

Sound by Viron.

Simply closer **to reality.**



New Li-ion rechargeable
miniRITE T R



Viron
Product brochure

bernafon[®]
Your hearing · Our passion

| Viron



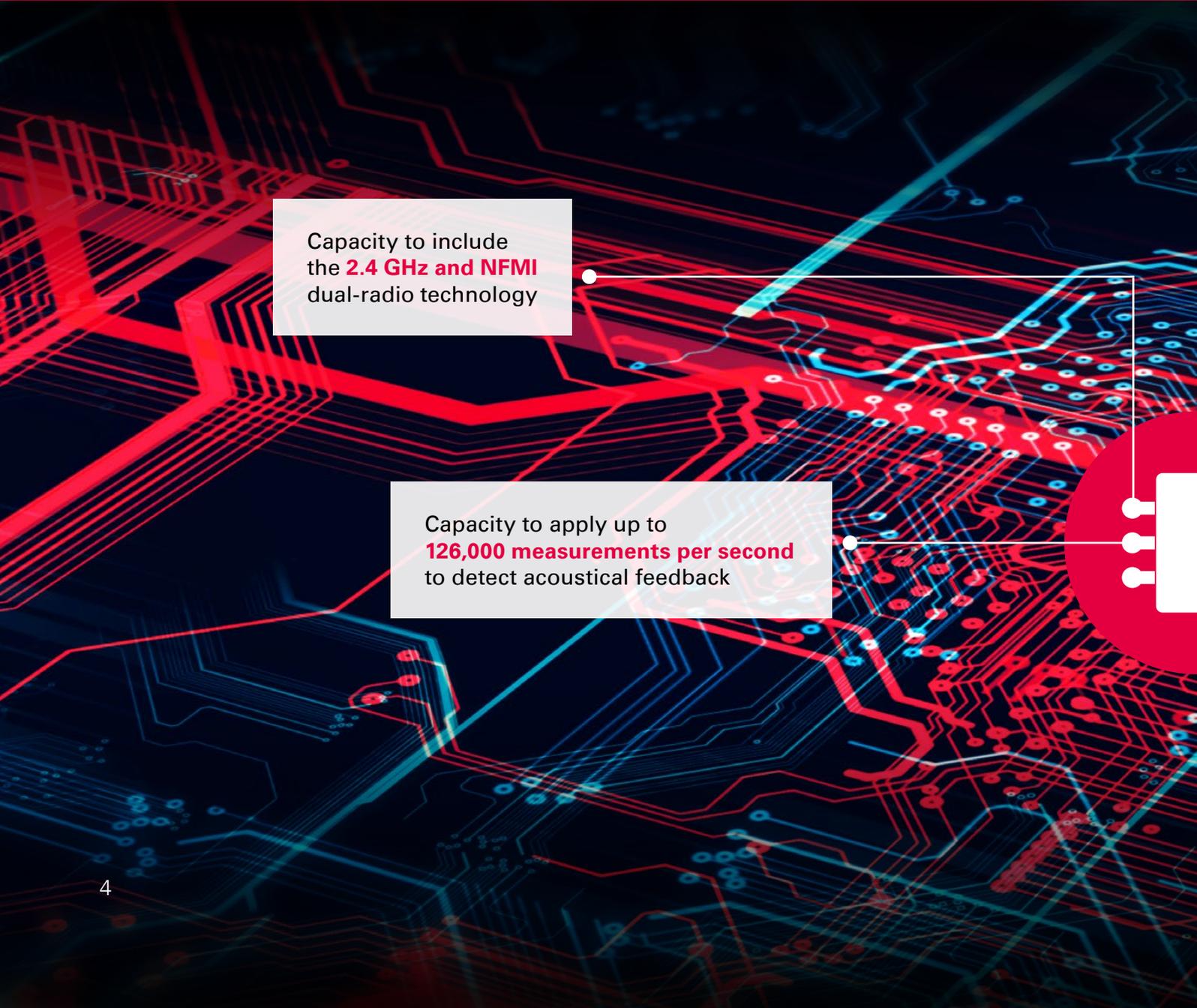
«At Bernafon, we are driven by a passion to make good things even better, so that our technology delivers the innovations and benefits your clients will appreciate. That means we focus on what matters most to your clients: understanding speech in noisy environments while keeping sounds as real and natural as possible. With Viron, we are proud to offer the industry's first True Environment Processing™ hearing instrument that detects and processes sounds in real time. Together with major advances in our core DECS™ technology and a brand-new rechargeable device, Viron provides natural and clear sound that allows users to experience sounds closer to reality.»

