



## MB 11

- Patented **CE-Chirp®** stimulus reduces test times
- Virtually “no cost” or low cost supplies reduce program costs
- Classic and BERApone® hardware models offer choices to meet your program needs

## ABR Screener

### Excellence in Newborn Hearing Screening



- Re-usable electrodes and integrated earphone reduce operating costs significantly
- Eco-friendly technology reduces medical waste
- Baby-friendly - no discomfort caused by pulling adhesive disposables off of baby's skin



child friendly / eco-friendly

## The Only Automatic ABR Screener without Adhesive Electrodes



Apply electrode gel at the 3 electrode sites on the baby's head



Place a drop of electrode gel on the integrated electrodes



Position the BERAphone® ear cushion around the baby's ear, resting the electrodes on the prepared sites

## Why Screen with Automatic ABR?

The auditory brainstem response (ABR) reflects the function of the entire auditory pathway up to the brainstem. While both ABR and the alternate screening technology of otoacoustic emissions (OAE) detect cochlear hearing loss, only ABR detects auditory neuropathy.

## Fast Test Times

Fast rate ABR technology with patented CE-Chirp® stimulus leads to faster test times

## Compatible with NHS Databases

Comply with reporting requirements (HiTrack, OZ eSP™, Auris, California Data Management Service)

## USB-Powered Hardware

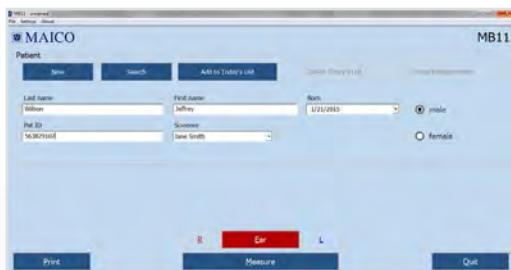
Combine MB 11 with a laptop PC to test on battery power; avoid rebooting as you move the system

## Custom Cart Package (optional)

Easy transport from room to room; locked compartment for laptop security and storage for supplies



## User-Friendly Software



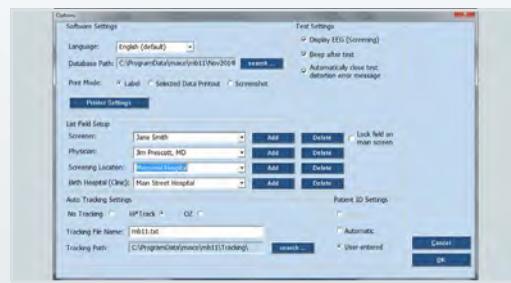
Simple user interface enhances ease of training.



"Traffic light" display for electrode contact and test quality provides easy to understand feedback to screeners.



Patented chirp stimulus and advanced response detection algorithm allow fast test times.



Oz and HiTrack compatible export functions available.

# MB 11 Classic - Advanced Technology, Familiar Technique



**Test both ears  
simultaneously  
to save time**

- Familiar hardware and disposables streamline training of screeners
- Choose between EarCups or in-the-ear tips based on your preference and budget
- Combine Classic and BERPhone® hardware on one system for ultimate flexibility

## MAICO's Long History of Hearing Instrument Manufacturing

The Medical Acoustic Instrument Company (later shortened to MAICO) was founded in 1937 in Minneapolis, MN. MAICO designed and produced the first hearing test instrument with a "zero reference level", coining the term "audiometer". For the first time it was possible to accurately measure hearing loss.

Since then, MAICO has continued to design and manufacture screening and diagnostic test instruments for the hearing healthcare industry. The MB 11 BERPhone® and Classic evolved over 12 years of research and development. They are intended to generate auditory brainstem response (ABR)-based measurements for newborn hearing screening, providing a Pass/Refer result. Use of the MB 11 Screener does not require special technical skills or interpretation of results.



# Big Savings with the MB 11

How much money can YOUR newborn hearing screening program save by using a MAICO MB 11 BERApone® or Classic?

