

OTICON | **Play PX**

# Unleash the magic of childhood



**oticon**  
life-changing technology



# Oticon Play PX – dedicated to childhood

New pediatric hearing aids give children access to the full sound environment



## Unleash the magic of childhood

Children are adventurers. Always looking for new experiences. Experiences filled with sounds, conversations, interactions – elements vital to children’s growth.

At Oticon, we know that children with hearing loss need access to all relevant sounds in the sound scene, and our latest pediatric hearing aid has been developed to do just that.

New Oticon Play PX is the world’s first pediatric hearing aid with an on-board Deep Neural Network (DNN), trained on 12 million real-life sound scenes that learned to recognize sounds through experience, like children’s brains do naturally. Packed with innovative technologies, Oticon Play PX gives children with hearing loss access to the entire sound scene.





Powered by Polaris™ – our most intelligent and powerful platform ever – Oticon Play PX is available in rechargeable and non-rechargeable styles, and able to connect with remote microphones, and select iPhone® and Android™ devices.

Oticon Play PX hearing aids are available in miniBTE and miniRITE styles and support children's brain development by ensuring they have access to the sound they need, to unleash the magic of childhood.

## A complete pediatric family



miniBTE R



miniBTE T



miniRITE R



miniRITE T



### Superior sound quality

The unprecedented sound processing features provide clear access to the full sound environment.



### Learning environment

Oticon Play PX is supported by EduMic – a remote microphone system built for educational settings.



### Next generation connectivity

Oticon Play PX makes it possible for children to connect to their favorite devices.



### Rechargeable

Oticon Play PX is available in two rechargeable styles, providing power for a full day\*.



### Child-friendly design

Oticon Play PX is robust and designed to provide comfort and safety for children's active lives.



### Best practice fitting

Oticon Play PX comes with recommended feature settings and is supported by DSL v5.0.

\*Lithium ion performance varies depending on hearing loss, lifestyle and streaming behavior.



# Experiences are vital to children's development



## Children's development is a result of learned experiences

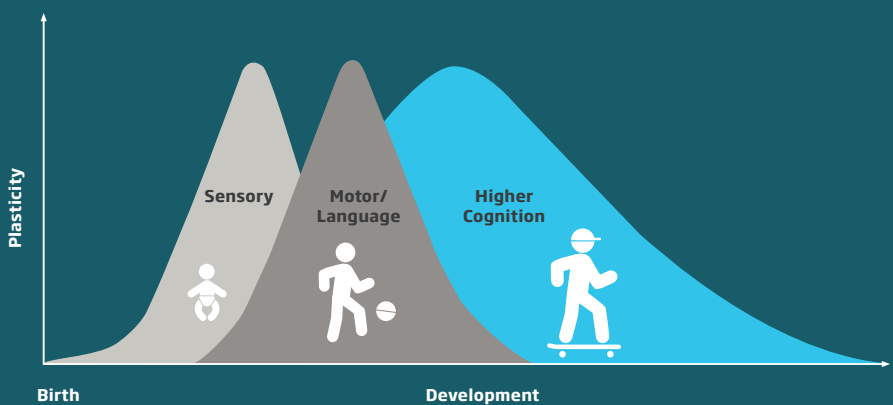
Our brains start developing before we are born, and they continue to grow rapidly in early childhood and into adolescence. The developing brain is highly plastic. During this period of rapid development, the experiences we encounter along the way stimulate the brain and support development of important skills, cognitive function, and other growth benefits throughout childhood.

Without full access to communication and the world of sounds around them, children with hearing loss may not get sufficient sensory input to meet developmental targets. Hearing aid technology plays an essential role in helping children with hearing loss meet those targets and optimize their childhood experiences; paving the way to a life-changing impact.





