audioscan®
Professional Verification

THE MAKERS OF Verifit® 2
Advanced Verification

# WE ARE THE VERIFICATION COMPANY

GOLD STANDARD
HEARING AID VERIFICATION

# WHY AUDIOSCAN?

## BECAUSE EVERYONE DESERVES THE BEST POSSIBLE HEARING EXPERIENCE.

**We are innovators and industry leaders on a mission to make the most intuitive and advanced verification equipment on the market.**

### HERE ARE 4 FACTS YOU SHOULD KNOW ABOUT US:


We are the leading supplier of verification equipment in North America.

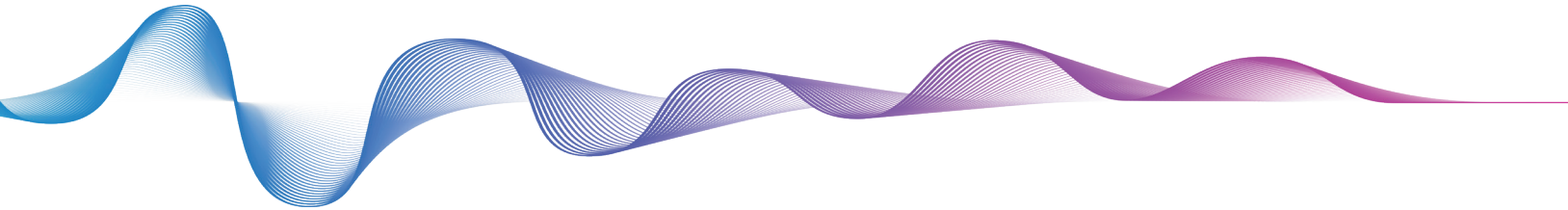
We provide expert education and support directly and through our global distribution network.


We have 30+ years of experience in developing hearing instrument verification equipment.

We are constantly innovating so you can provide your patient with the best possible hearing experience.

# LEADING-EDGE **INNOVATION**

We look ahead and push forward, envisioning and developing the next level of hearing aid verification. The Audioscan team is always focused on creating refined and easy-to-use solutions.



## OUR PIONEERING SPIRIT HAS RESULTED IN **MANY FIRSTS, INCLUDING:**

- 1ST Portable real-ear and test box
- 1ST Binaural test box
- 1ST Calibrated real-speech signals
- 1ST Dedicated, speech-activated directional test
- 1ST Binaural REM patient positioning tool
- 1ST Sensory loss simulator
- 1ST Percentile analysis of speech
- 1ST Speechmap auditory mapping / SPL verification

# Verifit® 2
## Advanced Verification

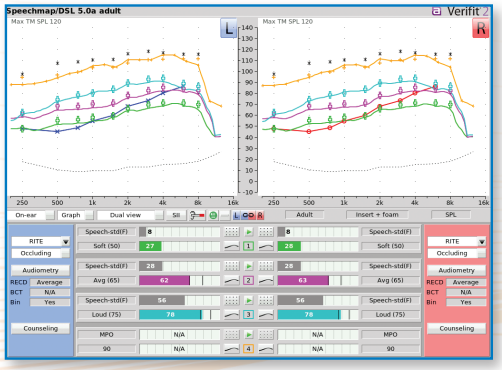
Innovation is how we deliver on our promise to help you provide the best possible hearing experience for your clients. We're proud to say that the Verifit2 is the most intuitive and advanced verification system in the world.


