Sibelmed®

RANGE OF AUDIOMETER PRODUCTS

"screening", basic diagnosis, clinical diagnosis

AUDIOMETER SIBELSOUND 400



- Calculation of hearing loss and diagnosis
- Internal database > 1000 tests
- Suprathreshold tests
- High frequency
- Musical frequencies
- Automatic masking
- Connectivity with other management systems
- Customizable

USB

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SIBELSOUND 400 · audiometer

CONFIGURATION ACCORDING TO MODEL	A	AM	AOM	AOM+	SUPRA
Two channels	■	■	■	■	■
Pure tone threshold audiometry by air conduction	■	■	■	■	■
Pure tone threshold audiometry by bone conduction	●	●	■	■	■
Pure tone threshold audiometry by free field	●	●	●	●	●
Pure tone suprathreshold audiometry (SISIGRAM)	●	●	●	■	■
Pure tone suprathreshold audiometry (Fowler-ABLB, Tone Decay, Weber, Lüscher, etc.)	●	●	●	●	■
Speech audiometry	●	●	●	■	■
High frequency audiometry	-	-	●	●	●
Masking with narrow band noise	●	■	■	■	■
Masking with white noise	●	■	■	■	■
Masking with speech noise	●	●	●	■	■
Synchronized masking	●	■	■	■	■
Intermediate frequencies: 125, 750, 1500 Hz	■	■	■	■	■
Musical frequencies	●	●	●	■	■
Selection of exploration frequencies	■	■	■	■	■
Continuous and pulse tone	■	■	■	■	■
Pulse/alternating tone and modulating/alternating tone	●	●	●	■	■
Reference tone (1 dB)	-	-	●	■	■
Frequency modulation and amplitude modulation	-	-	●	●	■
Calculation of hearing loss	■	■	■	■	■
Diagnosis selectable from different algorithms	■	■	■	■	■
Internal database for more than 1000 tests	●	●	■	■	■
Intercom / Monitor	●	●	●	■	■
USB computer connection	■	■	■	■	■
Audiometry software	■	■	■	■	■
Audiometry software (Licence)	●	●	●	●	■
Sound suppressors for air conduction	●	●	●	●	●
User manual and quick user guide	■	■	■	■	■
Carrying bag	●	●	●	●	●
Audiometer type according to EN 60645-1	4	4	3	2	2

■ STANDARD ● OPTIONAL - NOT AVAILABLE



SIBELSOUND 400 · audiometer

Description

The *SIBELSOUND 400*, is a revolutionary two-channel audiometer. The entire system is controlled by Digital Signal Processor (DSP) for reliable, quick and easy audiometric exploration of hearing thresholds and screening tests, such as suprathreshold pure tone tests.

The *SIBELSOUND 400* audiometer was developed by SIBEL, S.A.U.'s RDI department in collaboration with the Surgery Department (Ear, Nose and Throat and Audiology) of the University of Barcelona and well-known specialists in the field, in accordance with standard criteria of both national institutions such as the UNE and international institutions such as the IEC, ISO, etc.

DSP digital technology

A Digital Signal Processor that uses an optimised microprocessor for applications that require very high-speed numerical operations. The processor is capable of working with multiple data in parallel, while its design and specific instructions are ideal for digital processing, features that distinguish a DSP from other types of processors.

Communications

One of the great qualities of the *SIBELSOUND 400*, is a communications system with other equipment that allows it to:

- Transfer information from the unit's internal database to a PC
- Communicate with a PC in real time
- Export patient tests to other management systems (EMR)
- Update the unit's internal firmware

Using the appropriate software, communications can be established through via the USB port.



Signals

The *SIBELSOUND 400* features:

- Pure tones (continuous, pulse, alternate)
- Frequency modulation
- Amplitude modulation
- Speech Noise
- Narrow Band Noise
- White Noise

Customizable



SIBELSOUND 400 · audiometer

Reset
To return to the previous menu, cancel an action, delete data entries or place the counters at zero.

Save
Saves a test to the database.

Intercom
Activates the technician/patient intercom.

Right ear attenuator
Activates or deactivates a signal, depending on the "direct/inverted" working mode.

SISIGRAM
Generates the manual increases in the SISIGRAM test.

Left ear attenuator
Activates or deactivates a signal, depending on whether the working mode is direct or inverted.



Right channel signal
Silencer or key which, when activated, sends or blocks the signal transmitted to the patient, depending on whether the working mode is direct or inverted.

Invert
This inverts the direct/inverted working mode of the signal keys.

Left channel signal
Silencer or key which, when activated, sends or blocks the signal transmitted to the patient, depending on whether the working mode is direct or inverted.

Hz.
Decreases and/or increases the frequency of the pure tone signal applied to the patient.

Intro
Used to save a test's thresholds and to give selected information.

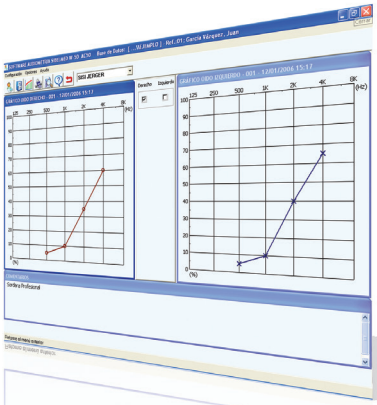
Patient
Used to enter patient reference information in a test to be printed, store in the unit's internal database or transfer to a PC's database.