Brain development is a hierarchical process for wiring the brain with higher-level processes, building on a foundation of lower-level processes. For example, language development depends critically on sensory and perceptual development (e.g., discrimination of speech sounds).\*



\* Gordey, D. & Ng, E. 2021. Pediatric BrainHearing. Oticon Whitepaper



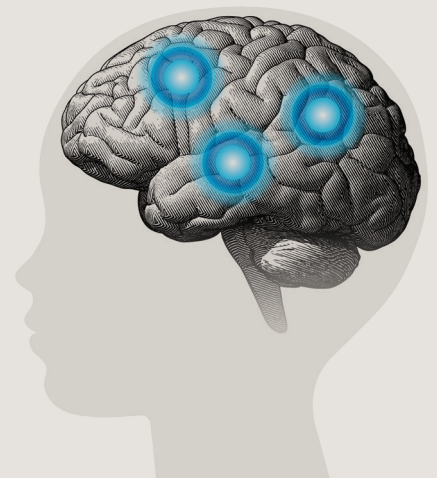
# Backed by science. **Proven by children.**



## **Oticon Play PX is designed to support the brain**

Oticon has always taken the approach of developing hearing care technology that supports the brain in making sense of sound. We don't just focus on the ears, we think brain first.

Through proven BrainHearing™ technology, Oticon Play PX hearing aids give children access to the full sound environment in a more natural way. The result is optimal support for children's language, learning, and social development.





# Oticon Play PX promotes participation in everyday listening environments

## Background

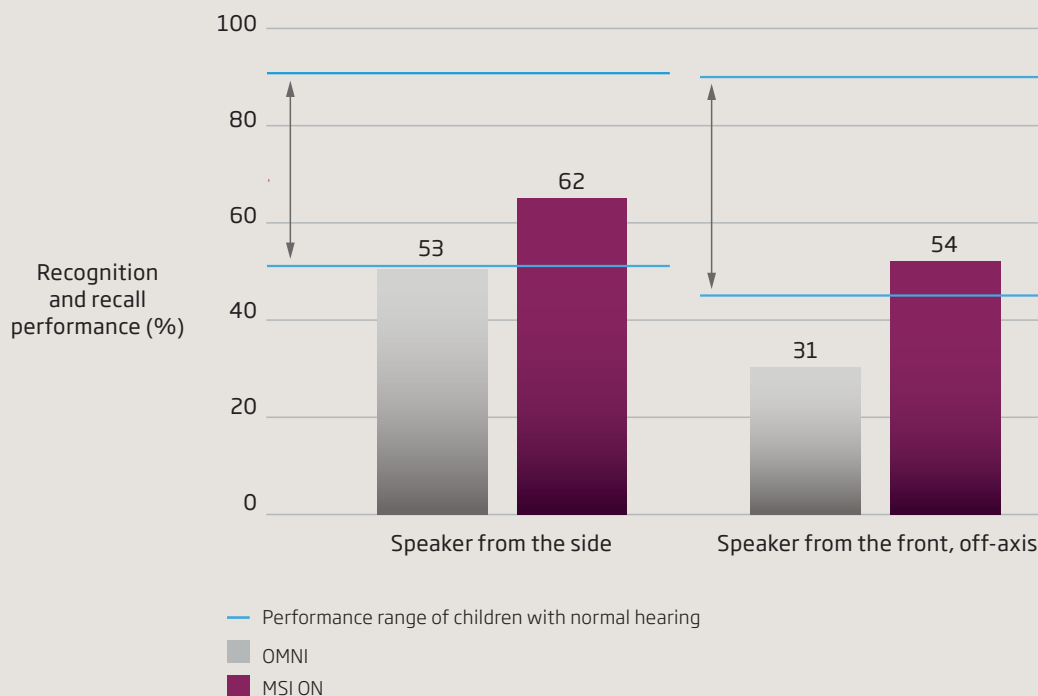
Independent research shows that to grow, develop and mature, children need access to all sounds. However, their everyday listening environments are often complex and noisy, reducing their communication access. This is why providing effective support for children with hearing loss is so crucial.\*

Many children are educated alongside their normal hearing peers, so it is important that they have full communication access. To participate, interact, and develop social relationships in their formative listening environments, children with hearing loss require communication access that is similar to their peers. Recognizing and recalling speech coming from several directions is essential for active social participation.\*\* However, with conventional hearing aid technology, this may be challenging in noisy environments.

To evaluate the performance of Oticon Play PX, we simulated typical listening environments, including dynamic noise and speech coming from different directions. We wanted to understand how Oticon Play PX supports children's word recognition and recall, in these complex listening environments, with reference to children who have normal hearing.

When noise is present in the environment, MoreSound Intelligence™ (MSI) controls it and when speech is present MSI preserves it - even from multiple directions. For example, results showed that when speech is presented from the front and off-axis, or from the side, children with hearing loss had improved communication access using MSI compared to an omni-directional microphone setting. Oticon's innovative hearing aid technology continues to evolve, and we believe Oticon Play PX will make a life-changing difference to children with hearing loss by increasing their opportunities to communicate and participate in social environments.

