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  - Click Print
  - Choose # of pages per sheet from dropdown menu
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- On a Mac
  - Open PDF in Preview
  - Click File
  - Click Print
  - Click dropdown menu on the right “preview”
  - Click layout
- Choose # of pages per sheet from dropdown menu
- Checkmark Black & White if wanted.
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Paradise in depth

There's nothing like the sound of Paradise

A Sonova brand

PHONAK
life is on

Learning Outcomes

After this course learners will be able to

- Describe the features benefits associated with the new features.
- Explain how to complete a first fit with the Phonak Paradise.
- Describe when feature adjustments are needed.

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What does the market say about sound quality?

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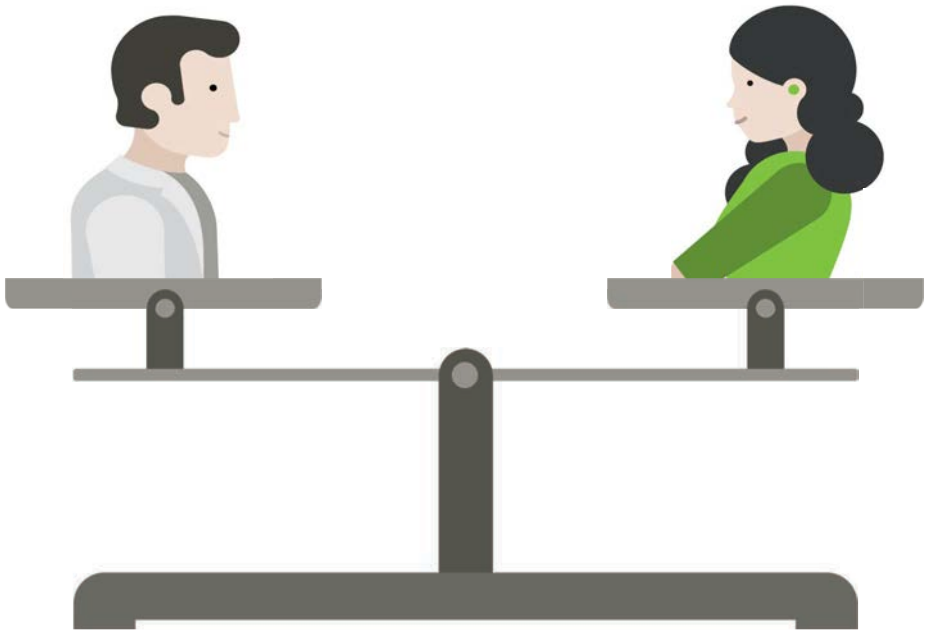

What does the market say about sound quality?

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Optimal speech understanding in various situations

Sharp, tinny, harsh, boomy”

What does the market say about sound quality?

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Hearing like I used to…

Sub-optimal speech understanding in various situations

What does the market say about sound quality?

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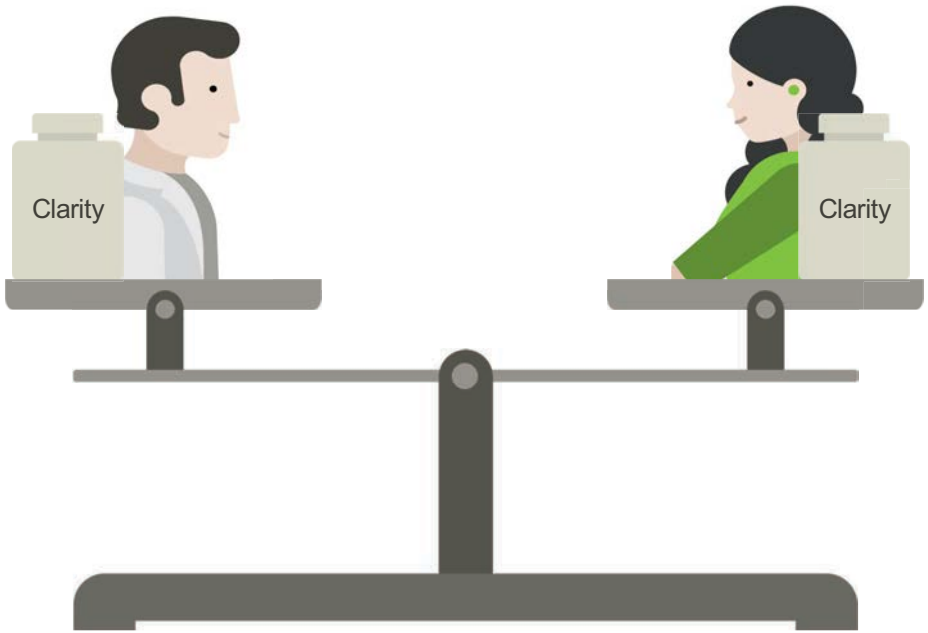

What does the market say about sound quality?

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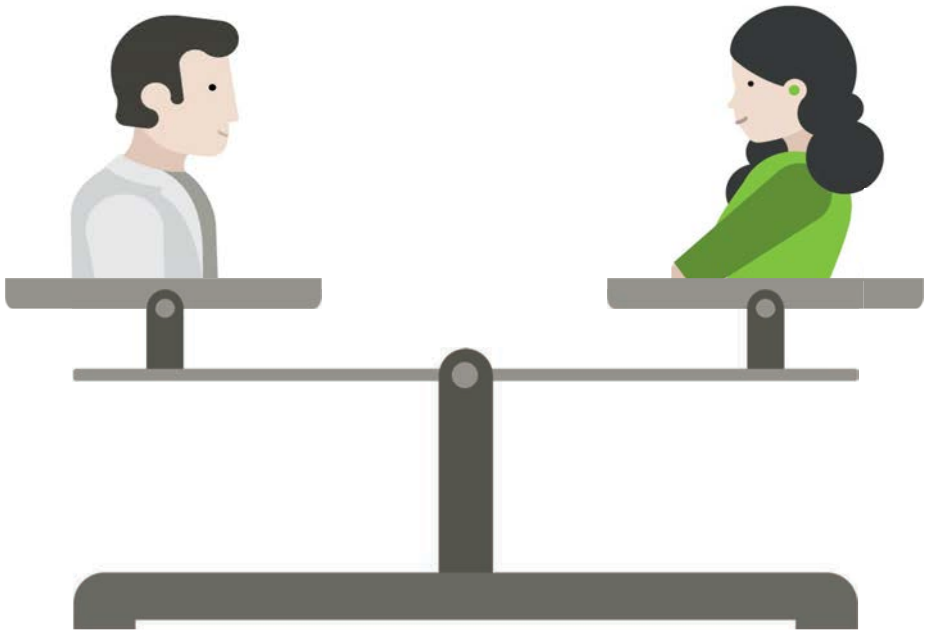
Hearing Performance

- Objective measure of hearing aid success
- Reason to purchase hearing aids
- Parameter that is fine tuneable in the fitting software



Sound Quality

- Subjective, individualized perception
- Hearing comfort
- Well-being
- Critical for acceptance
- Spontaneous acceptance

Key innovations of Audéo Paradise

Unrivaled sound quality

- **New sound processing chip - PRISM™**
- **New motion sensor**
- **New Adaptive Phonak Digital 2.0**
- **New AutoSense OS™ 4.0**
  - Speech Enhancer
  - Dynamic Noise Cancellation
  - Motion Sensor Hearing

Personalized digital solutions

- **New Hearing Screener 2.0**
- **New myPhonak 4.0 app**
  - Hearing Diary 2.0
  - AudiogramDirect (via Remote Support)
  - Remote Control
- **New Client Dashboard 2.0**

Universal connectivity

- **Connects to smartphones, TV & more**
- **Made For All**
- **Multiple Bluetooth® connections**
- **New Tap Control for easy access to Bluetooth functionalities**

Paradise is available with groundbreaking lithium-ion rechargeable technology

Unrivaled sound quality

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Consumer needs

Sound quality

"I want to understand soft voices"

"I want more natural sound quality"

"I want to communicate easily in noise"

Unrivaled sound quality

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Consumer needs

Sound quality

"I want to understand soft voices"

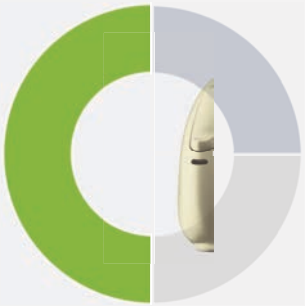
"I want more natural sound quality"

"I want to communicate easily in noise"

Paradise solution

Unrivaled sound quality

- **New sound processing chip - PRISM™**
- **New motion sensor**
- **New APD 2.0**
- **New AutoSense OS™ 4.0**
  - Speech Enhancer
  - Dynamic Noise Cancellation
  - Motion Sensor Hearing



Personalized digital solutions

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Consumer needs

Ease of use

"I need hearing aids which can be adapted to my changing hearing needs"

"I need a device which is easy to handle and to adjust"

Personalized digital solutions

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Consumer needs

Ease of use

"I need hearing aids which can be adapted to my changing hearing needs"

"I need a device which is easy to handle and to adjust"

Paradise solution

Personalized digital solutions

- **New Hearing Screener 2.0**
- **New myPhonak 4.0 app**
  - Hearing Diary 2.0
  - AudiogramDirect (via Remote Support)
  - Remote Control
- **New Client Dashboard 2.0**

Universal connectivity

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Consumer needs

Ease of use

"I have trouble hearing phone calls"

"... there are always a few more features that would be nice..."

"...would like a little more control."

Universal connectivity

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Consumer needs

Ease of use

"I have trouble hearing phone calls"

"... there are always a few more features that would be nice..."

"...would like a little more control."

Paradise solution

Universal connectivity

- **Connects to smartphones, TV & more**
- **MFA**
- **Multiple Bluetooth® connections**
- **New Tap Control for easy access to Bluetooth functionalities**

Product range

A piece of Paradise for every patient

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P-312

P-13T

P-R

P-RT

Unrivaled sound quality –
The Phonak Paradise system

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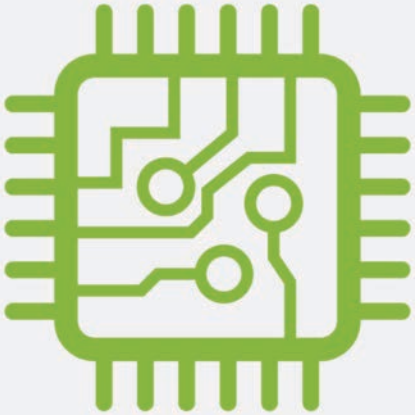
PRISM



Motion sensor

Take performance to new heights

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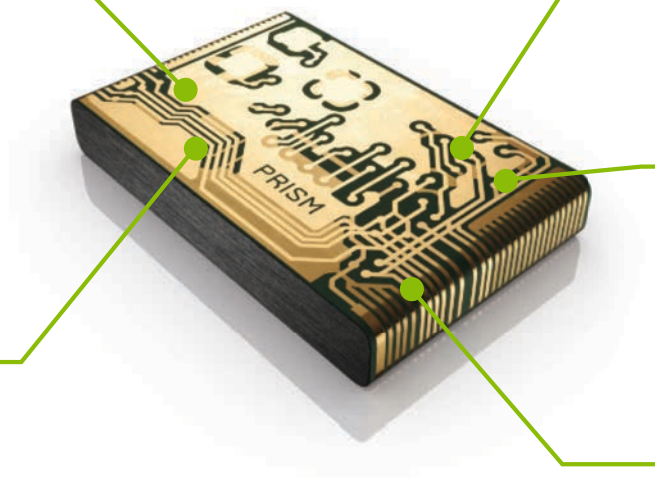
Operations per second
>552 Million

Size
0.21 x 0.14 in2



Processing speed
DSP: 7.53 MHz
Radio: 26 MHz

Total memory
8.42 Mbit RAM

Transistors
109 Million

Model differentiation

	P-R	P-RT	P-312	P-13T
Universal connectivity	●	●	●	●
Motion Sensor Hearing	●	●		
Tap Control	●	●		
RogerDirect, Wireless Accessories	●	●	●	●
Rechargeable	●	●		
T-Coil		●		●

Feature matrix

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	Premium P90	Advanced P70	Standard P50	Essential P30
APD 2.0	●	●	●	●
Dynamic Noise Cancelation	●			
Speech Enhancer	●			
Motion Sensor Hearing*	●	●	●	
Tap Control* • Accept/end phone call • Siri/Google assistant • Pause/resume streaming	 ● ● ●	 ● ● ●		
Maximum additional programs	4	4	4	4
2 Bluetooth connections	●	●	●	●
In-band ringtone	●	●	●	●
myPhonak 4.0 app	●	●	●	●
Hearing Diary 2.0	●	●	●	●

* Only available in Audéo P-R and Audéo P-RT devices.

