

Webinar FAQs

Pro Fit Advanced Tools: A Deeper Look at Starkey's Fitting Software

Keeley Layfield, Au.D.

How to Ask a Question

Click Q & A, type your question, and Send

Where to get the handout

A PDF handout for this presentation may be accessed through your Pending Courses on Audiology Online or by clicking on the link in Chat within the classroom

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Use the Q&A window



Risks and Benefits

The applicability and accuracy of the course content may vary by the clinical, geographical, and cultural context; you should evaluate the course accordingly.

As healthcare is rapidly evolving, new findings may change the validity of the information presented in this course. Providers should always consult the latest research and guidelines from professional associations.

The interventions discussed in this course may be limited in generalizability, requiring practitioners to consider specific individual and population factors.

The course may not cover all possible risk factors, diagnostic methods, or treatment options, and complex cases may require additional considerations.

Healthcare providers should apply cultural competence and sensitivity to ensure effective and respectful care based on their patients' diverse needs.

Providers should always evaluate the limitations of diagnostic and screening tools, considering their potential for false results as well as any ethical implications.

It is the responsibility of course participants to critically evaluate the evidence from multiple sources to guide professional practice.

Learning Outcomes

1

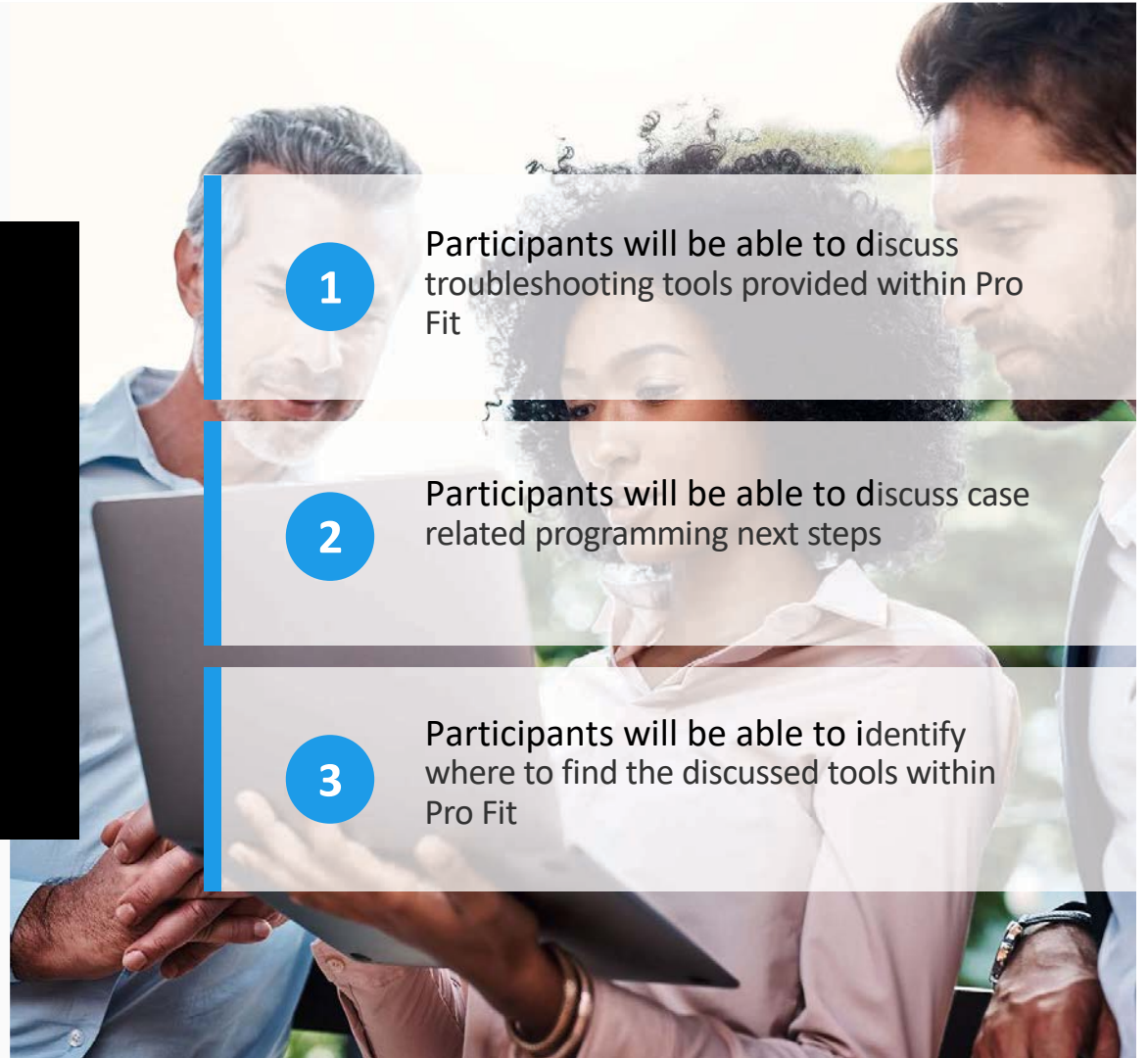
Participants will be able to discuss troubleshooting tools provided within Pro Fit

