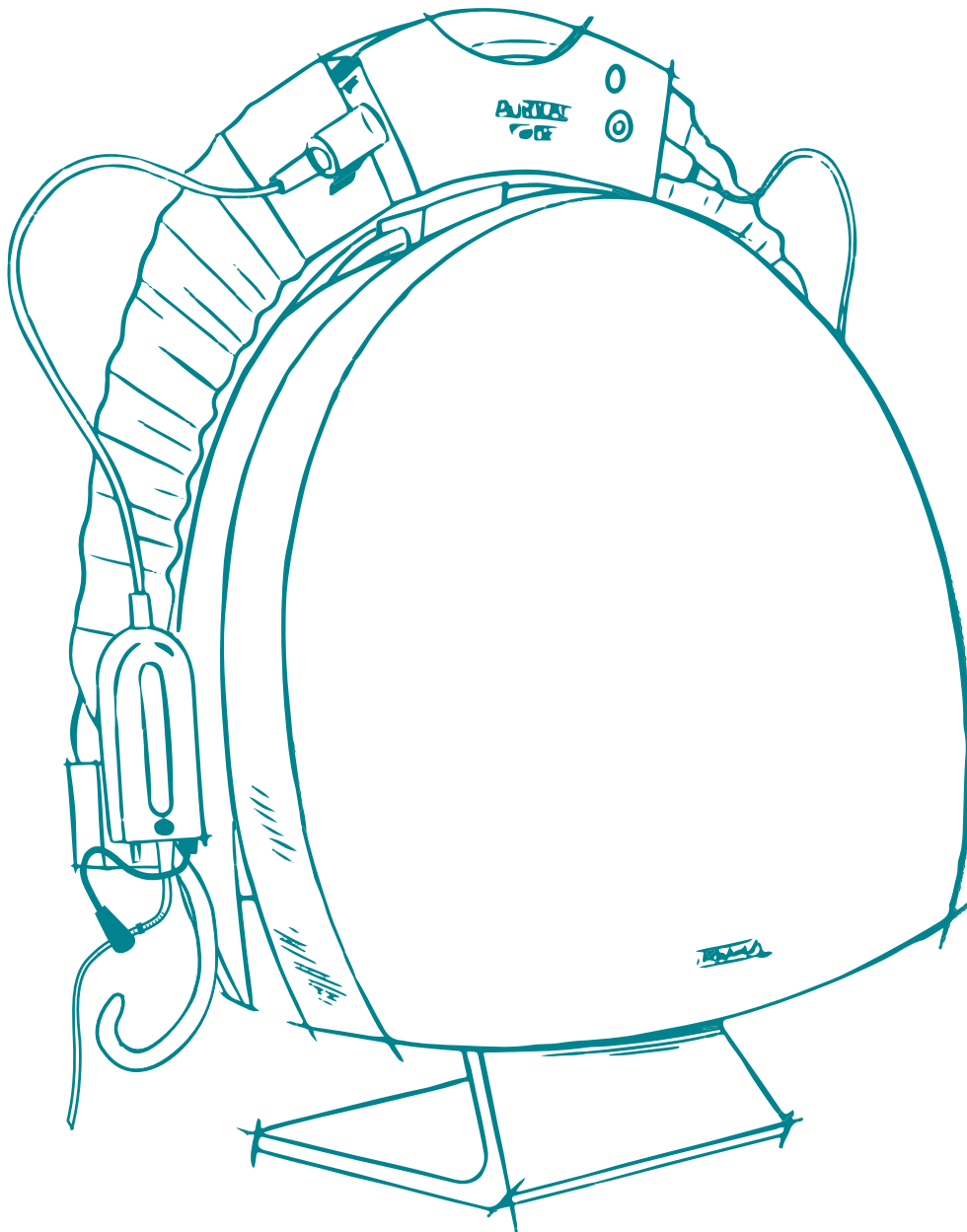


Real Ear Measurements with Aurical



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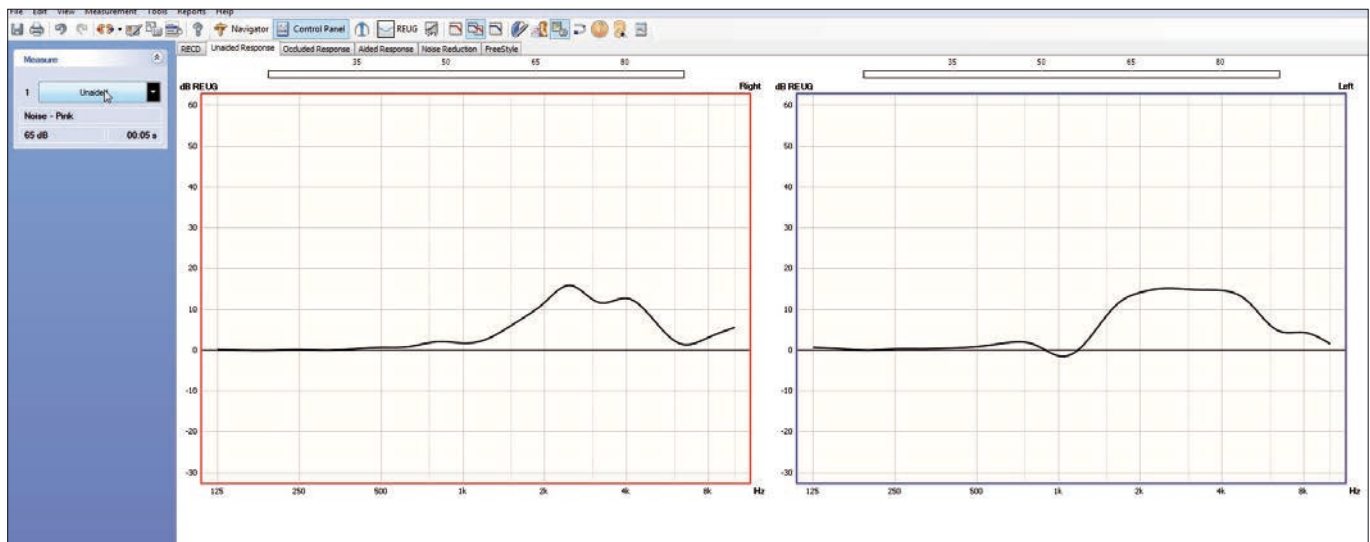
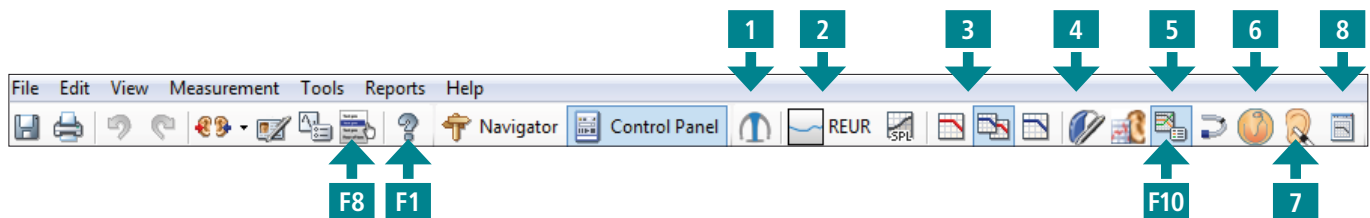
Overview of the Unaided Gain screen

