



r37a^{HF}

2 CHANNEL TONE AND SPEECH TESTING
CLINICAL HIGH FREQUENCY AUDIOMETER

PRODUCT SPECIFICATIONS

Please contact Resonance should you have any questions:
support@resonance-audiology.com

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, GAP, DLF (Difference Limen for Frequency), High frequency up to 20 KHz

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 through 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 T 1 A L 250V

CONSUMPTION

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

ENVIRONMENTAL

OPERATING ENVIRONMENT

- 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 DD45)
 - 125 - 12500 Hz (with HDA280)
 - 8000 - 20000 Hz (with HDA300)
 - 250 - 8000 Hz (with B71-W)

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 12,5KHz for HDA280 phones; to 20KHz for HDA300)
- 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
- Master Hearing Aid: 1KHz 6, 12, 18, 24dB High pass filters
- On/Off rise – fall time: 40msec

OUTPUT TRANSDUCERS

- ACR, ACL up to 8 KHz: 10 ohm DD45 matched pair earphone, (alternatively Insert earphones)
- ACR, ACL up to 12,5 KHz: HDA280 Sennheiser
- ACR, ACL up to 20 KHz: HDA300 Sennheiser
- BC: B71-W Radioear; B81 (optional)
- INSERT: Button receiver
- 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:
 - 0,1 in steps of 0,1dB up to 1.0dB; 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. Medical CE marks and FDA approval

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 IEC 60645-1; IEC 60645-2 and ANSI S3.6 Type 1A (R37A)

STANDARD ACCESSORIES

- DD45 or HDA280 headset for audiometry testing
- HDA300 headset for high frequency test
- B71W bone conductor
- Insert-Transducer (for bone conductor masking)
- Operator headset with microphone and speaker (talk over and monitor)
- Patient microphone (talk back)
- Internal speaker as monitor use
- Patient response pushbutton
- Built-in fast thermal printer
- 1 roll of thermal paper
- Power supply cable (110 – 220V)
- 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
- TDH39 headset
- Pediatric Headset (AC or BC)
- ADC Audiocups Noise reducing headset enclosures
- Various Insert earphones models
- B81 High Output Bone Conductor
- Pediatric Headset (AC or BC)
- MDS software licence
- Quick-SIN test licence
- HF type Silent cabin cables
- Free field loudspeaker
- Additional patient response pushbutton

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