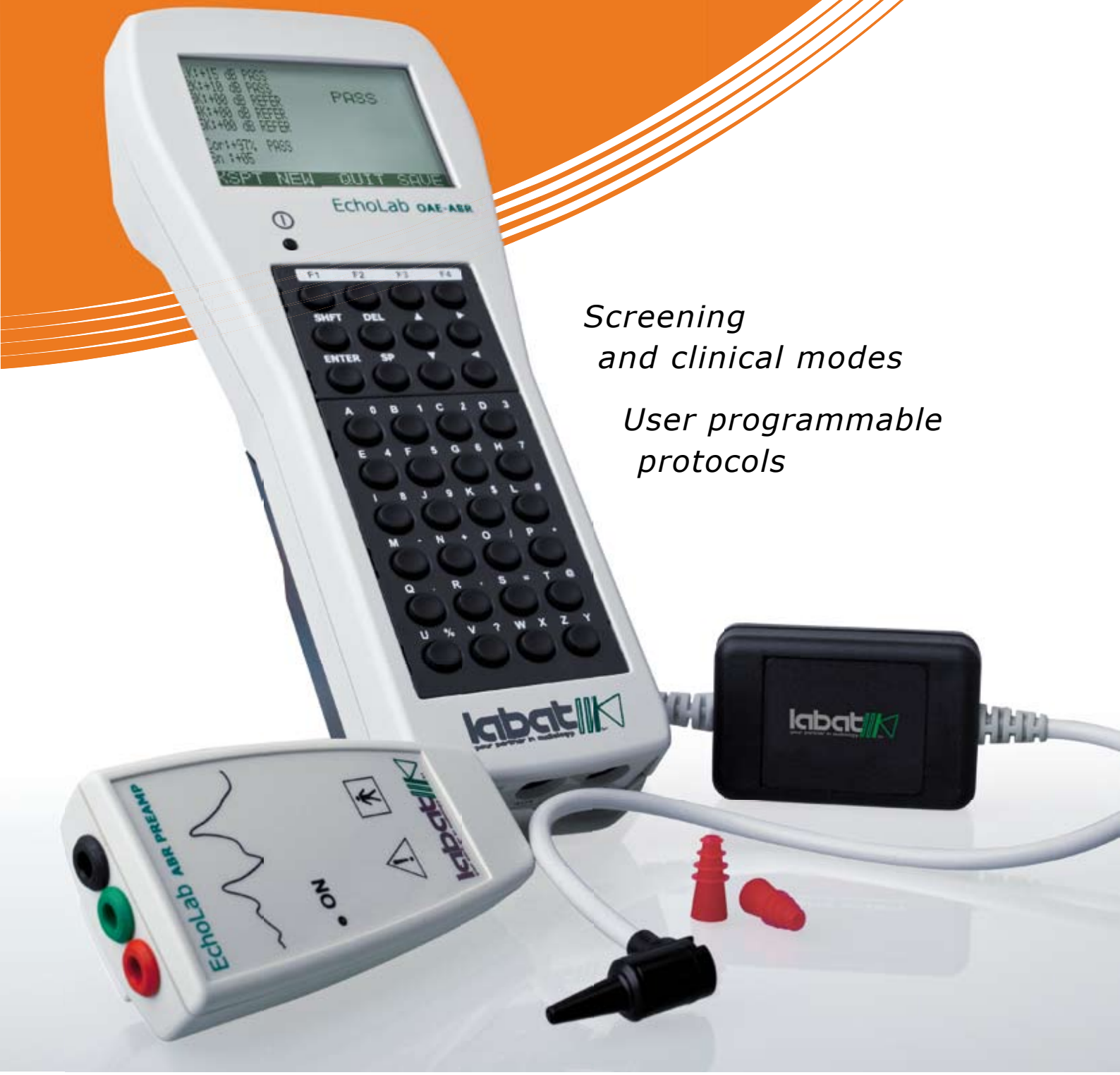
ECHOLAB

■ Otoacoustic emissions system
TEOAE - DPOAE - ABR - AABR



Screening and clinical modes

User programmable protocols

labat
your partner in audiology srl

ECHOLAB

Otoacoustic emissions system
TEOAE - DPOAE - ABR - AABR

All of Labat's technology in the palm of your hand.

Innovative, fast and reliable.
EchoLab is the ideal handheld unit for both easy neonatal screening and clinical testing.

Although very simple to use, EchoLab has a wide range of software programmes which make it perfect both for daily clinical use and for research, in line with the latest scientific and technological innovations.

