OTICON | **Real**

Product Guide

2023

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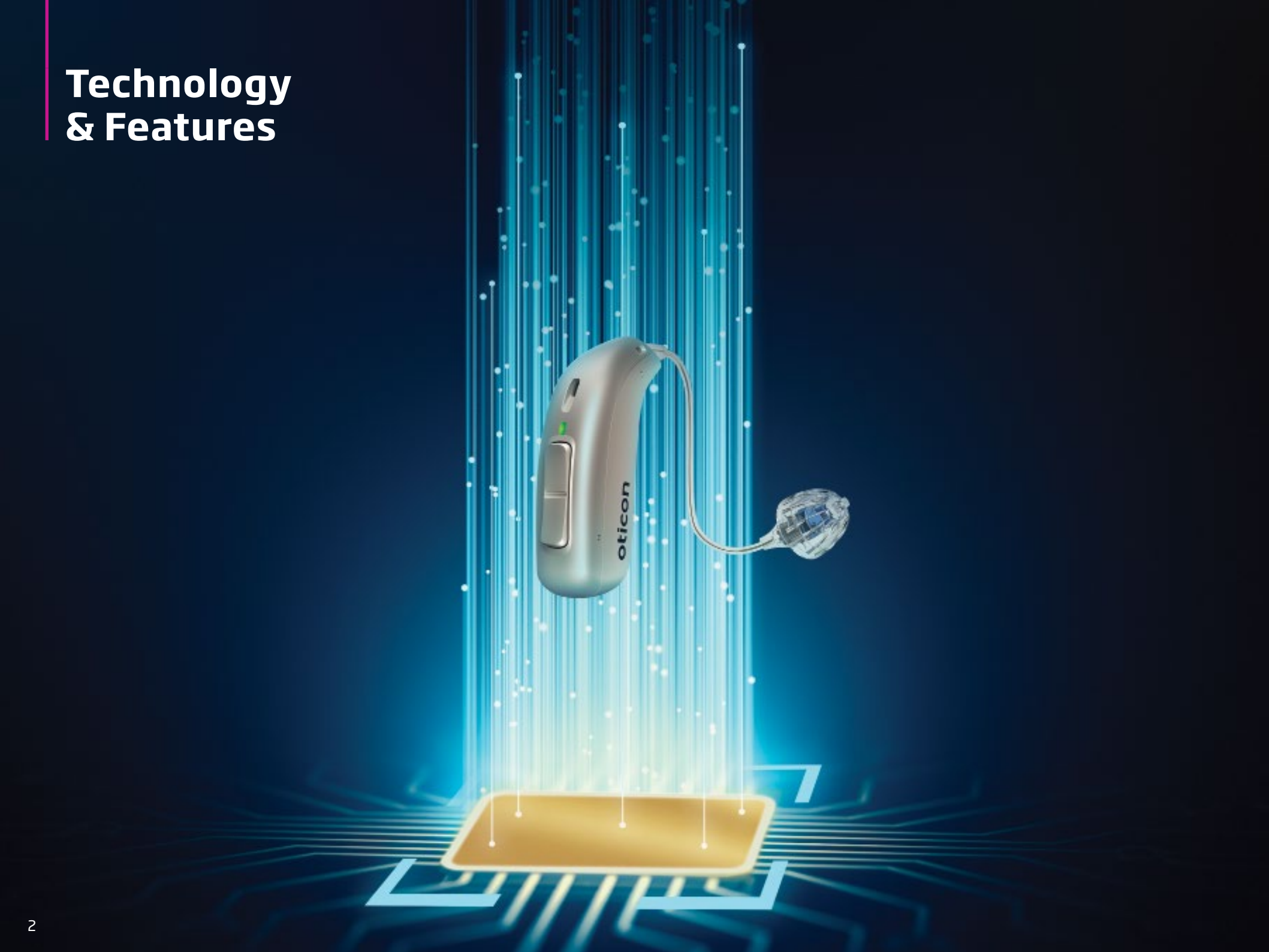
life-changing **technology**

Technology & Features



Polaris R™ platform

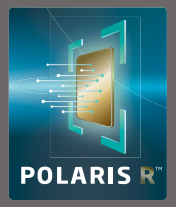
Powering RealSound Technology™ in Oticon Real™

The Polaris R platform delivers the processing capacity to give people the full, open sound scene, while powering groundbreaking new innovations that protect them from disruptive sounds.

Purpose-built for hearing aids, this cutting-edge platform constantly runs new detectors for fast processing of disruptive sounds. This ensures the details of all sounds are processed automatically and precisely – for the most optimal sound output to each patient.

The platform also includes an onboard Deep Neural Network (DNN) which has been trained with 12 million real-life sound scenes. This optimizes the way Oticon Real makes sounds more distinct, working seamlessly across varying listening environments. With the addition of two new innovations: **SuddenSound Stabilizer** and **Wind & Handling Stabilizer**, Oticon Real takes this DNN-based sound processing to the next level.

Signal processing is performed in 24 frequency channels, giving precise processing of sound and personalized fine tuning of gain. Moreover, the platform is future-ready, meaning Oticon Real hearing aids can be updated wirelessly with the latest improvements as the technology continues to develop.



TELL YOUR PATIENT

Delivering the full, open sound scene while protecting you from disruptive sounds requires Oticon's most powerful platform to date – Polaris R.

Contents

MoreSound Intelligence™ 2.0

A quantum leap in sound scene processing
MoreSound Intelligence 2.0 processes sound in a way that results in a more natural representation of all sounds in a clear, complete and balanced sound scene. The addition of the new Wind & Handling Stabilizer innovation ensures the best possible input for sound processing in MoreSound Intelligence 2.0 by preventing wind and handling noise from entering the system.

The process runs in several parts: Wind & Handling detection and prevention, Scan and analyze, Spatial Clarity Processing, and Neural Clarity Processing – as seen in the graphic to the right. The processing of wind and handling noise is described under Wind & Handling Stabilizer on page 9. The way sound is handled in the remaining parts of MoreSound Intelligence 2.0 is entirely determined by how the sound scene is labeled by the user as either easy or difficult. This is defined in the fitting software (see page 6).

Processing happens in 24 linked channels. This means all channels can 'see' what is happening in the other 23 channels, in order to minimize the risk of artifacts.

Scan and analyze
The sound scene is scanned 500 times per second, which results in a precise analysis of all sounds and the complexity of the surroundings. The user's personal listening preferences, as set in Oticon Genie 2, are applied to establish a clear target for how to handle sound scenes.

Spatial Clarity Processing
Because placing a hearing aid behind the ear eliminates the natural ability to utilize natural spatial cues provided by the pinna, Spatial Clarity Processing recreates these natural cues with Virtual Outer Ear. Virtual Outer Ear consists of three different true-to-life pinna simulations that can be chosen based on the user's spatial sound needs. In difficult environments, Spatial Clarity Processing utilizes Spatial Balancer to quickly balance distinct sound sources in the environment, even when they are moving.

Neural Clarity Processing
Classic signal processing in hearing aids was based on algorithms written and developed by engineers. The rules they wrote represented their best estimations of how to process sound data. Neural Clarity Processing is different. With it, sound is processed by a Deep Neural Network (DNN). The DNN works more like the brain because it learned through experience, and uses that knowledge to process sound. This makes the DNN capable of creating contrast between identified sounds and suppressing unwanted noise. For more detail on the DNN, please see page 8.

In both Spatial Clarity and Neural Clarity Processing, Sound Enhancer provides more details or more comfort in difficult situations by dynamically adding sound detail based on the user's preferences.

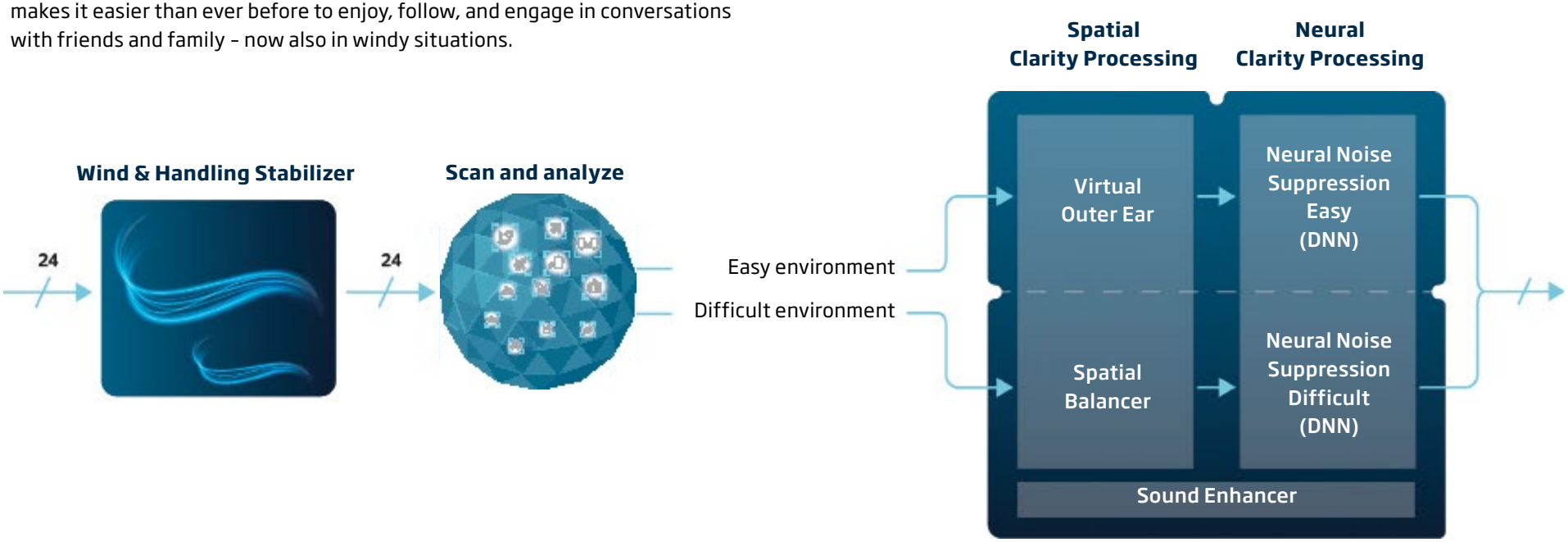
TELL YOUR PATIENT

The new way of processing sound results in a more natural representation of all sounds in a clear, complete and balanced sound scene.