Keyboard Shortcuts:

- F1 = Help
- F8 = Test Selector
- F10 = Fitting Details

Control Panel Options:

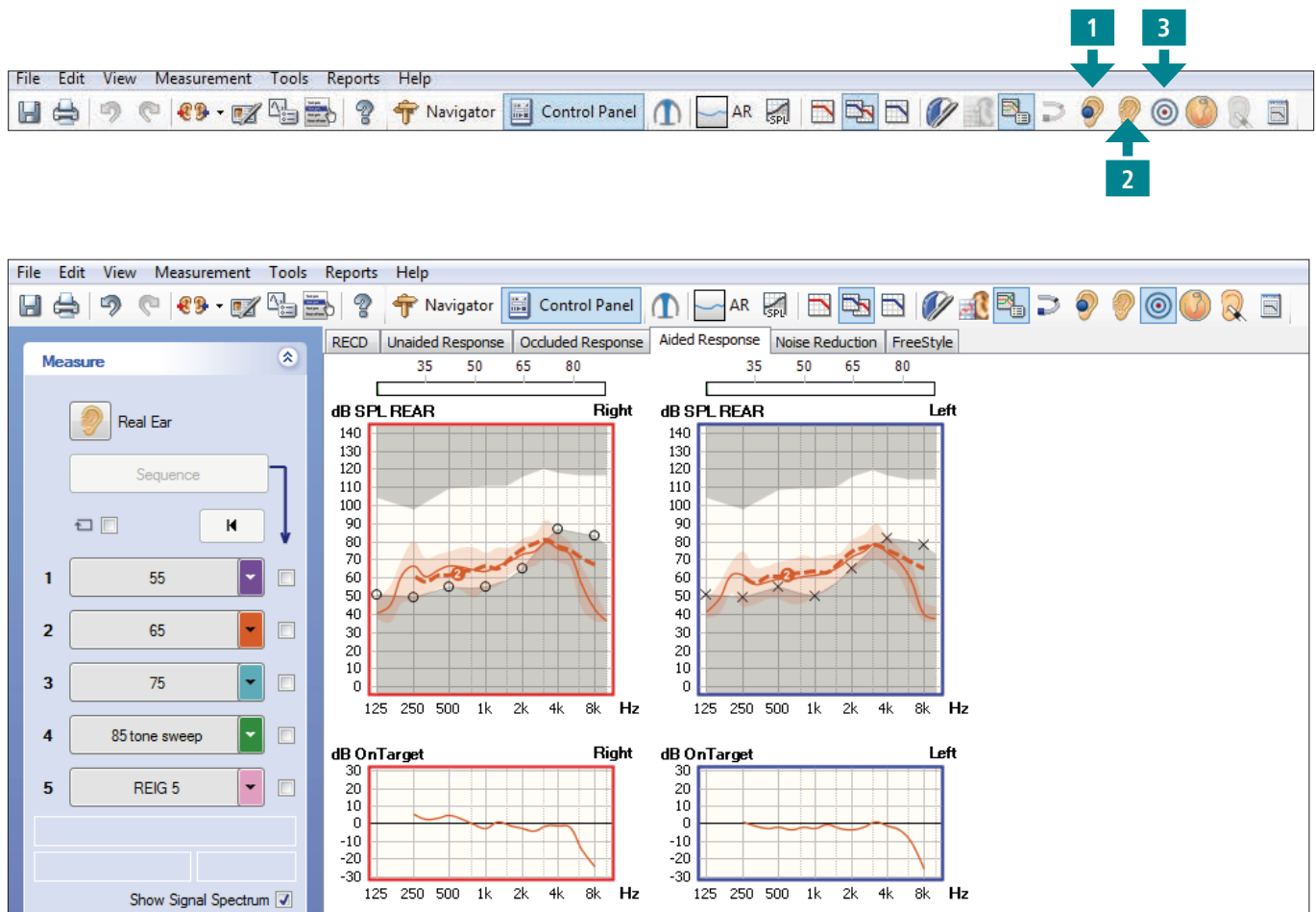
1. Select device
2. Toggle Gain/Response
3. Toggle HL/SPL
4. Right, Left or Binaural
5. Fitting Details
6. Show Video Otoscopy
7. ProbeTube Assistant
8. On Top Mode



