



r15c

SCREENING PORTABLE
COMBINED AUDIOTYMP

PRODUCT SPECIFICATIONS



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

GENERAL SPECIFICATIONS

DIMENSIONS AND WEIGHT

- L x W x H: 180x135x41 mm
- Net weight: 570 g.
- Body material: self-extinguishing ABS UL 94 V0

TEST TYPES

- Tympanometry, Acoustic Reflex, nr.1 Quick Test with editable protocols, High Frequency Tympanometry
- Pure tone Audiometry, Speech Audiometry, Autothreshold automated audiometry based on Hughson-Westlake algorithm

DISPLAY

- 7" TFT Resistive touch screen display
- 800 by 480 resolution at 133 pixels per inch (ppi) 262K colors

USER INTERFACE

- Intuitive icon system
- Internal patient database

REPORTS

- Data transfer to PC with Resonance Management Data Suite installed
- Dedicated report template

DATA TRANSFER TO PC

- Bluetooth 2.1

USB PORT

- Nr.1 USB host type A (pen drive connection for software upgrade)
- Nr.1 mini USB slave

WINDOWS® COMPATIBLE SOFTWARE

- Resonance MDS Management Data Suite

MAIN SYSTEM COMPONENTS

- Operative system: Microsoft® Windows® Embedded Compact
- CPU: TEGRA® 2 dual core @ 1Ghz

POWER

POWER SUPPLY

- Built-in 3,6V/3,1 Ah rechargeable lithium-ion battery
- External Medical power supply/charger: Input 100-240Vac / 0,3A - 50/60Hz; Output +5Vdc / 2A

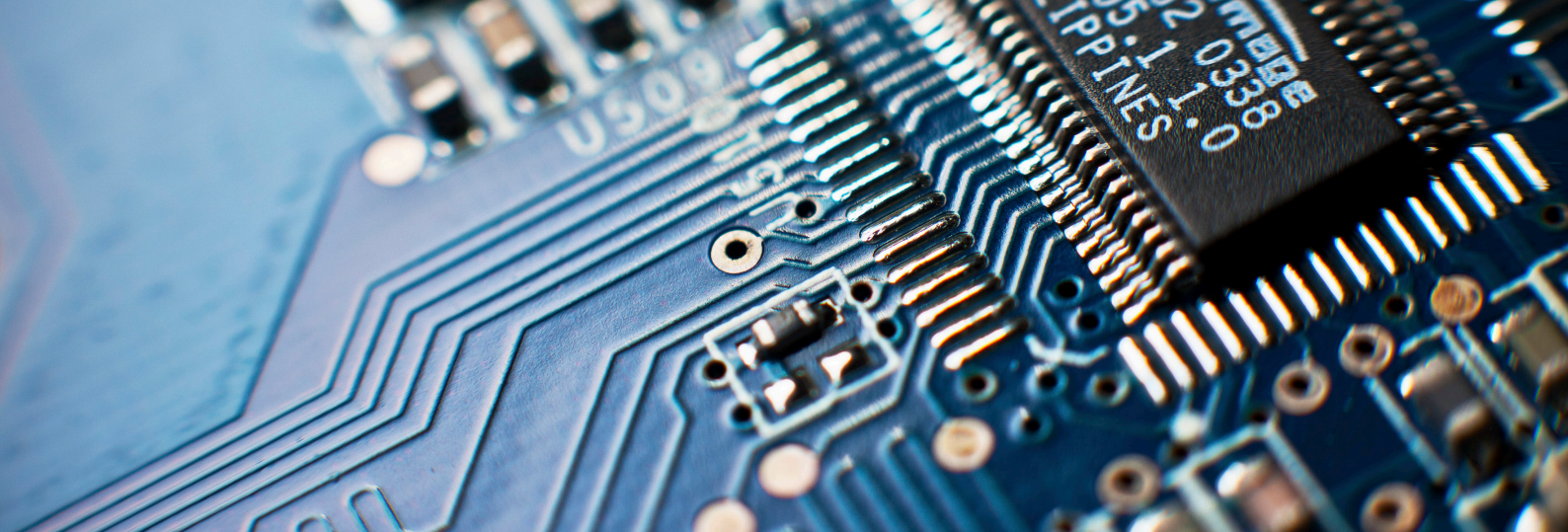
CONSUMPTION (WITH RECHARGEABLE BATTERY)

