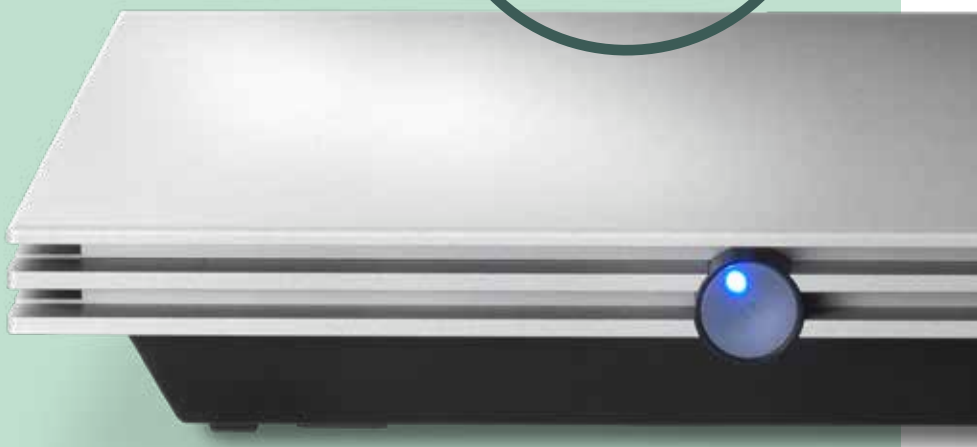
Science **made** smarter

# The Eclipse

## Evoked potentials **made** powerful

AEP, ASSR,
Aided Cortical,
VEMP & OAE testing
on one dedicated
platform



Interacoustics

Audiometry | Tympanometry | **ABR** | **OAE** | Hearing Aid Fitting | Balance

# Design your own diagnostic solution for a perfect result

**The Eclipse is a modern and versatile platform. It is designed to fit seamlessly into your everyday workflow and to offer complete reliability and perfect results.**

**Have it your way**
We all strive towards a common goal: To achieve reliable test results to screen or diagnose patients accurately and efficiently.

Whatever your challenge may be, the Eclipse hardware platform enables you to focus on the job at hand with the assistance of dedicated software modules for all facets of auditory evoked potentials and otoacoustic emissions.

**Are you future-safe?**
Every Eclipse software module is developed based on proven technologies and feedback from users and audiology experts. Features are developed in sync with your changing needs and contain the latest technologies making the Eclipse a future-safe investment.

**"Silence is the Key. – The Eclipse pre-amplifier provides unrivalled stealth with very low internal noise.**

**Making complicated things easy**
A range of pre-loaded test protocols are available in each software module ensuring that you will quickly feel confident. After getting acquainted with the software you can add or modify test protocols and tailor them to your specific needs. The clear layouts allow you to easily interpret the results and focus on the essential outcomes of the test, which can be saved into the OtoAccess® database for easy retrieval, review and export to your EMR in XML format.

**A preview of the benefits**
- Solid & noise immune hardware
- Modular and future-safe platform
- Unique pre-amplifier technology ensures optimum performance in electrically hostile environments
- Intuitive interfaces, well-designed layouts, freedom to customize settings

# Software modules for any challenge

*"The Eclipse has the largest number of clinically-relevant features of any AEP device today. The platform is an excellent blend of parameter flexibility and user-friendliness.*