2

Participants will be able to discuss case related programming next steps

3

Participants will be able to identify where to find the discussed tools within Pro Fit



Pro Fit Advanced Tools

A Deeper Look at
Starkey's Fitting Software

Keeley Layfield, Au.D.

Education and Training Audiologist





Faster Fittings, Greater Satisfaction
Starkey Pro Fit

Starkey **Pro Fit**



Organized



Efficient



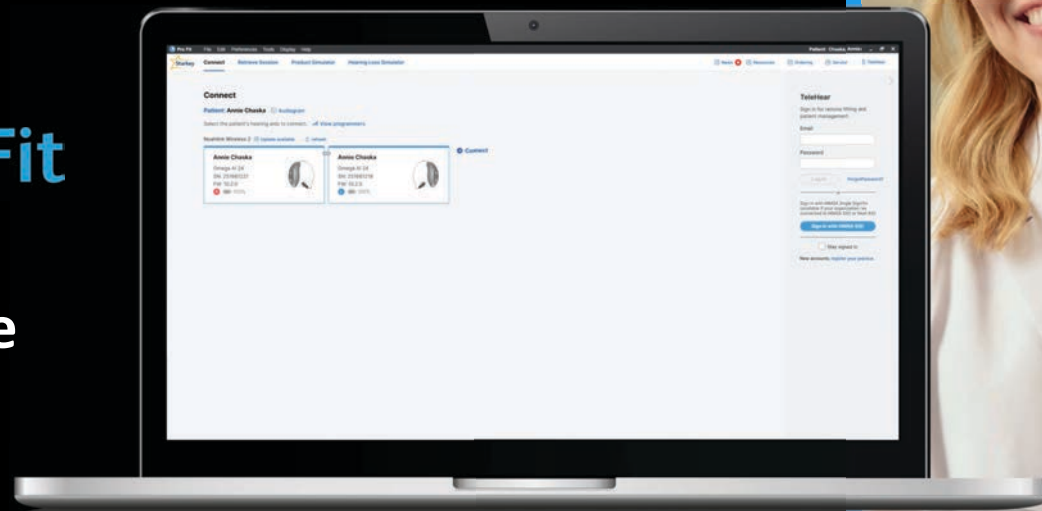
Intuitive



Supportive



Starkey **Pro Fit** Making the Complex Simple



Starkey **Pro Fit** Programming Basics



Compatible Programmers

Multiple programmers may be connected at once

Compatible *wireless* programmers include:

Noahlink Wireless
Programmers 1 & 2

Compatible *wired* programmers include:

HiPro 2 NOAHlink
SpeedPort 2 HiPro USB



Starkey **Pro Fit**

Minute Fit™

Our trademarked methodology that allows you to go from box to best fit in four clicks

Smart Connect

Automatically advances you to the exact session you need the moment you connect any hearing aids





Retrieving Sessions



Wireless Device Pairing

The attached device is one of a binaural wireless pair. Fitting this hearing aid monaurally will not affect its partner pairing; however, we do not recommend that you reset it to factory defaults or change E2E settings without its partner. To proceed with fitting this hearing aid monaurally, select 'OK'. Select 'Cancel' to attach the partner device.

OK

Cancel



Session Successfully Loaded

Session and Pairing information from 12/17/2024 successfully loaded to instruments.

OK

One hearing aid
back from repair

Programming single hearing aid
Providers will receive this messaging

Monaural hearing aid successfully
connected to Pro Fit
Binaural pairing remains in effect

Monaural Programming Scenarios

Programming Maintained After Repair	No programming needed within Pro Fit	Binaural connection maintained Power cycle to restore binaural connection
	Connecting hearing aid through module bar or previous binaural session	Okay to program without the other hearing aid if adjustments are needed Power cycle to restore binaural connection
Programming Not Maintained After Repair	Both hearing aids must be programmed together to ensure they are a binaural set Phone and accessory pairing must be repeated	

