



# ERO·SCAN

Otoacoustic Emission Testing

## ERO•SCAN OAE Testing for all ages

### Newborns



### School Children



### Toddlers



### Adults



#### ERO•SCAN – Screening Version

The ERO•SCAN with screening function is the smart choice for professionals involved in a hearing screening program or needing a quick assessment of the cochlear system due to the „Pass“ or „Refer“ outcomes provided. This device can be used for all age groups but is an ideal solution for screening newborns, infants, pre-school and nursery children.

- Qualified protocols built into the device
- 2 DPOAE and 2 TEOAE screening protocols available
- Integration to state tracking systems, HiTrack or OZ Diagnostic

#### ERO•SCAN – Diagnostic Version

The ERO•SCAN with diagnostic function offers advanced applications. It is suitable for pediatricians, but also adapting to the special needs of otologists, audiologists and otolaryngologists. It provides objective information about hearing with only one test to identify outer hair cell function in the cochlea.

- 5 DPOAE and 3 TEOAE diagnostic protocols available of which 4 DPOAE and 2 TEOAE are customizable protocols
- TEAOE available as an upgradeable option

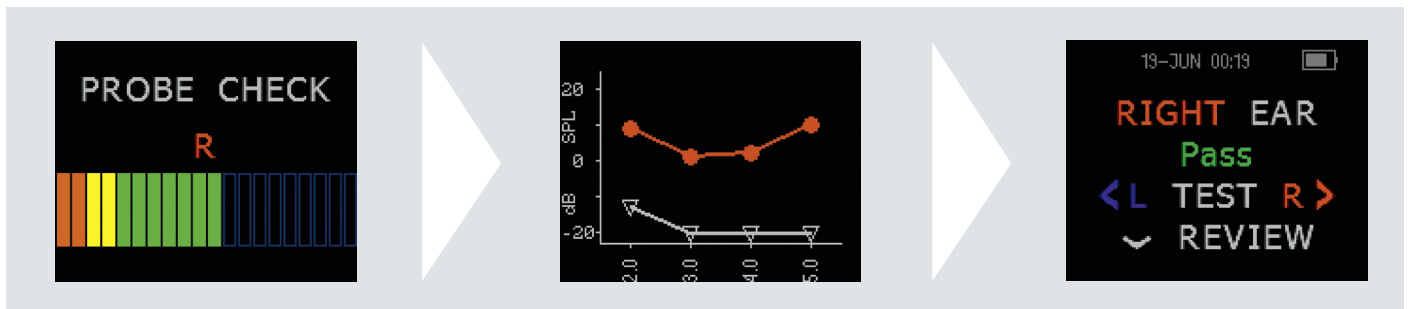
## ERO•SCAN Benefits

The MAICO ERO•SCAN is an easy and safe to handle device for frequency specific TEOAE and / or DPOAE testing. Appropriate to your needs you can choose between the ERO•SCAN with screening or diagnostic functions.

- Performing screening and diagnostic measurements of TEOAE and / or DPOAE
- Sharp, colored organic LED display
- Fast automatic testing with Pass / Refer outcome and graphical test result
- High noise immunity for operation in normal clinical environment
- Lightweight, small earprobe
- Wireless communication to PC and optional printer
- Multiple, easily selected language options



## ERO•SCAN Benefits



### Results are displayed as Pass or Refer

The equipment is automated and will provide easy to read and easy to interpret results. Training is quick and extremely intuitive!

### Test is completely objective

No response from the patient is necessary.

### Accurate results, high noise immunity

The patented ERO•SCAN noise algorithm allows for reliable testing in background noise and babble as high as 55 dB<sub>SPL</sub> to 65 dB<sub>SPL</sub> which means fewer false refer results.

### Test both ears in less than a minute

Testing takes less than 30 seconds per ear.

### Memory

The ERO•SCAN contains memory to store 250 tests.

### Portability

The small and lightweight ERO•SCAN supports serial examinations. The handheld unit is rechargeable with a minimum of 1000 tests before recharging. The remote probe makes it easy to maneuver around the head of your patient to attain a tight ear seal.

### Managing data

Printing reports and tracking data is easy with the database.

### State reporting

The database integrates data into HiTrack or OZ.

## MAICO ERO•SCAN Disposables

### Sanibel™

Sanibel™ Supply is the exclusive supplier of MAICO ERO•SCAN disposables.