Verifit Skull Simulator
*(optional accessory)*

# FEATURES & BENEFITS

## Speechmap®

**Speechmap's guided workflow makes hearing instrument verification intuitive while offering accurate results using the industry's most advanced tools.**




### Guided Workflow

- Increases verification efficiency and offers ease of use

### Audibility Mapping

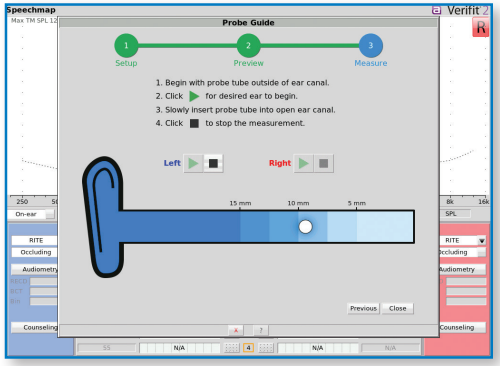
- Verify audibility and listening comfort for amplified signals
- Verify to validated, generic fitting formula targets
- Accurately assess hearing instrument output relative to dynamic range of the patient

### Percentile Analysis

- Document hearing instrument compression and accurately assess the provided audibility.

## Probe*GUIDE*™

**Probe*GUIDE* provides real time, software-assisted probe tube placement. Real-ear verification is easier than ever and there is no need for additional hardware, software licenses or complicated techniques.**




### Real-time assistance

- Constantly tracks the probe tube, giving real-time feedback that enables accurate placement while avoiding patient discomfort from eardrum contact
- Supports confident probe tube placement

### Algorithm developed using machine learning

- Accurate prediction of probe tube tip distance from eardrum results in easier REM and more precise REM results*
- Provides reliable REM results across clinicians and clinic locations
- Resistant to the ambient noise that can occur in a busy clinical environment

*Folkeard P, Pumford J, Pietrobon J, Scollie S. Evaluation of Probe Guide: Software-assisted probe tube placement in hearing aid fittings. Hearing Review. 2019;26(11).

## Verifit *Skull Simulator*

**Objectively verify audibility and adaptive features with bone-anchored hearing devices (BAHDs).**

**No external power supply required**
- Easy to set up and use, just plug Verifit Skull Simulator into the coupler jack inside the test box

**DSL-BCD targets in Speechmap**
- Objectively verify that appropriate levels of audibility are provided for various speech signals

**ANSI/IEC, directional, noise reduction testing**
- Conduct quality control testing and assess the impact of advanced features

**No license required**
- No extra cost for an additional software suite

## Wideband *Measurement*

**Measure the high frequency amplification of hearing instruments that claim extended bandwidth.**

**Wideband audiogram entry and hearing instrument verification to 12.5 kHz**
- Ensure patients have access to valuable speech information above 8 kHz
- Obtain the sound quality improvements that accompany wideband amplification

## Verifit*LINK*™

**Verify and adjust hearing instruments to target automatically through a direct interface with the fitting software.**

- Ensures an objective verification against clinically-validated targets
- Provides accurate target match equivalent to manual methods in significantly less time**

## Office *Integration*

**Easily integrates into your existing office systems and clinical test space to support multiple workflows.**

**Optional Noah Module**
- Quickly transfer audiometry stored in Noah into the Verifit2
- Store and retrieve test results electronically, giving you the flexibility to go paperless
- Easily generate PDF reports that integrate with EMR systems via shared network folders

**Remote Operation on PC**
- Teleaudiology compatible
- View/operate Verifit2 from a PC
- On-top mode allows hearing instrument measurement and adjustment to occur together on one screen

**Printing Flexibility**
- Multiple printing options: print via the Noah module, a network connected printer, a USB-connected printer, or print-to-file

## PATIENT COUNSELING

**VERIFIT2 IS AS EFFECTIVE FOR COUNSELING AS IT IS FOR VERIFYING HEARING INSTRUMENTS.**

**Dedicated Counseling Tool**
Improves patient counseling and provides a better hearing instrument experience

**Quick-Access SII Counseling**
Quickly generate an individualized SII graph to show potential benefit of amplification for speech understanding

**Sensory Loss Simulator**
Models conductive and sensorineural hearing losses for counseling family members on the patient experience

** Folkeard, P., Pumford, J., Abbasalipour, P., Willis, N., Scollie, S. (2018). A comparison of automated real-ear and traditional hearing instrument fitting methods. Hearing Review. 25(11): 28-32.