Erich Spahr, President of Bernafon



At the heart of the action

Viron is the industry's first True Environment Processing™ hearing aid that lets users immerse themselves in the sound environment making every situation sound more natural and real for them. Thanks to the powerful chip which detects and processes sound in real time, Viron leaves environment classification rules, restrictions, and artificial sound behind.



Capacity to include the **2.4 GHz and NFMI** dual-radio technology

Capacity to apply up to **126,000 measurements per second** to detect acoustical feedback

VIRO

With Viron, we launch our most powerful chip. It has more capacity than ever before, allowing us to implement Bernafon's patented feedback cancelling system.

Capacity to detect **32,000 single data points** of the environment per second

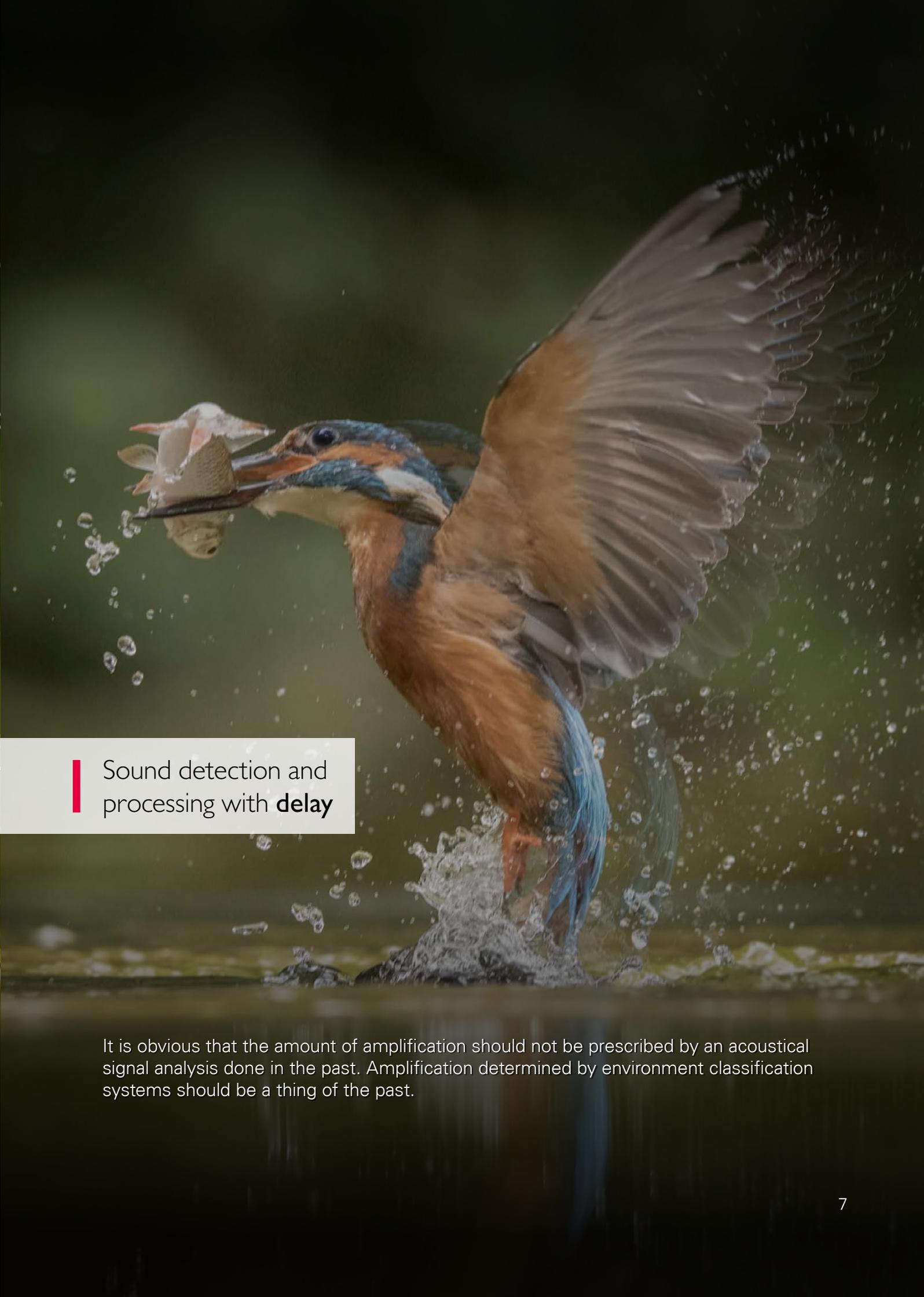
Capacity to adjust the amplification at a speed of **20,000 times per second**

