

SA 204™

DIAGNOSTIC AUDIOMETER



SA 204 is a manual / automatic, true two channel, diagnostic audiometer with clinical applications measuring air, bone and speech. SA 204 is digital and RoHS compatible and thus, well adapted to the modern user and environmental concerns. SA 204 is user friendly, robust, reliable and yet affordable.

The speech testing interface on SA 204 makes it easy to control stimuli levels. Storage capacity of 50 complete audiograms. Any combination of one, two or all three of the audiometric earphones is applicable. Free-field system is optional. SA 204 is an ideal audiometer for hearing aid dispensing practices and for application in a clinical environment. SA 204 is NOAH-compatible when using Entomed Audi-Link 1.00 for NOAH 3.

Function

SA 204 is an **automatic**/manual pure tone, bone conduction and speech testing diagnostic audiometer with narrow band and speech noise masking possibilities. The SA 204 has a set-up menu, which allows the audiometer to be programmed according to individual needs.

50 audiograms together with date, time and personal identification can be stored in the internal memory.

Each stored test result can be displayed, exported to a computer or printed out on an external printer on a later occasion. SA 204 comes with a monitor headset and talkback microphone for optimal communication with the patient. Live Speech Monitor Headset and Free Field measurement are optional.

SA 204 may be calibrated to TDH-39 earphones, Sennheiser HAD 200 earphones, EARTone 5A insert earphones, Radioear B71 bone vibrator.

Signal format

Continuous steady when bar is pressed

Single pulse (1.3 sec duration)

Pulsing (2.5 pulse/sec)

Frequency modulation ($\pm 5\%$)

Special Capabilities

Built-in talk forward microphone with volume control.

Internal memory - stores up to 50 complete audiograms in non-volatile memory

Synchronized Masking- The level of masking will automatically track with the stimulus level

Printing possibilities to any PCL 5 Printer when using SA 06 Printer Interface kit (optional accessory)

RS 232 interface

Transfer possibilities to NOAH 3 when using Entomed Audi-Link 1.00 for NOAH 3

Dimensions

Width* Height* Depth: 376* 73* 264 (mm)

Weight: 1,5 kg

Power supply: 110 V - 240 V, 50 - 60 Hz

Frequency Range

| Hz | Maximum Levels Manual/Automatic mode | | |
|------|--------------------------------------|----------------------|----------------------|
| | Minimum is -10 dB | Minimum is -10 dB | Minimum is 0 dB |
| 125 | 80/80 dB | - | 80/- dB |
| 250 | 100/100 dB | 45/45 dB | 80/- dB |
| 500 | 120/110 dB | 60/60 dB | 100/- dB |
| 750 | 120/110 dB | 60/60 dB | 100/- dB |
| 1000 | 120/110 dB | 70/70 dB | 100/- dB |
| 1500 | 120/110 dB | 70/70 dB | 100/- dB |
| 2000 | 120/110 dB | 70/70 dB | 100/- dB |
| 3000 | 120/110 dB | 70/70 dB | 100/- dB |
| 4000 | 120/110 dB | 70/70 dB | 100/- dB |
| 6000 | 110/110 dB | 60/60 dB | 100/- dB |
| 8000 | 110/100 dB | 60/60 dB | 90/- dB |
| | Air Conduction | Bone Conduction | Narrow Band Noise |

| Speech | Minimum is -10 dB | | |
|--------|-------------------|--------------------|-----------------|
| | 120 dB | 80 dB | 100 dB |
| | Air Conduction | Bone Conduction | Speech Noise |

Accuracy $\pm 1\%$

Total Harmonic Distortion

< 2 % earphones

< 5 % bone conductor



Manufactured by:
Entomed AB

TecDoc146 Rev 7



Entomed Audiometric systems, SA 20X line, comply with the European RoHS-Directive 2002/95/EC when choosing Sennheiser HDA200 and/or E-A-RTONE 5A

Ordering Information

EN 104040 - SA 204 diagnostic audiometer

Accessories supplied

EN 200170 - TDH-39

EN 560128 - External medical grade power supply

EN 550xxx - Mains cord as specified in order (Country specific)

EN 200000 - Radioear B71 bone vibrator

EN 200060 - Subject response switch

EN 370159 - Monitor head set

EN 370156 - Talk back microphone

EN 970026 - User manual in english

Optional Accessories

EN 200170 - TDH-39

EN 100360 - EARTone 5A

EN 370166 - Sennheiser HDA 200

EN 370155 - Live speech/monitor headset

EN 200700 - Free field speaker system

EN 200905 - SA 06 Printer Interface kit

EN 200235 - RS 232 computer cable

EN 101211 - Audimax II software for PC

EN 500184 - Hard case

EN 500191 - Soft case

EN 200920 - Entomed Audi-Link 1.00 for NOAH 3

Standards

The SA 204 is an **automatic**/manual IEC 60645 Type 3 pure tone and bone conduction diagnostic audiometer and meets or exceeds the following standards: IEC 60645-1; IEC 60645-2; ISO 389-1; ISO 389-2; ISO 389-3; ISO 389-4; ISO 8253-1; ISO 8253-2; ISO 8253-3;

IEC 60601-1 Medical Electrical Equipment Requirements for Safety and Performance

IEC 60601-1-2 Medical Electrical Equipment Requirements for EMC Compatibility

Specifications are subject to change without notice.



The SA 20X-IV generation of the Entomed audiometers is digital and RoHS compatible and thus, well adapted to the modern user and environmental concerns. All products in the SA 20X-series are user friendly, robust, reliable and yet affordable. Entomed SA20X-Series covers user needs from basic screening capabilities to advanced diagnostic functionalities required by audiologists dispensing hearing aids.

SA 201™ - Screening Audiometer

SA 202™ - Screening Audiometer

SA 203™ - Diagnostic Audiometer

SA 204™ - Diagnostic Audiometer

The SA 20X-IV series is replacing the previous platform SA 20X-II also sold under the brand names GSI 66, GSI 67 and GSI 68.

For further inquiries do please visit Entomed website or contact your local dealer.



Bariumgatan 29
SE-213 64 Malmö, Sweden
Tel: +46 40 21 00 90
Fax: +46 40 21 00 99
E-mail: mailbox@entomed.se
Web: www.entomed.se