The EchoLab system is ideal for all types of OAE testing TEOAE, DPOAE, Suppression tests (with the optional noise insert). EchoLab can perform AABR screening tests using the optional pre-amplifier.

Screening becomes uncomplicated, like a child's smile.

EchoLab is perfect for neonatal screening.

Its large, interactive display guides the operator through the various steps.

Automatic probe and calibration control, combined with ambient noise monitoring, provide reliable results.

EchoLab is easy and practical, with great storage memory (up to 250 tests), so it can be used extensively before having to download the data to a PC.

Lightweight? Perfect.

The exceptionally light probe simplifies neonatal testing.

The probe tip may be disconnected from the main body for cleaning.

Rubber-tipped probes are available in various sizes and are designed to adjust to ear canals for effective external noise reduction.

LAP
Labat Audiologic Platform

LAP, the statistically most advanced audiological software.

Labat has developed an exclusive software that meets the requirements of modern audiology.

The LAP software retrieves data directly from the hardware database to elaborate statistics more efficiently, thus satisfying the guidelines of modern hospital information technology.

LAP enables audiologists to retrieve the tests of patients, and provides statistical data arranged by age, type of problem, test date, etc.

The LAP software is particularly useful in neonatal screening to highlight the number of babies with hearing problems, and to retrieve automatically data of those who missed further tests.

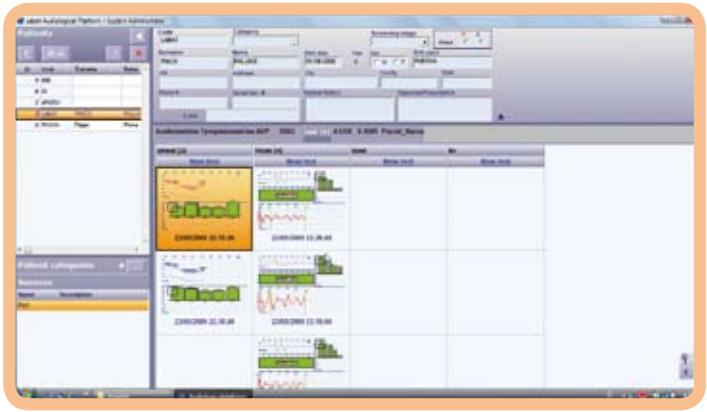
LAP is fitted in all Labat audiological instruments, with programmes suited to the parameters required by each test.

USB transfer of data

In a few seconds data is transferred from the EchoLab to your PC.

Patients' medical records

The audiological record of patients containing their personal data, medical history and treatments may be retrieved at any time.

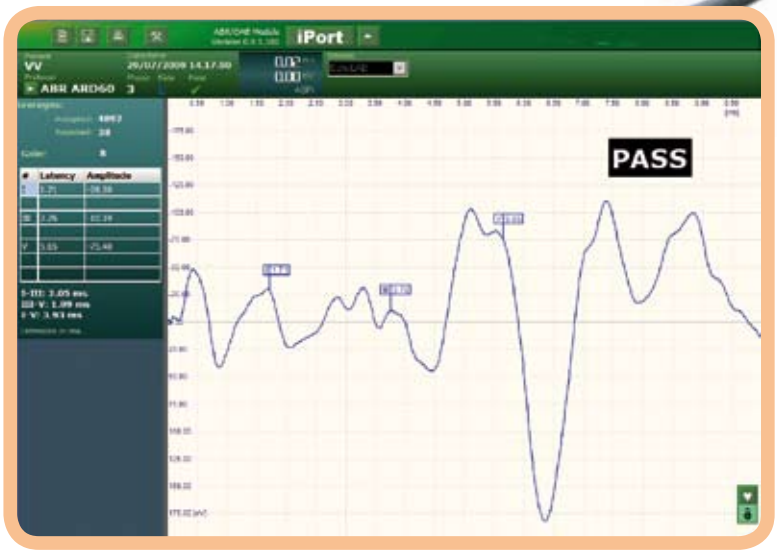


The ABR test

ABR and AABR tests may be carried out with the optional ABR pre-amplifier by generating a brief click with the same probe used for OAE.

Electrical impedance may be verified prior to testing, to make sure electrodes are placed correctly, and to visualise the ABR and AABR waveforms, by showing the Pass or Refer modes.

Markers can be used to show peaks in the waveforms to measure latency. Stimulus intensity is controlled by the examiner.

