

### Roger Pen and Roger Clip-On Mic:

Adult Solutions



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### Disclosure in accordance with ASHA CEU Requirements

- Cheri Hebeisen, Au.D, CCC-A
- Customer Trainer
- Cheri Hebeisen, Au.D, CCC-A has been an audiologist for over 11 years. She earned her Doctor of Audiology degree in 2003 from the University of Florida and her Masters of Communication Disorders in 2000 from Louisiana State University Health Science Center in New Orleans. Prior to working as a customer trainer for Phonak, her clinical experience included diagnostics for pediatrics through geriatrics, hearing aid and FM fittings and evaluations, as well as, auditory processing disorder evaluations.
- I have a financial relationship to disclose:
  - Employee of Phonak who receives a salary
- I have no nonfinancial relationship to disclose

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### Learner Objectives

- Participants will be able to describe how Roger differs from Dynamic FM.
- Participants will be able to describe which situations an adult with hearing loss can use the Roger Pen in.
- Participants will be able to describe how the Roger Pen and Roger Clip-On mic are different.

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Phonak Bolero Q – Capturing voices,  
captivating looks



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Phonak Virto Q – explore life's rich soundscapes with  
confidence



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Audéo Q  
Small package. Big performance.



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Naida Q  
Life changing power



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Phonak Sky Q




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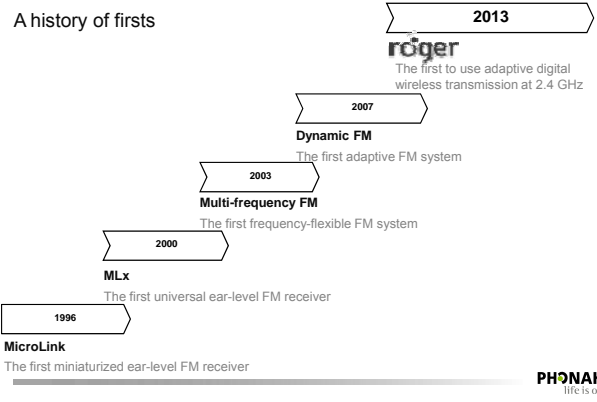
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A history of firsts




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Why the name Roger?

- Roger comes from aviation
- It means *message received and understood*

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Bridging the understanding gap with Roger

UNIQUE

Roger is the new digital standard that uses 2.4 GHz technology. It bridges the understanding gap, in noise and over distance, by wirelessly transmitting the speaker's voice directly to the listener.

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What is Roger?

- Roger is a new digital wireless technology standard that replaces FM
- Allows for low delay and reliable long-range broadcast towards miniature, low-power receivers
- Operates on 2.4 GHz band (ISM), with intelligent adaptive protocols
- Audio bandwidth up to 7300 Hz
- Privacy is guaranteed

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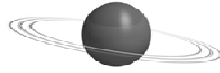
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Digital wireless characteristics

- 2.4GHz ISM – Globally License Free
- Audio signals are sampled and digitized
- Then packaged in very short (160  $\mu$ s) digital bursts of codes (packets)
- Packets are broadcast several times, each at different channels between 2.4000 and 2.4835 GHz
- Audio Delay is less than 25 ms



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Roger compared to Bluetooth

- 2.4GHz with multiple protocols
- Packet Broadcast / Re-broadcast
- Power consumption
- Receiver limitations – maximum of 3
- Compromise between bandwidth and audio delay



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Frequency hopping characteristics

- The frequency hopping is adaptive - only free channels are used
- Receivers and transmitters are continuously searching for free channels and to avoid occupied channels
  - Receivers talk back to microphones about occupied channels
  - Microphone automatically 'hops' around the occupied channels
- Roger Microphones can 'sense' the presence of WiFi and respond accordingly

