Welcome to the Ponto 4 product guide

At Oticon Medical, we are proud to present Ponto 4 and a paradigm shift in bone anchored hearing with the introduction of Velox S™ technology.

Over two million users have already had their lives changed by the groundbreaking technology in Oticon Opn hearing aids. Now, we combine our knowhow on bone conduction hearing with the newest state-of-the-art technology from one of the world’s leading hearing aid companies.
Highlights of Ponto 4

Ponto 4 is small and appealing. In fact, it is the smallest bone anchored device on the market, 27% smaller than Ponto 3. Small and high performing, Ponto 4 is built to withstand being part of everyday life. Despite its small size, Ponto 4 is packed with state-of-the-art technology and wireless capabilities.

Velox S™ – a new level of processing power. Faster automatics, new highly sensitive detectors, and increased memory make the Velox S the most powerful platform ever from Oticon and Oticon Medical.

The OpenSound Navigator™ provides users with accurate information about their 360° soundscape, even in difficult listening environments. This open sound experience gives access to multiple speakers and allows the user to decide what to focus on.

Wireless and ready for future connections – 2.4 GHz technology makes Ponto 4 a Made for iPhone® device and through the Oticon ON App, Ponto 4 connects to the Internet of Things, If This Then That and the endless options this brings.
The best just got better

Velox S, our fastest, most advanced platform ever, brings unprecedented computation capabilities to create a life-changing difference for users.

Velox S provides extremely fast processing capabilities, with an 11-core processor, 8 cores for sound processing and 3 cores to manage wireless communication. The high-speed Network on Chip (NoC) architecture features finer engraving (65 nM) in 9 layers to deliver impressive performance with the capacity to execute 500 million instructions per second (MIPS) and 1,200 million operations per second (MOPS). When all processes and streaming capabilities are in use, Velox S runs at a maximum of 3.3 mA. With the high-speed platform, a tiny device powered by a 1.4 V battery can deliver 50 times more processing power than the Inium Sense platform in Ponto 3.

The digital signal processing uses 24-bit block-floating point representation across 64 frequency channels for higher signal and frequency resolution, fundamental to providing superior sound fidelity.

The Velox S platform offers extended linear processing of sound levels to an upper input limit of 113 dB SPL thanks to the 24-bit A/D converters on each microphone and the auxiliary input.

Fully programmable with updatable firmware, the Velox S platform is ready for the future.
Open, balanced soundscape

OpenSound Navigator is sound processing that reduces noise while preserving distinct speech from all directions. This is enabled by the revolutionary Multiple Speaker Access Technology (MSAT) that ensures access to all speakers in a dynamic environment.

OpenSound Navigator employs an extremely fast three-step process:

• **Analyze:** Scans the full 360° sound environment more than 100 times per second to identify noise and separate it from speech.

• **Balance:** Rapidly reduces the levels of loud noise coming from specific directions, while preserving speech.

• **Noise Removal:** Rapidly attenuates remaining diffuse noise, even between individual words.

OpenSound Navigator ensures a full, more balanced soundscape.

OpenSound Navigator can be fine-tuned in Genie Medical BAHS where its effect in both simple and complex environments can be set to the user’s wishes and needs.

The OpenSound Booster function in the Oticon ON App allows users to activate the full power of OpenSound Navigator for more help – even in less complex environments.

OpenSound Navigator™
Feedback Shield LX

Dual-microphone feedback system for reducing and suppressing feedback.

With Feedback Shield LX, Ponto 4 delivers ultrafast feedback management without compromising audibility or sound quality. The Feedback Shield LX operates in two separate paths – one for each microphone. In each path, three distinct technologies work together to suppress feedback and ensure stable amplification.

Feedback Shield LX features a permanent 10 Hz frequency shift, optimized phase inversion, and gain control in 24 frequency channels. The frequency shift implemented above 1,350 Hz ensures an accurate estimate of the feedback path. This effective strategy for decorrelating input from output allows higher precision in phase inversion. Phase inversion is applied to the optimized signal to deliver an intact signal.