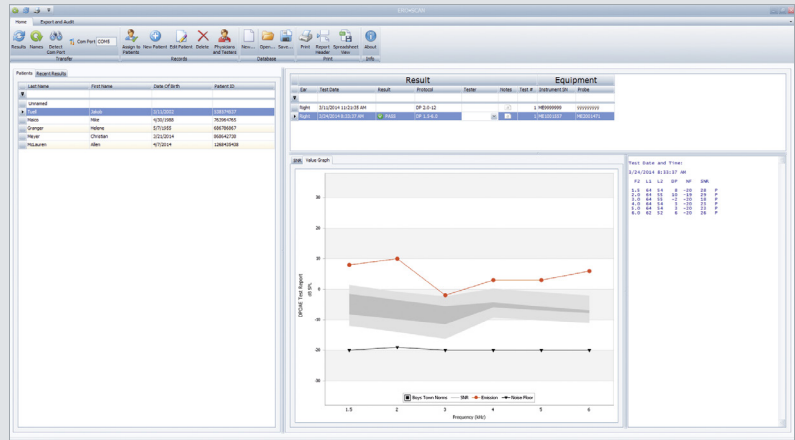
Use only Sanibel™ disposables to achieve optimal test results.

**Sanibel**  
Supply

## ERO•SCAN Standard Components

### Database Software

- Transfer patient names to ERO•SCAN
- Download test results from system to database
- Store patients details and data
- Export data to Hi-Track or OZ
- Print full page color reports
- Attach reports as PDF to electronic medical records



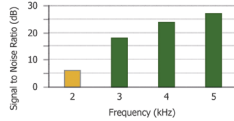
Using the database software also gives you the means to create letter sized, detailed reports that can be easily filed or faxed. You can also create a "paperless" office by saving the test results as a PDF for electronic filing or email.

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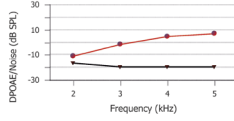
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**Patient Name:** **Smith John**      **Patient ID:** 578264  
**Date of Birth:** 1/1/2014  
**Sex:** Male

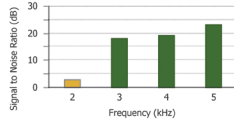
**DPOAE Test Report**  
**Right Ear: PASS**  
 Test Date: 2/26/2014 1:50:24 PM      Protocol: DP 4s      Avg Time: 4  
 Instrument: V100.05 ME0000115 MEdemo34      Frequencies: 4, minimum for a pass: 3



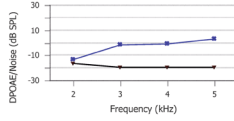
F2	L1	L2	DP	NF	SNR
2.0	65	55	-11	-17	6
3.0	65	57	-2	-20	18
4.0	67	56	4	-20	24
5.0	66	55	7	-20	27




**DPOAE Test Report**  
**Left Ear: PASS**  
 Test Date: 2/26/2014 1:51:17 PM      Protocol: DP 4s      Avg Time: 4  
 Instrument: V100.05 ME0000115 MEdemo34      Frequencies: 4, minimum for a pass: 3



