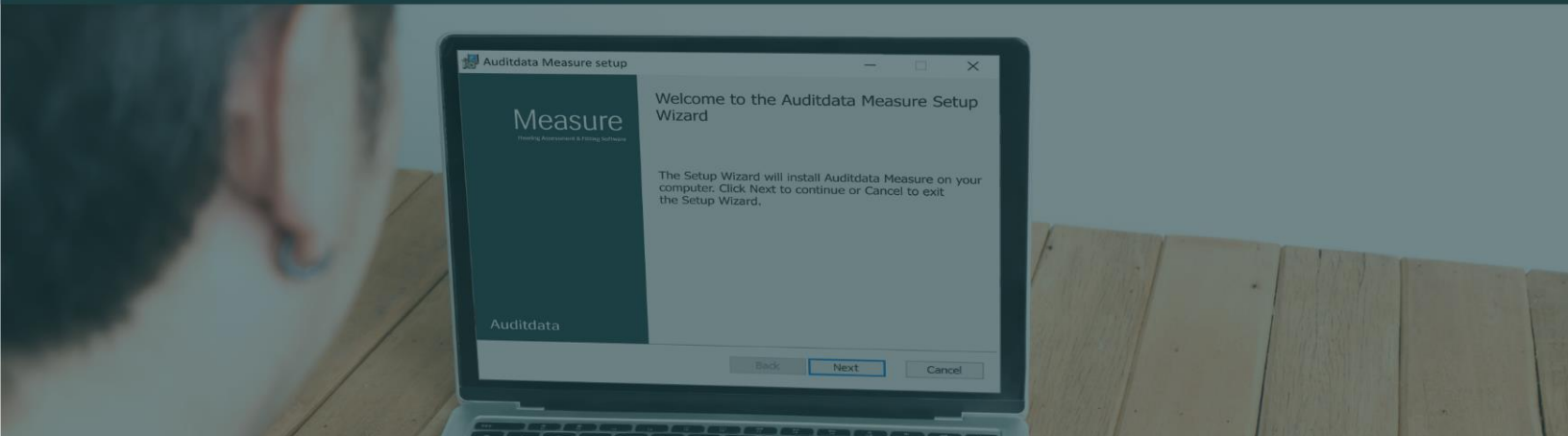
Measure

What's New

version 6.3.0



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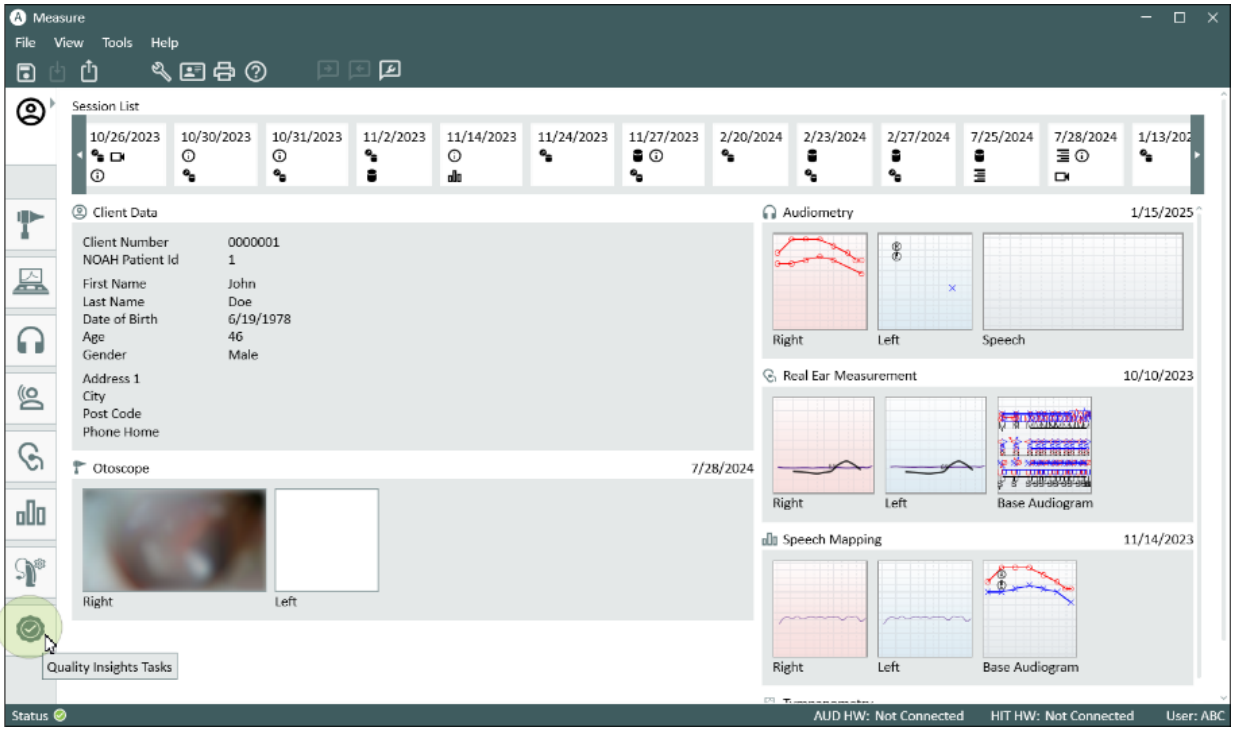
1 Introduction

The latest release, Measure 6.3.0, delivers numerous enhancements across multiple modules, focusing on improved efficiency, accuracy, and user experience. This update introduces the **Quality Insights (QI) module**, refinements to **REM/SM**, **tympanometry**, **hearing instrument testing (HIT)**, and various other optimizations aimed at making clinical workflows smoother and more effective.

Below is a comprehensive overview of the key updates in this release.

2 New Quality Insights (QI) Module

A major addition to this release is the Quality Insights (QI) module, designed to make session quality assessment more efficient. Accessible from the left-hand navigation pane, this module allows users to evaluate session quality at a glance without manually reviewing individual records.



