ECHODIA®

ENT SOLUTIONS ON DEMAND

CATALOG

Product range

EVOKED POTENTIALS
OTOACOUSTIC EMISSIONS
AUDIOMETRY

screening / diagnostic

MADE IN FRANCE

echodia.fr

Echodia,
a brand of Électronique du Mazet

Located on the Haut-Lignon plateau in Haute-Loire for over 40 years, Électronique du Mazet has become an expert in designing and manufacturing medical products.

It shines in France and around the world thanks to its brands Mazet Santé and Echodia.

Echodia was born following a meeting between Professor Paul Avan of the Sensory Biophysics Laboratory at the Clermont-Ferrand Faculty of Medicine and our design office, which specializes in electronics and embedded computing.

Together, we have developed two unique tests: Shift-OAE and DPMC.
Drawing on its expertise in electrophysiology, otoacoustic emissions and audiometry, our R&D team has integrated these two tests with a range of other measures in its ELIOS handheld device.

Echodia products are designed and produced in France in accordance with current standards

Echodia, is:

- INNOVATION BASED ON YOUR NEEDS
- A PERFORMANCE AND QUALITY REFERENCE
- A SUSTAINABLE DEVELOPMENT STRATEGY
- A TEAM AT YOUR DISPOSAL

Listening at the core of innovation

Research and development: at Echodia, we are committed to an approach focused on your user experience, so that our future devices include the developments you need. Our projects thus aim to offer technological innovations in a way that is adapted to both practitioners and patients.

Electronic design: our engineers carefully develop the specifications for our electronic cards. They combine recent technologies and durability by selecting reliable components that are available over time.

Software development: navigation on our interfaces must be quick to understand and use, which is why we develop powerful and intuitive environments. The tools directly included in our applications simplify the execution of your measurements as well as their analysis.

Mechanical integration: each project is meticulously combined with ergonomic mechanical design. We imagine and analyze several prototypes in order to adopt the solution that combines design, comfort and robustness.

Manufacturing: we control our entire production chain, from component purchasing to calibration and assembly. At every stage, our qualified personnel prepare your equipment in compliance with complete and demanding technical files.

Quality control: before shipping, our products undergo rigorous checks to ensure that they function correctly and comply with all applicable standards.

Training: our commitment extends beyond the manufacture of our medical devices. We offer training courses tailored to your profile and field of practice.

After-sales service in France: our dedicated team is ready to answer any questions you may have and will take care of overhauling your equipment.

