

AA222
Audio Traveller



*Diagnostic Impedance
& Audiometry in one solution*



Interacoustics®

leading diagnostic solutions

AA222

Audio Traveller

Middle ear analyzer

The AA222 is the most comprehensive combination of middle ear analyzer and clinical audiometer available. It combines all of the diagnostic middle ear analyzer tests found on the AT235 and most of the features available on our popular AD229 diagnostic audiometer – all in one small, light-weight package. This makes the AA222 ideal for the new clinic, for travelling to alternate locations, and for clinical situations where space is at a premium.

Timeless Design

The AA222 offers a timeless design that fits the modern clinic. It is designed with ergonomics and user-friendliness in mind and can be used both as a desktop and portable instrument. With the built-in power amplifier and test cavities it is easy and fast to set up and get started testing.

Middle Ear Analyzer

Interacoustics middle ear analyzers are known for their “endless airflow” engineering technique. This is the perfect method for obtaining a tympanogram on crying children or difficult to test patients when physical sealing is difficult. An automatic adaptive pump speed produces tympanograms with high peak resolution without sacrificing test time. Other pump speed options are available.

The AA222 has several other features that makes it easy to use. With the push of one button you can extend the pressure range from +300 daPa to -600 daPa. With the push button on the probe, the examiner can switch between left or right ears for labeling the tests, and initiate the test. Another button labeled »child« automatically produces a moving choo-choo train as a visual distracter for the child.



Detachable probe tip



Shoulder and wrist strip for clinical probe system

Reflex Tests

Traditional ipsilateral and contralateral reflex tests are standard features. The AA222 has a wide variety of test stimuli available that are usually only found on more expensive instruments. Even wide band, high pass and low pass signals are available. The examiner has two programmable test sequences available from the front panel. The manual function allows the examiner to quickly select a single frequency for test verification. Ipsilateral and contralateral reflex decay is easily accessed through the manual function.

ETF

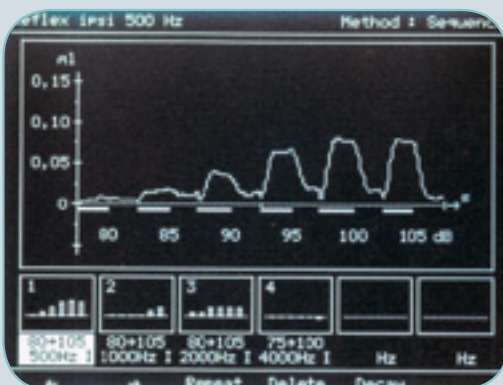
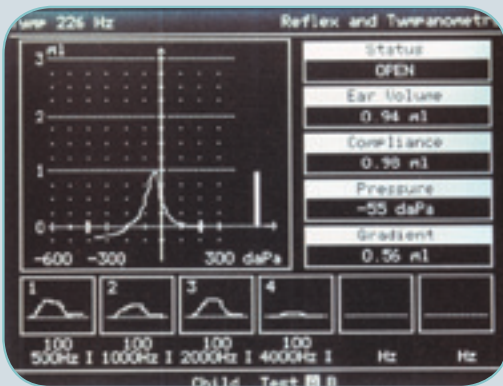
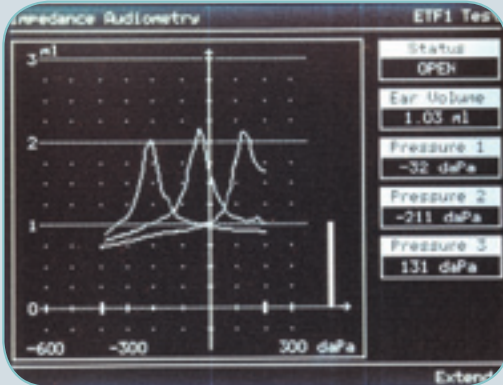
The AA222 performs a single Eustachian Tube Function test suitable for use when the eardrum is intact. Three tympanograms are produced from which the condition of the Eustachian tube can be inferred. Easy to understand instructions guide you through the ETF1 Test procedure

Decay – Contra and Ipsi

Acoustic reflex decay testing is available with ipsilateral as well as with contralateral stimulation. The AA222 comes with a standard single TDH39 and a button insert receiver (CIR22) for stimulating the contralateral ear.