Helping the brain to focus

MoreSound Intelligence 2.0 not only provides a more precise and natural representation of individual sounds, it also gives clearer and more distinct contrast between sounds, which results in a complete and balanced sound scene. Because this more nuanced sound scene gives the brain clearer information, the brain can more easily orient and identify the interesting sounds to focus on – and thus more easily make sense of the sound.

With these advances in sound scene processing, MoreSound Intelligence 2.0 makes it easier than ever before to enjoy, follow, and engage in conversations with friends and family – now also in windy situations.



For additional information on MoreSound Intelligence, see Brændgaard, M. 2020. MoreSound Intelligence. Oticon Tech Paper

MoreSound Intelligence 2.0 in Oticon Genie 2

Fine-tuning for user needs
In Oticon Genie 2, the fitting screen MoreSound Intelligence provides the hearing care professional with different handles to fine-tune the settings of the hearing aid in order to make the most optimal fitting for each individual user. This tool was developed with user feedback, and is designed to optimize ease of use and simplicity, without compromising the need for extensive customization options and fitting handles.

The adjustment of the first three handles mentioned here can be considered in the first fitting session after having a dialogue with the user. The last two handles are preference handles which can be adjusted at later visits based on user feedback after trying the hearing aids in daily life.

1. Environment Configuration
Use the Environment Configuration slider to specify which hearing situations the user finds easy and difficult. The way sound is handled will differ substantially between the Easy and Difficult categories.

2. Neural Noise Suppression - Easy
Ambient noise suppression in easy environments provided by the DNN.
Creates clearer contrasts in sound between the background and the foreground around the user where less help from the hearing aid is needed.

3. Neural Noise Suppression - Difficult
Ambient noise suppression in difficult environments provided by the DNN.
Creates clearer contrasts in sound between the background and the foreground around the user where more help from the hearing aid is needed.

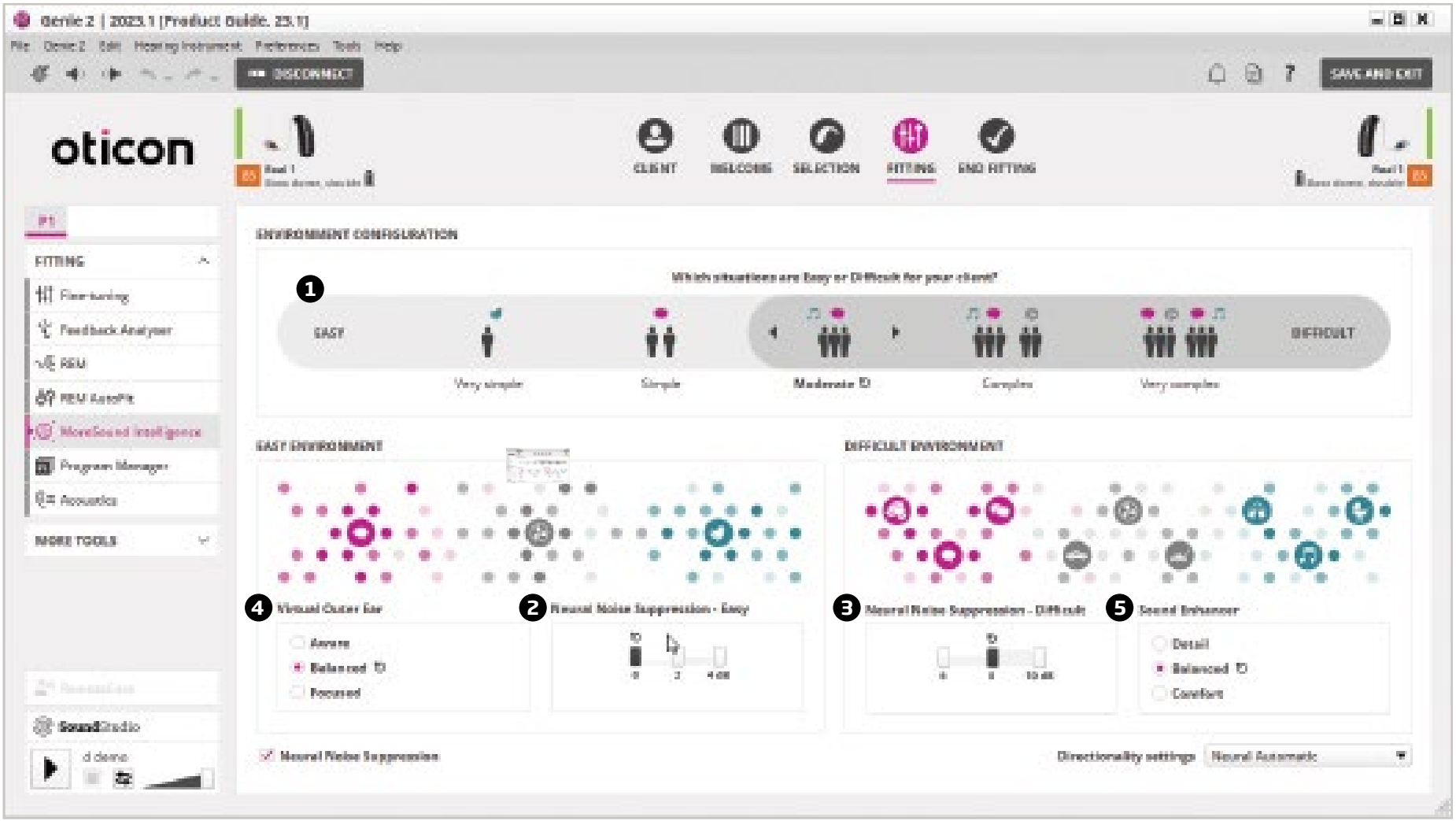
4. Virtual Outer Ear
Three true-to-life and very accurate pinna simulations. Provides the user the option of more or less frontal focus or awareness of all sounds around them.
The Balanced setting is default. Applies to easy environments.

5. Sound Enhancer
Provides dynamic sound detail, based on user preference, when noise suppression is active. Added detail is mainly provided in the 1-4 kHz area, primarily enhancing speech sounds. Applies to difficult environments.

The on/off handle for Wind & Handling Stabilizer can be found under Automatics.

TELL YOUR PATIENT

Oticon Real comes with plenty of fine-tuning options to make the fitting just right for you.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DISCONNECT
SAVE AND EXIT
CLIENT
WELCOME
SELECTION
FITTING
END FITTING
FITTING
Flex-tuning
Feedback Analyzer
REM
REM AutoFit
MoreSound Intelligence
Program Manager
Accessories
MORE TOOLS
SoundStudio
ENVIRONMENT CONFIGURATION
1
EASY
DIFFICULT
Very simple
Simple
Moderate
Complex
Very complex
EASY ENVIRONMENT
DIFFICULT ENVIRONMENT
4 Virtual Outer Ear
Aware
Balanced
Focused
2 Neural Noise Suppression - Easy
3 Neural Noise Suppression - Difficult
5 Sound Enhancer
Detail
Balanced
Comfort
Neural Noise Suppression
Directionality settings
Neural Automatic

The Deep Neural Network

Optimal support for the brain
Oticon More utilizes the intelligent capabilities of a fully trained Deep Neural Network. Just like the human brain needs to learn, the DNN also needs to learn. When the DNN has been trained and has learned how to process sound scenes it can use this knowledge to process any sound scene presented to it. It is an intelligent feature that outperforms man-made algorithms.

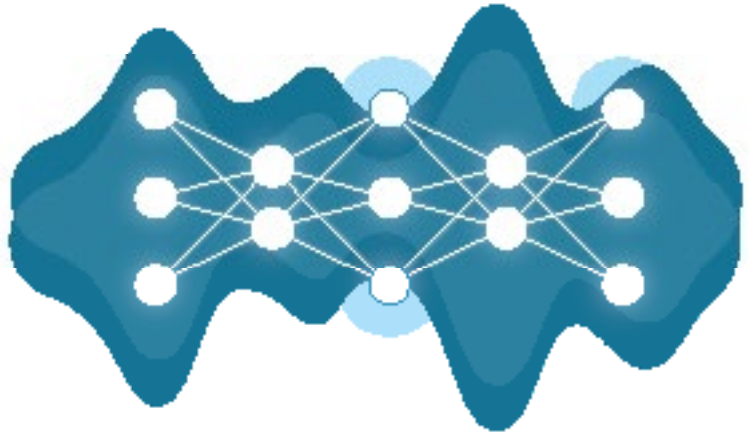
The sound scenes used for the training of the DNN were real-life sound scenes recorded using a spherical microphone. A spherical microphone has 32 advanced, individual microphones evenly distributed across the sphere. This makes it possible to record sound scenes with spatial detail and accuracy.

