

# Conversations Shine with Lumity.

Fall 2022



17



# What do consumers want?

Speech understanding is important. In fact the top 6 areas your patients want to hear better in are related to understanding speech.



Speech understanding when somebody is speaking from a certain distance<sup>1</sup>



Speech understanding in 1:1 conversation in a loud environment<sup>1</sup>



Understanding somebody who is speaking without seeing visual cues<sup>1</sup>



Understand soft speech in a quiet environment<sup>1</sup>



Speech understanding in a group conversation in a loud environment<sup>1</sup>



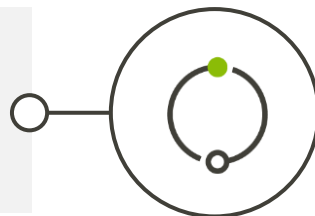
Speech understanding when watching TV<sup>1</sup>

# AutoSense OS™ 5.0

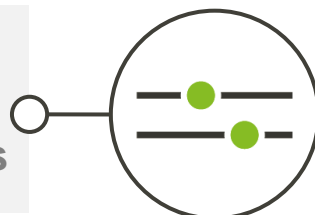
Developed with  
**A.I. based**  
machine learning



Scans the environment  
**700 times**  
per second



**200+**  
unique setting combinations

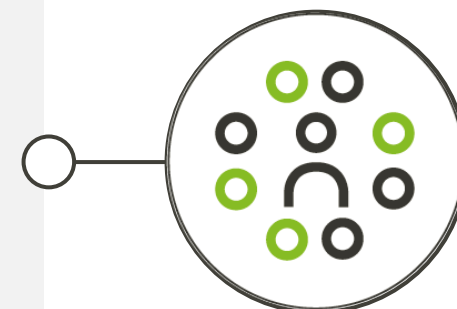


Speech understanding  
**features**  
and comfort



Introducing

**SmartSpeech  
Technology**  
for improved speech  
understanding<sup>1,2,3,4</sup>



1. Appleton, J. (2020) AutoSense OS 4.0 - significantly less listening effort and preferred for speech intelligibility. Phonak Field Study News retrieved from [www.phonakpro.com/evidence](http://www.phonakpro.com/evidence), accessed August, 2022.
2. Latzel, M. & Hobi, S. (2022) Receiver with mechanical vent provides benefit of open and closed acoustics for better speech understanding in noise and naturalness of own voice perception. Accessed August 2022
3. Thibodeau L. M. (2020) Benefits in Speech Recognition in Noise with Remote Wireless Microphones in Group Settings. Journal of the American Academy of Audiology, 31(6), 404–411.
4. Woodward, J and Latzel, M (2022) New implementation of directional beamforming configurations show improved speech understanding and reduced listening effort. Phonak Field Study News in preparation. Expected end of 2022.

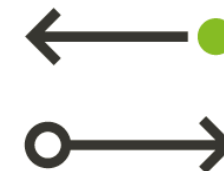
## Made for All connectivity



Made for All connectivity



8 Bluetooth pairings



2 active Bluetooth  
connections

A woman is relaxing in a swimming pool, with her arms crossed and head tilted back. The pool is surrounded by a wooden deck and a house with large windows in the background. The scene is captured in a soft, slightly blurred style, emphasizing a sense of relaxation and comfort. The text "Conversations shine with Lumity." is overlaid on the image in a white, serif font, with a small green dot at the end of the word "Lumity".

Conversations shine with Lumity.