In situations where the risk of feedback rises dramatically, e.g. a tight hug or a big yawn, it may be necessary to strategically reduce gain at a rapid rate of 40 dB/s. Gain is rapidly restored once the feedback risk is gone.

Speech Guard™ LX

Speech Guard LX preserves clear, transparent sound quality and speech details, even in complex environments.

Speech Guard LX uses adaptive compression and is the only amplification technology that combines the benefit of linear amplification and fast compression. Linear amplification is applied in a 12 dB dynamic range window to preserve amplitude modulation cues in speech signals.

When large changes in level occur, Speech Guard LX quickly adapts gain to maintain audibility, and it fits the sound into the reduced dynamic range the hearing-impaired person is listening to.

Speech Guard LX takes advantage of the new extended dynamic input range provided by Clear Dynamics to preserve a clear, transparent quality of loud sounds.
Clear Dynamics
Less distortion of input in the full dynamic range.

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 still keeping the sound quality of soft input levels intact. Clear Dynamics has an operating range from 5 to 113 dB SPL.

Clear Dynamics is especially valuable for users when listening to music or in conversations in busy, dynamic environments, where peaks can often be louder than the available input dynamic range.

Wind Noise Management
Better access to speech in situations with wind noise.

With the powerful Velox S™ platform, Wind Noise Management offers innovative and highly efficient wind noise suppression. High-speed estimators analyze the presence of wind noise 500 times per second in 16 frequency channels for fast and precise application of up to 30 dB wind noise reduction.

Wind Noise Management attenuates wind bursts in less than 50 ms, making it fast enough to precisely attenuate wind between words.

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.
Sound processor accessories

Softband and SoundConnector™
The Ponto Softband is an ideal way for children and adults to try the benefits of the Ponto sound processor. The Ponto SoundConnector enables users to wear the sound processor on a cap or on any other head wear they use.

Safety line
The safety line is transparent and discreet. An elastic line and sturdy clip keep the sound processor safe if unintentionally disconnected from Softband or abutment.

Personalization
Ponto 4 stickers and skins allow the user to change the appearance of their sound processor. Add a golden skin or a diamond sticker for a new, personal look.

Tamper resistant battery drawer
Ponto 4 comes with the option of a tamper resistant battery drawer for young children or adults needing the battery to be less accessible. The tamper resistant drawer is opened with a pin tool.
Technical details

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<td>Peak OFL90 (skull sim.)</td>
<td>124 dB rel. 1 μN</td>
</tr>
<tr>
<td>Peak OFL50 (skull sim.)</td>
<td>98 dB rel. 1 μN</td>
</tr>
<tr>
<td>Frequency range (DIN 45.605)</td>
<td>200–9,500 Hz</td>
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<tr>
<td>Physical dimensions (L<em>W</em>H)</td>
<td>26 x 19 x 11 mm</td>
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<tr>
<td>Battery size</td>
<td>312</td>
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<tr>
<td>Battery life (h)*</td>
<td>48–70</td>
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<tr>
<td>Stereo streaming (2.4 GHz)</td>
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<td>LED</td>
<td>✓</td>
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<td>Made for iPhone®</td>
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<td>Hardware certification</td>
<td>IP57</td>
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* Real usage battery life is shown as an estimated interval based on mixed-use cases with variable amplification settings and variable input levels, incl. direct stereo streaming from a TV (25% of the time) and streaming from a mobile phone (6% of the time).

Fitting range for conductive/mixed hearing loss

Fitting range for single-sided deafness

Harmonized colors for a discreet look

- CO90 Chroma Beige
- CO94 Terracotta
- CO93 Chestnut Brown
- CO92 Steel Grey
- CO63 Diamond Black
- CO44 Silver

AC thresholds up to and including average 20 dB HL²

²Average of 0.5, 1, 2 and 3 kHz
Made for iPhone

Ponto 4 is a Made for iPhone® device. Directly connected to iPhone, Ponto 4 doubles as a wireless headphone – without the need for an intermediary device. The Bluetooth technology in Ponto 4 supports stereo streaming of music and produces sound with high fidelity and bandwidth.

