

Technical specifications:

Measurement techniques

TEOAE

Evaluation method: Noise-weighted averaging, counting of significant signal peaks
 Stimulus: Non-linear click sequence
 Stimulus level: 70-84 dB SPL (45-60 dB HL), self calibration depending on ear canal volume
 Click rate: Approx. 60 Hz
 Frequency range: 1.5 to 4.5 kHz
 Display: Statistical waveform, measurement progress, TEOAE detection level, noise level

DPOAE

Evaluation method: Noise-weighted phase statistics
 Stimulus: Primary tone pair, $f_2/f_1 = 1.24$
 Available test frequencies: Configurable, f_2 range 1 to 6 kHz
 Range of protocols (default: 5, 4, 3, 2 kHz (PASS at 3 out of 4))
 Test level: L1/L2 = 60/50 or 65/55 dB SPL
 Display: DPOAE level, test progress, noise level, DP-Gram
 Result display: Overall PASS/REFER, DP-Gram with DPOAE and noise level

ABR

Evaluation method: Noise-weighted averaging and template matching
 Stimulus: 30, 35, 40 or 45 dB nHL chirp
 Rate: Approx. 80 Hz
 Impedance sense signal: 1 kHz square wave
 Impedance test range: 1 to 99 k Ω
 Impedance accepted for test: < 12 k Ω
 Impedance control:
 Before test, periodically during test, stimulus continues during impedance control
 Display: Statistical graph, test progress, EEG-level, ABR detection probability
 Electrodes: Disposable hydrogel electrodes

Dimensions

Approx. 202 x 73 x 30 mm (8 x 2.8 x 1.2 inches)

Weight

Approx. 240 g (8.5 oz) excluding battery
 280 g (9.9 oz) including battery

Display

Type: Color, TFT, touch screen with adjustable LED backlight
 Dimensions: 71,5 x 53,6 mm (28.1 x 21.1 inches)
 Resolution: 240 x 320 pixels
 Keystroke durability: min. 1 million repetitive strokes per screen point

Keypad

Resistive Touch Screen (can be used with gloves)

Memory

Patient memory capacity: Max. 250 patients / Min. 500 tests

Connectors

OAE probe connector: 14 pin ODU Medisnap - For OAE Probe or ABR ear coupler cable
 ABR (ABR version only): 4 pin ODU Medisnap - For ABR electrode cable

Real time clock

Integrated real-time clock for time-stamping of measurements.
 The clock is automatically synchronized with PC clock when docked.
 Backup: Min. 5 days, when battery is removed from unit

Data interfaces

PC: IR data transmission to Docking Station - USB interface from Docking Station to PC

Transport and storage environment

Temperature range: -20 - +60°C (-4 - 140 °F)
 Humidity range: 20-80 % rel., non-condensing
 Air pressure 500 hPa to 1060 hPa

Operating environment

Temperature range: 10 - 40°C (50 - 104°F)
 Humidity range: 30-80 % rel., non-condensing
 Air pressure 600 hPa to 1060 hPa

Standards

Otoacoustic emissions: EN 60645-6, Type 2
 Auditory evoked potentials: EN 60645-7, Type 2

Patient Safety:

- EN 60601-1, Internally Powered, Type BF, IPXO
 - UL 60601-1
 - IEC 60601-2-26
 - IEC 60601-2-40
- EMC: EN 60601-1-2

Power supply and battery

Battery type: Rechargeable Li-ion 3.7 V/1800 mAh (6.7 Wh), fully charged
 Estimated battery life: 8 hours of continuous use (based on a typical use scenario)
 Actual use can influence the battery life time
 Battery level indicator: 5-step battery level indicator
 Charge time in AccuScreen docking station: 80% charged 4½ hours. Fully charged 6 hours

PC interface

Interface type: USB 2.0, Full-speed
 USB Power: Uses <100 mA of current from the USB interface

Printer interface

Interface type: RS232
 Connector type: 6-pol Mini Din

DC power input

Input voltage: 5 V DC \pm 5%
 Max. power consumption when AccuScreen is docked: 5VA (5V, 1.0 A)
 Max. power consumption when AccuScreen is not docked: 0.25 VA (5V, 50 mA)

Power adapter

Input voltage/range: 100-240 V AC, 50-60 Hz
 Output voltage: 5.0 V DC/min. 1.0A
 Mains plug types: US, UK, Europe and Australia

Probe

Flexible, shielded cable, approx. length: 120 cm (approx. 55 inches)

Dimensions

Probe body: 20 mm \varnothing x 23 x 11 mm (0.8" \varnothing x 0.9" x 0.43")
 Probe tip: 3.3 mm \varnothing x 10 mm (0.13" \varnothing x 0.4")

