

OTICON | Play PX

Product Guide
2022



### Unleash the magic of childhood

Children are adventurous. Always looking for new experiences. Experiences filled with sounds, conversations, interactions – elements vital to children's growth. Designed specifically with children in mind, Oticon Play PX utilizes life-changing technology to make sure children with hearing loss have access to all relevant sounds in the sound scene, to help them unleash the magic of childhood.

New Oticon Play PX is the world's first pediatric hearing aid that learned the way children learn – through experience thanks to its on-board Deep Neural Network (DNN). The DNN was trained on 12 million real-life sound scenes and learned to recognize sounds through experience, like children's brains do naturally.

Powered by Polaris™ – our most intelligent and powerful platform ever – Oticon Play PX is available in rechargeable and non-rechargeable styles, has been built to withstand children's active lives, and is compatible with a wide range of connectivity options for enhanced learning and communication.

#### Fueled by the latest groundbreaking features from Oticon

Oticon Play PX comes with Oticon's groundbreaking feature, MoreSound Intelligence™, which scans the full sound scene 500 times per second, resulting in a precise analysis of all sounds and the complexity of the surroundings. Once the sound scene is analyzed, MoreSound Intelligence organizes the sounds around the user, and then utilizes the DNN's vast training from real-life to process and create contrast between the identified sounds.

Oticon Play PX also comes with MoreSound Amplifier™; a dynamic and balanced amplification system that seamlessly adapts its resolution and speed to the nature of the sound scene at hand, making the full sound scene audible while maintaining the fine contrast and balance between sounds.

What's more, MoreSound Optimizer $^{\text{TM}}$  is so fast that it can detect and prevent feedback even before it occurs. The result is better sound quality and consistent access to speech with increased comfort.





#### A comprehensive family of four styles

Oticon Play PX comes in four styles that are all available at two price points and in 12 child-friendly colors, covering hearing loss ranging from mild-to-severe.



#### Rechargeable at home or on the go

Oticon Play PX is available in two rechargeable styles that provide power for the whole day.\* Both styles are compatible with an optional portable SmartCharger and a standard desktop charger.





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

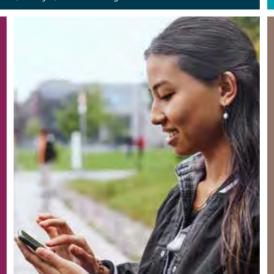
#### **EduMic**

Oticon Play PX is supported by EduMic, a remote microphone system designed to enhance learning in educational settings.



## The world's first pediatric hearing aid with an on-board Deep Neural Network

The Polaris platform is the backbone of Oticon Play PX. It is purposebuilt for hearing aids. This focused approach allows it to constantly run a trained DNN, while powering all the technologies in Oticon Play PX with more speed, precision and capacity than ever possible before.



### Direct streaming from iPhone® and select Android™ devices

Oticon Play PX is a Made for iPhone® hearing aid and compatible with the new Android protocol for Audio Streaming for Hearing Aids (ASHA) - making it possible to stream directly from iPhone, iPad®, iPod touch®, and select Android devices.\*\*

allow direct streaming to Oticon Play PX.

Please visit oticon.com/support/compatibility
for more information.

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### Technology & Features



### Polaris platform

# The world's first platform featuring an on-board Deep Neural Network

The Polaris platform is the backbone of Oticon Play PX. It is purpose-built for hearing aids. This focused approach allows it to constantly run an embedded Deep Neural Network and at the same time power all the technologies in Oticon Play PX with more speed, precision, and capacity than ever possible before.

Detectors have been updated for more precise processing of moving sounds and the embedded Deep Neural Network has been trained for the specific purpose of sound processing in a hearing aid. In addition, the amplification is now based on processing in two simultaneous paths, prioritizing the optimal amplification for all sound scenes.

By including 28nm technology, the chipset has room for more than 154 million transistors - more than twice the number of transistors compared to Velox S™ - without adding to the size of the chipset.

Compared to Velox S, the technology provides 8 times more solid state memory, twice as much computation capacity, and twice the working memory (RAM).

Signal processing is done in 24 frequency channels (50% more than Velox S), allowing for a doubling of the signal processing precision between 1.5 and 5 kHz and a more personalized fine-tuning of gain.

No matter if the hearing aid is powered by a lithium-ion or a zinc-air battery, the Polaris platform provides the user with much more processing power than any previous Oticon platform.

The platform is future ready, meaning that as technology develops, the hearing aids can be updated wirelessly to include the latest improvements.



KEY MESSAGE

Delivering the full perspective of sounds demands our most intelligent platform ever - Polaris.

### MoreSound Intelligence



#### Gives children access to the full sound scene

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.