Once collected, 12 million sound scenes were used to train the DNN. The sound scenes were fed to the DNN and the output from the DNN was then compared to a known target, indicating to the DNN if the processing was good or bad. Based on the feedback provided to the DNN, the processing was adjusted until the optimal target was reached.

It is important that a DNN is trained sufficiently for the given task – it should not be either under or overtrained. If it is undertrained, it will not have enough knowledge to handle all sound scenes and will therefore make many errors. If it is overtrained, it will be too specialized to handle real life sound scenes different from what was used in the training. To make sure the DNN is trained to the right level, it has been trained in the development phase. The DNN has completed its training when the hearing aid is worn by the user.

The DNN is embedded on the chip so that all the incoming sounds in the sound scenes around the user can be processed incredibly fast. The DNN processes 500 inputs each second.

A Deep Neural Network enables the sounds of the world to be handled precisely and automatically. This optimizes the way Oticon Real makes sounds more distinct, working seamlessly across varying listening environments. With this integrated intelligence, Oticon Real has learned to recognize all types of sounds, their details, and how they should ideally sound – all in order to optimally support the brain.



For more information on DNN, see Brændgaard, M. 2020. MoreSound Intelligence. Oticon Tech Paper

DNN

TELL YOUR PATIENT

A Deep Neural Network creates contrast between sounds, making it easier for you to separate sounds.

Wind & Handling Stabilizer

Better access to speech in windy environments
Wind & Handling Stabilizer immediately detects and protects against wind and handling noise, in order to provide your patients with a more comfortable listening experience with better access to speech.

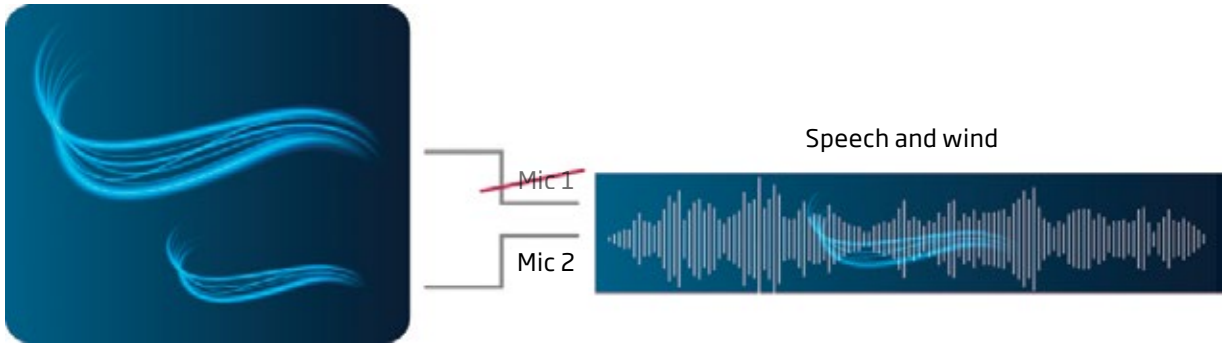
Featuring double-patented technology, Wind & Handling Stabilizer constantly monitors the input signal from both microphones on each hearing aid, to detect wind and handling noise and identify which frequency channels it affects. The feature can monitor both wind and handling because they create similar turbulence around the microphone inlets.

The interference from the turbulence depends on the wind speed. The lower the wind speed, the fewer the frequencies are affected by the noise.

For example, wind speeds below 3 m/s only affect low frequencies, while when wind speeds reach around 5 m/s, all frequencies are affected.

Wind & Handling Stabilizer detects for wind and handling noise 500 times per second. In cases of wind or handling noise, it selects the microphone with the cleanest sound input for the affected frequencies at that particular moment. In this way, the most contaminated signal is prevented from entering the subsequent processing in the hearing aid.

Wind & Handling Stabilizer then attenuates the remaining wind and handling noise from the other microphone in up to 24 frequency channels, but only in the frequencies affected by the noise. This provides cleaner sound for further processing in MoreSound Intelligence 2.0, helping hearing aid users receive better access to speech in windy environments.



For the illustration we use the example of wind.

For more information on Wind & Handling Stabilizer, see Gade, P., Brændgaard, M., Flocken, H., Preszcator, D., & Santurette, S. (2023). Wind & Handling Stabilizer – Evidence and user benefits. Oticon Whitepaper.

TELL YOUR PATIENT

Efficiently controlling the wind and handling noise in the hearing aid helps you receive better access to speech in windy environments.

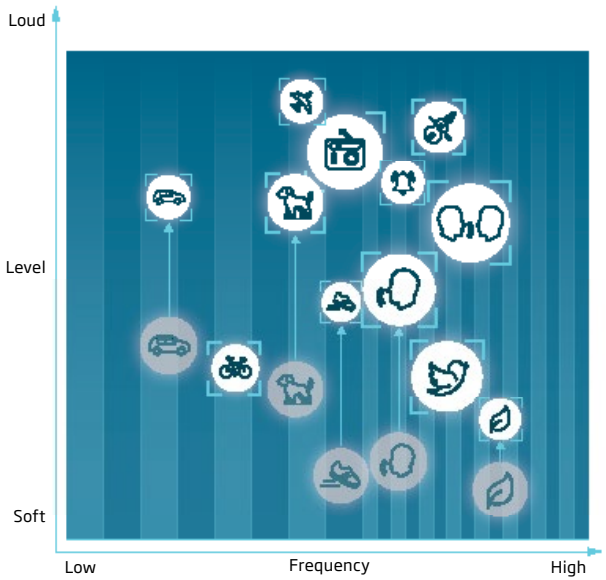
MoreSound Amplifier™ 2.0

Rapid high-resolution amplification
MoreSound Amplifier 2.0 is a dynamic and balanced amplification system that seamlessly adapts its resolution and speed to the nature of the prevailing sound scene. The new addition to MoreSound Amplifier 2.0 - SuddenSound Stabilizer - now also makes the feature capable of a fast and more precise handling of both soft and loud sudden sounds. For more information on SuddenSound Stabilizer see the next page.

With a high resolution and an adaptive speed pilot, MoreSound Amplifier 2.0 makes the full sound scene audible while maintaining the fine contrast and balance between sounds.

Sounds are constantly processed through two different paths – a 4-channel path and a 24-channel path. The system constantly identifies which type of information is present and what resolution (which path) should be prioritized when amplifying making it easier for the brain to access the information. As an example, when processing speech which changes rapidly in both amplitude, frequency, and time, we need to prioritize high precision in time, so processing in the 4-channel path is chosen. This safeguards the speech envelope. However, if a steady narrow band noise is present, which does not change much in either amplitude or frequency, we need to prioritize high precision in frequency, so processing in the 24-channel path is chosen. A steady narrow band noise could be a typical everyday alarm tone which will then be handled in a narrow frequency range to be amplified correctly without disrupting amplification of sounds in neighboring frequency channels.

This constant priority of processing paths depending on the incoming signal ensures the brain has access to the important information it needs to make sense of sound.



TELL YOUR PATIENT

The dynamic and balanced amplification system ensures the full sound scene is audible.

SuddenSound Stabilizer

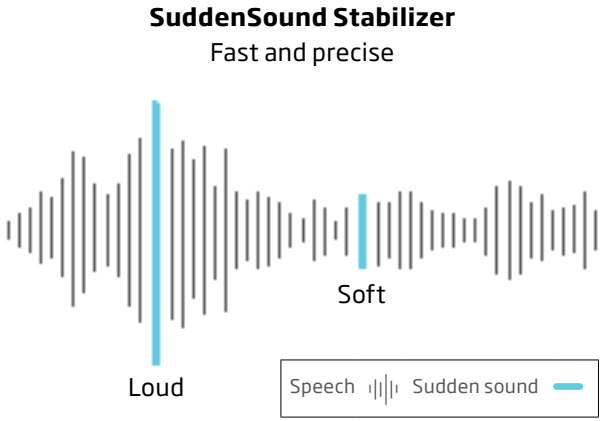
Balanced amplification of both soft and loud sudden sounds

SuddenSound Stabilizer instantly detects and controls both soft and loud sudden sounds like clicking keyboards, vehicle turn signals, or slamming doors. It keeps them audible while reducing discomfort or disruption.

Powered by new, constantly running detectors, SuddenSound Stabilizer estimates all changes in sound levels and compares them to the average sound level in the current environment. All sounds louder than the average level are considered potentially too loud, so they are further processed. Taking the average sound level into consideration means that softer sudden sounds can also be handled when needed.

Because SuddenSound Stabilizer is fast and precise, it can instantly provide the appropriate gain reduction, and instantly release the gain when the sudden sound ends. This ensures your patients receive better access to speech, while still enjoying access to all the relevant information from the sound scene. Moreover, SuddenSound Stabilizer can detect and handle up to 500,000 sudden sounds per day, helping your patients stay aware of what's going on around them – without compromising their comfort or access to speech.

SuddenSound Stabilizer is customizable in Oticon Genie 2, with six different settings to choose from. These range from Off to Max, offering a suitable solution whether your patient is sensitive to sudden sounds or not. The applied attenuation is performed in accordance with this personalized setting, to ensure audibility and comfort.



For more information on SuddenSound Stabilizer, see Santurette, S., Brændgaard, M., Wang, J., & Sun, K. (2023). SuddenSound Stabilizer – Evidence and user benefits. Oticon Whitepaper

TELL YOUR PATIENT

Better handling of both soft and loud sudden sounds will help you stay aware of what's going on around you without compromising comfort and access to speech.

MoreSound Optimizer™

Optimal gain all day, without the risk of feedback*
The technology in MoreSound Optimizer is a breakthrough for accessing speech details with more natural sound, increased comfort, and improved speech understanding – even in the most challenging listening environments.