Viron is Bernafon's first True Environment Processing™ hearing aid



Sound detection and
processing in **real-time**

With Bernafon's philosophy of providing the most natural sound possible, users will experience sound which is simply closer to reality. The super-fast sound detection and processing stimulates users with more precise information about the environment in real time. This enables the listener to focus on hearing what's important to them, while keeping the natural sound picture.



Sound detection and processing with **delay**

It is obvious that the amount of amplification should not be prescribed by an acoustical signal analysis done in the past. Amplification determined by environment classification systems should be a thing of the past.

True Environment Processing™ powered by DECS™ technology

Dynamic Environment Control System™, or DECS™, uses a combination of systems to ensure amplification of sound happens in real time, enhancing speech understanding in challenging listening situations, and providing users with the most realistic sound experience possible.

Thanks to the increase of our chip processing capacity, DECS™ is now even more effective with the new Dynamic Feedback Canceller™ feature.

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 measures the speech 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.

new

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



DECS™ applies
Continuous Environment Detection to
analyze the sound environment in real time.



DECS™ effectively attenuates noise without adversely affecting speech

To improve speech understanding in noisy and dynamic listening situations, DECS™ works with Dynamic Noise Management™ that constantly optimizes the configuration of the directionality and noise reduction systems.

Viron gives users the possibility to hear sounds from all around them, making them more aware of their environment. Directionality and noise reduction are only applied when necessary to help users participate in conversations. Multiple polar plots are applied over 16 bands, triggering changes when and where needed. The system analyzes the input signal to apply the right amount of directionality, offering an optimized binaural signal-to-noise ratio across the various frequencies. By targeting and reducing noise where appropriate, users can concentrate on what's important to them.



DECS™ improves speech understanding in every listening environment

The benefit of situation-dependent real-time amplification is obvious and Dynamic Amplification Control™ in DECS™ allows exactly this. It not only looks at the signal level to determine the amount of amplification, it identifies the signal type through real-time measurement of the signal-to-noise ratio. This feature even detects subtle changes in the listening environment and prevents noise being amplified during speech pauses.

Using the environment information transferred by Dynamic Amplification Control™, Dynamic Speech Processing™ adds the necessary adjustments of the gain and compression to the signal 20,000 times per second. Soft sounds will not be masked by noise and users will be able to hear more acoustical details while maintaining the most realistic and natural sound possible.