# Audeo Lumity Portfolio



Audéo L-R



Audéo L-RT



**Charger Ease**  
Compatible with Audéo L-R & RT



Audéo L-RL Life



**Charger Case Go™**  
Compatible with Audéo L-RL

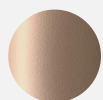
Rechargeable Only



Sand Beige



Beige



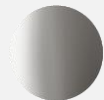
Sandalwood



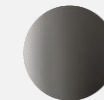
Chestnut



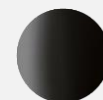
Champagne



Silver Gray



Graphite Gray



Velvet Black




# Compatible with existing receivers



**SDS 4.0**



**ActiveVent Fit 'n Go**



Phonak  
SmartSpeech™  
Technology●

# Phonak SmartSpeech™ Technology



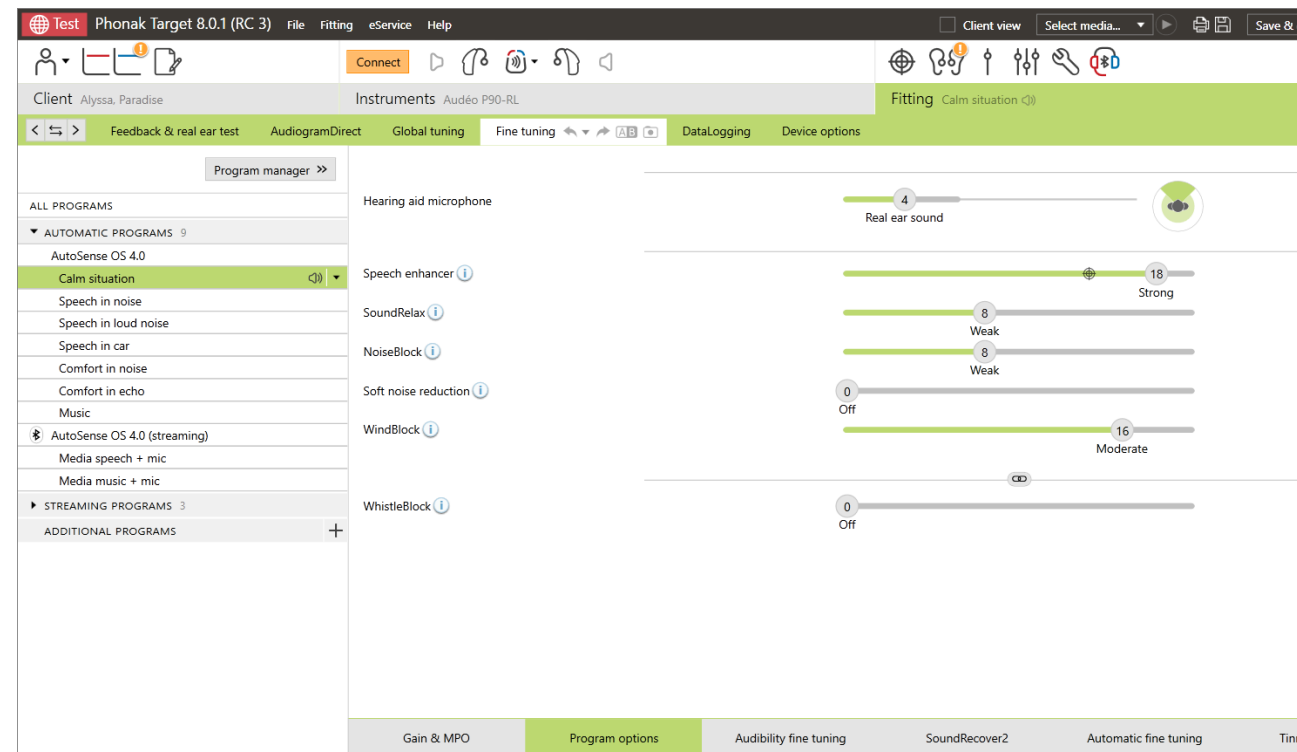






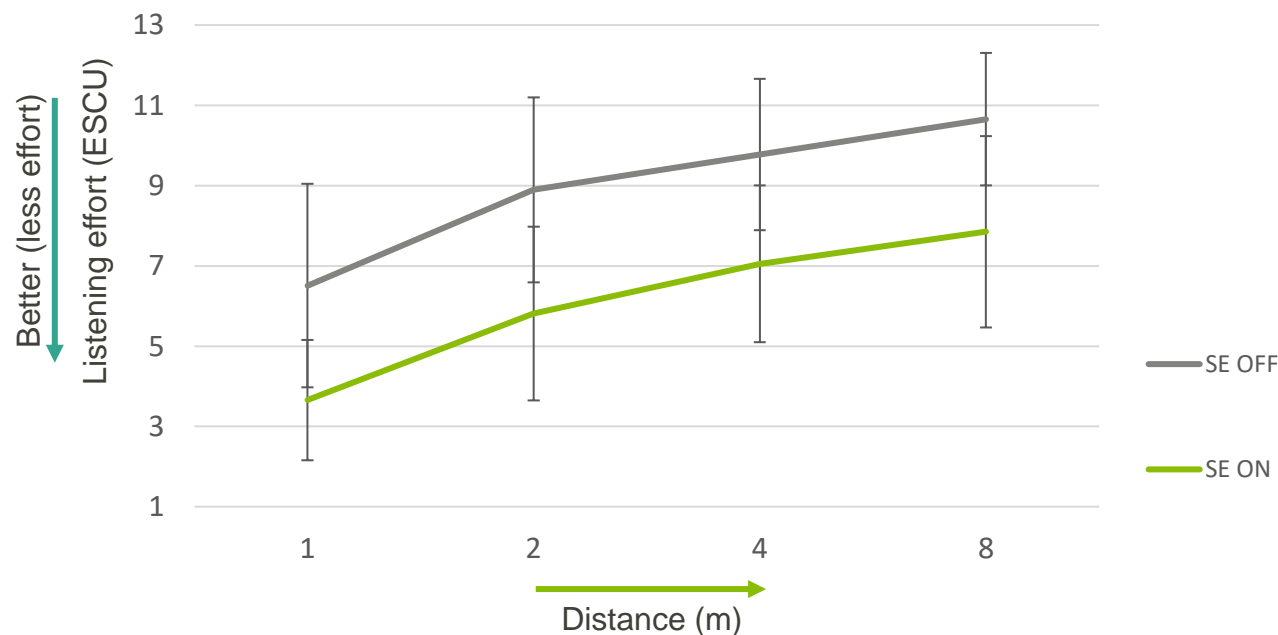
# Speech Enhancer

- Adaptive feature that is designed to enhance the peaks of speech in quiet situations
  - More gain for speech in quiet while maintaining listening comfort and natural sound quality.
  - Less listening effort
- 
- Available only in 90 level technology



# Speech Enhancer—Reduced listening effort

ACALES rating of listening effort for Speech Enhancer ON v. OFF



**ESCU (y-axis) = Effort Scaling Categorical Unit**  
1 = no effort, 13 = extreme amount of effort.



## Motion Sensor Hearing

- Automatically steers the beamformer when walking in noise
- Reduces listening effort
- Patient preference for localization, sound quality



# Benefits of directional microphone technology



**26% better speech  
understanding<sup>\*1</sup>**

\* Compared to unaided, moderate to severe hearing loss

1. Woodward, J and Latzel, M (2022) New implementation of directional beamforming configurations show improved speech understanding and reduced listening effort. Phonak Field Study News in preparation. Expected end of 2022.



