Audiometers, Middle-Ear Analyzers, OAE, ABR, ASSR

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Tympanometry Solutions

GSI 39 Auto Tymp

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GSI 39 Auto Tymp

The GSI 39 Auto Tymp provides a flexible, screening product for tympanometry, acoustic reflex measurements and audiometry to meet your testing needs today and in the future. It is available in 5 different versions. Choose the features needed today and upgrade easily to the additional features as your needs grow in the future. These upgrades can be done in your facility by your local GSI authorized distributor.

In addition, each version can also provide the option of 1 kHz testing capability for tympanometry (version 5 only) and tympanometry/ reflexes (version 1 through 4). The addition of 1 kHz allows tympanometry and tympanometry/reflex testing on babies under 6 months of age. This is a helpful tool when isolating the likely cause of a "refer" from a newborn hearing screening program.

Tympanometry – 226 Hz

- Ear Canal Volume (ECV)
- Compliance Peak (cm^3)
- Pressure at peak of the tymp (daPa)
- Gradient (GR) in daPa (width of the tymp)

The tympanograms and summary information are clearly shown on the crisp LCD once the test is complete. LEDs on the probe guide the tester through the test sequence. All test results can be printed on the internal printer. The ASHA normal box can be shown as a guide on the display and printouts, if desired. A hand held probe is provided with versions providing 226 Hz only measurements.

Tympanometry – 1 kHz

- Admittance at +200 daPa (C1)
- Admittance at tymp peak (mmhos)
- Pressure at tymp peak (daPa)

A special "combo" probe is supplied with all versions which combine both 226 Hz and 1 kHz measurement capability.

An infant normal box may be selected as a guide on the display and printouts. These infant normal values are based on the published data by Margolis et al* and represent the 5th %, 50th % and 95th % values for full-term babies.

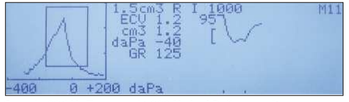
*Margolis RH, Bass-Ringdahl S, Hanks WD, Holte L, Zapala DA (2003). Tympanometry in Newborn Infants – 1 kHz Norms. Journal of the American Academy of Audiology, 14, 7: 383-392.

Tymp and Reflex

Based upon the version selected, ipsilateral and contralateral reflex measurements may be performed along with 226 Hz and 1 kHz tympanometry. The frequencies available are 500, 1000, 2000 and 4000 Hz for the 226 Hz measurements. A 1000 Hz stimulus (ipsi or contra) is not available with the 1 kHz probe tone. All reflex results may be displayed and printed as:

- Reflex tracings and dB HL values
- dB HL values only
- Yes/No response

Any combination of ipsi and contra reflex measurements up to a maximum of 4 frequencies may be selected with 226 Hz and the optional 1 kHz probe tones.



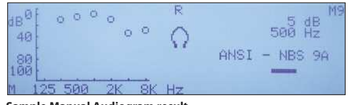
Sample 226 Hz Tymp and 1000 Hz Ipsi Reflex result

Audiometry

Both manual and automated audiometry are available with the GSI 39 versions 3 and 4. During manual audiometry, the operator controls the selection of frequencies, signal format (steady, pulsed and FM), intensity, tone presentation and identification of the hearing threshold values per frequency tested. For automated audiometry, the test protocol is selected in the Program mode and includes frequencies to be tested, signal format, intensity range and scoring rules. Once the test begins, test sequence is controlled by the GSI 39 based upon the operation of the optional hand switch by the person being tested.

Test results are displayed as an audiogram on the LCD as they become available. These results can be printed in a tabular or audiogram format.

The standard headset for Audiometry is the TDH 39. However, the EAR 3A/5A insert phones may be added as an option. It is possible to store the calibration values for both sets of transducers so that a button press selects the transducer for testing.



Sample Manual Audiogram result

Versatility and ease-of-use… fits your needs today and tomorrow

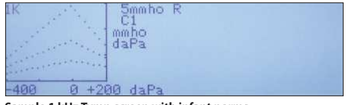
	226 Hz Tympanometry	Ipsilateral Acoustic Reflex	Contralateral Acoustic Reflex	Manual/Auto Audiometry	Add 1 kHz Probe Tone
Version 1	√	√			√
Version 2	√	√	√		√
Version 3	√	√	√	√	√
Version 4	√	√		√	√
Version 5	√				√

Memory, Printing and Data Transfer

A maximum of 12 test results can be stored in the GSI 39 memory for review and selection for printout.

The built-in printer is available with all versions; it provides the ability to obtain hard copies of all test results. Alternatively, the test results can be sent to an optional external printer via the built in USB port. An external desk jet printer which recognizes the PCL3 or PCL3GUI language format can be selected.

Test results may also be transferred to an external computer for data storage via the second built in USB port. This data is made NOAH compatible with the optional GSI Audio Tymp Module for NOAH 3.1 and higher. Both the external computer and database programs are not included with the product.



Sample 1 kHz Tymp screen with infant norms