

Easy to operate. Efficient workflow.

For hearing care professionals who require excellent patient care and an efficient objective assessment process, the ICS Chartr EP 200 is an auditory evoked potentials solution that incorporates a comprehensive, scalable test battery in a simple to use software. With superior training options, Otometrics offers a fast, flexible and user-friendly EP solution enabling clinicians to get started and efficiently perform any EP test with ease.



ICS Chartr EP 200

Technical specifications:

Acquisition Options	
Sweep Time:	5.0 – 9000 msec
Rate:	0.2 to 180/sec
A/D Resolution:	16-bit
Artifact Rejection:	99% full scale (adjustable)
Points per Trace:	600
Channel Options	
Channels:	2 channel with additional channel available for EMG monitoring
Gain:	1k, 1.5k, 2k, 2.5k, 3k, 5k, 7.5k, 10k, 15k, 20k, 25k, 30k, 50k, 75k, 100k, 150k, 200k, 250k, 300k, 500k
High Pass Filter (Hz):	0.2, 0.3, 0.5, 1, 1.5, 2, 5, 10, 20, 30, 50, 100, 150, 200, 500, 1000
Low Pass Filter (Hz):	15, 30, 50, 75, 100, 150, 250, 300, 500, 600, 1k, 1.5k, 2k, 3k, 5k, 10k
Notch Filter:	50 or 60 Hz set by the manufacturer
Stimulus Options	
Transducer:	Headphones, Insert Earphones (automatic 0.8msec delay correction), Bone Oscillator (B71)
Stimulus Type:	Click & toneburst
Masking:	White noise
Click Duration:	100 usec
Toneburst Freq (Hz):	100, 125, 200, 250, 300, 400, 500, 600, 700, 750, 800, 900
Toneburst Ramp/Plateau:	1k, 1.5k, 2k, 3k, 4k, 6k, 8k
Toneburst Envelope:	User defined (cycles)
Intensity:	Linear, Hanning, Blackman, Gaussian
Polarity:	132 dB pe SPL; user definable nHL
Calibration Reference:	Rarefaction, condensation, alternating
	Calibration table in dB SPL with a user definable normal hearing threshold table in nHL
VEMP Monitor	
Channel:	Monitor 1 channel (left or right side)
VEMP EMG Level:	User defined minimum and maximum acceptable level
Chartr EP 200 Dimensions/Weight	
Chartr EP 200 main unit:	4.9cm x 34.2cm x 28.7cm (2" x 13.6" x 11.3") – 2.7kg (5 lbs 7oz)
Chartr EP 200 Preamp:	3cm x 9.9cm x 16.4cm (1.19" x 3.88" x 6.44") – .27kg (9.5oz)
Chartr VEMP Monitor:	2.9cm x 6.2cm x 9.5cm (1.13" x 2.44" x 3.75") – 2.0kg (4.5oz)
Interface:	USB to PC
Power Supply:	15V DC/2A
Safety:	Chartr EP 200 was designed to meet these standards EN 60601-1, Class II, Type BF, IPX0; UL 2601-1; CAN/CSA-C22.2 No 601.1-90
Computer Minimum Requirements	
Processor:	Pentium M or Pentium 4
RAM:	Minimum 512 MB available RAM
Bus Support:	USB 2.0
OS:	Microsoft XP Professional - Service Pack 2 or Vista Business, Windows 7 32 or 64 bit
CD Drive:	CD-RW
Display Resolution:	Minimum screen resolution of 1024 (horiz) x 768 (vert) at 96 dpi. At Large size (120 dpi) setting, minimum resolution is 1280 (horiz) x 960 (vert)
Display Color:	32 bit color.
ASSR	
Number of channels:	1
Stimuli:	250, 500, 1000, 2000, 4000, 8000 Hz (up to 6 per ear) presented monaurally or binaurally
Threshold search/upper lower limit:	0 - 120 dB HL (insert phones), 0 - 110 dB HL (headphones) 0 - 60 dB HL (bone oscillator), 5 dB steps
Masking:	White noise up to 100 dB HL
AM/FM Modulation:	20 to 105 Hz (1 Hz per step); AM depth - 0 to 100% (5% per step); FM depth - 0 to 25% (5% per step)
Gain:	1k, 2k, 3k, 5k, 10k, 20k, 30k, 50k, 100k, 200k, 300k, 500k
High Pass/Low Pass Filter:	Exclusive Chartr narrow filters for RapidASSR™
EEG:	Online display during data collection or when collection is paused
Search Options:	Quick Search or Straight Descent
Electrode Montage:	Cz to Nape or Cz to Linked Mastoids
Test Protocols:	Test protocols included for sleeping and awake patients. Protocols can be created and customized.

