## Specifications

<table>
<thead>
<tr>
<th>MA 25 Screening Audiometer</th>
<th>MAICO Product Line:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Screening Audiometer</strong></td>
<td><strong>Screening Audiometers</strong></td>
</tr>
<tr>
<td><strong>Diagnostic Audiometers</strong></td>
<td><strong>Middle Ear Analyzers</strong></td>
</tr>
<tr>
<td><strong>OAE Test Systems</strong></td>
<td><strong>PC Compatible Products</strong></td>
</tr>
</tbody>
</table>

**MAICO Product Line:**
- Screening Audiometers
- Diagnostic Audiometers
- Middle Ear Analyzers
- OAE Test Systems
- PC Compatible Products

**Specifications**

- **EEO SCAN Screener**
- **Ero•Scan Screener**: 1.5-4 kHz

**Database Software Included**
- Load patient names to device
- Print full page (color)
- Field for interpretation
- Prints numeric data
- Prints graphic data
- Date/time on print-out

**Power Supply**
- Lithium-Ion rechargeable

- **Battery Life**
  - 20 hours on-time
  - 1000 tests per charge

**Dimensions and Weight**
- Dimensions: 2.58 X 1.23 X 5.78 in.
- Weight: 28 gm (1.00 oz.)

**Microphone**
- SPL @ 1 kHz (1 Hz bandwidth)
- DPOAE: 83 dB SPL peak equivalent (±3 dB)

**Telemetry**
- Frequency: 40 dB SPL to 70 dB SPL

**System Noise**
- -20 dB SPL @ 2 kHz (1 Hz bandwidth) / -13 dB SPL @ 1 kHz (1 Hz bandwidth)

**Operative**
- 8 dB SPL @ 1 kHz (1 Hz bandwidth)

**Stimulus Frequency Range**
- DPOAE: 1.5 kHz to 4.0 kHz
- TEOAE: 2.0 kHz to 5.0 kHz

**Measurement Type**
- Distortion Product Otoacoustic Emissions (DPOAE)
- Transient Evoked Otoacoustic Emissions (TEOAE)

**Number of Tests per Charge (Minimal)**
- 1000 tests per charge

**Accessories:**
- Replacement probe
- Replacement cables
- Replacement ear tips
- Thermal dot matrix printer
- Quick Guide
- User Manual
- Disposable ear tip kit and tubes
- Micro USB connector
- Database software
- Micro USB charging cable
- Carrying case
- Probe hand-held unit

**Connections/Communication**
- Integrated USB communication capability for battery charging
- Integrated Bluetooth class 2 + EDR with SPP protocol for communication with optional printer
- HDMI connector for connection to Micro-Probe

**Ease of Operation**
- 4-button keypad to control instrument functions

**Software**
- Windows Imaging Component (WIC) must also be installed

**Communications**
- Microsoft Windows® 7, Microsoft Windows® Vista, Microsoft Windows® XP Professional or Home (Service Pack 3), Windows® Server (2003 or newer)

**Operating Systems**
- Microsoft® Windows® 7, Microsoft® Windows® Vista, Microsoft® Windows® XP Professional or Home (Service Pack 3)

**Computer Interface**
- SPP Protocol for communication with optional printer

**Supported Software**
- Ero•ScanScreener
- Ero•Scan Screener

**Originals**
- MAICO DIAGNOSTICS

**Reliability, Continuity, Innovation, Pure Tone Audiometer**

**Screening Audiometer** (MA 25)

**Diagnostic Audiometers**

**Middle Ear Analyzers**

**OAE Test Systems**

**PC Compatible Products**

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

**Telephone:** 888-941-4201
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 vibrations stimulate thousands of tiny hair cells. This creates a byproduct that can be detected and measured: otoacoustic emissions.

