PRODUCT SPECIFICATIONS

GENERAL SPECIFICATION

DIMENSIONS AND WEIGHT
- L x W x H: 370 x 290 x 180 mm
- Net weight: 3.5 kg

TEST TYPES
- Tympanometry, Acoustic Reflex, Reflex Decay, Quick Check, Quick Screening, Multifrequency Tympanometry, Pure Tone test, Autothreshold, ABLB, Speech Test, Stenger, GAP, DLF

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 created 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

“CHILDREN” FEATURE
- To help keep the child distracted while running screening “Quick Check” or “Tympanometry HF”, a series of animated images appears on the color display

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

CONSUMPTION
- Max current 0.15 A
- Power consumption 40 VA

ENVIRONMENTAL

OPERATING ENVIRONMENT
- Storage: -20° C up to +30° C
- Operating: +15° C up to +35° C
- Humidity: up to 90%, (non-condensing)
- Ambient pressure: from 700 hPa up to 1060 hPa

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

PROBE TONE
- On/Off ratio: 70 dB minimum
- Calibration accuracy ±3 dB
- Accuracy: ±1%
- Noise: BBN, HP or LP
- Frequency: 250, 500, 1000, 2000, 3000, 4000, 6000 Hz
- Noise level range (dB SPL) from 50 to 115
- Pure tone level range (dB HL) from 50 to 120

FREQUENCIES AND INTENSITY RANGES
- Stimulus duration: 10 or 20 sec.
- Reflex Decay: Threshold, Automatic, Manual
- Manual Reflex: Pump manual control of all stimuli
- Automated peak search functions available for all test methods
- Alternated (ABLB 0.5, 1 and 2 Hz)
- Modality: Continuous, Pulsed
- Presentation: Normal, Reverse, Extended
- Free field output: 600 ohm impedance

AIR PRESSURE
- Control: Automatic
- Range: from +200 up to -400 daPa adjustable in 50 daPa steps
- Pressure accuracy: +/- 10 daPa or +/- 10%
- Sweep rate: 50, 100, 200, 300 daPa/sec and automatic
- Indicator: Measured value is displayed
- Safety limitations: -800 up to +600 daPa

ACOUSTIC REFLEX TESTS
- Stimulus duration: 0.5, 1 or 2 sec.
- User selectable protocols for all test methods
- Ipsil or Contralateral stimulation for all reflex test
- Automated peak search functions available for all test methods
- Manual Reflex: Pump manual control of all stimuli
- Reflex Decay: Threshold, Automatic, Manual
- Stimulus duration: 10 or 20 sec.

STIMULUS PRESENTATION MODALITY
- Free field output: 600 ohm impedance

OUTPUT TRANSUDERS
- ACR, ACL: 10 ohm DD45 matched pair earphone, alternatively HDA280 Sennheiser.
- IP30 Insert earphones (optional)
- BC: B71W Radiolar, B81 (optional)
- INSERT: Insert transducer (optional)
- Free field output: 600 ohm impedance

STIMULUS PRESENTATION MODALITY
- Presentation: Normal, Reverse, Extended (pump for 1 second from 20dB below the maximum level)
- Modality: Continuous, Pulsed (rate 0.5, 1 and 2 Hz)
- Alternated (ABLB 0.5, 1 and 2 Hz)

QUALITY SYSTEM
- Manufactured, designed, developed and marketed under an ISO 13485, ISO 9001 certified quality system. Medical CE marks and FDA approval.

The information, pictures and specifications found in this datasheet were correct to the best of our knowledge at the time of printing.

AUDIOMETRY OPERATING SPECIFICATIONS

RANGE
- Frequency range: 125 - 8000 Hz (with DD45)
- 125 - 12500 Hz (with HDA280)
- 250 - 8000 Hz (with B71W)
- Range stimuli level -10 up to 120 dB HL

ACCURACY
- Frequency: 0.5%
- Distortion: < 1%
- Attenuator linearity 1 dB per 5 dB step, max 3 dB whole range

TYPE OF SIGNALS
- Pure tone: sine wave 125 to 8kHz signal (5 to 12.5 kHz for HDA280 phones)
- Warble: +/- 5% frequency sine wave modulated, modulation: sine wave 5 Hz
- Narrow band noise: 24 dB/oct filtered noise
- Speech noise: 1 kHz 12 dB/oct filtered noise
- White noise
- External signal
- External mike
- Speech material recorded on SD card
- On/Off rise – fall time: 40 msec

ACOUSTIC PRESSURE
- Control: Automatic
- Range: from +200 up to -400 daPa adjustable in 50 daPa steps
- Pressure accuracy: +/- 10 daPa or +/- 10%
- Sweep rate: 50, 100, 200, 300 daPa/sec and automatic
- Indicator: Measured value is displayed
- Safety limitations: -800 up to +600 daPa

TYPE OF SIGNALS
- Frequency: 250, 500, 1000, 2000, 3000, 4000, 6000 Hz
- Noise level range (dB SPL) from 50 to 115
- Pure tone level range (dB HL) from 50 to 120

COMPLIANCE/REGULATORY STANDARDS
- Designed, tested and manufactured to meet the European and International Standards:
  - MDD 93/42/EEC and its revised versions: Class IIa (as referred to in Annex IX, rule 10 of said MDD 93/42 EEC)
  - Safety: IEC 60601-1, 3rd edition, Class 1 Type B
  - EMC: IEC 60601-1-2
  - Impedance: IEC 60645-5/ANSI S.3.39 Type 2
  - Audiometer: to IEC 60645-1; IEC 60645-2 and ANSI S3.6, Type 2A

STANDARD ACCESSORIES
- Probe HF
- Headband and probe handle
- Probe cleaning tool kit
- DD45 for Contra
- Kit of assorted ear tips; size from 6 mm up to 15 mm
- Calibration cavity with probe holder
- Built-in fast thermal printer
- Thermal paper roll
- Device dust covers
- Multilingual Quick user’s handbook
- Pen Drive
- Resonance® MDS software with NOAH® module included (demo version)
- Power supply cable (110 – 220 V)
- Spare fuse
- DD45 or HDA280 headset for audiometry testing
- B71W bone conductor
- Patient microphone (talk back)
- Patient response pushbutton
- SD-card with Multilanguage speech material

OPTIONALS
- Kit of assorted silicone ear tips “MS” shape size from 8 mm up to 16 mm
- External USB Keyboard
- Carrying bag
- Insert for Contra and bone conductor masking
- TDH39 for Contra
- TDH39 headset
- Pediatric Headset (AC or BC)
- ADC Audiocups Noise reducing headset enclosures
- Goose-neck microphone
- IP30 insert earphones
- B81 High Output Bone Conductor
- Silent cabin cables
- Free field loudspeaker
- Operator headset with microphone and speaker (talk over and monitor)
- Additional patient response pushbutton
- MDS software license
- Quick-SIN test