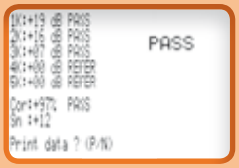


Statistical data

Data of "refer" patients may be processed in any test phase. Data may be exported to external files. Personalised letters are automatically printed to recall "refer" patients.

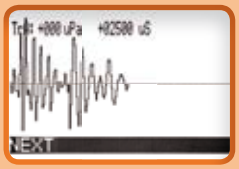
All the information is available on the display:

from the final Pass/Refer to complete EOAE, spontaneous DPOAE and ABR waveforms.



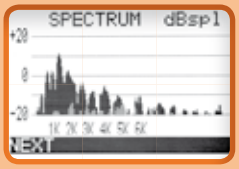
TEOAE
Automatic Pass/Refer results

DPOAE
Complete DP-gram with response and noise



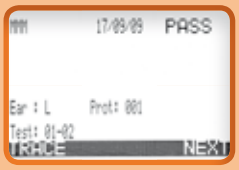
TEOAE
Signal received

DPOAE
F1/F2 histogram and DP with Pass/Refer



TEOAE
Response spectrum

PROTOCOLS
Selected by the examiner



AABR
True ABR trace

TEST SCORE
Divided into types, displayed on the screen

ECHOLAB OAE Technical Data

Labat's EchoLab: otoacoustic emissions system for screening and clinical testing with AABR option. Handheld unit with alphanumeric keyboard.

OAE
- TEOAE - transients
- DPOAE – Distortion Products

TEOAE – Linear and non-linear stimuli
- Frequency Range 1000-5000 Hz
- Frequency Resolution 50 Hz
- Frequency Accuracy ±0,01%
- Stimulus Level 0-90 dB SPL
- Accuracy Level ±2 dB SPL
- Dynamic Range 90 dB SPL

DPOAE – distortion product
- Frequency Range 250-10.000 Hz
- Frequency Resolution 5,10,25 Hz programmable
- Frequency Accuracy 0,01%
- Stimulus intensity 0-90 dB HL
- Stimulus level accuracy ±2 dB SPL
- Dynamic Range 90 dB SPL

LCD
- Graphic display 240x160 pixel high definition with visualization of: input signal, OAE trace, Spectrum, DP-gram, test results PASS/REFER
- Visualization of ABR trace

GENERAL CHARACTERISTICS OAE

sampling	TEOAE	DPOAE		
	25600	20480	25600	40000
Sampling per frequency	512	4096	1024	4000

- Microphone: 15 dB SPL a 1000 Hz 20 dB SPL a 2000 Hz
- Accuracy: 2 dB SPL microphone and in situ sound level
- Automatic in situ calibration

ACCESSORIES OAE
- SOAE probe
- Ear tips for adults and neonates
- Rechargeable NiMh battery
- Battery charger
- Probe cleaning kit
- CD with software LAP
- Case
- Instruction manual

INTERNAL MEMORY AND DATA TRANSFER
- 250 test
- USB connection to PC

POWER SUPPLY
- Rechargeable NiMh battery 8-hour life
- Automatic low battery warning
- Universal charger

AABR Technical Data

AQUISITION
- 16 Bit ADC - CMR› 100dB
- Filters 100 Hz - 2500 Hz
- Analysis time: 10, 12 o 15 ms programmable
- Stimulus rate: up to 18/sec
- Number of averages: 1000 or programmable
- Automatic artifact control

STIMULUS
- click - positive - negative - alternate
- Max Intensity 90 dB SPL

ELECTRODES IMPEDANCE CHECK
- Differential check of each electrode

GRAPHIC VISUALISATION
- ABR waveform during acquisition and final result Pass/Refer
- Latency cursor for wave V
- Test parameters

STANDARD ABR ACCESSORIES
- ABR amplifier with cable
- 10 pkgs. of 3 disposable pre-jelled pediatric electrodes

GENERAL Information

ENVIRONMENTAL
Shipping/stocking temperature: -20°C +50°C, -4°+122°F
Operating temperature +15 +35°C, +60 + 95°F
Humidity: 30% - 90%

SIZE / WEIGHT
cm 9,5 (w) x 23 (h) x 5,5 (d) - 3,7" (w) x 9" (h) x 2,2" (d)
Net weight: 493 g – including battery

STANDARD
Audiometric Units: EN 60645-1 (1994); EN 60645-3 (1995); ANSI S3.6 (1996); EN ISO 389 (1995);
Safety: EN 60601-1 (1990); CLASSE 2 TIPO B
EN 60601-1-1 (2001) - EMC; EN 60601-1-2 (1993)

CE 0051

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