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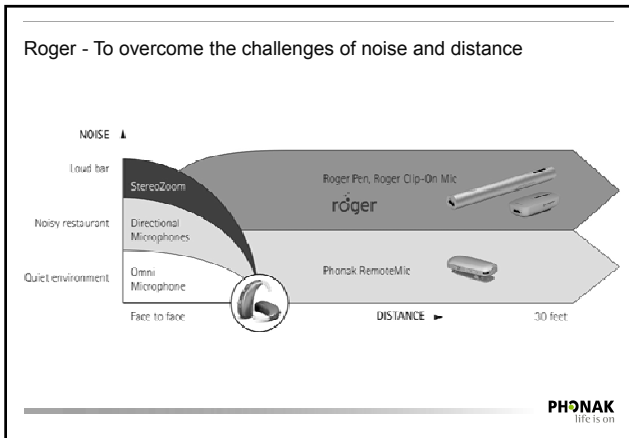
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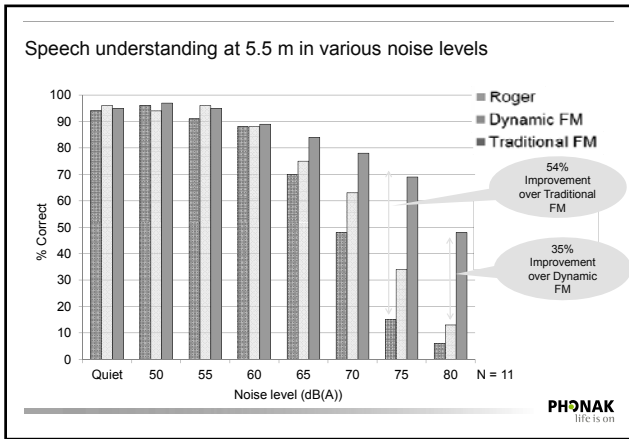
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Maximum performance	Zero Hassle	Universal compatibility
		
The industry's best ever signal-to-noise ratio	One-push connection of receivers and microphones	Available for almost every hearing aid and cochlear implant

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Roger for adults portfolio röger

Roger microphones		Roger receivers (03)		
				
Roger Pen	Roger Clip-On Mic	Design integrated Roger receivers	Roger X	Roger MyLink

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Roger Pen röger



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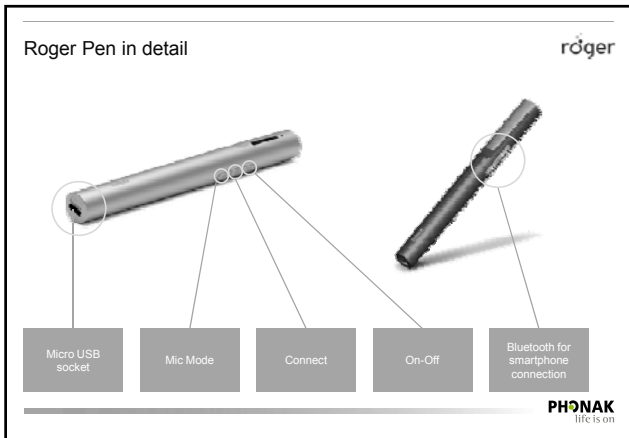
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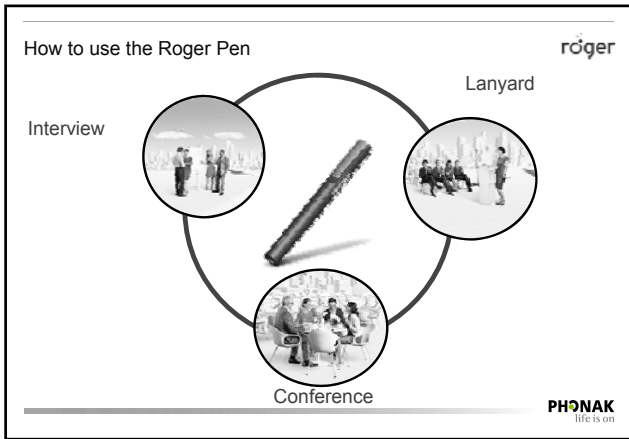
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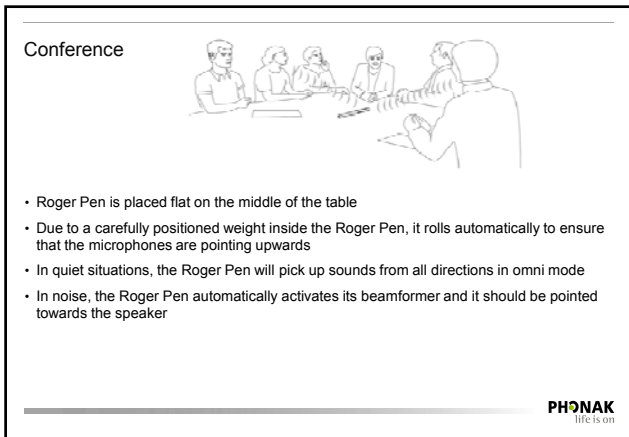
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### Interview