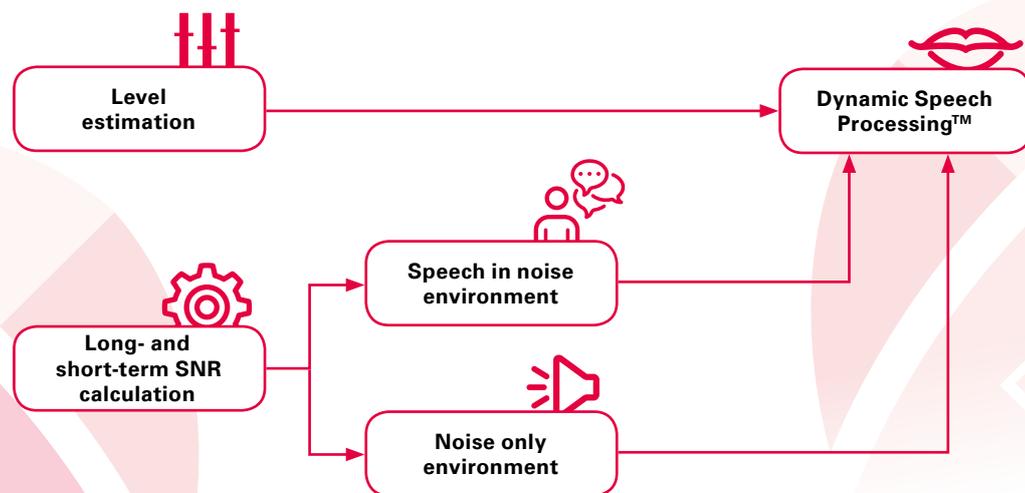


Figure 1. Working simultaneously with the level estimation, DAC™ calculates the long-term and short-term SNR as well as determines the presence of speech and then transfers this information to DSP™.

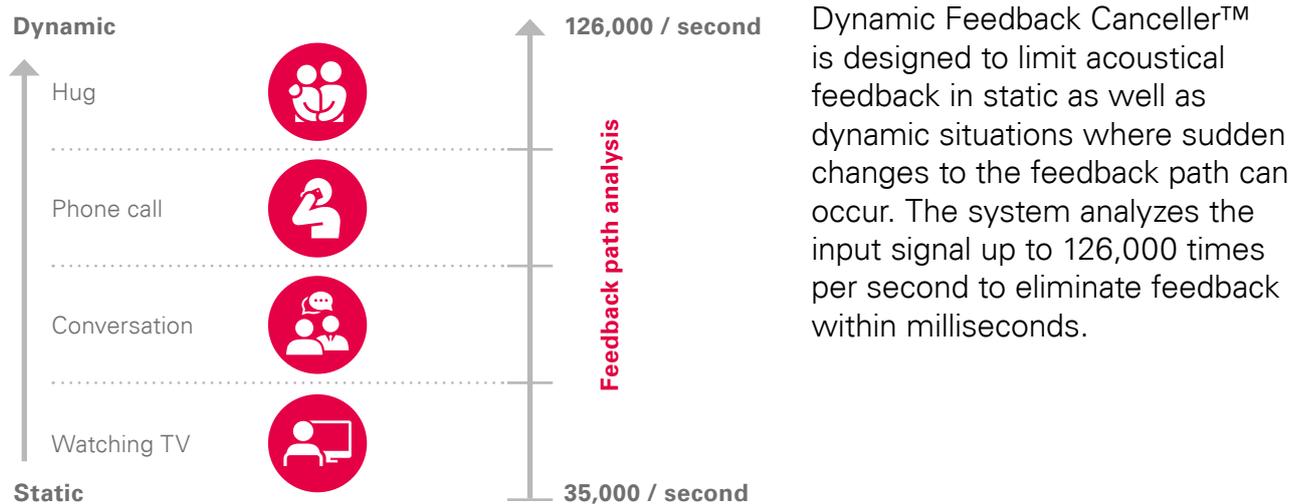
With Dynamic Feedback Canceller™, annoyance caused by feedback is a thing of the past

We call this an innovation because it is the **most powerful and effective feedback cancelling system ever** from Bernafon. Dynamic Feedback Canceller™ in DECS™ eliminates feedback signals within **milliseconds**, so that feedback does not become an issue for users.

