

# Streaming Verification Method<sup>1</sup> for Audioscan Verifit 2

How to verify hearing aid output of streamed audio from a smartphone or other connected device

## 1. EQUIPMENT

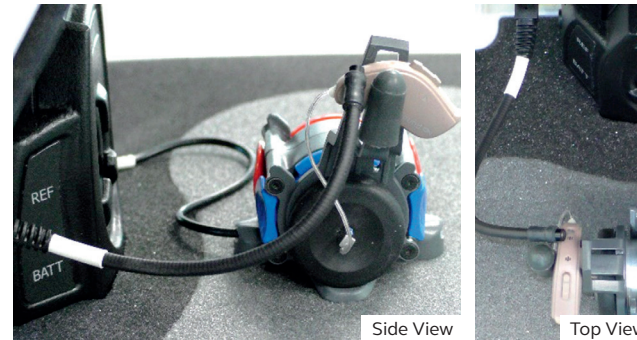
- Hearing aids with streaming capabilities using either direct streaming with Bluetooth or streaming via an intermediary Bluetooth gateway
- Smartphone capable of direct streaming (check with hearing aid manufacturer for latest compatibility)
- Audioscan Verifit 2 Test box with ISTS and/or pink noise stimuli and 0.4 cc coupler
- Audio Stimulus to be streamed
  - ISTS downloaded from the EHIMA website:  
<https://www.ehima.com/documents/> (EHIMA, Accessed 2019)<sup>2</sup>
  - Attach the downloaded ISTS (24-bit .wav file) to an email, and send to client's phone

## 2. HEARING AID PROGRAMMING

- Program hearing aid gains to patient settings
- Set mics to Omnidirectional
- Set hearing aid features:
  - To maximize transparency, deactivate all features (ex: noise reduction, automatic volume control)
  - To observe feature impact on streamed signal, leave on streaming features, such as the ReSound Streamer Bass Boost feature
- Pair hearing aids to smartphone or desired Bluetooth gateway device, such as the ReSound Phone Clip+

## 3. PROTOCOL

- Mount hearing aid to 0.4 cc coupler
  - Hearing aids can be set up for binaural testing if desired
  - Consult the Audioscan Verifit 2 manual for additional notes on placement for Speechmap Test Box testing

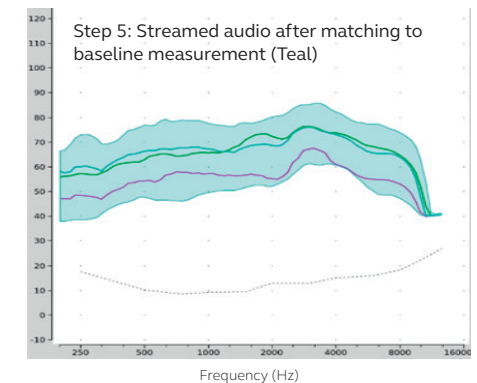
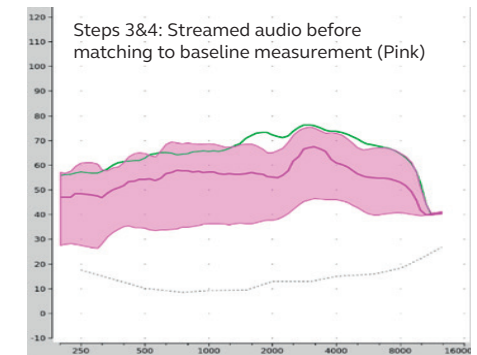
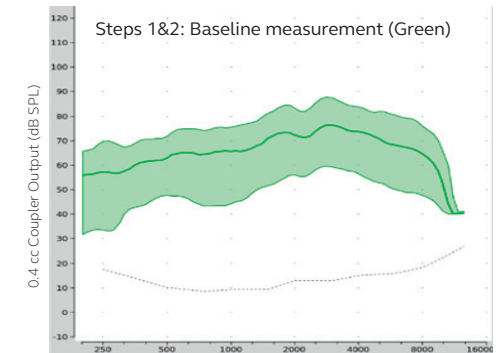


### Record Baseline Measurement

1. Start Test Box Speechmap session
2. Present ISTS stimulus at 65 dB SPL for 14 sec.

### Record Streaming Measurement

3. Change stimulus to "Speech-live"
    - a. Email ISTS stimulus to client's phone
    - b. Play the ISTS audio from phone's mail client
      - i. Mail for Apple/iOS, Gmail for Google/Android
  4. Run the "Speech-live" test for 14 seconds
  5. Adjust the phone's volume to best match the baseline measurement output; re-run as needed
- Use results to observe transparency, feature implementation, or counsel patient on streaming level



<sup>1</sup> Wright NA, Hribar JF. Verification of direct streaming to hearing aids: A how-to guide to the digital listening environment. Canadian Audiologist. 2020; 7(2). <https://www.canadianaudiologist.ca>

<sup>2</sup> European Hearing Instrument Manufacturers Association (EHIMA). Documents [Internet]. Brussels, Belgium: EHIMA. International Speech Test Signal 16 and 24 bit [cited 2019 Sept 8] Available from: <https://www.ehima.com/documents/>