## Improved recognition and recall when speech is presented from different directions.



\* Cruckley, J. et al. 2011. J Educ Audiol, 17. Tomblin, J. B. et al. 2015. Ear Hear, 36 (Suppl 1)

\*\*Gordey, D. & Ng, E. 2021, Oticon Play PX: Supporting Communication, Learning an Inclusion for Children and Teens, Oticon Whitepaper



# Powered by Polaris™ – our most intelligent platform ever

The world's first pediatric hearing aid featuring an on-board Deep Neural Network (DNN)

The Polaris platform is the backbone of Oticon Play PX and was built specifically for hearing aids. It constantly runs a highly intelligent DNN, trained with 12 million real-life sound scenes, just like the brain itself. The platform powers all the technologies in Oticon Play PX with more speed, precision and capacity than ever before,\* giving children's brains the access they need to make sense of sound.

**16x**

more capacity to execute advanced algorithms\*\*

**Twice**

the computation capacity and speed\*\*

Intelligent use of industry-leading

**64-channel processing**

**2x**

precision in 1.5-5kHz frequency bands\*\*

**On-board**

Deep Neural Network processing

\*Brændgaard, 2020b.

\*\*Compared to Velox S™ platform.



Oticon  
BrainHearing™  
Technology



Powered by  
**POLARIS™**





MoreSound Intelligence™

# Gives children access to the full sound scene



## Life-changing three part signal processing

### 1. Scan and Analyze

MoreSound Intelligence scans the full sound scene 500 times per second, resulting in a precise analysis of all sounds and the complexity of the surroundings. It then applies the optimized child-specific settings to establish a clear target for how to handle all varying sound scenes.

### 2. Spatial Clarity Processing

Once the environment is scanned and analyzed, Spatial Clarity Processing precisely organizes the sounds around the child. Spatial Clarity Processing includes two main technologies. In easy environments, Virtual Outer Ear is active, modeling the filtering of real human pinnae to recreate natural and accurate spatial information. In more complex environments, the more powerful Spatial Balancer takes over. It makes sure meaningful

sounds remain accessible and stay precisely balanced against potentially disturbing noises around the user.

### 3. Neural Clarity Processing

Neural Clarity Processing utilizes the DNN's training from 12 million real-life sound scenes to analyze the intricate details of virtually all sounds to create contrast between the identified sounds. The result is a more natural representation of all sounds in a clear and balanced sound scene, enabling children to more easily make sense of surroundings.