Todd B. Sauter M.A. Audiology Associates of Worcester Massachusetts

## ABR

**EP25**
ABR, eABR, MLR, LLR, P300, MMN, ECochG

**EP15**
ABR, eABR

**ABRIS**
Automated ABR screening

**ASSR**
Threshold assessment

**Aided Cortical**
Hearing device validation

## Database

**NOAH**
Data Storage & Sharing

**OtoAccess®**
Data Storage & Sharing

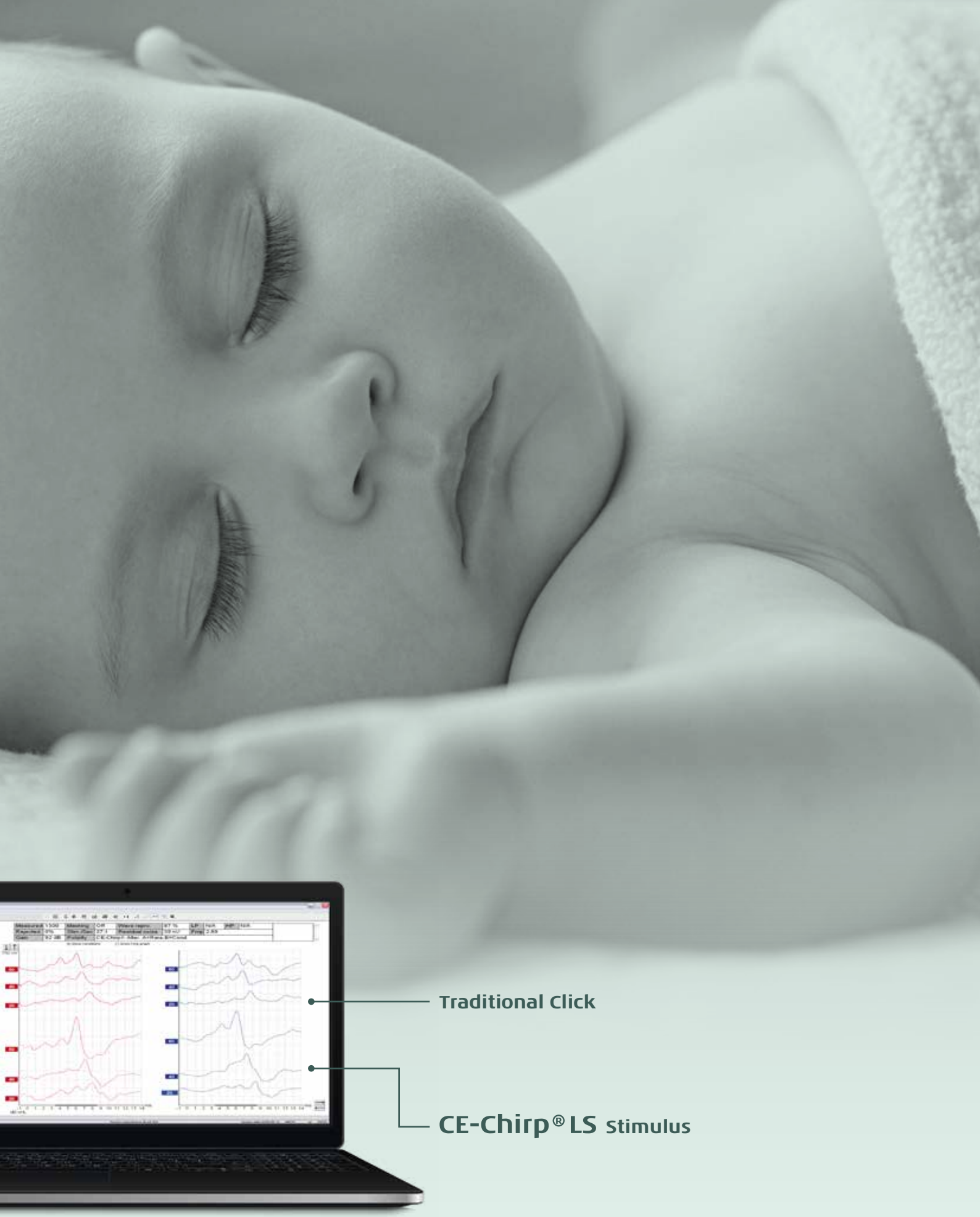
## OAE

**DPOAE**
Screening and clinical DPOAE

**TEOAE**
Screening and clinical TEOAE

## Balance

**VEMP**
cVEMP
oVEMP


Traditional Click
CE-Chirp® LS Stimulus

**CE-Chirp® Stimulus Family**
**The Gold standard for threshold assessment**

# Auditory Evoked Potentials

**New technologies.**
**New standards.**
**New ABR.**

**Residual Noise Calculation – knowing when to stop**
Reducing noise is the single most important factor for improving any evoked potential recording. The residual noise calculator provides you with the knowledge of when to stop averaging, often saving test time and ensuring confidence in response identification.

