



r140

PORTABLE OAE
HEARING SCREENER

PRODUCT SPECIFICATIONS



For any additional information please contact:
support@resonance-audiology.com

GENERAL SPECIFICATIONS

DIMENSIONS AND WEIGHT

- L x W x H: 180 x 135 x 41 mm
- Net weight: 450 g
- Case: ABS

DISPLAY

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

DATA TRANSFER

- Bluetooth 2.1

COMMUNICATION PORT

- No. 1 USB slave
- No. 1 USB Host
- (pen drive connection for software upgrading)

POWER

POWER SUPPLY

- Built-in 3.6 V/3.1 Ah rechargeable lithium-ion battery
- External Medical power supply/charger:
Input 100 - 240 V ac / 0.3 A - 50/60 Hz; Output +5 V dc / 2 A

BATTERY LIFE (RECHARGEABLE BATTERY)

- Up to 3 hours of continuous testing
- Charge time with external medical power supply:
80% in 2 hours. Charging cradle provided as a standard.

ENVIRONMENTAL CONDITIONS

OPERATING ENVIRONMENT

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

COMPLIANCE/REGULATORY STANDARDS

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

EN 60645-6
Safety: EN 60601-1
EMC: EN 60601-1-2

TEOAE

SAMPLE RATE

- 24 bit 44,1ksp/s

STIMULUS LEVEL

- 70 - 90 dB pe SPL

STIMULUS RATE

- 66 Hz

WINDOW OF ANALYSIS

- 512 samples (3 - 15 ms)

TEST TIME

- 500 to 1250 stimuli (from 30 to 75 s)

STIMULATION PROTOCOL

- non-linear click

ACQUISITION BANDWIDTH

- from 750 Hz to 5 kHz

ARTEFACT LEVEL

- from 20 to 60 dB SPL

TEOAE PROTOCOLS

Type	No. of frequencies	Frequencies	Averaging Time (s)	Pass SNR (dB)	No. of passing freq. for test Pass
Screening	N.A.	from 750 Hz to 5 KHz	30 - 75	N.A.	N.A.
	N.A.	from 750 Hz to 5 kHz	30 - 75	N.A.	N.A.
Diagnostic	5	1,1.5,2,3,4 kHz	30 - 75	3, 6 or 9	2 - 5
	5	1,1.5,2,3,4 kHz	30 - 75	3, 6 or 9	2 - 5

3 configurable protocols
Frequency bands: 0.7 to 5 kHz
Stimulus intensity: 70 - 90 dB pe SPL
Customizable fields are indicated in GREY:

TEOAE SCREENING

RESPONSE DETECTION

- Statistical analysis of signal polarity

PROTOCOLS

- 3 user definable

TEOAE DIAGNOSTIC

RESPONSE DETECTION

- User defined stop criterion SNR 3, 6 or 9 dB, in minimum 2 and maximum 5 of the 5 available frequency bands

FREQUENCY BANDS

- 1, 1.5, 2, 3, 4 kHz

PROTOCOLS

- 3 user definable

Average time (max test time): 30, 45, 60 or 75s
Pass SNR: 3, 6 or 9 dB
Passing frequencies for Test Pass: selectable from 2 to 5

DPOAE

FREQUENCY RATIO F2/F1

- 1,22

F2 FREQUENCIES

- 1.5 - 12 kHz, user definable from 2 to 15

L2 STIMULUS LEVEL

- 30 - 70 dB SPL

L1 STIMULUS LEVEL

- User definable: automatic (L1=0,4*L2+39 dB), L1=L2, L1=L2+10 dB

ARTEFACT LEVEL

- from 0 to 40 dB SPL

FREQUENCY RESPONSE DETECTION

- User defined stop criterion SNR 3, 6 or 9 dB for each frequency

RESPONSE DETECTION

- From 2 to the number of enabled frequencies

FREQUENCY TEST TIME

- Customizable by User from 2 to 16 s

PROTOCOLS

- 2 pre-set (70dB e 65-55dB), 3 user definable

DPOAE PROTOCOLS

Type	Available frequencies	F2 Frequencies (kHz)	L1/L2 (dB SPL)	Averaging Time (s)	Pass SNR (dB)	Passing frequencies for test Pass
Screening	5	2,3,4,5,6	65/75 70/70	2 - 16	3, 6 or 9	2 - 5
Diagnostic	Up to 15	1.5, 2, 2.5, 3, 3.3, 4, 4.5, 5, 5.6, 6 6.6, 7, 8, 10, 12 Selectable by the user	65/55	2 - 16	3, 6 or 9	2 - 15

3 configurable protocols

Frequency bands : 1.5 - 12 kHz

Customizable fields are indicated in GREY:

L1/L2: 30 to 70 dB SPL

Average Time (per frequency): 2, 4, 8 or 16s

Pass SNR: 3, 6 or 9 dB

Passing Frequency for Test Pass: 2 to 15

MEASUREMENT TYPES

Screening and Diagnostic Testing

TEOAE

- 0.7 to 5 kHz, Stimulus 70-90 dB pe SPL

DPOAE

- 1.5 to 12 kHz, 30 to 70 dB SPL

PROBE

- Connector: LEMO push-pull, circular
- Description: - Integrated microphone and receivers in probe head
- Calibration data stored in the probe
- Cable length: 130 cm
- Weight: 5 g
- Ear tips: Disposable multi-size Resonance ear tips

CRADLE

For battery charging and desktop use

DATA

Over 1,000 tests in the unit

Internal database: Available and with possibility of reviewing test results

Transfer to PC: via Bluetooth 2.1

STANDARD ACCESSORIES

- OAE Probe
- Medical Power supply
- MDS Software suite
- Disposable Ear Tips starter kit
- Calibration Cavity
- User's Manual
- Carrying bag
- Pen Drive
- Touch screen pen

OPTIONALS

- Wi-Fi printer
- External keyboard
- USB Video otoscope
- Wallmount kit

R140 CONFIGURATION OVERVIEW

The R140 is available in 4 different configurations. The available protocols for each configuration are summarized below:

	R140 Screener	R140 Screener	R140 Advanced Screener	R140 Advanced Screener
TEOAE SCREENING	●		●	●
TEOAE DIAGNOSTIC			●	●
DPOAE DIAGNOSTIC		●		●