#### 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.

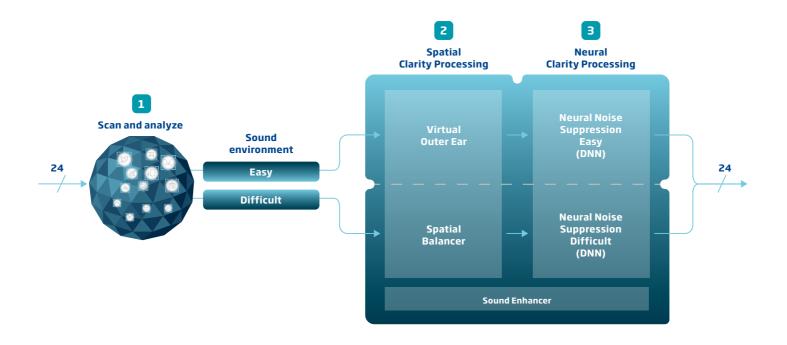
#### Sound Enhancer

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.



**6** KEY MESSAGE

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



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

# MoreSound Intelligence in Oticon Genie 2

In Oticon Genie 2, the fitting screen MoreSound Intelligence provides the hearing care professional with an overview of the default settings provided by Pediatric settings based on age. For children not old enough to provide feedback for any fine-tuning, it is recommended to keep the default settings.

This tool in Genie 2 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 descriptions below explain how the different handles work.

#### 1. Environment Configuration

The Environment Configuration slider specifies which hearing situations are processed as 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 child 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 child where more help from the hearing aid is needed.

#### 4. Virtual Outer Ear

Three true-to-life and very accurate pinna simulations. The different options will provide more or less frontal focus or awareness of all sounds around. Applies to easy environments.

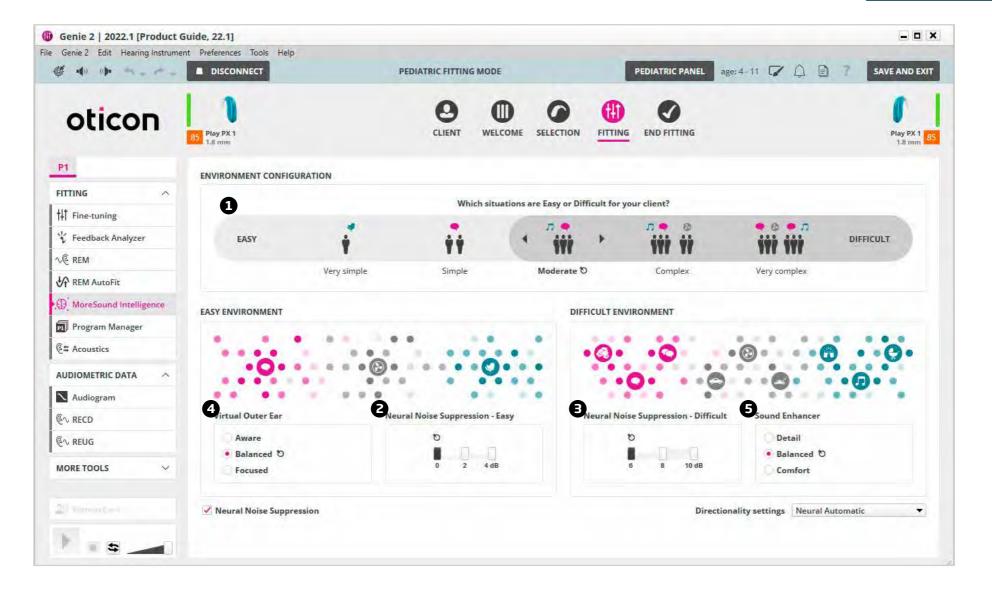
#### 5. Sound Enhancer

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



KEY MESSAGE

Oticon Play PX has default settings based on age but also provides plenty of fine-tuning options if needed.



### The Deep Neural Network

#### Optimal support for the brain

Oticon Play PX utilizes the intelligent capabilities of a fully trained Deep Neural Network to mimic the way the brain functions. This means that the DNN also needs to learn, just like the human brain 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.

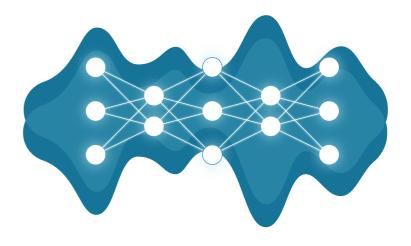
The sound scenes used for the training of the DNN were real-life sound scenes recorded using a spherical microphone. A spherical microphone has 32 advanced, individual microphones evenly distributed across the sphere. This makes it possible to record sound scenes with spatial detail and accuracy.

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 before the hearing aid is worn by the child.

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 Play PX makes sounds more distinct, working seamlessly across varying listening environments. With this integrated intelligence, Oticon Play PX 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, please see Brændgaard, M. 2020. MoreSound Intelligence. Oticon Tech Paper



KEY MESSAGE

The Deep Neural Network creates contrast between sounds, making it easier to separate sounds.

### MoreSound Amplifier

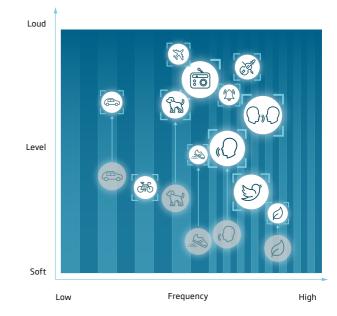
#### Rapid high-resolution amplification

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

With a sixfold 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.

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.





