



# r25c<sub>PT</sub>

FULL COMPREHENSIVE DIAGNOSTIC  
COMBINED MULTIFREQUENCY MIDDLE EAR ANALYZER

## PRODUCT SPECIFICATIONS



Please contact Resonance should you have any questions:  
[support@resonance-audiology.com](mailto:support@resonance-audiology.com)

### 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 T 1 A L 250 V

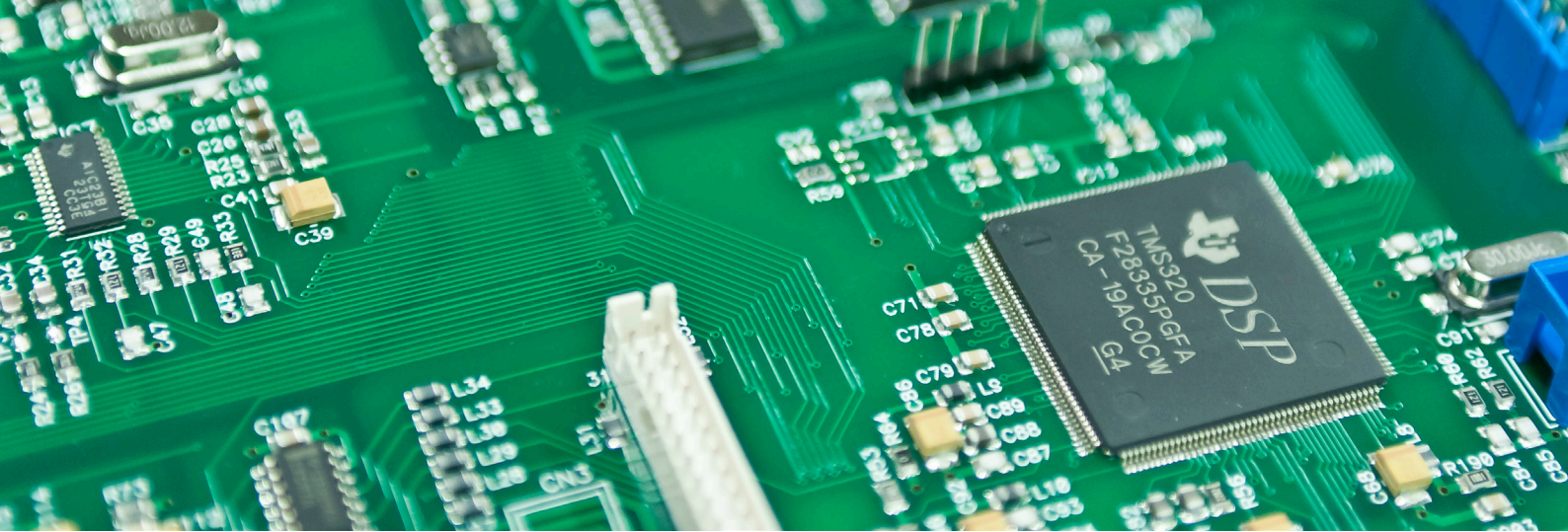
#### CONSUMPTION

- Max current 0.15 A
- Power consumption 40 VA

### 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 700 hPa up to 1060 hPa



## TYMPANOMETRY OPERATING SPECIFICATIONS

### PROBE TONE

- 226 Hz for tympanometry
- 1000 Hz for Admittance (Y) curve tympanometry with added Susceptance (B) and Conductance (G) curves.

### INTENSITY

- 226 Hz: 85 dB SPL  $\pm$  2 dB
- 678, 800 and 1000 Hz: 75 dB SPL  $\pm$  2 dB
- Frequency Accuracy:  $\pm$  0.5%
- Harmonic distortion: Less than 1%

### ADMITTANCE MEASUREMENTS

- Compliance range at 226 Hz: 0.05 up to 7 ml
- Sensitivity scale: Auto Scales to appropriate range, available scale at 226 Hz 1.5, 2, 5 and 7 ml
- 678, 800 and 1000 Hz: 0 to +25 mmho
- HF Sensitivity scale: Auto Scales to appropriate range, available scales for 678, 800 and 1000 Hz: 5, 10, 15, 20, 25 mmho

### 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

- Reflex test method: Threshold, Automatic, Manual
- Stimulus duration: 0.5, 1 or 2 sec.
- User selectable protocols for all test methods
- Ipsi 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.

### FREQUENCIES AND INTENSITY RANGES

- Ipsilateral:
- Pure tone level range (dB HL) from 50 to 110
  - Noise level range (dB SPL) from 50 to 100
  - Frequency: 500, 1000, 2000, 3000, 4000 Hz
  - Noise: BBN, HP or LP
  - Accuracy:  $\pm$ 1%
  - Harmonic distortion (THD): less than 3%

#### Contralateral:

- Pure tone level range (dB HL) from 50 to 120
- Noise level range (dB SPL) from 50 to 115
- Frequency: 250, 500, 1000, 2000, 3000, 4000, 6000, 8000 Hz
- Noise: BBN, HP or LP
- Accuracy:  $\pm$ 1%
- Calibration accuracy  $\pm$ 3 dB
- Level steps: 1, 2, 5 or 10 dB
- On/Off ratio: 70 dB minimum

## 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 (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: 40msec

### OUTPUT TRANSDUCERS

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

### 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 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.

## 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 cover
- 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

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