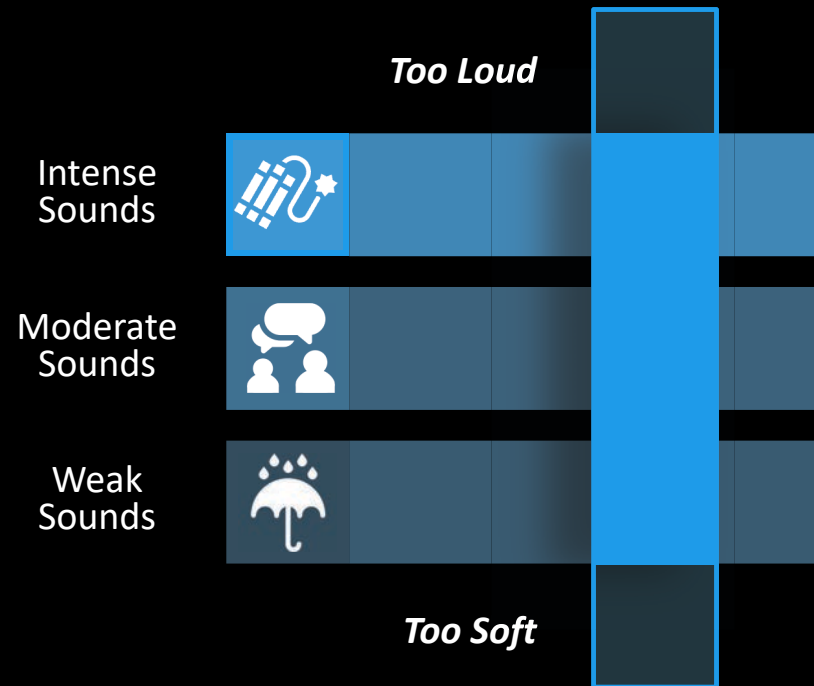
Compression & Fine Tuning



What is
Compression?



