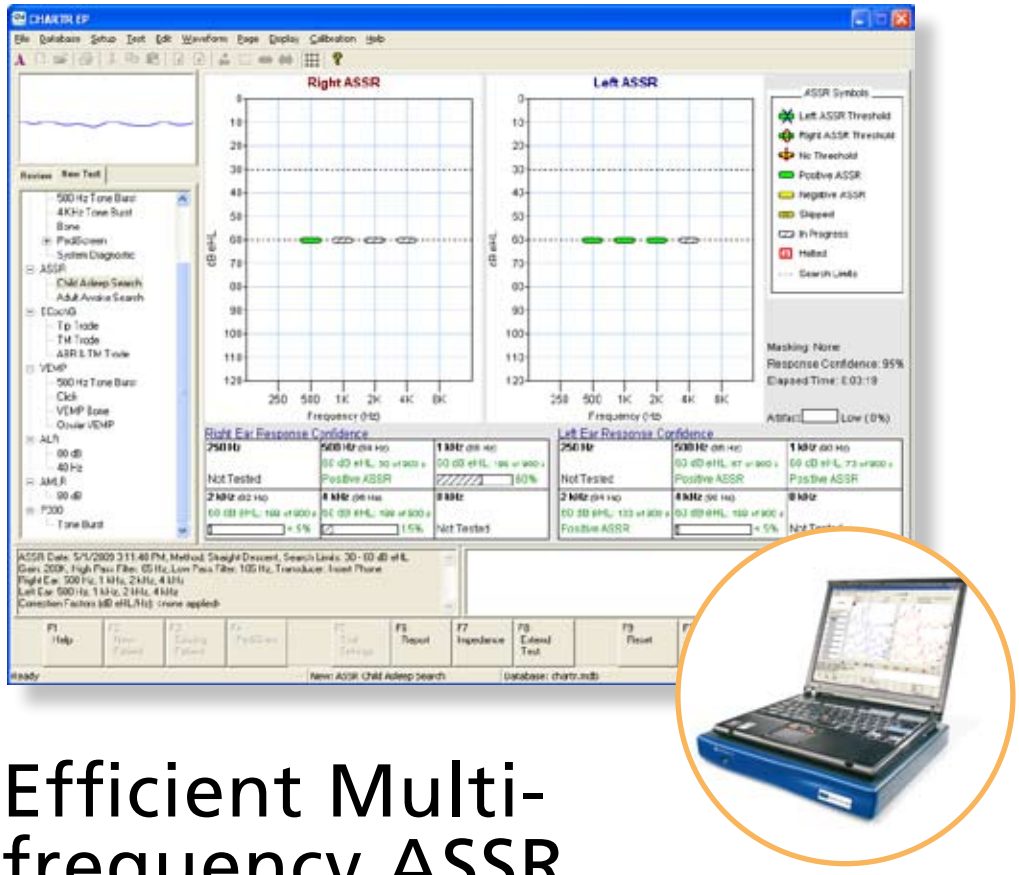
ICS Chartr EP 200 with ASSR

EASY



Efficient Multi-frequency ASSR

The Auditory Steady State Response (ASSR) module is a great addition to the ICS Chartr EP 200, allowing you to obtain frequency specific, auditory data, quickly and efficiently. The ASSR module is an integral part of the ICS Chartr EP 200 making it easy to toggle between EP and ASSR protocols and review the data collected.

Flexible data collection

Based on the RapidASSR™ algorithm the ASSR module offers a Quick Search program which enables you to obtain an audiogram quickly. It starts the response search between the upper & lower intensity limits and adjusts based on the patient's response. With one easy click the user has the ability to modify the data collection or skip a frequency at a particular intensity level. These features decrease test time. The Straight Descent program starts at the upper limit, collects data for all frequencies then descends.

RapidASSR™ algorithm

The RapidASSR™ response detection algorithm makes it possible to collect up 12 frequencies simultaneously (6 frequencies per ear - 250, 500, 1K, 2K, 4K and 8K Hz). This proven algorithm uses a Fourier Linear Combiner with an adaptive filter and circular T^2 statistical analysis*.

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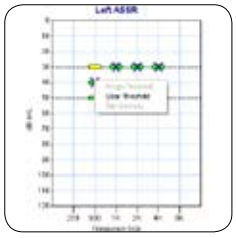
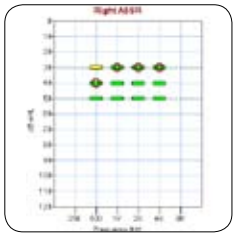


Thresholds can be cleared or assigned by the user.



Uncorrected ASSR results displayed. Corrected ASSR results available.

Pediatric friendly *ICS Chartr EP 200 was built with the pediatric population in mind. The compact, well designed hardware and convenience-based features eliminate the risk of waking the patient, while allowing you to maintain that personal contact needed during pediatric testing.*

Data from each ear is collected independently
When one ear finishes data collection at a particular intensity it proceeds to the next intensity based on the response, without needing to wait for the other ear to complete. This decreases test time. For patients with a unilateral or conductive hearing loss masking is available.

Accurate data
The ASSR module comes with a number of features ensuring accurate data collection. The EEG is always viewable during data collection, making it easy to check the patient's state. Impedance can be checked at any time during testing without interfering with data collection.

Flexible data analysis
The software assigns a threshold but the user has full control and the ability to override the assignments. Choose between displaying and printing corrected and uncorrected ASSR thresholds with one easy click.

Two default protocols or create your own
The Child Asleep protocol has modulation rates optimal for acquiring data on patients that might be asleep, while the Adult Awake protocol uses the ideal modulation rates for patients that are guaranteed to stay awake during testing. Furthermore the user has the ability to enhance data collection by modifying test parameters. This is a great feature when a particular patient does not respond well to a default modulation rate.

Flexible reporting
Report options let the user choose what to include: Corrected or uncorrected thresholds, all data points collected, test parameters, legend, and a word processing report.

Technical specifications:

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

For further product specifications refer to the ICS Chartr EP 200 brochure

Chartr EP 200 ASSR module at a glance

- Data collection from both ears simultaneously or monaurally using up to 6 test frequencies per ear
- Proven RapidASSR™ response detection algorithm
- Efficient search methods - Quick Search and Straight Descent
- User controlled options: Skip Intensity, Clear Threshold, and Assign Threshold
- Choose between the traditional Cz to Nape or Cz to mastoids using linked mastoids.

*) *Vaz CA and Thakor NV (1989) "Adaptive Fourier Estimation of Time-Varying Evoked Potentials," IEEE Trans. Biomed. Eng. 36(4), 448-455.*

Tang Y and Norcia AM (1995) "An adaptive filter for steady-state evoked responses," Electroenceph. Clin. Neurophysiol. 96, 268-277.

Victor, J. D., and Mast, J. (1991) "A new statistic for steady-state evoked potentials," Electroenceph. Clin. Neurophys. 78, 378-388.)

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