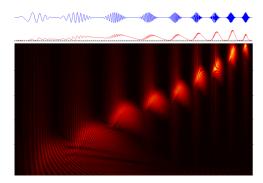
SPREAD SPECTRUM FOR ABR & ASSR

LATEST INNOVATIONS FOR AUDITORY EVOKED POTENTIAL RECORDINGS





2 STIM. CHANNEL ABR & ASSR IMPROVED BY SPREAD SPECTRUM TECHNOLOGY & CHIRP



WHY DON'T YOU USE THE CE CHIRP?

In order to compensate for the latency of the travelling wave on the basilar membrane a different stimulus than a click is used in many devices. Well known is the CE Chirp, where CE stands for Claus Elberling, a Professor who worked for William Demant group and provided publication data to support the function of this chirp in 2006. However different chirps with comparable performance were published already earlier - e.g. one by Prof. T. Dau in 2000. The CE chirp is trademarked, so the name cannot be used by others.

However also our chirp is based on or derivatives from the cochlear model like from E. de Boer used since the late 1970s, which describes how to create a stimulus which can increase the amplitude of the EEG recordings by compensating for the travelling wave on the basilar membrane. The resulting wave V is easier to detect visually - that is also true for our chirps. In the figure above a chirp is analyzed with the cochlear model. Time and frequency separation is clearly visible.

Read more online in our whitepaper by scanning the QR code right or visit www.pathme.de/learn:

WHAT IS A SPREAD SPECTRUM STIMULUS AND HOW DO WE BENEFIT FROM IT WHEN RECORDING EVOKED POTENTIALS?

In telecommunication and radio communication, spread-spectrum techniques are methods by which a signal generated with a particular bandwidth is deliberately spread in the frequency domain, resulting in a signal with a wider bandwidth. This increases resistance to natural interference, noise and signal jamming, to prevent detection, and to limit power flux density.

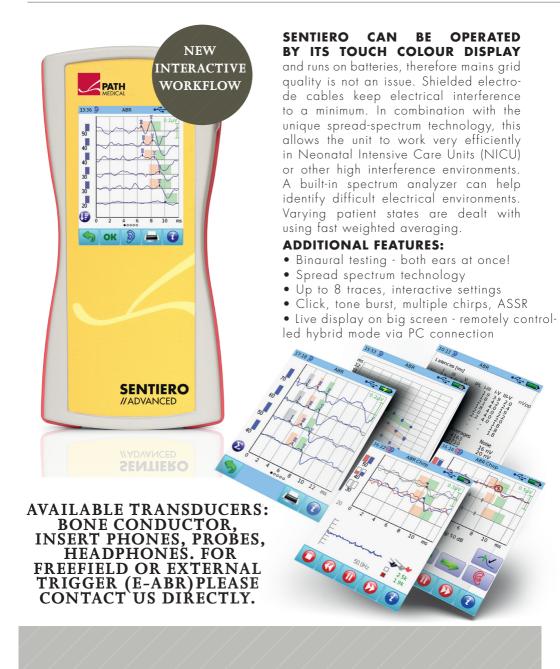
Recording evoked potentials means recording signals in the range of nV!

Even small sources of interference (mobile phones, lights, computers, elevators in the vicinity, monitors, any electrical equipment) might influence and disturb the recording. SENTIERO users do not need to worry about this problems as spread spectrum technology takes care of these interferences! If you do not believe it: Try and compare against any competing device in any environment. SENTIERO can record faster and with less interference from environmental conditions. SENTIERO offers functional tests to analyse your environment for sources of electromagnetic noise.



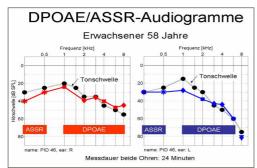
PORTABLE DIAGNOSTICS

SENTIERO - THE WORKHORSE FROM GERMANY



HANDHELD ASSR - NEWS!

MULTIRATE AND MULTIFREQUENCY - INVENTED BY PATH



FULLY AUTOMATED AUDIOGRAMS:

The DP Threshold and the ASSR Threshold modules are both available on SENTIERO. By combining these, a fully automated audiogram can easily be recorded binaurally within 20 min. This matches the pure tone audiogram as displayed in the original result (see picture above). SENTIERO can be even quicker - read the summary of the IERASG presentation online:

MUTLIFREQUENCY AND MULTIRATE ASSR STIMULI - ADVANTAGES:

It is well known that multiple stimulus frequencies can be applied at the same time binaurally with ASSR. However, the user normally has to choose the setup for sleeping/awake patients or babies/adults. SENTIERO is the first to introduce varying modulation rate from 37 to 163 Hz. Optimized to your individual setup, the EEG is analyzed and spread spectrum technology is applied to receive the optimal recording conditions and results.



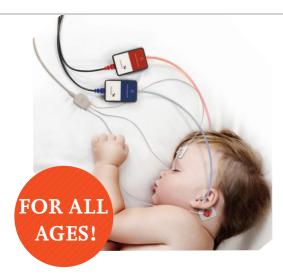
Stimulus levels range up to 100 dB HL, up to 4 simultaneous test frequencies per ear (binaural testing) - adjustable maximum averaging time, artefact threshold, and significance level - all this and much more can be configured and stored in your device!

In combination with MIRA PC software, patient and test data can be transferred, archived, exported, printed, and a user management can be set up. Reports can be printed even without MIRA with the free of charge "Print to PDF" feature. Download the full technical specifications from our homepage:



RECONFIRMATION SCREENING

AND FOLLOW UP DIAGNOSTICS IN ONE SINGLE DEVICE



GENERAL BENEFITS TO THE USER:

- Easy to use Multi-language support.
- Context sensitive help functions.
- Configurable presets for screeners and supervisors.
- 8 hrs continuous testing guaranteed!
- 1000 tests storage on device
- Direct print to pdf with one button press
- Database and e-health record solutions available (MIRA and PATHTRACK).
- Upgrades to OAE & Audio available.
- Calibration data stored on transducer to minimize downtime and cost of maintenance.

NON SEDATED ABR SIMPLE, FAST & EASY TO OPERATE!

SENTIERO is not a newborn hearing screener - it's much more! From preterm or risk babies to reconfirmation diagnostics - the ABR Quick function is dedicated to suit the needs of fast and reliable automated ABR recordings. With a single button press, reports can be printed to a label printer. This is unmatched by any competing device.



SENTIERO IS THE TECHNOLOGY LEADER!

Developed by the award winning group of engineers at PATH MEDICAL, SENTIERO was introduced in 2009 as the first touch screen based audiometry device in the world. The same engineers who developed the EchoScreen in 1998 contributed with their experience and professionalism - this is outstanding worldwide!

ABR AND ASSR MODULES ARE AVAILABLE AS STANDARD OR UPGRADE ON THIS PLATFORM:



Light into the ear canal! Better probe fit with VIP!

Made in Germany



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