OUR RANGE

ENT DIAGNOSTICS

ELIOS

- EVOKED POTENTIALS
- OTOACOUSTIC EMISSIONS
- AUDIOMETRY

NEONATAL SCREENING

BABYSCREEN

- AUTOMATICS ABR
- AUTOMATICS TEOAE/DPOAE

AUDIOMETRY

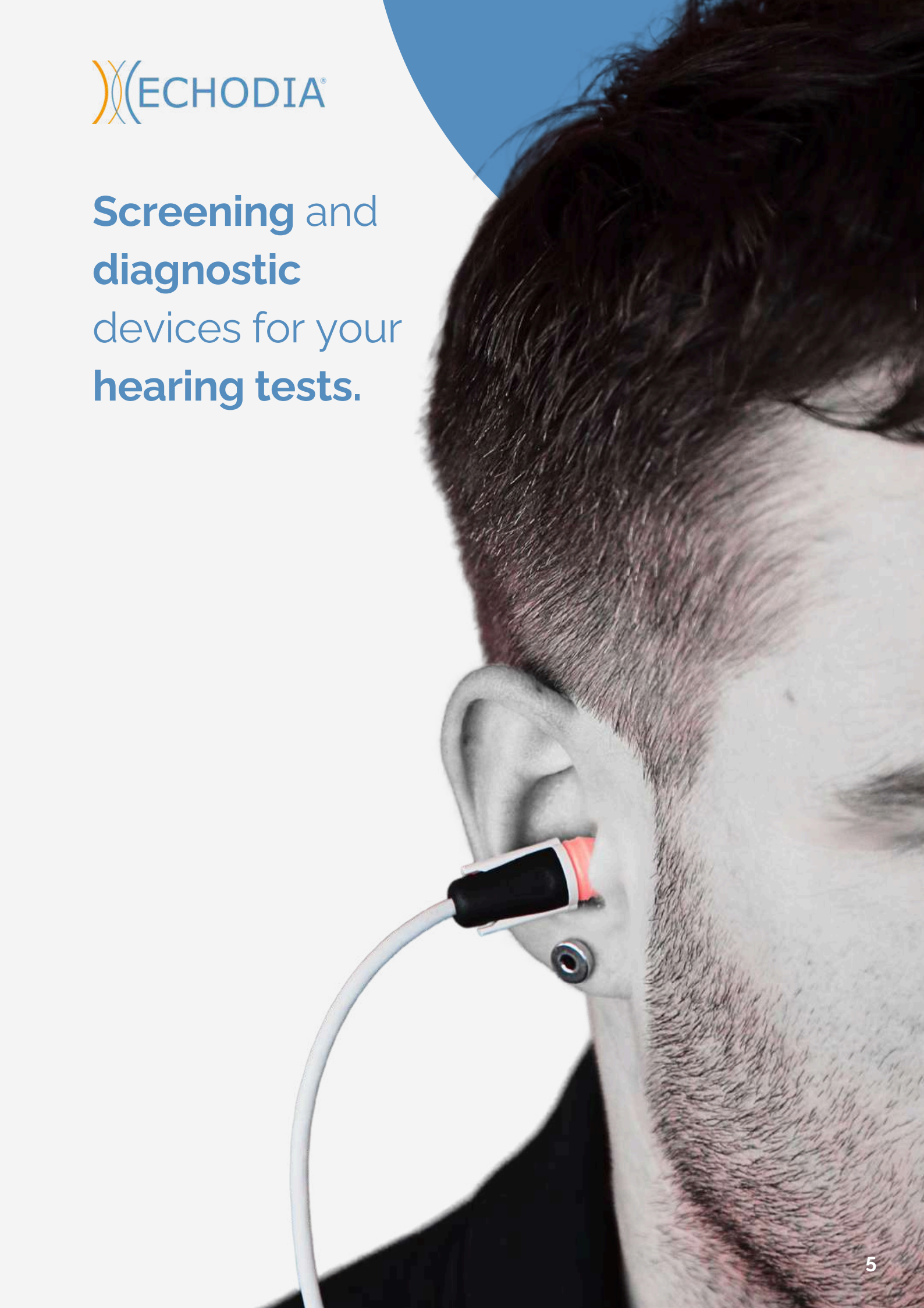
AUDIOSCHOOL — SCREENING

AUDIOSMART — DIAGNOSTIC

AUDIOBLUE — WIRELESS

ECHODIA®

Screening and **diagnostic** devices for your **hearing tests.**



EVOKED POTENTIALS

ABR (diagnostic and screening)
Auditory Brainstem Response,
«PREMA ABR» option included

oVEMP/cVEMP
Vestibular Evoked Myogenic Potentials

ASSR
Auditory Steady-State Response (only in connected mode)

DPMC
Cochlear microphonic potential phase shift

ECochG
Electrocochleography - non-invasive technique with gold electrodes

AUDIOMETRY

Air conduction
125 to 8 000 Hz, -10 to 110 dB HL, manual mode or automatic (ascending thresholds or Békésy)
High-frequency option, up to 16 000 Hz

Bone conduction
250 to 8 000 Hz, -10 to 70 dB HL, manual mode or automatic

Speech
Lists preloaded on the device

OTOACOUSTIC EMISSIONS

TEOAE (diagnostic and screening)
Transient Otoacoustic Emissions

DPOAE (diagnostic and screening)
Distortion Products of Otoacoustic Emissions

Shift-OAE
Distorsion product Otoacoustic Emission phase shift

ENT DIAGNOSTICS

Elios integrates up to **nine separate measurements.**

You design your device by selecting only those that are relevant to your activity. **You can choose** one or more additional measurements at any time.

The selection of your test modules includes their activation on your Elios unit and delivery of all necessary accessories.

