

AUDIOMETRY AND TYMPANOMETRY COMBINED

TECHNICAL SPECIFICATIONS

DIMENSIONS AND WEIGHT

W x D x H: 12.5 in x 14.5 in x 4.7 in
(31.75 cm x 36.83 cm x 11.94 cm)

Weight: 5 lb – unit and probe (2.27 kg)

Shipping W x D x H: 19.5 in x 22.5 in x 8.25 in
(49.53 cm x 8.86 cm x 20.96 cm)

Shipping Weight: 13.1 lb (5.94 kg)

GS1 39 PROBE – 226 HZ PROBE TONE ONLY

TYMPANOMETRY AND REFLEX MODES

PROBE TONE

Frequency: 226 Hz \pm 2%

Intensity: 85.5 dB SPL \pm 2.0 dB

Harmonic Distortion: < 3%

COMPLIANCE

Range: 0.0 to 1.5 cm³ and 0.0 to 3.0 cm³

Accuracy: \pm 5% or \pm 0.1 cm³, whichever is greater

PRESSURE

Range: +200 to -400 daPa

Accuracy: \pm 10 daPa or 15%, whichever is greater, measured in 0.5 to 2.0 cc cavities

Sweep Rate: 600 daPa/sec, except near tympanogram peak where sweep rate slows to 200 daPa/sec to provide better definition of the peak compliance

Sweep Direction: Positive to negative

Gradient: Tymp pressure width at 50% of peak compliance

Test Time: Approximately 1 second

REFLEX

Frequencies: 500, 1000, 2000, and 4000 Hz

Accuracy: \pm 3%

Total Harmonic Distortion: < 5% (< 10% at 110 dB HL)

Rise/ Fall Times: 5 to 10 msec

Output Levels: 80 - 110 dB HL

Pressure: Automatically set to pressure at peak compliance with an offset of + or - 20 daPa depending on location of peak compliance

Test Time: 2 to 12 seconds

COMBO PROBE – 226 HZ AND 1 KHZ PROBE TONES

TYMPANOMETRY AND REFLEX MODES

226 HZ PROBE TONE

Frequency: 226 Hz, 1000 Hz \pm 2%

Intensity: 85.5 dB SPL \pm 2.0 dB

Harmonic Distortion: < 3%

1 KHZ PROBE TONE

Frequency: 1 kHz \pm 2%

Intensity: 75 dB SPL \pm 2.0 dB

Harmonic Distortion: < 3%

COMPLIANCE (226 HZ)

Range: 0.0 to 1.5 cm³ and 0.0 to 3.0 cm³

Accuracy: \pm 5% or \pm 0.1 cm³, whichever is greater

ADMITTANCE (1 KHZ ONLY)

Range: 0.0 to 5.0 mmho and 0.0 to 10.0 mmho

Accuracy: \pm 5% or \pm 0.3 mmho, whichever is greater

PRESSURE

Range: +200 to -400 daPa

Accuracy: \pm 10 daPa or 15%, whichever is greater, measured in 0.5 to 2.0 cc cavities

Sweep Rate: 600 daPa/sec slowing to 200 daPa/sec near tymp peak - 226 Hz only; 200 daPa/sec - 1 kHz only

Sweep Direction: Positive to negative

Gradient: Tymp pressure width at 50% of peak compliance (226 Hz only)

Test Time: 1 to 3 seconds

REFLEX (226 HZ PROBE TONE)

Frequencies: 500, 1000, 2000, and 4000 Hz

Accuracy: \pm 3%

Total Harmonic Distortion: <5% (<10% at 110 dB HL)

Rise/Fall Times: 5 to 10 msec

Output Levels: 80-110 dB HL

Step Size: 10 dB

Pressure: Automatically set to pressure at peak compliance with an offset of + or - 20 daPa depending on location of peak compliance

Test Time: 2 to 12 seconds

REFLEX (1 KHZ PROBE TONE)

Frequencies: 500, 2000, and 4000 Hz

Accuracy: \pm 3%

Total Harmonic Distortion: <5%

Rise/Fall Times: 5 to 10 msec

Output Levels: 80-100 dB HL

Step Size: 10 dB

Pressure: Automatically set to ambient pressure (0 daPa) for all tests

AUDIOMETRY MODE

FREQUENCIES

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

Accuracy: \pm 2%

Total Harmonic Distortion: < 2.5%

Rise/Fall Time: 20 to 50 msec

HEARING LEVEL RANGE

Air Conduction: -10 to 100 dB HL

Step size: 5 dB

Accuracy:

• 125 to 4000 Hz \pm 3 dB

• 6000 to 8000 Hz \pm 5 dB

Signal to noise: > 70 dB

TONE PRESENTATION:

Continuous: Steady on when Present bar is depressed

Pulsed: 2.5/ sec (200 msec ON, 200 msec OFF)

FM (frequency modulated or warble tone):
 \pm 5%, 5 Hz

PRINTER

4 inch thermal printer

Speed: 2 audiograms + 2 tymp/reflex (4 frequencies), < 1 minute

DISPLAY

240 x 64 graphical, monochrome LCD

STANDARD ACCESSORIES

Probe assembly (Standard - 226 Hz only or Combo - 226 Hz and 1 kHz)

Power module + power cord

Test cavity

Eartips (probe) 6 sizes, 2 each

Paper – 3 rolls thermal, 4"

User manual

Quick reference guide

Wall chart – 226 Hz

Eartips (contra), 8 sizes, 4 ea.; versions 2 and 3

Contra phone; versions 2 and 3

DD 45 headset; versions 3 and 4

Eartips (8mm, 25 ea.); combo probe only

Probe shoulder mount; combo probe only

Probe cleaning kit; combo probe only

GSI Suite

ENVIRONMENTAL

Operating Temperature: +59° F (15° C) to +104° F (40° C)

Storage Temperature: -93° F (-69° C) to +149° F (65° C)

Operating Humidity: 15% to 95%

Operating Ambient Pressure: 98 kPa to 104 kPa

POWER

Universal, auto-ranging power supply: 100 to 240V \pm 10%; 50 to 60 Hz \pm 5 %; 16 W maximum while printing

QUALITY SYSTEM

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

COMPLIANCE

TYMPANOMETRY AND REFLEX MODES

PROBE TONE

• IEC/EN 60601-1 Medical Electrical Equipment Requirements for Safety

• CSA C22.2 No.601-1-M90

• ANSI S3.39 Aural Acoustic Impedance Admittance (Type 3)

• IEC 60645-5 Aural Acoustic Impedance/ Admittance (Type 3)

• ANSI S3.6 Audiometers (Type 4)

• IEC 60645-1 Pure Tone Audiometers (Type 4) Specifications for Audiometers (Type 4)

• PTB Certificate No. 15.11-94/53 Pure Tone Audiometers (Type 4)

• GL2005-00014 Guidelines for Manual Pure-Tone Threshold Audiometry