## Let's See!

Even if Popular Brand X new system price is significantly discounted, the major savings using MB 11 is in the cost of disposables over the life of the system



**Think your current system is too new for replacement?**

**Think again!**

MANUFACTURER & MODEL	POPULAR BRAND X	MAICO MB 11 CLASSIC USING EARCAPS	MAICO MB 11 CLASSIC USING IN-THE-EAR TIPS	MAICO MB 11 BERApone®
List price	\$23,500	\$18,990	\$18,990	\$19,690
Disposable cost per baby	\$12.00	\$7.00	\$3.25	\$0.25
Babies screened per year	2000	2000	2000	2000
Annual disposable costs	\$24,000	\$14,000	\$6,500	\$500
Estimated cost savings 1st year	_____	\$14,510	\$22,010	\$27,310
Estimated cost savings over 5 years	_____	\$54,510	\$92,010	\$121,310
Cost/baby amortized over 5 years	\$14.35	\$8.90	\$5.15	\$2.22
Disposables required	Disposable ear couplers and electrodes	Disposable ear couplers and electrodes	Disposable eartips and electrodes	Electrode gel and disinfectant wipes
Advantages/Challenges		<ul style="list-style-type: none"> <li>• Test both ears at the same time</li> <li>• Very fast test times</li> <li>• Fast learning curve and easy transition for screeners that are experienced using ABR systems using ear couplers</li> <li>• Cost savings = \$\$</li> </ul>	<ul style="list-style-type: none"> <li>• Fast learning curve for screeners that have experience using in-the-ear tips</li> <li>• Fast test times especially if testing both ears at the same time</li> <li>• Cost savings = \$\$\$</li> </ul>	<ul style="list-style-type: none"> <li>• Fast test times</li> <li>• Cost savings = \$\$\$</li> <li>• No other ABR device like this in the market; requires learning a new technique &amp; procedure</li> </ul>

# MB 11 - Specifications

## Technical Data

### MB 11 BERPhone®

Standards: IEC 601-1, IEC 645-3

Stimulus type: CE-Chirp Stimulus

Stimulus rate: 93/s

Stimulus intensity: 35 dB nHL

Sample rate: 16 kHz

EEG filter: 125 Hz – 1.25 kHz

Quality control: Integrated LED on BERPhone® and display in software with signal quality or with EEG display

Operating conditions: + 59 to +95°F, (+15 to +35°C);

Maximum humidity 75%

Storage conditions: +41 to +122°F, (+5 to +50°C);

Maximum humidity 90%

Speaker: BERPhone®: integrated, dynamic wideband speaker (8Ω)

Electrodes: BERPhone®: reusable, stainless steel electrodes with gel protectors.

Preamplifier: Integrated, 87 dB amplification (23,000 x)

BERPhone® weight: 10.59 oz, (300 g)

USB box weight: 5.83 oz, (165 g)

USB box dimensions: 4.73 x 3.55 x 1.19 in, (12 x 9 x 3 cm)

Power supply: via USB port of computer

Power consumption: max 400 mA

### STANDARD COMPO-

### NENTS - MB 11 BERPhone®

BERPhone® unit

Additional set of stainless steel electrodes with gel protectors

USB connection cable

Carrying bag (not provided with cart option)

Electrode gel (2 bottles)

Disinfectant wipes (1 tub)

MB-11 software on USB Flash Drive or CD

Operation Manual

Quick Guide

Cradle for BERPhone®

### MB 11 Classic

Standards: IEC 60601-1, IEC 60645-3

Stimulus type: CE-Chirp Stimulus

Stimulus rate: 93/s

Stimulus Intensity: 35 dB nHL

Sample rate: 16 kHz

Quality control: Integrated LED on Amplifier hardware and display in software with signal quality or with EEG display

Operation conditions: + 59 to +95°F, (+15 to +35°C);

Maximum humidity 75%

Storage conditions: +41 to +122°F, (+5 to +50°C);

Maximum humidity 90%

Transducer: ER3A insert earphones

Electrodes: Disposable snap

Preamplifier: Integrated, 87 dB amplification (23,000 x)

USB box weight: 5.83 oz, (165g)

USB box dimensions: 4.73 x 3.55 x 1.19 in, (12 x 9 x 3 cm)

Power supply: Via USB port of computer

Power consumption: Max 400 mA

### STANDARD COMPONENTS - MB 11 Classic

MB 11 Classic with preamplifier and USB box

USB cable

Set of 3 pinch clip electrode leads

Ear-tone ER3a insert earphones with either EarCup adapters and tubes or with the infant eartip adapters and tubes

Sanibel EarCup couplers, snap electrodes and electrode skin prep pads (1 box of 20 sets) OR