- Up to 2 hours of continuous testing.
- Charge time with external medical power supply: up to 80% in 2 hours

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



TYMPANOMETRY OPERATING SPECIFICATIONS

PROBE TONE

- 226 and 1000 Hz
- Measured components: Admittance (Y), Susceptance (B) and Conductance (G)
- The probe is supplied in handheld mode

INTENSITY

- 226 Hz: 85dB SPL \pm 2dB
- 1000 Hz: 75dB SPL \pm 2dB
- Frequency Accuracy: \pm 0,5%
- Harmonic Distortion (THD): Less than 1%

ADMITTANCE MEASUREMENTS

- Compliance range at 226Hz: 0,05 up to 7ml
- Sensitivity scale: Auto Scales to appropriate range, available scale at 226Hz 1, 2, 5 and 7ml
- 1000 Hz: 0 to +25 mmho
- Sensitivity scale: Auto Scales to appropriate range, available scales 5, 10, 15, 20, 25 mmho

AIR PRESSURE

- Control: Automatic
- Range: two selections available: +100/-200 daPa or +200/-400 daPa
- Pressure accuracy: \pm 10 daPa or \pm 10%
- Sweep rate: automatic adaptive speed control or fast (200 daPa/sec)
- Indicator: Measured value is displayed
- Safety limitations: -750 up to +550 daPa

ACOUSTIC REFLEX TESTS

- Reflex test method: Threshold and Fixed level
- Stimulus duration: 0,5 or 1 sec.
- User selectable protocols for all test methods
- Ipsilateral or Contralateral stimulation for all reflex test
- Automated peak search functions available for Quick Test
- Reflex Decay: Manual
- Stimulus duration: 10 or 20 sec.

FREQUENCIES AND INTENSITY RANGES

- Ipsilateral:
 - Pure tone level range (dBHL) from 50 to 100
 - Frequency: 500, 1000, 2000, 4000 Hz
 - Accuracy: \pm 1%
 - Harmonic distortion (THD): less than 3%
- Contralateral:
 - Pure tone level range (dBHL) from 50 to 115
 - Frequency: 500, 1000, 2000, 4000
 - Accuracy: \pm 1%
 - Calibration accuracy \pm 3 dB
 - Level steps: 5 or 10 dB
 - On/Off ratio: 70 dB minimum

AUDIOMETRY OPERATING SPECIFICATIONS

RANGE

- Frequency range (AC): 125 - 8000 Hz

ACCURACY

- Frequency < 0,5%
- Distortion < 1%
- Crosstalk > 70dB
- Attenuator linearity 1dB per 5dB step, max 3dB whole range
- Range stimuli level -10 up to 105 dB HL

TYPE OF SIGNALS

- Pure tone: sine wave 125 to 8Khz signal
- Warble: +/- 5% frequency sine wave modulated, modulation: sine wave 5 Hz
- Narrow band noise: 24dB/oct filtered noise
- On/Off rise – fall time: 40msec

OUTPUT TRANSDUCERS

- ACR, ACL: 10 ohm DD45 matched pair earphone

STIMULUS PRESENTATION MODALITY

- Presentation: Normal
- Modality: Steady, Pulsed (rate 2 Hz)
- dB step variation: 1dB, 2dB, 5dB.

QUALITY SYSTEM

Manufactured, designed, developed and marketed under an ISO 13485, ISO 9001 certified quality system. Medical CE marks.

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 edition, Class II Type BF
- EMC: IEC 60601-1-2
- Impedance: IEC 60645-5 and ANSI S 3.39 Type 2
- Audiometry: IEC 60645-1 and ANSI S 3.6 Type 4

STANDARD ACCESSORIES

- Probe HF
- Insert for Contra
- Kit of assorted ear tips; size from 6 mm up to 15 mm
- Calibration cavity
- DD45 Headphones
- Build in talk over microphone for patient communication
- Patient response push button
- Resonance® MDS Software
- Medical Power supply (100Vac – 240Vac)
- Carrying bag
- Charging Cradle
- Pen Drive (with Multilingual Quick user's handbook)
- Touch screen pen

OPTIONALS

- Headband with DD45 for Contra
- EAR3-/5A, IP30 insert earphones for AC use
- Re-Play audiometry for children
- VTMR audiometry test for adults
- Insert earphones for Contra use
- External USB Keyboard
- USB Videotoscope
- Wallmount kit