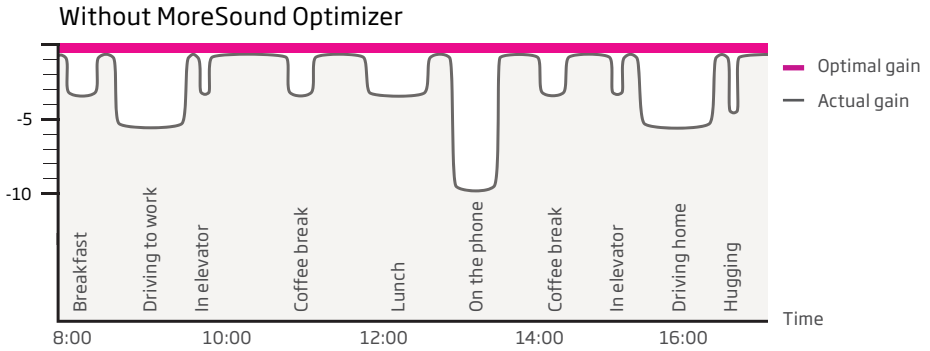
The extremely fast MoreSound Optimizer breaks the feedback loop by detecting and preventing feedback proactively, before it occurs. This makes it possible for the hearing aid to provide optimal gain all day, while eliminating the risk of feedback. Moreover, it avoids invisible gain reductions caused by the feedback management system reacting to normal, dynamic movements in and around the head and neck.

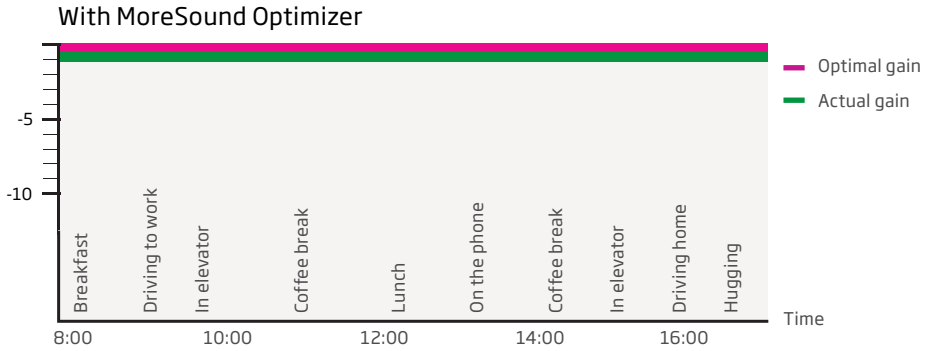
Using ultra-fast signal processing to protect the sound quality, MoreSound Optimizer:

- Predicts acoustic response by performing rapid measurements in 28 independent channels
- Counters detected acoustic changes immediately, using targeted breaker signals in one or more frequency channels
- Stops the breaker signal as soon as the acoustic response is stabilized

Optimize performance for different patients
MoreSound Optimizer offers three different settings: Normal, Low, and Off. Each can be set in Oticon Genie 2 for individual programs. The recommended setting is Normal, which provides the full benefit of the system, a fitting with optimal gain, and no feedback. An alternative setting is Low, which may be suitable for musicians or others who find that MoreSound Optimizer affects their sound quality in specific situations. Turning the entire feedback management system off is possible, however it may result in audible feedback.

MoreSound Optimizer works with Feedback shield to avoid false detections. See the Feedback shield section on page 17 for more details.





TELL YOUR PATIENT

This super-fast technology ensures you can enjoy clear, stable sound without worrying about whistling and bad sound quality.

* The benefits may vary depending on hearing loss.

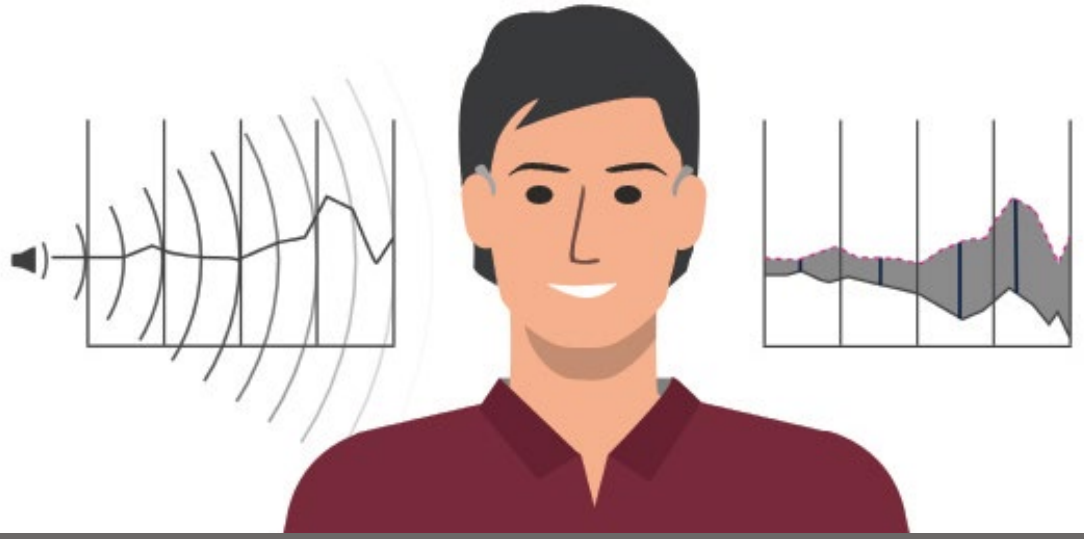
Spatial Sound™

Locate the sounds of interest
Spatial Sound combines several advanced technologies – providing more precise spatial awareness in order to help users identify where sound is coming from.

Using the energy-efficient and fast binaural communication offered by NFMI, Spatial Sound preserves interaural level differences in four frequency bands. This maintains the sense of location and direction naturally provided by the head shadow effect.

The multi-band analysis prevents low frequencies from masking higher frequencies. This ensures that interaural differences are preserved over the entire frequency spectrum.

Better-Ear Priority works with Spatial Sound and emphasizes sounds on the better ear in asymmetrical noise situations.



TELL YOUR PATIENT

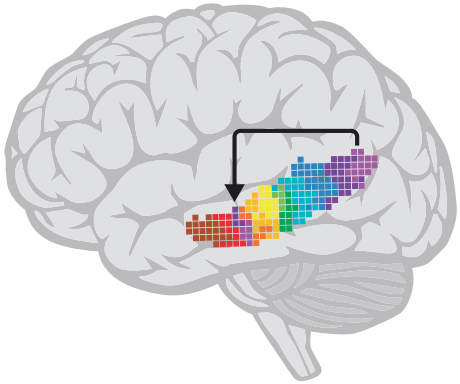
Provides a richer, more realistic sound picture so you perceive the location and direction of sounds with greater ease.

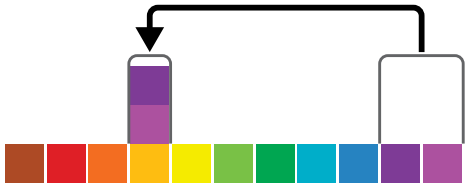
Speech Rescue™

Making high frequency sounds more audible
Missing high frequency sounds such as /s/ or /sh/ can negatively impact the flow and understanding of conversation. The Oticon methodology of frequency lowering, called frequency composition, increases speech understanding by 'rescuing' speech cues that might otherwise be lost.

The precise ability of MoreSound Intelligence 2.0 to improve signal to noise ratio makes Speech Rescue more effective in two ways: High-frequency noise is suppressed to clean the high-frequency speech signal, and that high-frequency speech is then copied into medium frequencies that are cleaned of noise.

Combined with MoreSound Amplifier 2.0, this gives users with moderate to severe-to-profound hearing loss in high frequencies access to inaudible high frequency sounds. A three-step, 'copy and keep' methodology copies inaudible high frequency sounds, places them on the edge of the maximum audible output frequency (MAOF), and ensures that the low frequencies are preserved so that vowel information and sound quality are maintained.





TELL YOUR PATIENT

Increases speech understanding by letting you hear more speech sounds like /s/ and /sh/.

Soft Speech Booster

Improves soft speech understanding
Soft Speech Booster makes soft sounds audible to people with hearing loss. By increasing access to the soft sounds that occur in most situations and conversations, Soft Speech Booster improves soft speech understanding.

The proprietary fitting rationale of Oticon, VAC+, uses multiple knee points to provide a clear focus on soft-to-moderate speech information, while preserving comfortable perception of louder sounds.

Soft Speech Booster can be personalized using questions and sound files in Oticon Genie 2 – ensuring a fitting matched to each user's unique perception of soft sound for the best possible balance between details and comfort.

TELL YOUR PATIENT

Increases access to soft sounds to improve soft speech understanding without turning up the volume.

Clear Dynamics

Better sound quality with less distortion in loud environments
Clear Dynamics expands the input dynamic range, processing input sounds up to 113 dB SPL, to provide better sound quality without distortion and artifacts at loud input levels, while keeping the sound quality of soft input levels intact.

With speech cues preserved at high input levels, users enjoy a better listening experience without distortion, even in loud environments. Clear Dynamics is especially valuable for users when listening to music or during conversations in busy, dynamic environments, where peaks can often be louder than the available input dynamic range.

TELL YOUR PATIENT

Experience superior sound quality especially when you are enjoying music or engaging in conversations in noisy environments.