Another
patented
innovation
by Bernafon

Testers report **36 % less feedback sensitivity** and **28 % less feedback annoyance** with Viron.*

Traditional feedback management systems estimate the feedback path and then apply a counter phase signal to eliminate acoustical feedback. The algorithms applied work efficiently to avoid feedback in static situations. However, dynamic movements like picking up the phone, putting on a hat, or giving someone a hug are everyday situations that can cause rapid changes to the feedback path. These situations require a solution like Bernafon's new Dynamic Feedback Canceller™ that acts 10 times faster than previous systems* to avoid audible feedback signals to the user.



Dynamic Feedback Canceller™ is designed to limit acoustical feedback in static as well as dynamic situations where sudden changes to the feedback path can occur. The system analyzes the input signal up to 126,000 times per second to eliminate feedback within milliseconds.

Figure 2. DFC™ caters to static and dynamic situations with high-speed analysis.

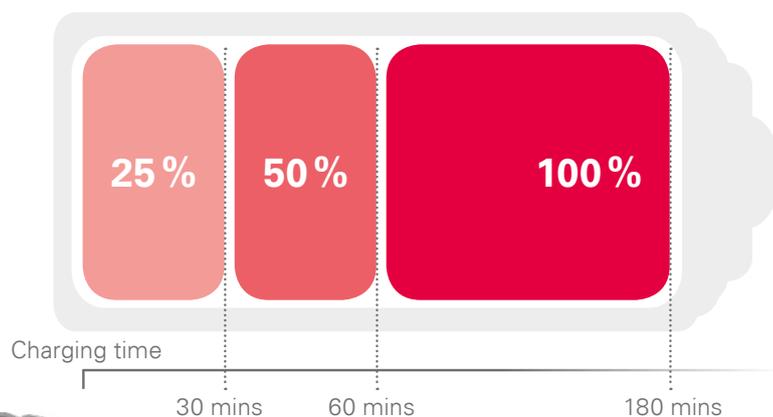
Benefits of Dynamic Feedback Canceller™:

- **Prevention of feedback** even when fast changes are applied to the signal path
- **Better target match** due to higher feedback thresholds
- Allows for **more open fittings** with minimized risk of acoustical feedback
- Extended fitting possibilities that cater to more severe hearing losses by using the **full gain** of the instrument