**KEY MESSAGE** 

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

### MoreSound Optimizer

### T T

#### Optimal gain all day, without the risk of feedback\*

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 and invisible gain reductions caused by the feedback management system due to normal, dynamic movements in and around the head and neck.

The extremely fast MoreSound Optimizer breaks the feedback loop by

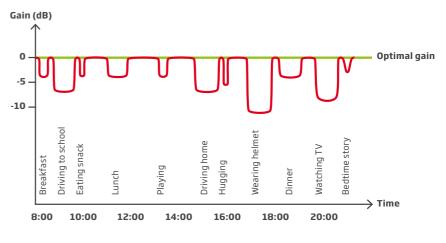
The technology in MoreSound Optimizer represents a breakthrough in accessing speech details with more natural sound supporting better language development. MoreSound Optimizer allows children to play, hug, interact, and wear hats and helmets without feedback.

MoreSound Optimizer protects the sound quality by using ultra-fast signal processing:

- 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 breaker signal as soon as the acoustic response is stabilized

MoreSound Optimizer offers three different settings: Normal, Low, and Off. Each can be set in Oticon Genie 2 for individual programs. Normal is the recommended setting. The normal setting provides the full benefit of the system and a fitting with optimal gain and no feedback. Low is an alternative setting that might be suitable for musicians or others who find that MoreSound Optimizer affects the sound quality in specific situations. Off turns the entire feedback management system off and might result in audible feedback.

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



— Gain from Oticon Play PX

Gain from hearing aids with traditional feedback management



KEY MESSAGE

This super-fast technology ensures clear, stable sound and minimizes whistling and bad sound quality.

### Spatial Sound™



#### Locate the sounds of interest

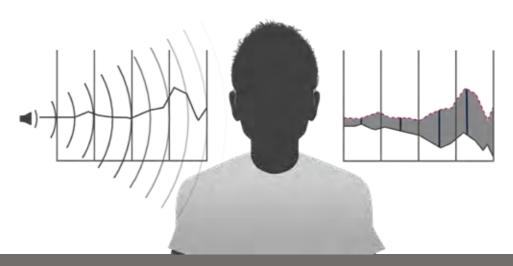
Spatial Sound combines several advanced technologies to provide a more precise spatial awareness to help children identify where sound is coming from.

Using the energy-efficient and fast binaural communication offered by Near-Field Magnetic Induction (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.

As part of Spatial Sound, Better-Ear Priority emphasizes sounds on the better ear in asymmetrical noise situations.

#### **Head shadow effect**







Provides a richer, more realistic sound picture making it easier to locate sounds.

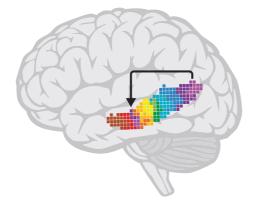
### Speech Rescue™

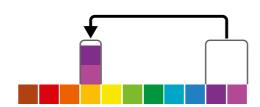
#### Making high frequency sounds more audible

Speech Rescue is the unique frequency lowering approach that Oticon employs to help children hear high frequency sounds like /s/ and /sh/ that are important to speech development. Oticon's methodology of frequency lowering, called frequency composition, increases speech understanding by 'rescuing' speech cues that might otherwise be lost.

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

Combined with MoreSound Amplifier, this gives children with moderate to severeto-profound hearing loss (in the high frequencies) access to inaudible high frequency sounds. The 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.









Increases audibility of speech sounds like /s/ and /sh/ improving speech understanding.

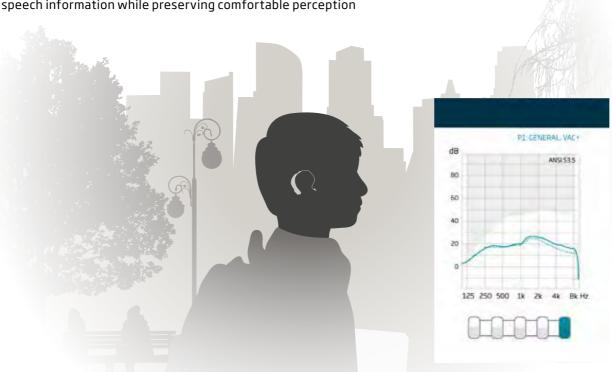
### Soft Speech Booster

#### Improves soft speech understanding

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

For teenagers, Soft Speech Booster can be adjusted in the Fine-tuning screen in Oticon Genie 2 to ensure a fitting matched to each user's unique perception of soft sound for the best possible balance between details and comfort.

Soft Speech Booster is available when fitting with Oticon's proprietary fitting rationale, VAC+, which uses multiple knee points to provide a clear focus on soft-to-moderate speech information while preserving comfortable perception of louder sounds.







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, children enjoy a better listening experience without distortion, even in loud environments. Clear Dynamics is especially valuable for children when listening to music or in conversations in busy, dynamic environments where peaks can often be louder than the available input dynamic range.





**66** KEY MESSAGE

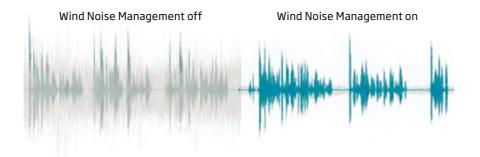
Improves the sound quality experience, especially when enjoying music or engaging in conversations in noisy environments.