**CE-Chirp® Stimulus Family – Double your response amplitudes**
The revolutionary CE-Chirp® stimulus family for threshold assessment (developed by Claus Elberling) compensates for frequency specific cochlear travel times and generates waveform responses up to twice the size of traditional click or tone burst stimuli.

The original CE-Chirp® was designed for optimal response amplitude at medium stimulation intensities. By using the level specific CE-Chirp®, clearer waveform morphology at high intensities is also available. The introduction of the CE-Chirp® LS stimulus family is an overall improvement to the original CE-Chirp® stimulus family.

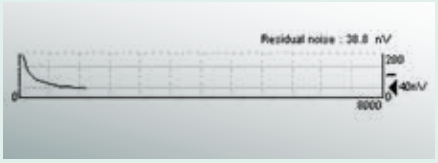
For an easier visual evaluation of the NB CE-Chirp® responses, each of the NB CE-Chirp® stimuli have been time shifted to provide latencies similar to Click and the CE-Chirp® LS stimulus. The time-shifted NB CE-Chirp® are named NB CE-Chirp® LS, as the placements are level specific. Otherwise, the NB CE-Chirp® LS are identical to the original NB CE-Chirp®.

The CE-Chirp® stimulus family is incorporated in the EP25 (*optional for EP15) and ASSR software modules from Interacoustics.

**Bayesian Weighting saves you valuable time**
Using Bayesian Weighting during your ABR recording ensures that waveforms remain stable even during periods of patient activity. The influence of patient noise is minimized during the recording, resulting in continuously lower noise in the running average, saving valuable test time.

**Fmp – improving confidence**
Imagine having an objective waveform confidence indicator to assist you in confirming the presence or absence of a response. The Fmp graph provides objective and mathematical information based on multiple points within the recording to assist with your waveform analysis. Use of the Fmp provides a reduction in test time and confidence in your diagnosis.

The online display of the Fmp serves as a calculated response confidence. In this example, 99% response confidence was exceeded after only 1500 sweeps.




Rather than testing for a certain number of sweeps, the residual noise should be used as a stop criteria.

# EP15, EP25 and ABRIS From screening ABR to specialized AEP

## ABRIS Fast and objective ABR screening

**ABRIS is a fast screening software that can be used for all age groups. It returns a simple pass/refer result, requires minimal tester training and is automatic and objective.**

**Just click "START"**
After attaching the electrodes and making a quick impedance check – simply click "Start" and you are set to go. EEG monitoring is provided with a continuous graphical display and no measurements are collected during periods of unacceptable noise. Results are clearly displayed in: Green for Pass and Red for Refer – it's that easy!

## EP15 Diagnostic ABR

**Developed for clinics performing standard threshold and neurological ABR testing, the EP15 will allow you to do a common task surprisingly well.**

**A new standard**
The contemporary interface delivers unrivalled ease-of-use and superior clarity, which will help you achieve clear and reproducible results in a confident and timely manner. Pre-loaded protocols peer-reviewed by key-experts, easy tailoring of manual and automatic test protocols and a multitude of useful tools make the Eclipse the preferred choice for threshold and neurological ABR.

**For your daily routine**
- Threshold & neurological ABR testing & eABR
- Bayesian weighting
- Residual noise calculator
- Fmp calculator
- SNR 3:1 ratio calculator CR, RA, INC waveform markers
- Normative latency data for click, CE-Chirp®, NB CE-Chirp®, CE-Chirp® LS & NB CE-Chirp® LS
- Single/split screen
- CE-Chirp®, NB CE-Chirp®, CE-Chirp® LS & NB CE-Chirp® LS for optimized threshold assessment (optional)
- CM & ECochG testing (optional)

