

Mechanical Properties	
Dimensions	50,5 x 50 x 10,6 mm
Weight	10.6g (without batteries) – 11,4 g (with batteries)
Water Protection	Yes. Coating (tropicalization)
Magnet Forces	9 (forces: 0,5, 1, 2, 3, 4, 5, 6, 8, 10)
Cable Lengths	2 (lengths: 6cm, 10cm)
Operating Temperature Range	5° C to 40° C
Storage Temperature Range	-20° C to 50° C
Moisture Resistance	0 to 90 %

Microphones	
Number	2
Automatic Adaptive Directionality	Yes - Free Focus offers : <ul style="list-style-type: none"> • 3 directionality modes (Full, Split, Omni) • 2 adaptive modes (Auto-Tri, Auto-Dual)
Input Dynamic Range (IDR)	23 dB SPL – 115 dB SPL (programmable range: 23 dB SPL to 95 dB SPL)

Sound Processing	
Automatic Environment Detection	Yes
Audio Sound Capture	18 bits resolution (dynamic range of 92dB)
Sound Input Frequency Range	Up to 8268Hz
Effective Audio Sampling Rate	16667 Hz – 3 audio inputs with up to 2 parallel input sources
Gain Control	Yes - Voice Guard back-end automatic multiband compression
Stimulation Rate	47500pps - Software limited to 1040Hz per channel
Supported Strategies	CRYSTALIS ^{CAP} / CRYSTALIS ^{XDP} / MPIS ^{CAP} / MPIS ^{XDP}
Noise Reduction Features	Voice Track, Wind Noise Reduction
Speech Enhancement Features	Voice Guard, Free Focus

Audio Inputs	
Telecoil	Yes. In built
Direct Connection	Yes. Universal Euro 3-pin connection (FM, auxiliary inputs)
Bluetooth	Yes. Using built-in Telecoil with 3rd party system

User Interfaces	
Program Push Button	Up to 4 programs
Wheel Selector	On/Off – Gain adjustment ± 6 dB
Indicator Light	Orange indicator for program selection, stimulation status, battery status, and error conditions – Can be disabled by the audiologist*
Private Beeps	Sound indicator for program selection, battery status (low battery and empty battery warnings) - Can be disabled by the audiologist

Diagnostic Tools	
Self Check Diagnostics	Integrated full system diagnostics (processor, cable, antenna) – Easy to operate using push button. Information via indicator light and private beeps
Neuro ECAP 1.0 Telemetry	Patented Masker Probe ECAP detection with efficient artefact cancellation Integrated DSP high sampling rate system up to 200 samples Programmable stimulation rate and number of recording electrodes
Other implant measurements	EABR, ESRT, impedances, integrity test

* Except for error conditions

Cochlear Implant System Product Information Neuro One Sound Processor



With Oticon's advanced processing technology inside, the Neuro One sound processor is a unique combination of hearing instrument and cochlear implant technologies. Neuro One is built for better understanding, via a full package of coordinated advanced sound processing features.

Oticon Technology Inside

The Neuro One sound processor is built on Oticon's advanced Inium processing platform. Via an environment detection, Neuro One constantly and automatically detects the user's sound environment. This information drives the choice of the most suitable sound processing strategy.

Coordinated Adaptive Processing

Neuro one uses an advanced signal processing to automatically give users maximum audibility of speech and clarity of sound in all listening situations. We call it Coordinated Adaptive Processing. Breaking the limitations of conventional sound processing schemes, the system captures and keeps a wide sound information (wide IDR from 23 to 115 dB SPL) all along the sound processing chain, while avoiding usual distortion propagation generated by front-end compression systems. Additionally, Neuro One, continuously driven by an automatic environment detection, brings coordination between a full package of advanced sound processing features.

Free Focus

The system analyzes information from environmental detectors and shifts between the three different directionality modes (Omni, Split and Full directionality) with the aim of automatically offering the best speech to noise ratio, even in the most challenging listening situations.

Voice Guard

Voice Guard is an automatic multiband compression system made so that maximal speech information is always preserved in all listening environments. Placed in the post-processing phase, Voice Guard ensures linear processing is maintained as much as possible, so that the full input sound signal is mapped into the electrical dynamic range.

Using 4 independent and simultaneous frequency clusters, Voice Guard allows different sound inputs to be processed at the same time, and responds instantaneously to rapidly changing environmental sounds.

Voice Track

The Voice Track™ noise reduction algorithm, working in the spectral domain, lets background information come through at first and become steady over time before reduction. This way the recipient benefits from a better speech understanding in noisy environments, while still being able to detect important background information (like an alarm).

Wind Noise Reduction

Depending on the wind noise level, sounds will be attenuated. The more wind, the more attenuation.

Sound processing features

- Oticon technology inside
- Coordinated Adaptive Processing
- Wide IDR (23 to 115 dB SPL)
- Automatic environment detection
- Free Focus automatic adaptive directionality
- Wind noise reduction
- Voice Guard multiband automatic compression
- Voice Track noise reduction
- Coding strategies: CRYSTALIS^{CAP}, CRYSTALIS^{XDP}, MPIS^{CAP}, MPIS^{XDP}

Product features

- Up to 4 programs
- Built-in Telecoil & Direct auxiliary connection
- Wireless capabilities
- Secure Implant identification
- Battery door lock
- Self Check diagnostics
- Low battery warning
- Programmable beeps & light indicators
- Comfortable design

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 a member of one of the world's largest groups of hearing health care companies, we share a close link with Oticon and direct access to the latest advancements in hearing research and technologies. 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 quality of life for people wherever life may take them. Because we know how much sound matters.