### Wind Noise Management

Better access to speech in situations with wind noise

Wind Noise Management offers highly efficient wind noise suppression. High speed estimators analyze the presence of wind noise 500 times per second for fast and precise application of up to 30 dB wind noise suppression in 24 frequency channels. Wind Noise Management attenuates wind bursts in less than 50ms, making it fast enough to precisely attenuate wind between words.

The purpose of Wind Noise Management is to attenuate the wind noise and quickly ensure a stable and comfortable loudness level. This will allow the child to focus on the important sounds, like speech. When speech is present, the signal-to-noise ratio is preserved because wind noise is suppressed when it is louder than speech. When no speech is present, the system will aggressively suppress wind noise to ensure comfort in windy situations.





**6** KEY MESSAGE

Effectively suppresses annoying wind noise, even between the words in a conversation.

### Feedback shield

### Dual-microphone feedback system for reducing and suppressing feedback

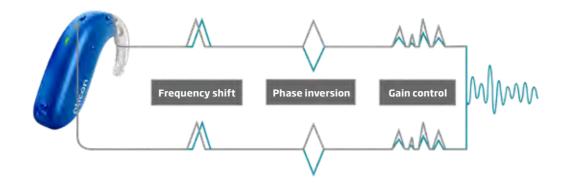
Feedback shield supports MoreSound Optimizer's ultra-fast reaction and preventive abilities to avoid feedback.

Working together, the two technologies combine the strengths of rapid, proactive feedback elimination with a stable adaptive system 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 proactive 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.





#### KEY MESSAGE

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

### 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 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.





KEY MESSAGE

Hearing aids need to communicate with each other, but also with external devices. TwinLink provides the two technologies needed to do this, simultaneously.

### 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 18
MoreSound Amplifier	Sound processing occurs in an adaptive path setup that gives priority to resolution or speed, based on the current sound scene	Page 11
MoreSound Booster	Provides maximum help in easier environments when needed by the teenager. Must be activated in the Oticon ON app	Page 39
MoreSound Intelligence	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	Page 6
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 when fitting with VAC+ to increase soft speech understanding	Page 15

Note: Availability of features depends on price points

Sound Enhancer	Dynamically provides gain primarily for speech sounds in difficult environments	Page 8
Spatial Sound	Preserves interaural level differences to provide precise spatial awareness that helps the child identify where sounds are coming from	Page 13
Speech Rescue	Makes high frequency speech sounds like /s/ and /sh/ more audible using frequency composition	Page 14
Transient Noise Management	Protects against sudden loud sounds with fast recovery to preserve audibility	
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-life ear pinna simulation	Page 8
Wind Noise Management	Protects against the discomfort of wind noise	Page 17

# The audiological difference between Oticon Play PX 1 and Play PX 2

To grow, develop and mature, children need access to all sounds. Their everyday sound environments are often challenging and noisy, and this is why providing assistance to children with hearing loss is so crucial. Through proven BrainHearing technology, Oticon Play PX hearing aids provide children full access to the complete sound scene. They provide optimal support for children's language, learning, and social development.

Oticon Play PX also processes sound in a way that provides access to all sounds. The two models differ in performance levels by the amount of help they provide for the brain.

MoreSound Intelligence scans, analyzes, and cleans sound to create a complete and balanced sound scene. The way the feature processes sound differs substantially between easy and difficult environments.

The effect of the system and the fine-tuning options differ between performance levels. For instance, the effect of Spatial Balancer, as well as that of the DNN, is greater in Oticon Play PX 1 and provides better access to speech, more options for the release of noise, and more comfort. Fitting bandwidth and fitting bands are also larger for Oticon Play PX 1 for a broader sound spectrum and better adjustment options.

Oticon Play PX 1 offers the greatest effect and provides maximum support for full access to sound across different sound scenes, age of the child, and lifestyles. Please find the full feature overview on the next page.





Oticon Play PX makes it possible, for the first time, to give children access to all relevant sounds. It's just a matter of choosing the best version that supports a child's individual needs.

		Play PX 1	Play PX 2
Speech Understanding	MoreSound Intelligence	Level 1	Level 3
	- Environment configuration	5 Options	3 Options
	- Virtual Outer Ear	3 Configurations	1 Configuration
	- Spatial Balancer	100%	60%
	- Neural Noise Suppression, Difficult/Easy	10 dB/4 dB	6 dB/0 dB
	- Sound Enhancer	3 Configurations	1 Configuration
	MoreSound Amplifier	•	•
)eec	Feedback Prevention	MoreSound Optimizer & Feedback shield	MoreSound Optimizer & Feedback shield
S	Spatial Sound	4 Estimators	2 Estimators
	Soft Speech Booster	•	•
	Frequency lowering	Speech Rescue	Speech Rescue
>	Clear Dynamics	•	
ıalit	Better-Ear Priority	•	
φĢ	Fitting Bandwidth*	10 kHz	8 kHz
Sound Quality	Bass Boost (streaming)	•	•
ν	Processing Channels	64	48
ing ort	Transient Noise Management	4 Configurations	3 Configurations
Listening Comfort	Wind Noise Management	•	•
	Fitting Bands	24	18
Personalization & Optimizing Fitting	REM AutoFit	Verifit®LINK, IMC 2**	Verifit®LINK, IMC 2**
timi;	Pediatric Fitting Mode	•	•
P O III	Fitting Formulas	VAC+, NAL-NL1/NAL-NL2, DSL v5.0	VAC+, NAL-NL1/NAL-NL2, DSL v5.0
e g	DSL Fitting Range***	•	•
	LED	•	•
P. C	Biologically safe	•	•
ě	Nano coating	•	•
Connecting to the world	Color options	12	12
	Hands-free communication****	•	•
ecti	Direct streaming*****	•	•
	EduMic	•	•
	Oticon ON app	•	•