Feedback shield

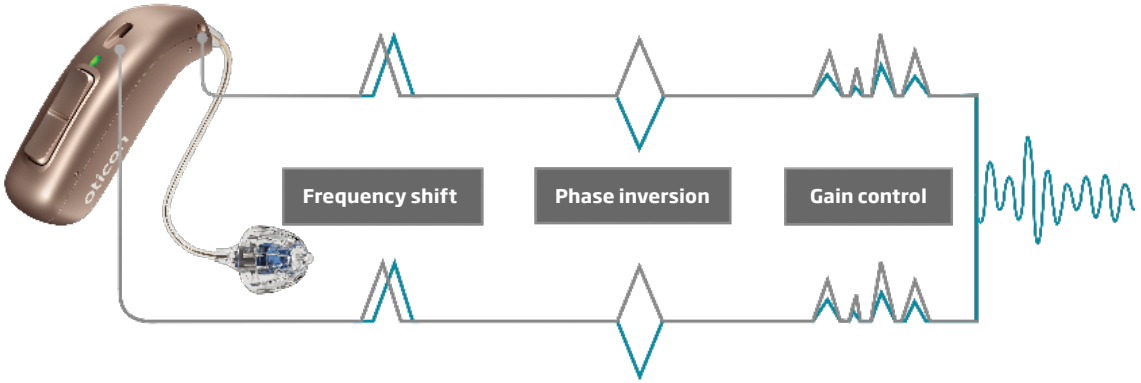
Dual-microphone feedback system for reducing and suppressing feedback
Feedback shield supports MoreSound Optimizer's ultra-fast reaction and preventive abilities in order to avoid feedback.

Working together, the two technologies combine the strengths of rapid, proactive feedback elimination with a stable adaptive system in order to avoid false detections and activation of Feedback shield's gain control.

The well-known Feedback shield operates in two separate paths – one for each microphone. In each path, three distinct technologies work together to suppress feedback and ensure stable amplification. Frequency shift optimizes phase inversion, and gain control may be applied if needed. Thanks to MoreSound Optimizer, the gain control is used far less.

MoreSound Optimizer's ultra-fast detection engages pro-active modulation to instantly stabilize the system when a feedback risk emerges. If the risk is only momentary, MoreSound Optimizer disengages the modulation when the risk has passed. If the feedback risk persists, the modulation ensures that Feedback shield can adapt and stabilize. As Feedback shield engages, MoreSound Optimizer's modulation is gradually tapered off.

Combining Feedback shield and MoreSound Optimizer allows you to add more gain to reach the target. This gives you greater flexibility in the fitting process.



TELL YOUR PATIENT

Enjoy clearer sound without worrying about annoying whistling or squealing, even in feedback-prone everyday situations like greeting someone with a hug.*

* Benefits may vary depending on hearing loss

Tinnitus SoundSupport™

A variety of relief sounds to meet the unique needs of each person with tinnitus

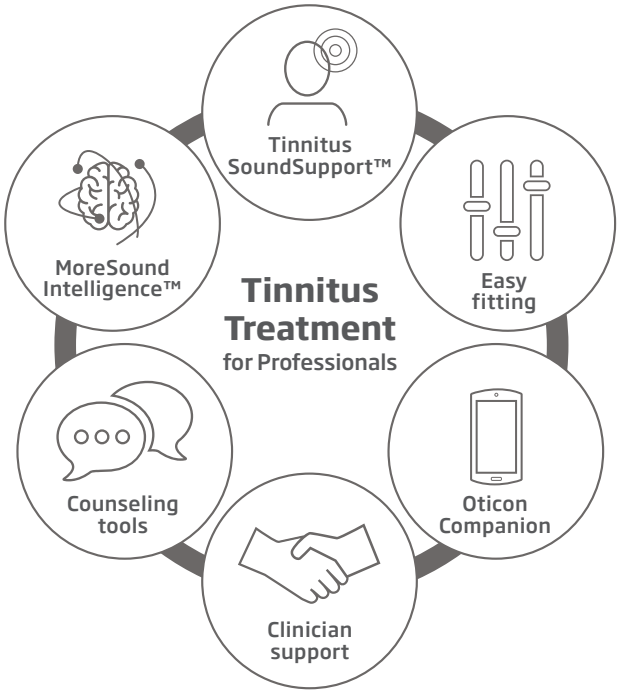
The integrated sound generator offers a wide range of sound options, including broadband sounds (shaped to audiogram, white, pink & red), and three ocean-like sounds. These nature sounds are dynamic, yet soothing, and show great promise in decreasing the annoyance of tinnitus.*

No two brains work the same, and some patients require sounds that are more dynamic, or sounds that have a unique quality.

Tinnitus SoundSupport aims to make fitting as simple and quick as possible, while giving patients a fully personalized treatment.

You can apply four modulation options to any of the broadband sounds in order to create a wider variety of relief sounds – helping to meet patients' individual needs and preferences.

Patients can adjust the volume level of relief sounds directly on the hearing aid or via the Oticon Companion app. For the patient, it means easy and discreet handling and adjustment of relief sounds whenever needed.



* Benefits may vary depending on the individual

TELL YOUR PATIENT

Tinnitus SoundSupport and MoreSound Intelligence give you the combined benefit of a balanced and rich sound experience that makes it easier for the brain to listen and provide a powerful solution for tinnitus relief. The goal is to affect your perception of your tinnitus in a positive way.

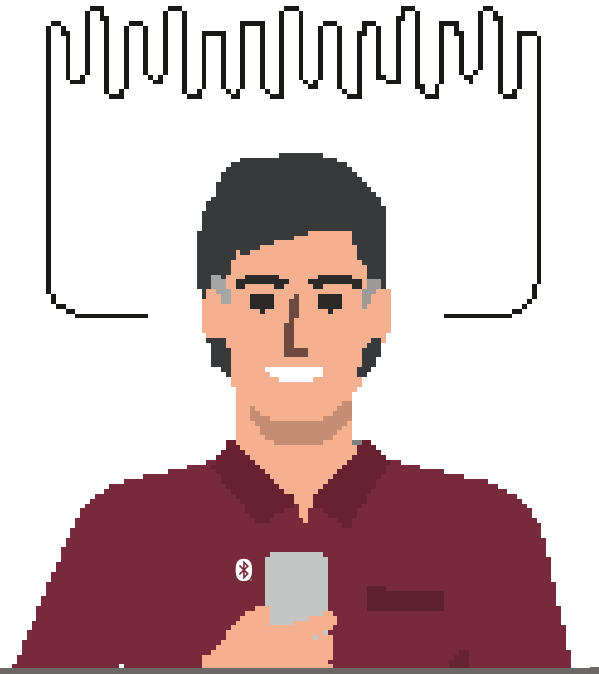
TwinLink™

Wireless connectivity and binaural processing in a small, energy-efficient solution
TwinLink technology uses two dedicated radio systems to meet distinct communication needs.

TwinLink technology supports seamless, energy-efficient communication between two hearing aids, and direct connectivity with external electronic and digital devices.

Near-Field Magnetic Induction (NFMI) enables a continuous exchange of data and audio between two hearing aids in order to provide advanced binaural processing. This communication is done with minimal power consumption. With NFMI, data and audio information are exchanged 21 times per second between the two hearing aids.

Oticon hearing aids with stereo Bluetooth® Low Energy technology connect to smartphones and other digital devices for easy, seamless wireless connectivity. This technology also allows for true wireless fitting and firmware updates.



TwinLink
NFMI + 2.4 GHz

TELL YOUR PATIENT

Hearing aids need to communicate with each other, but also with external devices. TwinLink gives you two technologies in order to provide you the best of both worlds.

Feature overview

Better-Ear Priority	Optimizes listening in asymmetrical, noisy situations	Page 13
Clear Dynamics	Expands the dynamic input range, processing sounds up to 113 dB SPL, to preserve sound quality even at loud input levels	Page 16
Feedback shield	Employs a proven and effective feedback management system to reduce the risk of feedback and suppress feedback if it occurs	Page 17
MoreSound Amplifier 2.0	Sound processing occurs in an adaptive path setup that gives priority to resolution or speed, based on the current sound scene. Including SuddenSound Stabilizer	Page 10
MoreSound Intelligence 2.0	Creates a clearer and more distinct contrast between sounds by swiftly scanning and analyzing, precisely organizing the spatial sound scene, and intelligently creating contrast and suppressing unwanted noise through the embedded Deep Neural Network. Including Wind & Handling Stabilizer	Page 4
MoreSound Optimizer	Improves listening performance and comfort with ultra-fast proactive feedback detection and prevention. Enables optimal gain all day	Page 12
Soft Speech Booster	Applies an individual amount of soft gain to increase soft speech understanding	Page 15
Sound Enhancer	Dynamically provides gain primarily for speech sounds in difficult environments, based on user preference	Page 6
Spatial Sound	Preserves interaural level differences to provide precise spatial awareness that helps users identify where sounds are coming from	Page 13
SpeechBooster	Provides additional help in moderately complex environments when needed by the user. Must be activated in the Oticon Companion app	Page 39
Speech Rescue	Makes high frequency speech sounds like /s/ and /sh/ more audible using frequency composition	Page 14
SuddenSound Stabilizer	Provides instant and balanced amplification of both soft and loud sudden sounds	Page 11
Tinnitus SoundSupport	Provides a variety of relief sounds, including soothing ocean sounds, to meet the individual needs of people with tinnitus	Page 18
TwinLink	Combines two distinct radio technologies in an innovative wireless communication system. Features one technology to support seamless, energy-efficient binaural communication between two hearing aids (NFMI) and one to support communication with external electronic and digital devices (2.4 GHz)	Page 19
Virtual Outer Ear	Provides a true-to-real ear pinna simulation with three different settings for user preference	Page 6
Wind & Handling Stabilizer	Protects against wind and handling noise from entering the processing in the hearing aid for more comfort and better access to speech	Page 9