Key Features

The module provides an overview of workflows and individual measurements, allowing users to:

- **Track Workflow Completion** – See if a workflow was selected during a session and whether each step was completed, skipped, or partially completed.
- **Review Comments** – View justifications on skipped steps or abandoned workflows for better context.
- **Check Rule Compliance** – Identify any unmet rules that were applied to a measurement.
- **Monitor Masking Assistant Alerts** – Detect unresolved alerts and see which rules were triggered.
- **Assess Ambient Noise Levels** – Check if high ambient noise was detected during stimulus presentation.
- **Assess Quality of Fittings –** Check if REUG measurements were within expected range and if amplification matched target.

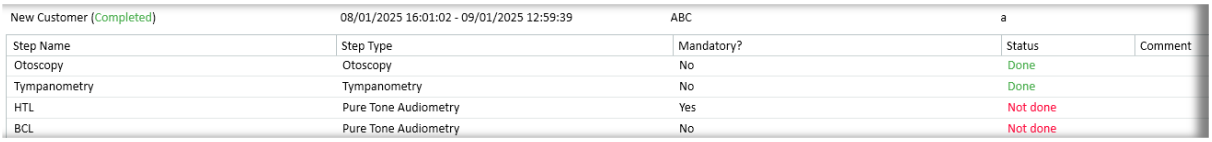
Session Data Overview

For each session saved in Measure, users can view:

- **Session Details:** Date, time, username, workflow title, and test modules saved.

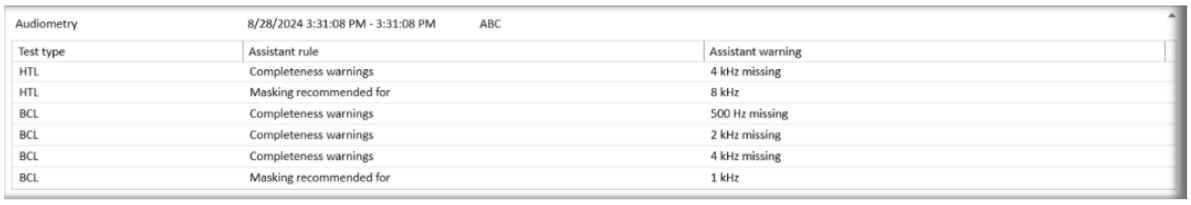
Quality Insights Data	Duration	User name	User note
Screening (Completed)	15/10/2024 15:09:30 - 15:14:35	ABC	Patient ran out of time

- **Workflow Completion:** For each started workflow, step names, whether they were mandatory, and their completion status (active, done, incomplete, skipped, or not done) can be viewed.



New Customer (Completed)	08/01/2025 16:01:02 - 09/01/2025 12:59:39	ABC	a	
Step Name	Step Type	Mandatory?	Status	Comment
Otoscopy	Otoscopy	No	Done	
Tympanometry	Tympanometry	No	Done	
HTL	Pure Tone Audiometry	Yes	Not done	
BCL	Pure Tone Audiometry	No	Not done	

- **Measurement Insights:** For each test type with rules enabled in test definitions, any unresolved quality assistant warnings will be displayed here.



Audiometry	8/28/2024 3:31:08 PM - 3:31:08 PM	ABC
Test type	Assistant rule	Assistant warning
HTL	Completeness warnings	4 kHz missing
HTL	Masking recommended for	8 kHz
BCL	Completeness warnings	500 Hz missing
BCL	Completeness warnings	2 kHz missing
BCL	Completeness warnings	4 kHz missing
BCL	Masking recommended for	1 kHz

Navigation & Customization

- Users can **sort** items by *Latest* or *Oldest*.
- **Filters** allow selection of specific workflow types and measurements.
- **Expand all/Collapse all** buttons enable quick viewing of detailed information.
- The module can be **hidden** via *Tools* > *Settings* > *Workflow* > *Enable Modules*.

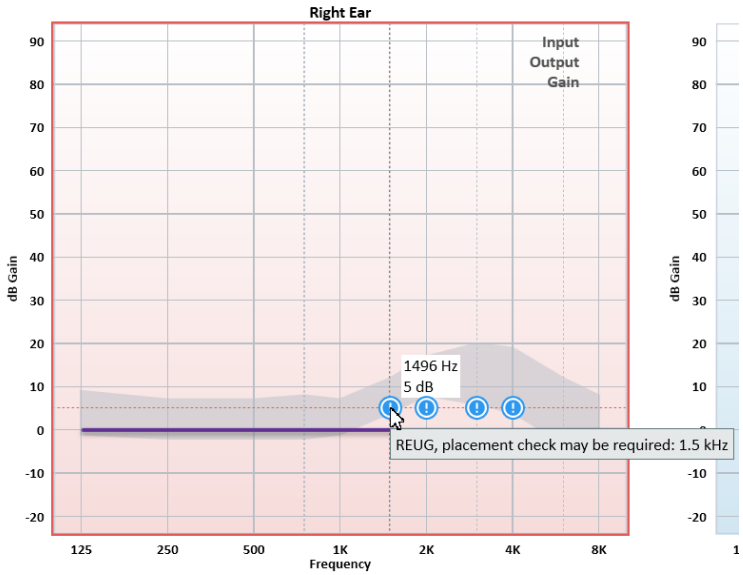
This module helps users quickly review session quality, reducing the time spent manually checking past records.

3 REUG Assist

The new **REUR Assist** feature in REM/SM helps clinicians verify probe tube placement accuracy by comparing **real-ear unaided gain (REUG)** measurements against expected values.