• indicates feature included

<sup>\*</sup> Bandwidth accessible for gain adjustments during fitting

<sup>\*\*</sup> Inter Module Communication 2

<sup>\*\*\*</sup> Available in Oticon Play PX Product Guide and Technical Data sheet

<sup>\*\*\*\*</sup> Available for Oticon Play PX from FW 1.1 with select iPhone models

<sup>\*\*\*\*\*</sup> From iPhone, iPad, iPod touch, and select Android devices. 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 for more information.







### miniBTE R

Oticon Play PX miniBTE R is Oticon's first rechargeable BTE-style using a lithium-ion battery. The hearing aid is small and discreet, and suits children with mild to moderately severe hearing loss. With new groundbreaking features, the hearing aid gives the child access to the full perspective of sounds.

Oticon Play PX miniBTE R is a Made for iPhone® hearing aid and compatible with the new Android protocol for Audio Streaming for Hearing Aids (ASHA) – making it possible to stream directly from iPhone, iPad, iPod touch, and select Android devices.\* It offers a wide variety of connectivity options, including EduMic, which makes it easy to stream sound in classrooms.

Oticon Play PX miniBTE R features a telecoil, LED for visible activity decoding, and a single push-button for easy handling. The hearing aid is robust and reliable with a certified rating of IP68 for dust and water resistance. All vital components are nano-coated inside and out.

For safety and compliance when fitting small children, the miniBTE R is tamper resistant, as the battery is completely sealed in the hearing aid. Using the rechargeable solution with a sealed battery means no tools are needed to handle the tamper resistant solution.

Noahlink Wireless is the only programming device for fitting Oticon Play PX hearing aids or updating their firmware.



<sup>\*</sup> 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 for more information.



Oticon Play PX miniBTE R is tamper resistant and suitable for children under 3 years of age.

### miniBTE T

Oticon Play PX miniBTE T is small and discreet and comes in a wide range of colors. It suits children with mild to moderately severe hearing loss and uses a zinc-air disposable battery.

Oticon Play PX miniBTE T is a Made for iPhone hearing aid and compatible with the new Android protocol for Audio Streaming for Hearing Aids (ASHA) – making it possible to stream directly from iPhone, iPad, iPod touch, and select Android devices.\* It offers a wide variety of connectivity options, including EduMic, which makes it easy to stream sound in classrooms.

With new groundbreaking features, the hearing aid gives children access to the full perspective of sounds.

Oticon Play PX miniBTE T features a telecoil, an LED to show its status, and a single push-button for easy handling. The hearing aid is robust and reliable with a certified rating of IP68 for dust and water resistance. All vital components are nano-coated inside and out.

Noahlink Wireless is the only programming device for fitting Oticon Play PX hearing aids or updating their firmware.



\* 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 for more information.



The small size of the Oticon Play PX miniBTE T makes it fit nicely behind the ear.

### miniRITE R

Oticon Play PX 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 children with mild-to-severe hearing loss, up to 105 dB HL. Oticon Play PX miniRITE R comes with groundbreaking new features and functionalities that give children access to the full perspective of sounds.

Oticon Play PX miniRITE R is a Made for iPhone hearing aid and compatible with the new Android protocol for Audio Streaming for Hearing Aids (ASHA) – making it possible to stream directly from iPhone, iPad, iPod touch, and select Android devices.\* It offers a wide variety of connectivity options, including EduMic, which makes it easy to stream sound in classrooms.

Oticon Play PX miniRITE R features a telecoil, an LED for visible activity decoding, and a convenient double push-button for easy operation of volume and programs. It offers a wide variety of connectivity options. It is robust and reliable and has a certified rating of IP68 for dust and water resistance. All vital components are nano-coated inside and out.

Noahlink Wireless is the only programming device for fitting Oticon Play PX hearing aids or updating their firmware.



\* 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 for more information.



The rechargeable technology in Oticon Play PX miniRITE R makes it easier to handle the hearing aids.

### miniRITE T

Oticon Play PX miniRITE T is a discreet hearing aid that uses disposable zinc-air batteries. It is for children with hearing loss ranging from mild-to-severe, up to 105 dB HL. Oticon Play PX miniRITE T comes with groundbreaking new features and functionalities that give children access to the full perspective of sounds.