- In a quiet environment, soft voices or speakers further away can be perceived as acoustically closer
- In a noisy environment, the speaker's voice can be filtered out from the noise



The microphone should not be covered by fingers

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### Lanyard

- Useful for listening to one single speaker
- Same signal processing as iLapel in inspiro
- Voice activity detector will be enabled to attenuate the microphones when the talker does not speak
- Lanyard can be adjusted to make sure Roger Pen is within 8 inches of the mouth



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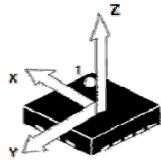
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### The Roger Pen features an accelerometer

- An accelerometer is a small mechanical and electronic component that measures accelerations in three dimensions (X, Y and Z)
- The accelerometer continuously informs the Roger Pen about its orientation with respect to the direction of gravity
- It also tells the Roger Pen when it is accidentally dropped
- Smartphones use accelerometers for instance to rotate pictures to avoid they are ever displayed upside down



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### Using the microphone modes

- Correct microphone settings (gain, beamformer, noise cancellation) are automatically applied depending on three factors:
  - Orientation towards the direction of gravity of the Roger Pen (accelerometer)
  - Environmental noise
  - Volume of voice of interest
- Additional adaptive gain is enabled in all modes to enable maximum performance:
  - When the environmental noise increases, the gain of the receiver is increased
  - No need to program microphone attenuation in the HI or CI




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### Automatic microphone modes

	Conference		Interview	Lanyard
Orientation	Horizontal 		In-between 	Vertical 
Noise level	Quiet (<70dB)	Noise (>70dB)		All levels
Pickup distance	Up to 10 feet all around	Up to 3 feet frontal 	13 feet 3 feet	8 inches
Signal processing	Omni	Fixed Beamformer	NEW adaptive Beamformer	As Roger inspiro with iLapel




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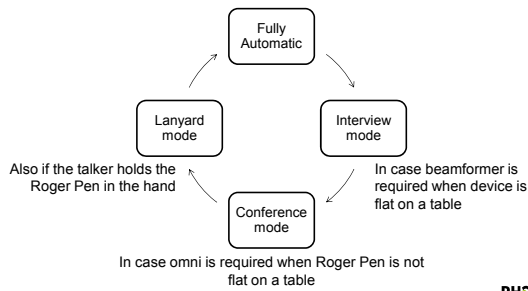
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### Manual microphone modes

Pressing the microphone button will change to a manual mic mode in a sequential manner




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### Other features

- No annoying sound when the Roger Pen drops on the floor or table
- Attenuates loud transient signals like clapping or knocking on the table
- Attenuates noises generated by touching and rubbing of clothes as well as wind noise



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### Bluetooth

- Roger Pen supports hands free and headset profile
  - Accepting and declining phone calls
  - Voice dialing
  - Last number redial
  - Transfer call between phone and Roger Pen
- Wideband audio supported (bandwidth 7 kHz!)
- Up to 8 paired phones
- Up to 2 connected phones (Multipoint)
- Only one active phone call at a time
- Does not support A2DP or playing music



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### Listening to multimedia via audio cable

- Roger microphone needs to be switched on first
- Instant broadcasting of audio signal when audio is played
  - Microphones are muted
  - Device remains in audio mode until cable is unplugged or Roger microphone is switched off