Key Benefits

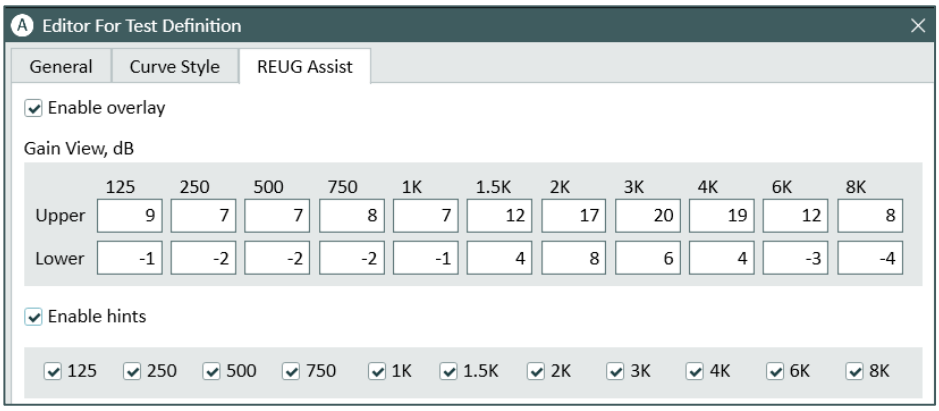
- **Visual Overlay** – Expected REUG values are displayed on the measurement graph.
- **Assist Hints** – Highlights deviations that may indicate incorrect probe tube positioning.
- **Historical Warnings** – Past REUG assist warnings can be reviewed for patterns.



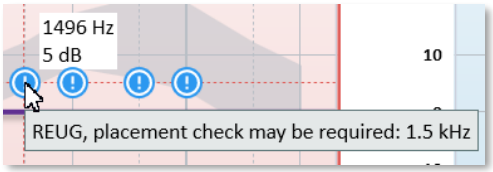
Disclaimer: The expected REUG range is based on data from normal, healthy adult ears. It is not intended for use with paediatric patients. Before performing REM, clinicians should always examine the patient's ear. If a patient has anatomical variations or conditions affecting the ear, their REUG measurements may fall outside the expected range. In such cases, clinicians must rely on their professional judgment to assess placement and interpret results accordingly.

How it works

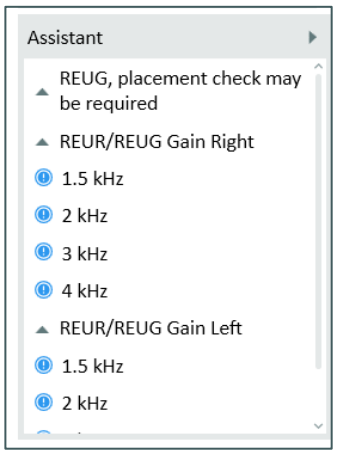
REUG Assist can be configured in the **Editor for Test Definitions** in the **REUG Assist** tab.



- **Enable overlay** – Displays the REUG overlay on the graph when viewing gain measurements. Default overlay values are provided but can be customized.
- **Enable hints** – Provides visual hints on the graph at specified frequencies if the measured REUG falls outside the defined overlay parameters. This option is only available when the overlay is enabled.



- The overlay remains accessible regardless of whether assist hints are enabled.
- When assist hints are enabled, users can select specific frequencies where deviations should be highlighted directly on the graph.
- REUG assist hints are also displayed in the Assistant panel on the right side of the measurement window.