Oticon Play PX miniRITE T is a Made for iPhone hearing aid and compatible with the new Android protocol for Audio Streaming for Hearing Aids (ASHA) – making it possible to stream directly from iPhone, iPad, iPod touch, and select Android devices.\* It offers a wide variety of connectivity options, including EduMic, which makes it easy to stream sound in classrooms.

Oticon Play PX miniRITE T features a telecoil, an LED to show its status, and a convenient double push-button for easy control of volume and programs. It is robust and reliable, with a certified rating of IP68 for dust and water resistance. All vital components are nano-coated inside and out.

Noahlink Wireless is the only programming device for fitting Oticon Play PX hearing aids or updating their firmware.



\* 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 for more information.



Oticon Play PX miniRITE T is a receiver-in-the-ear style with disposable batteries.

### Rechargeable at home or on the go

Oticon offers two different chargers for Oticon Play PX miniRITE R and Oticon Play PX miniBTE R: our standard desktop charger and our optional portable SmartCharger. Both chargers use inductive technology to provide reliable, fast charging in just three hours for the miniRITE R and three and a half hours for the miniBTE R 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 you are on the go. When fully charged, the power bank allows a completely depleted set of hearing aids to be fully charged three times.

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.

#### Desktop charger

The desktop charger is perfect when you mainly need to charge your hearing aids at home. The charger can stay 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 to quickly place the hearing aids in the charger for an overnight charge, or for a quick recharge at any time.



Oticon SmartCharger for miniBTE R



Oticon SmartCharger for miniRITE R



Desktop charger for miniBTE R



Desktop charger for miniRITE R



The SmartCharger works as a power bank and charges hearing aids on the go.

\* 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.

### Oticon Play PX overview









Style	miniBTE R	miniBTE T	miniRITE R	miniRITE T
Battery	Lithium-ion	Zinc-air	Lithium-ion	Zinc-air
Expected operating time (hours)*	24		24	
Rechargeable	•		•	
Wireless 2.4 GHz Bluetooth technology	•	•	•	•
Directionality settings	•	•	•	•
Program control	•	•	•	•
Volume control	•	•	•	•
Made for iPhone (direct streaming from iPhone, iPad and iPod touch)	•	•	•	•
ASHA (direct streaming from select Android devices**)	•	•	•	•
Telecoil	•	•	•	•
Hardware certification	IP68 - Water and dust resistant			
Oticon ON app	•	•	•	•
ConnectClip	•	•	•	•
TV Adapter 3.0	•	•	•	•
Remote Control 3.0	•	•	•	•
EduMic	•	•	•	•
Phone Adapter 2.0 (in combination with ConnectClip)	•	•	•	•
Wireless fitting and firmware update	Noahlink Wireless	Noahlink Wireless	Noahlink Wireless	Noahlink Wireless

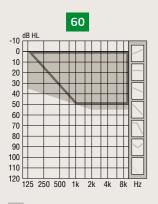
<sup>•</sup> indicates feature included

<sup>\*</sup>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.

<sup>\*\*</sup> 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 for more information.

### Oticon Play PX DSL Fitting Ranges\*

#### miniRITE



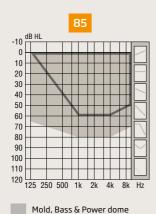
- Mold, Bass & Power dome
- OpenBass dome

#### OSPL90 (peak)

Ear simulator 116 dB SPL 2cc coupler 106 dB SPL

#### Full-on gain (peak)

Ear simulator 46 dB 2cc coupler 36 dB



#### OSPL90 (peak)

127 dB SPL Ear simulator 2cc coupler 117 dB SPL

OpenBass dome

#### Full-on gain (peak)

Ear simulator 66 dB 55 dB 2cc coupler

#### 100 10 20 30 40 50 60 70 80 90 100 110

#### Power Receiver Mold, Bass &

#### OSPL90 (peak)

132 dB SPL Ear simulator 124 dB SPL 2cc coupler

#### Full-on gain (peak)

Ear simulator 66 dB 57 dB 2cc coupler

#### miniBTE

105

Power Receiver Mold

Ear simulator

Ear simulator

2cc coupler

2cc coupler

OSPL90 (peak)

Full-on gain (peak)

135 dB SPL

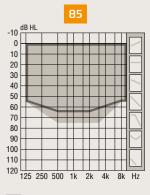
127 dB SPL

72 dB

64 dB

10

20



Hook

Corda miniFit (thin tube)

#### OSPL90 (peak)

132 dB SPL Ear simulator 123 dB SPL 2cc coupler

#### Full-on gain (peak)

Ear simulator 63 dB 2cc coupler 54 dB

### Oticon Play PX colors



C044



**CO48 Emerald Green** 



C090 Chroma Beige



**CO58** Aquamarine



C094 Terracotta



CO45 CO47 Cool Blue



C093 Chestnut Brown

Purple





C063 Diamond Black

Cool Red



Power Pink





\* Fitting range is based on Oticon Play PX 1. Fitting range for Oticon Play Baby Pink PX 2 is limited to 8 kHz. Details available in Technical data sheets.

# Hooks and thin tube for miniBTE R and miniBTE T

Select between miniBTE hook, miniBTE child hook, and thin tube Corda miniFit 0.9mm.