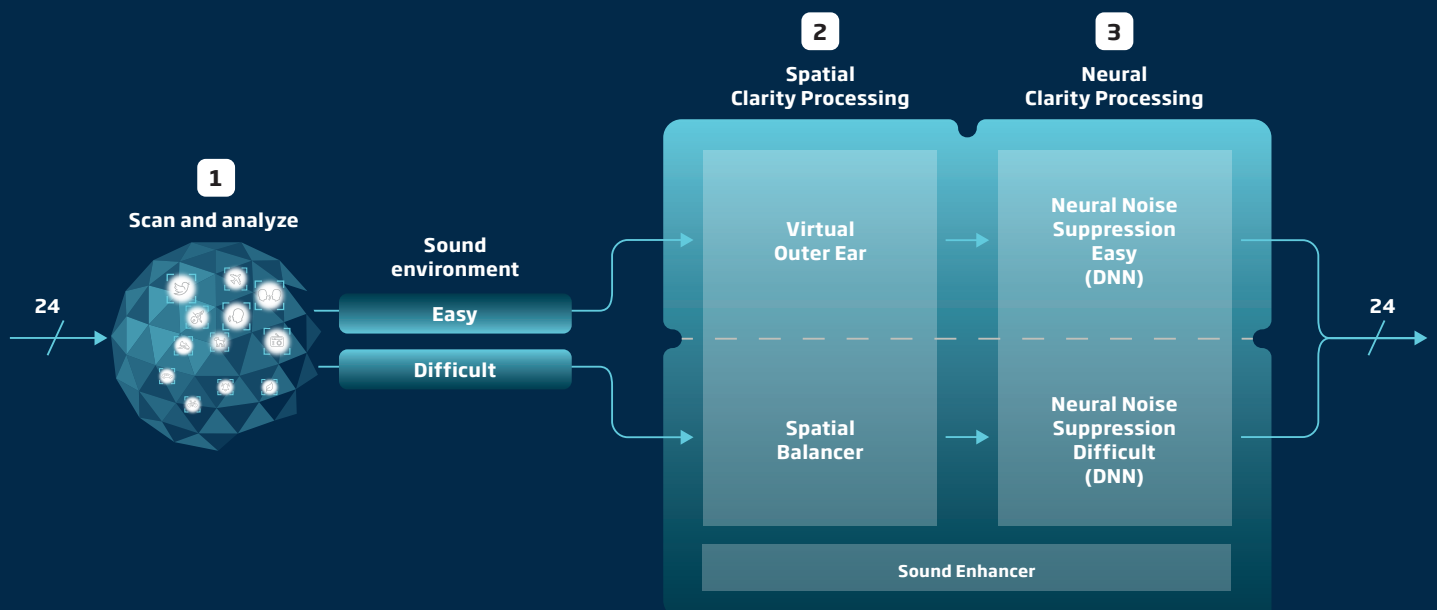
### Sound Enhancer

Working with both Spatial Clarity and Neural Clarity processing, Sound Enhancer dynamically adds sound details in difficult environments, mainly in the frequency regions important for speech.



## An innovative feature

MoreSound Intelligence is a groundbreaking new feature that makes it easier for the brain to separate sounds and focus on what is important. It is comprised of three parts that work together to provide the brain a more precise and natural representation of all sounds in the environment. This gives the brain clear information, making it easier to make sense of sound for improved speech recognition and recall.





# Intelligent amplification and feedback prevention

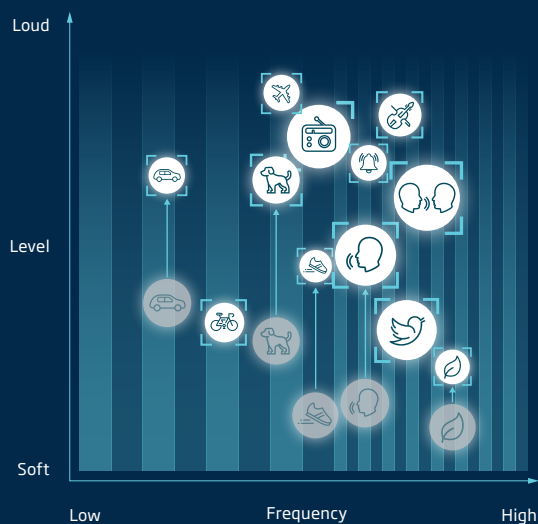


MoreSound Amplifier™

## Balanced, precise amplification

MoreSound Amplifier is a dynamic and balanced amplification system that seamlessly adapts its resolution and speed to the nature of the sound scene at hand.

With a six-fold increase\* in resolution and an adaptive speed pilot, MoreSound Amplifier makes the full sound scene audible while maintaining the fine contrast and balance between sounds. Important speech cues are kept audible for the child to ensure the brain has access to the important information it needs to make sense of sound.







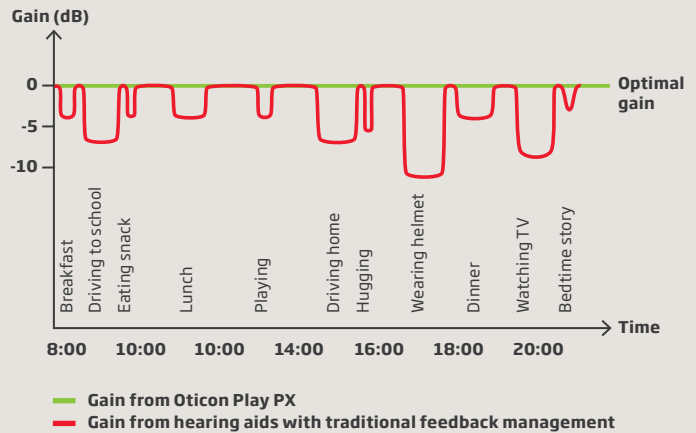
MoreSound Optimizer™

## Say goodbye to feedback

Traditional anti-feedback systems are too slow and can leave hearing aid users under fit due to unstable amplification. MoreSound Optimizer prevents feedback from happening and dramatically reduces gain reductions during the day. Oticon Play PX provides optimal amplification in a more comfortable and stable way.