Full-day sound immersion with Viron rechargeable miniRITE T R

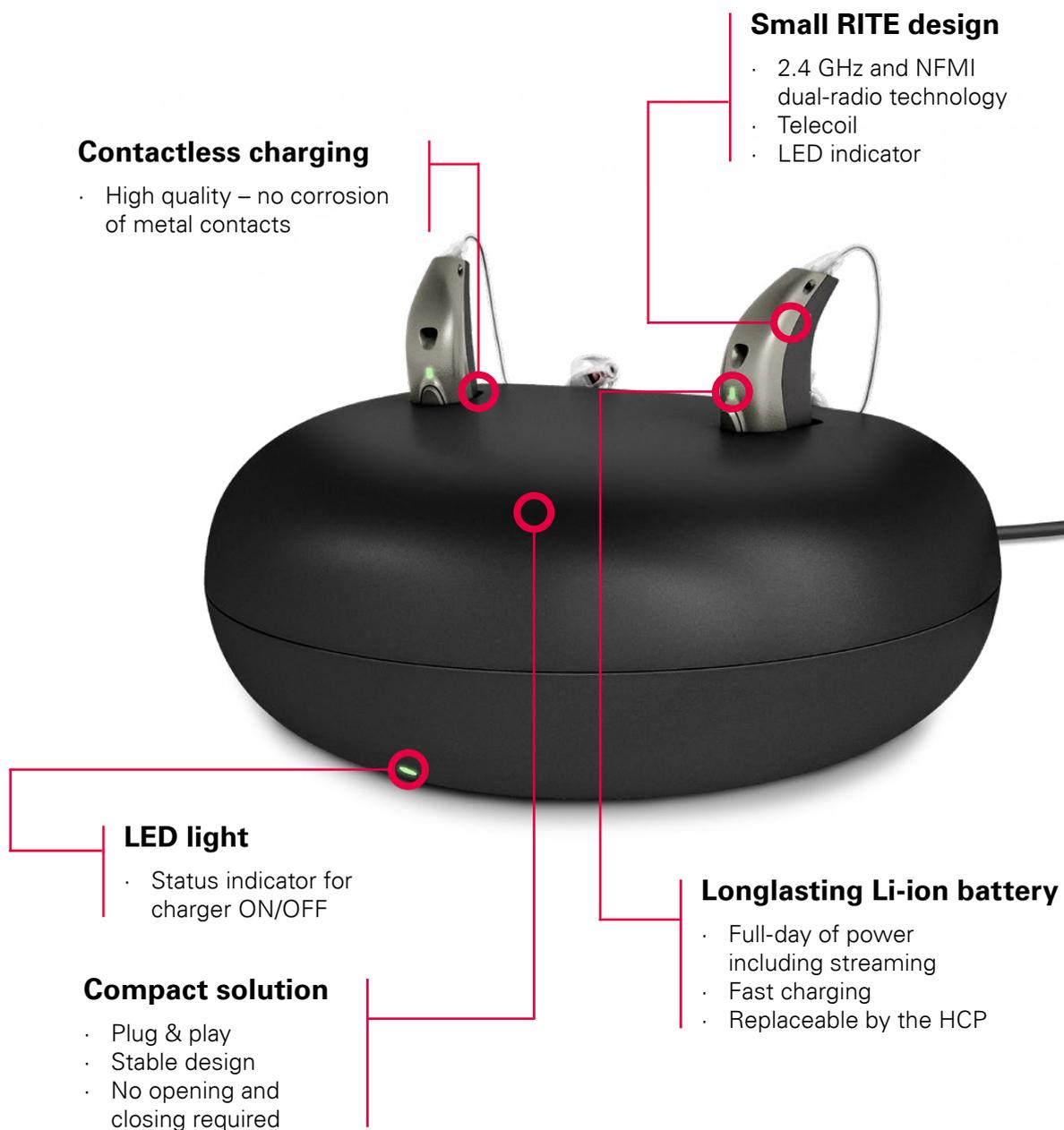
Viron miniRITE T R is our first rechargeable hearing instrument to feature a built-in lithium-ion rechargeable battery that provides power for a full day including sound streaming from other devices.

With rechargeable batteries, your clients can simply wear the hearing instruments and forget about changing batteries or carrying extra ones with them. Using Li-ion batteries brings the advantage of a short, fast charging time and reduced deterioration and degradation of the battery over time.



Only 3 hours of charging for a full day of power including streaming and phone calls