OAE Evaluation

• 4 DPOAE test frequencies
• Qualified protocols built into the device

Protocols

DPOAE Protocols

<table>
<thead>
<tr>
<th>Protocol</th>
<th>Freq. Center Bands [kHz]</th>
<th>Test Date</th>
<th>Avg Time</th>
<th>Pass SNR</th>
<th>% Pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>DP 2.0-5.0</td>
<td>2.0, 3.0, 4.0, 5.0</td>
<td>3/5/2012</td>
<td>4 sec</td>
<td>6 dB</td>
<td>95/95</td>
</tr>
<tr>
<td>DP 2.0-2.5</td>
<td>2.0, 3.0, 4.0, 5.0</td>
<td>3/5/2012</td>
<td>4 sec</td>
<td>6 dB</td>
<td>95/95</td>
</tr>
<tr>
<td>DP 2.0-1.5</td>
<td>2.0, 3.0, 4.0, 5.0</td>
<td>3/5/2012</td>
<td>4 sec</td>
<td>6 dB</td>
<td>95/95</td>
</tr>
</tbody>
</table>

TEOAE Protocols

<table>
<thead>
<tr>
<th>Protocol</th>
<th>Freq. Center Bands [kHz]</th>
<th>Test Date</th>
<th>Avg Time</th>
<th>NOA</th>
</tr>
</thead>
<tbody>
<tr>
<td>DP 2.0-5.0</td>
<td>2.0, 2.5, 3.0, 3.5, 4.0</td>
<td>3/5/2012</td>
<td>4 sec</td>
<td>6 dB</td>
</tr>
<tr>
<td>DP 2.0-3.0</td>
<td>2.0, 2.5, 3.0, 3.5, 4.0</td>
<td>3/5/2012</td>
<td>4 sec</td>
<td>6 dB</td>
</tr>
</tbody>
</table>

Database Software

The ERO•SCAN Database Software is a data management tool that complements the MAICO ERO•SCAN to provide the ability to transfer patient OAE test data from the device to a PC for the purposes of viewing, archiving, managing and printing OAE reports. Using the database 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 an image file or PDF for electronic filing or email.

Screening Testing

Quick Assessment

ERD•SCAN Screen test system provides a rapid measurement and documentation of Distortion Product Otoacoustic Emissions (DPOAE) or Transient Evoked Otoacoustic Emissions (TEOAE) at several frequencies. This device is an ideal screening tool for professionals involved in a hearing screening program or needing a quick assessment of the outer hair system due to the “Fail” or “Refer” outcomes provided. This device is used for all age groups but an ideal solution for those pre-school and kindergarten children and even newborn infants.

• Qualified protocols built into the device
• 4 DPOAE test frequencies reported

Otoacoustics Emmisions Screening Testing

Otoacoustic Emissions (OAEs) Screening

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

This procedure is beneficial in assessing children through a hearing screening program or those pre-school and kindergarten children and even newborn infants.

• Qualified protocols built into the device
• 4 DPOAE test frequencies reported

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Otoacoustics Emissions

Otoacoustic emissions (OAEs) 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.

**Otoacoustic Emissions Screening Testing**

**Easiness**
- No need for a behavioral response from the patient, it is easy to test ESL and special needs children.
- Quick Assessment
  - Testing takes less than 30 seconds per ear.
  - Test both ears in less than a minute.
- Provides a rapid measurement and documentation of Distortion Product Otoacoustic Emissions (DPOAEs) or Transient Evoked Otoacoustic Emissions (TEOAEs) at several frequencies.
- Provides a quick assessment of the cochlear system due to the "Pass" or "Refer" outcomes provided. This device is used for all age groups but an ideal solution for those pre-school and kindergarten children and even newborn infants.
- Qualified protocols built into the device
- 4 DPOAE test frequencies reported
- 64 4 dB Pass SNR
- 32 3 dB Pass SNR
- 16 2 dB Pass SNR
- 8 1 dB Pass SNR

**Protocols**

**DPOAE Protocols**

<table>
<thead>
<tr>
<th>Name</th>
<th># of Freq</th>
<th>22 Prot.</th>
<th>41 Prot.</th>
<th>1182</th>
<th>Averaging Time</th>
<th>Pass SNR</th>
<th>R Freq.</th>
<th>Raw Data File Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>DP 4s</td>
<td>8</td>
<td>0-0, 30.4, 4.0, 5.0</td>
<td>65/55</td>
<td>6 sec</td>
<td>0 dB</td>
<td>y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DP 2s</td>
<td>4</td>
<td>0-0, 30.4, 4.0, 5.0</td>
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**Database Software**

The ERO•SCAN Database Software is a data management tool that complements the MAICO ERO•SCAN to provide the ability to transfer patient OAE test data from the device to a PC for the purposes of viewing, archiving, managing and printing OAE reports. Using the database 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.