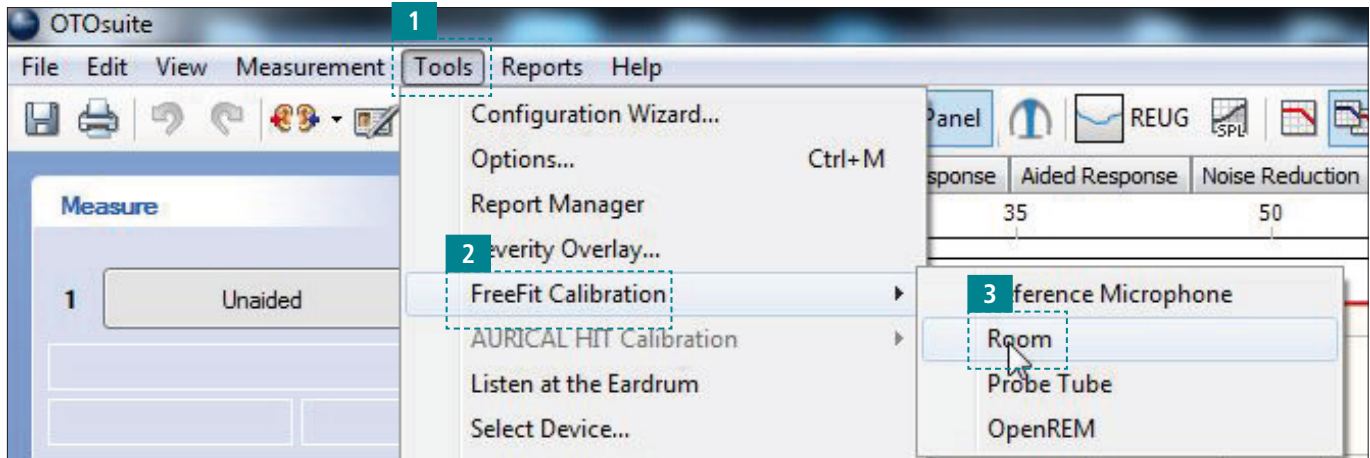
Overview of the Aided Response screen

Control panel options:

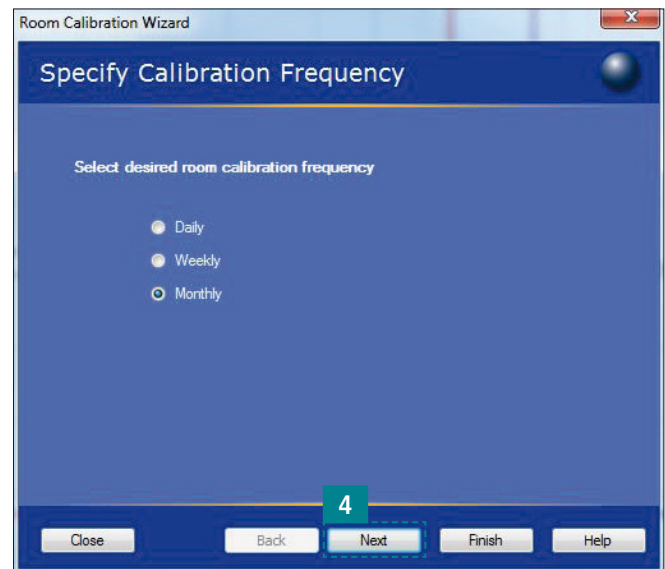
1. OpenREM Calibration or normal calibration
2. Real Ear/Coupler based fitting
3. Show/hide OnTarget view



Room calibration



- 1 Select **"Tools"**.
- 2 Select **"Freefit Calibration"**.
- 3 Select **"Room"**.
- 4 Click **"Next"**. The system is configured to remind you to perform the room calibration monthly.



Room calibration *(continued)*



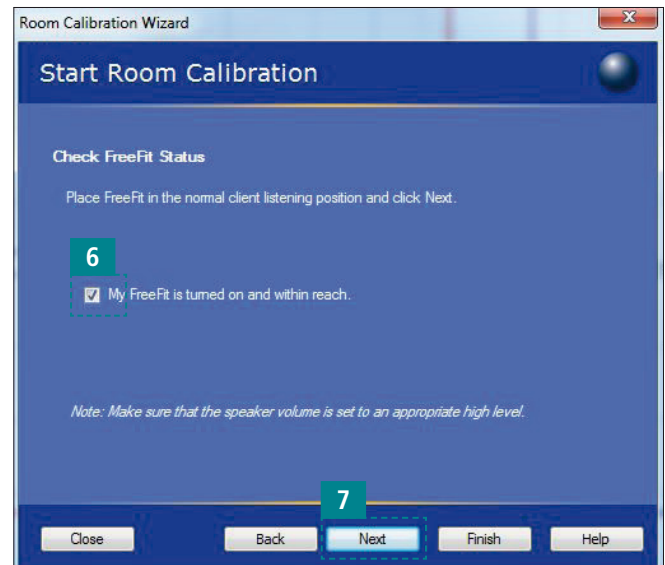
- 5** Turn on the Freefit by pressing the button.
A green light will show.

- 6** In the "Room Calibration Wizard" select
"My Freefit is turned on and within reach".

Before starting the room calibration, position the Freefit in the intended client location.

- 7** Select "Next".

- 8** Select "Finish".

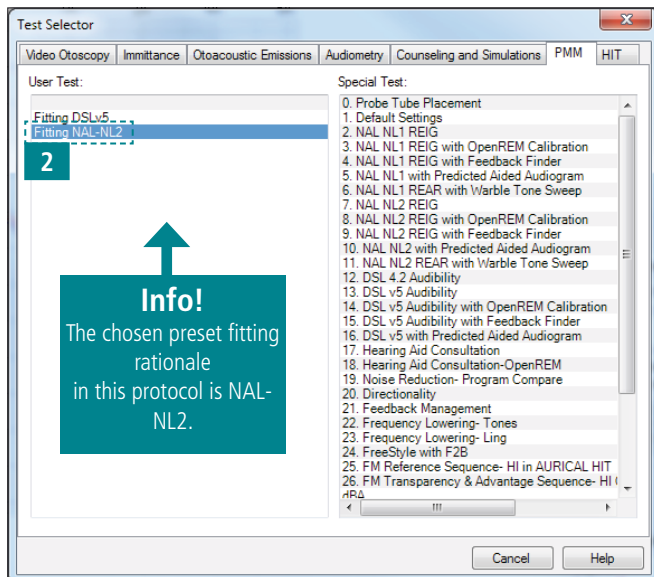
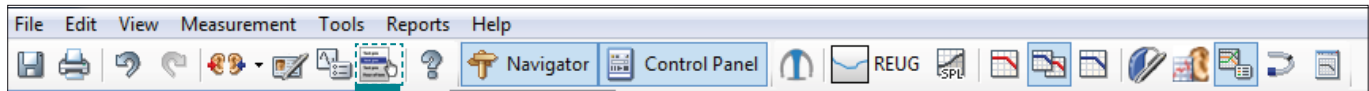


Step one – Program your your hearing instruments

Before starting the fitting procedure, remember to program the hearing instrument in the hearing instrument software:

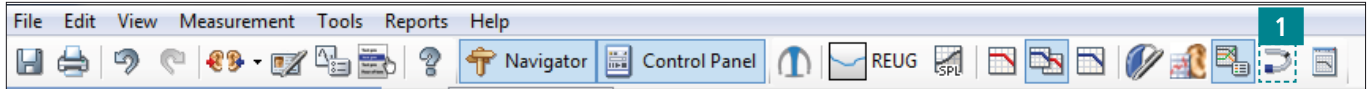
- Choose rationale - NAL - NL2
- Set vent size
- Set user experience – as experienced non linear
- Mute the hearing instruments

Step two – Choose protocol for Real Ear Measurements (REM)

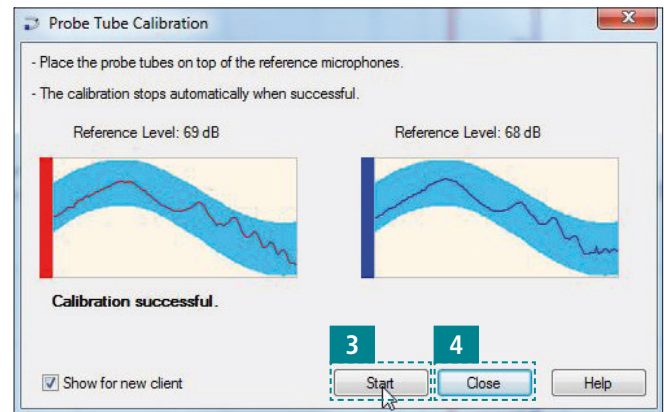


- 1 Select **"Test Selector"** icon (or keyboard shortcut F8).
- 2 In **"User Test"** select **"Fitting NAL-NL2"**.

Step three – Probe tube calibration

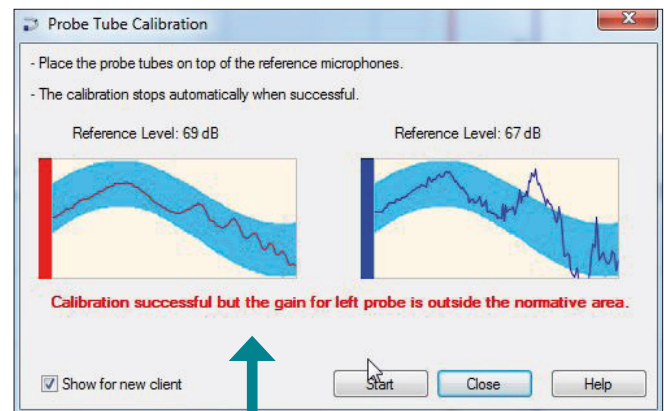


- 1 The **"Probe Tube Calibration"** Box should appear automatically for each new session. If not, select the Probe Tube Calibration icon.
- 2 Fixate the probe tubes in the small holder over both reference microphones, with the probe tube tip placed at the center of the reference microphone.
- 3 Hold the Freefit around 30-100 cm away from the loudspeaker and select **"Start"**.
- 4 After completing probe tube calibration, select **"Close"**.



Info!

Remember to change the probe tube for each new person

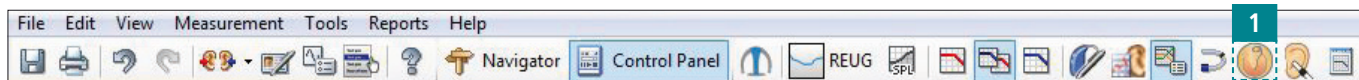


Note!

An unsuccessful calibration will result in a red message. Please try the following:

- Replace the probe tubes
- Straighten the probe tubes
- Stabilize the Freefit on the person's shoulders
- Make sure the probe tube is not touching any other objects

Step four a – Insert probe tube manually



1 Perform an Otoscopy.

Use a standard otoscope, or the "Aurical® Otocam 300" for a video otoscopy by selecting the highlighted icon.

2 Measure the probe tube.

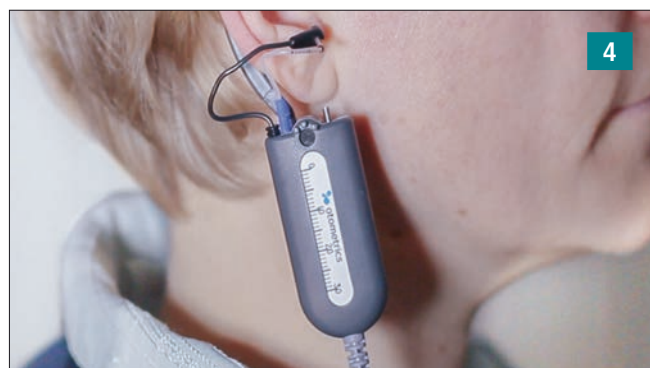
Place the black marker ring on the probe tube utilizing the ruler on the probe tube housing.

3 Place the client.

Let the client face the Aurical speaker in a distance of approximately 1 meter.

4 Insert the probe tube.

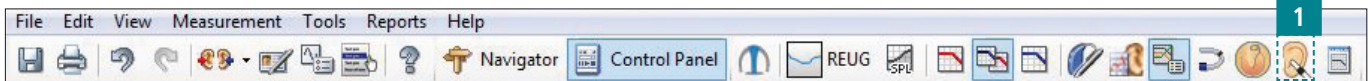
Move the probe tube slowly inwards in the ear canal, until the black marker ring on the probe tube rests in the intertragal notch of the ear.



Note!

You can also use the Probe Tube Assistant feature in Otosuite for insertion of probe tube. See the functionality on page 11 of this guide.

