Automatic REM guide

Automatic REM is an automated workflow for Real Ear Measurements (REM) integrated with the Otometrics Aurical FreeFit solution. The solution provides a seamless, step by step workflow that takes advantage of the features of the Aurical FreeFit solution, guiding the user through the various steps of the Real Ear Measurements and matching to targets from within the Unitron TrueFit™ software. This creates an easy and effective way of incorporating Real Ear Measurement into the fitting process.

For additional details on programming and fitting Unitron hearing aids, please refer to the Unitron TrueFit Instruction Guide.

Requirements:

|	
Unitron TrueFit version	Unitron TrueFit v4.2 or higher
NOAH version	Noah 4.4 Build 2280 or higher
Otometrics Otosuite version	Otosuite 4.83.00 or higher
Equipment	Otometrics AURICAL FreeFit

Visit www.otometrics.com/aurical for more information on AURICAL from Otometrics.

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Automatic REM

Automatic REM can be accessed via the Fitting tab. It is accessible within TrueFit when running Noah and connected to an Aurical FreeFit system. If there are Automatic REM results from a previous session, they will be visible regardless of connection status.
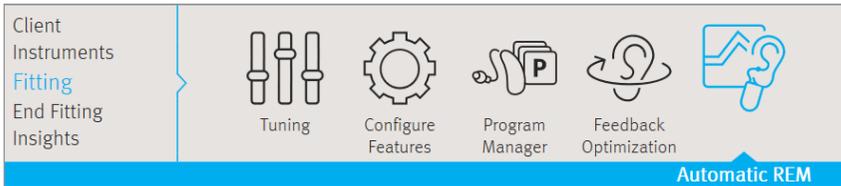

The workflow can be run for either Left or Right or both ears.
Click **R** / **Start both** / **L** to start Automatic REM.
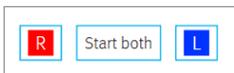

Preparation – configuration

Running Automatic REM for the first time, the only option is to select **Measure new real ear data**. The software will guide you through the steps to calibrate the probe tube, measure the REUG, Acoustic coupling, REOG, and MLE (Microphone Location Effect).
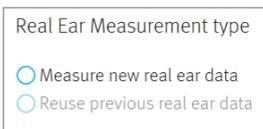
For a follow-up session with Automatic REM, you have the option to repeat measurements for either or both ears. Select **Reuse previous real ear data** and then one of the following two options:

- **Reuse REUG** measurements and run the workflow from the Acoustic Coupling and REOG
- **Reuse all measurements** to re-run only the Automatic Match portion of the workflow
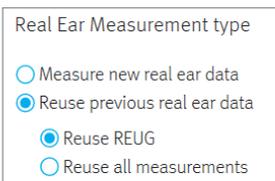

Note: If the Automatic REM is being run when the adaptation manager is not yet at 100%, the percentage will be set to 100% for the duration of the Automatic REM workflow. In addition, the App Equalizer values will be set to zero for the duration of the workflow. Both will be returned to their original values on completion of the workflow.

Preparation – probe tube calibration

Follow the on-screen instructions to calibrate the probe tubes.

Click **Close** to proceed.
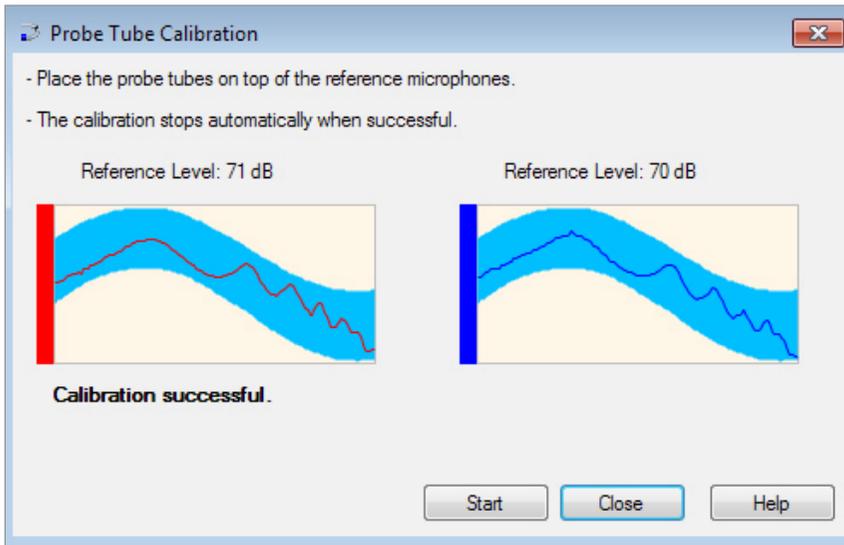
REUG measurement

Follow the on-screen REUG Preparation instructions then click
R Start / **L Start** to start the REUG measurement.

Place the probe tip close to the eardrum and then press **Start**.

When the results of the REUG measurement are displayed, a green check mark indicates that the measurements were completed successfully. If there were any issues encountered with the measurements, a warning icon will be shown with a brief status message. The user then has the option to repeat the measurement if needed.

