

Streaming Verification Method¹ for Otometrics AURICAL HIT

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

ReSound GN

1. EQUIPMENT

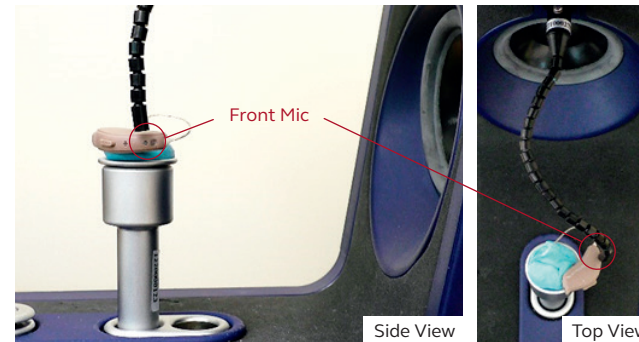
- Hearing aids with streaming capabilities using either direct streaming with Bluetooth or streaming via an intermediary Bluetooth gateway
- Smartphone capable of direct streaming (check with hearing aid manufacturer for latest compatibility)
- Otometrics AURICAL HIT Test box with ISTS and/or pink noise stimuli and 2 cc coupler
- Audio Stimulus to be streamed
 - ISTS downloaded from the EHIMA website:
<https://www.ehima.com/documents/> (EHIMA, Accessed 2019)²
 - 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 2 cc coupler
 - Consult the Otometrics AURICAL HIT manual for additional notes on placement for test box testing

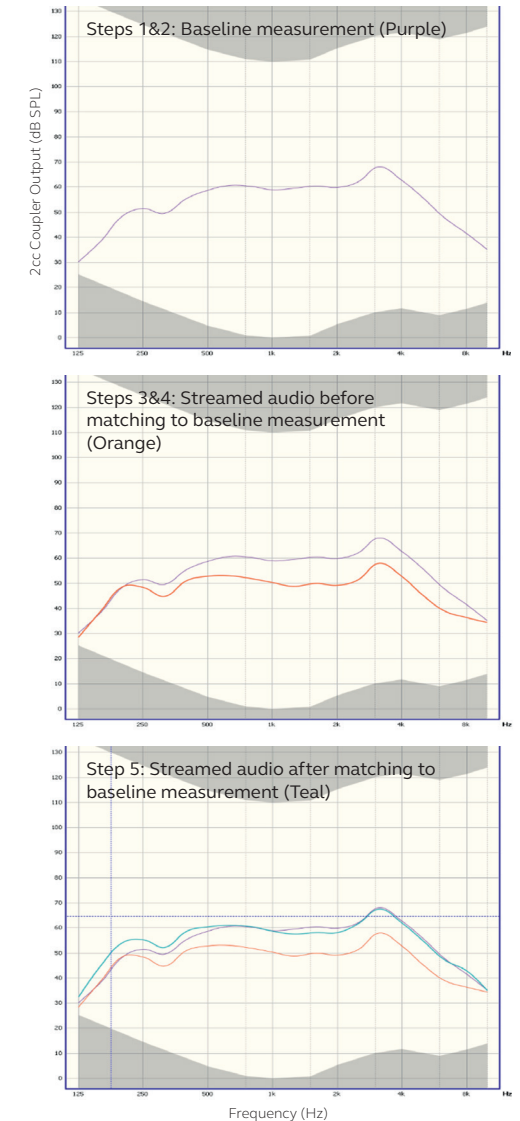


Record Baseline Measurement

1. Start PMM 2 cc Coupler session
2. Present ISTS signal at 65 dB SPL for 14 sec.

Record Streaming Measurement

3. Change signal to "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 "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



¹ 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>

² 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/>