Accessories portfolio

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Roger

AirStream™ technology

Bluetooth® Classic

Bluetooth® Low Energy

Groundbreaking rechargeable technology

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Batteries engineered to last 6 years. Your patients can enjoy a full day of hearing.

Paradise R and RT are compatible with the following chargers:

Phonak Charger Case Combi

Phonak Power Pack

Phonak Mini Charger Case

Remember – Rechargeable charging times

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Charging time	30 mins	60 mins	90 mins	3 H
Battery life *	6 hrs	12 hrs	19 hrs	24 hrs

* Without streaming

Battery life

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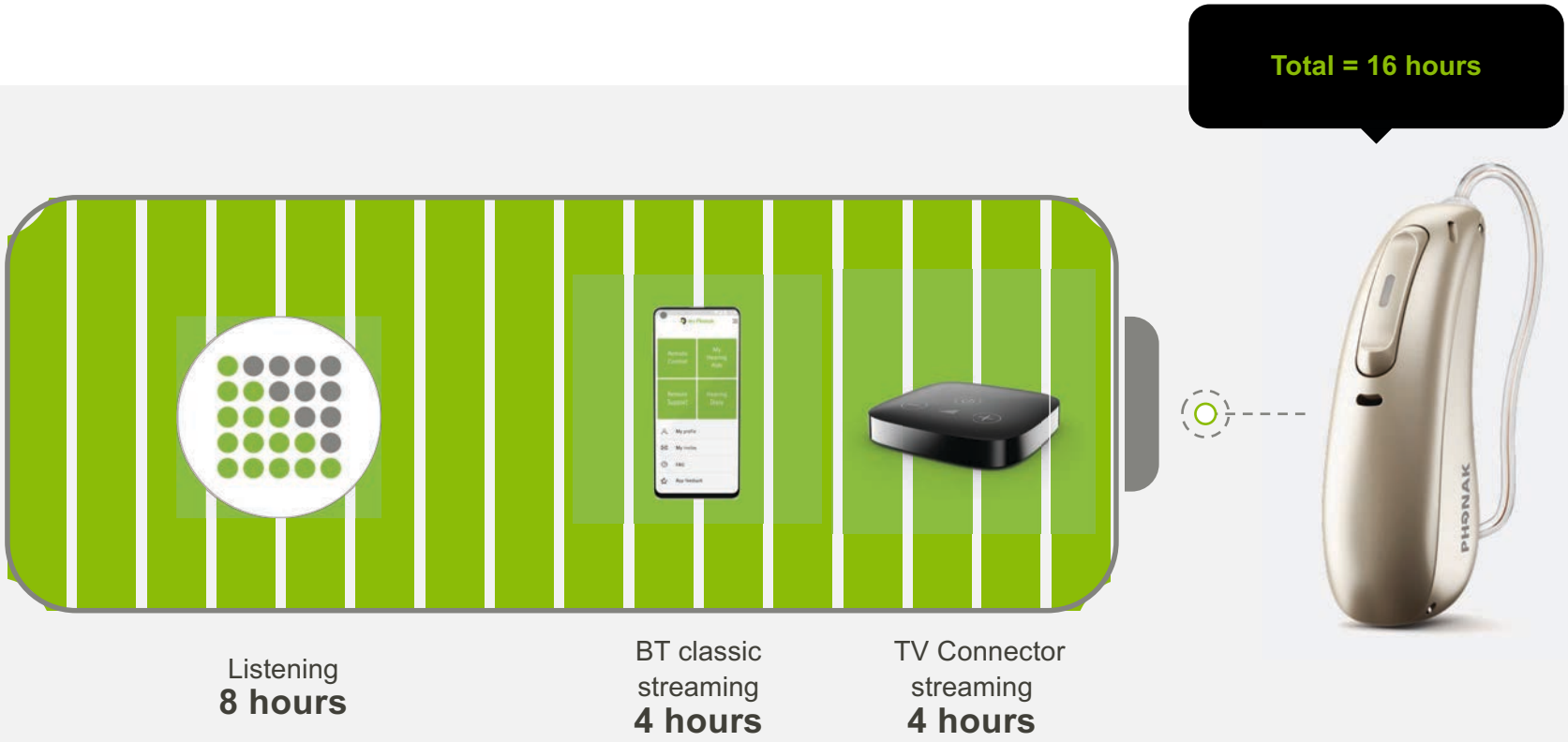

Fitting range

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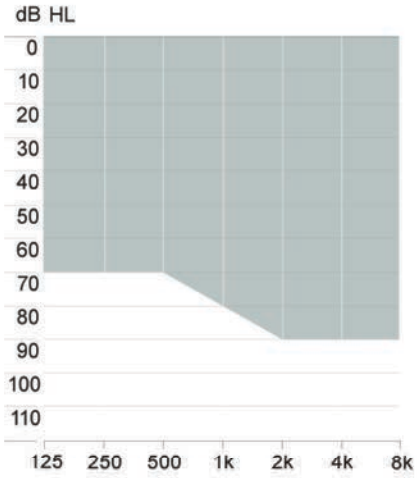
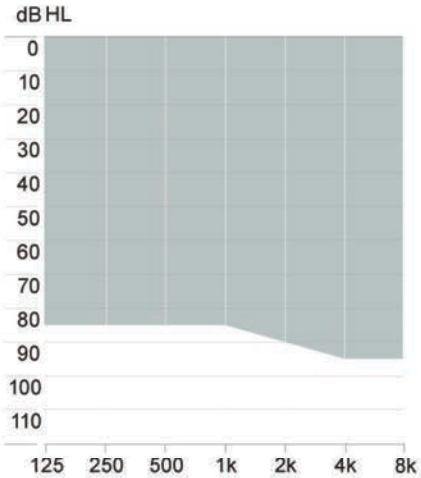
S



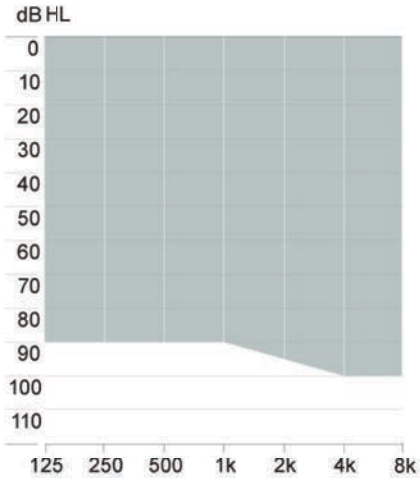
Mild to moderately-severe hearing loss.

M



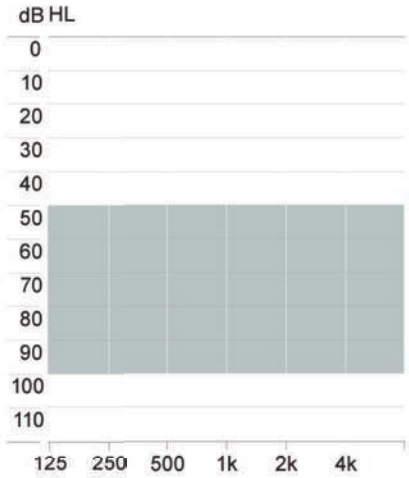
Mild to severe hearing loss.

P



Mild to severe hearing loss.

UP



Moderate to profound hearing loss.

A Paradise for every patient

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P-312

P-13T

P-R

P-RT

Available in:

- Sand Beige
- Beige
- Chestnut
- Champagne
- Silver Gray
- Graphite Gray
- Velvet Black

Unrivaled sound quality

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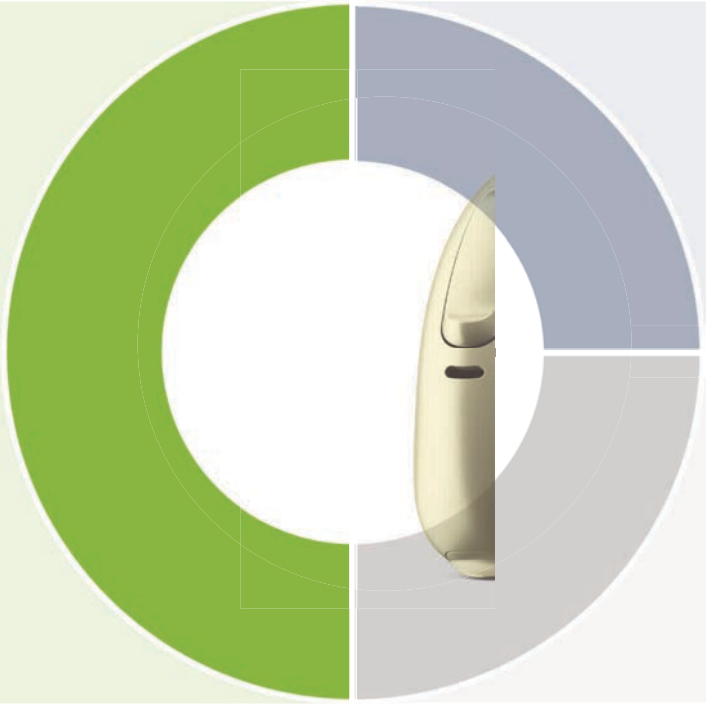
Unrivaled sound quality

- **New sound processing chip - PRISM**
- **New motion sensor**
- **New Adaptive Phonak Digital 2.0**
- **New AutoSense OS™ 4.0**
  - Speech Enhancer
  - Dynamic Noise Cancellation
  - Motion Hearing



Personalized digital solutions

- New Hearing Screener 2.0
- New myPhonak 4.0 app
  - Hearing Diary 2.0
  - AudiogramDirect (via Remote Support)
  - Remote Control
- New Client Dashboard 2.0

Universal connectivity

- Connects to smartphones, TV & more
- MFA
- Multiple Bluetooth® connections
- New Tap Control for easy access to Bluetooth functionalities

Paradise is available with leading lithium-ion rechargeable technology

Challenges posed by hearing loss

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Main Consequences:

- Decreased hearing sensitivity
- Reduced dynamic range
- Compromised spatial awareness

Purpose of a fitting formula

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- Compensate the individual hearing loss
- Restore dynamic range
- Localization and environmental awareness

Adaptive Phonak Digital

- Introduced 2005
- Maps hearing impaired loudness function into normal hearing loudness function

