

## FAQ

**Q What are the basic elements in the MADSEN Astera audiometer?**

**A** On the hardware side Astera consists of an audiometer hardware box, a audiometer control panel, custom made monitor headset and talk-forward and talk-back microphones and a talk-to-assistant headset. The Astera software is a fully flexible two-channel software that provides an excellent test overview and gives you the ability to set it up to meet your preferred view settings. Being part of the OTOSuite enables the user to integrate the audiometric testing with other diagnostic and fitting tests.

**Q How can the Astera be controlled?**

**A** Astera can be controlled either from the full function Audiometer Control Panel, the PC keyboard or by using the mouse.

**Q Does the Astera have a built-in power amplifier?**

**A** Yes, as the only clinical audiometer in the US market place, the Astera has a built-in power amplifier that enables you to perform sound field testing at 90 dB HL in a 6' by 6' sound room.

**Q What type of tests can be performed with the Astera?**

**A** As the premier clinical audiometer in the market place the Astera has an extensive test battery that includes air conduction, bone conduction, sound field testing (including multiple speaker routing facilities) and speech testing. The full two-channel routing possibilities, forehead and mastoid bone oscillators, high frequency capabilities, uncorrelated noise signals, special stimuli for pediatric testing etc. allows for performing not only all the standard clinical audiometry tests, but also traditional site-of-lesion tests, as well as experimental procedures.

**Q Are you able to do high frequency testing with the Astera?**

**A** The Astera is able to perform high frequency testing up to 20,000 Hz. The optional high frequency headset available for Astera can actually be calibrated all the way from 125 Hz to 20,000 Hz – which is quite unusual.

**Q Does the Astera have the ability to save individual user settings?**

**A** The Astera comes with an extensive user test functionality that actively supports the clinical workflow. Both view and test settings can be stored and they are easily accessed via the Audiometer Control Panel, the PC keyboard or the mouse.

**Q Does the Astera have built-in word lists?**

**A** Yes, the Astera has built-in word lists. The Astera comes standard with Q/MASS, Picture Board list, and VA including Maryland CNC and Spanish lists.

**Q Are you able start at any word in the word lists?**

**A** Yes, with the Astera you just need to click on the word that you would like to present, either one word at a time, or you can have the list continue from there.

**Q Am I able to save more speech tests?**

**A** Yes, apart from storing SDT (SAT), SRT, MCL and UCL tests you are able to store several word or sentence recognition scores as well. In addition to that, all tests can be stored as aided speech tests as well.

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**Q Does the MADSEN Astera have any audiogram overlays?**

**A** The Astera comes with five different overlays: the speech banana, speech letters, illustrations of residual dynamic range, severity of hearing loss and pictures for explaining pitch and loudness. The overlays can easily be toggled on and off – and can also be part of a specific user test if you want to.

**Q Are you able to document the testing reliability with the Astera?**

**A** With the one-click data logging ability you can easily store the reliability score in the testing screen. The reliability will even be displayed on the report, if needed.

**Q What is the one-click data logging functionality?**

**A** This is one step toward replacing your pen and paper for good. With the one-click data logging you are now able to document several test findings fast and easily by just clicking in a dedicated field in the Astera audiometer software. The functionality is available for Tone Decay, Rinne, Stenger and Weber results, as well as documenting the reliability of the test.

**Q Can you store the Signal to Noise Ratio (SNR)?**

**A** The Astera allows electronic storage of any Signal-to-Noise Ratio (SNR) regardless of the speech source. The Astera also facilitates the use of simultaneous contralateral masking during speech-in-noise tests.

**Q What are the benefits of the Astera approach to the Signal to Noise Ratio (SNR)?**

- A**
- 1) You can use a speech-in-noise material, where speech and noise are mixed on the same CD track, and still be able to save the SNR with your speech audiometry data (although the audiometer does not know what SNR was delivered from the CD).
  - 2) If you use speech and noise already mixed on the CD - that allows you to also simultaneously mask the non-test-ear using channel 2. That would be (Channel 1 = Speech + Competing Noise from CD track 1)+(Channel 2 = Contra lateral Masking from audiometer). In this situation (which is recommended for speech-in-noise testing - see next bullet) you now have the possibility to store Test Level, %, Masking Level and Signal-to-Noise Ratio
  - 3) Speech and noise are nowadays typically mixed already on a single CD track with the argument that it guarantees the correct SNR even if the calibration between some audiometer's channels 1 and 2 should be off by a decibel or so. That would of course be devastating for a speech-in-noise test if the SNR was suddenly 2 or 3, or 5 or 6 dB instead of 4 dB if that was the intention.
  - 4) Even if the speech and noise came from two different tracks on a CD and were then routed through channels 1 and 2 and then into the same ear for speech in noise testing, the way to report the SNR is still optimal in that it simply replaces pen and paper without being tied to the audiometer settings.

**Q What kind of third party integration possibilities are available for the Astera?**

**A** Data from the Astera can easily be transferred to third party systems such as NOAH and/or Electronic Medical Records. The Astera allows you to save an XML file or to print to a PDF file (if you have a PDF writer installed on your PC).

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- Q What does it mean that you have fully flexible speaker routing when using the MADSEN Astera?**
- A** You can independently route each audiometer channel to one, two, three or all four speakers simultaneously. Apart from that, you have the same independent flexibility to route your talk-forward to come out of any or all of these speakers. If more than one speaker would play masking noise, these noise signals will be presented uncorrelated so you can also combine multiple noise sources. If this wasn't enough, you can also name your speakers in the software control panel to reflect their real positions. You could e.g. have "Front Left", "Front Right", "Center" and "Back" speakers appearing with these names in the software routing section. If you had placed your speakers differently you might have a "Rear Left" and "Rear Right", or why not a "ceiling" speaker... There definitely is some flexibility...
- Q How does the redo/undo functionality work?**
- A** If you have second thoughts about storing some data point, deleting something or making a typing error, you can instantly fix it by clicking the undo or redo buttons.
- Q Can I plot both masked and unmasked thresholds together?**
- A** Yes, the Astera can store both the masked thresholds and still keep the old unmasked one for reference.
- Q What has Otometrics done to improve the patient communication system in the Astera compared to the Conera audiometer?**
- A** To ensure enhanced patient communication in the Astera we have made sure that the Astera hardware is able to generate a wider range of sound levels without introducing disturbing side effects. Furthermore the Astera comes with a custom-made monitor headset with boom microphone, and custom made talk-forward desktop and talk-back microphones to ensure the best possible noise-free performance whilst still meeting the ANSI standards requirements. The Astera also has a talk-to-assistant functionality including a talk-to-assistant headset with dedicated volume control.
- Q Can I see the masking levels that were used for each threshold point?**
- A** The Astera can be set up to either display the stored masking levels or not.
- Q Can I customize audiogram symbols?**
- A** The Astera uses Enhanced Meta Files (\*.emf) that can easily be created in e.g. Microsoft office programs and then be copied for use in the Otosuite audiograms.
- Q Can I change the symbol size in the graphs?**
- A** You can select any symbol size you want in the software options. Since the symbols are scaleable vector graphics, there is no loss of quality either regardless of the size selected.