Note: Availability of features depends on performance levels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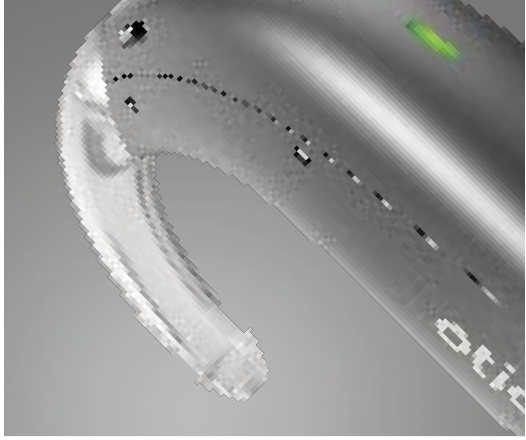
60 85 100 105

		Real 1	Real 2	Real 3
Speech Understanding	MoreSound Intelligence™ 2.0	Level 1	Level 2	Level 3
	- Environment configuration	5 Options	5 Options	3 Options
	- Virtual Outer Ear	3 Configurations	1 Configuration	1 Configuration
	- Spatial Balancer	100%	60%	60%
	- Neural Noise Suppression, Difficult/Easy	10 dB/4 dB	6 dB/2 dB	6 dB/0 dB
	- Sound Enhancer	3 Configurations	2 Configurations	1 Configuration
	- Wind & Handling Stabilizer	•	•	•
	MoreSound Amplifier™ 2.0	•	•	•
	- SuddenSound Stabilizer	6 Configurations	5 Configurations	4 Configurations
	Feedback Prevention	MoreSound Optimizer™ & Feedback shield	MoreSound Optimizer™ & Feedback shield	MoreSound Optimizer™ & Feedback shield
	Spatial Sound™	4 Estimators	2 Estimators	2 Estimators
	Soft Speech Booster	•	•	•
	Frequency lowering	Speech Rescue™	Speech Rescue™	Speech Rescue™
Sound Quality	Clear Dynamics	•	•	
	Better-Ear Priority	•	•	
	Fitting Bandwidth*	10 kHz	8 kHz	8 kHz
	Bass Boost (streaming)	•	•	•
	Processing Channels	64	48	48
Personalization & Optimizing Fitting	Fitting Bands	24	20	18
	Multiple Directionality options	•	•	•
	Adaptation Manager	•	•	•
	Fitting Formulas	VAC+, NAL-NL1/NAL-NL2, DSL v5	VAC+, NAL-NL1/NAL-NL2, DSL v5	VAC+, NAL-NL1/NAL-NL2, DSL v5
Connecting to the world	Oticon Companion app	•	•	•
	Hands-free communication**	•	•	•
	Direct streaming***	•	•	•
	ConnectClip	•	•	•
	EduMic	•	•	•
	Remote Control 3.0	•	•	•
	TV Adapter 3.0	•	•	•
	Phone Adapter 2.0 (with ConnectClip)	•	•	•
	Tinnitus SoundSupport™	•	•	•
	CROS/BiCROS support	•	•	•

• indicates feature included

* Bandwidth accessible for gain adjustments during fitting
** Hands-free communication is available with iPhone® 11 or later running iOS 15.2 or later, and iPad® running iPadOS® 15.2 or later
*** From iPhone, iPad, iPod touch®, and select Android™ devices with the Audio Streaming for Hearing Aids (ASHA) protocol

Instruments



Rechargeable and discreet miniRITE R

Oticon Real miniRITE R is a discreet, rechargeable hearing aid with a lithium-ion battery and an easy-to-use charger. It provides a rechargeable solution for patients with mild-to-profound hearing loss.

Groundbreaking new features give patients access to the full perspective of sounds – while also protecting them from disruptive sounds.

Oticon Real miniRITE R is both a Made for iPhone® hearing aid and compatible with the Android protocol for Audio Streaming for Hearing Aids (ASHA). This enables hands-free calls on select iPhone and iPad, and direct streaming from iPhone, iPad, iPod touch, and select Android devices.*

A wide variety of connectivity options and Tinnitus SoundSupport come as standard. Moreover, Oticon Real miniRITE R features a telecoil, an LED to give a visible indicator of activity, and a convenient double push-button for easy operation of volume and programs. Robust and reliable, Oticon Real miniRITE R has a certified rating of IP68 for dust and water resistance, with all vital components nano-coated inside and out. It comes in a wide range of colors including the brand-new Olive Green.**

Noahlink Wireless is the only programming device to use when fitting Oticon Real or performing hearing aid firmware updates.

* Android devices need to support Audio Streaming for Hearing Aids (ASHA) to allow direct streaming to Oticon Real. Please visit oticon.com/support/compatibility for more information.

** Only available in miniRITE R

TELL YOUR PATIENT

Oticon Real miniRITE R hearing aids you have the convenience of rechargeable batteries.

Disposable batteries with miniRITE T

Oticon Real miniRITE T is a discreet hearing aid that uses disposable zinc-air batteries. It is for patients with hearing loss ranging from mild to profound.

Groundbreaking new features give patients access to the full perspective of sounds – while also protecting them from disruptive sounds.

Oticon Real miniRITE T is both a Made for iPhone® hearing aid and compatible with the Android protocol for Audio Streaming for Hearing Aids (ASHA). This enables hands-free calls on select iPhone and iPad devices, and direct streaming from iPhone, iPad, iPod touch, and select Android devices.*

A wide variety of connectivity options and Tinnitus SoundSupport come as standard. Moreover, Oticon Real miniRITE T features a telecoil, an LED to give a visible indicator of activity, and a convenient double push-button for easy operation of volume and programs. Robust and reliable, Oticon Real miniRITE T has a certified rating of IP68 for dust and water resistance, with all vital components nano-coated inside and out.

Noahlink Wireless is the only programming device to use when fitting Oticon Real or performing hearing aid firmware updates.

* Android devices need to support Audio Streaming for Hearing Aids (ASHA) to allow direct streaming to Oticon Real. Please visit oticon.com/support/compatibility for more information.

TELL YOUR PATIENT

Choose the Oticon Real miniRITE T if you prefer hearing aids that use disposable batteries.

Rechargeable and discreet miniBTE R

Oticon Real miniBTE R is a rechargeable BTE-style hearing aid powered by a lithium-ion battery. It is small and discreet, and it suits patients with slight-to-moderately-severe hearing loss who also want the convenience of rechargeability. With new groundbreaking features, the hearing aid gives the patient access to the full perspective of sounds – while also protecting them from disruptive sounds.

Oticon Real miniBTE R is a Made for iPhone® hearing aid and compatible with the new Android protocol for Audio Streaming for Hearing Aids (ASHA) – enabling both hands-free calls on select iPhone and iPad and direct streaming from iPhone, iPad, iPod touch, and select Android devices.* It offers a wide variety of connectivity options, as well as Tinnitus SoundSupport.

A wide variety of connectivity options and Tinnitus SoundSupport come as standard. Moreover, Oticon Real miniBTE R features a telecoil, an LED to give a visible indicator of activity, and a single push-button for easy handling. Robust and reliable, Oticon Real miniBTE R has a certified rating of IP68 for dust and water resistance, with all vital components nano-coated inside and out.

Noahlink Wireless is the only programming device to use when fitting Oticon Real or performing hearing aid firmware updates

* Android devices need to support Audio Streaming for Hearing Aids (ASHA) to allow direct streaming to Oticon Real. Please visit oticon.com/support/compatibility for more information.

TELL YOUR PATIENT

Choose the Oticon Real miniBTE R if you want a small rechargeable BTE-style.

Disposable batteries with miniBTE T

Oticon Real miniBTE T is small and discreet, and powered by disposable zinc-air batteries. It comes in a wide range of colors, and it suits patients with slight-to-moderately-severe hearing loss.

Groundbreaking new features give patients access to the full perspective of sounds – while also protecting them from disruptive sounds.

Oticon Real miniBTE T is both a Made for iPhone® hearing aid and compatible with the Android protocol for Audio Streaming for Hearing Aids (ASHA). This enables hands-free calls on select iPhone and iPad, and direct streaming from iPhone, iPad, iPod touch, and select Android devices.*

A wide variety of connectivity options and Tinnitus SoundSupport come as standard. Moreover, Oticon Real miniBTE T features a telecoil, an LED to give a visible indicator of activity, and a single push-button for easy handling. Robust and reliable, Oticon Real miniBTE T has a certified rating of IP68 for dust and water resistance, with all vital components nano-coated inside and out.

Noahlink Wireless is the only programming device to use when fitting Oticon Real or performing hearing aid firmware updates

* Android devices need to support Audio Streaming for Hearing Aids (ASHA) to allow direct streaming to Oticon Real. Please visit oticon.com/support/compatibility for more information.

TELL YOUR PATIENT

Choose Oticon Real miniBTE T if you want a small BTE-style hearing aid with disposable batteries.

A choice of chargers

Oticon offers two different chargers for Oticon Real miniRITE R and Oticon Real miniBTE R: our desktop charger and our portable SmartCharger. Both chargers use inductive technology to provide reliable, fast charging* for a full day of hearing, including streaming.**

Oticon SmartCharger
The SmartCharger can be connected to a power supply or used as a power bank when a user is on the go. When fully charged, the power bank allows a user to charge a completely depleted set of hearing aids three times. Long battery life and multiple recharges provide peace of mind and security for users, even when they are away from a power supply for several days. The LED on the back indicates the charging status of the power bank when the charger is plugged in and indicates the battery level of the charger when it is unplugged and used as a power bank.

