

Remote Microphone Options For the Kanso

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SD 47 (Powell River)

Auditory Outreach

Provincial Outreach for Cochlear Implants and
Auditory Training Equipment Program



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No DAI (Direct Audio Input) on the Kanso

- 1) Digital Streaming: Cochlear Mini Mic 2+ as stand-alone transmitter
- 2) Adaptive Digital Radio Frequency (RF): Cochlear Mini Mic 2+ as interface (or “relay”), Roger Inspiro as transmitter and Roger X as receiver
- 3) Loop: MyLink (or MyLink +/-Roger MyLink) as receiver, (Roger) Inspiro as transmitter

(1) Direct Streaming

- Cochlear Mini Mic 2+ as transmitter
- Teacher's voice is streamed directly to the Kanso processor



Direct Streaming: Pros

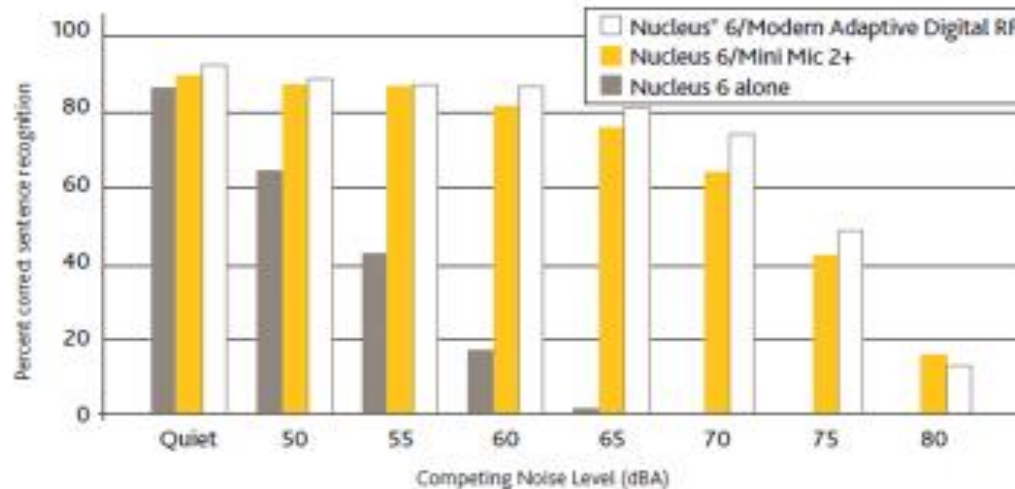
- ▶ User comfort
 - No additional gear on student
 - Smaller and lighter than Roger Inspiro for teacher
- ▶ Conference Mic option
 - Conference mic is activated when placed on table
 - No need to press AUX button
- ▶ Pass around option
 - Easier to pass around than the Roger Inspiro
- ▶ Least expensive option

Direct Streaming: Cons

- Not compatible for other personal FM/RM users
 - Teacher may have to wear two transmitters if another student in class uses personal FM/RM or if Kanso user is bimodal and has personal FM/RM on his/her HA
- Not compatible with existing sound field systems e.g. DigiMaster, DynaMic
- Performance slightly inferior to Adaptive Digital RF, e.g. Roger Inspiro

Wolfe et al. 2016 (unpublished)

Mini Mic 2+ in the classroom

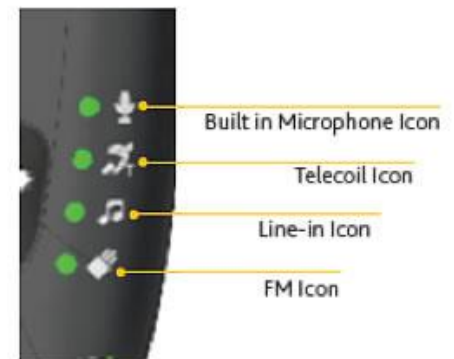


Wolfe et al., "True Wireless and Bimodal/Bilateral Fittings." Presented at ACIA 2016, Toronto, ON.



(2) Adaptive Digital RF

- ▶ Teacher wears RF microphone, e.g. Roger Inspiro
- ▶ RF receiver, e.g. Roger X, is plugged into “FM connector” of the Mini Mic 2+
- ▶ MM2+ in “FM mode” and placed at student’s desk



Adaptive Digital RF - PROS

- Research-proven technology (Schafer & Kleineck, 2009; Thibbodeau, 2014; Wolfe 2013)
- Compatible with users of universal receivers (e.g. Roger X) and sound field systems/pass-around mics
- Advanced features of the adaptive digital RF system such as multi-talker networks, monitoring/checking, adaptive frequency-hopping
- Benefit from both features of the RF transmitter (e.g. Inspiro) and the interface (i.e. conference mic on MM2+)

Adaptive Digital RF - CONS

- ▶ Need for an interface (or “relay”)
 - One more device to store, charge, safe-keep, and troubleshoot
- ▶ Benefits of the use of adaptive digital RF **via an interface** have not been well-documented
 - Previous studies on DAI devices

(3) Loop

- ▶ Teacher wears Adaptive Digital RF Transmitter, e.g. Roger Inspiro
- ▶ Student wears an electro-magnetic loop receiver, e.g. MyLink, MyLink +, Roger MyLink, around their neck
- ▶ Signal is transmitted to the Kanso via the Telecoil program



1. Volume change
2. On/off

Loop: PROS

- ▶ Benefits of Adaptive Digital RF in a less costly way (IF Roger MyLink is available)
 - Research-proven word recognition improvement in noise
 - Multi-talker network, use of digital sound field & pass-mic systems (DigiMaster & DynaMic)

Loop: CONS

- ▶ Student may find wearing the loop around the neck throughout the school day uncomfortable
- ▶ Processor needs to have a pre-activated telecoil program (RM option needs to be decided before the child leaves BCCH)
- ▶ Loan bank availability and product issue
 - Current issue with manufacturer's defect on the Roger MyLink. Fix date unknown.
 - Depleted stock of MyLink +
 - PRP only has the MyLink available currently

Which RM option to choose?

References

Schafer, E., & Kleineck, M. (2009). Improvements in Speech Recognition Using Cochlear Implants and Three Types of FM systems: A Meta-analytic Approach. *Journal of Educational Audiology*, 15; 4-14.

Thibodeau, Linda (2014). Comparison of Speech Recognition With Adaptive Digital and FM Remote Microphone Hearing Assistance Technology by Listeners Who Use Hearing Aids. *American Journal of Audiology (AJA)*, Vol23, 201-210.

Wolfe, J., et al. (2013). Better Speech Recognition with Digital RF System in Study of Cochlear Implants. *Hearing Journal*, Vol.66-7, 24-26.

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