



r37a

2 CHANNEL TONE AND SPEECH TESTING
CLINICAL AUDIOMETER

PRODUCT SPECIFICATIONS

GENERAL SPECIFICATIONS

DIMENSIONS AND WEIGHT:

- L x W x H: 370x290x180 mm
- Net weight: 3.5 kg
- Body material: Bayblend® self-extinguishing

TEST TYPES:

- Pure Tone test, Autothreshold, ABLB, Speech Test, Stenger, DLI, SISI, Bekesy, Tone Decay, MLB, Multifrequency, High frequency*

* R37A-HF only

DISPLAY:

- 7" TFT Color display

USER INTERFACE:

- Multilingual

PRINTER:

- Built-in fast thermal printer with paper width: 112 mm supplied as standard part

REPORTS:

- Printed on thermal printer
- .pdf report create directly from the device and stored on USB Pen drive with possibility to add patient data and tests comments via the USB Keyboard (optional)
- Data transfer to PC using Resonance Management Data Suite

DATA TRANSFER TO PC:

- Via cable trough USB port

COMMUNICATION PORT:

- Nr.1 USB host type A
- Nr.1 USB slave type B

WINDOWS® COMPATIBLE SOFTWARE:

- Resonance MDS Management Data Suite

POWER

POWER SUPPLY:

- 110-240V AC 50/60Hz 40VA
- Fuses: 2 x T1 A L 250V

CONSUMPTION:

- Max current: 0,15A
- Power consumption: 40VA

ENVIRONMENTAL

TEMPERATURE

- Storage: -20° C up to +50° C
- Operating: +15° C up to +35° C
- Humidity: up to 90%, (non condensing)
- Ambient pressure: from 700hPa up to 1060hPa

AUDIOMETRY OPERATING SPECIFICATIONS

RANGE

- Frequency range:
 - 125 - 8000 Hz (with TDH39)
 - 125 - 12500 Hz (with HDA280)
 - 8000 - 20000 Hz (with HDA200* on R37A-HF)
 - 250 - 8000 Hz (with BC71)

ACCURACY

- Frequency < 0,5%
- Distortion < 1%
- Attenuator linearity 1dB per 5dB step, max 3dB whole range
- Range stimuli level -10 up to 120 dB HL

TYPE OF SIGNALS

- Pure tone: sine wave 125 to 8kHz signal (to 12,5 for HDA280 phones; to 20 for HDA200)
- Warble: +/- 5% frequency sine wave modulated, modulation: sine wave 5 Hz
- Narrow band noise: 24dB/oct filtered noise
- Speech noise: 1kHz 12dB/oct filtered noise
- White noise
- External signal
- External mike
- Speech material recorded on SD card
- MHA: 1kHz 6, 12, 18 ,24dB High pass filters
- On/Off rise – fall time: 40msec

OUTPUT TRANSDUCERS

- ACR, ACL: 10 ohm TDH39 matched pair earphone, (alternatively HDA280 Sennheiser, EAR3A-EAR5A Eartone)
- BC: BC71 Radioear
- HF Phones: HDA200* (R37A-HF only)
- INSERT: Zenith Y5R - Soundlink
- Free field output: 600 ohm impedance
- Monitor Phone: headset with boom microphone

STIMULUS PRESENTATION MODALITY

- Presentation: Normal, Reverse, Extended (present tone for 1 second from 20dB below the maximum level)
- Modality: Continuous, Pulsed (rate 0,5; 1 and 2 Hz), Alternated (ABLB and MLB - 0,5, 1 and 2 Hz)
- DLI increment levels: 0.25, 0.5, 0.75, 1, 1.5, 2, 3, 4, 5 dB
- DLI increment recurrence rates: 0.5Hz, 1Hz, 2Hz
- SISI increment recurrence rates: 0.2Hz, 0.5Hz, random. Time on 300ms
- SISI increment level: 0.25, 0.5, 0.75, 1, 1.5, 2, 3, 4, 5 dB
- Bekesy: mode sweep and fixed; Continuous, Pulsed and LOT; exam duration 30sec and 60sec.

QUALITY SYSTEM

Manufactured, designed, developed and marketed under an ISO 13485, ISO 9001 certified quality system. (Notified certification body: DNV). Medical CE mark.

COMPLIANCE/REGULATORY STANDARDS

Designed, tested and manufactured to meet the European and International Standards:

- MDD 93/42/EEC and update 2007/47/CEE: Class IIa (as referred to in Annex IX, rule 10 of said MDD 93/42 EEC)
- Safety: IEC 60601-1, 3rd and 2nd edition, Class 1 Type B
- EMC: IEC 60601-1-2
- Audiometer: to EN 60645-1; EN 60645-2 and ANSI S3.6 Type 1A (R37A)

STANDARD ACCESSORIES

- TDH39, ADC or HDA280 headset for audiometry testing
- HDA200* headset for high frequency test on R37A-HF
- B71 bone conductor
- Insert-Transducer (for bone conductor masking)
- Operator headset with microphone and speaker (talk over and monitor)
- Patient microphone (talk back)
- Patient response pushbutton
- Built-in fast thermal printer
- 1 roll of thermal paper
- Power supply cable (110 – 220V)
- 1 spare fuse
- Device dust cover
- Multilingual Quick User's Handbook
- Pen-drive
- SD-card with Multilanguage speech material
- Resonance® MDS software with NoAH® module included (demo version)

OPTIONALS

- USB external keyboard
- Goose-neck microphone
- Carrying bag
- EAR3-A Insert earphones
- Silent cabin cables
- Free field loudspeaker
- Additional patient response pushbutton

*will be replaced by HDA300 as soon available