Reveal your **spontaneity**

Super Power | Ultra Power

Leox for children and young adults

Product brochure

bernafon

Your hearing · Our passion

Leox

From the first words we hear to a life-long compilation of sayings, every day is a chance for more spontaneity.

Leox is the first True Environment Processing™ Super Power | Ultra Power hearing instrument from Bernafon suitable for children and teens. Detecting and processing sound at an incredibly high speed, Leox creates a listening experience simply closer to reality.

Bernafon's proprietary DECS™ technology and a strong feature set deliver outstanding listening performance. Along with many options and accessories, Leox is the ideal solution for pediatric fittings.

Boasting some of the highest levels of amplification power in the industry, Leox helps children and young adults enjoy a life full of spontaneity.

True Environment Processing™: Bernafon's approach to true sounds in real time

In their first years, treatment with amplification for hearing-impaired children is proven to have positive effects on their development of speech and language.* Additionally, children should hear all sounds in their environment so they can localize sounds and learn to adapt to various listening situations.

High levels of amplification are essential for children to compensate for severe to profound hearing losses. Yet, there's a fine line between making sounds audible and reaching uncomfortable listening levels. Leox with True Environment Processing™ achieves this balance to support children during language development. And, it adapts to their changing needs throughout the various stages in their education.

Key user benefits with Bernafon's True Environment Processing™ hearing aids**

Real-time sound detection and processing to make meaningful **environmental sounds more recognizable**

Augmented environment awareness by helping to identify the source and location of a sound

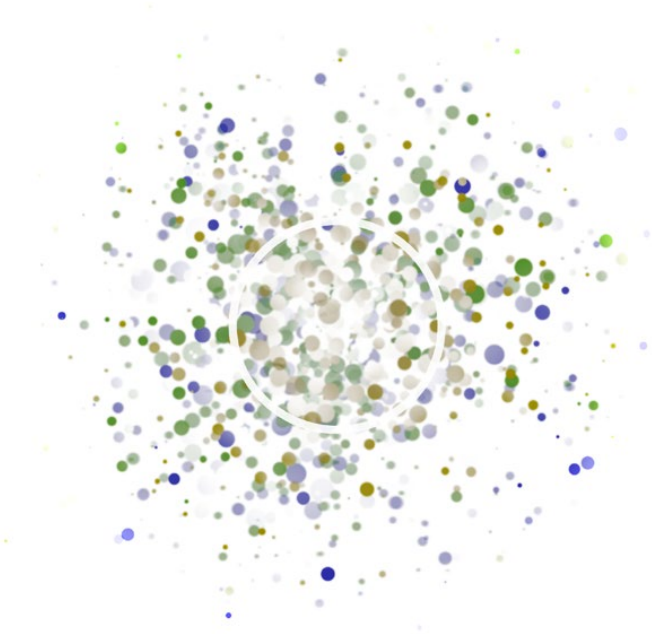
Improved signal-to-noise ratio for **better speech perception and speech understanding** in noisy and dynamic listening environments

Higher listening comfort in high-volume situations without compromising important speech or safety indicators

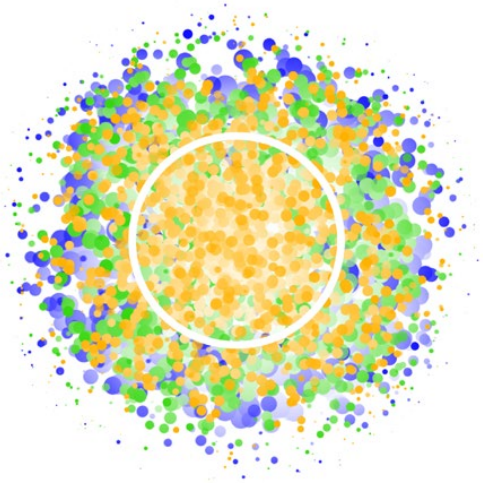
* Sahli, A.S. (2019). Developments of children with hearing loss according to the age of diagnosis, amplification, and training in the early childhood period. Archives of Oto-Rhino-Laryngology, advanced online publication doi: 10.1007/s00405-019-05501-w.

** Lesimple, C. & Tantau, J. (2017). Benefits of dynamic amplification control in complex listening environments. [White paper]. Retrieved May 14, 2019, from Bernafon.com

With True Environment Processing™, Bernafon aims to create listening experiences that are as close to reality as possible. Doing away with artificial sounds and processing delays, Leox detects and processes sounds in real time.



Traditional power hearing aids amplify sounds at a high level, often without giving clear distinction to the signal type. Amplification is based on an analysis of an environment that has already elapsed which results in a delayed and scattered picture of sounds.