# Binaural *Measurement*

**Simultaneous binaural measurement makes verification as efficient as possible.**


**Simultaneous Binaural Measurement, REM & Test Box**

Faster, easier verification

Assess binaurally linked operation of hearing instrument features

**Unique-to-Verifit2 Binaural Test Box**

Faster, more accurate testing of hearing instruments

Demonstrate old versus new hearing instrument technology

Adapters and quick-connect couplers make testing hearing instruments easy and efficient

**Real-Time Headphone Monitoring**

Assists hearing instrument programming decisions

Enables troubleshooting of hearing instrument sound quality issues

# Verifit® 2
Advanced Verification

**NUMBER 1** IN VERIFICATION

## STANDARD VERIFICATION

- Binaural REM and Test Box
- Wideband verification to 12.5 kHz
- Calibrated real speech & percentile analysis
- DSL, NAL, & CAMFIT targets
- Wideband RECD & REDD measurement
- ANSI/IEC test box measurement
- Binaural monitor headphones

## ADVANCED VERIFICATION

- Binaural Sound Field Assist for simultaneous binaural REM
- Speech-activated directional test
- Noise reduction, feedback, occlusion tests
- SII target ranges in DSL adult & child
- RMS error from target
- Ambient noise level check for REM
- Verifit Skull Simulator (optional)
- FM fitting protocol
- Frequency lowering fitting protocol
- CROS/BiCROS fitting
- Telecoil testing in Speechmap

## EASE-OF-USE FEATURES

- ProbeGUIDE probe tube placement tool
- Verifit*LINK* automated fit-to-target
- Noah module via wired or wireless networking
- PC control/display capability (On-top mode)
- Puttyless coupling in the test box
- Quick-connect couplers
- Automated Speechmap test sequencing
- Context sensitive help with instructive pictures

## COUNSELING:

- Sensory Loss Simulator
- Quick-access SII Counseling
- Speechmap Counseling Tool

## 4 REASONS TO CHOOSE **VERIFIT2**:

**1** **Speechmap**
Intuitive workflow for advanced hearing instrument verification and patient counseling

**2** **Binaural Measurement (REM & Test Box)**
Efficient verification and counseling with the industry's only binaural test box

**3** **Probe*GUIDE***
Guided probe tube placement simplifies REM, saves time, and ensures consistent measurement results

**4** **Gold Standard**
Highly regarded and trusted by clinicians and researchers for decades

bsi. ISO 13485 Medical Devices Quality Management

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# Verifit 2 Advanced Verification — PRODUCT SPECIFICATIONS

## REAL-EAR (REM) Per IEC 61669/ANSI S3.46‡‡

**REM Speakers** dual 5 x 9 cm w/ ducted ports
**Probe modules** dual probe and ref. microphones
**Probe microphone tube** silicone 1 mm diameter x 75 mm
**Analyzer frequency range** 200 – 16000Hz
**Analyzer filter parameters** tones, warble 1/12 octave
speech, noise 1/3 octave
**Analyzer display range** 200 – 12500 Hz
**Probe microphone noise floor (200 – 12500 Hz)** <45 dB SPL
**Frequency accuracy** 1%
**Measurement dynamic range** 30 – 135 dB SPL (200 – 2500 Hz)
30 – 140 dB SPL (2500 – 12500 Hz)
**Speech-like stimuli** calibrated speech (level and spectrum), ISTS, band-limited and s/sh for verifying frequency lowering, live speech
**Broadband noise stimuli** tone burst, pseudo-pink noise
**Narrowband stimuli** warble sawtooth modulated +/- 3% over 128 ms
**User supplied stimuli** WAV file, auto level
**Stimulus level range** 40 – 85 dB SPL in 5 dB steps
**Measurement accuracy at 1 kHz (CAL position)** +/- 1 dB
**Measurement accuracy re 1 kHz** 200 – 2000 Hz +/- 1.5 dB SPL
2000 – 8000 Hz +/- 2.5 dB SPL
8000 – 12500 Hz +/- 4 dB SPL
**Equalization** modified pressure method – concurrent and stored

‡‡Distance of .5m in a quasi-free soundfield, where the boundaries of the room exert a negligible effect.