# UltraZoom

- Adaptive beamformer applied in the Speech in Noise program
- Improves SNR in noise to improve speech intelligibility
- All levels of technology



# Phonak SmartSpeech™ Technology





StereoZoom 2.0:  
Smoother, smarter,  
stronger●

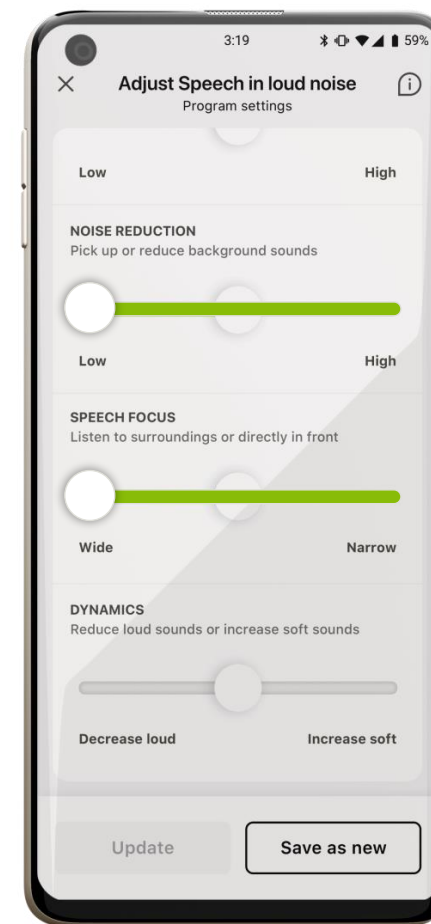
## StereoZoom 2.0: Smoother, smarter, stronger



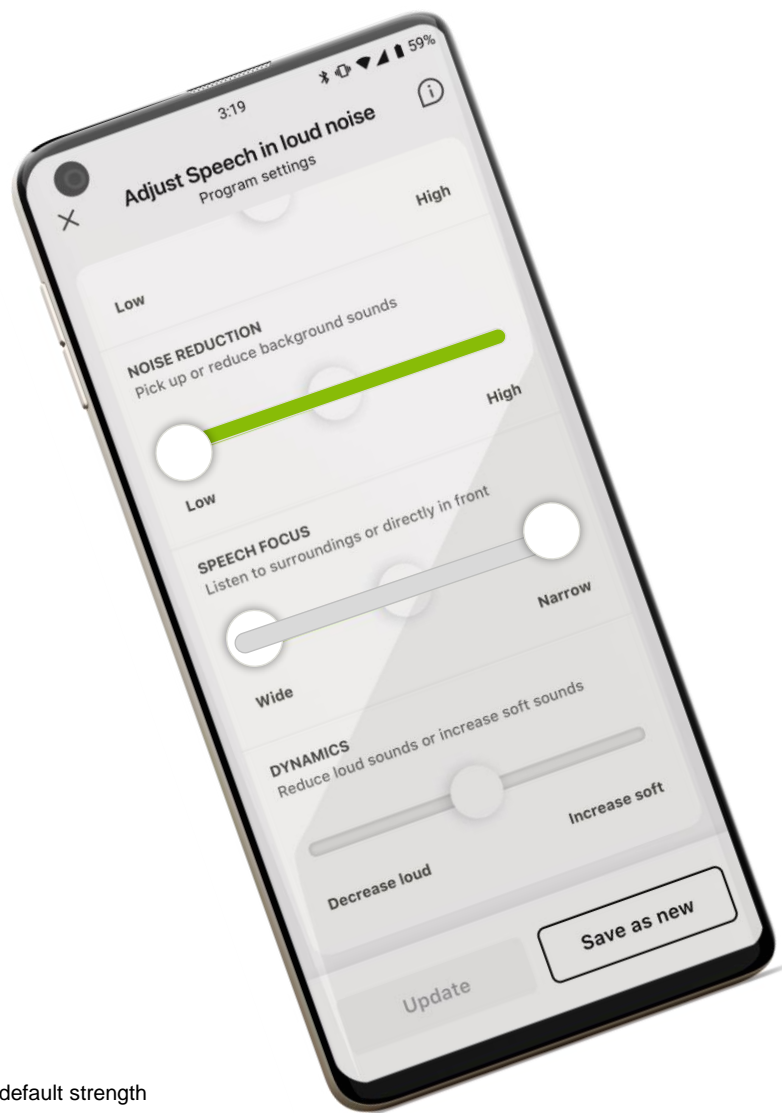
1 **Smooth** transition from Speech in Noise into Speech in Loud Noise.

2 **Smart** noise level dependent activation of strength.