Adaptive Phonak Digital 2.0

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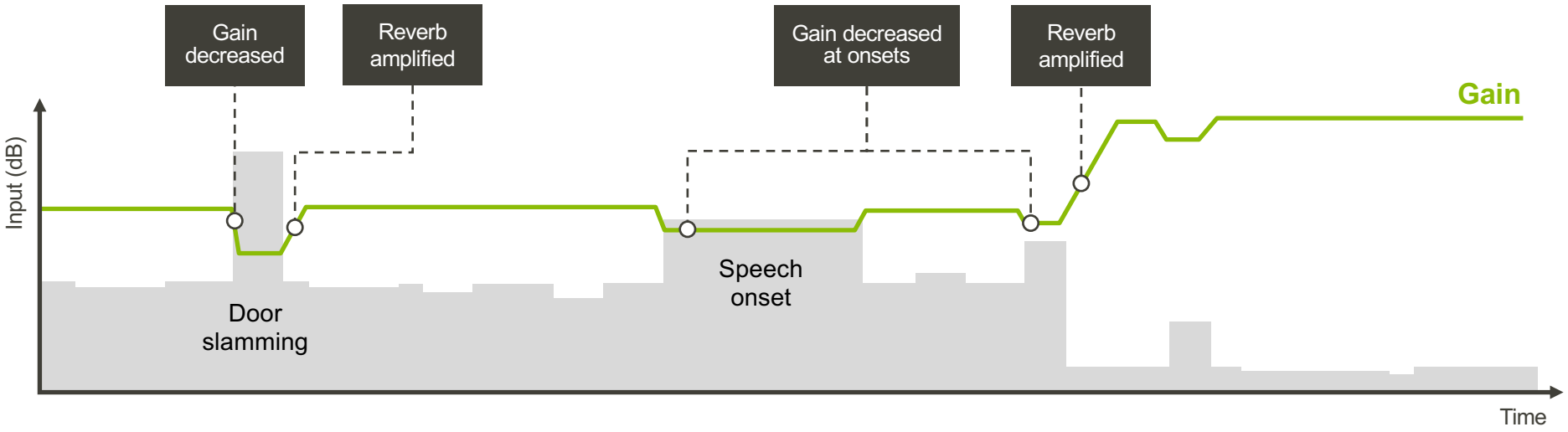
New
fitting formula

Hearing inspired by nature

1	2	3
Adaptive compression speeds	Linearized high level gain	Pre-calculation for mild-moderate hearing losses

Compression approaches: Fast compression



Compression approaches: Fast compression

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Advantages

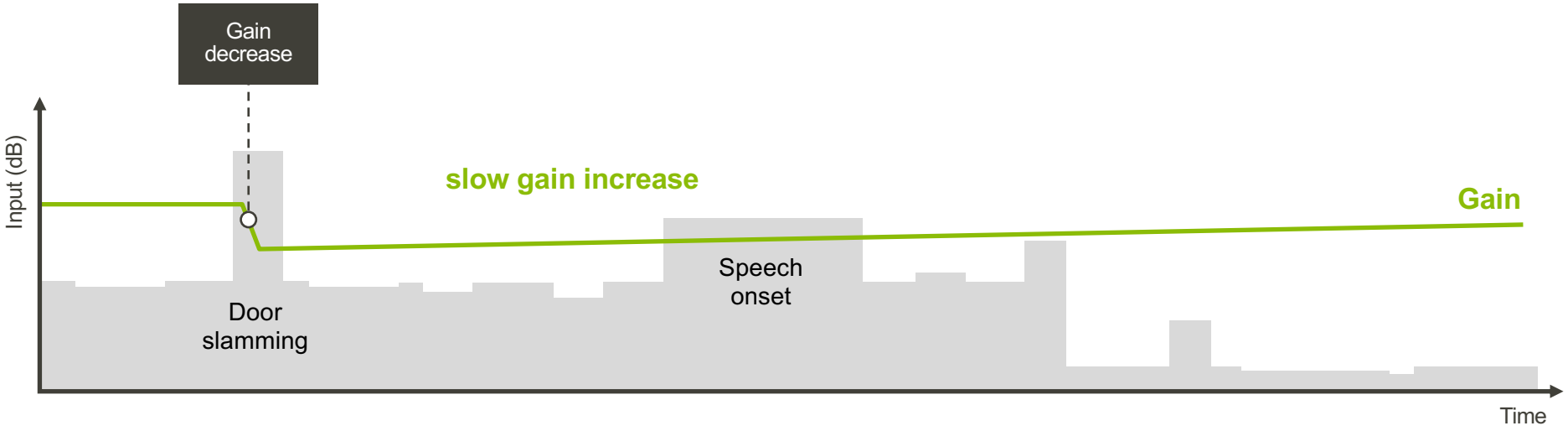
- Preserves the audibility of speech signals[1]
- Improved clarity for low input levels[3]
- Better speech intelligibility in quiet and noise for soft inputs[4]

Compromise

- Distortion of auditory cues due to reverberance[2]
- Smoothing of spectral contrast[5]

1. Gatehouse, S., Naylor, G., & Elberling, C. (2006). Linear and nonlinear hearing aid fittings-1. Patterns of benefit. *International Journal of Audiology*, 45 (3), 130-152.
2. Hassager, H. G., Wiinberg, A., and Dau, T. (2017a). "Effects of hearing-aid dynamic range compression on spatial perception in a reverberant environment," J. Acoust. Soc. Am. 141, 2556–2568.
3. Kowalewski, B., Zaar, J., Fereczkowski, M., MacDonald, E., Strelcyk, O., May, T., & Dau, T. (2017). Effects of slow-and fast-acting compression on hearing impaired listeners' consonant-vowel identification in interrupted noise. In *International Symposium on Auditory and Audiological Research*. The Danavox Jubilee Foundation.
4. Moore, B. C., Füllgrabe, C., & Stone, M. A. (2011). Determination of preferred parameters for multichannel compression using individually fitted simulated hearing aids and paired comparisons. *Ear and Hearing, 32*(5), 556-568.
5. Souza, P. E., Arehart, K. H., Shen, J., Anderson, M., & Kates, J. M. (2015). Working memory and intelligibility of hearing-aid processed speech. *Frontiers in Psychology*, 6, 526.

Compression approaches: Slow compression



Compression approaches: Slow compression

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Advantages

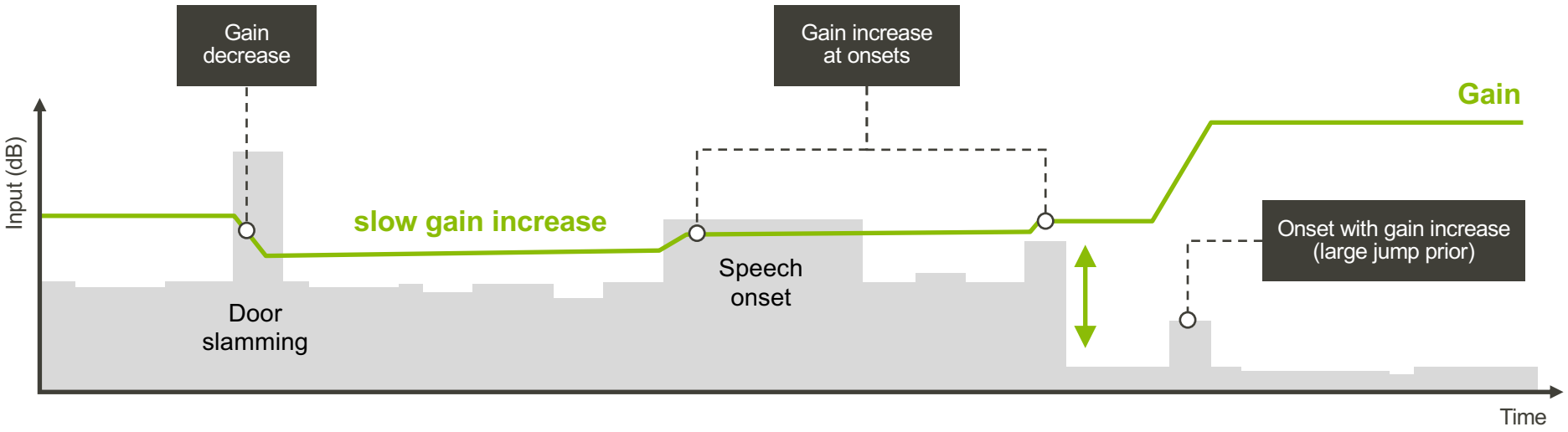
- More spatial contrast
- More linear for better loudness comfort[1]
- Increased comfort when listening to speech[2]

Compromise

- Reduced audibility

1. Gatehouse, S., Naylor, G., & Elberling, C. (2006). Linear and nonlinear hearing aid fittings-1. Patterns of benefit. *International Journal of Audiology*, 45 (3), 130-152.
2. Moore, B. C., Füllgrabe, C., & Stone, M. A. (2011). Determination of preferred parameters for multichannel compression using individually fitted simulated hearing aids and paired comparisons. *Ear and Hearing*, *32*(5), 556-568.

1. Adaptive compression speeds – Intelligent compression



1. Adaptive compression speeds – Intelligent compression

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Advantages

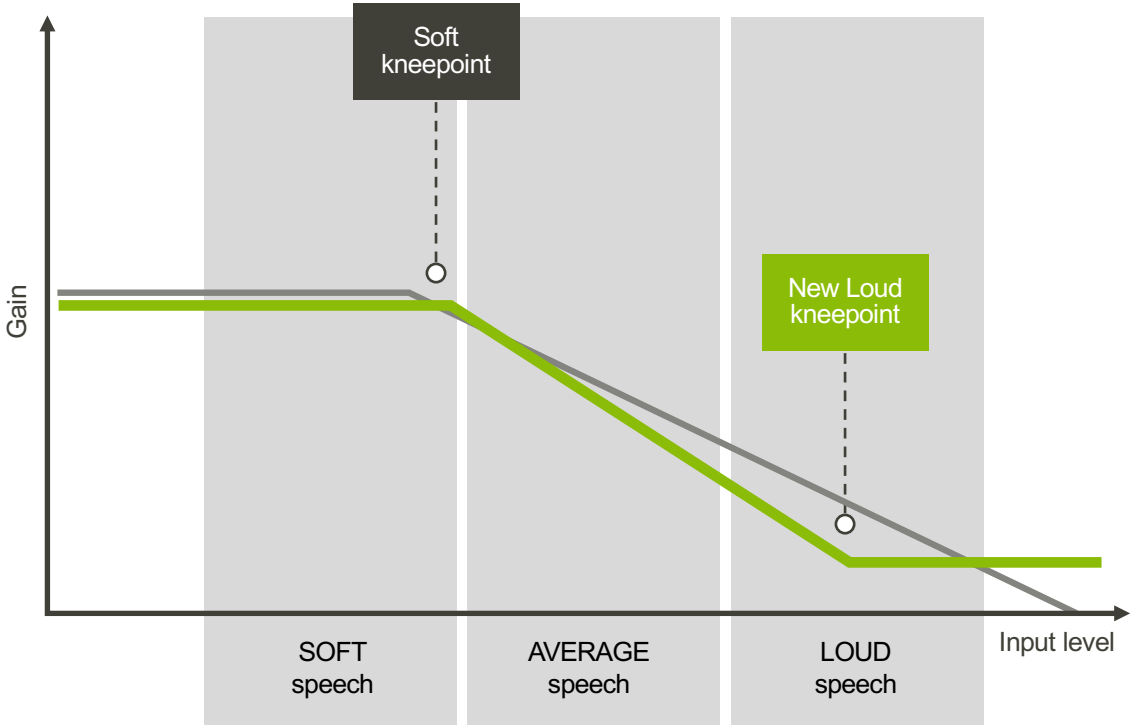
- More dynamic range[1]
- Reduction of perceived reverberation[1]
- Comfort in noise[2]
- Comfort for loud impulse sounds[3]

Implementation

- Mix of adaptive and slow compression in noisier situations, for music and media streaming
- 100% in quiet/calm programs

1. Hassager, H. G., Wiinberg, A., and Dau, T. (2017a). “Effects of hearing-aid dynamic range compression on spatial perception in a reverberant environment,” J. Acoust. Soc. Am. 141, 2556–2568.
2. Kowalewski, B., Zaar, J., Fereczkowski, M., MacDonald, E., Strelcyk, O., May, T., & Dau, T. (2017). Effects of slow-and fast-acting compression on hearing impaired listeners’ consonant-vowel identification in interrupted noise. In *International Symposium on Auditory and Audiological Research*. The Danavox Jubilee Foundation.
3. Lopez-Poveda, E. A., Johannesen, P. T., Perez-González, P., Blanco, J. L., Kalluri, S., & Edwards, B. (2017). Predictors of hearing-aid outcomes. Trends in hearing, 21, 1-28.