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Roger Clip-On Mic

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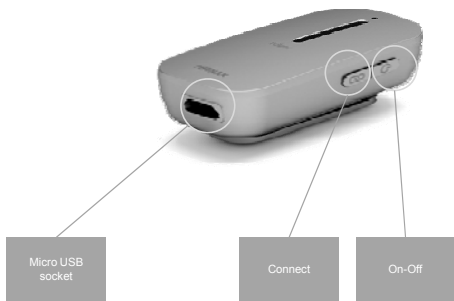
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Roger Clip-On Mic in detail

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How to use the Roger Clip-On Mic

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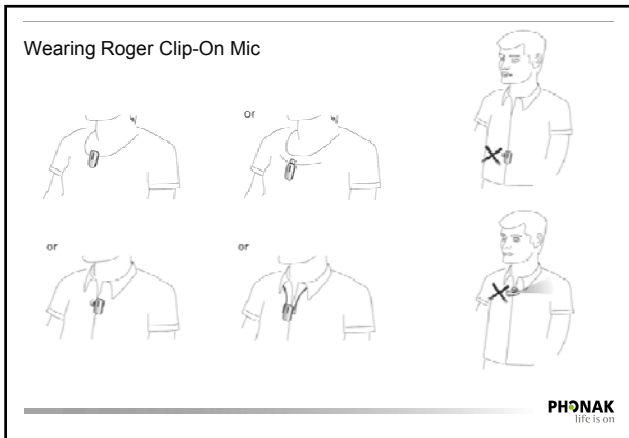
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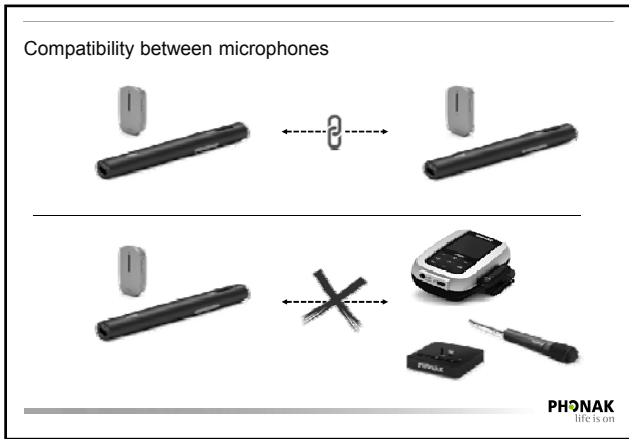
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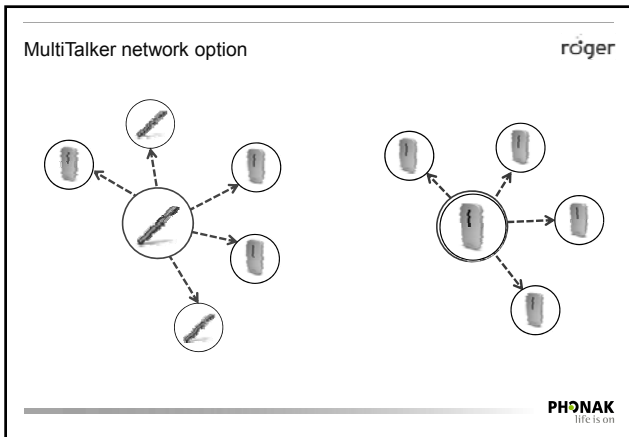
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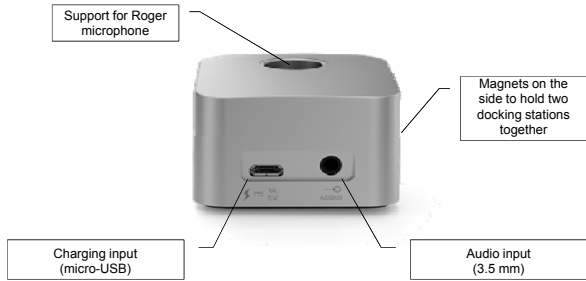
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Docking station – included with Roger Pen and Roger Clip-On Mic