During calls, the user’s voice is picked up by the iPhone microphone. iPhone also doubles as a basic remote control for the sound processor.

For information on compatibility, please visit www.oticonmedical.com/wireless-compatibility

Oticon ON App

The Oticon ON App makes it easy for Ponto 4 users to have additional control of their sound processor with just a touch of their fingertips. iPhone or the Android smartphone is connected directly to Ponto 4 using Bluetooth.

The ON App allows users to adjust volume levels as well as switching between programs, settings and more. The app also offers a “find my hearing aid” search feature, HearingFitness, a client information and education guide, links to user instructions and low battery notification.

With the OpenSound Booster function in the ON App, the user has access to more noise reduction and balancing support from the OpenSound Navigator when needed in less complex sound environments.

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Oticon HearingFitness™

Like an exercise app for the ears, Oticon HearingFitness gives Ponto 4 users advice and encouragement on ways to hear better, protect their hearing and stay healthy. The app receives data from the device and analyzes current sound environments, total daily device use, and historical usage data. Oticon HearingFitness can also use data from other apps and wearable devices, like measurements of heart rate and sleep patterns, to guide users toward healthier habits.* Hearing Fitness can be accessed through the Oticon ON App.

Internet connectivity

Through a unique Oticon cloud solution, Ponto 4 can be linked to the If This Then That (IFTTT) network. This allows users to connect to and control an endless range of devices used in everyday life. Imagine, for instance, that the sound processor is able to notify users when an email is received, turn the home alarm system on and off, or tell them when someone is at the front door – all of this is possible with Ponto 4.

Explore the endless possibilities available when connecting Ponto 4 to the internet.

Visit oticon.global/ifttt

* Oticon HearingFitness will evolve continuously. Please find the current version and available functionalities on the App Store or Google Play.
Connectivity and accessories

**ConnectClip**

ConnectClip is used with mobile phones and other audio devices that do not support direct wireless connectivity (or streaming) to the sound processor. The sound processor functions as a wireless headset and the user’s conversation is picked up by ConnectClip’s built-in directional microphones. Audio from the mobile phone streams to ConnectClip using standard Bluetooth technology. The audio is then streamed directly to the user’s sound processor using 2.4 GHz Bluetooth low energy technology. ConnectClip works with almost any mobile phone with Bluetooth from 2010 onward.

ConnectClip can also function as a remote microphone for streaming another person’s voice directly to the sound processor from up to 20 meters away.

**Remote Control 3.0**

The Remote Control, roughly the size of a modern car key, gives users discreet control over Ponto 4. Users can easily adjust volume, switch between programs or control connectivity sources. Simple and easy to use, the Remote Control is especially beneficial for users with dexterity challenges.
**TV Adapter 3.0**

TV Adapter 3.0 wirelessly transmits real-time stereo audio from a TV or home entertainment system directly to Ponto 4 at a distance of up to 15 meters. Users can set the volume to their preferred level for a listening experience free from the distraction of surrounding noise. The TV Adapter is installed and placed at the TV. Practically any audio source can be connected to the TV Adapter including digital stereo (PCM) and Dolby Digital® (Optical Toslink input).

As a unique feature the TV Adapter can be installed in most existing home entertainment systems.

**Phone Adapter 2.0**

Phone Adapter 2.0 connects wirelessly to the ConnectClip – allowing for hassle-free daily use of landline phones.

**USB Adapter**

USB Adapter (BTD 800) is a “plug and play” solution that wirelessly connects the ConnectClip to practically any computer for Skype, Messenger, Lync and other softphones.
The New Genie Medical BAHS

Genie Medical BAHS now has a new modern look and feel, but with the familiar flow and recognizable tools used for previous Ponto sound processors.

