

EPIC-PLUS

■ (BERA) - Brain-Stem Evoked Response Audiometer
with Auditory EP - 2 Ch



*ABR, MLR, LLR, P300
E-ABR, ECoChG, VEMP
ASSR - FACIAL NERVE*

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Epic-Plus, A Unique Solution

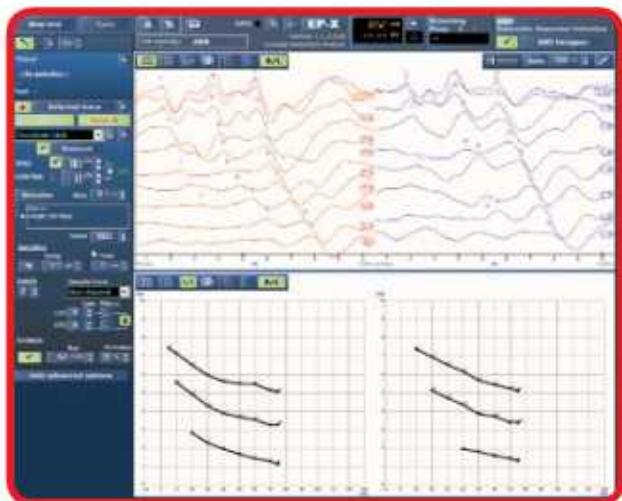
A state-of-the-art technology from Labat packed in EPIC PLUS Brain Stem Evoked Response Audiometer is capable to satisfy all the requirements of Audiology and Neuro-Otology fraternity.



USB connection to a PC is all it takes to convert it to a high definition Evoked Potential System for clinical or research applications.

Standard Equipment comes packed with the following features:

- **ABR, MLR, LLR, P300 & 40 Hz**
- **VEMP, E-ABR and ECochG:** Optionally procure the relevant Electrode Kit to activate that particular option.
- **Facial Nerve:** Need to procure Facial Nerve Stimulator optionally.
- **E-ABR:** Interfaces with various market available Cochlear implants.
- **ASSR:** Available as an option - hardware & software upgrade.

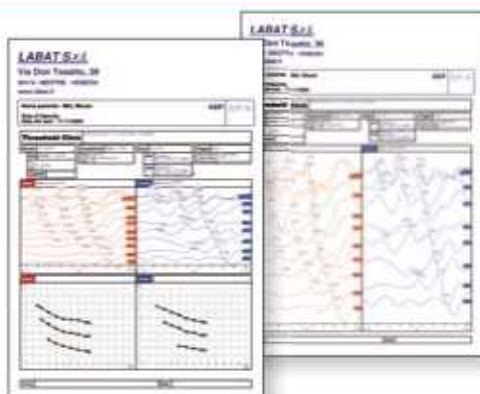


Preprogrammed or personalized tests

- Pre-programmed protocols with manual override allow to perform most of the tests with least no. of clicks.
- Provision to make customized protocols.
- Fast hearing threshold evaluation using automatic threshold protocols coupled with automatic "PASS" / "REFER" function.
- Automatic calculation of difference in latencies of right and left responses.

Printing of the Reports

ABR THRESHOLD



ABR



ASSR



- Unique Single software program communicates with all the LABAT Audiological Instruments.
- Common patient database for better management, allowing to view all the tests performed on each single patient.
- Sorting of statistical data by age, date, type of abnormality etc.
- Especially useful in neonatal screening to extract the "REFER" patients in order to recall them for next phase of testing.

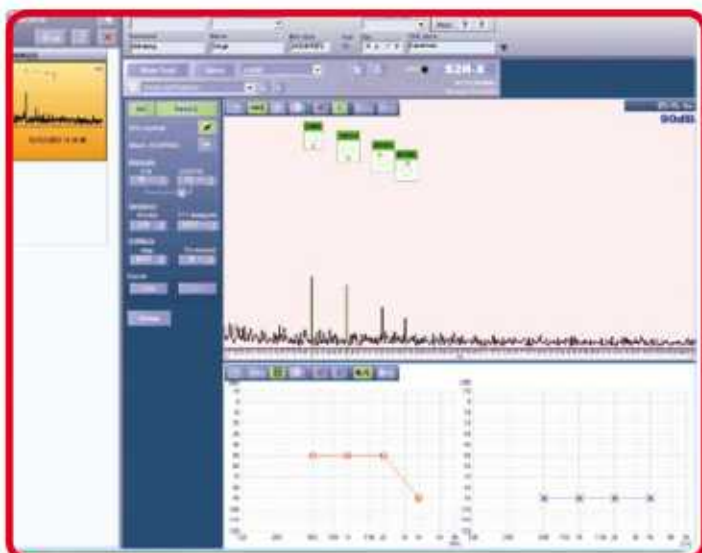
LAP
 Labat Audiologic Platform
 the most evolved
 audiological software.

