

# ERO•SCAN™

## OAE Test System



**The most popular OAE hearing screener in the nation.**

Otoacoustic emissions have emerged as an integral part of hearing screening and early detection programs.

**The EroScan provides fast and objective inner ear assessment for:**

- Infants
- Toddlers
- School Children
- Adults

For a free "Guide to OAEs" containing common diagnosis and ICD-9 codes, please contact Maico Diagnostics or visit our website at [www.maico-diagnostics.com](http://www.maico-diagnostics.com)

**EXCELLENCE IN HEARING SCREENING**      **SINCE 1937**



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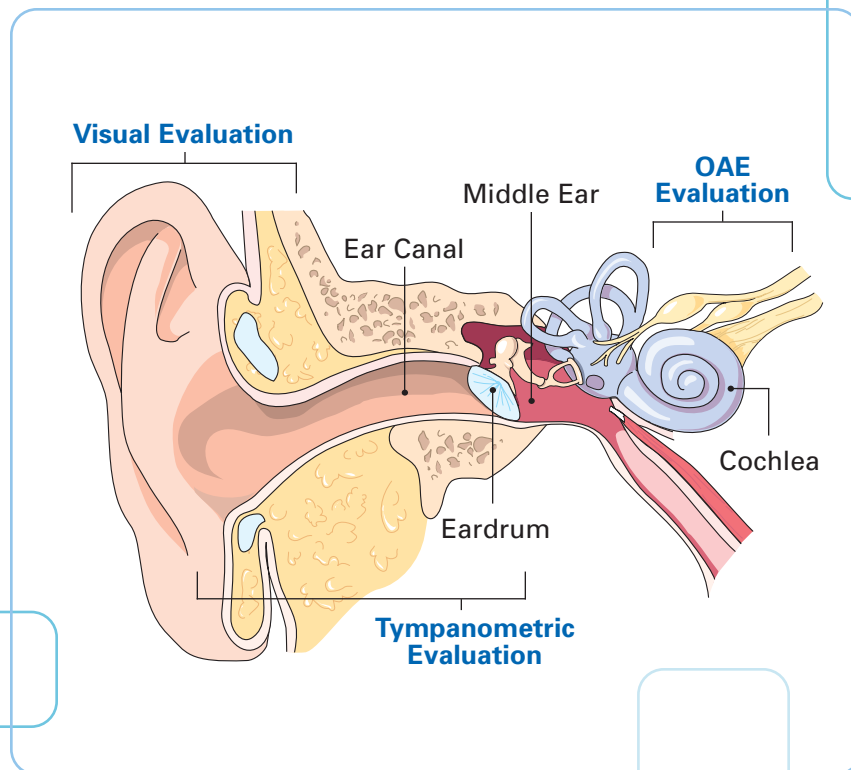
## OAE Test System

### Otoacoustic Emissions (OAEs)

Otoacoustic emissions are sounds that are produced by the cochlea (outer hair cells) and can be measured in the ear canal. When sound passing through the ear canal reaches the cochlea, the vibration stimulates thousands of tiny hair cells. This creates a byproduct that can be detected and measured: otoacoustic emissions.

OAEs only occur in a normal cochlea with normal hearing sensitivity. If there is damage to the outer hair cells, which produces hearing loss, then OAEs will not be present. In general, OAEs will be present if hearing is at 30 dB or better.

**PASS test results mean OAEs were detected. If there is damage to the outer hair cells producing a mild hearing loss, OAEs may not be present. The test result is REFER and the patient may be at risk for possible communication handicaps and can benefit from further diagnostic assessment.**



### The Maico ERO•SCAN

The Maico EroScan is a tool that can fit any practice whether you perform hearing screening (protocol of 4 frequencies) or diagnostic testing (protocol of 6 frequencies or more) using DPOAE, TEOAE or both.

#### Test both ears in less than a minute

Both screening and diagnostic testing generally takes 10 to 30 seconds per ear.

#### Results are displayed as PASS or REFER

No need for interpretation. The equipment is automated and will provide easy-to-read and easy-to-interpret results. Trained staff can perform the test.

#### Test is completely objective

No response from the patient is necessary. Easily test non-cooperative or non-English-speaking patients.


#### Print the results

The thermal printer prints the test results as soon as you replace the unit in its cradle.

#### Accurate results

The patented EroScan noise algorithm allows for reliable testing in up to 70 dB of background noise – fewer false REFER results.





The Maico EroScan can be used in a variety of settings and provides objective information about hearing and middle ear status with only one test.

#### Physicians

Otoacoustic emissions testing is an ideal tool for hearing screening because it can quickly identify a possible hearing loss and signal referral for more comprehensive testing.

#### Pediatricians

Hearing loss is not always identified by newborn screening. Pediatricians are the first professionals the parents approach with concerns about their child's hearing. Since hospital-based and private practice pediatricians screen infants and young children for hearing loss and middle ear disorders, incorporating OAEs into this routine testing can be greatly beneficial.

#### Head Start and School Screening

The Maico EroScan is an effective tool for Head Start and school programs as a means to document hearing testing as well as screen large numbers of children very quickly. Since there is no need for a behavioral response from the patient, it is easy to test ESL and special needs children.

This procedure is also beneficial in assessing children that cannot be tested by conventional means. For example, pure tone audiometry requires a response from the child which may be an unrealistic expectation and time-consuming.