Probe Systems

The AA222 is supplied with a combi probe system that is easily interchanged for screening and clinical testing purposes. The screening probe tip is ideal for quick tymps and a screening reflex, while the diagnostic probe provides more stability for more lengthy exams that include tymps, reflexes, reflex decay and ETF. The probe has a button for changing ears remotely from the AA222 and for starting and pausing the test.



AA222

- The most comprehensible combination unit in a small and lightweight package
- Diagnostic level impedance and audiometry measurements
- PC integration for printing, storage, sharing and hearing aid fitting



Interacoustics®

Leading diagnostic solutions

AA222

Audio Traveller

Audiometer

The AA222 has testing capabilities for air and bone conduction as well as speech. Dual inputs for a tape or CD player allow the examiner to conduct binaural recorded speech tests and other competing message tests for central auditory processing or hearing aid evaluations. Other tests include pure tone and Stenger speech, ABLB, Auto Threshold (Hughson-Westlake method) and SISI. Outputs are available to connect external speakers and with an appropriate amplifier AA222 will produce 90dB or more of speech in a typical sound room environment. Separate software calibration for all transducers allows the exchange of insert phones or traditional TDH39 phones with the push of a button.

Visual child distraction

The AA222 has a selection for a moving "choo choo train" on the screen to help keep the child distracted while running tympanometry tests.

Printing options

The AA222 has a built-in thermal printer that will print all test results.



Optional carrying bag

Portability

An optional convenient, lightweight carrying bag can be purchased for those who need portability. The carrying case is custom designed to hold the AA222 and all of its accessories.

Data Storage with Windows® based software

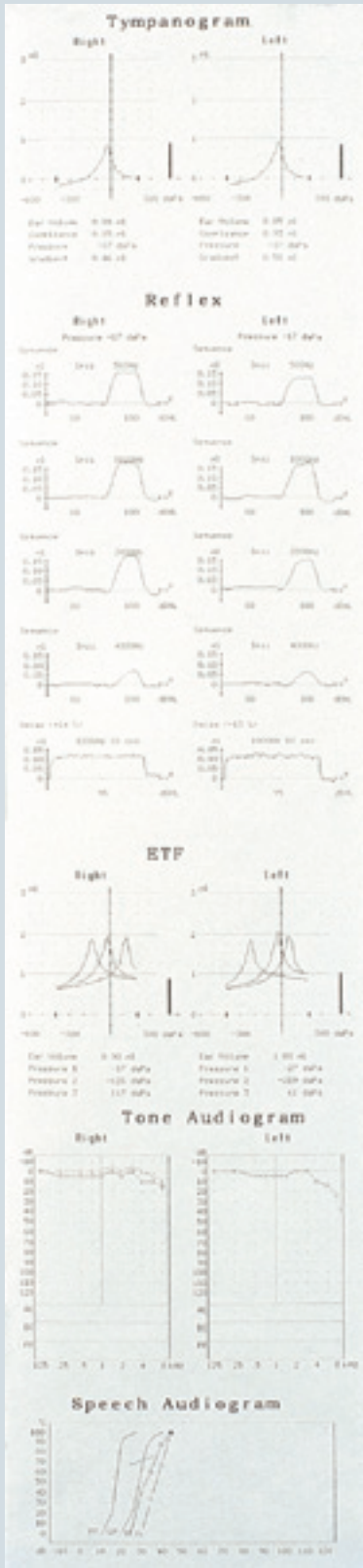
Transferring data to a PC is possible by two different applications. OtoAccess™ is the Interacoustics database platform that enables data collection from multiple instrument sources into one patient file. Hearing aid information may also be included. NOAH hearing aid fitting software will also integrate the test data when used with the Interacoustics NOAH impedance module software.

Tests

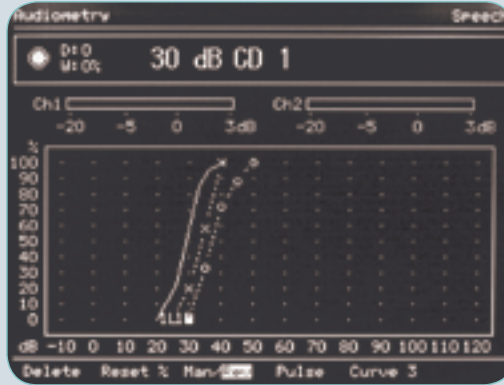
- Impedance tymp, reflex and ETF (intact)
- Audiometry: air, bone and speech
- Stenger speech, ABLB, Hughson-Westlake automated threshold and SISI