Build it as you wish it

STAND-ALONE AND COMPUTER-BASED

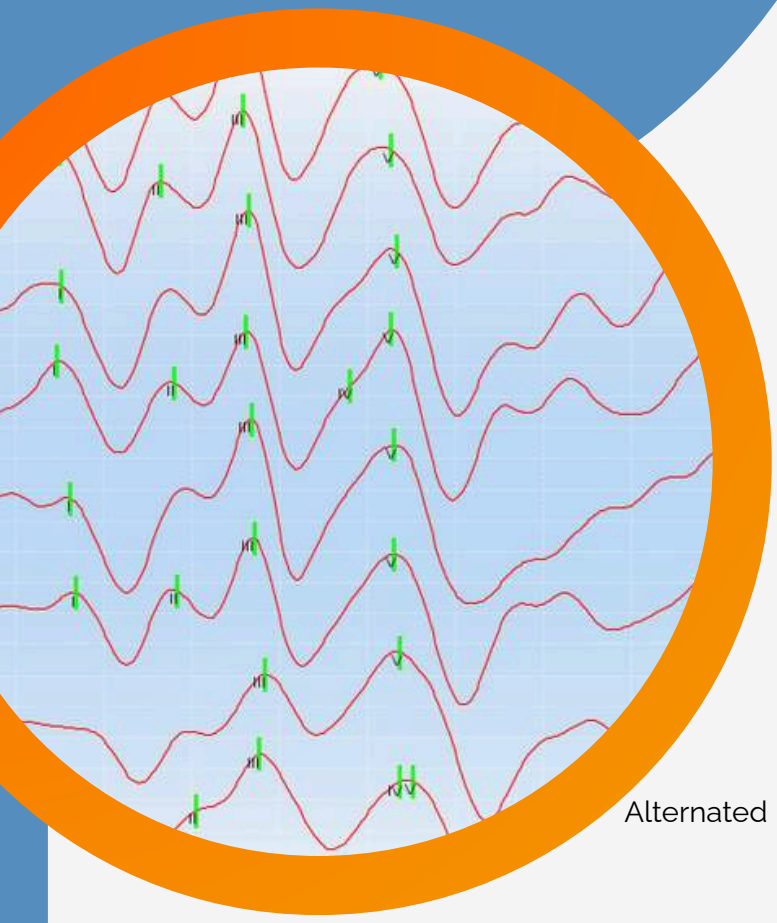
Two modes of operation are available:

Stand-alone
Use your device completely autonomously: lightweight, it fits easily in your hand and, thanks to its touch screen, you can carry out your tests and analyze the results directly on the device. All data can then be transferred to Echosoft.

Connected to Echosoft software
Connect your device to your PC/Mac using the USB cable supplied, then run your tests directly from Echosoft. Manage your database, consult results and print only those you want.

POWERFUL AND ERGONOMIC

We have combined the requests we received from private practitioners and hospitals with those from research laboratories to design an **intuitive interface** with several levels of options.
Whether you wish to collect screening measurements according to standard parameters, apply predefined protocols or launch customizable measurements as part of your clinical research, Elios and our design office will be able to meet your requirements.



EVOKED POTENTIALS

Five evoked potential tests are available on your ELIOS.

Its interface lets you control impedances, adapt the rejection threshold and analyze your curves even while you're taking the measurements..

ABR

Auditory Brainstem Response

Stimulators: Insert, DD45 headset, B71 vibrator

Stimulation: Clics (between 50 µs and 1 ms), Alternated Burst (250, 500, 1 000, 2 000, 4 000, 8 000 Hz)

Measuring window from 10 to 45 ms

Up to 50 stimulations par second

Sound intensity:
0 to 110 dB HL

cVEMP and oVEMP

Vestibular Evoked Myogenic Potentials
saccular and ocular

Up to 50 stimulations par second

Alternated Clics or Burst (250, 500, 1 000, 2 000, 4000, 8 000 Hz)