# StereoZoom 2.0: Smoother, smarter and stronger



Smoother, Smarter, **Stronger**



additional  
**2.5dB**  
better SNR\*

## StereoZoom 2.0: Smoother, smarter and stronger

**Smoother** activation

**Smarter** noise level dependent activation

**Stronger** real time adjustment to personal preference





## Hear more conversation from the front

**3.0dB better SNR** for  
speech from front in  
challenging environments\*

Independent study indicated  
that our sense of hearing  
contributes to sense of  
environmental awareness<sup>1</sup>

**2.5dB better SNR** at  
maximum strength compared  
to default strength\*\*



\* Compared to Real Ear Sound with power dome

\*\* with power dome

1. Brungart, D.S., Cohen, J., Cord, M., Zion, D., & Kalluri, S. (2014). Assessment of auditory spatial awareness in complex listening environments. The Journal of the Acoustical Society of America, 136(4), 1808. <https://doi.org/10.1121/1.4893932>.



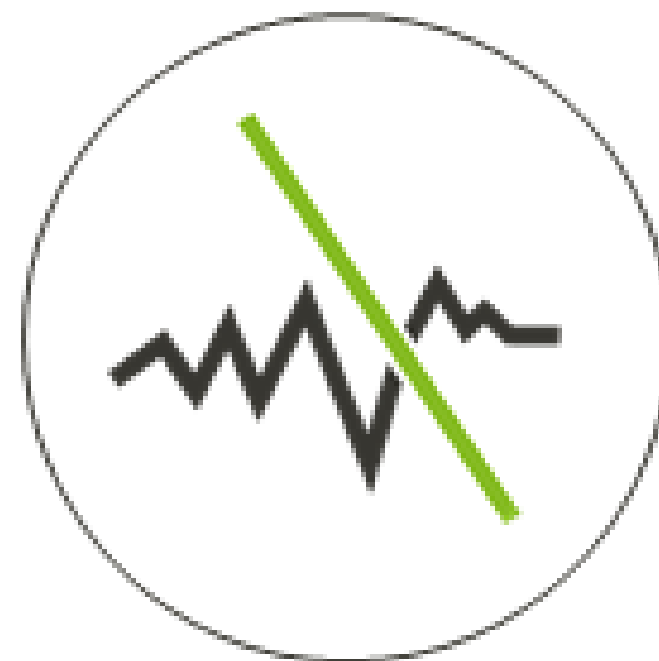
## StereoZoom 2.0

- For focus on speech coming from the front
  - 2.5 dB better SNR than StereoZoom 1.0
  - 16% better speech understanding (compared to fixed directional)
  - Decreased listening effort
- 
- In Lumity:
  - 90-Automatic
  - 70-Manual
  - Can control directionality via Speech Focus slider in myPhonak app



## Dynamic Noise Cancellation

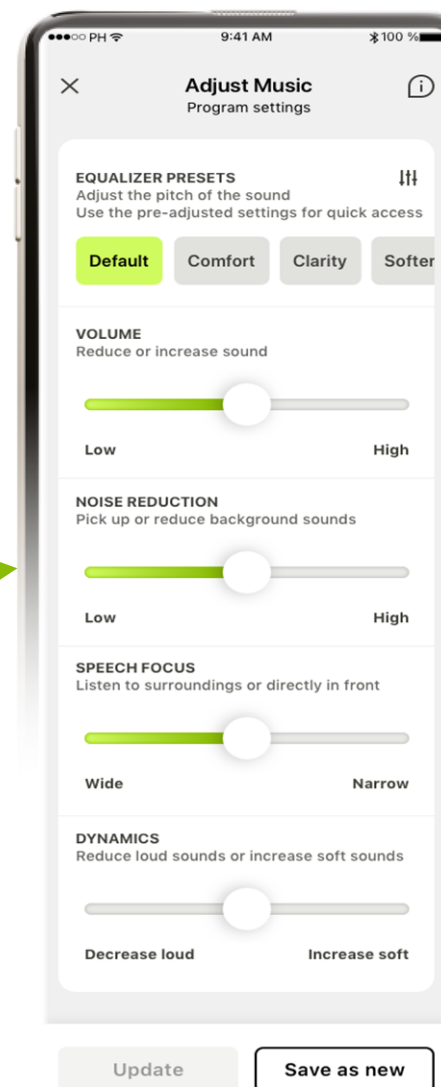
- Spatial noise canceller that works in combination with a directional beamformer to improve the SNR in noise up to 4 dB.
- Reduces noise from the back and sides
- Reduces listening effort
- Personalized in the myPhonak app