**Screening Testing**

**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.

**Quick Assessment**

**ERO•SCAN Screener test system provides a rapid measurement and documentation of Distortion Product Otoacoustic Emissions (DPOAEs) or Transient Evoked Otoacoustic Emissions (TEOAEs) at several frequencies.**

**This device is an ideal screening tool 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 is used for all age groups but an ideal solution for those pre-school and kindergarten children and even newborn infants.**

- **Qualified protocols built into the device**
- **4 DPOAE test frequencies reported**

**Database Software**

The ERO•SCAN Database Software is a data management tool that complements the MAICO ERO•SCAN to provide the ability to transfer patient OAE test data from the device to a PC for the purposes of viewing, archiving, managing and printing OAE reports. Using the database 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.

**Protocols**

**DPOAE Protocols**

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<tr>
<th>Name</th>
<th># of Freq</th>
<th>22 Prot.</th>
<th>41 Prot.</th>
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<th>Averaging Time</th>
<th>Pass SNR</th>
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<tr>
<td>DP 4s</td>
<td>8</td>
<td>0-0, 30.4, 4.0, 5.0</td>
<td>65/55</td>
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<td>0 dB</td>
<td>y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DP 2s</td>
<td>4</td>
<td>0-0, 30.4, 4.0, 5.0</td>
<td>65/55</td>
<td>3 sec</td>
<td>0 dB</td>
<td>y</td>
<td></td>
<td></td>
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**TEOAE Protocols**

<table>
<thead>
<tr>
<th>Name</th>
<th># of Freq</th>
<th>22 Prot.</th>
<th>41 Prot.</th>
<th>1182</th>
<th>Averaging Time</th>
<th>Pass SNR</th>
<th>R Freq.</th>
<th>Raw Data File Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>TE 64s</td>
<td>64</td>
<td>2, 2.5, 3, 3.5, 4.0</td>
<td>64/64</td>
<td>6 sec</td>
<td>0 dB</td>
<td>y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TE 32s</td>
<td>32</td>
<td>2, 2.5, 3, 3.5, 4.0</td>
<td>32/32</td>
<td>3 sec</td>
<td>0 dB</td>
<td>y</td>
<td></td>
<td></td>
</tr>
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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.

Quick Assessment

The ER OAE Screener test system provides a rapid measurement and documentation of Distortion Product Otoacoustic Emissions (DPOAEs) or Temporal Enveloped Otoacoustic Emissions (TEOAE) at several frequencies. This device is an ideal screening tool 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 is used for all age groups but an ideal solution for those pre-school and kindergarten children and even newborns infants.

• 4 DPOAE test frequencies reported
• 2 TEOAE Protocols

Screening Testing

Screening

Results are displayed as Pass or Refer. Fast results for interpretation. Test protocols are automated and will provide easy to read and easy to interpret results. Testing is quick and extremely intuitive!

Pass SNR

4 dB

Passing Freq. for Test Pass

3

Protocol: DP 2.0-5.0

Test Date: 3/5/2012

Average Time (max)

4 sec

# Pass for Test Pass

3

Database Software

The ER OAE Screener comes with a user-friendly, yet powerful database software that compliments the MAICO ER OAE Screener. It provides the ability to transfer patient OAE test data from the device to a PC for the purposes of viewing, archiving, managing and printing OAE reports. Using the database also gives you the means to create letter sized, detailed reports that can be easily read from a stand. You can also create a “Jasper” or “Letter” format by using the test results as a PDF for electronic filing or email.

Protocols

DPOAE Protocols

Name | # of Freq. | 22, 30, 40, 5.0 | L122 | Averaging Time | Test Date | Pass SNR | DP Testing Per Test Pass

Screening

DP 4s | 8 | 2, 3, 4, 5, 6, 5, 5, 4, 3 | 2, 122 | 6 sec | 6 dB | 8

DP 2s | 2 | 2, 3, 4, 5, 6, 5, 4, 3 | 2, 122 | 6 sec | 6 dB | 8

TEOAE Protocols

Name | # of Freq. | 22, 30, 40, 5.0 | L122 | Averaging Time | Test Date | # of Freq., Up to 3, Pass Freq. Per Test Pass

Screening

TE 64s | 8 | 2, 3, 4, 5, 6, 5, 4, 3 | 2, 122 | 6 sec | 6 dB | 8

TE 32s | 2 | 2, 3, 4, 5, 6, 5, 4, 3 | 2, 122 | 6 sec | 6 dB | 8

Download Report

Name

Otoacoustics Emmisions Screening Testing

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.