Measuring window up to 85 ms

Sound intensity:
0 to 110 dB HL

ASSR

Auditory Steady-State Responses

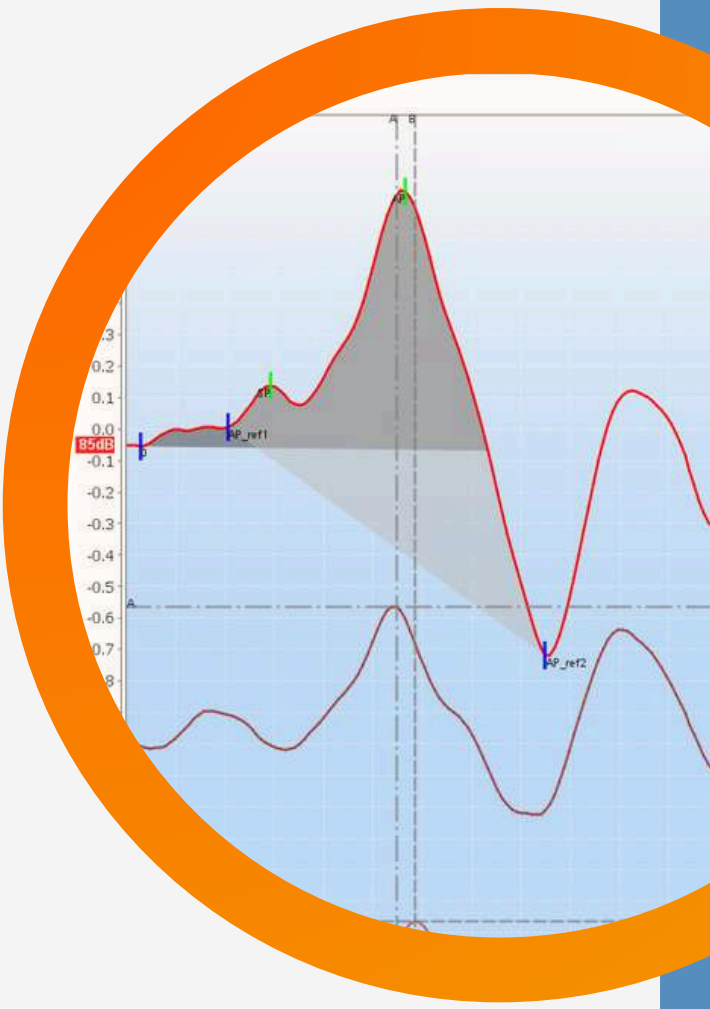
Via Echosoft

AM2 stimulation

Carrier at 500, 1 000, 2 000, 4 000 Hz

Modulation frequency at 40 Hz or 80 Hz

Sound intensity:
10 to 90 dB HL



ECOCHG - Hydrops

Electrocochleography

Up to 50 stimulations par second

Alternated Clics or Burst (250, 500, 1 000, 2 000, 4000, 8 000 Hz)

Measuring window from 10 to 45 ms

Sound intensity:
0 to 110 dB HL

DPMC - Hydrops

This world exclusive measurement belonging to ECHODIA, records the response time from external ciliate cells of the cochlea, electrophysiologically, following an acoustic stimulation called toneburst.

Our exclusive clinical studies have shown that the measured time is the image of the pressure in the perilymph.

DPMC monitoring makes it possible to observe isolated or reproducible pressure variations in the cochlea, and thus highlight cochlear hydrops.

OTOACOUSTICS EMISSIONS

Three OAE tests are available on your ELIOS.

For your comfort when taking measurements, they include automatic probe calibration, as well as leak and clogged conduit test.
TEOAE and DPOAE measurements include a "screening" mode identical to the one of our Babyscreen device. Find out more about this function on page 14.

Shift-OAE - Hydrops

Distorsion product otoacoustic emission phase shift

This measure, based on the collection of distortion products, records the response time of external ciliate cells of the cochlea.

Our exclusive clinical studies have shown that the measured time is the image of the pressure in the perilymph.
Monitoring Shift-OAE enables to observe reproducible or isolated pressure changes from the cochlea and thus highlight a cochlear hydrops.

A postural test (transition form standing up to lying down) causes an increase of intra-cochlear pressure (exaggerated in the context of Menière's disease).