#### miniBTE damped hook



#### Corda miniFit



#### Accessories for Corda miniFit:

- Length -1 4
- Ear grip
- Measuring tool

### Thin tube miniFit earpieces

#### Standard earpieces

miniFit domes

 $5\,\text{mm}$   $6\,\text{mm}$   $8\,\text{mm}$   $10\,\text{mm}$   $12\,\text{mm}$ 

OpenBass dome	<b>3</b>	•	•	•	•
Bass dome, double vent (1.4 mm)	(6)	•	•	•	•
Power dome	(A)	•	•	•	•

#### 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

V

#### Grip Tip:

- Is more durable than domes
- Has a tacky texture to help prevent slippage

#### Corda miniFit

Corda miniFit (only miniBTE) Available in acrylic and VarioTherm® material



#### VarioTherm®:

- Is thermoplastic
- Remains hard at room temperature for easy insertion
- Softens at body temperature for increased comfort and optimal sealing
- Available in two hardnesses 50 and 70, 70 is standard.

#### Please note:

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

<sup>®</sup> VarioTherm is a registered trademark of Dreve

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

#### miniFit receivers

Select between three different receivers.

The miniFit receivers are available with wire lengths 0-5 for 60 and 85 and 1-5 for 100.







#### 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 lengths 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 lengths 1-5.





#### Accessories for Power receiver molds:

- ProWax filter
- Measuring tool

#### Standard earpieces

miniFit domes  $5 \text{ mm}^* 6 \text{ mm} 8 \text{ mm} 10 \text{ mm} 12 \text{ mm}$ 

OpenBass dome	(3)	60 85	60 85	60 85	60 85
Bass dome, double vent	(6)	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

<sup>\* 5</sup> mm OpenBass dome is equal in both appearance and audiology to 5 mm Open dome.

#### miniFit domes characteristics:

- Compatible with miniFit receivers
- 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	1	60 85
MicroShell		60 85
Power Receiver Mold	12	100 105
LiteTip, VarioTherm®	T	60 85
MicroMold, VarioTherm®	Carlo	60 85

<sup>\*</sup> Requires taking an ear impression.

#### MicroMold, LiteTip and Power Receiver Mold characteristics:

- Based on an ear impression
- For mold materials, please refer to the RITE and Corda miniFit form.
- May use ProWax filter or no filter depending upon the mold material

#### MicroShell characteristics:

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

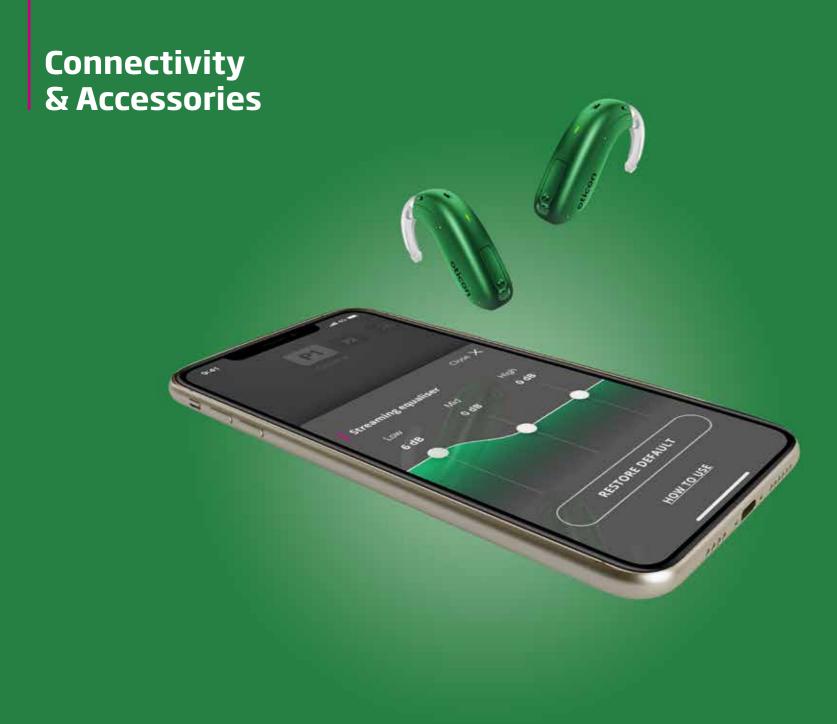
#### VarioTherm characteristics:

- Based on an ear impression
- Made of thermoplastic
- Remains hard at room temperature for easy insertion
- Softens at body temperature for increased comfort and optimal 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.

<sup>®</sup> VarioTherm is a registered trademark of Dreve



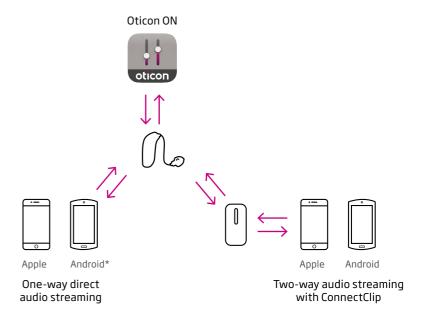
# Bluetooth technology in hearing aids

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.