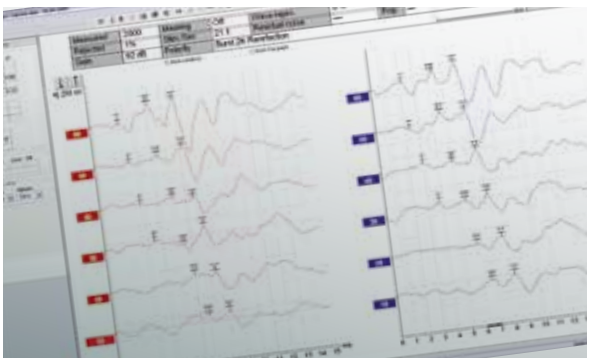
## EP25 Clinical AEP

**For those who need specialized procedures requiring the full spectrum of AEPs: Go for the advanced EP25 software.**

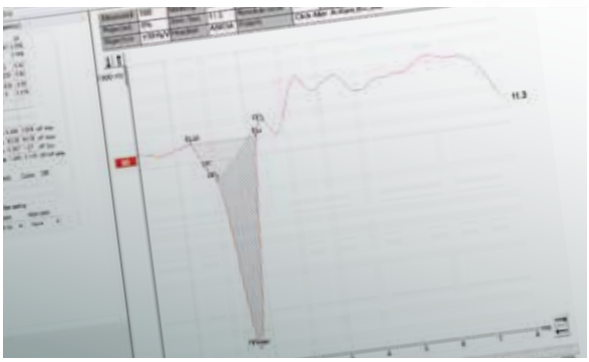
**The benefits of specialized features**
The EP25 contains all the useful features found in the EP15, but adds the extra functionality needed by more specialized clinics. The EP25 incorporates a full range of test protocols covering the early, middle and late latency tests.

**EP25 – all the features of EP15 and this:**
- AMLR, ALLR & P300/MMN testing
- CM & ECochG testing
- ECochG Area Ratio Calculation by John Ferraro
- CE-Chirp®, NB CE-Chirp®, CE-Chirp® LS & NB CE-Chirp® LS for optimized threshold assessment
- Research module including waveform export, logging of recordings, and importing WAV files for stimuli (optional)

**Vestibular EP**
**– We offer a special version for the vestibular clinic with protocols such as VEMP, ECochG and rate study tests**



Displaying Right and Left ear in a split screen format is beneficial when performing threshold work.



Unique ECochG Area Ratio Calculation implementation.

# Aided Cortical module

## Aided benefit **made** clear

*"We have found the new aided cortical protocol software to be very user friendly with nice clear responses displayed on the screen. The algorithm in the protocol is extremely helpful and appears very accurate when analysing traces.*

Kirsty Waite, Specialist Audiologist at Bradford Teaching Hospitals NHS Foundation Trust

**Traditional hearing testing is not possible in infants and in patients with complex needs, leaving a big question mark on the benefit of a fitted hearing device. Until now.**

The Aided Cortical module for the Eclipse offers an objective method to validate the benefit of a fitted hearing aid or cochlear implant in patients who cannot subjectively respond to a hearing test.

**Speech-like stimuli**
The aided cortical test is based on electrophysiological cortical responses and will allow you to evaluate whether the patient perceives speech-like sounds.

With the speech-like ManU-IRU stimuli and objective Fmpi™ response detector, you get a quick and accurate tool that provides the control you need to make the right clinical decisions.

The included sound field analysis feature allows you to quickly check your sound environment and adjust the stimulus presentation accordingly.

**Reassuring**
You can use the aided cortical test to reassure parents or other relatives that the patient benefits from the hearing device and make informed adjustments to the hearing device if needed.

**Enhance your patient's quality of life**
By performing aided cortical testing, you can optimize the hearing care pathway and improve the outcome for infants and patients with complex needs who have a hearing loss.

**Easily validate hearing device fitting in infants and in patients with complex needs**

# ASSR Where speed meets accuracy

**The Interacoustics ASSR system reduces test times by 50% thanks to Narrow Band CE-Chirp® stimuli and new powerful automated dual response detection methods.**

**A new (and faster) generation**
Interacoustics ASSR represents a true breakthrough and a new generation in ASSR threshold estimation. The ASSR software enables 8 frequencies to be tested simultaneously to threshold in less than 20-30 minutes through the use of Narrow Band CE-Chirp® stimuli and a patented detection engine.

