Setting up the MyLink with a personal device that has a USB input

- Power on (green light should be showing) and pair to Roger microphone by pressing connect on the transmitter within 2–4" of the MyLink.
- Use a 2.5mm male to 3.5mm male audio cable to connect the MyLink to a Pure Audio USB Adapter cable (sold by Success for Kids with Hearing Loss or Amazon). Plug the 2.5mm end into the bottom of the MyLink and the 3.5mm end into the pink input of USB adapter.
- Plug the USB adapter into the personal device's USB port.
- Please see the Final set up steps section on the last page.
Final set up steps

Once you’ve set up the MyLink to the student’s personal device, select the default microphone on the student’s personal device. You’ll want to choose the option on your device that is equivalent to the "Mic In" plug in. See picture for an example. If you are unsure how to do this, speak with your IT department or do a simple Google search for "how to select microphone in on [insert personal device name and type]."

Be sure the speaker is using their best “teacher voice” to improve transcription quality.

Cables mentioned

Unless stated otherwise, all cables above can be purchased from Amazon.
Connecting Roger Mics for eLearning
1. Make sure you have switched on your Roger Pen/EasyPen.

2. Plug the rectangular end of the short audio cable into the bottom of your Roger Pen/EasyPen.

3. Plug the round end of the short audio cable into the headphone output of your computer or portable device. **Figure 1**

4. Select “Headphones” from the pop up menu on your computer. **Figure 2**

5. Control volume by clicking on speaker icon on the bottom right corner of your computer screen. **Figure 3**
Disinfecting Roger Microphones

**Choice of disinfectant**
A surface disinfectant which is effective to kill enveloped viruses (such as the new corona virus) should be used. Do not use a disinfectant with skin emollients which are often found in hand sanitizers.

Bleach (e.g. containing chlorine or peroxides) and disinfectants containing ethanol must generally not be used as it may damage materials.

Following disinfectants are generally recommended:
- Water-based disinfectant solutions (preferred)
- Alternatively, a solution with 70% isopropanol

**Important rules for the cleaning step:**
- Disinfectant must be used according to supplier specification such as contact time, dry rub after applying disinfectant, drying time and other as applicable
- Wipe the device off with a disposable towel soaked with disinfectant
- Discard towels in waste bin with lid or in an additional self-containing plastic bag
- Never directly spray disinfectant directly onto device, never immerse device in disinfectant
- Make sure openings, in particular microphone openings, are never in contact with liquid as this may damage electronic components
- While wiping the device with disinfectant, do not press any buttons and as long as the device is still wet

**Disclaimer**
Sonova issues these recommendations to provide guidance to its customers and the users of its products. Sonova shall not be held responsible for any damages due to the implementation of the above recommendations. Alcohol based disinfectants may potentially create damage on coatings or sensitive components of the device.
What next?

- For more information visit: www.morethanahearingaid.com/us
- Check out our Blog @: http://us.morethanahearingaid.com/blog/
- Contact me or Helene directly

- For sales and trial info:
  - Helene.rydell@Sonova.com
  - 708-2215363
Thank you!