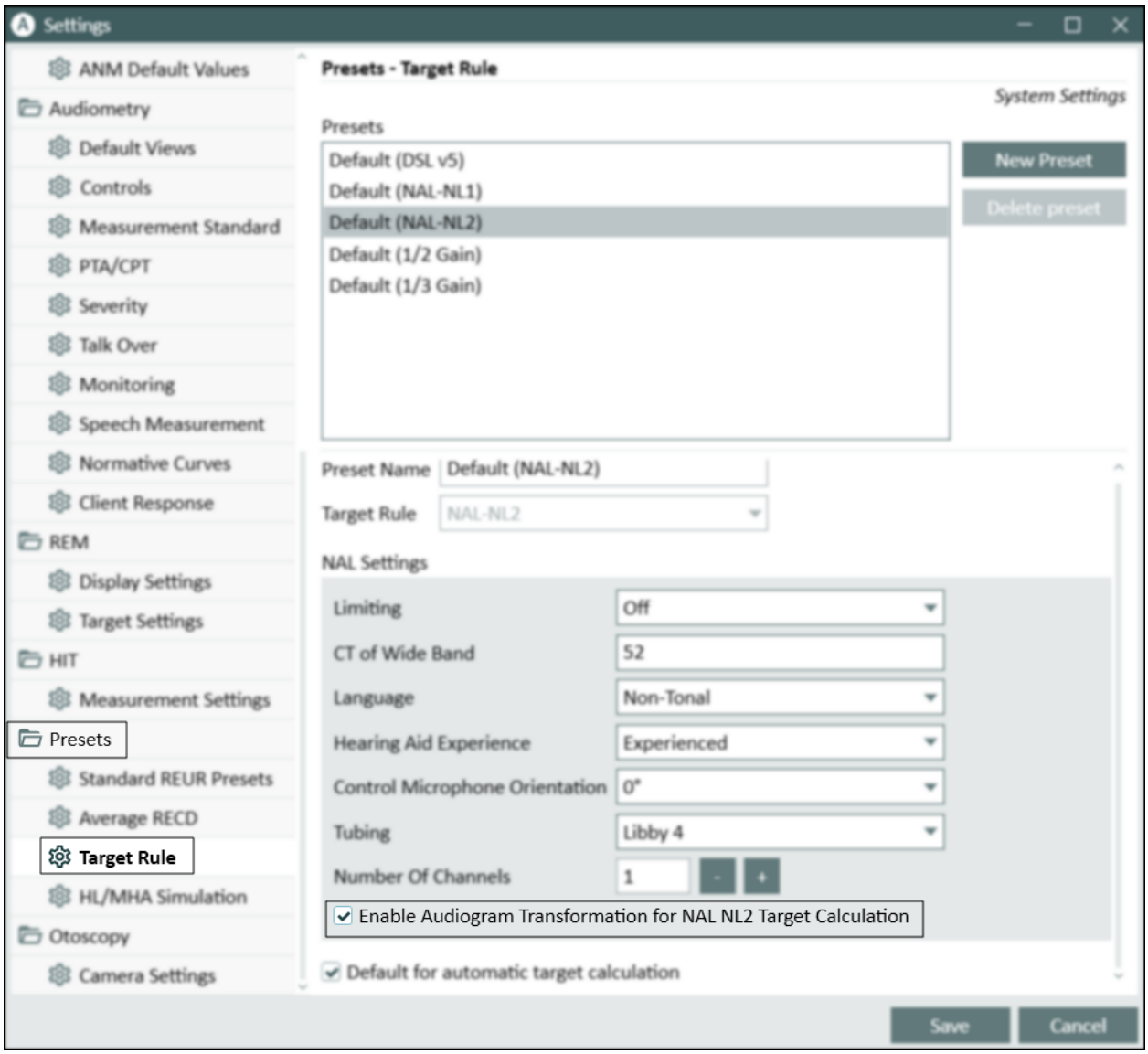


- Historical REUG assist warnings are available when reviewing past REM & SM sessions.

4 Audiogram Transformation for NAL NL2 Target Calculation

To improve target calculations, this version of software introduces audiogram transformation rules, which estimate missing air and bone conduction thresholds.

To enable this feature, go to **Settings > Presets > Target Rule**, select **NAL-NL2** and select **Enable Audiogram Transformation for NAL NL2 Target Calculation**. This feature is disabled by default.



Air Conduction (AC) Estimation:

- **Extrapolation** is used for edge frequencies, assigning the missing value to match the nearest available data point.
- **Interpolation** for intermediate frequencies, applying weighted averages based on the proximity of neighboring data points.

Bone Conduction (BC) Estimation:

- Uses **contralateral BC data** (unmasked or masked) when applicable, ensuring thresholds do not exceed AC values.
- **Equates BC to AC** for mandatory frequencies when no BC data is available.

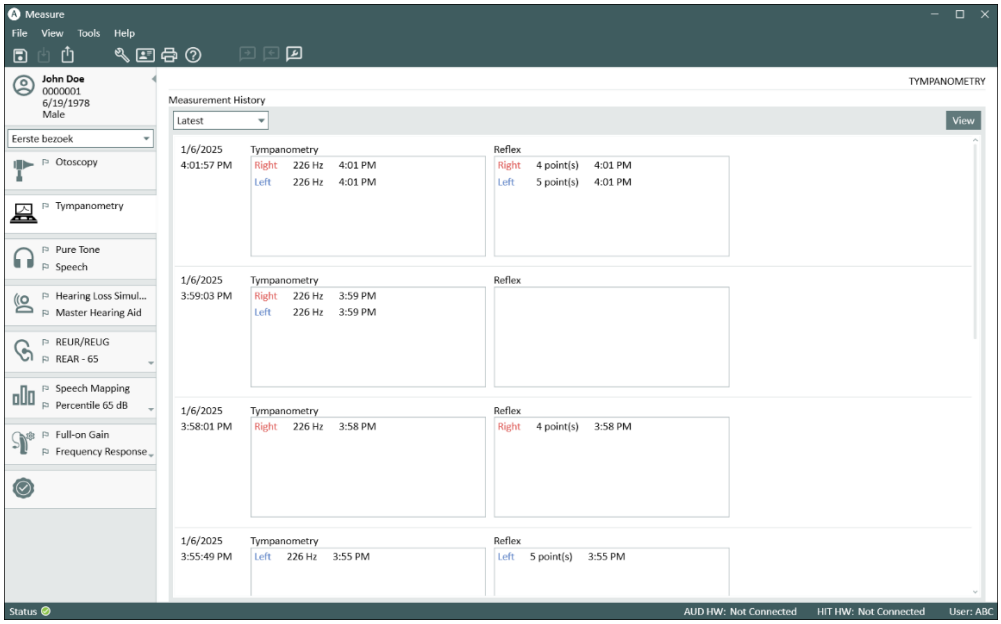
These enhancements ensure more reliable hearing aid fitting by aligning calculated targets with audiologists' interpretations of audiograms, following guidelines from the National Acoustics Laboratory and maintaining consistency with NAL NL2 algorithm requirements.

5 Improvements

Enhanced Display and Reporting for Tympanometry

Navigating and reviewing tympanometry results is now more intuitive.

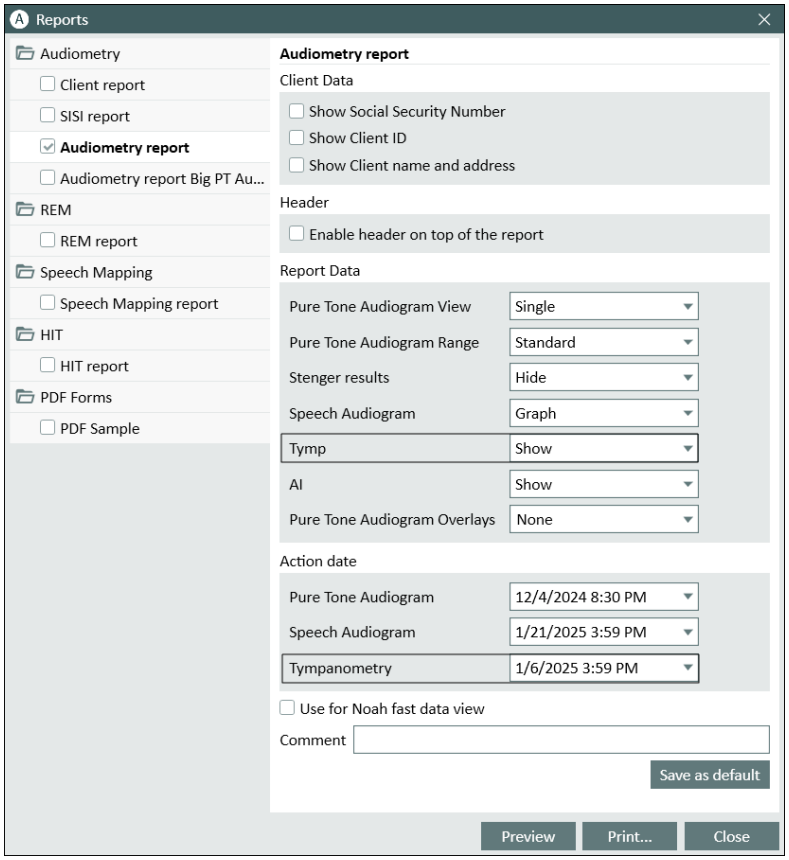
- **Improved Session Organization** – Tympanometry sessions are now displayed as individual segments based on the date and time they were saved, making it easier to distinguish between different sessions.



