

NATURA 2SE

PROFESSIONAL INFORMATION GUIDE

THE PREMIUM DIGITAL HEARING AID THAT'S PROVEN SUPERIOR



NATURA® 2 SE is

- **PROVEN SIGNAL PROCESSING THAT ENHANCES SPEECH UNDERSTANDING IN NOISE.**
- **PROVEN DIGITAL NOISE REDUCTION FOR ADDITIONAL BENEFIT.**
- **PROVEN TECHNOLOGY THAT OUTPERFORMS ANALOG HEARING AIDS.**
- **THE EASIEST HEARING AID CHOICE YOU'LL EVER MAKE.**

FEATURES INCLUDE:

- True Personalized Noise Reduction™ to further enhance speech understanding in noise.
- *DIRECTIONALplus™* System for an optimized hearing-in-noise experience (available on select models)
- Nine channels for more natural sound
- Nine programming handles for prescriptive accuracy
- Real-time processing for more lifelike communication
- Speech Weighted Expansion™ technology to reduce low-intensity sounds
- Automatic tones for program change and low battery alert
- Highly sophisticated proprietary microchip
- Seven models to assure maximum comfort

CLINICALLY PROVEN AGAIN AND AGAIN.

At SONIC innovations we believe the amplification options you offer your patients should include a full- featured digital hearing aid that enhances speech understanding in noise. That's why we developed NATURA 2 SE. NATURA 2 SE is clinically proven to improve speech understanding in noise. Furthermore, a multi-site research study confirms that NATURA 2 SE with Personalized Noise Reduction outperforms analog devices. Now choosing a premium digital hearing aid for your patients has never been easier.

PERSONALIZED NOISE REDUCTION.

NATURA 2 SE offers our Personalized Noise Reduction technology that provides additional benefit for speech intelligibility in noise. By differentiating between speech and noise signals in real time, NATURA 2 SE reduces many unwanted background noises and applies gain only to speech-like inputs in each of its nine independent programmable channels. Figures 1 and 2 illustrate how Personalized Noise Reduction naturally improves the signal-to-noise ratio by reducing the amplitude of the noise without altering the amplitude of speech. Using our *EXPRESSfit* software, NATURA 2 SE's technology allows you to fully customize the levels of noise reduction to help your patient achieve the benefit of improved speech understanding in noise.

HOW OUR NOISE REDUCTION WORKS.

