



VERSATILE CLINICAL EP/OAE

AUDERA PRO FAQ

Q. What is the Audera Pro?

A. The GSI Audera Pro is a clinical evoked potential system that offers ABR, ASSR as well as TEOAE and DPOAE.

Q. What configurations are available?

A. Available configurations include AEP only, AEP and ASSR, AEP and TEOAE/DPOAE, TEOAE/DPOAE only, and a full configuration that includes all test modalities AEP/ASSR/TEOAE/DPOAE.

Q. What is included with the Audera Pro system?

A. Included with every system is the Audera Pro main unit, the Audera Pro stand, and starter kits for each test modality. Also included is the GSI Audera Pro software, electronic user manuals, quick guides, test modality licenses, and the calibration certificate.

Q. What additional components are included with licensed AEP/ASSR systems?

A. Additional components include three (3) transducers (insert earphones, headphones, and the B81 bone oscillator), two (2) patient electrode cables, a digital I/O cable, and a loop test cable for troubleshooting purposes.

Q. What is the difference between the two patient cables?

A. The 4-lead patient cable may be used with disposable snap electrodes. The 5-lead patient cable may be used with reusable disc electrodes, gold foil Tip Trodes, the TM electrode for ECoChG, or any electrodes with a DIN connector at the end.

Q. What additional components are included with the TEOAE/DPOAE systems?

A. Systems with OAE test modalities will include the GSI OAE probe –a modified version of the Corti probe.

Q. Does the Audera Pro include the PC?

A. No, the computer may be purchased separately.

Q. Are there any optional components?

A. Yes. Amplified speakers are available for sound field testing. In addition, an isolation transformer is available and recommended when connecting other electrical equipment such as a printer, speakers, or cochlear implant PC when performing eABR testing.

Q. What tests can be performed with the AEP test modality?

A. The following tests are available: ECoChG, ABR, MLR, LLR and SN10. In addition, eABR, P300, MMN as well as oVEMP/cVEMP protocols are included.

Q. Are there test protocols already created?

A. There are multiple default test protocols using standard test parameters. It is also possible to create or customize protocols.

Q. Is there an automated ABR screening protocol with a Pass/Refer result?

A. No. The Audera Pro is a clinical evoked potential system used for diagnostic testing.

Q. What test stimuli are available with the AEP?

A. The Audera Pro includes the traditional test stimuli of click and tone bursts as well the CE-Chirp and CE-Chirp Octave Bands. In addition, speech stimuli are available.

Q. Is normative data available?

A. Normative data is included with ABR and can be seen when the latency-intensity function is displayed. It is also possible to input your own normative data.

Q. How are ECoChG waveforms analyzed?

A. For ECoChG, the AP/SP ratio and the Area Ratio may be calculated from the software.

Q. Is weighted averaging available?

A. Yes. Bayesian weighting is available when block averaging is enabled. A "block" is a group of sweeps. Blocks can contain 2, 10, 20, 50, or 100 sweeps.

Q. What is Bayesian weighting?

A. Bayesian Weighting is a tool that may be used when AEP testing is conducted in less than optimal environmental conditions or when the patient is restless. Blocks of sweeps with less noise are weighted higher than blocks of sweeps with high noise when averaging. The goal is to reduce the amount of noise in the ABR.

Q. Can waveforms be marked and analyzed while data is being collected?

A. Marking or labelling peaks, arranging waveforms according to intensity, stimulus rate and order of acquisition, and increasing/decreasing size can all be done during collection.

Q. Are digital filters available?

A. Yes. After a waveform has been collected, digital high pass and low pass filters can be applied to the saved waveform.

Q. What is Split Active Recording?

A. If a waveform is collected with alternating polarity, splitting the recording will display the rarefaction and condensation waveforms.

Q. Are there objective tools for analyzing waveforms?

A. The Audera Pro includes a variety of objective analysis tools such as cross correlation, SNR, and RN.

Q. What are SNR and RN?

A. SNR and RN are objective tools that assist the clinician in determining the presence or absence of a response. Signal to Noise Ratio (SNR) is the ratio of the response from the patient (the ABR) vs the noise such as the EEG or EMG activity. Residual Noise (RN) is the amount of noise that remains in the response. When a response is present, the SNR should increase and the RN should decrease during the collection as more sweeps are averaged. The Audera Pro displays RN and SNR for the active waveform as well as saved waveforms.

Q. What is cross correlation?

A. Cross correlation is a statistical tool that provides an objective estimate of the similarity of two waveforms. The higher the correlation value, the more similar the waveforms are with "1" being perfect correlation.

Q. What test stimuli are available in ASSR?

A. Test stimuli include pure tones of 250, 500, 1000, 2000, 4000, and 8000 Hz.

Q. How many frequencies can be tested at a time?

A. It is possible to present up to 4 frequencies in both ears at the same time for a total of 8 frequencies.

Q. How is that possible?

A. Each pure tone is amplitude modulated at a different and unique frequency which allows simultaneous testing of multiple frequencies.

Q. Do I have to test both ears at once?

A. No. It is possible to test each ear separately.

Q. Is it possible to record bone conduction ASSR?

A. Yes. It is possible to record ASSRs with all AEP transducers, including insert earphones, headphones, bone oscillator, and the optional amplified speakers.

Q. Is masking available?

A. Yes. It is possible to apply white masking noise to the non-test ear at a specific intensity level or at a specified offset based on the stimulus intensity as it changes.

Q. How will I know if a response is present?

A. The ASSR module includes an automated response detection algorithm with recommended stopping criteria. During the recording, it is possible to observe SNR and Noise levels in graphical format. The SNR should increase during collection and the noise level should decrease when a response is present.

Q. How are the ASSR analyses displayed?

A. The ASSR analysis dialog shows the polar plot, spectral graph in the frequency domain (amplitude vs frequency), and the data table for the each ASSR waveform.

Q. Is it possible to print an audiogram with the ASSR thresholds?

A. Yes. HL and SPL audiograms are available for each ear and may be included in the report.

Q. What tests can be performed with the Audera Pro OAE system?

A. The following tests are available: screening (pass/refer) protocols, diagnostic protocols, spontaneous OAE, and DP input/output functions.

Q. Can I order a DPOAE only system?

A. No. Audera Pro OAE configurations include both TEOAE and DPOAE.

Q. Are there screening OAE protocols?

A. Screening (pass/refer) protocols are included in the TEOAE and DPOAE modules.

Q. It is possible to modify screening protocols?

A. TEOAE and DPOAE screening protocols may be customized. The required SNR, minimum amplitude of the OAE, test frequencies, and number of frequencies to pass are a few of the parameters that may be modified.

Q. Is the Audera Pro probe the same as the GSI Corti probe?

A. The Audera Pro OAE probe cable is 3 times longer than the Corti probe cable (the Audera Pro probe cable is 2.9 meters, the Corti probe cable is 1 meter). In addition, the probe body is made of a specialized plastic. The materials differ because the Audera Pro uses mains power, while the Corti is battery operated. The HDMI connection, probe tubes, and ear tips are the same.

Q. Can I use the GSI Corti OAE probe on my Audera Pro system?

A. No. In addition, the Audera Pro probe may not be used with the Corti.

Q. Can I see more than one DPOAE test result on the same graph?

A. Multiple DPOAEs can be viewed on the same graph and will appear as a dashed line.

Q. What is a DP I/O?

A. A DP I/O module collects responses to a single frequency pair at different stimulus levels.