- **TM Admittance** – Peak admittance values of the eardrum have been added to tympanogram tables.
- **Clearer Legends:**
  - Unselected sessions are dimmed following the format similar to Pure Tone for better clarity.
  - Information on unsupported measurements is now included in the legend. Users can see the test type and a note indicating that it is not supported for *Eustachian Intact* and *Eustachian Perforated* measurement types.
- **Compensated vs. Not Compensated Measurements** – In the top right corner of each graph, users can now see whether the tympanogram is compensated or not.

Improved Reporting

Tympanometry and reflex results can now be included in audiometry reports:

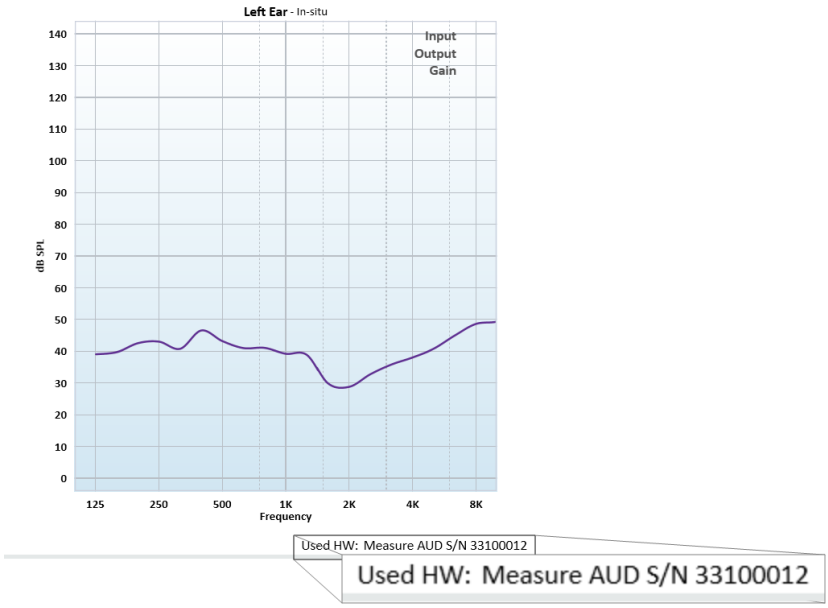


- A *Tymp* field allows users to include tympanometry data in reports.
- In the *Action Date* section, the most recent session is selected by default. Users can manually select a different tympanometry session from a dropdown menu if needed.

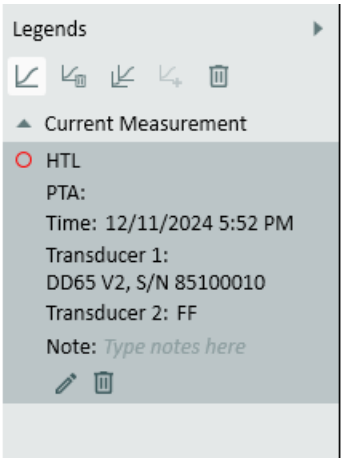
Display of Serial Numbers and Microphone Type

The following enhancements allow users to easily identify the specific equipment used for each measurement:

- **Serial number of the fitting unit** is stored and displayed below the graphs.



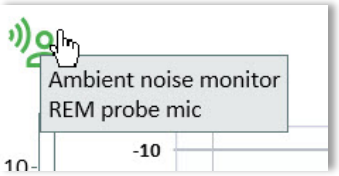
- **Serial number of each transducer** is displayed in the Legends for saved measurement data, including base audiograms.



- In REM & SM, the **microphone type** used in the measurement is also stored and displayed in the Legends.

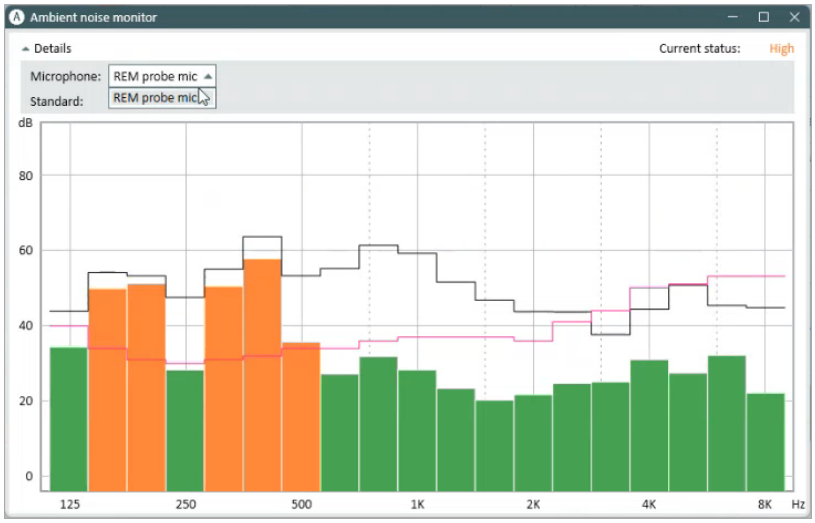
[AUD] Ambient noise monitoring (ANM) microphones

Hover over the ANM icon to view the **type of microphone** currently in use.