Step four b – Insert the probe tube using ProbeTube Assistant



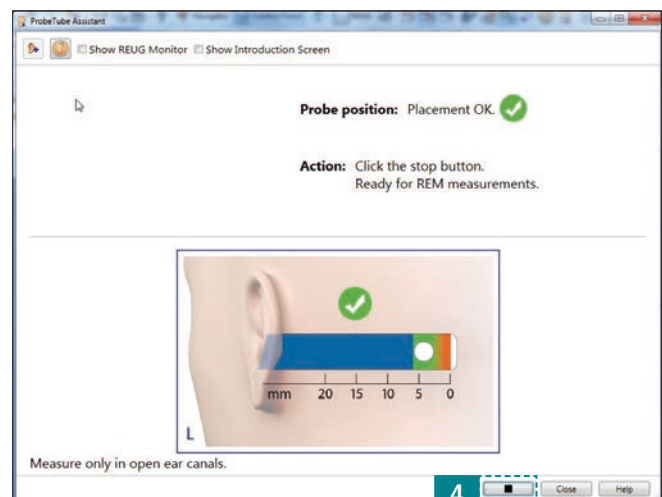
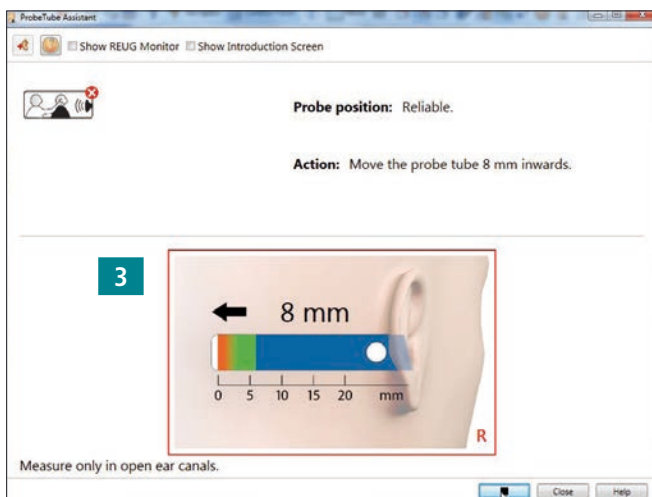
- 1 Select the **ProbeTube Assistant** icon.
- 2 Press the button on the Freefit to start the measurement. Remember to stay quite during the measurements.
- 3 Insert the probe tube slowly while observing the information about insertion depth. Remember to remove your hands after each reposition of the probe tube.
- 4 When the probe tube has been placed correctly, select **"Stop"**.



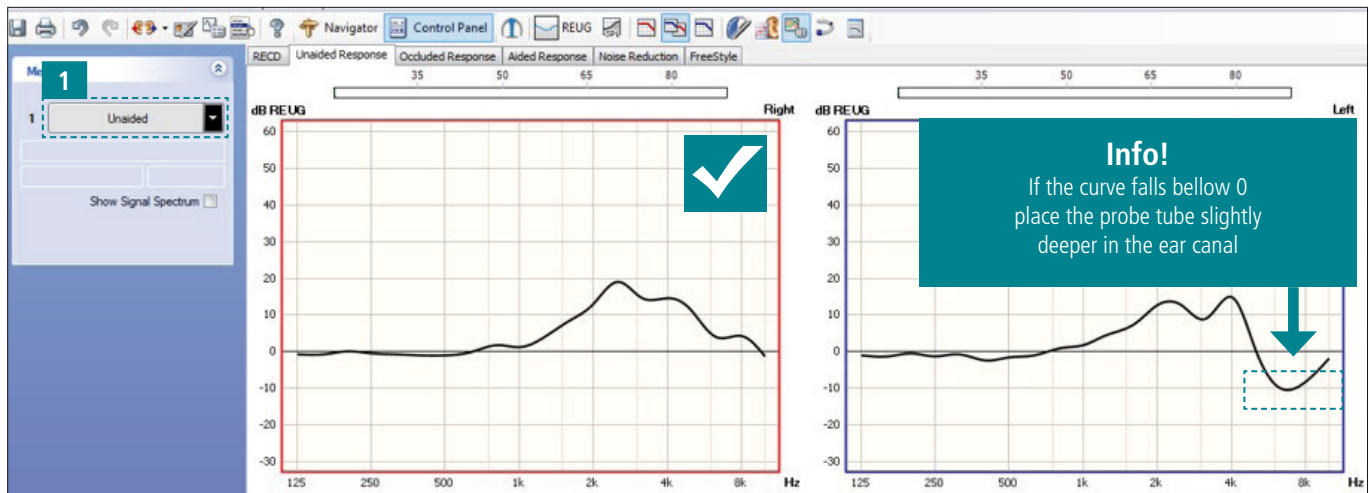
Note!

Before using the ProbeTube Assistant remember these steps:

- 1) Perform an otoscopy.
- 2) Place the client facing the Aurical speaker.
- 3) Place the black marker ring on the probe tube at 25 mm utilizing the ruler on the probe.



Step five – Measure Real Ear Unaided Gain (REUG)