True Environment Processing™ not only amplifies speech signals to increase audibility, it makes them clearer and creates a homogeneous soundscape. It provides amplification that power users can process by delivering the right balance between the fine structure of speech, localization of sounds, and overall listening comfort.

Dynamic Environment Control System™. The technology behind True Environment Processing™.

Dynamic Environment Control System™ – DECS™ for short – combines the most innovative Bernafon hearing technologies to date. Integrated on a remarkably powerful microchip, DECS™ uses a combination of systems to ensure real-time amplification and speech recognition in challenging listening situations – all while quickly managing acoustical feedback. The result is optimal speech understanding and comfort in fast-changing environments.

Continuous Environment Detection analyzes the environment with high speed and precision. This is based on 32,000 data points measured per second.

Dynamic Amplification Control™ continuously estimates the signal-to-noise ratios and directs the information to Dynamic Speech Processing™.

Dynamic Noise Management™ effectively removes noise without adversely affecting speech.

Dynamic Feedback Canceller™ eliminates feedback signals within milliseconds.

Dynamic Speech Processing™ accurately amplifies the signal based on level and the dynamic environment information received from DAC™.

For children of all ages

Leox hearing instruments are suitable for babies, toddlers, and teens. The hearing instruments can be prepared to appropriately fit children's ears. A pediatric earhook in a damped and undamped version and custom power molds ensure a close fit for highest comfort and listening performance. As the child grows, the instruments can be adapted to support their changing needs. Leox is a great choice for bi-modal fittings too. Used in combination with a cochlear implant, Leox prevents auditory deprivation and supports better sound localization.**

The hearing instruments have been tested rigorously in our own quality assurance labs to sustain moisture, damp and heat, falls, oxidation, as well as other hazards that could harm the system. The longevity of plastic and metallic components have been verified in simulation test chambers.

Leox is one of the most powerful pediatric hearing aids on the market. The gain and maximum output cater to severe to profound hearing losses.

		BTE SP with undamped earhook (13-size battery)	**BTE UP** with undamped earhook (675-size battery)
OSPL90, peak (dB SPL)	2cc coupler	139*	142*
	ear simulator	143*	146*
Full-on gain, peak (dB)	2cc coupler	79	83
	ear simulator	83	87

* Special care should be taken when fitting and using a hearing instrument with maximum sound pressure capability in excess of 132 dB SPL (IEC 60318-4) since there may be a risk of impairing the remaining hearing of the hearing instrument user.

** Perigoe, C.B. and Paterson, M.M. (2013). Understanding auditory development and the child with hearing loss. In D.R. Welling and C.A. Ukstins (Eds.), Fundamentals of audiology for the speech-language pathologist (pp.173-204). Burlington, MA: Jones & Bartlett Learning.

Leox. Where functionality and durability meet.

Childproof
Robust and durable mechanical components

IP68-rated
Dust and water-resistant for prolonged durability

Multicolor LED
Status indicator for parents and caregivers

Double push button
Intuitive change of volume in small 1 dB or 2.5 dB steps

Single push button
Change of listening programs

Battery door
Easy change of battery, optional battery compartment lock

2.4 GHz Bluetooth® Low Energy
For wireless connectivity with teacher microphones and other external devices

Earhook
Damped and undamped available

NFMI technology
For binaural communication and synchronization between hearing instruments

Telecoil
For a direct sound signal from compatible teleloop systems

DAI/FM adapter
Connection to classroom FM transmission systems and cabled connections to audio entertainment devices

Color options

Top shell

RE	BU	ANBR	MAC	SABE	MSIL
red	blue	antique bronze	metallic anthracite	sand beige	metallic silver

Base shell

metallic anthracite MAC

Classroom connectivity

Hearing-impaired children and young adults must be able to pursue their educational goals just like their peers. Additionally, young children learn by overhearing and absorbing language used around them.*

Leox ensures that children can hear planned and incidental lessons. FM transmitting systems are often installed in classrooms. Leox hearing instruments easily connect to FM classroom systems using the FM adapter. Leox also receives sound directly from induction loop systems in public spaces.

* Scanlon, K. O. (2013). Incidental learning and speech therapy. Retrieved from https://www.scanlonspeech.com/2013/01/15/incidental-learning-and-speech-therapy/

EasyControl-A app

Youngsters are rarely without their smartphones. The app acts as a discreet remote control for Leox hearing aids and has a useful "Find my hearing aid" function, just in case.

SoundClip-A

The SoundClip-A with Leox works as a remote microphone for teachers, parents and caregivers for easy conversation over distance. This versatile accessory allows pairing with laptops and tablets via a Bluetooth® USB adapter. Ideal for those that love gaming and streaming videos.