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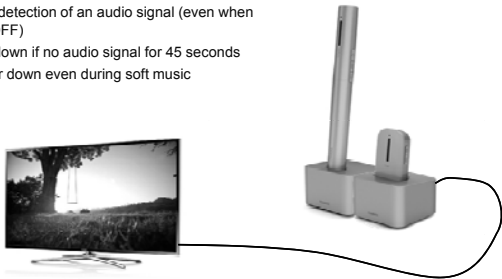
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Listening to multimedia via docking station

- Charging station
- Automatic detection of an audio signal (even when device is OFF)
  - Powers down if no audio signal for 45 seconds
  - No power down even during soft music



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Colors

	Light sterling (T4)	Petrol (T5)	Ruby (P9)
Roger Pen			
Roger Clip-On Mic			

- All devices come with a glossy surface to minimize clothing noise

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Roger for adult highlights

- Lightweight
- Operating time (6-7 hours)
- MultiTalker network with 10 microphones
- Roger Pen offers Bluetooth connectivity



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Roger receivers

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Full compatibility

Compatible with:

- Hearing Instruments
- Cochlear Implants
- Bahas

Via:

- Design-integrated receivers
- Universal ear level receivers
- Universal inductive neck-loop receivers
- Streamer receivers



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Roger X

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Roger X features



- Roger X is the world's smallest universal receiver at 0.83 cm<sup>3</sup>
- Compatible with BTEs, CIs, Baha's, Streamers
- Roger X works fully automatically, no buttons, no programmer
- Operating Range 20m / 66ft
- Power consumption  
Active mode: 3 mA

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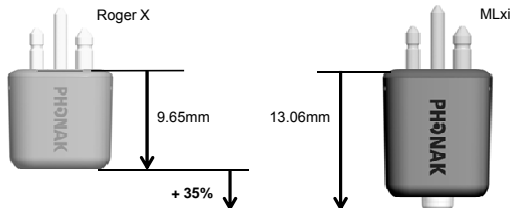
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Size comparison



MLxi is 35% longer than Roger X

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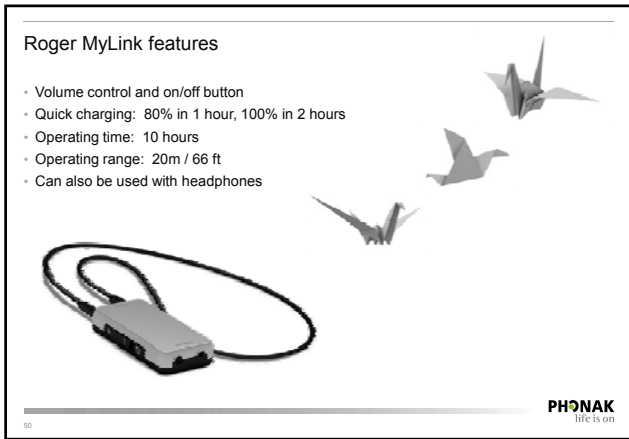
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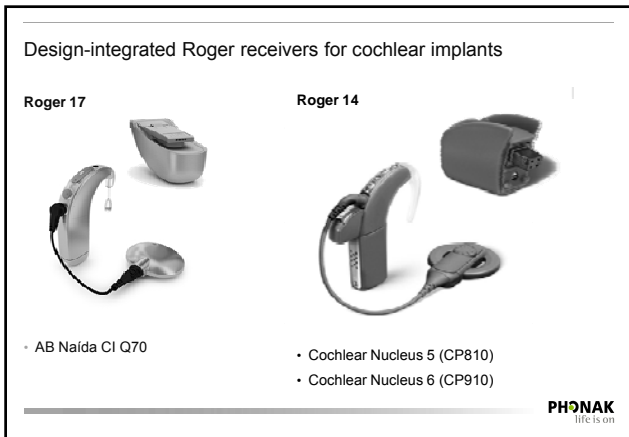
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### Connecting to Roger receivers

- One button click
- Distance ~4 inches from receiver



- Instant feedback:

Indicator light	Meaning
[Green light]	Connection was successful.
[Red light]	No Roger receiver or microphone found. Move the Roger microphone closer and try again.
[Yellow light]	The Roger receiver is not compatible with your Roger microphone.