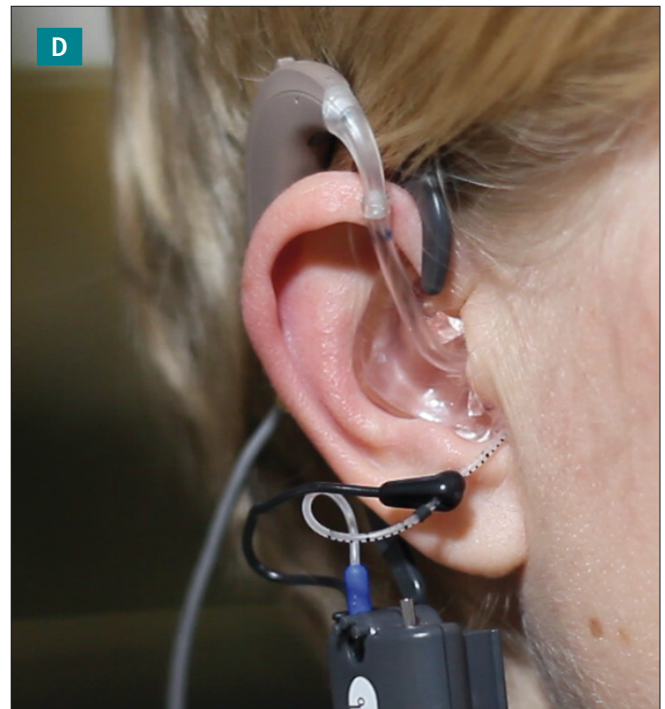
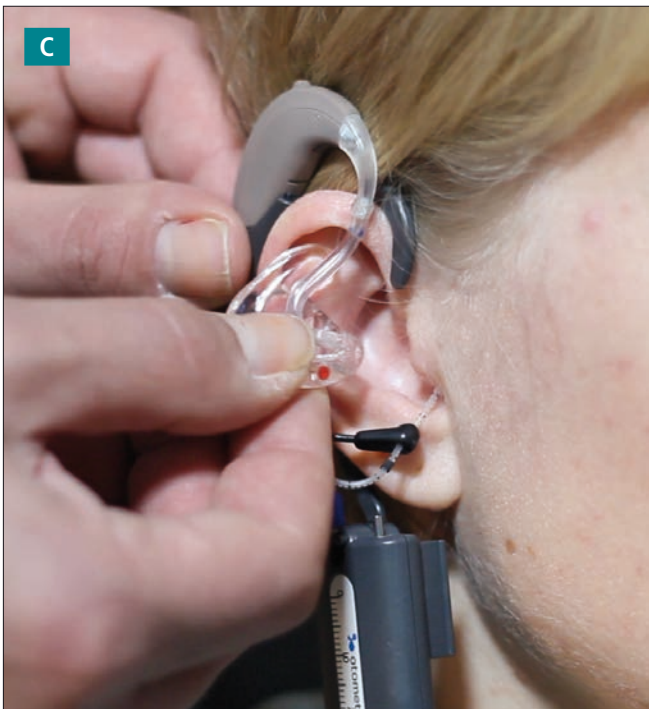
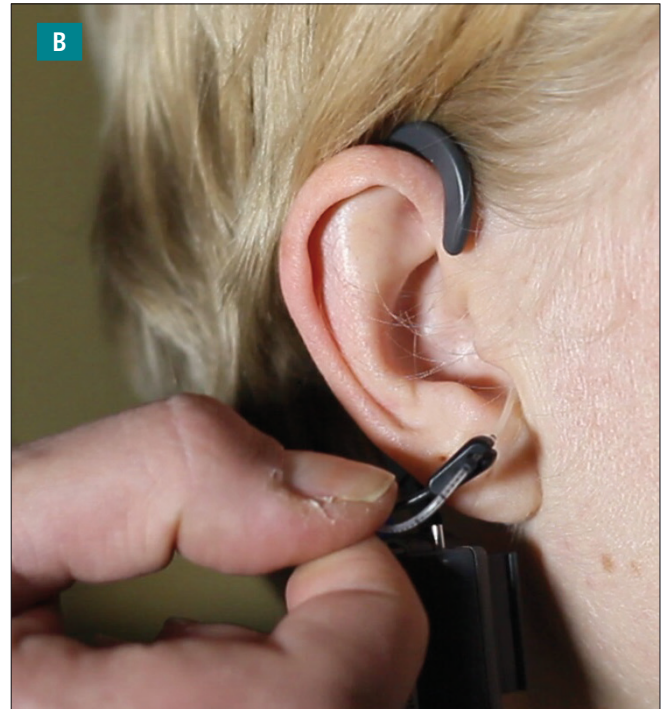
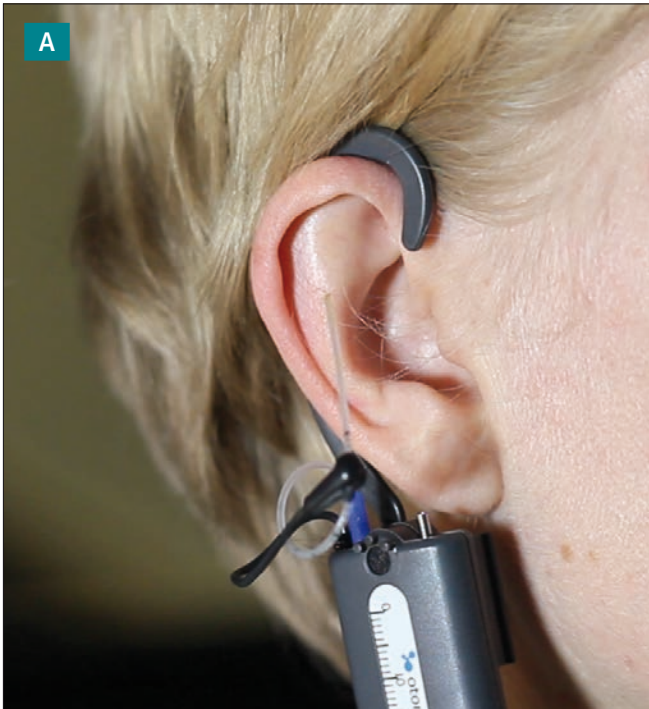
1 Perform Unaided Gain.

Select the **"Unaided"** button to start the unaided measurement.

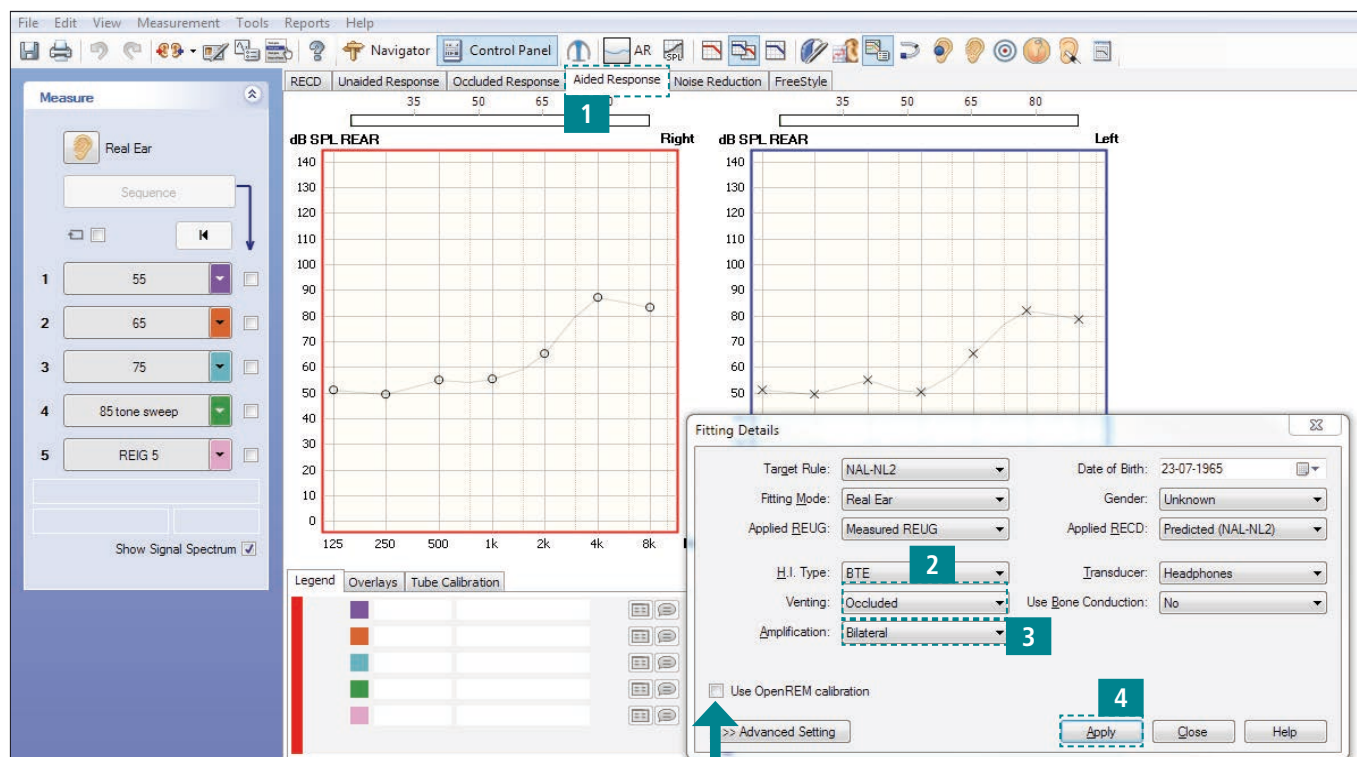
Step six – Insert the hearing instruments