MoreSound Optimizer analyzes the amplified sound at an amazing 56,000 times per second and prevents feedback before it even occurs. The result is better sound quality and consistent access to speech with increased comfort. This means children are free to play, hug, and interact.

### Oticon Play PX – feedback prevention examples:



## 6 dB more gain, means up to 25% more speech cues

Without the high risk of feedback, Oticon Play PX enables you to fit pediatric clients with up to 6 dB more stable gain.\* This provides the child's brain with up to 25% more speech cues.\*\* MoreSound Optimizer equips you with what you need to make sure the child leaves your clinic with more access to speech throughout the day.

“ Sometimes I am not even aware that my hearing aids are whistling. My friend tells me, and that is sort of embarrassing. ”

\_\_\_\_\_ Matt, hearing aid user

\* Callaway, S. 2019. Oticon whitepaper  
 \*\* Speech intelligibility index. ANSI S3.5



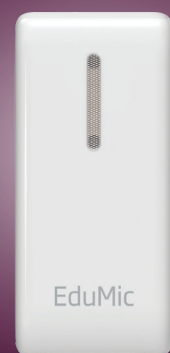
# Let children connect to the world



## A user-friendly remote microphone built for classrooms

Children acquire new words and knowledge through their everyday experiences. Learning typically takes place in educational settings like classrooms, where noise levels can be high. Acoustics are not always optimal, and reverberation and distance can have detrimental effects on speech understanding.

EduMic is an easy-to-use classroom hearing solution. It provides clear and reliable direct access to the teacher's voice from a wireless remote microphone to help children manage noise, reverberation, and distance in the classroom. Research shows that EduMic improves children's speech understanding in class, language development, learning, and social opportunities.\* In addition, EduMic performs better than traditional frequency modulated remote microphone systems when compared in noisy environments.\*\*







## Direct streaming from children's favorite devices

Oticon Play PX is a Made for iPhone® hearing aid and is also compatible with the Android™ protocol for Audio Streaming for Hearing Aids (ASHA). This makes it possible to stream directly from iPhone®, iPad®, iPod touch®, and select Android devices.\* Oticon Play PX can also be combined with ConnectClip to stream from any Bluetooth® device, and offers an extensive range of connectivity options.

With the Oticon ON app, it becomes easy for parents or older children to control the hearing aids with just a touch of their finger. Adjust the volume, check the battery level, control EduMic streaming, switch between programs, or get a better music experience with the new Oticon MyMusic program.



Made for  
 iPhone | iPad | iPod

Works with  
android 

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\* Android devices need to support Audio Streaming for Hearing Aids (ASHA) to allow direct streaming to Oticon Play PX. Please visit [oticon.com/support/compatibility](https://oticon.com/support/compatibility) for more information.



# Designed for children. Made for childhood.



## Rechargeable at home or on the go

Oticon Play PX offers two recharging options, the portable SmartCharger and standard desktop charger. Both are designed to provide convenient charging and a full day of battery life\* – including streaming from other devices.

### Charging times miniBTE R:

- Full charge in 3.5 hours
- Quick 30-minute charge provides five hours of use

### Charging times miniRITE R:

- Full charge in 3 hours
- Quick 30-minute charge provides six hours of use







### **Powerful desktop charger**

Oticon Play PX comes with a stylish desktop charger that easily lets your clients charge as they sleep.

### **Portable SmartCharger**

The portable SmartCharger gives children – and their caregivers – the freedom to travel light and keep the hearing aids powered, dry, and protected on the go. With a built-in power bank, the SmartCharger is ideal for travelling and trips, providing at least three full hearing aid charges when device is fully charged.

## **Oticon Play PX stands up to the magical moments of childhood**

The robust Oticon Play PX hearing aid has been designed with children's active lives and safety in mind.

### **IP68 Certified**

Oticon's IP68-certified intelligent mechanical design includes water, dust, and debris barriers. Oticon Play PX is nanocoated to repel water and offers protection against water in mechanical casings and electrical enclosures. The hearing aids are water ingress tested in one meter, or three feet of water, for two hours and able to withstand humidity and varying temperatures.