VEMP Electrode Kit



ECochG Kit:
 TM Wick electrode + ER-3A Insert phones

Epic ASSR innovative and easy to use



Simple and Intuitive User's Interface

The ASSR option for the Epic-Plus E.P. system gives a pure tone at various frequencies that can be modulated in AM and/or FM mode at a continuous cycle ASSR, MSSR monaural or binaural and consist of:

- Additional software for the execution and analysis of the Steady-State test with real time FFT graphic during the acquisition.
- Electronic circuit board, to be inserted in the Epic's main unit, with polynomial two independent channels generator which allows the generation of AM / FM modulated tones at continuous cycle with carrier frequencies for 250 to 10,000 Hz.
- Programmable modulating frequency, programmable percentage of modulation in AM/FM. Contemporaneous number of generated frequencies from 1 to 10.

EPIC specifications

Epic is a PC-based Class 2 type Brain-Stem Evoked Response Audiometer performing Auditory and Oto-Neurological test.

ACQUISITION

- Number of channels: 2
- Acquisition mode: 16 bit ADC, optically isolated
- CMRR: > 100 dB
- Low pass filters: from 5 Hz to 5,000 Hz programmable
- High pass filters: OFF to 500 Hz
- Smoothing: OFF to 8KHz, preset for selected test
- Amplifier gain: programmable 1 to 50
- Analysis time: from 1 to 999 ms
- Stimulation rate: from 1 to 100 Hz
- Trigger in: TTL standard
- Trigger out: TTL standard

ELECTRODE IMPEDANCE

Built-in meter for each channel, monitoring single electrode (Z+ and Z-) and differential impedance

ACOUSTIC STIMULI

- Type of stimuli: Click, Logon, Tone pip and Tone bursts
- Masking: white noise, contralateral
- Outputs: AC R, AC L, AC Binaural, BC R, BC L and BC Forehead
- Stimulus polarity/phase: positive, negative, alternate
- Click: rarefaction, condensation, alternate
- Phase: 0° - 90° - 180° - 270° & 360° programmable

FREQUENCY RANGE (Hz)

STIMULUS	TDH-49	ER-3A	B71 BC
LOGON	125-8,000 Hz	125-8,000 Hz	250-6,000 Hz
BURSTS	125-8,000 Hz	125-8,000 Hz	250-6,000 Hz

MAXIMUM OUTPUT (dB)

STIMULUS	dB	TDH-49	ER-3A	B71 BC
CLICK	Pe SPL	128	128	80
LOGON	Pe SPL	128	115	80
BURSTS	HL	120	110	70
MASKING	SPL	110	110	N/A

AEP STANDARD ACCESSORIES

- Paired TDH-49 supra-aural phones
- AEP 2 channels preamplifier
- Patient push-button
- CDROM with software including all test modalities
- Ag/AgCl surface electrode kit
- Abrasive paste
- Conductive paste
- 15 V external power supply for medical equipment
- Power cord set, universal GND cable

- USB port: built-in - USB cable provided
- Instruction Manual (Soft Copy)
- Carrying case

AEP OPTIONAL ACCESSORIES

- ECoChG kit, including ER-3A insert phones, electrode cable for ECoChG test and ECoChG electrode
- Newborn AEP pre-jelled surface electrodes
- B71 BC Vibrator
- Footswitch for Facial Testing
- Technical manual (on demand)

STIMULUS CHARACTERISTICS

Click	10, 20, 50, 100, 200, 500, 1000 ns
LOGON	Envelopes according to EN 60645-3 Duration depends on selected frequency
BURSTS	Plateau: programmable from 1 to 500 ms Rise-fall time: programmable from 1 to 500 ms
MASKING	Continuous, contralateral

TOTAL HARMONIC DISTORTION

- < 1%

FREQUENCY ACCURACY

- better than 1%

SIGNAL TO NOISE RATIO, ON/OFF RATIO, CROSS-TALK

- > 70 dB

POWER SUPPLY

- Power supply: external 15 V
Switching Power Supply 100-240 Vac;
50/60 Hz for medical equipment
- Power Consumption: 800 mA max

ENVIRONMENTAL

Shipping/storage temperature: -20° to +50°C; -4°F to +122°F
Operating temperature: +10°C to +40°C; +50°F to +104°F
Operating relative humidity: 30% to 90%, not condensing

MECHANICAL

Dimensions: cm 27,5 (w) x 29,5 (d) x 6 (h)
- 10.8" (w) x 11.6" (d) x 2.4" (h)
Weight: 1000 grams (2.2 lbs) net - shipping 7 kilos (15.4 lbs)

STANDARDS

AUDIOMETRY

EN 60645-1 (1994), EN 60645-3 (1995);
ANSI S3.6 (1996); EN ISO 389 (1995)

SECURITY

EN 60601-1 (1990) Class II - Type BF;
EN 60601-1-1 (2000) - ENC EN60601-1-2 (2001)

Specifications and features can be changed without notice.



Manufactured by:

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