2. Linearized high level gain



Advantages

- Loudness comfort at high input levels[1]
- Speech intelligibility for loud speech in noise[1]
- More fine-tuning flexibility

APD

APD 2.0

1. Lopez-Poveda, E. A., Johannesen, P. T., Perez-González, P., Blanco, J. L., Kalluri, S., & Edwards, B. (2017). Predictors of hearing-aid outcomes. Trends in hearing, 21, 1-28.

3. New pre-calculation

- Mild to moderate hearing losses
- G50 targets remains unchanged
- G65 and G80 targets are reduced for mid-loud inputs
- All experience levels

Senn. M., (2020). An analysis of – fine-tuning applied at first fit. Phonak Target Fitting Data. Unpublished data. Contact claims@phonak.com if you are interested in further information.

Expected benefit of Adaptive Phonak Digital 2.0

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New
fitting formula

Hearing inspired by nature

1. Adaptive compression speeds

- More dynamic range[1,2]
- Reduction of perceived reverberation[1]
- Comfort in noise [4]
- Comfort for loud impulse sounds[3]

2. Linearized high-level gain

- Natural sound quality[3]
- Better speech intelligibility for loud speech in noise[3]
- More fine tuning flexibility

3. Pre-calculation for mild-moderate hearing losses

- Comfort at first fit[5]

1. Hassager, H. G., Wiinberg, A., and Dau, T. (2017a). “Effects of hearing-aid dynamic range compression on spatial perception in a reverberant environment,” J. Acoust. Soc. Am. 141, 2556–2568.
2. Hassager, H. G., May, T., Wiinberg, A., & Dau, T. (2017b). Preserving spatial perception in rooms using direct-sound driven dynamic range compression. The Journal of the Acoustical Society of America, 141(6), 4556-4566.
3. Lopez-Poveda, E. A., Johannesen, P. T., P
4. Kowalewski, B., Zaar, J., Fereczkowski, M., MacDonald, E., Strelcyk, O., May, T., & Dau, T. (2017). Effects of slow-and fast-acting compression on hearing impaired listeners’ consonant-vowel identification in interrupted noise. In International Symposium on Auditory and Audiological Research. The Da-navox Jubilee Foundation.erez-González, P., Blanco, J. L., Kalluri, S., & Edwards, B. (2017). Predictors of hearing-aid outcomes. Trends in hearing, 21, 1-28.
5. Senn. M., (2020). An analysis of – fine-tuning applied at first fit. Phonak Target Fitting Data. Unpublished data. Contact claims@phonak.com if you are interested in further information.

Adaptive Phonak Digital 2.0

Questions?

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Phonak Paradise – Unrivaled sound quality

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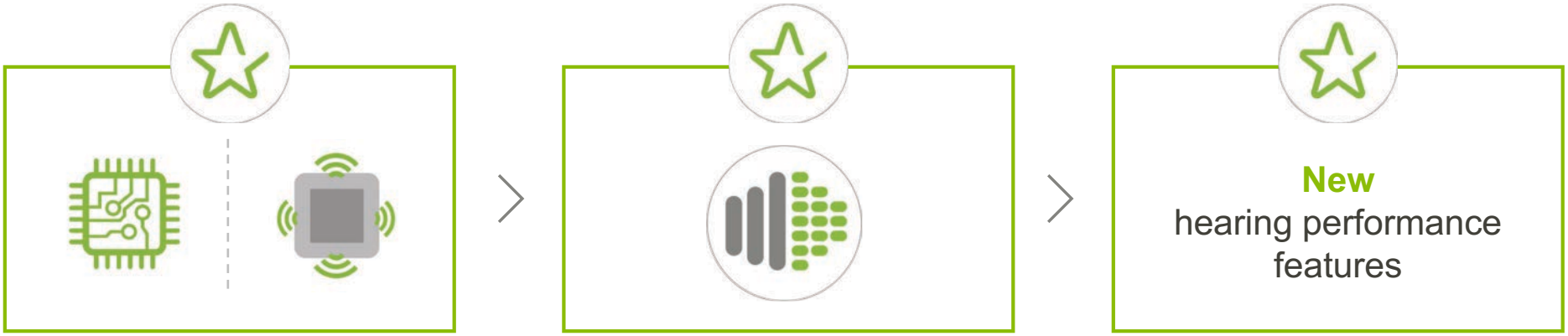

AutoSense OS 4.0

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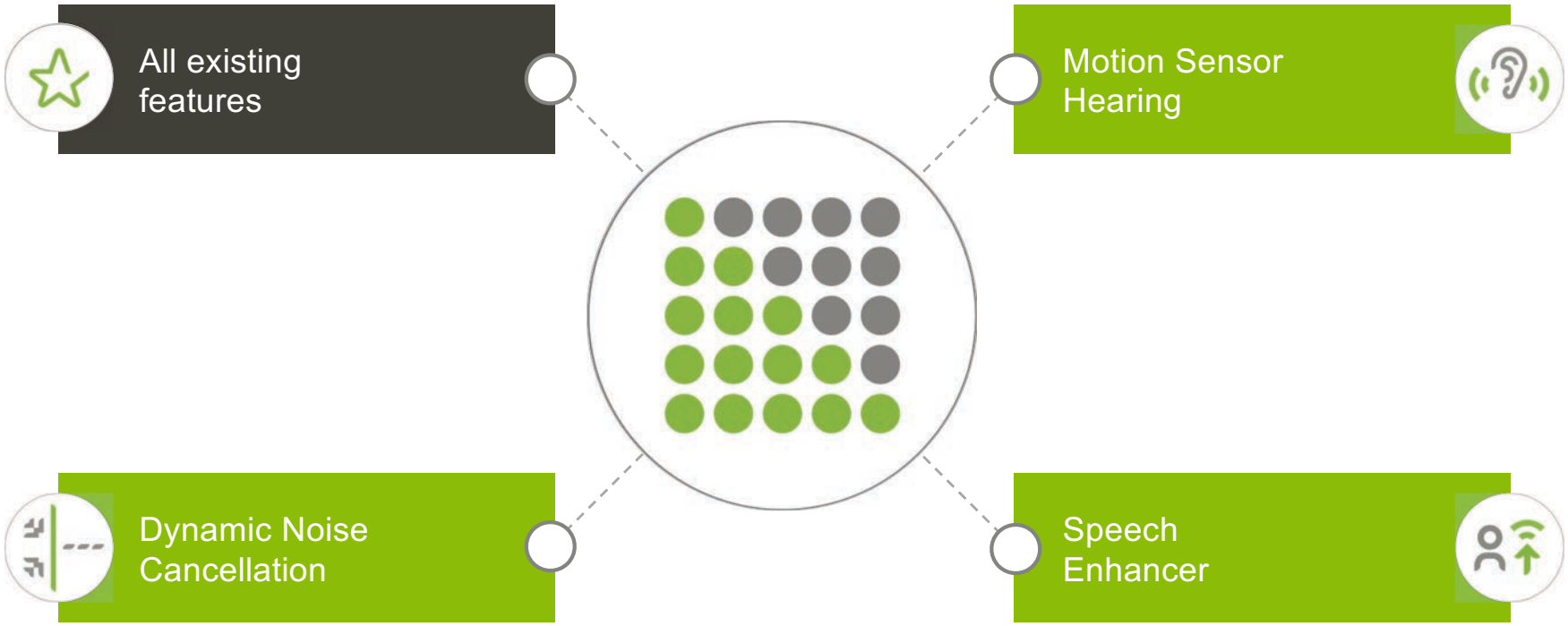
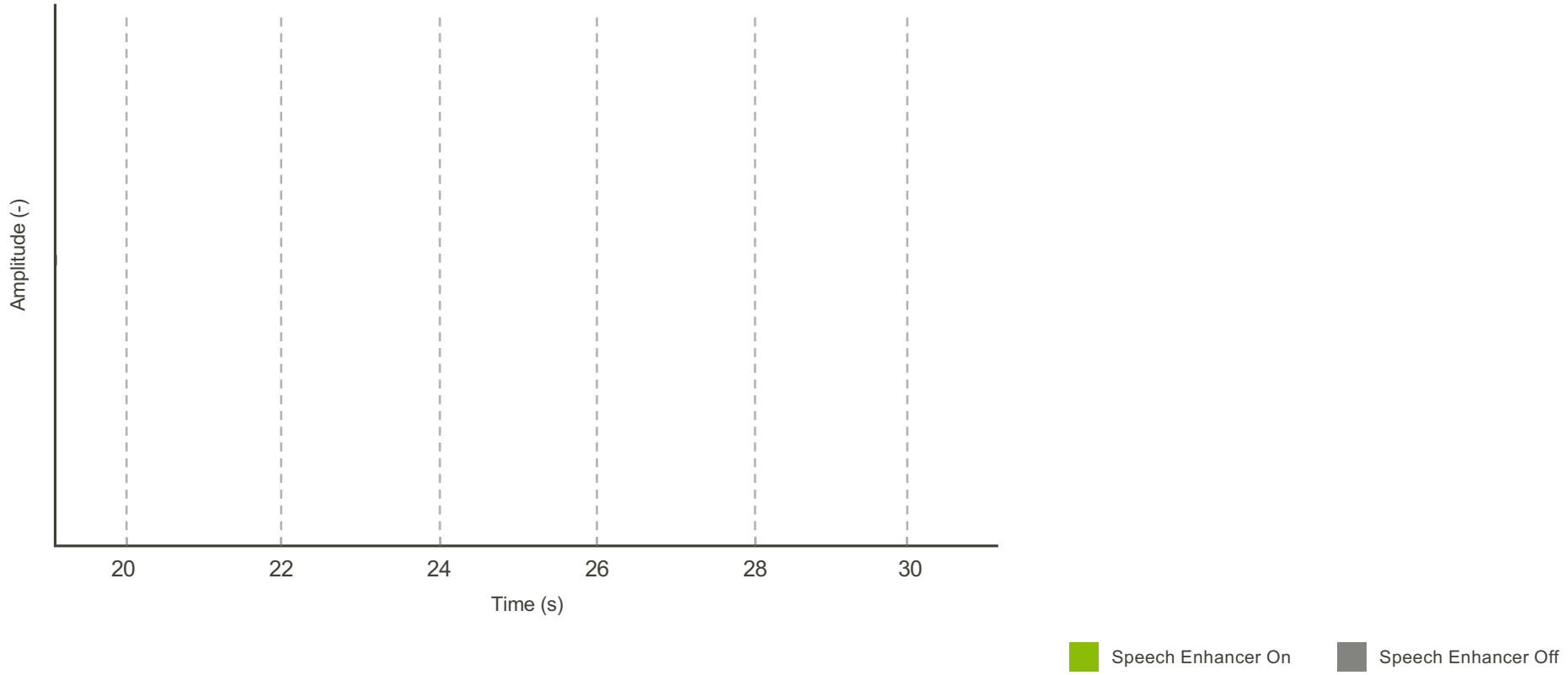
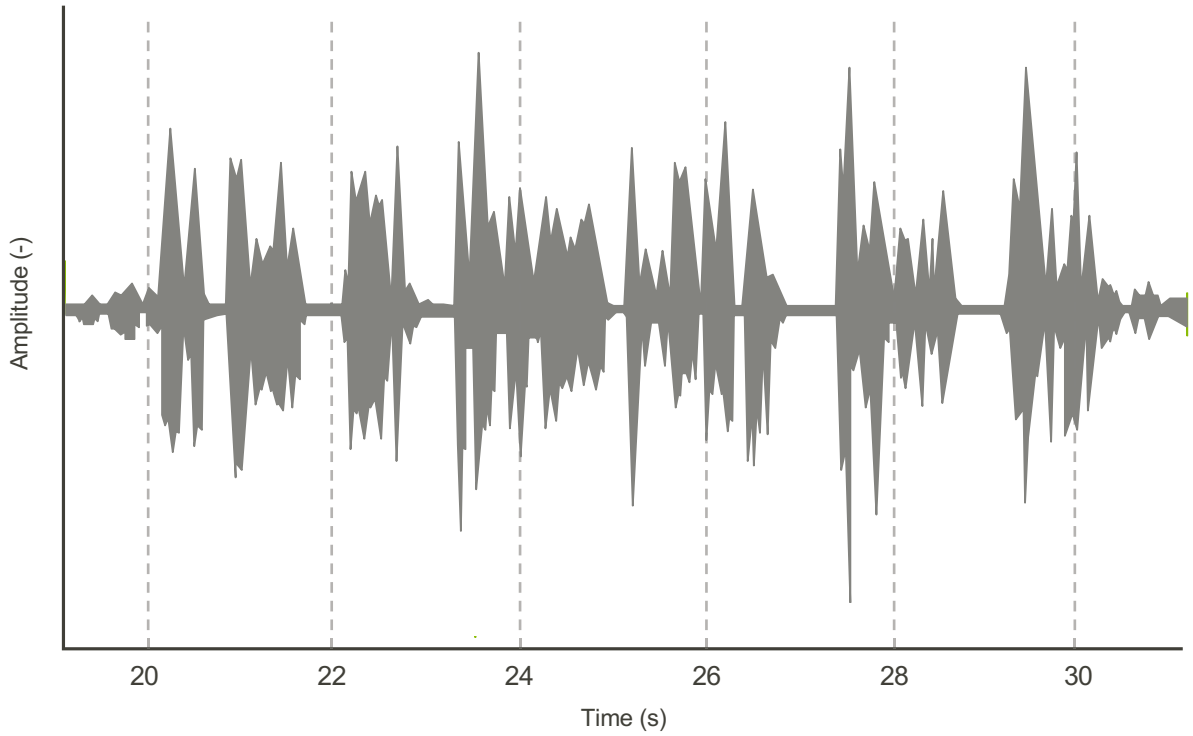