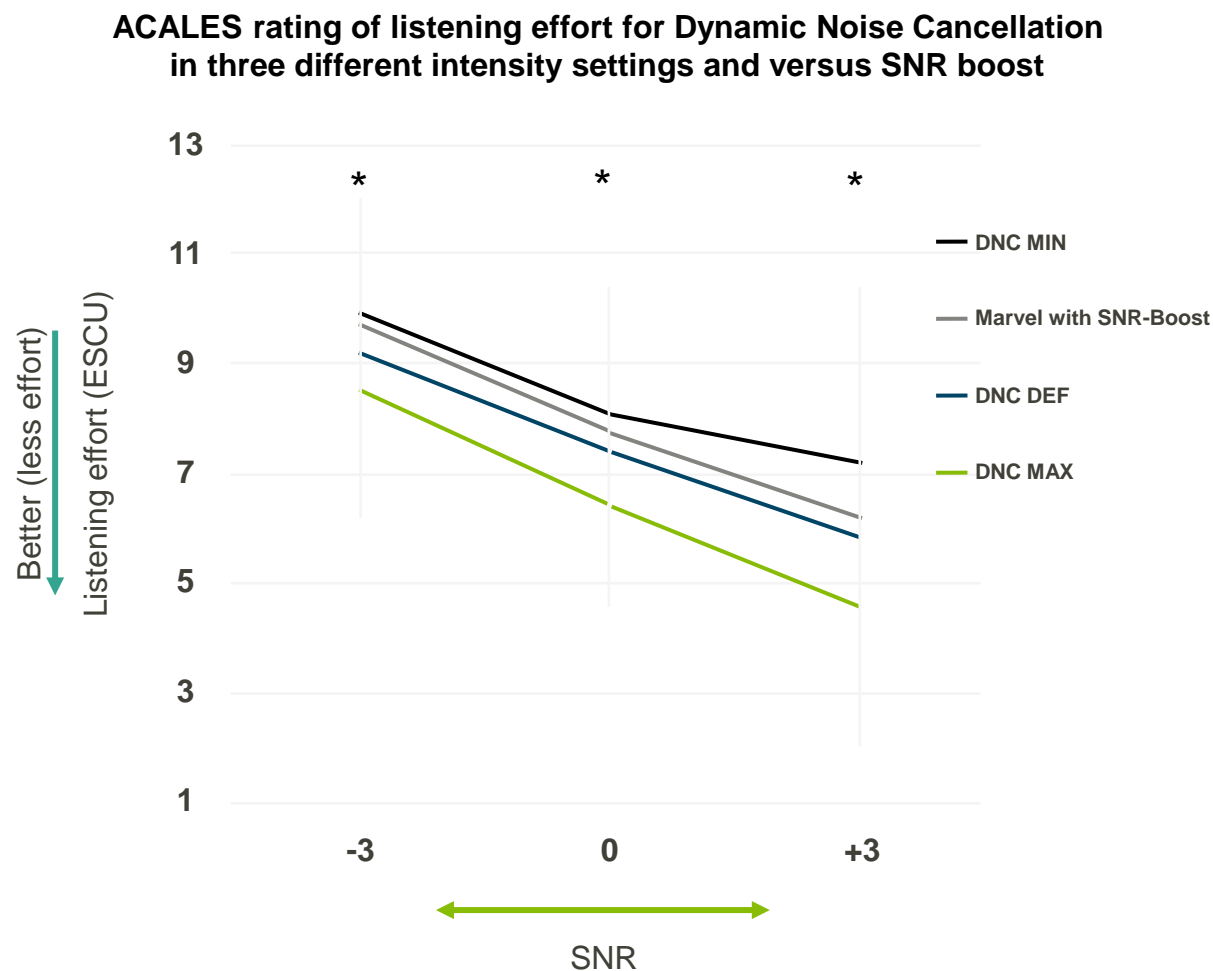
# Dynamic Noise Cancellation-Lumity

- Personalized via myPhonak app
  - With Lumity, DNC is controlled with the “Noise Reduction” slider

Available in 90 and 70 level



# Dynamic Noise Cancellation-Reduces listening effort





SpeechSensor:  
hear more from  
side and back.●

# SpeechSensor

- Spatial speech detection algorithm, accurately detects the direction of the primary speech signal in noise.
- Improved SNR when speech is coming from the sides or back
- Reduced listening effort when speech is not in the front as compared to SZ2.0.



## Speech Sensor: Detect the direction of speech

Constant monitoring of sound environment

360 degree picture of the sound environment

Accurate detection of speech signal in a challenging environment





## Hear more conversations from the side and behind

**3.4dB better SNR** with fixed directional  
when speech is from the side

**2.5dB better SNR** with Real Ear Sound  
when speech is from behind

More access to sound not only provides  
clarity but reduces listening effort<sup>1,2,3</sup>



<sup>1</sup> Hornsby, B.W.Y. (2013). The effects of hearing aid use on listening effort and mental fatigue associated with sustained speech processing demands. *Ear and Hearing*, 34(5), 523–534. <https://doi.org/10.1097/AUD.0b013e31828003d8>