### **LED light for complete peace of mind**

The LED indicator on Oticon Play PX is a renowned feature that gives people caring for and teaching children with hearing loss, visual confirmation that the hearing aid is functioning properly.

### **Free of allergens**

Oticon Play PX meets international standards on safety and biocompatibility. To minimize allergies, we have excluded more than 200 potentially harmful substances including phthalates. Oticon Play PX hearing aids are painted with biocompatible paint and are biologically safe for permanent skin contact, as are the accompanying decorative stickers.

### **Tamper resistance**

For safety and compliance when fitting small children, the miniBTE R style is tamper resistant because the battery is completely sealed in the hearing aid. Additionally, the miniBTE T style is available with a tamper resistant battery drawer that can only be opened with a specific tool.



# A hearing aid family full of options

Oticon Play PX comes in a wide range of styles and colors

Oticon Play PX is available at two price points and covers hearing loss ranging from mild-to-severe. It comes in a choice of styles with rechargeable lithium-ion batteries or disposable zinc-air batteries.

## A style for every age

From the security of sealed batteries in the miniBTE R style, to the modern design of the miniRITE R, there is a style for every need.

All styles offer a full connectivity package, so children can easily connect with friends and stay active online.



miniBTE R



miniBTE T



miniRITE R



miniRITE T

## 12 different color options



C094  
Terracotta



C093  
Chestnut Brown



C090  
Chroma Beige



C063  
Diamond Black



C044  
Silver



C079  
Baby Pink



C048  
Emerald Green



C058  
Aquamarine



C047  
Cool Blue



C045  
Purple



C046  
Cool Red



C057  
Power Pink



## Powered by groundbreaking features

### Improve speech understanding



**MoreSound Intelligence™**  
Access to all relevant sounds in a clear, complete, and balanced sound scene



**Virtual Outer Ear**  
Models the filtering of the ear pinnae to provide better spatial balance



**MoreSound Amplifier™**  
Rapid high-resolution amplification that follows changes in the sound scene



**Sound Enhancer**  
Dynamic gain primarily for speech given in complex environments



**MoreSound Optimizer™**  
Optimal gain all day, without the risk of feedback



**Spatial Sound™**  
Locate, follow, and shift focus to the most interesting sounds

### Enhance sound quality



**Speech Rescue™**  
Makes high frequency sounds more audible



**Clear Dynamics**  
Better sound quality with less distortion in loud environments



**Wind Noise Management**  
Improves access to speech in situations with wind noise

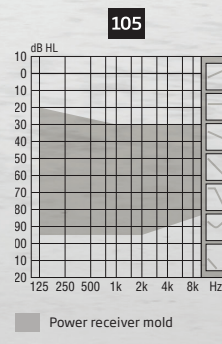
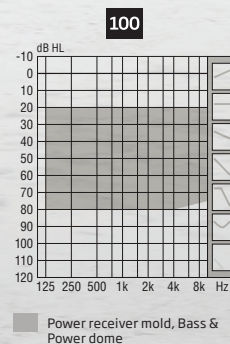
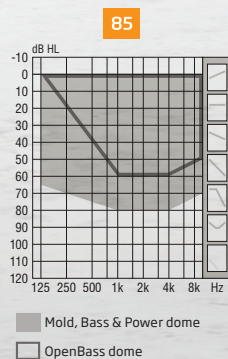
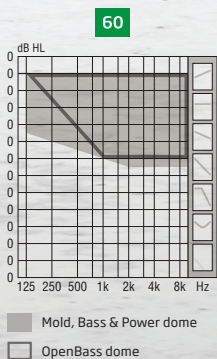
## The DSL fitting rationale

DSL is the default fitting rationale used when fitting children with hearing aids. This is implemented in our fitting software Oticon Genie 2. We recommend following best fitting practices. Genie 2 has been developed to optimize the fitting process.

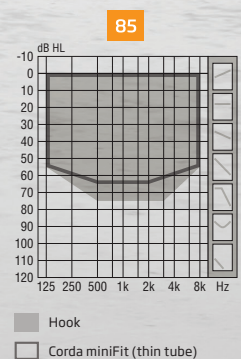
## Fitting ranges from mild-to-severe

Oticon Play PX offers two miniBTE styles with an 85 dB HL fitting level and two miniRITE styles with four speaker levels – 60, 85, 100, and 105. The graphs below show DSL fitting range.

miniRITE



miniBTE





life-changing  
**technology**