1 Insert the hearing instruments.

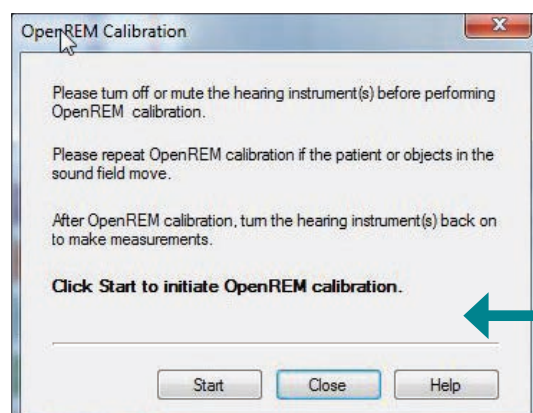
Hold the probe tube in place while inserting the hearing instrument in each ear.



Step seven – Measure Real Ear Aided Response



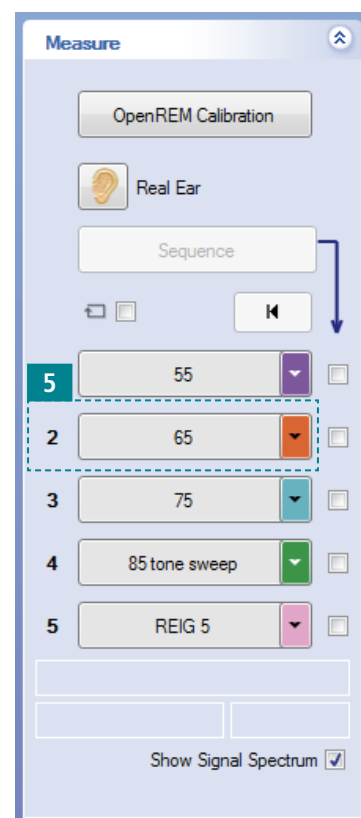
- 1 Select the "Aided Response" tab.
- 2 In the "Venting" box select the choice of vent.
- 3 In the "Amplification" box select the choice of either "Unilateral" or "Bilateral".
- 4 Select "Apply".
- 5 With the hearing instruments turned ON, perform the initial measurement curve by selecting "65".



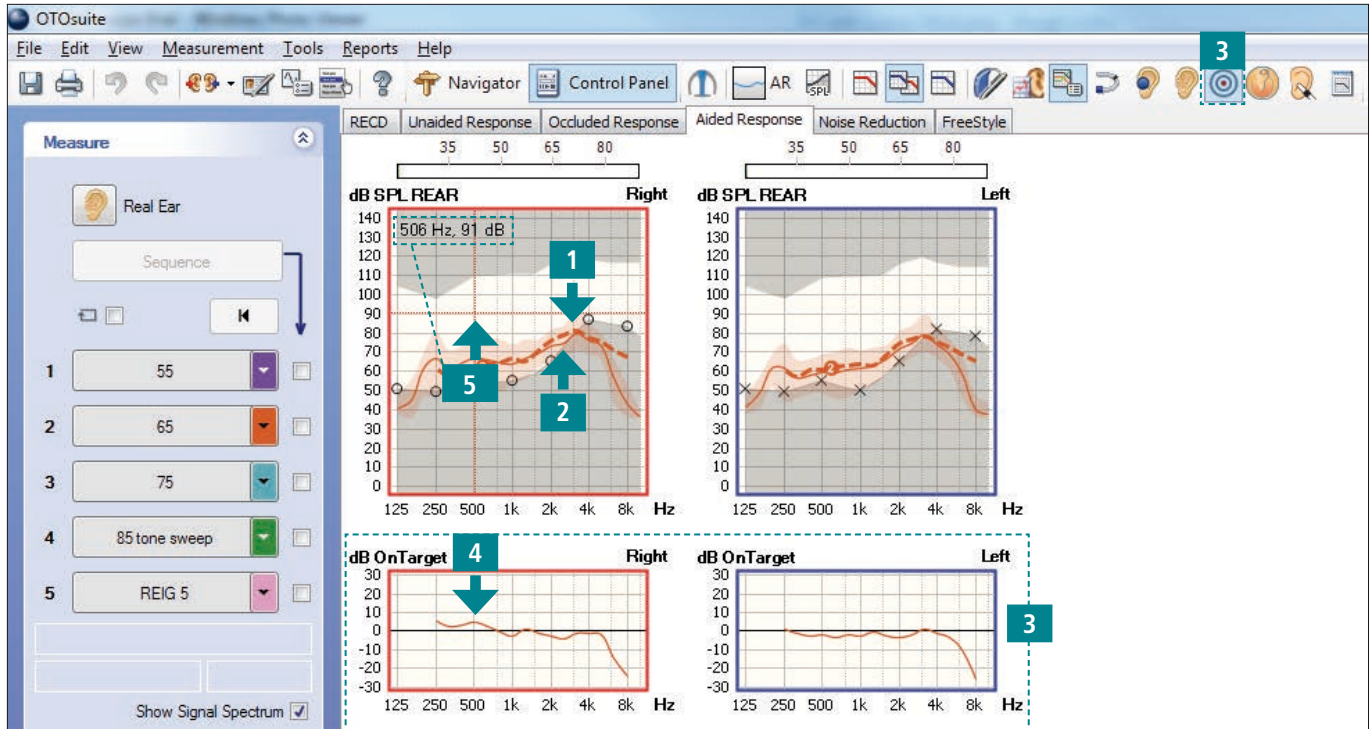
Note!