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Easy access to educational support

Users of ICS Chartr equipment can benefit from the best training and support in the industry including:

- In-depth equipment training
- Ongoing customer support
- Training videos
- Classroom and on-line education (regional)
- Our well-respected, "Insights in Practice"
- Demo patient data assists in learning process



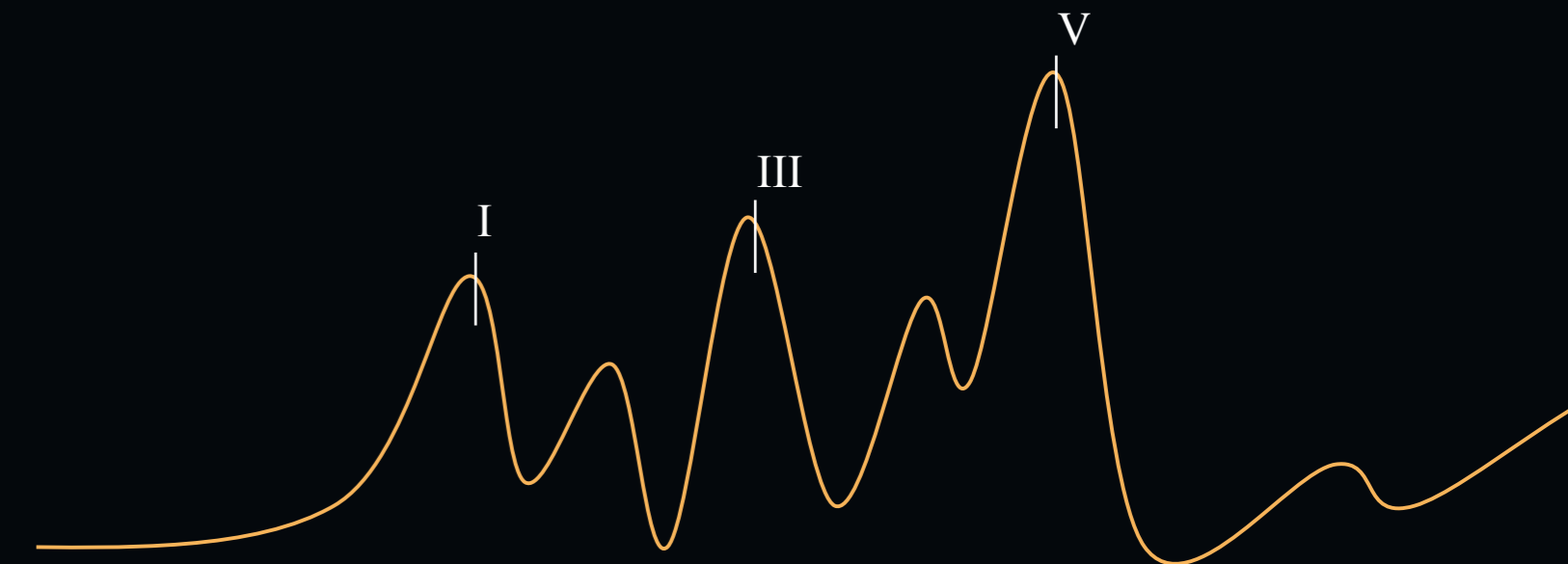
As a leading player we are committed to helping you improve practice workflow and enhance your patient care. Otometrics is providing a variety of educational activities worldwide every year.

You'll find more inspiration when you visit
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ICS Chartr EP 200

Comprehensive. Efficient. Auditory EP Testing



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Fast, Flexible and User-Friendly

Efficient workflow = Focus on the patient

The intuitive software and streamlined interpretation with normative data means that you can utilize the ICS Chartr EP 200 immediately. The unique remote control also assists in the ease of use. Default protocols are readily available while providing users the opportunity to modify or create their own. Good impedance values are crucial for good data collection. These can be displayed on the portable preamplifier or computer for confirmation before and after the test. The simple to use interface allows the clinician to focus on the most important factor - the patient.

Comprehensive test battery

ICS Chartr EP 200 provides a comprehensive test battery for diagnosing a wide range of auditory and vestibular disorders. Users can create their own protocols or get an immediate start with the pre-loaded ones.

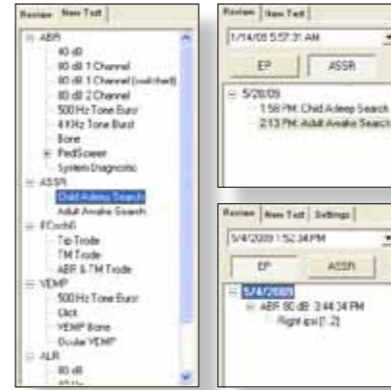
A modular solution

VEMP monitoring provides information on the amount of muscle contraction during VEMP, making your data analysis more accurate. Auditory Steady State Response (ASSR) provides

frequency specific, simultaneous threshold testing which reduces test time. Being a modular solution it is easy to add VEMP and/or ASSR.