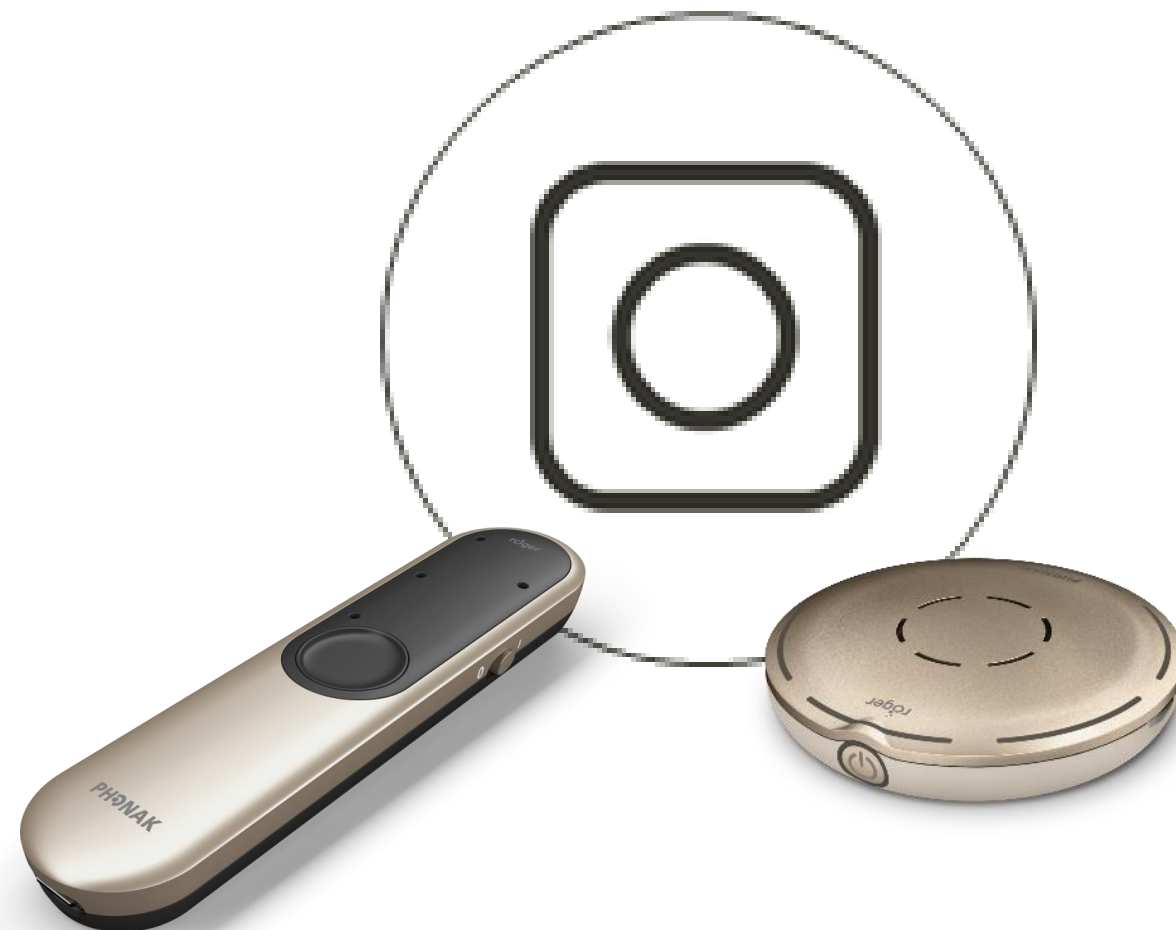
<sup>2</sup> Picou, E.M., Ricketts, T.A., & Hornsby, B.W.Y. (2013). How hearing aids, background noise, and visual cues influence objective listening effort. *Ear and Hearing*, 34(5), e52–e64. <https://doi.org/10.1097/AUD.0b013e31827f0431>

<sup>3</sup> Pichora-Fuller, M.K., & Singh, G. (2006). Effects of Age on Auditory and Cognitive Processing: Implications for Hearing Aid Fitting and Audiologic Rehabilitation. *Trends in Amplification*, 10(1), 29–59. <https://doi.org/10.1177/108471380601000103>



## Roger

- Adaptive remote microphone technology that bridges the understanding gap by wirelessly transmitting the speaker's voice directly to the listener.
- Unique in it's adaptive behavior to keep a positive SNR
- Speech understanding in noise and over distance
- 61% Improved speech understanding in a group conversation with MultiBeam technology compared to hearing aids alone



## Roger™ Technology for proven performance



90%

of Roger users would  
recommend Roger to their  
friends and family<sup>2</sup>

**Achieve exceptional  
speech understanding in  
group conversations and  
over a distance<sup>1</sup>**

<sup>1</sup> Thibodeau L. M. (2020). Benefits in Speech Recognition in Noise with Remote Wireless Microphones in Group Settings. Journal of the American Academy of Audiology, 31(6), 404–411.

<sup>2</sup> Taphuntsang, D. (2019). Market Research ID 1299. Please contact [marketinsight@phonak.com](mailto:marketinsight@phonak.com) if you are interested in further information.

## ActiveVent

- Intelligently combines the hearing performance of a closed fit with the comfort of an open fit
- Improves speech intelligibility 10% in noise when compared to Target's recommended earpiece
- Superior sound quality for streaming media
- Preserves naturalness of own voice perception while improving hearing performance



## ActiveVent : World's first intelligent hearing aid receiver



**10%**

Better speech  
understanding while still  
providing natural sound  
quality<sup>\*1</sup>

**Superior streamed  
sound quality in quiet<sup>1</sup>**

\* Compared to conventional acoustic coupling

<sup>1</sup> Latzel, M & Hobi, S (2022) ActiveVent Receiver provides benefit of open and closed acoustics for better speech understanding in noise and naturalness of own voice perception. Phonak Field Study News retrieved from [www.phonakpro.com/evidence](http://www.phonakpro.com/evidence)

A large, solid green circle is positioned on the left side of the image, partially cut off by the edge.

Target 8.0.