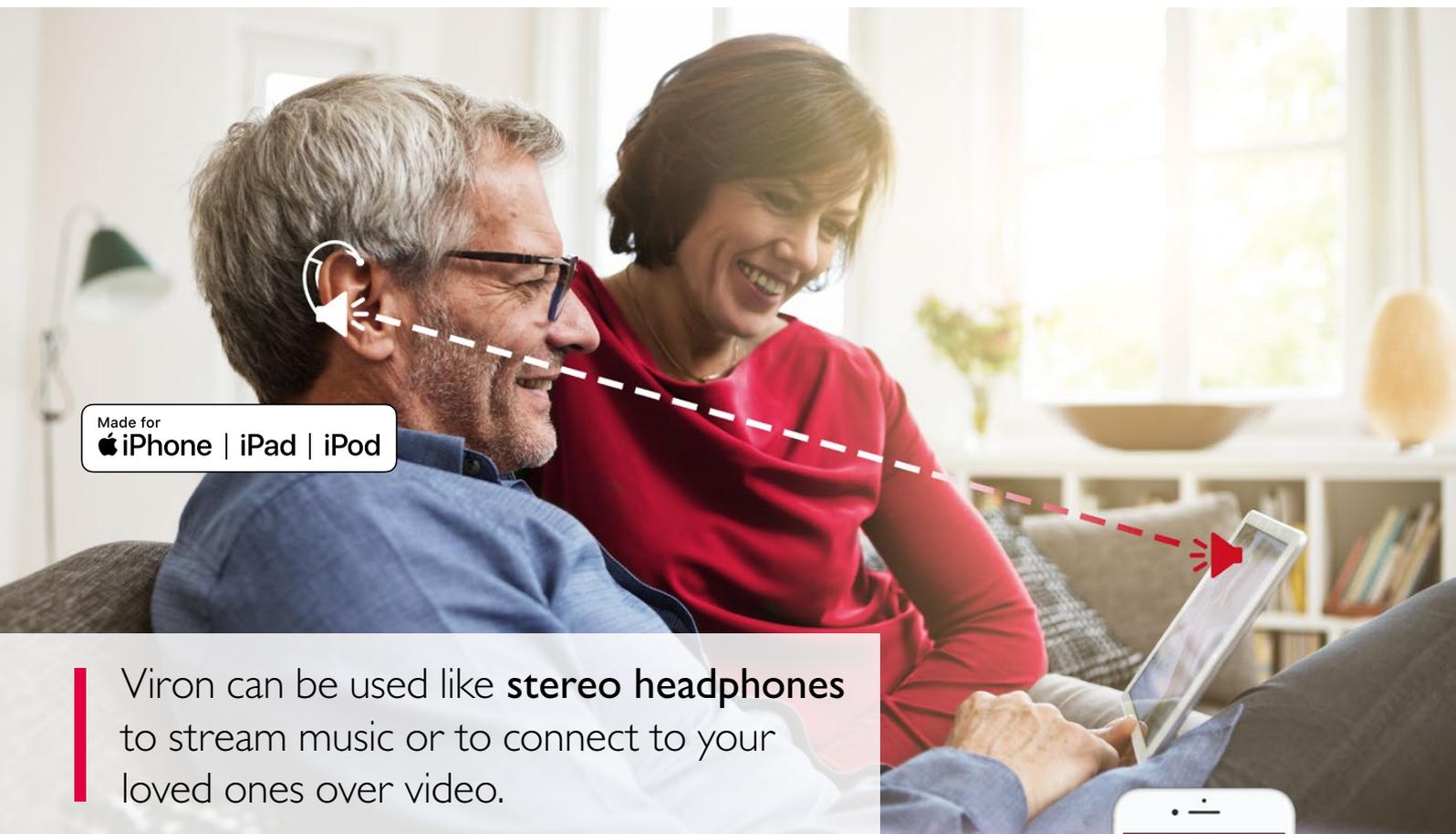
The Viron miniRITE T R charger uses inductive technology allowing for contactless charging of the instruments, which keeps the risk of corrosion at a minimum. Its compact contemporary design fits on every night table and the integrated USB 2.0 port enables charging from various power sources*, making it an on-the-go solution as well.



* USB 2.0 high power port (500mA output) required.

Simply closer to the world's sweetest sounds

Viron offers attractive connectivity options for users to listen to their most favorite sounds. Viron connects to all modern smartphones and Bluetooth® devices and can be used like high-quality stereo headphones.



Made for
iPhone | iPad | iPod

Viron can be used like **stereo headphones** to stream music or to connect to your loved ones over video.

EasyControl-A app

The EasyControl-A app can be downloaded to regulate volume and change programs. Monitor the battery level of the hearing instruments and use the helpful "Find my hearing instrument" function in the app.





SoundClip-A

The all-rounder for **hands-free phone conversations** from iPhone® and modern smartphones. It improves communication at a distance and in very noisy environments. Also, use it to change volume and pick up phone calls.