## TEST BOX (HIT) Per IEC 60118/ANSI S3.22

**Test box speakers** 1 front, 2 side, 30 mm independent
**Working space** 28w x 12.7d x 3.8h $cm^3$
**Isolation @1kHz** >25dB
**Analyzer frequency range** 200 – 16000 Hz
**Analyzer filter parameters** tones 1/12 octave
speech, noise 1/3 octave
**Analyzer display range** 200 – 12500 Hz
**Coupler microphone noise floor (200 – 12500 Hz)** <40 dB SPL
**Frequency accuracy** 1%
**Measurement dynamic range** 30 – 135 dB SPL (200 – 2500 Hz)
30 – 140 dB SPL (2500 – 12500 Hz)
**Speech-like stimuli** calibrated speech (level and spectrum), ISTS, band-limited and s/sh for verifying frequency lowering, live speech
**Broadband noise stimuli** tone burst, pseudo-pink noise
**Narrowband stimuli** pure tone
**User supplied stimuli** WAV file, auto level
**Test stimulus levels** 40 – 90 dB in 5 dB steps
**Test stimulus distortion (tone)** <2% at 90 dB SPL
<0.5% at 70 dB SPL
**Measurement accuracy at 1 kHz (CAL position)** +/- 1 dB
**Measurement accuracy re 1 kHz** 200 – 2000 Hz +/- 1.5 dB SPL
2000 – 8000 Hz +/- 2.5 dB SPL
8000 – 12500 Hz +/- 4 dB SPL
**Equalization** modified pressure method – concurrent
**Harmonic distortion measurement** 2nd and 3rd or 2nd plus 3rd
**Harmonic distortion range** 200 – 4000 Hz
**Harmonic distortion accuracy** +/- 1%
**Battery drain range (+/- .01 mA)** 0 – 20 mA
**Battery drain accuracy** +/- 5%
**Telecoil loop accuracy** +/- 3 dB
**Telecoil stimulus** 31.5 mA/m per ANSI S3.22

## GENERAL

**Temperature (storage)** -20 to +60˚C
**Relative humidity (non-condensing)** 5% to 95%
**Atmospheric pressure** 810 – 1060 hPA
**Power source** 100 – 240V, 47 – 63Hz, 1.35A
**Overall dimensions:**
**Display unit WxHxD** 35.6 x 40.3 x 16.5 cm (14 x 16 x 6.5 in.)
**Test box WxHxD** 35.6 x 13.7 x 32.8 cm (14 x 5.4 x 12.9 in.)
**Test box working space WxHxD** 21.0x7.5x12.3 cm (8.5x3.0x4.8 in.)
**Weight:**
**Shipping** 14.9 kg (32.8 lbs)
**Display unit** 3.0 kg (6.6 lbs)
**Test box** 3.3 kg (7.2 lbs)
**Display type** LED backlit active color
**Display size** 12.1 in. diagonal

**Stereo headphone monitor amplifier**
250 mW into 16 ohms, L/R
**Power amplifiers** 2 @ 5 watts each
**Simultaneous stimulus channels** 2
**Simultaneous measurement channels** 2
**Connectors**
1 - Ethernet (RJ45)
5 - USB
1 - HDMI
2 - External speakers (RCA)

1 - Display unit/Test box interconnection (HDMI style)
1 - Probe dock (Mini-din)
2 - Probe microphone (3.5 mm TRS)
1 - WRECD transducer (3.5 mm TRS)
1 - Teletest handset (3.5 mm TRS)
1 - Binaural monitor headphone (6.3 mm TRS)
2 - Test box ref. mic. (3.5 mm TRS)
1 - Binaural coupler microphone (3.5 mm TRS)
1 - Battery substitute (3.5 mm TRS)

**For detailed testing capabilities, see the Verifit2 user guide at https://audioscan.com/library**

bsi. ISO 13485 Medical Devices Quality Management

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