

## AT235h - Diagnostic Middle Ear Analyzer with high probetone

### Technical Information and Parts

<b>Standard:</b>	Safety: EN 60601-1, Class I, Type B EMC: EN 60601-1-2 Impedance: EN 61027/ANSI S3.39 Type 2 Audiometer: EN 60645-1/ANSI S.3.39 Type 4 Tone
<b>Medical CE-mark:</b>	Interacoustics is approved for Medical CE Marking by TÜV, Identification No. 0123
<b>Probe tone:</b>	Frequency: 226Hz Level: 85 db SPL Gain Control: AGC
<b>Air pressure:</b>	Control: Automatic Range: Default +200 to -400daPa (max. +300 to -600daPa) Safety limitation: -800 daPa and +600 daPa Pressure change rate: Selectable in the set-up between 50, 150 and >250 daPa/s or automatic Compliance: Range: 0.1 to 6.0 ml (numerical: 0.1 to 8.0 ml)
<b>Function:</b>	Automatic, where pump speed, start- and stop pressure can be user-programmed in the set-up.
<b>Eustachian Tube Function:</b>	Williams test, for normal ear drums.
<b>Acoustic Reflex Functions</b>	<b>Automatic Reflex:</b>
<b>Test Types:</b>	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. <b>Manual Reflex:</b> Manual control of all stimuli. May also be used to redo part of automated test results. <b>Reflex Decay:</b> Manual control, with stimulus duration of 10 sec. Ipsi or Contralateral stimulation.

#### Frequencies and Maximum Hearing Levels:

Frequency Hz	Ipsi	Contra TDH39	CIR22	AC dBHL TDH39	AC dBHL EARTone5A
125	-	-	-	90	90
250	-	110	90	110	105
500	105	120	100	120	110
750	-	-	-	120	115
1000	110	120	110	120	120
1500	--	-	-	120	120
2000	105	120	110	120	120
3000	100	120	110	120	120
4000	100	120	110	120	115
6000	-	120	-	120	100
8000	-	110	-	110	95
WN	105	120	110	-	-
LPN	105	120	110	-	-
HPN	105	120	110	-	-

For safety / comfort reasons an optional limitation of maximum intensity is available.

<b>Contra Earphone:</b>	THD39 or insert receiver CIR22 (optional)
<b>Attenuator:</b>	1dB or 5dB steps.
<b>Memory:</b>	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).
<b>Patient Response:</b>	Connection for patient response switch.

<b>Outputs:</b>	Contra TDH39 headset may be used for audiometry. Double TDH39 headset for audiometry (optional)
<b>Audiometer Test types:</b>	Manual Audiometry. Automatic Audiometry according to ISO 8253-1 (Patient controlled Hughson-Westlake).
<b>Interface:</b>	RS232 Input/output for computer communication. One mode allows an external PC to both monitor and control the instrument. The control actions can be followed on the display and operations panel. Online communication, where the measurement data are sent to an external PC can be selected.
<b>Keyboard:</b>	Connection for external keyboard, standard PC type.
<b>Printer:</b>	Built In fast thermal printer with paper width: 112 mm Connection for external laser or ink-jet printer: Language: HP PCL L3 for HP DeskJet and IBM mode for Cannon Bubble jet.
<b>Accuracy:</b>	Stimulation Frequencies: $\pm 1\%$ Probe tone frequency: $\pm 1$ Hz Probe tone level: 85 dB SPL $\pm 1.5$ dB measured in an IEC126 acoustic coupler. AGC for ear canal compensation. Pressure measurement: $\pm 5\%$ or 10 daPa, whichever is greater Compliance measurement: $\pm 5\%$ or 0.1 ml, whichever is greater
<b>Examples of Compatible Windows Software:</b>	IaBaseII Database Program PrintView for PC monitoring and printing IA-NOAH-Imp Module for interfacing to NOAH
<b>Construction:</b>	Plastic cabinet
<b>Power Supply:</b>	UPS400 (Included) 100-240V
<b>Consumption:</b>	15VA, max. 45VA
<b>Dimensions:</b>	LxWxH 36x26x10 cm/ 14x10x4 inches
<b>Weight:</b>	Weight: 2.8 kg / 6 lbs.
<b>Air freight packing:</b>	48x31x37 / 19x22.2x14.6 inches. Gross weight: 6.5 kg / 12.4 lbs.

#### Included Parts:

- ATP-AT235u Universal probe system with shoulder strap, wrist strap
- TDH39 Single Contralateral Earphone
- UPS400 External Switch Mode Power Supply
- Power Cable (110/220V, please specify)
- BET50 Box of 65 assorted Ear tips
- TPR35 3 Rolls of Recording Paper
- PCR-AT235 Dust Cover
- Operation/Service/Multilingual CE manuals

#### Printer Option:

AT235-xp is identical to the AT235 but has no built-in printer. Suitable for installations where computer connection takes care of printing, or where external printer is connected.

#### Optional Parts:

- TDH39 Audiometric Headset
- EAR-Tone5A Insert Phones for Audiometry
- ACC35 Carrying Case
- CIR22 Contralateral Insert Phone
- APS2 Patient Signal
- CAT-222 Calibration Unit 0.2 and 5 ml
- CAT-227 Calibration Unit 0.2-0.5-1-2-3-4-5 ml
- IES-2 Impedance Ear Simulator