Weight

Probe incl. probe tip: Approx. 4.5 grams

Eartips

Standard (cylindrical): 4 sizes (3.7 - 5 mm)
 Tree tip: 1 size (4 - 7 mm)
 Foam tip: 1 size (13 mm)

ABR electrode cable

Flexible, shielded cable, approx. length: 140 cm (approx. 55 inches)

ABR ear coupler cable (optional)

Flexible, shielded cable, approx. length: 145 cm (approx. 57 inches)

Device class

Ila (according to Council Directive 93/42/EEC Appendix IX)

Standard accessories

The MADSEN AccuScreen comes with customized Carrying case, Docking station including Power Adaptor and USB Cable, Starter kit, OAE probe (DPOAE/TEOAE or TEOAE only), Battery, ABR electrode cable (ABR version only), ABR Tester (ABR version only), Cleaning cloth and User Manual.

Optional accessories

Label Printer with printer cable, ABR ear coupler cable and External battery charger.
 Standard accessories and optional accessories may vary from country to country - please consult your local distributor.

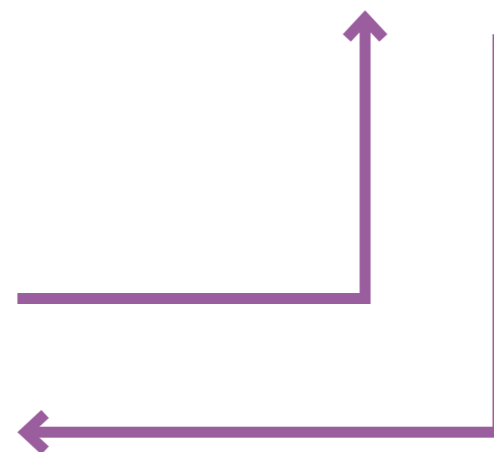
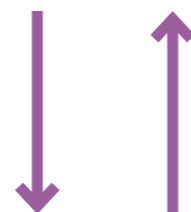
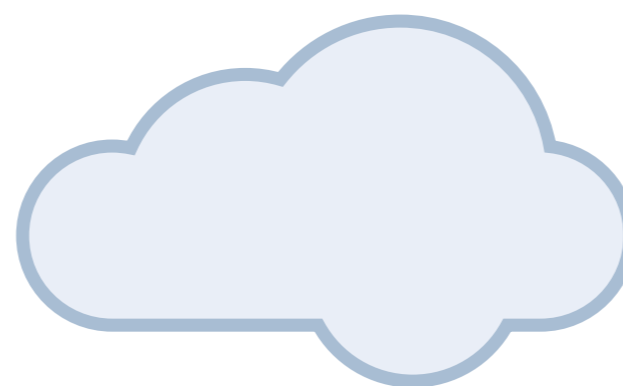
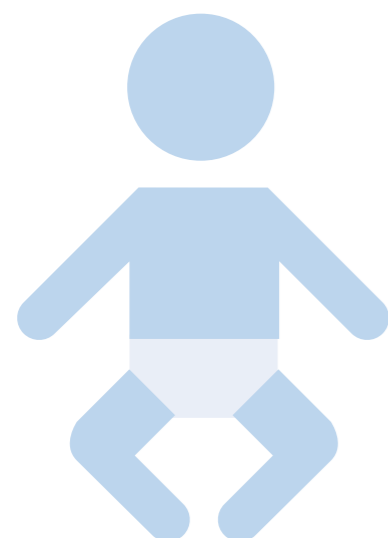
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Newborn Hearing
 Screening gets a "touch"
 more intuitive

Your workflow has never been so simple

MADSEN AccuScreen®



The new MADSEN AccuScreen

- + Developed by the same people who developed the first MADSEN AccuScreen
- + Combined OAE/ABR device enabling two-step screening
- + Quality tests
- + Small and lightweight
- + Angled probe for better fit
- + Probe and ear couplers for ABR
- + Dual-density earcoupler design for more reliable results
- + User login option for data security
- + Low maintenance costs

Breakthrough touch screen display

- + Easy and intuitive data entry
- + Easy and intuitive navigation
- + Detailed test and result screens
- + On-screen help menu

AccuLink software

- + Patient management
- + User management
- + Device management
- + Test management
- + Comprehensive settings menu
- + Data links: HiTrack, OZ-Systems, pathTrack, eSP (UK)
- + XML export

MADSEN AccuScreen docking station

- + Upload patient lists to the instrument
- + Download patient data including test results, comments and risk factors, to the AccuLink software
- + Transfer instrument settings defined in the AccuLink PC software
- + Transfer firmware updates
- + Charge battery
- + Connect label printer
- + Store instrument

More than
36,000,000
newborns tested with AccuScreen