Speech Enhancer

Speech Enhancer: How does it work?



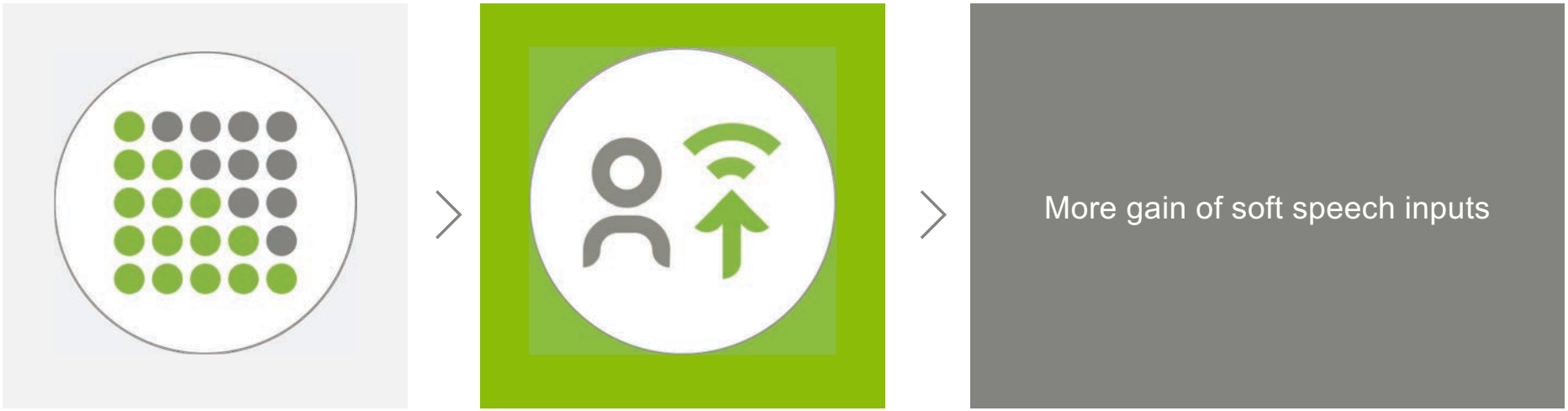
Speech Enhancer: How does it work?



- Available in Calm program
- Active with input signals 30-50 dB SPL
- Requires minimum SNR 10 dB
- Up to 10 dB gain

Speech Enhancer On Speech Enhancer Off

Benefit of Speech Enhancer



Speech enhancer: audio demonstration

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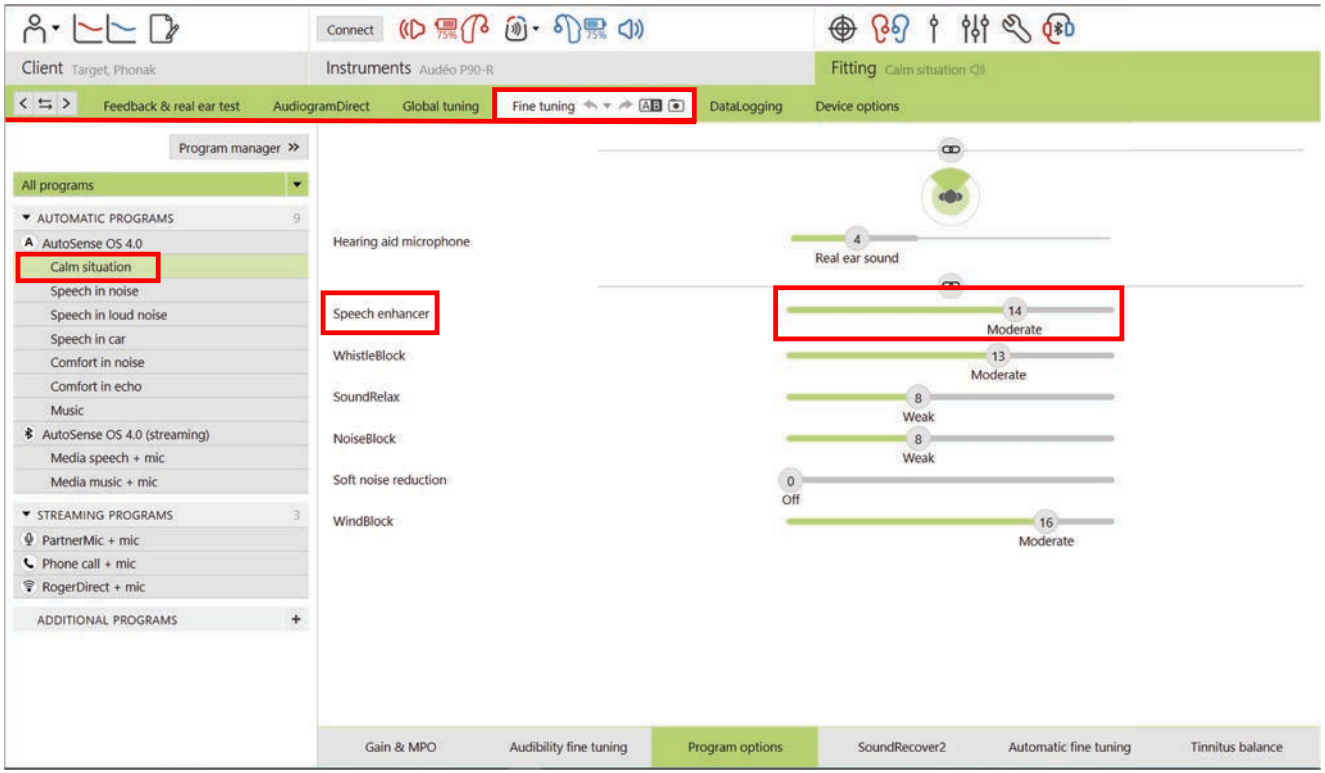
A

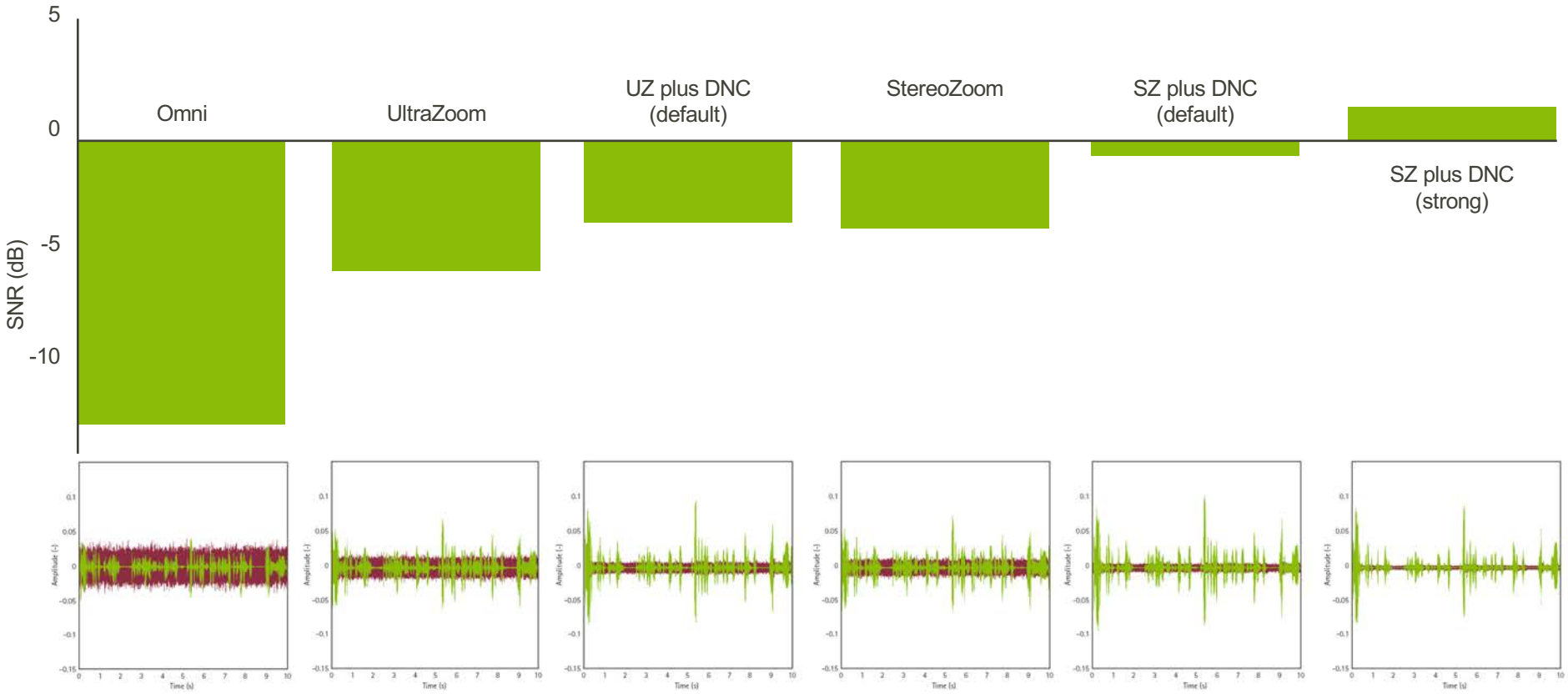
B

Speech Enhancer

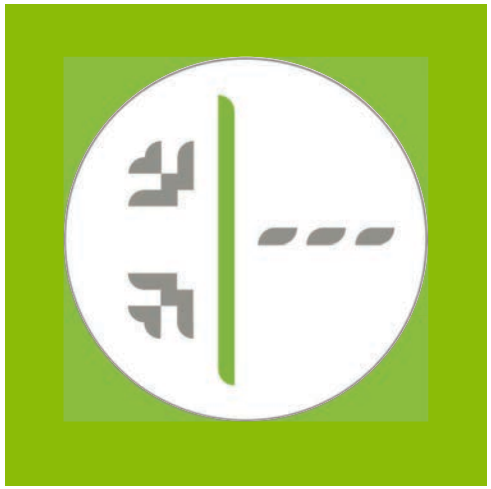


Dynamic Noise Cancellation

Dynamic Noise Cancellation: How does it work?