**Full control – full speed**
You will dramatically shorten test time as you are in full control of selecting the appropriate stimulus levels independently for each frequency based on current and previous results. Also, you are able to change the stimulation rate during testing depending on the state of your patient. All in all: Full control allows full agility and speed.

**Cut test times in half**
The Interacoustics ASSR software uses the Narrow Band CE-Chirp® stimuli to generate a maximal response, which makes the detection fast and efficient. The dual detection engine evaluates both the phase and the response magnitude from 12 of the higher harmonics of the fundamental modulation rate. This patented technology can reduce test time by 50% compared to traditional ASSR systems and offers unsurpassed accuracy.

**Save data directly to NOAH**
The estimated audiogram generated by the Interacoustics ASSR can be saved to NOAH. The estimated audiogram can easily be transferred to Genie or other similar hearing aid fitting software, ensuring a smooth and accurate hearing aid fitting.

Probe check
Response
Test summary
Point summary
DP-Gram
Stimulus
Probe check
Response waveform
TE response
PAUSE
START
PAUSE
STOP

# DPOAE TEOAE Otoacoustic emissions

**The Eclipse hardware platform accommodates both DPOAE & TEOAE capabilities.**

- Shared features and benefits
- Lightweight probe with low internal noise
- Probe check indicator for correct placement
- Historic overlay for test comparison
- Test summary providing a quick overview of test results
- Protocol settings for automatic display of pass/refer results for hearing screening
- Weighted averaging improving data quality and limiting the test time

**DPOAE**

**Distortion product emissions**

The DPOAE module produces detailed DP Grams with protocols designed by the user for their preferences or requirements. Confidence in the OAE measurements is ensured via DPOAE reliability criteria. Available frequency range is 500-10000 Hz.

**TEOAE**

**Transient evoked emissions**

The TEOAE uses linear or non-linear broad band clicks to evoke otoacoustic emissions. The extensive range of clinical options provide a full clinical evaluation of TEOAEs. Available frequency range is 500-5500 Hz.

# Optimize VEMP through visual feedback

**Vestibular Investigation**
The Eclipse oVEMP and cVEMP tests measure and analyse the vestibular evoked myogenic potential generated by a loud stimulus.

**Instant visual feedback – increased quality**
Valid cVEMP results are dependent on correct and controlled EMG tonus. The VEMP software provides visual feedback of the muscle contraction to assist you in helping the patient to obtain correct muscle tonus throughout the entire test. This can be done from the software or on a separate patient monitor for cVEMP testing.

**EMG-based scaling - a reliable result**
By applying EMG-based scaling of the obtained waveforms, you are ensured a crucially important balanced presentation of responses from Left and Right – ensuring a confident and reliable result.

**High output stimuli**
The Eclipse VEMP (and ABR) can stimulate up to 100dB nHL with clicks and 110dB nHL with 250Hz-4kHz tonebursts. The B81 bone conductor can go up to 75dB nHL with 250Hz-4kHz tonebursts.

**Research module option**
Research module including waveform export, logging of recordings and importing WAV files for stimuli (optional).

**Automated VEMP ratio calculation.**
**– The amplitude difference between right and left side is calculated automatically using the VEMP ratio. Simply mark two places on the VEMP curve and the software will calculate the VEMP ratio.**

**Complete system.**
**– Combine VEMP with the Interacoustics VNG system for a complete balance system.**

# Science **made** smarter

**Interacoustics is more than state-of-the-art solutions**

Our mission is clear. We want to lead the way in audiology and balance by translating complexity into clarity:
- Challenges made into clear solutions
- Knowledge made practical
- Invisible medical conditions made tangible and treatable

Our advanced technology and sophisticated solutions ease the lives of healthcare professionals.

We will continue to set the standard for an entire industry. Not for the sake of science. But for the sake of enabling professionals to provide excellent treatment for their millions of patients across the globe.

Interacoustics.com

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Go online to explore our full product range

## Related products

**EyeSeeCam**
Video Head Impulse Test (vHIT)

Sera
Handheld OAE & automated ABR screener

**Titan**
Tympanometry, OAE, ABRIS and WBT

**Product specifications**
All technical and hardware specifications concerning all products can be downloaded from our website.

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