TEOAE: diagnosis and screening

Transient Otoacoustic Emissions

Acoustic stimulation:
Alterning clicks, 4 clicks buffer

Number of stimulation:
from 200 to 5 000

Sound intensity:
40 to 95 dB SPL

Number of clicks/second:
from 10 to 100

DPOAE: diagnosis and screening

Distortion Products of otoacoustic emissions

Acoustic stimulation:
bitonal pure tone

Frequencies:
1 000, 1 500, 2 000, 3 000, 4 000, 5 000 Hz

Sound intensity:
50 to 75 dB SPL

AUDIOMETRY

Pure tone audiometry

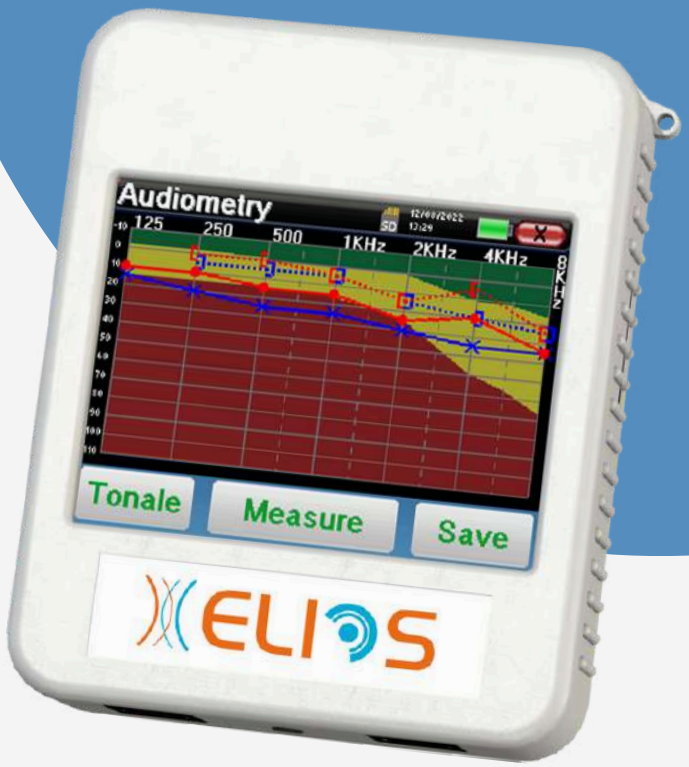
Two channels
Controlateral masking

Pure-tone Audiometry allows hearing thresholds screening for each ear in a frequency range from 125 up to 8 000 Hz.

Bone conduction evaluates performance of the inner ear and the auditory nerve, air conduction tests all of the acoustic function from the external ear to the auditory nerve.

The interpretation of the resulting audiogram allows to know the degree of hearing loss and the kind of deafness.

Pure tone audiometry also allows to find a discomfort threshold, or also the research for any tinnitus frequency.



Speech audiometry

Lists available in several languages
Choice of voice (male or female)
Random play of lists

Speech audiometry is a further investigation of the pure-tone audiometry.

It does not determines a threshold of perception, but a threshold of intelligibility of language, or discernment of phonemes.

This test confirms the pure-tone audiometry threshold and assesses the person's ability to understand speech.