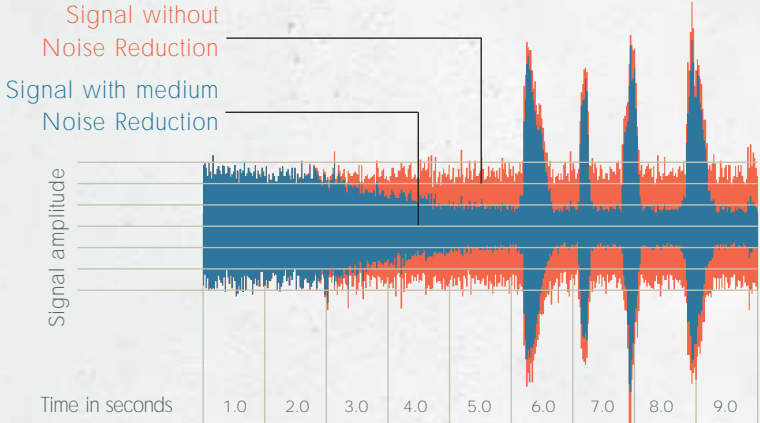


FIGURE 1.
Male speech against white noise

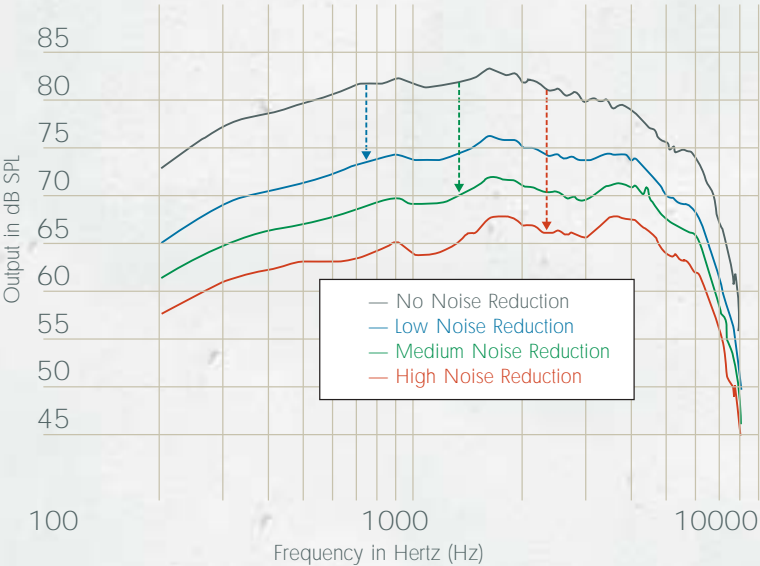


FIGURE 2.
The effect of four Noise Reduction settings on a noise signal. Arrows show the maximum attenuation (reduction) of a noise signal as compared to a signal when Noise Reduction is off.

DIRECTIONAL_{plus} SYSTEM.

Typical directional “only” microphone technology helps the user focus on sounds originating from the front by de-emphasizing sounds coming from behind. While such systems have been proven to be effective under certain listening conditions, these systems rely on the assumption that “speech” is the sound arriving from in front of the user and “noise” is any sound originating from behind. Of course in the real world, noise is all around the typical user. Our approach to this challenge is to utilize our sophisticated DIRECTIONAL_{plus} System that combines our patented Personalized Noise Reduction with Switchable Directionality. Available on select models, these two technologies emphasize sounds from the front and de-emphasize noise originating from all directions.

NINE INDEPENDENT CHANNELS.

Like the human cochlea, NATURA 2 SE processes frequencies within narrow bands. Specifically, our microchip contains nine independent compression channels that can be programmed to within 1 dB accuracy. This allows NATURA 2 SE to be personalized for specific individual hearing loss with prescriptive accuracy. The significance of nine independent compression channels is more apparent when you compare natural sound (figure 3) with how NATURA 2 SE processes sound (figure 4). Other digital hearing aids, like a popular 3-channel (figure 5), deliver a less natural sound because they process sound through fewer channels.

HOW NATURA 2 SE PROCESSES SOUND.

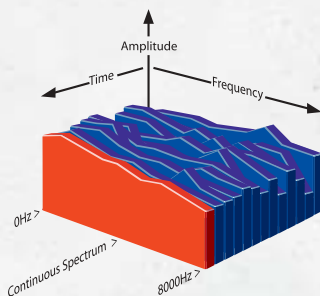


FIGURE 3.

Shows natural sound recording of a symphony represented by a smoothly flowing curve (amplitude across frequency)

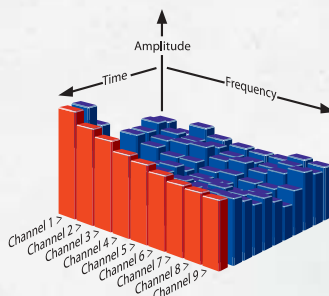


FIGURE 4.

Natura 2 SE uses 9 channels to process sound in smaller units that better represent the original sound

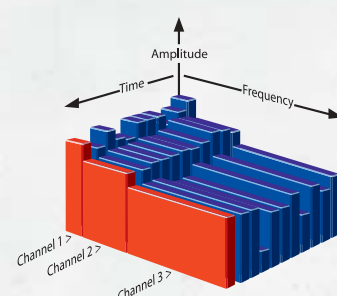


FIGURE 5.

A digital instrument uses only 3 channels to process sound in larger units, that provides a poorer representation of the original sound

SPEECH WEIGHTED EXPANSION.

