



# HANDHELD SCREENING TYMPANOMETER



ALLEGRO

# QUICK AND EASY TYMPANOMETRY

## GSI ALLEGRO PORTABLE AND FLEXIBLE

The GSI Allegro™ is a handheld screening device ready for any testing environment that requires tympanometry and ipsilateral reflexes. The Allegro offers a four button navigation that allows for quick and reliable testing. Automatic measurements of the middle ear status are completed in seconds using the device's configurable test settings. The Allegro includes a charging cradle, thermal printer, and carrying case.



## TWO TESTING OPTIONS

### TYMPANOMETRY

- 226 Hz Probe Tone
- Tympanic Peak Pressure
- Admittance at Peak
- Ear Canal Volume
- Gradient

### ACOUSTIC REFLEX MEASUREMENTS

- Ipsilateral Reflexes
- Four Frequencies
- Configurable Reflex Settings
- Automatic Detection



# KEY DEVICE FEATURES

## **QUICK SEAL**

Quickly obtain a seal for tympanometry. Once a seal is obtained, testing begins immediately.

## **4 KEY TYMP MEASUREMENTS**

Four key tymp measurements include peak pressure, ear canal volume, tympanometric width, and admittance at peak.

## **CUSTOMIZABLE USER SETTINGS**

Global settings such as test sequence and test prompts may be defined by the user.

## **PORTABLE DESIGN**

The Allegro is designed with portability in mind. The device is lightweight and perfect for any testing environment.

## **SIMPLE NAVIGATION**

Four button navigation simplifies the testing procedures for a fast paced testing environment.

## **PATIENT MEMORY**

Test multiple patients and manage the data at your convenience. The Allegro can store up to 32 patient test results to be analyzed and managed at a different time.



## 3 KEY BENEFITS

### ✓ **AS FAST AS THREE SECONDS**

Perform a tympanogram on a single ear in as little as three seconds. Quick testing is crucial for testing a diverse patient population.

### ✓ **TRAINING IS EASY**

New staff can begin testing with confidence within a few minutes. The Allegro is a device that is easy to use and easy to train others.

### ✓ **USE ON THE GO**

The Allegro is ideal for situations such as a satellite clinic, where a lightweight device that is easy to transport is important. The device also comes with a carrying case.

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## TECHNICAL SPECIFICATIONS

### DIMENSIONS AND WEIGHT

**W x D x H:** 4.5 in x 9 in x 2.8 in (11.5 cm x 23 cm x 7 cm)

**Display:** 128 x 64 px / 8 lines of 21 characters

**Weight:** 1.433 lb (650 g)

### TYMPANOMETRY

**Instrument Type:** Meatus compensated tympanometer

**Analysis Performed:** Admittance peak level (in ml); Peak pressure of same; Gradient (in daPa); Ear canal volume (ECV) at 200 daPa

**Probe Tone Levels and Accuracy:** 226 Hz +/-2%; 85 dB SPL +/-2 dB over range 0.2 ml to 5 ml

**Pressure Levels and Accuracy:** +200 daPa to -400 daPa +/-10 daPa or +/-10% (whichever is larger) over range

**Ear Volume Measurement Range and Accuracy:** 0.2 ml to 5 ml +/-0.1 ml or +/-5% (whichever is larger) over entire range

**Sweep Speed:** Typically 200 daPa/sec; dependent on ear/cavity volume

**Pressure Limits (Safety Cut Out):** +600 to -800 daPa

### REFLEX MEASUREMENTS

**Measurement Modes:** Ipsilateral

**Reflex Tone Levels and Accuracy:** 500 Hz, 1 kHz, 2 kHz, 4 kHz (+/-2%); Configurable over range 70 dB to 100 dBHL (4 kHz restricted to 95 dBHL) +/-3 dB, referenced to 2 ml calibration volume; Compensates for measured ear volume

**Reflex Detection Threshold and Accuracy:** 0.01 ml to 0.5 ml +/-0.01 ml configurable in 0.01 ml steps

**Reflex Analysis:** Reflex present/absent at each level tested; maximum amplitude of each reflex (seen on printed report & computer report); pressure at which reflex was performed

**Pressure Used for Reflex Measurement:** Pressure at Tympanogram peak, or 0 daPa

**Reflex Tone Duration:** 0.6 seconds

### DATA MANAGEMENT

**Number of Records Stored in Patient Database:** 32 patients

**Data Stored:** Patient initials, tympanogram, reflex graphs, analysis, time/date, and test parameters

### LANGUAGES

English, German, French, Spanish, Portuguese, or Italian

### THERMAL PRINTER

**Supported Printer:** Sanibel MPT-II

**Interface:** Wired connection to cradle

### INTERFACE TO COMPUTER

**USB Version 1.1**

### ENVIRONMENTAL

**Operating Temperature Range:** +59° F (+15° C) to +95° F (+35° C)

**Operating Humidity Range:** 30% to 90% RH, non-condensing

**Operating Atmospheric Pressure Range:** 980 to 1040 mb, non-condensing

**Transport and Storage Temperature Range:** -68° F (-20° C) to +158° F (+70° C)

**Transport and Storage Humidity Range:** 10% to 90% RH, non-condensing

**Transport and Storage Atmospheric Pressure Range:** 900 to 1100 mb

### POWER

**Battery:** NiMH rechargeable battery pack.

**Interface:** Wired connection to cradle

**Main Power (To Cradle):** 100 - 240 Vac; 50/60 Hz; 0.2 A

**Number of Recordings with Full Charge:** Up to 100

**Auto Power-off Delay:** 90 or 180 seconds

**Idle Current:** 70 mA

**Current While Testing:** 230 mA

### QUALITY SYSTEM

Manufactured, designed, developed and marketed under ISO 13485 certified quality systems.

### COMPLIANCE

- IEC 60601-1 (plus UL, CSA & EN deviations)
- IEC 60601-1-2
- IEC 60645-5, Type 2 Tympanometer
- CE Mark: To the EU Medical Device Directive