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### Features 02 vs. 03 Roger receivers

Roger receivers - Education (02)	Roger receivers - Adult (03)
Additional adaptive gain	Additional adaptive gain
Effective stand-by mode	Effective stand-by mode
Unlimited receiver compatibility to one Roger Clip-On Mic	Only two integrated receivers or one MyLink compatible to one Roger Clip-On Mic
EasyGain adjustment	-
Check to read / manage device data via Roger inspiro	-
Link quality measurement	-

- EasyGain can be adjusted via Roger inspiro only

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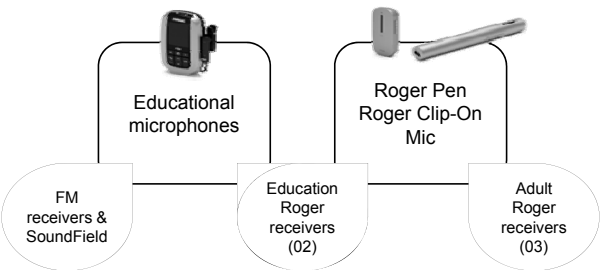
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### Compatibility between microphones and receivers



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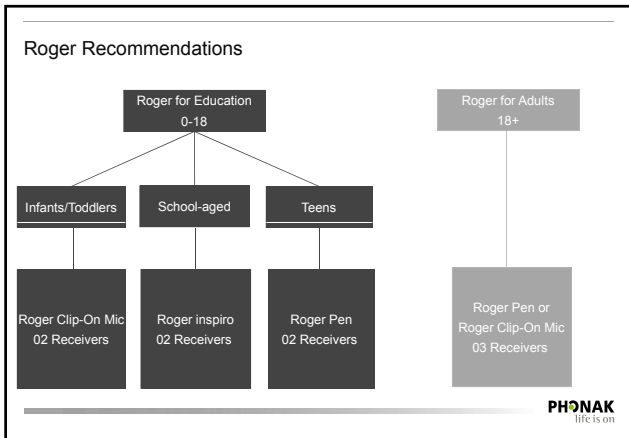
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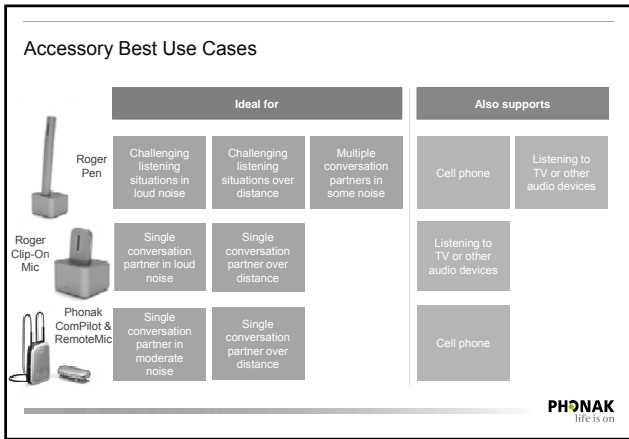
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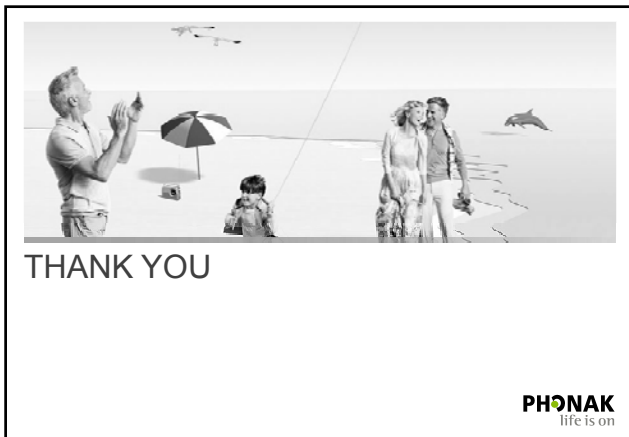
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