Real ear measurements: Acoustic coupling, REOG, and MLE

Follow the preparation instructions:

Acoustic coupling & REOG preparation

⚠️ **Ensure that**

- The hearing aids are now inserted
- The probe tubes are inserted and properly positioned
- Hearing aids are connected to the fitting device

ℹ️ **Instructions to the client**

- Be quiet during measurement
- Look at the screen or the front loudspeaker
- Do not turn the head while sounds are playing

Note: Please make sure that the probe tube position doesn't change while inserting the hearing aids.

Click **Measure** to perform the Acoustic Coupling, REOG, and MLE measurements.

In the summary of the results,

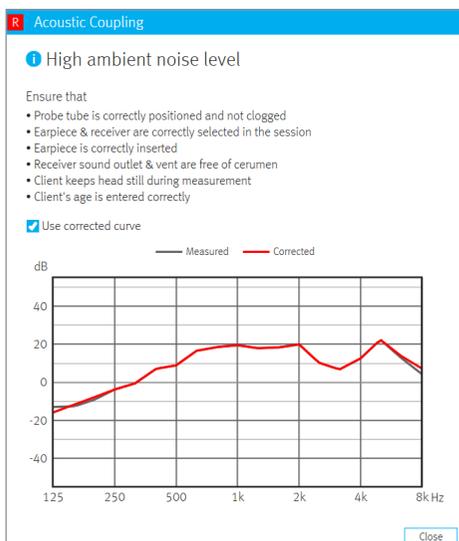**R Acoustic coupling & REOG**

ℹ️ **High ambient noise level**
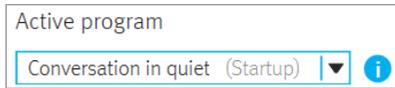
ℹ️ Acoustic Coupling

✅ REOG

✅ MLE

A status indication in bold with a warning or an error symbol indicates an issue occurred during one or more of the measurements and a similar icon next to the specific measurement indicates if it was impacted. A green check mark indicates that the measurements completed successfully.

In the above scenario the REOG and MLE measurements completed successfully, but the Acoustic Coupling measurement was impacted by High Ambient Noise. Clicking on the Details button will provide some more detail and recommendations.

R Acoustic Coupling

ℹ️ High ambient noise level

Ensure that
- Probe tube is correctly positioned and not clogged
- Earpiece & receiver are correctly selected in the session
- Earpiece is correctly inserted
- Receiver sound outlet & vent are free of cerumen
- Client keeps head still during measurement
- Client's age is entered correctly

☑️ Use corrected curve

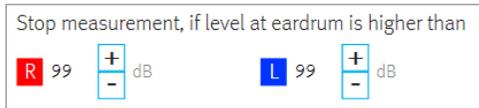— Measured   — Corrected

Measure & match targets

Select the program that will be active during verification.

Set the maximum level at the eardrum at which to stop the measurement.

Click **Measure** to automatically apply acoustic information (i.e. REUG, Acoustic coupling, and REOG), run aided response measurements, adjust the hearing aid output to match targets and obtain the hearing aid responses.
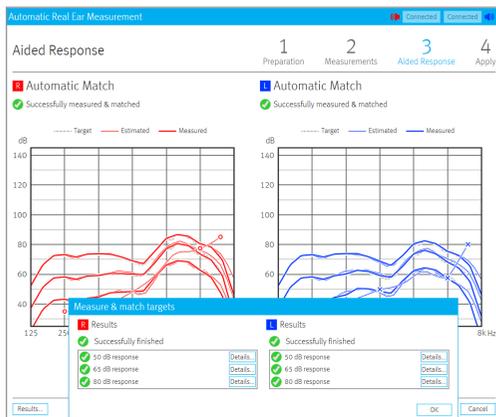

In the above example, the green check marks indicate that all measurements completed successfully. As mentioned before, if any one or more of the measurements encounter an issue, an appropriate warning/error icon and status message will be displayed. Select **Details** for each of the measurements to see an explanation of the results.

Finishing Automatic REM

Click **Save** to apply the changes to the fitting and store all measurements within the current session in the Unitron TrueFit software with the option to add notes.

Once saved, you can view the results for the REUG, REOG, Acoustic Coupling and Aided Measurements on the Fitting › Automatic REM screen.

Measurement results
REUG ◀
REOG
Acoustic Coupling
Aided Measurements
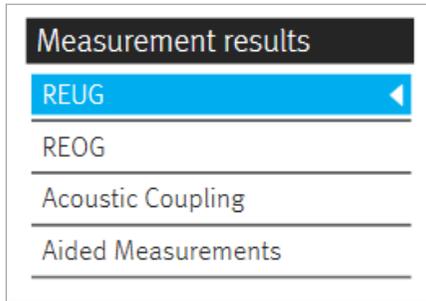
Note: the REUG measurements are also displayed in the Client › REUG screen

Glossary

Acoustic Coupling - a measurement performed to characterise the acoustic impact of the physical coupling of the hearing instrument to the client's ear. This is also known as the ear-to-coupler level difference (ECLD).

Aided Measurements - real-ear measurements performed with the hearing instrument inserted in the clients ear and turned on.

Automatic REM - is an integration of an automated workflow for REM with the Otometrics Aurical FreeFit solution, providing users with a seamless, step by step workflow that takes advantage of the features of the Aurical FreeFit solution while allowing the real ear activities to be performed from within Unitron TrueFit software.

MLE - Microphone Location Effect

REOG - Real Ear Occluded Gain

REUG - Real Ear Unaided Gain

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