When the hearing aids are placed in the SmartCharger, they are protected by the lid during charging, transportation, and storage. Another very useful aspect of the SmartCharger is the automatic drying of the hearing aids. The hearing aids are dried as they charge, making a separate drying kit unnecessary.

Desktop charger
The desktop charger is perfect for the user who mainly needs to charge their hearing aids at home. The charger is permanently connected to a power supply. The green LED on the charger is a simple connection indicator that shows the charger is ready for use. A charger that is always 'on' makes it easy for the user to quickly place their hearing aids in the charger for an overnight charge, or for a quick recharge at any time.

Oticon SmartCharger for miniRITE R

Oticon SmartCharger for miniBTE R

Desktop charger for miniRITE R

Desktop charger for miniBTE R

TELL YOUR PATIENT

The SmartCharger is easy to take with you and even charges your hearing aids without a power outlet.

* Three hours charging for miniRITE R and three and a half hours charging for miniBTE R.

** The expected operating time for the rechargeable battery depends on use pattern, active feature set, hearing loss, sound environment, battery age, and use of wireless accessories.

Receivers, molds, and earpieces for miniRITE R and miniRITE T

miniFit receivers

Select between three different receivers.
The miniFit receivers are available with wire length 0-5.

Accessories for miniFit receivers:
- Ear grip miniFit for receiver 60
- Ear grip miniFit for receiver 85
- ProWax miniFit filter
- Measuring tool

MicroShells

Select between two MicroShell fitting levels.
MicroShells have fixed wires in length 1-5.

Accessories for MicroShells:
- ProWax miniFit filter
- Measuring tool

Power Receiver Molds

Select between two Power Receiver Mold fitting levels. Power Receiver Molds have separate wires, available in length 1-5.

Accessories for Power Receiver Molds:
- ProWax filter
- Measuring tool

Standard earpieces

miniFit domes

	5 mm	6 mm	8 mm	10 mm	12 mm
OpenBass dome	60	60 85	60 85	60 85	60 85
Bass dome, double vent		60 85 100	60 85 100	60 85 100	60 85 100
Power dome		60 85 100	60 85 100	60 85 100	60 85 100

miniFit domes characteristics:
- Compatible with miniFit receivers only
- Made of silicone
- Built-in wax protection

Grip Tip
Select between two different Grip Tip types, in two different sizes (small & large) for both left and right ear.

Grip Tip characteristics:
- More durable than domes
- Tacky texture to help prevent slippage

Customized earpieces*

LiteTip		60 85
MicroMold		60 85
MicroShell		60 85
Power Receiver Mold		100 105
LiteTip, VarioTherm®		60 85
MicroMold, VarioTherm®		60 85

* Requires taking an ear impression.

® VarioTherm is a registered trademark of Dreve

MicroMold, LiteTip, and Power Receiver Mold characteristics:
- Based on an ear impression
- Made of acrylic
- Use ProWax filter

MicroShell characteristics:
- Based on an ear impression
- Made of acrylic
- Has a fixed wire and speaker
- Uses ProWax miniFit filter

VarioTherm® characteristics:
- Based on an ear impression
- Made of thermoplastic
- Remains hard at room temperature for easy insertion
- Softens at body temperature for increased comfort and optimum sealing
- Available in two hardnesses – shore 50 and shore 70. The harder (shore 70) is standard

Please note:
VarioTherm® earpieces require gentle warming with a hair dryer before insertion or removal of the receiver.

Hook and thin tube for miniBTE R and miniBTE T

Hook and Corda miniFit (thin tube) options
The miniBTE R and the miniBTE T are defaulted with a damped hook. The more discreet Corda miniFit thin tubes are also compatible with the miniBTE R and miniBTE T.

miniBTE hook

Accessories for hooks:
- Damper

Corda miniFit


0.9 mm

Accessories for Corda miniFit:
- Length -1-4
- Ear grip miniFit for Corda
- Measuring tool

Corda miniFit


1.3 mm

Accessories for Corda miniFit:
- Length -1-4
- Ear grip miniFit for Corda
- Measuring tool

Corda miniFit earpieces

Standard earpieces

miniFit domes	5 mm	6 mm	8 mm	10 mm	12 mm
OpenBass dome 	•	•	•	•	•
Bass dome, double vent 		•	•	•	•
Power dome 		•	•	•	•

All domes:
- Are made of silicone
- Are compatible with Corda miniFit
- Have built-in wax protection

Grip Tip
Select between two different Grip Tip types, in two different sizes (small & large) for both left and right ear.


No vent


Vent

Grip Tip characteristics:
- Is more durable than domes
- Has a tacky texture to help prevent slippage

Customized earpieces*


MicroMold


MicroMold, VarioTherm®

MicroMold:
- Is made of acrylic
- Uses ProWax filter

VarioTherm®:
- Is thermoplastic
- Remains hard at room temperature for easy insertion
- Softens at body temperature for increased comfort and optimum sealing
- Available in two hardnesses – shore 50 and shore 70. The harder (shore 70) is standard

Please note:
VarioTherm® requires gentle warming of the mold with a hair dryer before insertion or removal of the thin tube.

* Requires taking an ear impression.

® VarioTherm is a registered trademark of Dreve

Oticon Real overview




Style	miniRITE R	miniRITE T	miniBTE R	miniBTE T
Battery	Lithium-ion	Zinc-air	Lithium-ion	Zinc-air
Expected operating time (h)*	24		24	
Rechargeable	•		•	
Wireless 2.4 GHz Bluetooth technology	•	•	•	•
Program control	•	•	•	•
Volume control	•	•	•	•
Telecoil	•	•	•	•
Hardware certification	IP68 – Water and dust resistant	IP68 – Water and dust resistant	IP68 – Water and dust resistant	IP68 – Water and dust resistant
Wireless fitting and firmware update	Noahlink Wireless	Noahlink Wireless	Noahlink Wireless	Noahlink Wireless

• indicates feature included

NEW

Silver | Silver Grey | Steel Grey | Diamond Black | Chestnut Brown | Terracotta | Chroma Beige | Olive Green** | Hear Pink

* The expected operating time for the rechargeable battery depends on use pattern, active feature set, hearing loss, sound environment, battery age, and use of wireless accessories.
** Available for Oticon Real miniRITE R only.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Connectivity & Accessories

Bluetooth® technology in hearing aids

Bluetooth® technology enables devices to speak together and transfer data wirelessly – be it speech, commands, or other types of data. Bluetooth® can refer to two different wireless technologies: classic Bluetooth® technology and Bluetooth® Low Energy technology. Bluetooth® Low Energy is the standard used in Oticon hearing aids because it is a newer technology that consumes much less power than classic Bluetooth®, thus ensuring a longer battery life for the hearing aids.

iPhone, iPad and iPod touch

Oticon Real hearing aids are Made for iPhone® hearing aids that support hands-free communication,* making it possible for your patients to make or receive hands-free phone and video calls from their iPhone or iPad. Your patients can also stream sound directly from iPhone, iPad, and iPod touch to Oticon Real hearing aids.

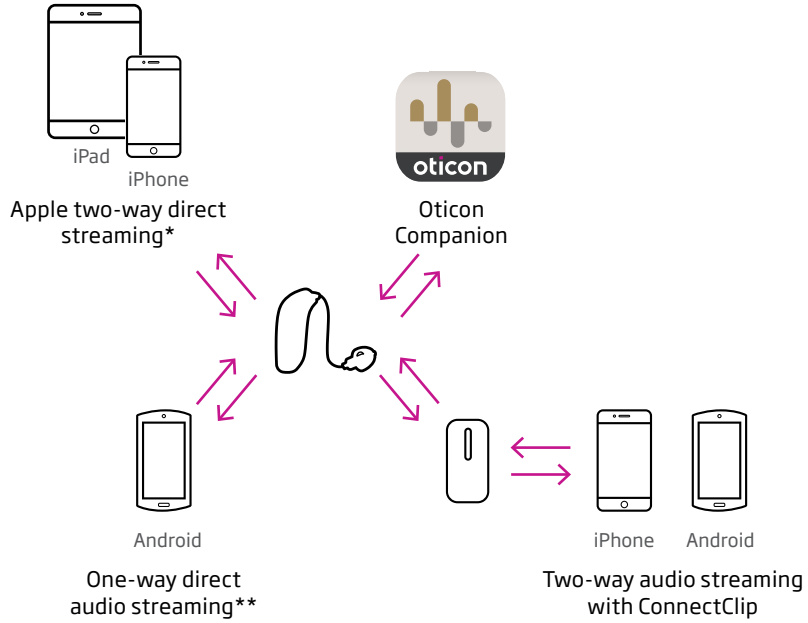
Android devices

Android users can enjoy direct streaming of phone calls, music, or any other audio from an ASHA-compatible phone.** ASHA is short for Audio Streaming for Hearing Aids, and it is an Android protocol based on Bluetooth® Low Energy that makes it possible for Android devices to stream audio to hearing aids.

ConnectClip

If hands-free communication or direct streaming are not supported by a patient's phone or hearing aids, ConnectClip is the intermediary device needed to connect the phone to the hearing aids and enjoy hands-free calls.

ConnectClip acts as a microphone and streams sound between the hearing aids and other sound devices.
To find out more about the compatibility of Oticon Real with smartphones, apps and connectivity products, see oticon.com/support/compatibility



* Hands-free communication is available with iPhone 11 or later running iOS 15.2 or later, and iPad running iPadOS 15.2 or later

** One-way direct streaming from Android is only possible if the mobile device supports ASHA. See which hearing aids and devices are compatible here: oticon.com/support/compatibility

DID YOU KNOW

Hearing aids with Bluetooth® Low Energy technology use significantly less of their battery capacity while streaming than hearing aids with classic Bluetooth®.