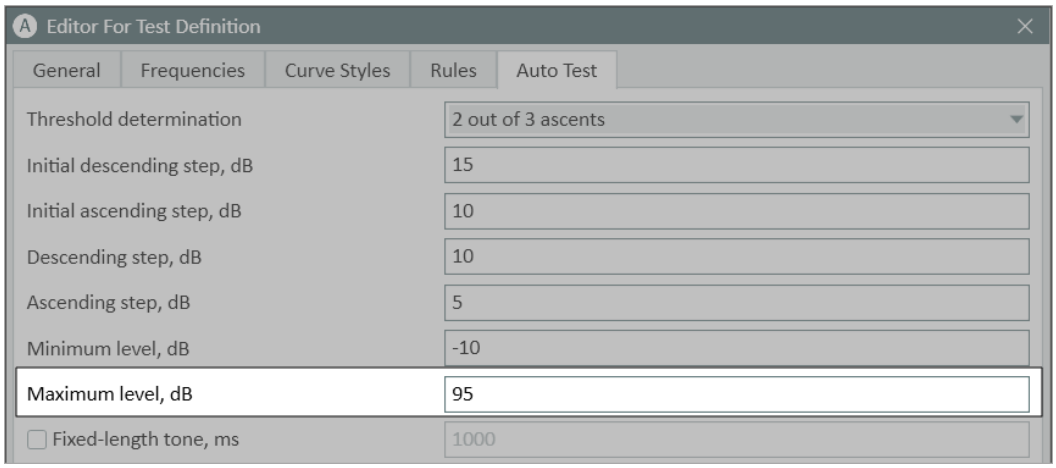
In a live ANM information window, click **Details** to expand the view and access new functions:

- **Select a microphone** from a dropdown list of connected devices.
- **View the standard used** (can be configured in Tools > Settings > ANM Default Values).



[AUD] Autotest Safety Maximum Level

A new Maximum Level setting (default: 95 dB) for Autotest helps prevent excessive exposure, particularly for patients with hyperacusis.



Clinicians performing automated screenings to confirm whether a patient's hearing falls within a specific range may adjust this limit. Reducing the maximum level and increasing the minimum level can help shorten test duration while maintaining effective threshold determination.
This setting does not affect the Extended Range feature.

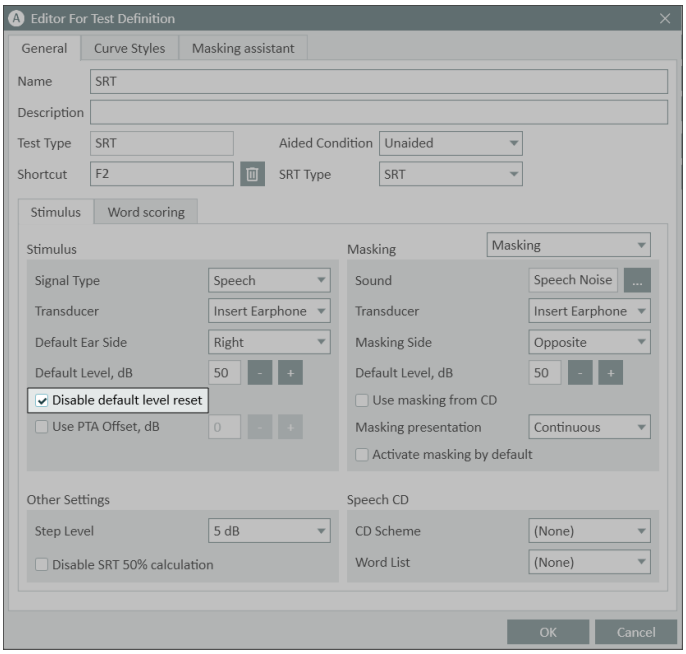
[AUD] Option to Disable Default Level Reset in Speech Testing

A new setting allows users to prevent test level reset when switching between left, right, or binaural modes during speech testing.

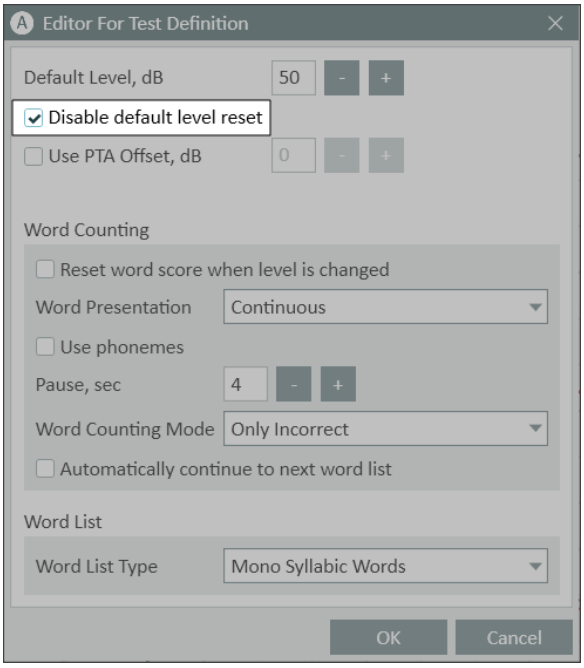
By default, when a test type is selected, the initial level is set according to test settings. Now, if **Disable Default Level Reset** is enabled in Test Definitions, the levels for Channel 1 and Channel 2 remain unchanged when switching ear sides within the same test type.

This option can be configured in:

- **Tools > Test Definitions**



- **Measurement Window** – Select a test type, then click *Edit Test Definition*.



This feature provides more control over speech testing conditions and minimizes the need for manual level adjustments.

[AUD] Improved Monitor Headset Sound for Talk Back Microphone

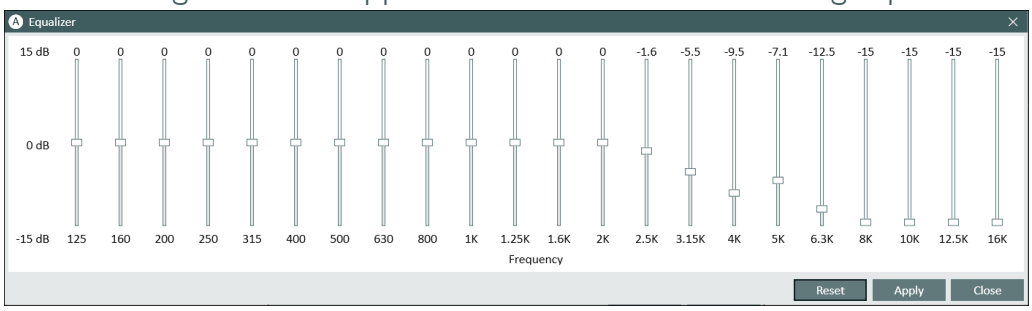
With this update, new equalizer settings are automatically applied to reduce noise and enhance sound clarity when using the Talk Back (TB) microphone.

