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# Natural sound experience for hearing-impaired people

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The new Behind-the-Ear model of the Nitro hearing device by Siemens designed for people with profound hearing loss is nearly one-third smaller than its predecessor and equipped with markedly improved technology.

Siemens has presented a new hearing aid for people whose hearing is severely impaired. The hearing aid is so thin that it can even fit behind the ear of a hearing-impaired baby. One of the reasons why the new device is one-third narrower than its predecessor is that it is equipped with extremely high-performance microchips. The thorough updating of the Nitro product line has also made Siemens' BestSound technology available to severely hearing-impaired people. The technology is highly

regarded among experts. The new device offers an unprecedented sound volume even at the high amplification required for severely hearing-impaired users. The new Nitro will become available in Germany and other markets over the next weeks.

An important feature of hearing aids is that they sufficiently amplify speech to make it easily audible, but at the same time offer a sound experience that is as comfortable and balanced as possible. That's why high-performance computer chips are one of the elements used in BestSound technology. The hearing aid receives sound waves through two microphones. The microchips split the sound waves into individual frequency ranges, on the basis of which they create a finely tuned sound no matter what the acoustic situation. The system automatically offsets audio feedback that creates an annoying whistling sound. Although hearing aids generally have trouble dealing with a babble of voices such as occurs at parties, the new system can also handle such situations by making background discussions quieter so that the wearer can concentrate better on what his or her interlocutor is saying.

The new Nitro hearing instrument models by Siemens are available as Behind-

the-Ear (BtE) and In-the-Ear (ItE) devices.

The basis of the BestSound technology's Micon generation is an extremely high-performance chip platform developed by Siemens. The platform enables the system to process a broader range of frequencies and split sounds into as many as 48 individually optimized channels. Although this results in a huge number of calculations, it does not cause any noticeable sound delays, because the system processes 250 million commands per second. This makes listening with a hearing aid much less strenuous than was previously the case. The signals from the two directional microphones are individually processed in parallel, enabling the system to more quickly eliminate audio feedback and identify sound sources so that irritating background noises can be filtered out.

Even in the noisy environment of a bowling alley you can hear your team mates clearly with the new Nitro hearing aid model by Siemens.

Siemens engineers enabled left-ear and right-ear hearing aids to exchange data for the first time in 2004. This allows users to recognize differences in the signals received at each ear so that they can localize a sound source, for example. For this achievement, the Siemens researchers and their partners at Oldenburg University received the German Future Prize in 2012. The prize is specifically presented for innovations that are successful in practice and have great market potential.

Provided by Siemens

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