Even though Genie Medical BAHS looks different and new, you should find the new software just as easy and straightforward to use as Genie Medical in previous versions. New features include the OpenSound Navigator, new options in Feedback Analyzer, LED settings and more.
Fitting Ponto 4

Wireless fittings with Genie Medical BAHS

Using the 2.4 GHz wireless connection in the Ponto 4 devices and the Noahlink wireless module, fitting becomes easier with no need for cables, not even for measuring BC In situ thresholds on the head of the patient.

The Ponto 4 device is put into pairing mode by inserting the battery and turning on the device. The device will stay in pairing mode for 3 minutes and once connected it will stay connected to the fitting software for 90 minutes.

News in selection

In the selection step, the options to select type of hearing loss and connection type have become more visible – and the choice of connection stays visible throughout the fitting session. The “Hearing loss” provides the fitting software information of the type of hearing loss, either “Conductive/mixed” or “Single-sided deafness,” whereas the “Connection” provides information on whether the sound processor will be worn on an “abutment” or on a Softband.
**OpenSound – Transition**

The control lets you choose how much help is needed in the stage between simple and complex environments. In other words, how early in this transition will your client want the sound processing to help more? You can choose between a Low, Medium, High, and Very High amount of help. As an example, when the user chooses High, the sound processor will step in more aggressively to reduce unwanted sounds, even if the environment is not yet complex.

![Transition Diagram]

**Noise reduction controls**

Adjustments to noise reduction are divided into Noise Reduction for Simple and Complex listening environments. As default, no noise reduction is applied in Simple situations and a medium level of reduction is applied in Complex situations. Noise reduction choices are displayed visually in the speech waveforms.

**Noise reduction on/off**

By default, noise reduction is on because it is an integral part of the open sound experience, but it can easily be deactivated if needed by unchecking the box on the lower left.

**Directionality setting**

In addition to the four OpenSound Transition settings for the Open Automatics you have two conventional directionality settings, Omni and Full Directional available. Omni is recommended when using the sound processor on the forehead.

OpenSound Navigator transition choices are displayed visually on the Transition bar above the control panel and in the illustration with the head; background sounds are reduced in size as more help is applied.
Fitting Ponto 4

BC In situ
Genie Medical BAHS features wireless BC In situ measurement, which makes it smooth and easy with no cables in the way while fitting the sound processor to the client.

When doing BC In situ as part of the fitting session, we recommend starting off with inserting a new battery when connecting the devices.

Feedback Analyzer
Ponto 4 features the Feedback Shield LX for feedback handling.

Feedback analysis can be performed wirelessly. It measures the individual feedback limit for the sound processor on the head of the user. You can at any time choose to adjust the gain above the measured feedback limit, and you can still see the measured feedback limit. If a programming cable is used, please ensure that the cable does not pull the device and produce feedback.
Accessories

Ponto 4 connects to a range of wireless devices from Oticon without the need to select or program anything in the fitting software.

In the END FITTING step it will become visible what Accessory the Ponto is paired with.

In the Accessories step, the levels and shaping of sound of the connectivity devices can be fitted to the client’s preferences.

LED indicator

The Ponto 4 features a two-color LED indicator that provides valuable information for caregivers. The LED is designed to help users and caregivers, parents and teachers to operate the sound processor and obtain indications on relevant functions and modes.

You can activate the relevant LED indicators in Genie Medical BAHS during the “End fitting” session by clicking on “Buttons and indicators” and then on “Visual indicators” to activate. The LED is configurable for personal preferences, and default “on,” in pediatric fittings.
Because sound matters

Oticon Medical is a global company in implantable hearing solutions, dedicated to bringing the magical world of sound to people at every stage of life. As part of the Demant group, a global leader in hearing health care with 14,500 people in over 130 countries, we have access to one of the world’s strongest research and development teams and the latest technological advances and insights into hearing care.

Our competencies span more than a century of innovations in sound processing and decades of pioneering experience in hearing implant technology. By working collaboratively with patients, physicians and hearing care professionals, we ensure that every solution we create is designed with user needs in mind. We share an unwavering commitment to provide innovative solutions and support that enhance the quality of life for people wherever life may take them. Because we know how much sound matters.