Features

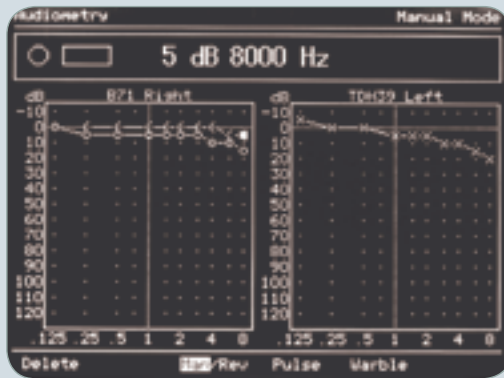
- Impedance – endless airflow, customizable test sequences, adaptive pump speed, extended pressure range, probe design, ipsi and contra reflexes, test stimuli, manual reflex function, etc.
- Audiometry – air, bone and speech plus specific tests mentioned above.
- Built-in thermal printer



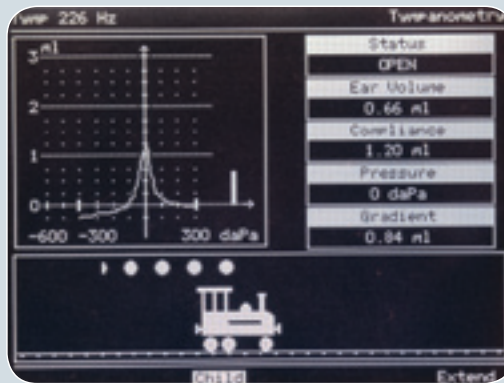
Printout from AA222



Speech testing



Pure tone audiometry



A moving train may help to keep children quiet during testing.

AA222

Specifications

Probe tone:	Frequency: 226Hz. Level: 85 db SPL with AGC.
Air pressure:	Control: Automatic. Indicator: Measured value is displayed on the graphical display. Range: -600 to +300 daPa. Safety Limitations: -800 daPa and +600 daPa. Pressure Change Rate: Minimum (50 daPa/s), medium, maximum or automatic with minimum speed at compliance peak. Selectable in the setup. Compliance: Range: 0.1 to 6.0 ml (Ear volume: 0.1 to 8.0 ml).
Types:	Tympanometry: Automatic, where the start and stop pressure can be user programmed from the setup menu. Eustachian Tube Function: ETF test for use when the eardrum is intact.
Inputs:	CD player or tape recorder. - 1 or 2 channels. External microphone for live speech. Patient response switch.
Output:	Audiometry Bone conduction Contra reflex Free field 1 and 2: Output for external 2 channel power amplifier. Monitor: Monitor earphone disconnects the internal monitor loudspeaker when inserted.
Acoustic Reflex tests:	Automatic reflex: Two independent user selectable protocols. Series of fixed intensities available. Automated intensity search functions available for threshold search and reflex growth indication. Free mixing of Ipsi and Contra. Manual reflex: Manual control of all stimuli. May also be used to redo part of automated test results. Reflex decay: Manual control, with stimulus duration of 10 sec. Ipsi or contralateral stimulation.
Audiometer tests:	Manual Audiometry. Automatic Audiometry: Auto threshold according to ISO 8253-1 (Patient controlled Hughson-Westlake). The threshold is determined by the activation of the patient response. SISI: With automatic scoring calculation (5 dB included for familiarisation). Warble: 5Hz sine, +/- 5% modulation. ABLB: Automatic loudness balance test (Fowler). Stenger: Binaural pure tone. Live voice speech. Prerecorded speech. Binaural speech. Stenger: speech.
Frequencies and intensity ranges:	Ipsilateral: Intensity up to 110dBHL. Frequency: 250, 500, 1000, 2000, 3000, 4000, WB, HP, LP noise Contralateral: Intensity up to 120dBHL. Frequency: 125 to 8000Hz, WB, LP, HP noise Audiometry: Intensity from -10 to 120dBHL. Frequency from 125Hz to 8000Hz
Attenuator:	1dB or 5dB steps.
Memory:	Internal memory for two ears. Each ear: 6 Ipsi and 6 Contra recordings. Each may have up to 6 stimuli. Also, there is memory for additional manual reflex recordings. (Total max. 78 reflexes per ear).