MADE IN FRANCE

ECHOSOFT

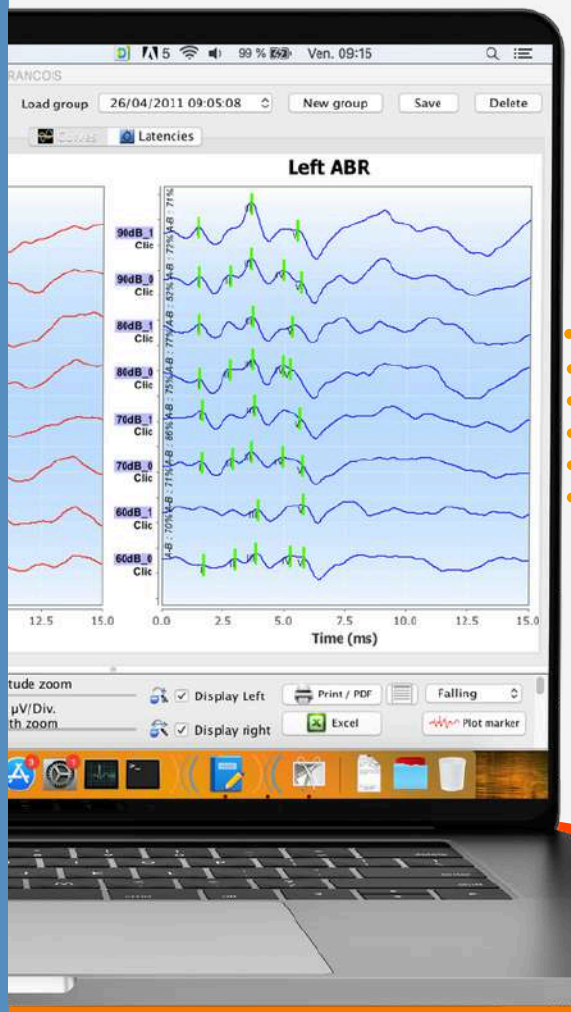
Connect the device to your computer via the supplied USB cable, and take your measurements directly from the software.
Echosoft also gives you access to advanced measurement parameters.
You can create scripts, fine-tune acoustic stimulation, compare measurement results and much more.

FREE

Software and updates available for free download from echodia.com

COMPATIBLE WITH ALL THE SYSTEMS

Whether you have a PC or a Mac, quickly transfer all your device's data to your computer.



INTUITIVE INTERFACE

Access your patient list directly, consult previous results and navigate easily through menus available in six languages.

POWER INCREASED

Extend the capabilities of your device by controlling it from the software. Echosoft gives you the flexibility of numerous additional, fully-configurable options for collecting measurements and displaying curves. You have complete control over all your measurements.

VIDEO TUTORIALS

Video tutorials available online to help you installing the software and carrying out your measurements.

EASY EXPORT

View the measurements you've already taken, analyze them with automatic help and add annotations before exporting them as PDFs or printing them out.

BABYSCREEN

NEWBORN SCREENING

Babyscreen is a neonatal screening device that includes **ABR, TEOAE** and **DPOAE** measurements. The screening tests are fast, accurate and, above all, automatic.

A PORTABLE DEVICE

The **optimal size** of the unit allows it to be easily integrated into maternity unit workflows.

Its lithium battery guarantees **5 hours** autonomy, and its memory capacity can store over 2,000 tests.

The touch screen simplifies the navigation. A touch of the stylus or your finger guides you through the various menus.

Its interface has been designed to optimize the tests implementation. Measurement results are instantly displayed on screen.

Based on the needs of neonatal teams, ECHODIA's research department has created a unique approach that takes into account the number of weeks of gestation: PREMA PEA.

FREE SOFTWARE SUPPLIED WITH THE DEVICE

Benefit from **free updates** including the latest news and enhancements.

Easily connect via USB and benefit from **Windows and Mac compatibility**. Our intuitive interface makes it easy to view your measurements.

Transfer data collected on the device to your computer and choose to **print** your results or **export** them in PDF format, while efficiently managing your patient database.

TECHNICAL CHARACTERISTICS

AUTOMATICS ABR/TEOAE/DPOAE
PERFORM TESTS ON THE DEVICE

Reliable tests performed quickly and accurately

TYPE OF TEST	TEOAE	DPOAE	AABR
ACOUSTIC STIMULATION	Alterning clicks	Bi-tone stimulation	Alterning clicks Chirps
CHARACTERISTICS	4 clicks buffer	1 000, 2 000, 3 000, 4 000, 5 000 Hz	Chirps: from 350 Hz to 7 kHz
SOUND INTENSITY	84 dB SPL	60 dB SPL	Clicks and Chirps: 40 dB HL (Clicks: from 0 to 80 dB, Chirps: from 35 to 45 dB)
CONTROL MEASURES	Automated calibration Leak test Clogged duct test		EEG activity Impedance test
AIMED DISEASES	Quick screening of endocochlear hearing loss		Quick screening of retrocochlear hearing loss
RESULTS	Test « Pass » / « Refer »		
KEY FEATURES	Clinical results available		Connection of 3 or 4 electrodes PREMA AABR (neonatology): integration of gestational age

AUDIOSCHOOL

Enter the results on the touch screen. Measurements performed on the device or computer with the possibility of consulting and managing the database on Echosoft.