Benefit of Dynamic Noise Cancellation

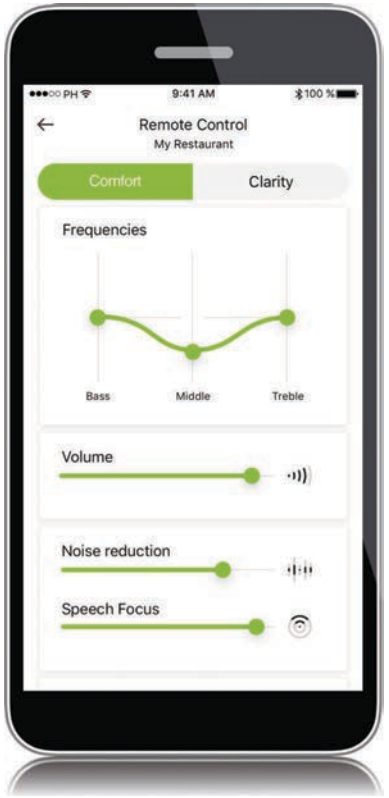


Up to 4 dB improvement in SNR in challenging environments

Client-driven personalization in real-time via myPhonak 4.0 app

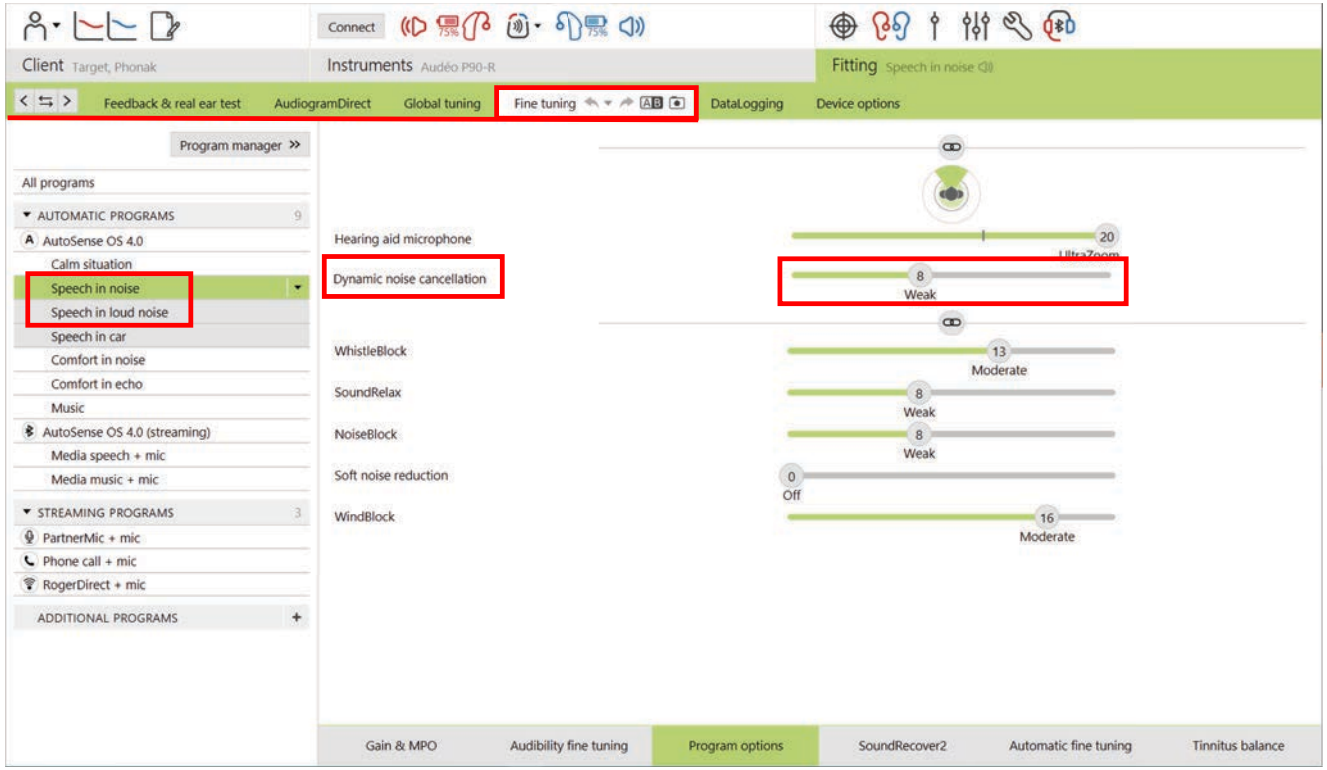
Scientific evidence

- Effects of noise reduction on speech intelligibility, perceived listening effort, and personal preference in hearing-impaired listeners[1]
- Perceptual effects of noise reduction with respect to personal preference, speech intelligibility, and listening effort[2,3]



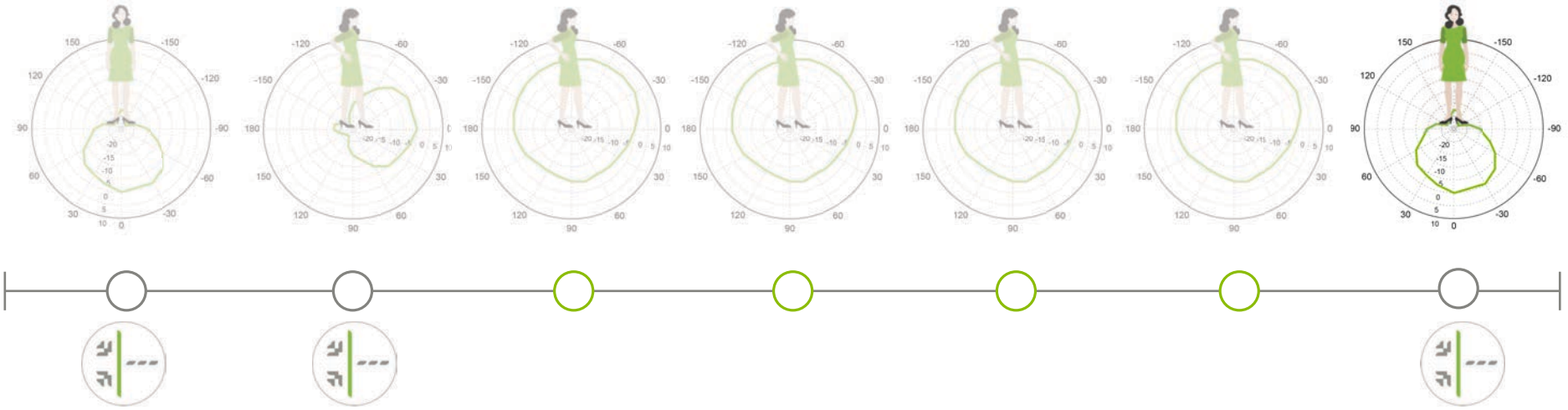
1. Brons I, Houben R, Dreschler WA.Trends Hear. 2014 Oct 13;18
2. Brons I, Houben R, Dreschler WA. Ear Hear. 2013 Jan-Feb;34(1):29-41.
3. Neher, T. & Wagener, K. C. Investigating Differences in Preferred Noise Reduction Strength among Hearing Aid Users. in *Trends in Hearing* **20**, (SAGE Publications Inc., 2016).

Dynamic Noise Cancellation



Motion Sensor Hearing

Motion Sensor Hearing: How does it work?



Benefit of Motion Sensor Hearing

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Higher preference rating for:

- Speech intelligibility
- Localization
- Overall listening experience
- Sound quality