## Same fitting flow, extended benefits

- Features extended to additional performance levels
- QuickSync options
- Hands-free profile (HFP) improvement



## Features across performance levels (1/2)

Features	90 Premium	70 Advanced	50 Standard	30 Essential
Comfort in Echo	✓			
Speech in Car	✓			
Speech in Loud Noise	✓			
Music	✓	✓		
Comfort in Noise	✓	✓	✓	
Speech in Noise	✓	✓	✓	✓
Calm Situation	✓	✓	✓	✓
Streaming Speech	✓	✓	✓	✓
Streaming Music	✓	✓	✓	✓
ActiveVent™ Performance +	✓	✓	✓	✓
Comfort in Echo (manual)	✓			
Speech in Loud Noise (manual)	✓	✓		
Speech in 360° (manual)	✓	✓		
Dynamic Noise Cancellation	✓	✓		
Speech Sensor	✓			

# Features extended to more performance levels

Features	90 Premium	70 Advanced	50 Standard	30 Essential
Speech Enhancer	✓			
Tap Control	✓	✓		
StereoZoom 2.0*	✓	✓		
WindBlock	✓	✓	✓	✓
SoundRelax	✓	✓		
Motion Sensor Hearing	✓	✓	✓	
DuoPhone	✓	✓	✓	
Real Ear Sound	✓	✓	✓	
UltraZoom	✓	✓	✓	✓
SoundRecover2	✓	✓	✓	✓
WhistleBlock	✓	✓	✓	✓
RogerDirect + mic	✓	✓	✓	✓
Tinnitus Balance	✓	✓	✓	✓
Number of channels	20	20	16	12

\*StereoZoom 2.0 available with a manual Speech in Loud Noise program



# QuickSync

## BUTTON FUNCTIONS

- ✓ Volume
- ✓ L/R sync (QuickSync)
- ✓ Program change
- ✓ Accept/end call
- ☐ Mute/unmute mic (not for phone call)



## Phone call and streaming: Connect with the world around you

- Frequency bandwidth for hands-free profile widened from 4.5 kHz (Paradise) to 6.5 kHz (Lumity)
- Widening the bandwidth is for the outgoing voice signal
- Phone call streaming experience at both ends of the conversation. with true hands-free calling



R
BLUETOOTH NAME

R-LUMITY

BLUETOOTH SIDE

R
Right

L
BLUETOOTH NAME

L-LUMITY

BLUETOOTH PHONE

☐ Fixed bandwidth

☒ Adaptive bandwidth



myPhonak app.

## myPhonak app

**Support for hearing aid devices:** Battery monitoring, wearing time and cleaning reminders

**Personalization** of his hearing experience

**Control for speech understanding –** Speech Focus slider and StereoZoom 2.0



Be sure to register in the app for use of Health features

**Health features** including step counting, goal setting, and overall activity levels

**Convenience of Remote Support**

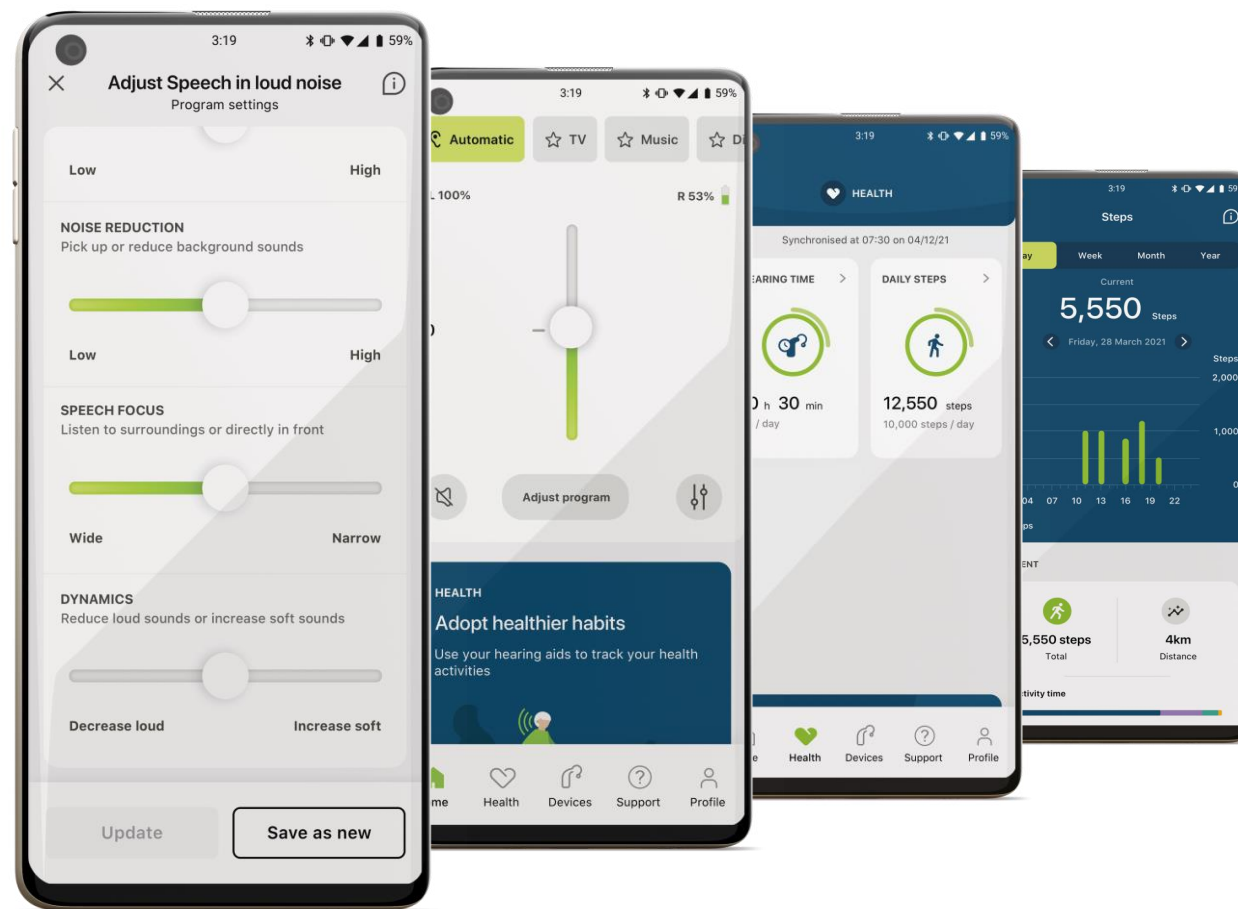
# What's new... myPhonak

## Enhanced user control

- Adjust the strength of microphone directionality in real time
- Enhanced control for Speech Focus and Noise Reduction sliders