TV-A

This TV box streams the sound from the **TV directly to Viron** hearing instruments in Dolby Digital® Stereo sound quality.



RC-A

The RC-A remote control communicates with Viron hearing instruments using **2.4 GHz wireless technology** and allows for discreet volume and program changes.

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.

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Model overview



	miniRITE	miniRITE T	miniRITE T R	BTE 105
Battery size	312	312	312	13
miniFit speaker	60-, 85-, 100-, 105-Speaker	60-, 85-, 100-, 105-Speaker	60-, 85-, 100-, 105-Speaker	
miniFit thin tube				•
Earhook				•
Li-ion rechargeable battery			•	
ZPower rechargeable battery	•			
Dual-radio 2.4 GHz and NFM1 technology	•	•	•	•
Single push button	•			
Double push button		•	•	•
Telecoil		•	•	•
Hydrophobic coating	•	•	•	•
IP rating	IP68	IP68	IP68	IP68

Color options

Top shell	JEBL	COBR	MAC	MSIL	SABE	ANBR	MAC	MSIL	SABE
	jet black	cocoa brown	metallic anthracite	metallic silver	sand beige	antique bronze	metallic anthracite	metallic silver	sand beige
Base shell				MSIL metallic silver			metallic anthracite	MAC	

Feature overview

	Viron 9	Viron 7	Viron 5
DECS™ (Dynamic Environment Control System™)			
Dynamic Noise Management™			
Dynamic Directionality	High / Medium focus	Medium focus	Medium focus
Dynamic Noise Reduction	4 Settings	4 Settings	3 Settings
Dynamic Amplification Control™			
Speech in Noise	6 Settings	4 Settings	2 Settings
Comfort in Noise	4 Settings	2 Settings	–
Dynamic Speech Processing™			
ChannelFree™	●	●	●
Speech Cue Priority™	●	●	●
Dynamic Feedback Canceller™			
	●	●	●
Speech			
Low Frequency Enhancer	●	●	●
Frequency Composition ^{next}	●	●	●
Comfort			
Binaural Noise Manager	●	●	–
Transient Noise Reduction	4 options	3 options	3 options
Wind Noise Manager	●	●	●
Dynamic Range Extender	●	–	–
Soft Noise Management	●	●	●
Processing			
Frequency Bandwidth	10 kHz	8 kHz	8 kHz
Fitting Bands	16	14	12
Directionality controls			
Fixed Dir	●	●	●
Fixed Omni	●	●	●
True Directionality™	●	–	–
Individualization			
Program Options/Memories*	14/4	13/4	13/4
Binaural Coordination: VC, Program Change, Mute	●	●	●
Comfort in Airplane	●	–	–
Automatic Adaptation Manager	●	●	●
Transition Level	4 options	3 options	2 options
Data Logging	●	●	●
Tinnitus SoundSupport	●	●	●

* Program options may vary depending on hearing instrument style

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 Viron hearing aids, visit our Bernafon website.

World Headquarters

Switzerland

Bernafon AG
Morgenstrasse 131
3018 Bern
Phone +41 31 998 15 15
info@bernafon.com
www.bernafon.com

Australia

Bernafon
A Division of Audmet Australia
629 Nudgee Road
Nundah QLD 4012
Freecall 1800 809 111
Phone +61 7 3250 0300
Fax +61 7 3250 0372

New Zealand

Bernafon New Zealand
Millennium Centre
Level 2, Building A
600 Great South Road
Greenlane, Auckland 1051
Toll Free 0800 442 257
info@bernafon.co.nz

South Africa

Bernafon South Africa (Pty) Ltd
39 Van Vuuren Street
Constantia Kloof
1709
Phone +27 11 675 6104

United Kingdom

Bernafon UK
Cadzow Industrial Estate
Off Low Waters Road
Hamilton
ML3 7QE Scotland
Phone +44 1698 285 968
Fax +44 1698 421 456



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Your hearing · Our passion