Motion Sensor Hearing: audio demonstration

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A

B

Accuracy of motion detection

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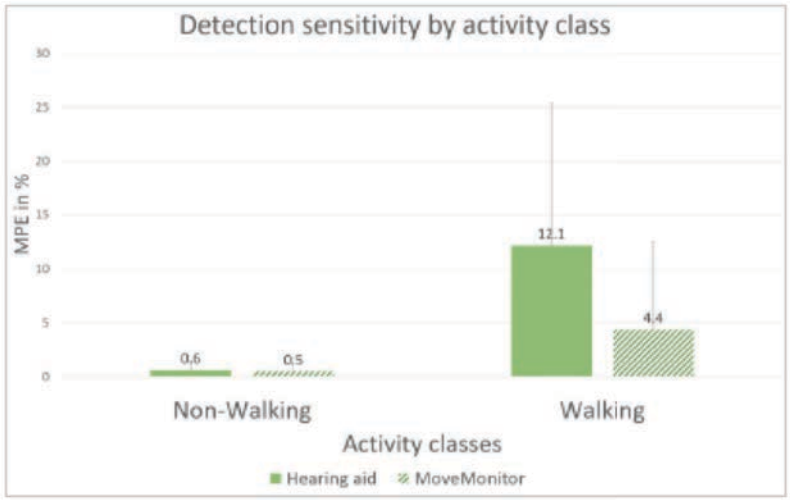
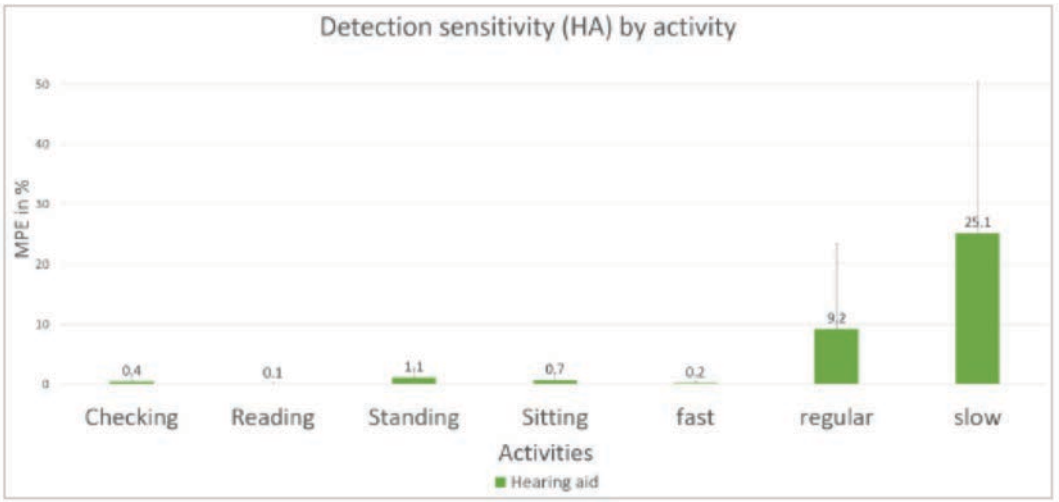
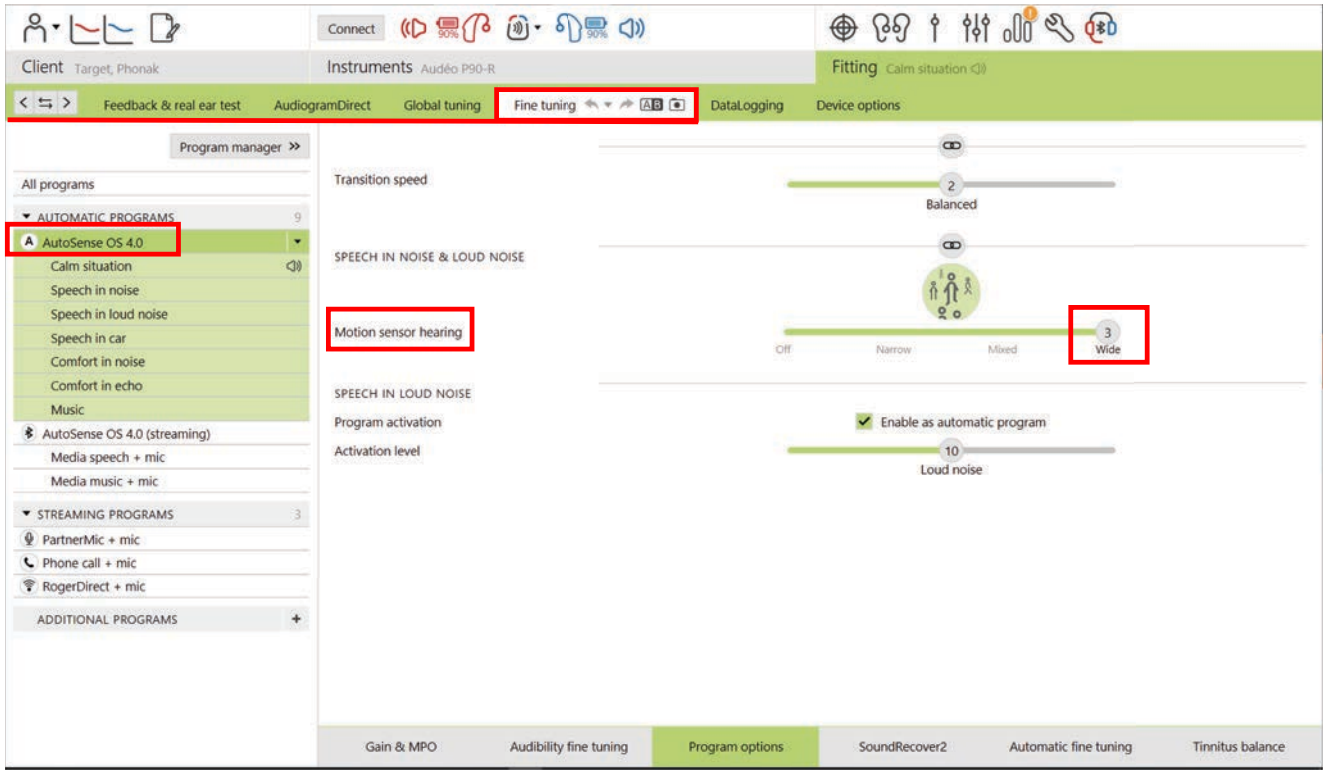
Overall detection accuracy was 93.7%.





Voss, S. C., Pichora-Fuller, K., Pereira, A., Seiter, J., El Guindi, N., Qian, J. (2020) “Evaluating the accuracy of motion detection using a behind-the-ear sensor” Poster presented at Conference: The Annual Scientific and Technology Conference of the American Auditory Society At: Scottsdale, Arizona, USA

Motion Sensor Hearing



Don’t forget: Existing hearing performance features

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- Media streaming
- WhistleBlock
- UltraZoom
- StereoZoom
- RogerDirect

Phonak Paradise – Unrivaled sound quality

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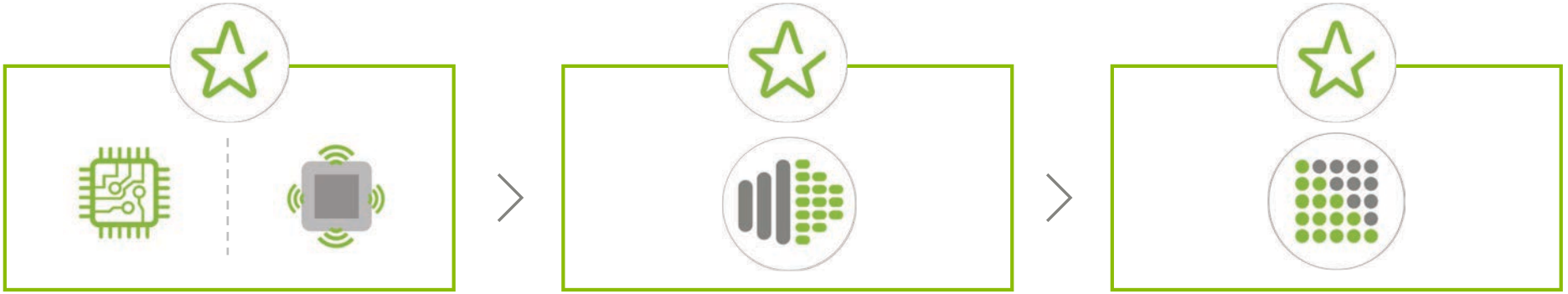

Benefit

- Double memory
- More connectivity
- Motion activated features

Benefit

- Reduced listening effort[1]
- Reduction of perceived reverberation[2]
- Comfort in noise[3]
- Comfort for loud impulse sounds[4]

Benefit

Features to support everyday listening challenges:

- Soft speech
- Balance speech intelligibility with comfort[5]
- Speech intelligibility and sound quality while walking[6]

1. Wright, A. (2020). Adaptive Phonak Digital 2.0: Next-level fitting formula with adaptive compression for reduced listening effort. *Phonak Field Study News*, retrieved from www.phonakpro.com/evidence, accessed August 19th 2020.
2. Hassager, H. G., Wiinberg, A., and Dau, T. (2017a). "Effects of hearing-aid dynamic range compression on spatial perception in a reverberant environment," J. Acoust. Soc. Am. 141, 2556–2568.
3. Kowalewski, B., Zaar, J., Fereczkowski, M., MacDonald, E., Strelcyk, O., May, T., & Dau, T. (2017). Effects of slow-and fast-acting compression on hearing impaired listeners' consonant-vowel identification in interrupted noise. In *International Symposium on Auditory and Audiological Research*. The Danavox Jubilee Foundation.
4. Lopez-Poveda, E. A., Johannesen, P. T., Perez-González, P., Blanco, J. L., Kalluri, S., & Edwards, B. (2017). Predictors of hearing-aid outcomes. Trends in hearing, 21, 1-28
5. Neher, T. & Wagener, K. C. Investigating Differences in Preferred Noise Reduction Strength among Hearing Aid Users. in *Trends in Hearing* **20**, (SAGE Publications Inc., 2016)
6. Appleton, J., & Voss S.C., (2020) Motion-based beamformer steering leads to better speech understanding and overall listening experience. *Phonak Field Study News* in preparation. Expected end of 2020.

Personalized digital solutions

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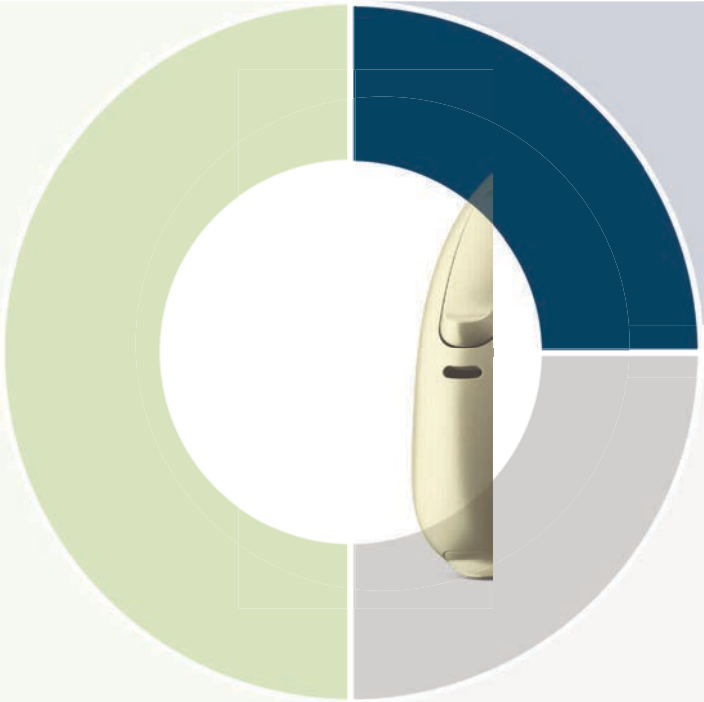
Unrivaled sound quality

- New sound processing chip - PRISM
- New motion sensor
- New APD 2.0
- New AutoSense OS™ 4.0
  - Speech Enhancer
  - Dynamic Noise Cancellation
  - Motion Hearing



Personalized digital solutions

- New Hearing Screener 2.0
- New myPhonak 4.0 app
  - Hearing Diary 2.0
  - AudiogramDirect (via Remote Support)
  - Remote Control
- New Client Dashboard 2.0

Universal connectivity

- Connects to smartphones, TV & more
- MFA
- Multiple Bluetooth® connections
- New Tap Control for easy access to Bluetooth functionalities

Paradise is available with leading lithium-ion rechargeable technology

Feature benefit

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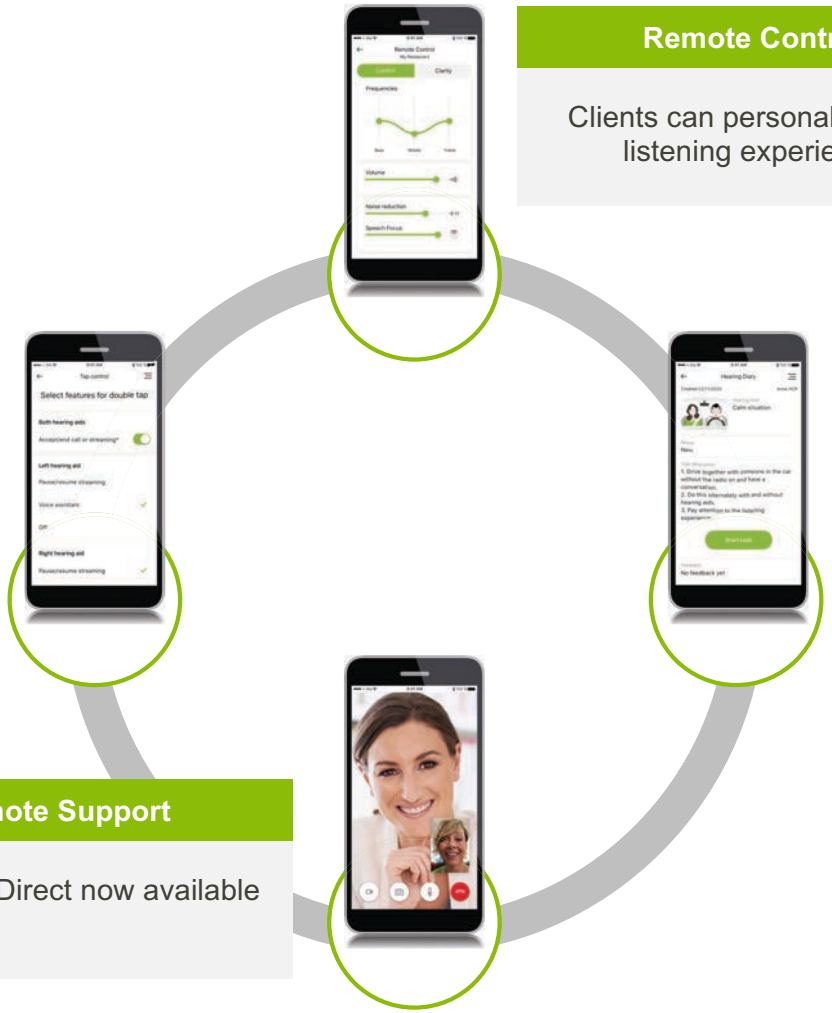