USB:	Input/output for PC connection.	
Printer	Built-in fast thermal printer with recording paper in rolls. Paper width: 112 mm.	
Compatible Windows software:	Interacoustics Database OtoAccess™ and Diagnostic Modules software. IA-NOAH-Imp and IA-NOAH-Aud Module for interfacing to NOAH. Pending: Diagnostic Suite for PC-integration (OtoAccess™ and Noah compatible)	
Consumption:	15VA, max. 45VA.	
Dimensions/weight:	42 x 32 x 10.2 cm / 16.5 x 12.5 x 4 inches. Weight: 4.1 kg / 9.0 lbs.	
Impedance standard:	IEC 60645-5/ANSI S3.39, Type 2.	
Audiometer standard:	IEC 60645-1/ANSI S.3.6. Type 2 Tone Audiometer, Speech Type B-E	
Safety standard:	IEC 60601-1, Class I, Type B.	
Medical CE-mark:	Yes	
Printer option:	AA222-xp is identical to the AA222 but has no built-in printer. Suitable for installations where computer connection takes care of printing.	
Included parts AA222:	TDH39 Audiometric headset CIR22 Insert earphone for contralateral reflex stimulation or masking or monitoring B71 Bone conductor APS3 Response button ATP-AT235u Universal probe system with shoulder strap, wrist strap	MTH400M Monitor headset with boom microphone BET55 Ear tips in box TPR26 3 rolls of recording paper Power cable 120 or 230 V (Please specify) Operation manual CD Multilingual CE manual
Optional parts AA222:	EARTone 5A Insert phones 50250 Peltor noise enclosures 21925 Amplivox noise enclosures TDH39z Single earphone w. HBZ235u headband for contralateral reflex stimulation Soft carrying bag AFC8 Sound cabin installation panel AP12 2x12 W External power amplifier ALS7 Free field loudspeaker	CAT40 Calibration unit, 0.2-0.5-2-5 ml IES-2 Impedance ear simulator GSE10 RS232 Galvanic isolation adapter OtoAccess™ and Diagnostic Modules MTH400 Monitor headset EM400 Electret talk back microphone IA-NOAH-Aud module IA-NOAH-Imp module Pending: Diagnostic Suite for PC-integration (OtoAccess™ and Noah compatible)

Read more here:
www.interacoustics.com/com/AA222



Interacoustics®

leading diagnostic solutions

Interacoustics – the best choice

With over 40 years of experience, Interacoustics is dedicated to supplying its customers with the best possible solutions for their audiologic needs. This is accomplished by maintaining a continuous dialogue with health care professionals working in all sectors of audiology. Our equipment meets the highest possible engineering standards and we provide design know-how that can only come from close contact with clinical practice.

Solutions on every scale

Designing equipment for every size of clinic in so many countries puts us in the unique position of being able to offer solutions that fit your requirements exactly. Audiometry, tympanometry, electrophysiology, hearing aid testing, balance investigation are all within our scope and can be integrated to suit your needs.

Design for diagnosis

We design equipment to make testing and interpretation easier. This means better interfaces, well designed screen layouts, printed reports and interaction over networks with databases and electronic records systems. In most cases, you can configure the settings and layout yourself.

Support worldwide

The Interacoustics name is not only your guarantee of quality and functionality, but also for support. We operate in over 100 countries worldwide through a well coordinated network of distributors and service centres to ensure that you receive total support and service.



Other audiometers:

- PA5 Pediatric Audiometer
- AS608/e Screening Audiometer
- AD226 Diagnostic Audiometer
- AD229b Diagnostic Audiometer
- AD229e Diagnostic Audiometer
- AC33 Clinical Audiometer
- AC40 Clinical Audiometer
- Equinox^{2.0} Clinical Audiometer

Other middle ear analyzers:

- Titan Middle Ear Analyzer
- AT235 Middle Ear Analyzer
- AT235h Middle Ear Analyzer
- MT10 Handheld Tympanometer



83002904 - 5- 10/2009

Sales and service in your area:

Read more here:
www.interacoustics.com/com/AA222

Interacoustics A/S

Phone: +45 6371 3555 · Fax: +45 6371 3522
E-mail: info@interacoustics.com
DK-5610 Assens, Denmark
Web: www.interacoustics.com



Interacoustics®

leading diagnostic solutions