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ER OAE Screener test system provides a rapid measurement and documentation of Distortion Product Otoacoustic Emissions (DPOAE) or Temporal Envelope Otoacoustic Emissions (TEOAE) at several frequencies. This device is an ideal screening tool 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 is used for all age groups but an ideal solution for those pre-school and kindergarten children and even newborns infants.

• Qualified protocols built into the device
• 4 DPOAE test frequencies reported
**Specifications**

**MAICO Product Line:**
- Screening Audiometers
- Diagnostic Audiometers
- Middle Ear Analyzers
- OAE Test Systems
- PC Compatible Products

**EROSCAN Screener**

- **MA 25 Screening Audiometer**
- **Pilot Pure Tone Audiometer**
- **Race Car Audio/Tympanic
test System**

**Specifications**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery Life</td>
<td>120 hours per charge (min) 30 tests on charge</td>
</tr>
<tr>
<td>Memory</td>
<td>1000 tests per charge</td>
</tr>
<tr>
<td>Measurement Type</td>
<td>28-5000Hz</td>
</tr>
<tr>
<td>Emission Frequency</td>
<td>1-10kHz</td>
</tr>
<tr>
<td>Intensity Range</td>
<td>40-80 dB SPL</td>
</tr>
<tr>
<td>Dynamic Range</td>
<td>2.5kHz-8kHz</td>
</tr>
<tr>
<td>Measurement Rate</td>
<td>1 kHz-10kHz</td>
</tr>
<tr>
<td>Distortion Product Otoacoustic Emissions (DPOAE)</td>
<td>40 dB SPL to 70 dB SPL</td>
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<tr>
<td>Transient Evoked Otoacoustic Emissions (TEOAE)</td>
<td>83 dB SPL peak equivalent (±3 dB)</td>
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<tr>
<td>Hearing Screening System</td>
<td>-20 dB SPL @ 2 kHz (1 Hz bandwidth) / -13 dB SPL @ 1 kHz (1 Hz bandwidth)</td>
</tr>
<tr>
<td>Power Supply</td>
<td>Lithium-Ion rechargeable</td>
</tr>
<tr>
<td>Weight</td>
<td>28 gm (1.00 oz.)</td>
</tr>
<tr>
<td>Dimensions</td>
<td>2.58 X 1.23 X 5.78 in.</td>
</tr>
<tr>
<td>External Probe</td>
<td>Portable</td>
</tr>
<tr>
<td>Stimulus System</td>
<td>Noise@1 kHz</td>
</tr>
</tbody>
</table>
| Microphone                     | -20 dB SPL @ 1 kHz (1 Hz bandwidth) /
| System Noise                   | -13 dB SPL @ 1 kHz (1 Hz bandwidth) |
| External Probe                 | Portable                   |
| Power Supply                   | Lithium-Ion rechargeable  |
| Weight                         | 6.4 oz. (180 gm)          |
| Dimensions                     | 2.58 X 1.23 X 5.78 in.   |
| Standard Operating System      | Windows Imaging Component (WIC) must also be installed |
| Operating System               | Windows® 7                |
| Operating System               | Windows® XP Professional or Home (Service Pack 3) |
| Operating System               | Windows® Vista             |
| Operating System               | Windows® Server (2003 or newer); Windows® 7 Professional or Home (Service Pack 3) |

**Accessories:**

- Optional:
  - Replacement probe
  - Replacement cables
  - Replacement probe tubes
  - Replacement ear tips
  - Thermal dot matrix printer
  - Calibration Certificate
  - User Manual
  - Disposable ear tip kit and tubes
  - Micro USB connector
  - Micro USB charging cable
  - Carrying Case

** ideal for...**

- School Nurses
- Birth to 3 programs
- School and Head Start Programs

**Web:** www.maico-diagnostics.com

**Fax:** 952-903-4100

**Telephone:** 888-941-4201

**Address:** 7625 Golden Triangle Drive Eden Prairie, MN 55344

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