SoundClip-A with Leox streams sound from common Bluetooth®-enabled devices such as iPhone®, iPad®, iPod®, and Android™ smartphones using 2.4 GHz technology.

TV-A

The TV adapter streams audio directly from the television to the hearing instrument in premium sound quality.

Leox hearing instruments are Made for iPhone®, iPad®, and iPod® and can be used like stereo headphones to stream sound.

To download the Bernafon EasyControl-A app on iPad, go to the App Store, search for Bernafon, and use the filter: iPhone only. Bernafon EasyControl-A app is compatible with devices powered by Android™ 6.0, Marshmallow or above. For information on compatibility, please visit www.bernafon.com/products/accessories.

Fitting with Oasis^{nxt}

Bernafon's Oasis^{nxt} fitting software provides the tools for accurate amplification. The smaller ear size and the age of pediatric users are accounted for in the acoustic simulation and gain prescription.

Pediatric fitting rationale

DSL v5.0 pediatric is the industry standard for pediatric fittings and is used as the default fitting rationale for Leox hearing instruments. With DSL v5.0 pediatric, Oasis^{nxt} calculates the required gain and compression to optimize the first fit experience.

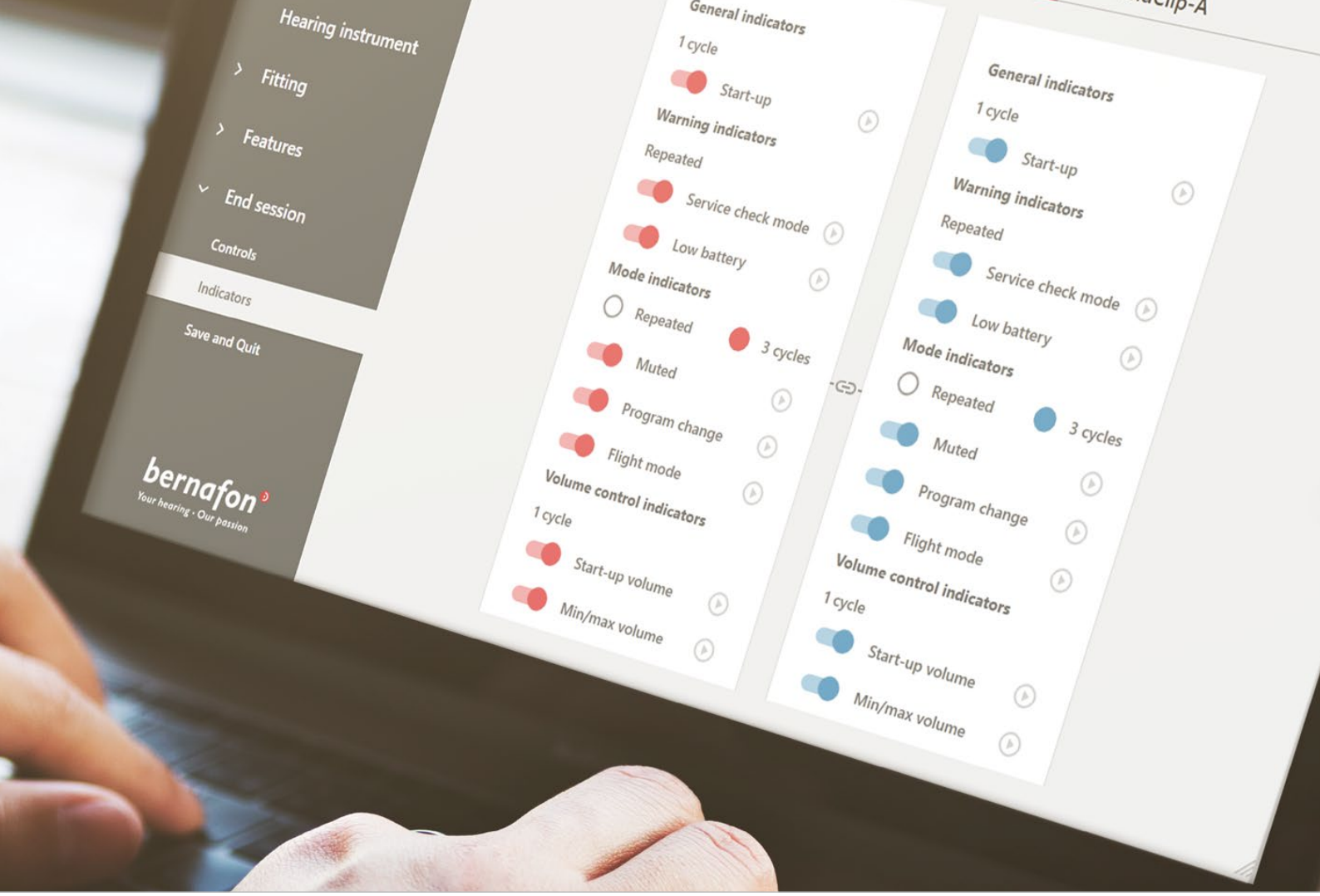
Precise volume control

A small volume increment can translate into a big gain increase in the ears of individuals with severe to profound hearing loss. With a 1 dB step size option, Leox answers the challenge of a narrow dynamic range by allowing finite volume changes.

