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:	1 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, 800, 900
	1k,1.5k, 2k, 3k, 4k, 6k, 8k
Toneburst Ramp/Plateau:	User defined (cycles)
Toneburst Envelope:	Linear, Hanning, Blackman, Gaussian
Intensity:	132 dB pe SPL; user definable nHL
Polarity:	Rarefaction, condensation, alternating
Calibration Reference:	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, IPXO; 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-R/W
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/	0 - 120 dB HL (insert phones), 0 - 110 dB HL (headphones)
upper lower limit:	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.

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 **www.otometrics.com/knowledge**

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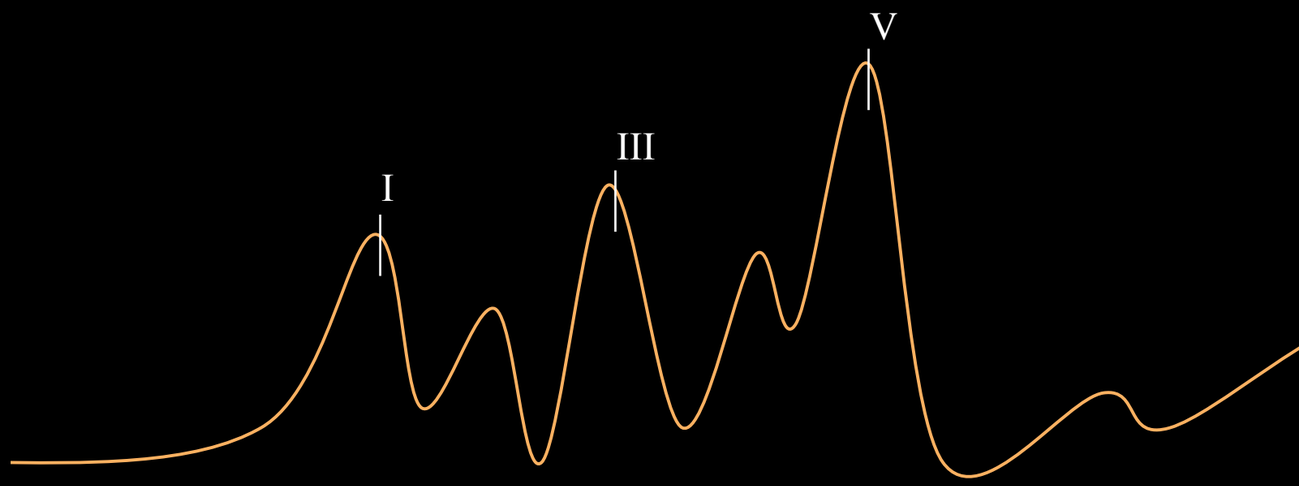
ICS Chartr EP 200 LIMITED

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 Limited 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 person - the patient.

Fundamental EP solution
Not all facilities require advanced testing protocols such as P300, eABR, CERA, etc. To accommodate that, the user friendly ICS Chartr EP 200 is available in a version suited for the tester with more basic needs.

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. The ICS Chartr EP 200 Limited can also be upgraded to the comprehensive solution including more specialized tests.

Efficient. Auditory EP Testing

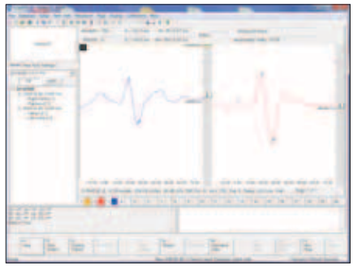
- One Channel
- Electrode Switching for ABR
- Upgradeable:
  - To include ASSR
  - To include VEMP with EMG monitoring
  - To the comprehensive ICS Chartr EP 200
- 40 Hz protocol
- Shaded normative area for more streamlined interpretation
- Ability to merge multiple ASSR tests
- Patient focused remote control and preamp
- Combined database with VNG/ENG
- GDT compatible

Why EP testing?

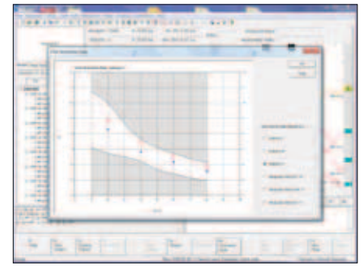
Auditory Evoked Potentials (AEP or EP or BERA) testing provides useful diagnostic information from the collection of evoked responses to stimuli. In neurology, EP is used to evaluate brainstem function or the presence of abnormalities of the nervous system. In audiology, EP testing is used to evaluate 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

BALANCE

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 fills the gap by assessing the function of the saccule and utricule which no other tests does. This provides important clinical information in patient diagnosis.

Comprehensive vestibular testing should always include VEMP.

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