Hands-free communication

Oticon Real hearing aids with Bluetooth® Low Energy technology are Made for iPhone® hearing aids that also support hands-free communication,* making it possible for your patients to make or receive hands-free phone and video calls from their iPhone and iPad. Your patients can call their loved ones on the road, take calls when they are out exercising, and enjoy all the possibilities of multi-tasking with their hands free.

How it works:

- Your patient makes or receives a call on their iPhone or iPad
- The call audio is sent wirelessly to their hearing aids
- The hearing aid's microphones capture your patient's voice
- Their voice is sent to the iPhone or iPad

Made for iPhone | iPad

* Hands-free communication is available with iPhone 11 or later running iOS 15.2 or later, and iPad running iPadOS 15.2 or later.

TELL YOUR PATIENT

Oticon Real hearing aids support hands-free communication,* making it possible for your patients to make or receive hands-free phone and video calls from their iPhone or iPad.

Streaming directly from a mobile device

Oticon Real offers an immersive streaming experience with excellent sound quality from mobile devices.

iPhone, iPad and iPod touch

Oticon Real is a Made for iPhone® hearing aid. It can directly connect to iPhone, iPad and iPod touch for streaming audio and thereby act as wireless headphones – without the need for an intermediary device.

Android devices

Oticon Real also supports Audio Streaming for Hearing Aids (ASHA) and can therefore stream audio directly from Android devices that also support ASHA.** Users of devices that do not support ASHA should use ConnectClip as an intermediary device.

Made for iPhone | iPad | iPod

Works with android

** See which hearing aids and devices are compatible here: oticon.com/support/compatibility

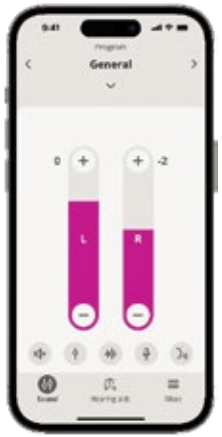
TELL YOUR PATIENT

Stream sound directly from iPhone, iPad, iPod touch and select Android devices to your Oticon Real hearing aids.

Controlling hearing aids with Oticon Companion

Oticon Companion is an app that gives people a discreet way to control their hearing aids. Using the app, your patients can:

- Adjust the volume of their hearing aids independently and switch between listening programs including Oticon MyMusic
- Keep an eye on their battery level
- Find their hearing aids if they lose them
- Use SpeechBooster to reduce background noise and enhance speech whenever they need to focus on a conversation
- Fine-tune the sound when streaming music or movies using the streaming equalizer feature
- Interact with wireless accessories that are paired with their hearing aids, including TV Adapter, EduMic and ConnectClip
- Receive remote support from their hearing care professional via a live video call, and have their hearing aids adjusted in real-time



Download on the App Store

GET IT ON Google Play

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Oticon MyMusic – a dedicated program for music lovers

With Oticon MyMusic, we have taken a giant step towards overcoming one of the toughest challenges for hearing aids: making an outstanding music listening experience.

Co-created with music lovers who have different types of hearing loss, Oticon MyMusic is tailor-made to deliver excellent music performance, with music-oriented signal processing strategies such as an optimized compression scheme. This processing captures the complex dynamics of music much better than trying to apply ordinary speech processing strategies to music.*

With this new capability, we've taken an impressive step in improving the music listening experience for people with hearing loss.

CES INNOVATION AWARDS 2022 HONOREE

* Brændgaard, M. (2021). The development behind Oticon MyMusic. Oticon Tech paper.

TELL YOUR PATIENT

Connect your smartphone to your hearing aids to control volume, switch programs, check battery level – and more – just with a tap of your finger.

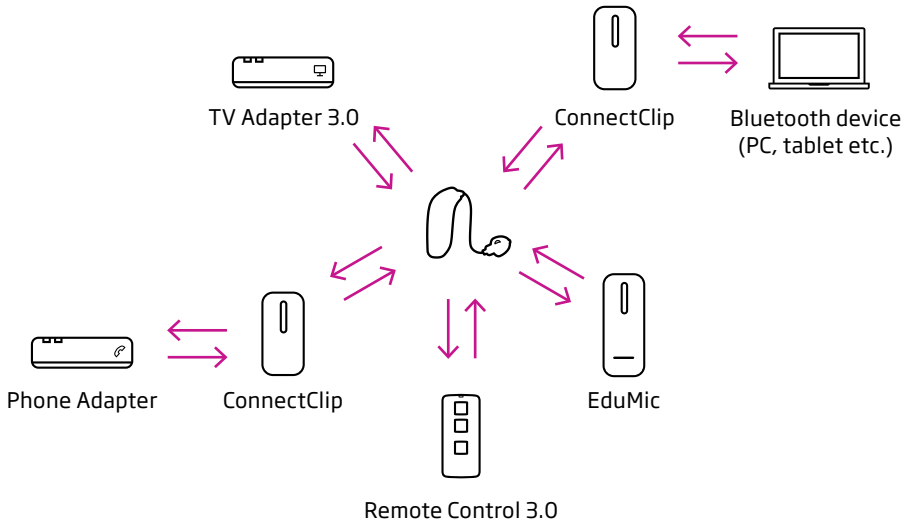
TELL YOUR PATIENT

Change the program to Oticon MyMusic whenever you want to listen to live music or streamed music.

An extensive range of connectivity possibilities

Oticon Real hearing aids can connect wirelessly to a wide range of devices:

- **Smartphones** – Enable music & audio streaming and use of Oticon Companion for hearing aid control
- **ConnectClip** – Transforms hearing aids into a wireless headset and also works as a remote microphone
- **TV Adapter** – Streams TV sound directly to hearing aids without affecting the TV volume level
- **Remote Control** – Helps people discreetly control their hearing aids
- **Phone Adapter** – Connects hearing aids to a landline phone, together with ConnectClip
- **EduMic** – Helps people overcome distance and noise, by acting as a remote microphone, a telecoil receiver, or a media streamer



TELL YOUR PATIENT

Expand the benefits of your hearing aids using Oticon connectivity devices.

TELL YOUR PATIENT

Enjoy comfortable hands-free calls using ConnectClip.

Calling hands-free with ConnectClip

From mobile devices
Oticon Real hearing aids, used together with ConnectClip, allow for hands-free, two-way audio streaming of conversations from any device supporting classic Bluetooth technology. The hearing aids are transformed into a wireless headset and the user's voice is picked up by ConnectClip's built-in directional microphones.

From a landline
Phone Adapter 2.0, used together with ConnectClip, allows for hands-free, two-way audio streaming of conversations between a landline and the hearing aids.

Streaming from a computer or tablet with ConnectClip

Using ConnectClip, users can stream any sound wirelessly from their computer to their hearing aids – for instance music or an audiobook. They can also have video conversations as their voice is streamed back to the computer using ConnectClip's microphone.

ConnectClip can be directly paired to the computer or via the BTD 800 USB dongle for a stronger and more reliable connection.

TELL YOUR PATIENT

Stream video conversations between your computer and your hearing aids.

Streaming from a TV with TV Adapter 3.0

TV Adapter 3.0 enables users of Oticon Real to wirelessly stream the sound from their TV or home entertainment system directly to their hearing aids. Users can set the volume to their preferred level – while keeping the TV volume comfortable for others in the room – and enjoy a quality listening experience free from the distraction of surrounding noise.

TV Adapter 3.0 offers multiple options to connect to TVs and other audio sources.

TV Adapter 3.0 can simultaneously stream to as many Oticon hearing aids as needed. Users of Oticon Real hearing aids can pair with up to 4 TV Adapters and use the Oticon Companion app to select the one they wish to stream sound from.

TELL YOUR PATIENT

Listen to your TV at the volume that you prefer, while keeping it comfortable for your family.

Streaming from a hearing loop system

Oticon Real features a telecoil and can stream audio from hearing loop systems without any additional device.

Making the most of education with EduMic

EduMic enables users to transmit their teacher's voice clearly and directly to their hearing aids. It has been shown to improve speech understanding in noisy and reverberant environments, for an enhanced learning experience.

EduMic streams sound from numerous media outlets directly to hearing aids. It also connects to existing FM classroom systems.

TELL YOUR PATIENT

Get access to sound from hearing loop systems in public places such as theaters, museums, lecture halls, or cinemas.

TELL YOUR PATIENT

Transmit your teacher's voice directly to your hearing aids to overcome distance and noise.

Hearing from a distance with ConnectClip or EduMic

Oticon ConnectClip and EduMic are both remote microphones that can stream another person's voice directly to Oticon Real hearing aids. They can help the user hear what's important, even in crowded and noisy environments or when the speaker is some distance away.

Using the Oticon Companion app, users can also adjust environmental noise to focus more easily on their conversation partner.

TELL YOUR PATIENT

Hear the voice of your conversation partner clearly, directly in your hearing aids, even at a distance or in noisy environments.

Controlling hearing aids with Remote Control 3.0

Remote Control 3.0 is a small device that gives users discreet control over their Oticon hearing aids. It makes it possible to easily adjust volume, switch between programs, or mute the hearing aids without touching them. Remote Control 3.0 is especially beneficial for users with dexterity challenges or for people in need of a discreet way to control their hearing aids in social situations.

TELL YOUR PATIENT

Control your hearing aids easily using a small and discreet device.

life-changing
technology

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oticon
life-changing **technology**