# TSM500

# Combined audiometer and tympanometer



# Audiometry and tympanometry in one simple workflow

Optimise your workflow by combining audiometry and tympanometry with Oscilla® TSM500. Operation is swift and easy and the large color display lets you watch audiograms, and tympanograms update in real time. This provides you with a quick overview of your patient's hearing health.

# Benefit from a wide range of testing options

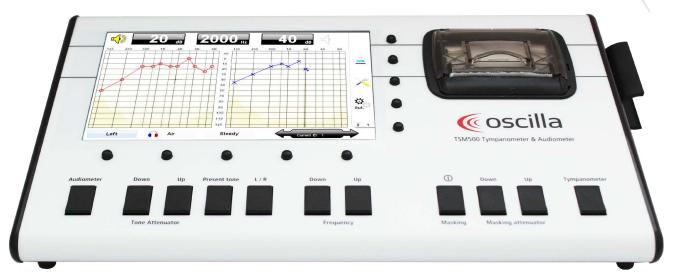
- Manual and automatic pure tone tests via air and bone conduction
- Compliance curves
- Ipsi- and contralateral reflex tests

# Compact design for maximum portability

The TSM500 is a smart solution for the clinic or on the go. With its solid aluminium casing, low weight and small footprint, it is robust and ready to withstand daily use and transportation.







# A wide range of test options

#### **Audiometry (stand-alone)**

Manual pure tone test 20 dB auto test 20 dB random auto test Hughson Westlake test

#### Additional audiometry tests in AudioConsole\*

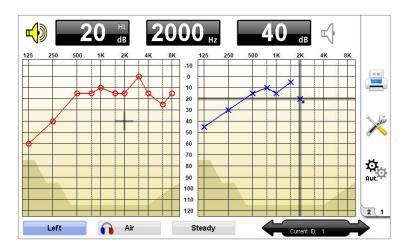
xx dB auto test
xx dB random auto test
MCL
UCL

Weber test

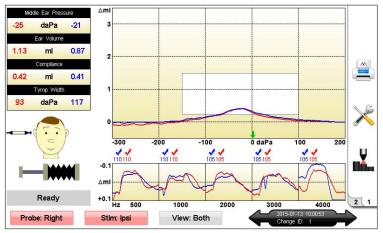
#### **Tympanometry tests**

Pure tone Ipsilateral reflex test Contralateral reflex test

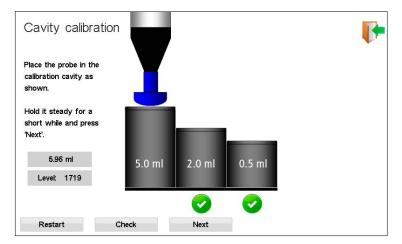
# Large colour display



Watch audiograms update in real time on the large colour display



Watch tympanograms and reflex tests update in real time on the large colour display while the on-screen assistant guides you through the test procedure.



Guided probe calibration ensures accurate measurements.

# DualControl gives you full flexibility in operation

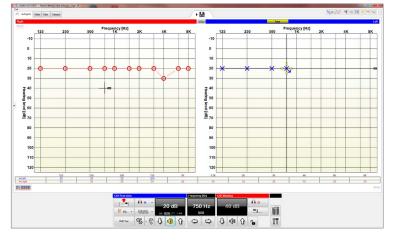


Oscilla® DualControl breaks down the barrier between stand-alone and PC-based operation. A simple plug & play solution that lets you switch modes of operation according to your needs. Operate your audiometer from your PC or use the front panel buttons and watch your audiograms update in real time on your screen.

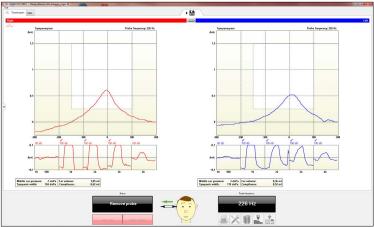
You get all the benefits from AudioConsole, including:

- Unlimited patient database and easy management of test results
- Additional tests
- Custom PDFs
- Integration with other patient management systems

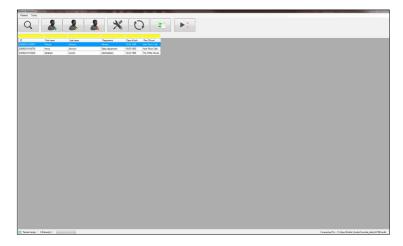
**Please note!** In order to utilise the DualControl feature, you must purchase an AudioConsole license.



Perform manual and automatic pure tone tests with AudioConsole and watch audiograms update in real time.



Watch tympanograms and reflex tests update in real time on your PC screen while the on-screen assistant guides you through the prodedure.



Manage your patient information and test data easily and efficiently in the patient database.

# TSM500

# Specifications



# TSM500 standard package

- TSM500 device
- Probe 226 Hz
- Calibration cavities
- Peltor™ Headset fitted with TDH-39
- Wilfan contralateral headset fitted with TDH-39
- Patient responder
- Bone conductor (B71W)
- Eartip set
- Power supply
- User manual

# **Accessories and optional parts**



Carrying bag Transport the TSM500 safely with a handy carrying bag. A smart solution for traveling clinicians.



USB cable
USB cable 3 meters for connecting
the TSM500 to Oscilla AudioConsole
software.



AudioConsole software

Switch between stand-alone and PC-based operation and benefit from patient database, custom PDF reports and data export to any patient management system.

# **User groups**

#### Intended use

Determining hearing threshold levels, relative to standard reference threshold levels established by means of psychoacoustic test methods.

Measuring acoustic impedance/admittance in the human external acoustic meatus using a stated probe tone or other probe signals.

#### User profile

The intended users are trained professionals, healthcare personnel, clinicians and ENT doctors with audiological experience.

## **Audiometry**

## Frequency range (air and bone)

125 Hz, 250 Hz, 500 Hz, 750 Hz, 1000 Hz, 1500 Hz, 2000 Hz, 3000 Hz, 4000 Hz, 5000 Hz, 6000, Hz, 7000 Hz, 8000 Hz

#### Sound pressure

Level range (air): -10 dB to 110 dB Level range (bone): -10 dB to 60 dB

Level steps: 5 dB

#### Signals

Steady, pulse and warble

#### Masking

NB

#### **Tympanometry**

#### Probe frequency and intensity

226 Hz ± 1%

85 dB SPL in 2 ml ± 3 dB

#### Pressure range

-300 daPa to +200 daPa

#### Volume range

 $0.1 \text{ ml to } 6.0 \text{ ml } \pm 5\%$ 

# **Ipsilateral and contralateral stimulation**

#### Pure tone signals

0.5 kHz, 1 kHz, 2 kHz, 3 kHz, 4 kHz  $\pm$  2%

### Probe level range

80 dB to 110 dB SPL for all frequencies (5 dB steps)

#### <u>General</u>

### Integrated memory

200 tests

#### **Power supply**

100-240 VAC/12 VDC, 50-60 Hz

# PC connection

USB

## **Physical characteristics**

#### Dimensions

295 mm x 180 mm x 55 mm (8.9 in x 7.0 in x 2.2 in)

### Weight

Approx. 1000 g (2.9 lbs.)

## **Standards**

#### Safety

IEC 60601-1:2005, Class II, Type B applied parts, IPX0

#### EMC

IEC 60601-1-2:2007, Class A

#### Performance

IEC 60645-1:2012, Type 3

ANSI S3.6-2010, Type 3

IEC 60645-5:2004, Type 2

ANSI S3.39-1987 (R2012), Type 2