F2	L1	L2	DP	NF	SNR
2.0	65	52	-14	-17	3
3.0	62	53	-2	-20	18
4.0	63	53	-1	-20	19
5.0	63	53	3	-20	23



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## ERO•SCAN Features



## Configurations

	DPOAE	TEOAE	DPOAE + TEOAE	
Screening Version	<p><b>Screening DPOAE</b></p> <p>2 Fixed protocols (2/4 sec) Frequencies: 2–5 kHz Pass: 3 out of 4 frequencies Intensity: 65/55 dB SNR: 6 dB</p>	<p><b>Screening TEOAE</b></p> <p>2 Fixed protocols (32/64 sec) Frequencies: 1.5–4 kHz Pass: 3 out of 6 frequencies Intensity: 80 dB SPL SNR: 4 dB</p>	<p><b>Screening DPOAE</b></p> <p>2 Fixed protocols (2/4 sec) Frequencies: 2–5 kHz Pass: 3 out of 4 frequencies Intensity: 65/55 dB SNR: 6 dB</p>	<p><b>Screening TEOAE</b></p> <p>2 Fixed protocols (32/64 sec) Frequencies: 1.5–4 kHz Pass: 3 out of 6 frequencies Intensity: 80 dB SPL SNR: 4 dB</p>
Diagnostic Version	<p><b>Diagnostic DPOAE</b></p> <p>4 Configurable protocols Frequencies: 1.5–12 kHz Frequencies for Pass: 0–6 Intensities: 40–70 dB SPL SNR: 3–10 dB Averaging Time: 0,5, 1, 2, 4 sec</p>	<p><b>Diagnostic TEOAE</b></p> <p>2 Configurable protocols Frequencies: 0.7–4 kHz Frequencies for Pass: 0–6 Intensity: 80 dB SPL SNR: 3–10 dB Averaging Time: 8, 16, 32, 64 sec</p>	<p><b>Diagnostic DPOAE</b></p> <p>4 Configurable protocols Frequencies: 1.5–12 kHz Frequencies for Pass: 0–6 Intensities: 40–70 dB SPL SNR: 3–10 dB Averaging Time: 0,5, 1, 2, 4 sec</p>	<p><b>Diagnostic TEOAE</b></p> <p>2 Configurable protocols Frequencies: 0.7–4 kHz Frequencies for Pass: 0–6 Intensity: 80 dB SPL SNR: 3–10 dB Averaging Time: 8, 16, 32, 64 sec</p>
	<p><b>Screening DPOAE</b></p> <p>1 Fixed protocol (4 sec) Frequencies: 2–5 kHz Pass: 3 out of 4 frequencies Intensity: 65/55 dB SNR: 6 dB</p>	<p><b>Screening TEOAE</b></p> <p>1 Fixed protocol (64 sec) Frequencies: 1.5–4 kHz Pass: 3 out of 6 frequencies Intensity: 80 dB SPL SNR: 4 dB</p>	<p><b>Screening DPOAE</b></p> <p>1 Fixed protocol (4 sec) Frequencies: 2–5 kHz Pass: 3 out of 4 frequencies Intensity: 65/55 dB SNR: 6 dB</p>	<p><b>Screening TEOAE</b></p> <p>1 Fixed protocol (64 sec) Frequencies: 1.5–4 kHz Pass: 3 out of 6 frequencies Intensity: 80 dB SPL SNR: 4 dB</p>

## Specifications

### MICRO-PROBE SPECIFICATIONS

#### Measurement Type

Distortion Product Otoacoustic Emissions (DPOAE)

Transient Evoked Otoacoustic Emissions (TEOAE)

#### Frequency Range

##### Screening Version

DPOAE: 2.0 kHz to 5.0 kHz

TEOAE: 1.5 kHz to 4.0 kHz

##### Diagnostic Version

DPOAE: 1.5 kHz to 12.0 kHz

TEOAE: 0.7 kHz to 4.0 kHz

#### Stimulus Intensity Range

DPOAE: 40 dB<sub>SPL</sub> to 70 dB<sub>SPL</sub>

TEOAE: 80 dB<sub>SPL</sub> peak equivalent ( $\pm 3$  dB)

#### Microphone System Noise

-20 dB<sub>SPL</sub> at 2 kHz (1 Hz bandwidth) /

-13 dB<sub>SPL</sub> at 1 kHz (1 Hz bandwidth)

#### Dimensions and Weight

Length: 1.0 m

Weight: 28 g

### INSTRUMENT SPECIFICATIONS

#### Power Supply

Lithium-Ion rechargeable

#### Batterie Life

minimum 1000 tests per charge,

minimum 20 hours on-time

#### Dimensions and Weight

66 mm x 31 mm x 145 mm

176 g

#### User Interface

OLED display, 4-button keypad

### PRINTER OPTIONAL

#### Printer Type

Thermal dot matrix

#### Speed

50 to 80 mm / second

#### Operating noise

< 50 dB<sub>SPL</sub>

#### Power supply

7.4 V lithium battery or mains

100 V to 240 V 50/60 Hz

#### Printer weight

197 g

#### Data transfer

Wireless

### GENERAL

#### Standards

IEC 60601-1 according to medical device directive 93/42/EEC

FDA 510 (k) #980533 23.3.1998

#### PC-Interface

USB micro

#### Standard Components

Device with rechargeable battery and probe; Eartip set (110 pc.);

Eartip removal tool; Replacement probe tubes; Carrying case; PC

Software incl. database; Power supply

### POWER SUPPLY SPECIFICATIONS

**Model No:** UE08WCP-50160SPA

**Output:** 5.0 V DC, 1.6 A

**Input:** 100 V-240 V AC, 50 Hz-60 Hz, 400 mA

## MAICO ERO•SCAN Components and Accessories



ERO•SCAN device



Wireless printer



ERO•SCAN probe



Eartip box



Carrying case

This brochure contains only a small segment of the comprehensive product portfolio of MAICO. To find out more about other solutions, please contact us.



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