What's Improved?

Previously, users had to manually reset and apply equalizer settings to reduce noise. Now, optimized settings are applied by default for new installations and upgrades (if no prior adjustments were made).

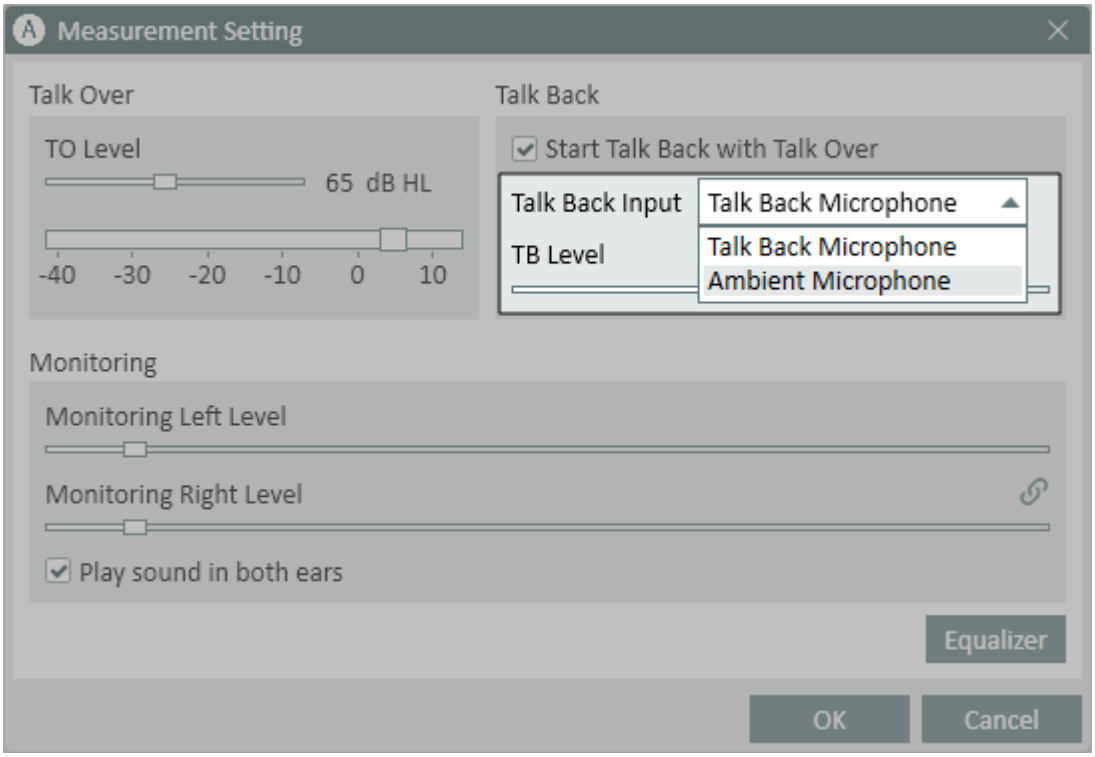
New Equalizer Settings

The following values are applied to ensure a clearer listening experience:



[AUD] New Option: Use Ambient Noise Input for Talk Back Microphone

To provide greater flexibility, users can now choose to connect the Talk Back microphone to either the standard Talk Back input or the Ambient Noise Monitoring input on the fitting unit.



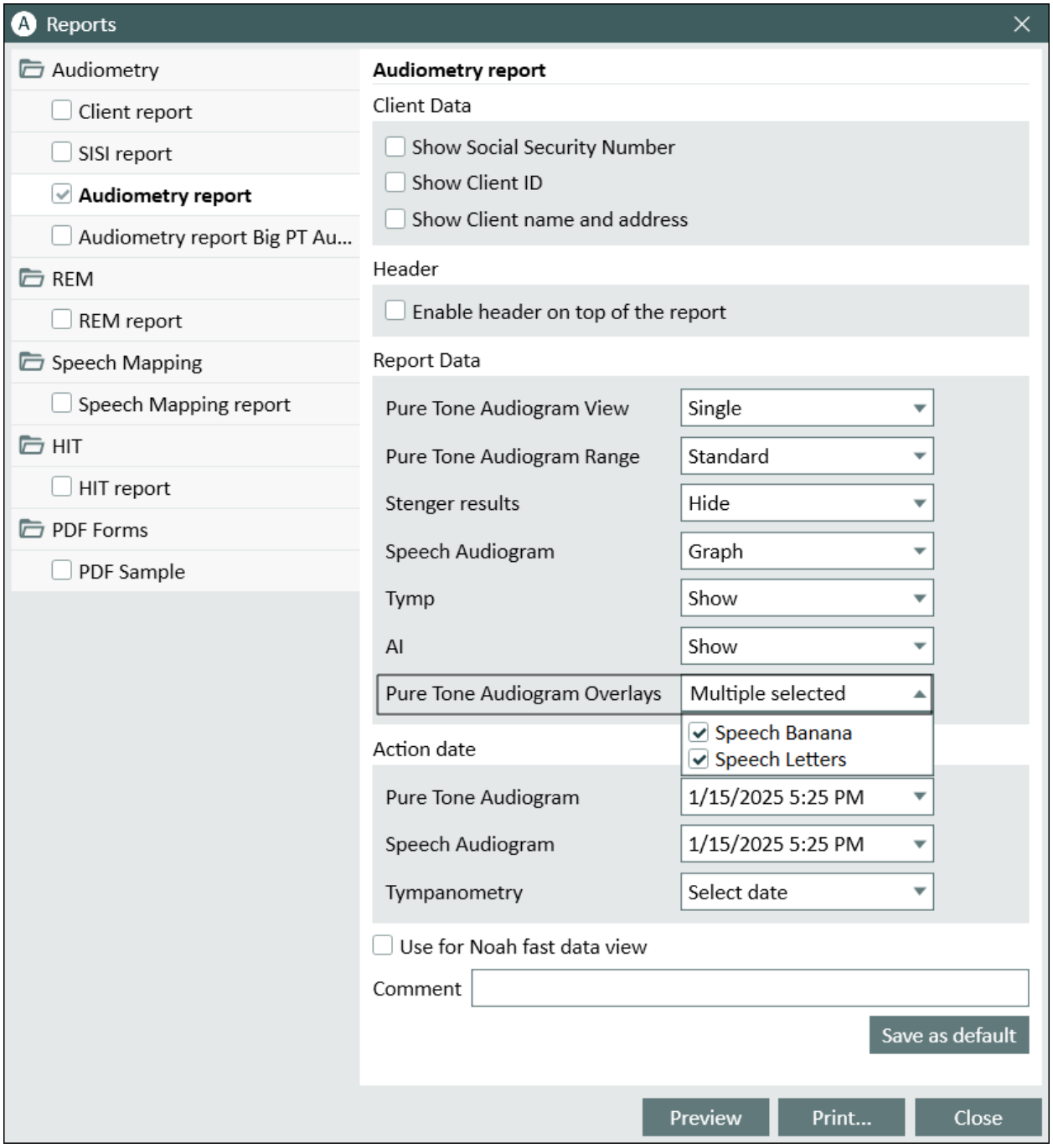
A new **Talk Back Input** dropdown lets users choose between:

- Talk Back Microphone (default)
- Ambient Microphone

The selected option is remembered by the software and applied at startup.

[AUD] Speech Banana & Letters on Printed Reports

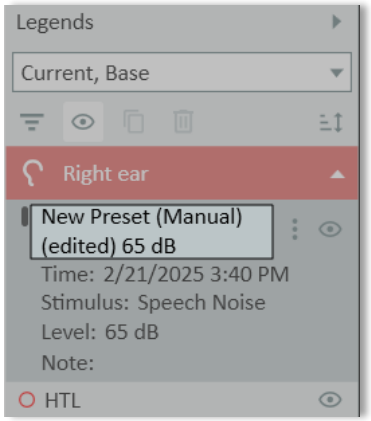
When printing audiograms, users can now choose to include the speech banana overlay and/or speech letter overlay.



These overlays provide a clearer visual explanation of how hearing loss impacts the ability to hear different speech sounds, helping patients better understand their results.

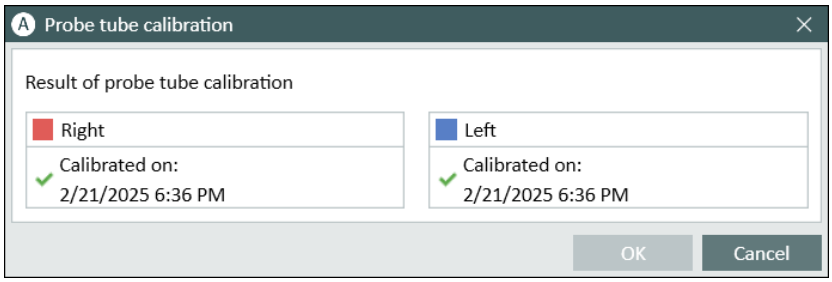
[REM & SM] Presets Appearance

- Preset names now include their **target rule**, e.g., "*Preset Name (Target Rule)*"
- If changes are made to a manual preset from the measurement settings, its name is labeled "*(edited)*" in both the dropdown menu and Legends.



[REM & SM] Probe tube calibration data

Users can now view probe tube calibration details for each REM/SM session by clicking the Calibrate icon .



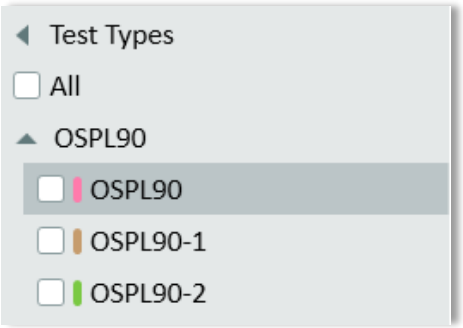
This enhancement ensures that clinicians can verify whether probe tube calibration was performed during past sessions, improving confidence in measurement accuracy and historical record-keeping.

Calibration & License Notifications

Device serial numbers are now included in calibration and license notifications for easy identification.

[HIT] Multiple OSPL90 Test Types

Measure now supports multiple OSPL90 test types in Hearing Instrument Testing (HIT), allowing for more efficient output measurements.



- In Test Definitons, custom names can be assigned to OSPL90 measurements for better identification.
- The order of OSPL90 measurements in HIT Test Definitions matches the Test Types panel in HIT for consistency.
- Custom OSPL90 names appear in *Test Types* and *Legends* for clear result interpretation.
- A *Multi-Play* button enables sequential execution of selected OSPL90 tests, reducing manual steps.

7 Release Notes 6.3.0

Besides mentioned above, this version of the Measure software contains the following enhancements:

BKB CD Scheme Available for Speech Testing
Users can now select the BKB CD scheme in media files, allowing it to be used for speech testing.

UI Enhancements

Bug fixes

Dependencies
This version requires NOAH 4.7 or later. To use the Primus Panel under Auditbase System, Auditbase version 4.17.01 or higher is required.

Installation
The uninstallation of the previous version is done automatically.

To upgrade to Measure 6.3.0:

1. Run the set-up file: **Setup_Measure_6_3_0.exe**.
2. Follow the instructions on the screen.

8 Support

For further information, please visit www.auditdata.com.