Integration of diagnostic measurement equipment

Depending on the age and ear anatomy of a child, the acoustics of individual ears will vary. To increase the accuracy of the fitting and prevent over-amplification, real-ear-to-coupler difference (RECD) measurements are recommended for pediatric fittings.*

*American Academy of Audiology. (2013, June). Clinical Practice Guidelines. Pediatric Amplification. Retrieved from:https://www.audiology.org/sites/default/files/publications/PediatricAmplificationGuidelines.pdf



These measures can be directly imported into Oasis[nxt] to more precisely calculate the amplification targets. Target match is facilitated with the REM AutoFit feature embedded into the fitting software. Implementation of the industry standard IMC 2 protocol enables compatibility and an easy connection to external diagnostic equipment from various major manufacturers.

Visual and audible indicators

Having control over the operation of the hearing aid is important for parents and caregivers. The LED settings and tonal alerts can be individualized in Oasis[nxt] to meet specific needs and preferences. A convenient option of a print-out is available, too.

Frequency Composition[nxt]

For severe high-frequency hearing loss, this unique Bernafon feature transfers and superimposes high-pitched sounds to a lower frequency range where the hearing ability is still present. The definition of source and destination ranges allows high flexibility and the choice of intensity levels helps in the acclimatization phase.

Model overview

	BTE SP	BTE UP
Battery size	13	675
Dual-radio 2.4 GHz and NFMI technology	●	●
Single push button	●	●
Double push button	●	●
Telecoil	●	●
Hydrophobic coating	●	●
IP68 rating	●	●
Multi color LED	●	●
Tamper-resistant battery drawer (optional)	●	●
Adult and child earhook	●	●

Accessory compatibility overview

	BTE SP | BTE UP
SoundClip-A	●
EduMic	●
RC-A	●
TV-A	●
Phone Adapter 2	●
Compatibility with induction loop systems	●
DAI (Audio-Plug), AP 1000	●
FM10 adapter	●
FM receiver	Any 3 pin universal FM receiver, e.g., Amigo R2, MLxi, Roger X
FM transmitter / classroom system	Any FM transmitter and classroom system compatible, e.g., Amigo T31/31, Roger TX, SCOLA, or ToGo

Feature overview

	Leox 7	Leox 3
DECS™ (Dynamic Environment Control System™)		
Dynamic Noise Management™		
Dynamic Directionality	Medium focus	Low focus
Dynamic Noise Reduction	4 Settings	●
Dynamic Amplification Control™		
Speech in Noise	4 Settings	–
Comfort in Noise	2 Settings	–
Dynamic Speech Processing™		
ChannelFree™	●	●
Speech Cue Priority™	●	●
Dynamic Feedback Canceller™	●	●
Speech		
Low Frequency Enhancer	●	●
Frequency Composition^{nxt}	●	●
Comfort		
Binaural Noise Manager	●	–
Transient Noise Reduction	3 options	●
Wind Noise Manager	●	●
Dynamic Range Extender	●	–
VC step size	●	●
Soft Noise Management	●	●
Processing		
Frequency bandwidth*	10 kHz	10 kHz
Fitting bands	14	10
Directionality controls		
Fixed Dir	●	●
Fixed Omni	●	●
Individualization		
Program options/memories	13/4	10/4
Binaural coordination: VC, program change, mute	●	●
Automatic Adaptation Manager	●	●
Transition Level	3 options	–
Data Logging	●	●
Multicolor LED	●	●
Tinnitus SoundSupport	●	●

* Highest processed audio frequency

Leox BTE SP & BTE UP can be programmed with Oasis^{nxt} 2019.2 or higher.

Established in 1946, Bernafon representatives and employees in over 70 countries have worked ever since in the spirit and tradition of our founders to develop and market solutions that help people with hearing difficulties. With leading technology, high performance products, and outstanding support, we strive to deliver beyond expectations. Our Swiss values, together with technological competence, passion, and true partnerships, help us fulfill our goal:

Together we empower people to hear and communicate better.

For more information on Leox hearing instruments, visit our Bernafon website.

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2019-06-25/209781/UK/subject to change

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Bernafon is part of the Demant Group.

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