Remote Control

Clients can personalize their listening experience

My Hearing Aids

More flexibility over hearing aid controls

Hearing Diary

Evaluate hearing aid effectiveness and efficiency

Remote Support

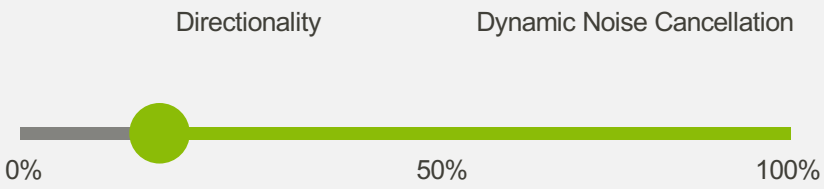
AudiogramDirect now available

Remote Control

Marvel behavior in
Speech in Noise

Remote Control

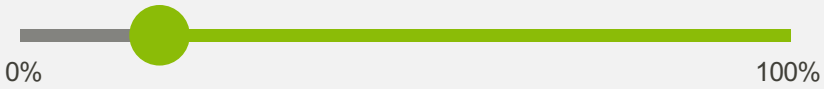
Paradise behavior in
Speech in Noise



Remote Control

Paradise behavior in
Speech in Loud Noise

Dynamic Noise Cancellation



Universal connectivity

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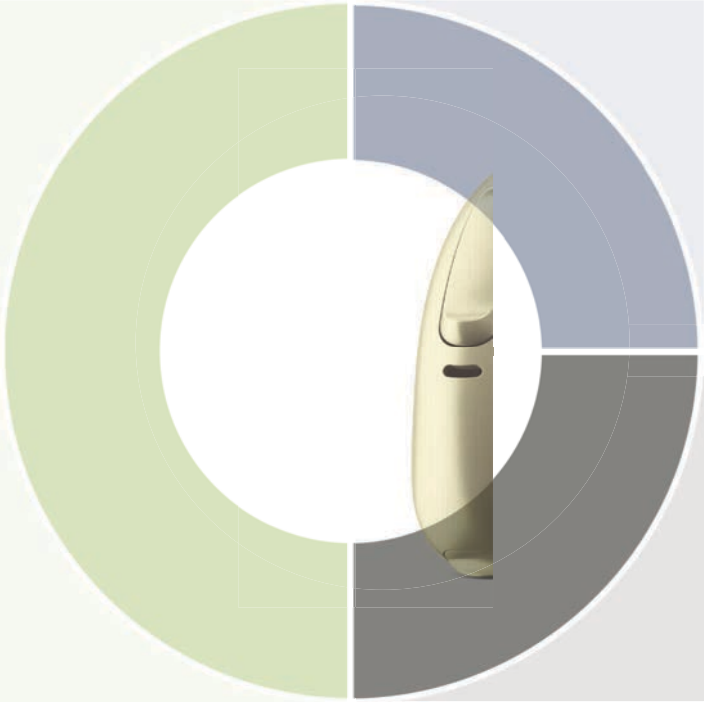

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- Made For All
- Multiple Bluetooth® connections
- New Tap Control for easy access to Bluetooth functionalities

Paradise is available with leading lithium-ion rechargeable technology

As well as space for all your devices

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Paradise has **two times** the Bluetooth!

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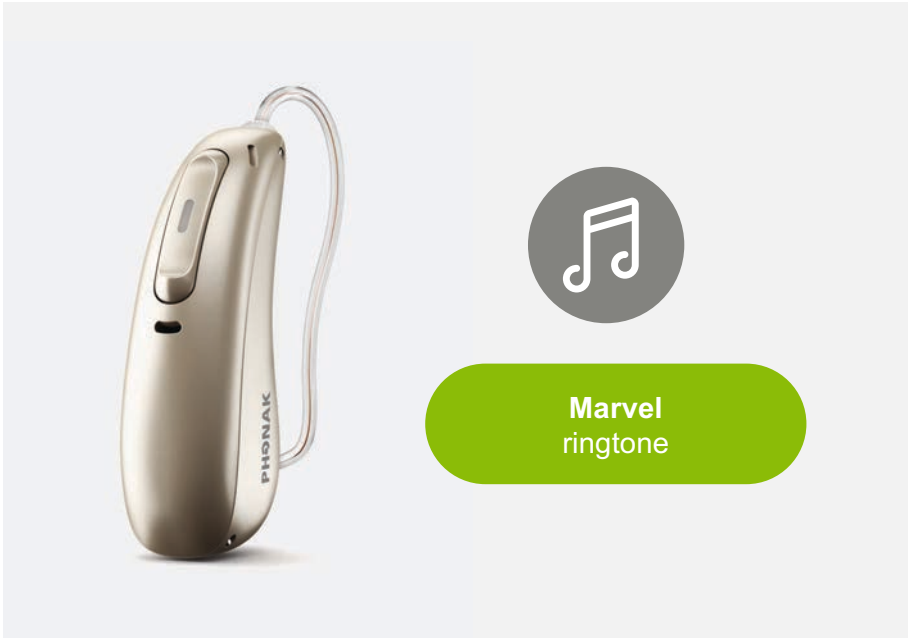
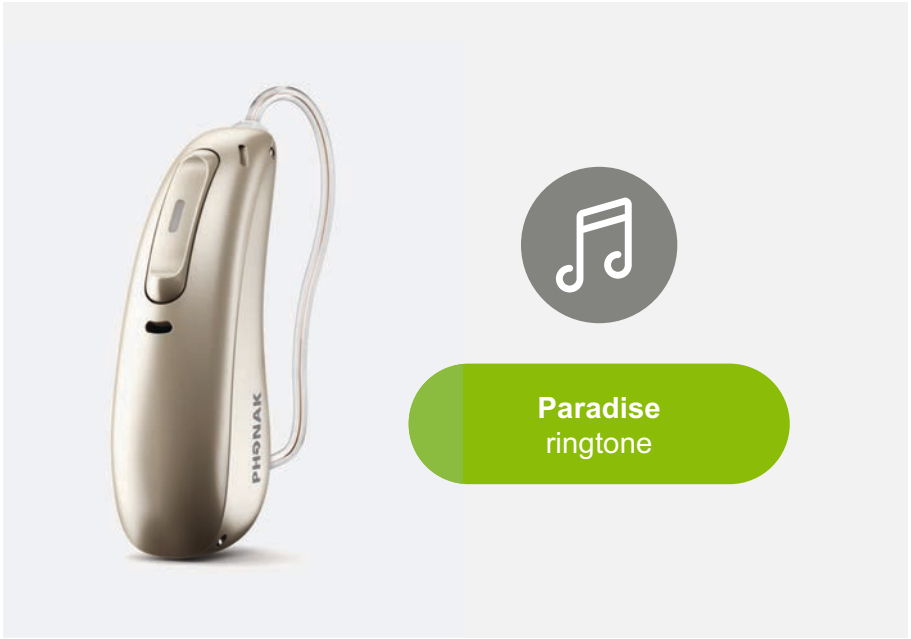
Plus in-band ringtones





Tap Control

We needed to find a way to give the user additional levels of control without adding a button.

The solution? Tap Control.

Tap into the possibilities

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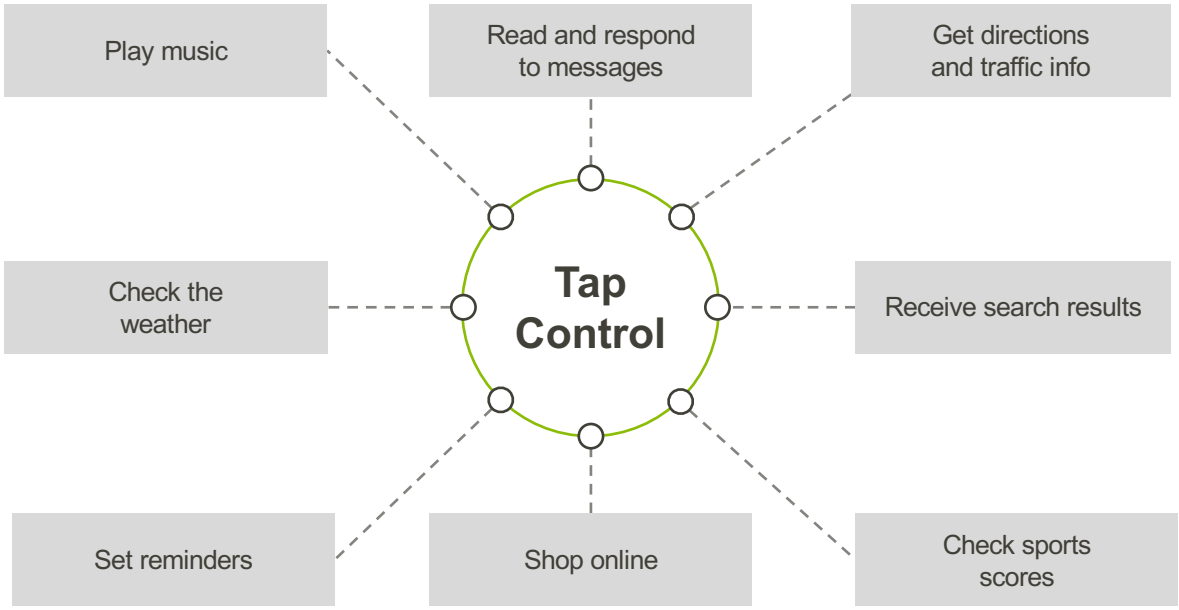
The combination of Tap Control with an external virtual assistant may give the wearer the ability to:



And many other possibilities… without touching their phone!

1. Kinsella, B. (2019, June 21). Voice Assistant Demographic Data - Young Consumers More Likely to Own Smart Speakers While Over 60 Bias Toward Alexa and Siri. Retrieved August 16, 2020, from https://voicebot.ai/2019/06/21/voice-assistant-demographic-data-young-consumers-more-likely-to-own-smart-speakers-while-over-60-bias-toward-alexa-and-siri/

Key innovations of Audéo Paradise

Unrivaled sound quality

- **New sound processing chip - PRISM™**
- **New motion sensor**
- **New Adaptive Phonak Digital 2.0**
- **New AutoSense OS™ 4.0**
  - Speech Enhancer
  - Dynamic Noise Cancellation
  - Motion Sensor Hearing

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- **Made For All**
- **Multiple Bluetooth® connections**
- **New Tap Control for easy access to Bluetooth functionalities**

Paradise is available with groundbreaking lithium-ion rechargeable technology

Want to learn more?

Get in touch with us!

- Schedule a virtual and/or in-office training
- Start a marketing discussion with our account managers
- Join us on Audiology online for in depth sessions on Paradise

Try Audéo Paradise on your next patients

Course name	Date	Presenter
The Paradise Connection	Sept 14th	Lena Kyman
Paradise in Target 7.0	Sept 21st	Alyssa Ricevuto
Demonstrating Paradise	Sept. 28th	Erika Porter
Paradise and Real Ear Measurements	Oct. 5th	Aly Hoffman

Together,
we change lives