Comprehensive. Efficient. EP Testing

- Electrocochleography
- Auditory Middle Latency Response (AMLR)
- Auditory Late Response (ALR)
- P300 - optional
- Vestibular Evoked Myogenic Potential (VEMP) - optional
- Auditory Steady State Response (ASSR) – optional
- Shaded normative area for more streamlined interpretation
- Ability to merge multiple ASSR tests
- Patient focused remote control and preamp
- Combined database with VNG/ENG



Easy navigation

The software interface ensures a smooth work process. The easy access tabs make acquiring and reviewing data quick and intuitive. You can easily toggle between ABR, ASSR or VEMP. It is all in the same software.



Easy navigation

The software interface ensures a smooth work process. Three easy access tabs make acquiring and reviewing data quick and intuitive. The New Test tab gives direct access to test protocols, the Quick Settings tab gives easy access to protocol parameters and the Review tab gives instant access to all saved data.

Straightforward waveform analysis

Everything needed for waveform analysis is within reach. The cursor latency/amplitude and marker latency/amplitude are easy to read and the interface provides direct access to waveform markers, the Latency Intensity function, and age matched normative data.



Remote control
The convenient remote control lets you operate the software from a distance so you can maintain personal contact with your patients.



Preamplifier
Connect all electrode leads and transducers into this small preamplifier. Impedance values are displayed on the preamp screen increasing ease of use.



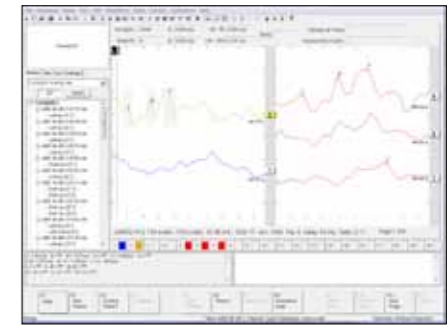
VEMP Monitor
The VEMP Monitor provides instant feedback on how much contraction of the sternocleidomastoid is needed. The lights on the monitor indicate if the contraction is too low, too high or optimal.

Why EP testing?

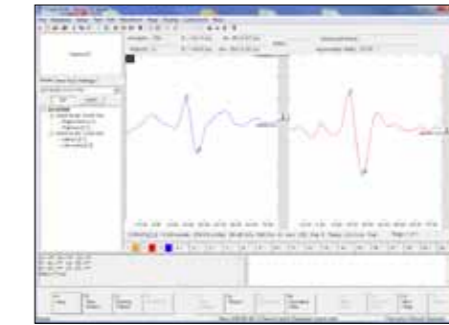
Auditory Evoked Potentials (AEP or EP or BERA) testing provides useful diagnostic information from the collection of evoked responses to stimuli. In neurology, EP is used to evaluate brainstem function or the presence of abnormalities of the nervous system. In audiology, EP testing is used to evaluate and estimate hearing levels (degree), differentiate types of hearing loss (conductive/sensorineural), and even assess parts of the balance system. EP testing is useful in difficult to test populations where the patient, for a variety of reasons, may not be able to respond to behavioral or more traditional audiometric testing.



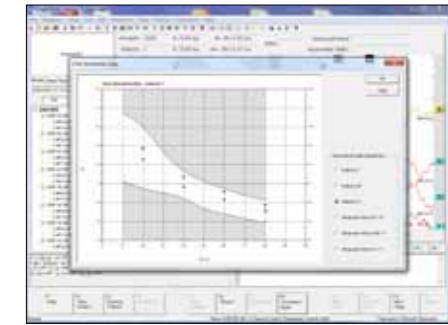
Optional ASSR



Shaded normative area



Optional VEMP



Built-in normative data



See videos on efficient EP testing
www.otometrics.com/epguides



VEMP adds valuable diagnostic information to the vestibular test battery

The Head Impulse, Caloric and Rotary Chair tests only assess the function of the semicircular canals of the vestibular system. cVEMP and oVEMP fill the gap by assessing the function of the saccule and utricle which no other tests do. This provides important clinical information in patient diagnosis.

Comprehensive vestibular testing should always include VEMP.

Timesaving data sharing

Install Chartr EP, Chartr VNG/ENG and the OTOSuite Vestibular software on the same computer and benefit from a complete test battery and a shared database.