- Bluetooth Low Energy is used in Apple mobile products such as the iPhone.
   Therefore, it is possible to stream sound directly from Apple iPhone, iPad or iPod touch to Oticon hearing aids be it phone calls, music, or any other audio.
- Android has recently launched its own protocol based on Bluetooth Low Energy called Audio Streaming for Hearing Aids (ASHA). ASHA makes it possible for Android users to enjoy direct streaming of phone calls, music, or any other audio from an ASHA-compatible phone.
- Classic Bluetooth technology still used by most Android devices consumes much more power than Bluetooth Low Energy, which is why most hearing aids do not support it.

To know more about the compatibility of Oticon Play PX with smartphones, apps and connectivity products, consult oticon.com/support/compatibility.



\* One-way direct streaming from Android is only possible if the mobile device supports ASHA.



#### DID YOU KNOW

Oticon Play PX is a Made for iPhone hearing aid and is also compatible with ASHA – meaning it can support direct streaming from iPhone, iPad, iPod touch and select Android devices.\*

#### Streaming directly from a mobile device

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

#### iPhone, iPad and iPod touch

Oticon Play PX is a Made for iPhone (MFi) hearing aid. It can directly connect to iPhone, iPad and iPod touch for streaming audio and thereby act as wireless stereo headphones - without the need for an intermediary device.

#### Android devices

Oticon Play PX 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.



### Oticon MyMusic – a dedicated program for music lovers

With Oticon MyMusic, the legendary sound quality of Oticon Play PX overcomes 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 musicoriented 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.\* Consequently, people with hearing loss rated it 72% higher than the previous music program.\*\*

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





- \* Brændgaard, M. (2021). The development behind Oticon MyMusic. Oticon techpaper.
- \*\* Man B.K.L., Garnæs M.F., Kjeldal R., Sørup Yssing M., Løve S (2021). Oticon MyMusic Clinical Evidence. Oticon Whitepaper.





Stream sound directly from iPhone, iPad, iPod touch and select Android devices to the Oticon Play PX hearing aids.





Change the program to Oticon MyMusic whenever listening to live music or streamed music.

#### Controlling hearing aids with Oticon ON

Oticon ON provides users with a discreet way to control their hearing aids. With the app, users 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
- Suppress environmental noise using the MoreSound Booster function whenever they need some extra help
- Fine-tune the sound when streaming music or a movie, for a personalized listening experience thanks to the streaming equalizer feature
- Handle wireless accessories paired with their hearing aids such as TV Adapter, EduMic or ConnectClip
- Set personal listening goals and track the progress of their daily hearing aid use through HearingFitness™









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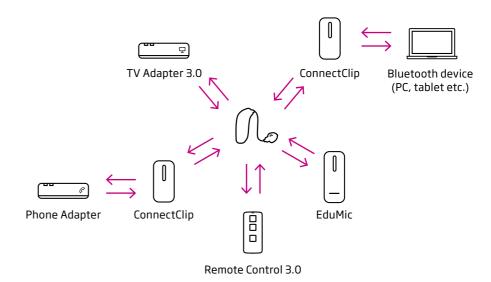


Connect a smartphone to the hearing aids to control volume, switch programs, check battery level, find the hearing aids if they are lost - and more - just with a tap of the finger.

### An extensive range of connectivity possibilities

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

- Smartphones Enable music & audio streaming and use of Oticon ON for hearing aid control
- EduMic Helps people overcome distance and noise by acting as a remote microphone, a telecoil receiver, or a media streamer
- 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





**KEY MESSAGE** 

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

#### Streaming from a hearing loop system



Oticon Play PX 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 sources directly to hearing aids. It also connects to existing FM classroom systems.

# 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 Play PX 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 ON app, users can also adjust environmental noise to focus more easily on their conversation partner.









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



#### KEY MESSAGE

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

#### Calling hands-free with ConnectClip

#### From mobile devices

Oticon Play PX hearing aids, used together with ConnectClip, allow for handsfree, 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.

For computers without Bluetooth technology, a USB Bluetooth adapter (such as Sennheiser BTD 800) will be needed to pair with ConnectClip.

#### Streaming from a TV with TV Adapter 3.0

TV Adapter 3.0 enables users of Oticon Play PX 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 Play PX hearing aids can pair with up to 4 TV Adapters and use the Oticon ON app to select the one they wish to stream sound from.







KEY MESSAGE

Stream audio from video calls between the computer and hearing aids.



KEY MESSAGE

Listen to the TV at the volume needed, while keeping it comfortable for the family.

# 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 people in need of a discreet way to control their hearing aids in social situations.



#### Oticon SafeLine™

Oticon SafeLine is a retention cord that is attached to the hearing aids and to the child's collar with a clip to prevent hearing aid loss or damage. With SafeLine, children can be confident that their hearing aids are safe and retain access to sound while enjoying activities.

SafeLine comes in two lengths and has a breakaway cord with a unique quick-release clasp that easily opens if snagged or pulled.

#### **Stickers**

Different stickers make it possible for children to personalize their hearing aids. The stickers are biologically safe for permanent skin contact and made from biocompatible materials.







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



KEY MESSAGE

Ensure hearing aids are not lost by using Oticon SafeLine.