When performing an open fitting, remember to perform "OpenREM Calibration" with the hearing instruments muted.

Then unmute the hearing instruments and continue with the fitting process.



View of the Aided Response measurement curve



- 1 The dashed red curve is the target.
- 2 The solid red curve is the LTASS response of the hearing instruments (Long Term Average Speech Spectrum).
- 3 Select the **Show/hide OnTarget** View icon to see the OnTarget graphic.
- 4 The **"OnTarget"** curve is the difference between target and output. It's the visualization of the amount of the needed adjustment.
- 5 Place the cursor in the different frequencies in order to see the amount of output that needs to be adjusted.

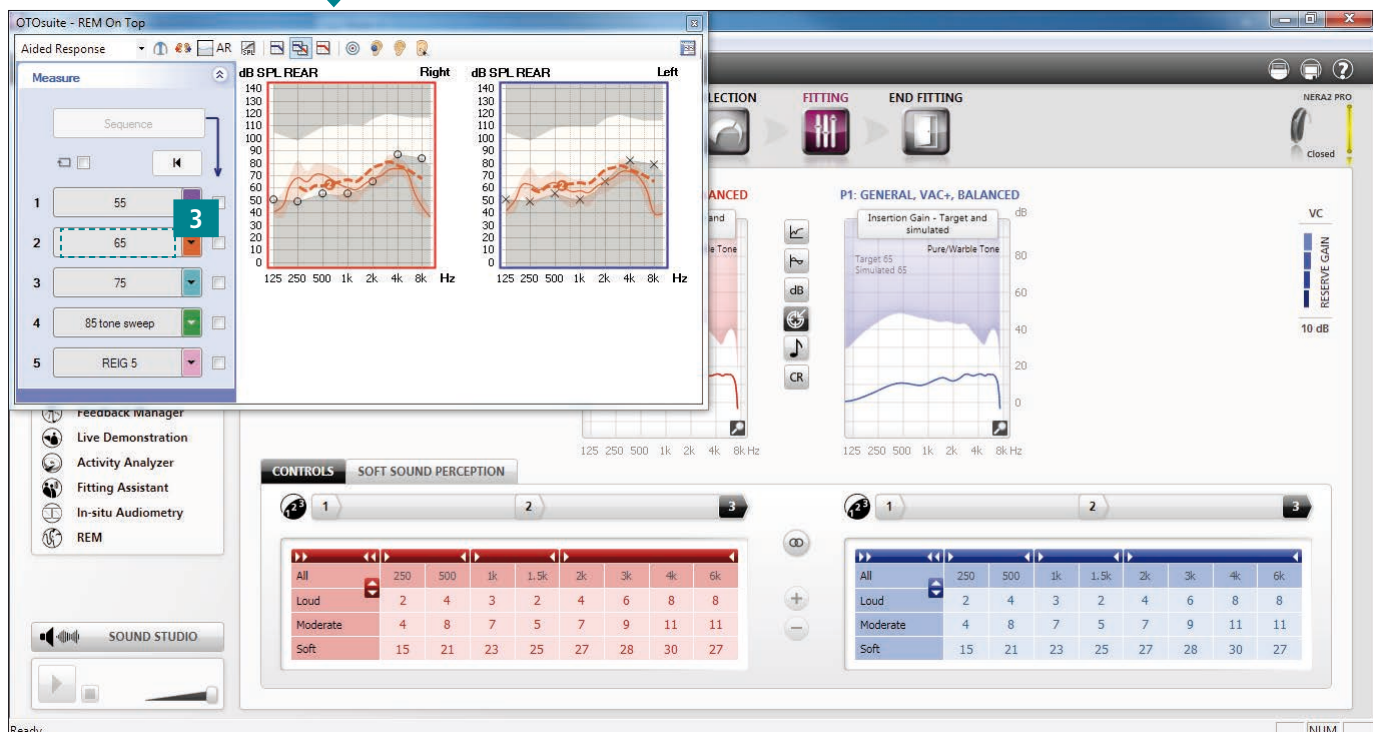
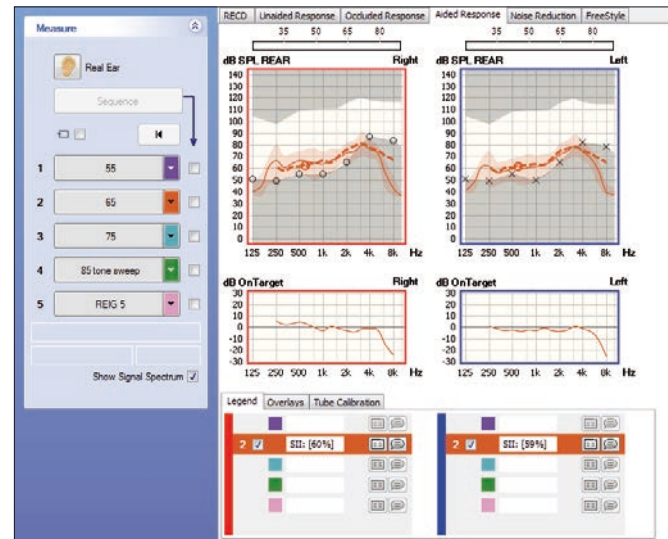
Step eight – Adjust the hearing instruments



- 1 Select the **On Top Mode** to see both **Otosuite PMM** and the hearing instrument software (select the **On Top Mode** icon to go back to normal view).
- 2 In the hearing instrument software adjust all three output levels (quiet, medium and loud/55, 65 and 75 dB) by turning up or down in accordance with the difference between the target and the output measured.
- 3 Finish by retesting the "65" level.

Info!

The fitting goal is to increase or decrease the hearing instrument output to make the dashed and solid curves match as much as possible (+/- 5 dB), especially for the frequency range of 750-4000 Hz.



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