## Lumity and Health features

- Tracking steps, activity levels, distance walked or ran and the wearing time



## Be in control with myPhonak





Lumity and Health  
in myPhonak.



# Lumity Health features in myPhonak:

## Key features

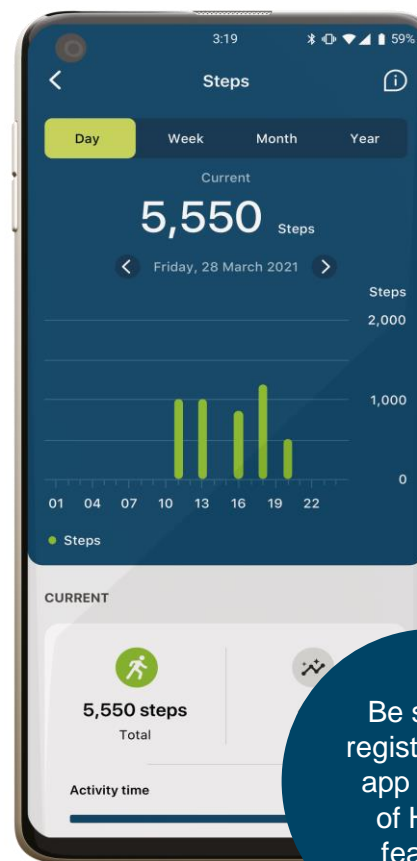
Live step counting



Wearing time tracking



Activity levels



Distance walked and ran

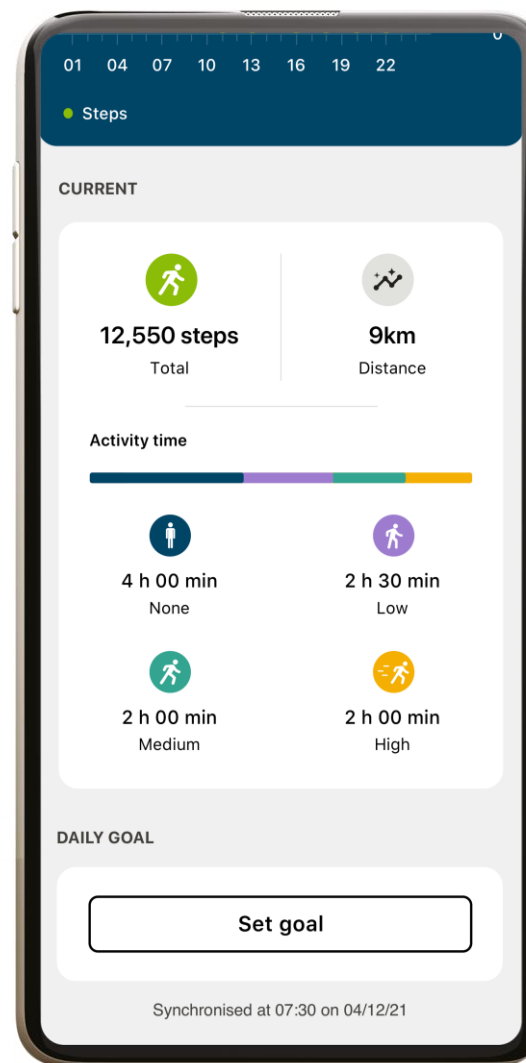


Optional goal setting



Be sure to  
register in the  
app for use  
of Health  
features

# Being active with Lumity



Activity levels are shown as activity time which is broken down into:



**None:**

Hearing aid is on, but no movement is detected



**Low:**

Movement is picked up by the sensor, but no walking is detected



**Medium:**

Walking is detected



**High:**

Running is detected

## Summary of Lumity and health

	Lumity
Separate wearing time for each hearing aid	✓
Average combined wearing time for bilateral Hearing aids	✓
Average wearing time in different sound environments	✓
Steps	✓
Activity levels	✓
Distance walked or ran	✓
Heart rate	
Optional goal setting for wearing time	✓
Optional goal setting for steps	✓



Summary.

Conversations shine with Lumity.



## Lumity features that address Well-Hearing

**Phonak Audéo Lumity hearing aids address these key elements of Well-Hearing with the following features:**

### Features that address speech understanding:

- Motion Sensor Hearing
- Dynamic Noise Cancellation
- SpeechSensor
- StereoZoom 2.0
- ActiveVent Receiver
- UltraZoom
- Roger technology

### Features that reduce listening effort:

- APD 2.0
- Dynamic Noise Cancellation
- Speech Enhancer

### Features that empower health:

- myPhonak app
- Audéo Lumity Life
- AutoSense OS 5.0
- Motion Sensor Hearing
- Roger technology



Together,  
we change lives ●