Disposable eartips (3-5 mm and 4-7 mm sizes) and snap electrodes

NuPrep skin preparation gel (1 tube)

MB 11 software on USB flash drive

Operating Manual

Quick Guide

## Testimonials



Infant Hearing Screening Specialists (IHSS) provide newborn hearing screening services for 79 hospitals across the state of California. In 2009, IHSS began using the Maico MB 11 BERaphone auditory brainstem response (ABR) screening system in many of our hospitals, replacing the traditional ABR screening systems that use disposable electrodes and ear couplers. The BERaphone features reusable stainless steel electrodes and a reusable ear cushion avoiding the expense of disposables and offering an eco-friendly screening ABR option, reducing the amount of waste. A small amount of water-soluble electrode gel is used to prepare the baby's skin at the electrode sites and a disinfectant wipe is used to disinfect the device after use. Considering the cost of these consumables, each screening using the BERaphone costs approximately \$0.25 for supplies. This is in contrast to the \$1.00 - \$13.00 per screening that IHSS spent using legacy OAE and ABR screening devices. In 2014, IHSS screened 140,762 newborns using the BERaphone for a cost savings of \$850,000 compared to what it would have cost using disposables. In 2014, the average refer rate across the hospitals in which the BERaphone was used was 3.55% with a range of 1.0 - 6.9%. This refer rate was comparable to the refer rates achieved in other hospitals that have not yet transitioned to the BERaphone.

The transition from a traditional ABR screener to the BERaphone presented some early challenges for screening staff. The BERaphone must be hand-held over the baby's ear to maintain electrode contact to the scalp during the screening. The skin preparation procedure was different from the other devices they had been using. Changing the behavior of individuals who had become comfortable with a device that used disposables was not easy for everyone. There was a period of resistance and frustration from some of the screeners as they worked to master the new procedure and techniques needed to use the BERaphone. Using the Maico MB 11 BERaphone, IHSS is saving money and reducing waste sent to landfills, while continuing to provide high quality hearing screening outcomes for our partner hospitals. IHSS screeners have adapted to the BERaphone and now prefer it to disposable-based ABR devices. Their experience with the BERaphone is that testing is faster than with traditional systems. Additionally, there is less discomfort for the baby since there are no adhesive disposables to remove after the screening which parents greatly appreciate. IHSS now uses the Maico MB 11 BERaphone as the ABR screening device of choice in 68 of its hospitals and is working toward replacing all the remaining traditional systems currently in use.



INFANT HEARING SCREENING SPECIALISTS

# Testimonials

*"Our nurses have been performing ABR hearing screening tests for many years at our hospital. Since our equipment was old and needed to be replaced, I decided to try the Maico MB 11 Classic that I had seen at a recent nursing conference. It took our nurses a few days to transition to some differences in the hardware and software. Very soon, however, the fast speed of the screenings convinced everyone that using the MB 11 Classic was a time-saver compared to screening with our old device. Plus my Director of Maternal & Child Health is thrilled that the MB 11 EarCups and electrodes cost so much less than the other manufacturer's disposables. I am so happy that we tried the Maico MB 11 Classic. We found an ABR hearing screener that is faster to use and more economical for our program."*

## **- Newborn Hearing Screening Program Manager**

*"I have been doing hearing screens for over 10 years. When my program administrator told me we were going to try out a different device, I was not happy about having to learn a new system. But now that I have been using the Maico MB 11 BERAphone for a few weeks, I have to admit that I am blown away by the speed of the screenings. It takes so much less time to complete a "refer" test and the passes are also generally much faster than with the previous equipment. I now have more time to spend with my patients. I'm happy that I tried something new."*

## **- Staff nurse – newborn nursery**

*"I received a brochure in the mail regarding the Maico MB 11 ABR newborn hearing screener. The Nurse Manager of our Newborn Nursery had recently contacted me about replacing our current hearing screening device, which was 7 years old. Since the brochure said there was a big potential for cost-savings on disposables using the Maico screener, I suggested the Nurse Manager give it a try. Her nurses trialed the MB 11 Classic. The nurses transitioned easily to using the Classic since the screening procedure was very similar to the device they were currently using. They really liked the device because the tests are so much faster to perform. We purchased the Classic and now the hospital is saving approximately 30% in disposable costs, which was a major goal from my perspective."*

## **- Hospital Purchasing Director**



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