

Real Ear Testing of Open Fitted Hearing Instruments

The elimination of the occlusion effect has encouraged most hearing instrument manufacturers to build open fitted product. As will soon be pointed out in a paper (“Real-ear measurement verification for open, non-occluding hearing instruments”) written by Johannes Lantz et al and soon to be published in the International Journal of Audiology, the use of the pressure method of sound field control can yield incorrect results when testing open fittings. There is hope, however. This short article shows a way that the verification can easily be accomplished with FONIX analyzers.

Procedure:

Use the normal recommended setup for the real ear test. Place the reference and probe microphones on the head as usual, and locate the sound field speaker as recommended. Level the sound field with the ear unaided and if desired, make an unaided response measurement (REUR). Now take the following steps:

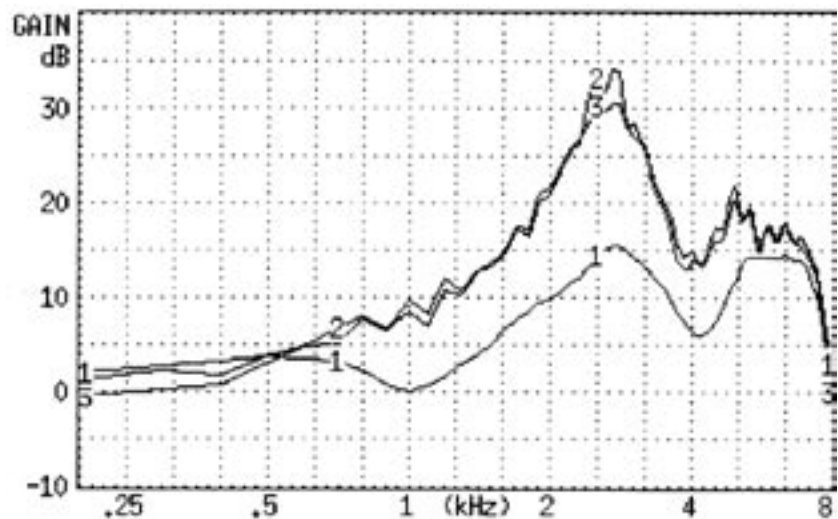
Step 1 Turn off the reference microphone.

Step 2 Place the hearing aid on the ear and take the real ear aided response (REAR).

That's it.

It is necessary to instruct the patient to hold still when making the REAR measurement with the reference microphone off. The hearing aid must be switched off while leveling the sound field.

The FONIX 7000 graph shows three curves. Curve 1 is of the REUR; Curve 2 is REAR with the reference microphone left



on. Curve 3 is REAR with the reference microphone off. Signal levels were all 65 dB SPL RMS, digital speech, ANSI weighting. The additional gain at 2.5 kHz with the reference microphone left on is the result of measurement artifact.



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