To address a common complaint that hearing aids are noisy in relatively quiet environments, NATURA 2 SE adapted “expansion” technology from the professional audio field. Traditional hearing aids with Wide Dynamic Range Compression apply the highest level of gain to the softest sounds, including non-speech sounds. As a result, soft sounds become too loud and are annoying. NATURA 2 SE’s Speech Weighted Expansion technology actually reduces the volume for low-intensity sounds, so it is quieter, without compromising volume for normal-intensity sounds. Speech Weighted Expansion can be set to meet each individual’s needs. To understand the benefits of expansion, see figures 6, 7 and 8.

HOW EXPANSION TECHNOLOGY WORKS.

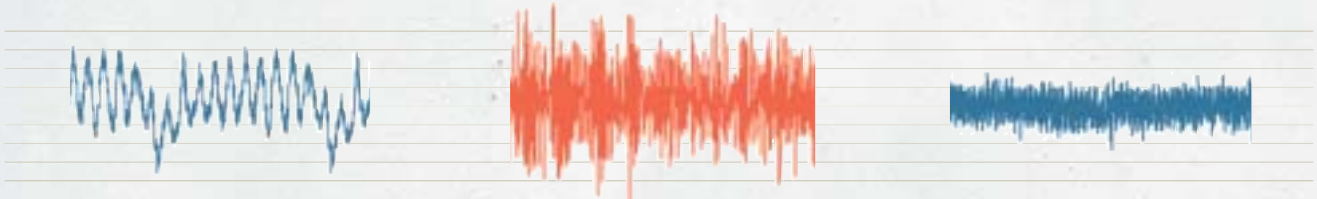


FIGURE 6.

The natural sound of a ventilation fan in a room

FIGURE 7.

A typical digital hearing aid without expansion amplifies the fan noise

FIGURE 8.

NATURA 2 SE’s use of expansion reduces the loudness of the fan

AUTOMATIC PROGRAM ALERT TONES.

NATURA 2 SE uses subtle tones to alert users when they have changed from one program to another. In addition, a distinct tone will alert users when the battery is low. The volume of these tones is adjustable, and can be set to the appropriate level for each individual.

FAST-ACTING, NARROW-BAND COMPRESSION.

NATURA 2 SE responds to speech cues and other sounds in real time without delay. It has the only microchip sophisticated enough to provide virtually symmetrical attack and release times operating in narrow bands. Many of today’s other digital hearing aids use wide-band compression, where complex sounds of the real world are processed in a highly simplified manner resulting in less accurate reproduction of the original sounds to the wearer. NATURA 2 SE’s nine-channel, narrow-band, fast-acting compression can process these complex sounds separately and distinctly.

SPACE AND ENERGY SAVINGS.

Our second-generation microchip not only offers advanced Digital Sound Processing, but it is also the tiniest single chip solution available in a hearing aid. This microchip fits easily into the smallest of hearing aids, including the discreet CIC model. Because it uses less battery power than some traditional hearing aids, your patients save the money and inconvenience of frequent battery replacement.

KEEP THE DIALOGUE GOING.

SONIC innovations is a technological leader in the hearing health industry. We are committed to continually research and create products that provide the most natural sound quality and lifelike communication experience for your patients.

Please contact us with any questions or suggestions about how to improve our products to help your patients.

SEVEN MODELS.

NATURA 2 SE is available in seven models to fit your patients' wants and needs.

Completely-in-the-Canal (CIC)



Mini-Canal (MC)



In-the-Canal (ITC & ITC-P)



Half Shell (HS)



In-the-Ear (ITE)



Behind-the-Ear (BTE)





In a multi-site clinical study most users of NATURA 2 SE showed improved speech understanding in noise. There is only one way to determine individual benefit—fit NATURA 2 SE hearing aids and let your patients hear for themselves what NATURA 2 SE can do for them.



Changing the way you hear the world.

www.sonici.com