Air conduction
125 to 8 000 Hz, -10 to 100 dB HL
Manual or automatic mode

AUDIOSCHOOL LITE

Use the touch screen to perform the measurements. Report the results on the provided audiogram notepad.

Air conduction
125 to 8 000 Hz, -10 to 100 dB HL
Manual mode

AUDIOSMART

Enter the results on the touch screen. The measurements are performed on the device or computer with the possibility of consulting and managing the database on Echosoft.

Air conduction
125 to 8 000 Hz, -10 to 110 dB HL
Manual or automatic mode (ascending thresholds or Békésy)
Optional: High frequencies 16 000Hz

Bone conduction
250 to 8 000 Hz, -10 to 70 dB HL
Manual or automatic mode

Speech
Lists preloaded on the device

OTOWIN

This audiometer connects to your computer using the Bluetooth standard. You can pilot the test remotely via the intuitive Otowin software.

The software also allows you to consult your database, create patient files, export and data.

Air conduction
125 to 8 000 Hz, -10 to 100 dB HL
Manual or automatic mode

AUDIOBLUE

OCCUPATIONAL HEALTH

The **AudioBlue** was designed specifically for health services in the context of screening and fitness for duty. The device connects to your computer using the Bluetooth standard. You can pilot the test remotely via the intuitive **Otowin software**. The software also allows you to consult your database, create patient files, export data and print them.

WIRELESS
AUDIOMETER

BLUETOOTH
TECHNOLOGY

SOFTWARE

Free software that comes with the device:
Free download of updates online (new improvements...)
Video tutorials available to help you install the software and perform the measurements
Perform and **consult** your measurements easily thanks to an intuitive interface
Print your results or **export** them to PDF
Manage your patient database

AN **INTUITIVE** OPERATION

Step 1: Pairing
No Bluetooth? Thanks to its Plug and Play USB connectivity,
you can use it on any computer
Step 2: Measure
Launch the measurement via the Otowin software.
Manually validate
the patient response or use the wireless response button
Step 3: Charge the battery
Its day of autonomy and its fast charge (up to 80 % in just 20 minutes) allow you to never run out of battery

Legal information

The devices presented in this catalog, designed by Électronique du Mazet, have been specially developed to meet the varied needs of healthcare professionals, from ENT specialists to neurologists, audiologists, pediatricians and occupational physicians, both in hospitals and in private practice.

Our devices

- **Elios**: specialized in ENT diagnostics and neonatal screening, it covers a broad spectrum of tests including PEA, ASSR, VEMP.
  (Ref. ECH001KP110, Class IIa, GMED n°0459)

- **Babyscreen**: ideal for neonatal screening, includes a choice of evoked potentials and/or otoacoustic emissions measurements.
  (Ref. ECH001KP120, Class IIa, GMED n°0459)

- **Audiosmart**: complete diagnostic audiometer for air, bone and speech audiometry; ideal for ENT doctors.
  (Ref. ECH001KP140, Class IIa, GMED n°0459)

- **Audioschool**: intended for school screening.
  (Ref. ECH001KP150, Class IIa, GMED n°0459)

- **Otowin:** for occupationnal medicine screening and diagnosis.
  (Ref. ECH001KP160, Class IIa, GMED n°0459)

- **Audioblue**: designed for audiometric screening and monitoring, operates wirelessly via the Bluetooth protocol.
  (Ref. ECH003KP100,Class IIa, GMED n°0459)

Please read the instructions supplied with each unit carefully. For further information, please contact Électronique du Mazet.

ECHODIA®

ENT SOLUTIONS ON DEMAND

A brand of

Electronique du Mazet

+33 (0)4 73 91 20 84
contact@echodia.fr

ZA, route de Tence
43520 Le Mazet-Saint-Voy
France