#### Utilizing OAEs

- Follow-up infants from nursery screening and well-baby checks
- Identify and monitor middle ear pathology such as otitis media
- Use with tympanometry to rule out middle ear pathology
- Monitor cochlear function in those who are taking medication that is potentially ototoxic
- Differentiate between organic and non-organic hearing loss
- Identify educationally significant hearing loss
- Detect late-onset hearing loss

### Reimbursement

Otoacoustic emissions are reimbursable using the Current Procedural Terminology (CPT) codes. To date, health care reimbursement has varied in terms of cost per test but no problems have arisen if the appropriate codes are utilized. The most typical CPT code for OAE screening is:

**92587:** Evoked otoacoustic emissions; limited (single stimulus level, either transient or distorted products). *This is the most typical code and would be considered a "screening" code.*

**92588:** Comprehensive or diagnostic evaluation (comparison of transient and/or distortion product otoacoustic emissions at multiple levels and frequencies). *This is for diagnostic OAE testing.*



## ROI Analysis

CPT Code with Description	Average Reimbursement per Test	Revenue per Day (four tests/day)	Revenue per Week (four days/week)	Revenue per Month (4 weeks/month)	Revenue per Year
92587 - Evoked OAE: limited	62.00	248.00	992.00	3,968.00	47,616.00
92588 - Diagnostic OAE	81.00	324.00	1,296.00	5,184.00	62,208.00

The Maico EroScan can be configured for either "screening" or "diagnostic" capabilities. Based on the national average reimbursement level, the equipment would easily pay for itself in 2 to 3 months.

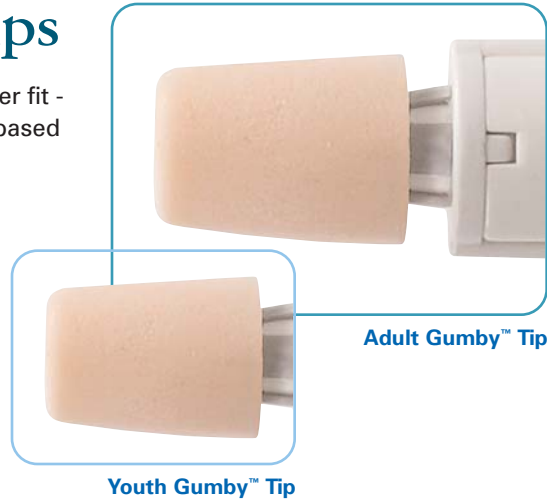
In addition to using the correct CPT code, it is important to use the correct diagnosis code in conjunction with the testing.

**All Maico EroScan systems are demonstrated, sold, installed and serviced by Maico's trained and approved network of Special Instrument dealers.**

# New Alternative to Rubber Tips

No more trying to guess if an 8 mm or a 10 mm tip would be a better fit - these tips are virtually one-size-fits-all. These comfortable, foam-based tips adjust to the size of the ear – even in newborns.

The new Maico **Gumby Tips** for the EroScan fit both the hand-held probe and the remote probe. Made of “soft-comply” foam, not rubber, the tip molds itself to the shape of the ear canal as it is pushed into the ear. As body heat warms it, the tip expands to fill the entire cavity creating a better, more complete seal.



Adult Gumby™ Tip

Youth Gumby™ Tip

# Rubber Tips



Red treetop tip	Newborn
Green mushroom tip	Newborn/youth – up to 9 months old
Blue mushroom tip	Pediatric (various sizes)
Yellow mushroom tip	Adult (various sizes)



# ERO•SCAN™

## OAE Test System

### ERO•SCAN Parts & Accessories



The ERO•SCAN OAE System is available in 3 configurations:  
 **Screener, Standard and Combo System**

Product Feature	ERO•SCAN Screener	ERO•SCAN Standard	ERO•SCAN Combo System
DPOAE/TEOAE	DP or TE	DP or TE	DP and TE
Diagnostic (CPT) <sup>1</sup> 92588	N	Y	Y
Portable	Y	Y	Y
Internal Probe	Y	Y	Y
External Probe	Y	Y	Y
Maximum # of Test Frequencies or Bands Reported	4 DP 6 TE	6 DP 6 TE	6 DP 6 TE
Frequency Range	2-5 DP 1.5-4 TE	1.5-12 DP .7-4 TE	1.5-12 DP .7-4 TE
High Frequency DPs to 12 kHz	N	Y	Y
Default Pass/Refer	Y	Y	Y
# of Test Protocols	1	2	4
Memory (# tests)/Maximum	50	50	50
Tests All Ages	Y	Y	Y
Tests Patients with PE Tubes	Y	Y	Y
Customizable Test Protocols	N	Y	Y
Customizable Pass Criteria	N	Y	Y
Database Software (Cost Option)	Opt	Opt	Opt
Printer Included	Y	Y	Y
Prints Numeric Data	Y	Y	Y
Prints Graphic Data	Y	Y	Y
Customizable Averaging Time	Y	Y	Y
Date/Time on Print-Out	Y	Y	Y
Monitoring Headset	Y	Y	Y
OZ Compatible	Y	Y	Y
HI*TRACK Compatible	Y	Y	Y
Completely Isolated Printer "optional" (does not require external line source)	Y	Y	Y
Customizable Parameters (test characteristics)	N	Y	Y
Freq. Range (DPs and TEs)	N	Y	Y
Average Time (DPs and TEs)	N	Y	Y
# Freq. Tested (DPs)	N	Y	Y
All test protocol changes can be made through OAE unit alone (Additional software and computer NOT required to change protocols)	Not Customizable	Y	Y
Cost of Disposable Plastic Eartips	\$0.15	\$0.15	\$0.15
Cost of Disposable Foam Eartips	\$1.00	\$1.00	\$1.00

Opt – Optional Y – Yes N – No <sup>1</sup> can bill for diagnostic DPOAE testing with this unit

Conforms to IEC 601-1.

ERO•SCAN is a trademark of ETYMO TIC RESEARCH, INC. Printed in the USA

U.S. Patent #5,954,669; 6,056,698; 6,299,584; 6,331,164 Other Patents Pending

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