SIBELSOUND 400 · audiometer

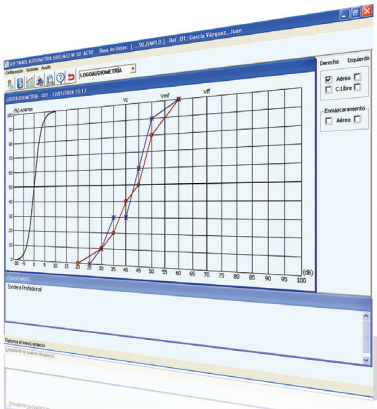
Audiometry software W50

SIBELMED W50 is sophisticate software for viewing, storage, transmission, analysis and introduction of audiometric tests in a Microsoft Windows ® environment with the following options:

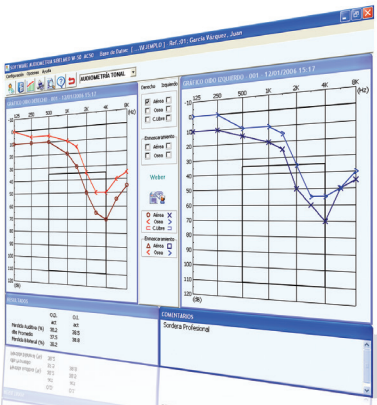
- Management of various patient databases
- Download of audiometric test data from SIBELSOUND 400 and SIBELSOUND DUO
- Manual audiometric test data input performed with other audiometers
- Display of different types of audiometric tests
- Diagnosis consultation
- Choice of various types of diagnosis parameters
- Test graphics
- Comparison of tests from the same patient
- Customizable reports
- Test report printouts
- Option for deleting tests from the unit



SISIGRAM



SPEECH-AUDIOMETRY



PURE TONE AUDIOMETRY

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SIBELSOUND 400 · audiometer

Technical Specifications

FREQUENCIES AND LEVELS												
STANDARD FREQUENCY	125	250	500	750	1000	1500	2,000	3000	4000	6000	8000	Hz
MUSICAL FREQUENCY	131	262	523	__	1047	__	2093	__	4186	__	8372	Hz
Air conduction	80	100	120	120	120	120	120	120	120	110	110	dB HL
Bone conduction	__	50	60	60	70	70	70	70	70	55	__	dB HL
Free field	__	70	80	80	80	80	80	80	80	80	__	dB HL
MASKING NOISE												
Narrow bandwidth AC	60	80	100	100	100	100	100	100	100	100	90	dB HL
Narrow bandwidth BC	__	50	60	60	70	70	70	70	70	__	__	dB HL
White AC						100						dB SPL
Speech						100						dB SPL
LOGO-AUDIOMETRY												
Air conduction						100						dB SPL
Free field						80 dB at 1m from the patient						dB SPL
HIGH FREQUENCY	8000	9000	10,000	11,200	12,500	14,000	16,000	18,000	20,000			Hz
Air conduction	90	90	90	90	50	50	50	50	50			dB HL
Minimum levels												
All options	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	dB HL
HIGH FREQUENCY	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	dB HL
Level increases												
STANDARD	5	5	5	5	5	5	5	5	5	5	5	dB
Reference tone	1	1	1	1	1	1	1	1	1	1	1	dB
Frequency precision						± 1%						
Level precision						± 2%						dB SPL

Channels: Two
Functional specifications: See tables of models and frequencies
Transducers: DD45 - DD450 - B71W (depending on the model)
Screen: LCD alphanumeric backlighted 2 X 16
Protection: Time restricted high frequency signals to protect both patient and unit
Self-check: Automatically checks the status of the audiometer
Unit test: Allows the user or technician to check the condition of certain functions or components
Custom settings: Programme to personalise the audiometer according to the needs of the user
Calibrations: Equipped with calibrations according to ISO and ANSI
Safety standards: EN 60601-1:2006+AC:2010+ A11:2011+A1:2013+A12:2014+A2:2021+A13:2024, EN 60601-1-2:2015 + A1:2021
Audiometry standards: EN 60645-1:2017
Calibration standards: EN ISO 389-1:2018, EN ISO 389-3:2016, EN ISO 389-4:1998, EN ISO 389-5:2006, EN ISO 389-7:2019, ANSI/ASA S3.6-2018
Working temperature: 5 to 40 °C
Relative humidity: <90% (no condensation)
Power supply: 100 to 240V ±10% / 50/60 Hz ±3%
Power: <60 VA
Dimensions: 390 mm x 260 mm x 105 mm
Weight: 2.4 kg without accessories
Standard accessories: Depending on the model
Optional accessories: Depending on the model

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Sistema de Gestión ISO 9001:2015 ISO 14001:2015 TÜVRheinland CERTIFICADO www.tuv.com ID 0910078065

Product compliant with:
Regulation (EU) 2017/745
CE 0318 EN ISO 13485:2016

EN ISO 9001:2015
EN ISO 14001:2015

SIBEL S.A.U. reserves the right to modify the technical characteristics without prior notice.
ATTENTION: The information in this brochure is intended for healthcare professionals.

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