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MEDICAL sound matters

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Product Overview

Colour and accessories selection

The ergonomic rounded shape and Easy-Snap soft hook ensure comfort. Neuro One is proposed in a wide range of colours to give users the choice of a sound processor that blends in discreetly or stands out in lively colours.



Non-contractual photos

Additional features

Secure Communication Protocol

By sending information to the implant and receiving a confirmation signal back, the implant identification feature safely prevents processor mismatch. If the processor is placed on the wrong implant side, an error status is communicated via the indicator light on the processor.

Battery Door Lock

A locking system is integrated in the battery door to secure the closure of the battery compartment during wear or if the sound processor is accidentally dropped. The battery door can easily be locked or unlocked using the mini-screwdriver provided in the Neuro One packaging.

Self Check Diagnostics

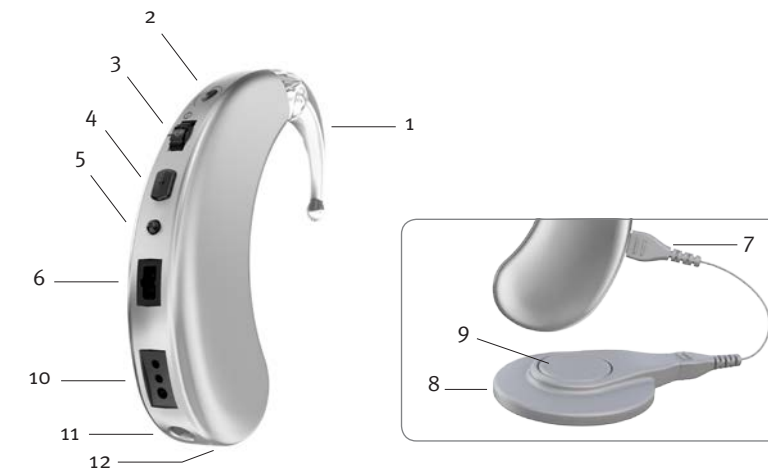
Neuro One integrates a full system diagnostics that aims to check the integrity of the processor, cable and antenna. Operating is very easy through the push button and status information is provided via the indicator light and private beeps.

** Availability to be confirmed locally*

Options & Accessories

The product

1. Easy Snap soft hook
2. 2 microphones
3. Setting selector wheel with on-off switch
4. Program push button (4 programs)
5. Indicator light
6. Antenna socket
7. Antenna cable
8. Antenna
9. Magnet
10. Auxiliary socket
11. Connection socket for the fittings
12. Battery door lock



The Neuro One sound processor is compatible with Neuro Zti implants.

Options and accessories

Wireless Capabilities – HearIt Media

Neuro One sound processor is compatible with Bluetooth-enabled systems, like the HearIt Media system (2) from Phonic Ear, offering a wireless connection to mobile smart phones, TV and music. HearIt Media has to be ordered directly from Phonic Ear. In some countries, users can benefit from the HearIt Media system by filling in a voucher provided within the Neuro One packaging.

Audio and phone connection

The teleloop Silhouette (1) is provided in the Neuro One packaging. Silhouette connects directly to mobile phones or MP3 players and offers clear inductive transmission of the sound.

Built-in telecoil

The Neuro One processor integrates a telecoil which enables enhanced listening in public places set up with an induction loop (theatres, conference rooms, cinemas, airports, etc.), without requiring any additional accessory.

FM Auxiliary socket

Thanks to its direct auxiliary connection, Neuro One is compatible with various external hearing aid accessories and FM systems commercially available on the market; like the Amigo from Oticon (3), and Phonak FM system.



Product Overview

Fitting software

Neuro One sound processors are programmed using DigiMap 4.0, or later versions, fitting software and the DigiMap USB interface combined with the DigiMap USB Adaptor. DigiMap 4.0 delivers an intuitive fitting flow and many new features to ensure professionals efficient and faster fittings.

LifeStyle settings

DigiMap 4.0 gives access to a full package of advanced sound processing features gathered under the "Lifestyle Options" menu. Using automatic or manual settings, audiologists have the possibility to truly adapt to individual lifestyles.

Bilateral fitting

DigiMap 4.0 supports the fitting of bilateral implanted users. Left and right fitting windows are simultaneously displayed on the screen so that stimulation as well as talk-over tests can be easily achieved on both sides.

Intuitive software

The easy and efficient fitting flow allows time saving so that time can be dedicated to the most valuable fitting aspects and discussion. The fitting process is kept transparent and intuitive as the signal is given at the input and output in dB SPL, and various preset settings are made available.

Fitting features

- Fitting software DigiMap 4.0 - CS45 programming cable
- Compatible with Windows 32/64 bit versions
- Implant recognition
- Neuro ECAP 1.0
- Fully integrated diagnostics measurements (EABR, ESRT, impedances, integrity test)
- Simultaneous bilateral fitting
- Input/output in dB SPL
- Programmable IDR from 23dB SPL to 95dB SPL – dynamic protection for levels higher than 95dB SPL
- Stimulation of individual or grouped electrodes
- Interpolation, sweep and balance options
- Up to 5 directionality mode settings
- Automatic, or manual settings for the 4 compression frequency clusters
- 3 preset levels for noise reduction
- Personalized fitting possibilities

Fully integrated diagnostic support

Sound processor integrity can be checked during a fitting session. Also, a dedicated menu gives access to all major implant objective measurements (Neuro ECAP 1.0, impedances, ESRT, EABR, integrity test), directly achieved through the user's Neuro One sound processor, or by connecting the acquisition equipment (e.g. Eclipse from Intera-coustics) to the DigiMap USB Adaptor.

