

Attaching a coupler to an

Open-Fit Hearing Aid



Open Fit Hearing Aids

“Open fit” style hearing aids have boomed in popularity over the past couple of years. Unfortunately, the ANSI standards have not yet caught up with them. At the moment, there is no standardized method of performing a coupler measurement on an open fit style hearing aid. Hearing aid manufacturers have independently developed different mechanisms for attaching an open fit hearing aid to an HA-1 or HA-2 coupler. One such device, pictured in Figure 1, is attached to the speaker unit of the open fit hearing aid and to the tubing of an HA-2 coupler. Other connecting devices may consist of a plate that attaches to an HA-1 coupler.

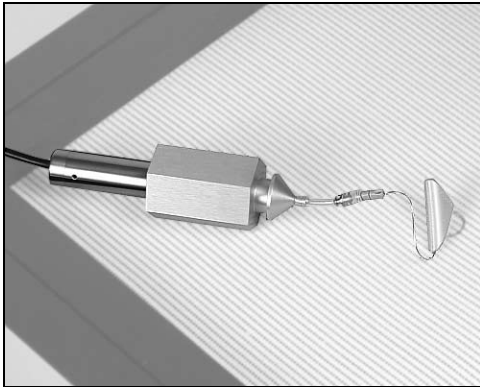


Figure 1—HA-2 Coupler

To perform a coupler measurement to the ANSI S3.22 standard, we recommend using Fun-Tak to connect the speaker unit of the open fit hearing aid to an HA-1 coupler, as pictured in Figure 2. We believe that the HA-1 coupler is better than the HA-2 coupler for open fit hearing aids because, unlike the BTE aids for which the HA-2 was designed, open fit hearing aids are not attached to an ear mold.

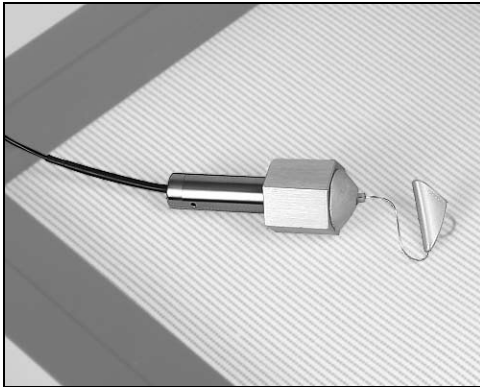


Figure 2—HA-1 Coupler

We have also developed a non-standard coupler for open fit hearing aids. It has two design purposes: 1) To make an convenient connection between the hearing aid and the coupler, and 2) To provide a more real-ear like frequency response than is possible with an HA-1 or HA-2 coupler. Figure 3 shows a picture of the open fit coupler with an attached hearing aid.

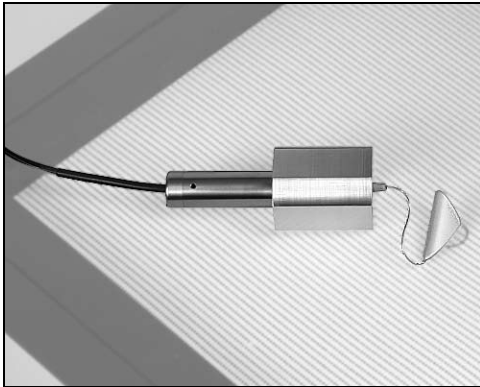


Figure 3—Open fit coupler

Figure 4 contains an example of a comparison of an open fit hearing aid tested with an open fit coupler (Curve 1), an HA-1 coupler attached to the open fit hearing aid with Fun-Tak (Curve 2), and an HA-2 coupler with an open fit attachment (Curve 3). The dark line (Curve 4) in the graph represents the KEMAR real-ear gain response of the hearing aid. As illustrated, the open fit coupler provides the measurement most like the real-ear response of the hearing aid.

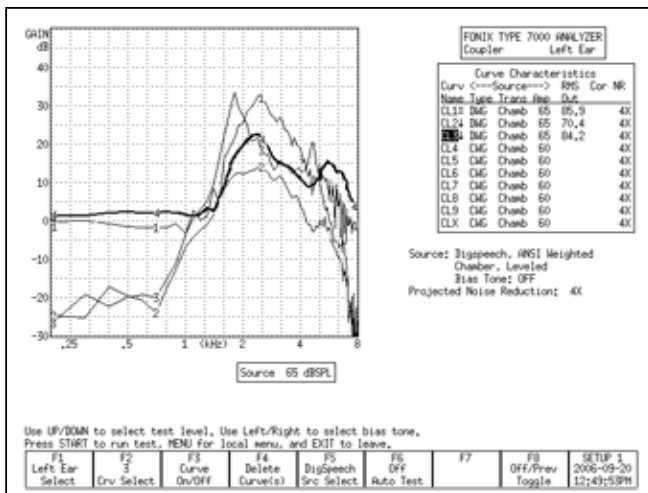


Figure 4—Comparison of couplers with open fit hearing aid. Curve 1 was measured using the Open Fit coupler, Curve 2 with an HA-1 coupler, Curve 3 with an HA-2 coupler, and Curve 4 is the KEMAR real-ear response.