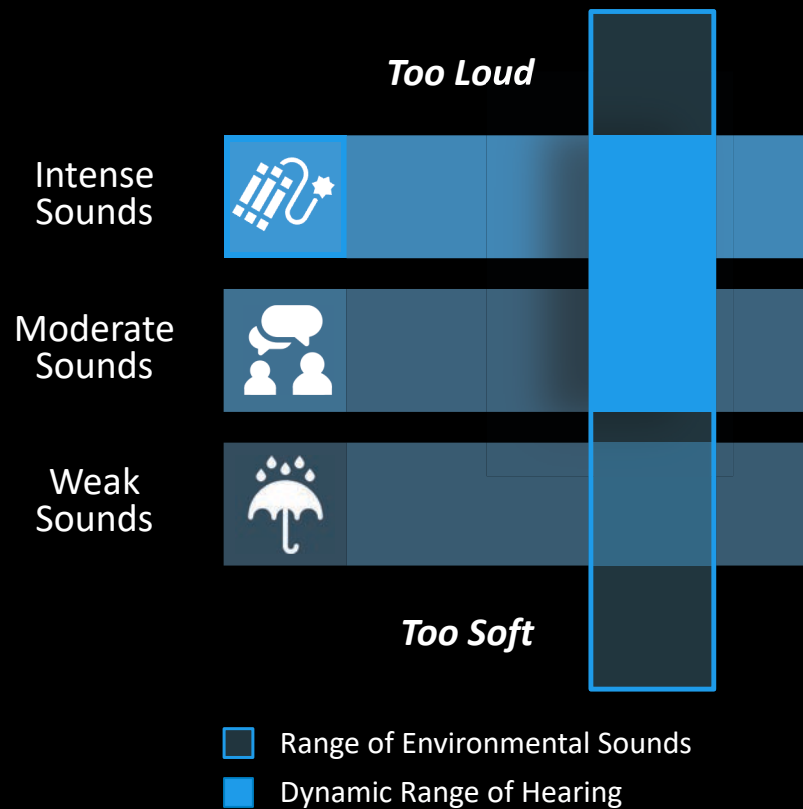




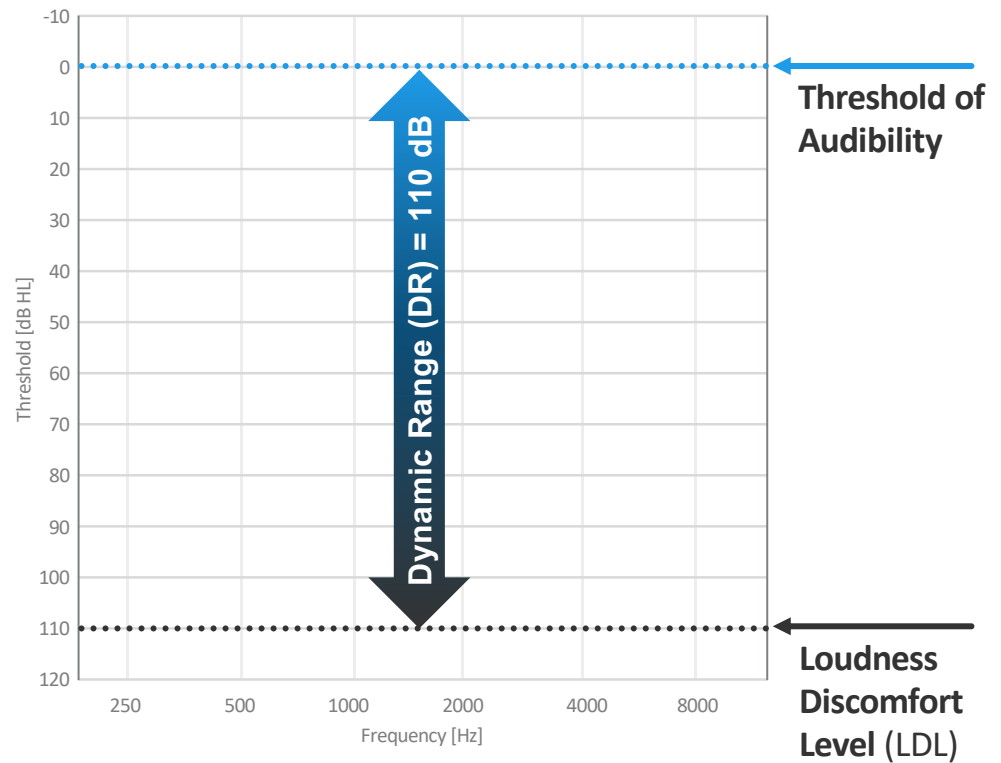
Normal Hearing Dynamic Range

- Range of Environmental Sounds
- Dynamic Range of Hearing

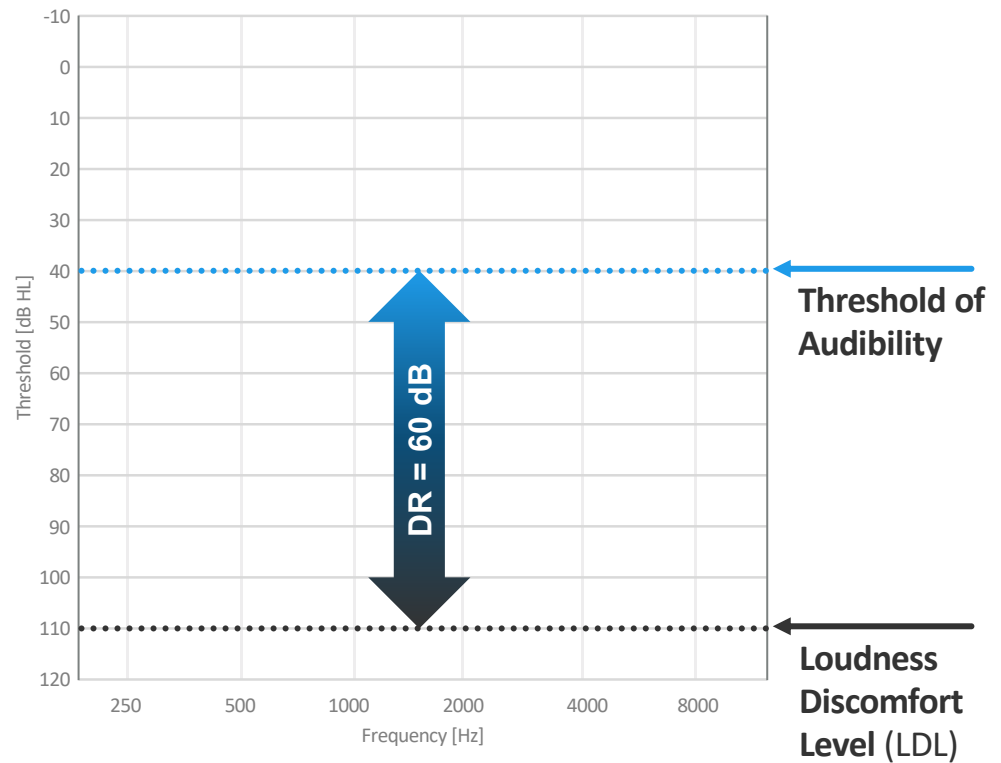
Hearing Impaired Dynamic Range



Normal Hearing Dynamic Range



Hearing Impaired Dynamic Range



Dynamic Compression

Faster time constants – more compressive

May provide enhanced audibility for those with smaller residual dynamic range

Conversely, this advantage may be offset by distortion of speech intelligibility

Slower time constants – less compressive

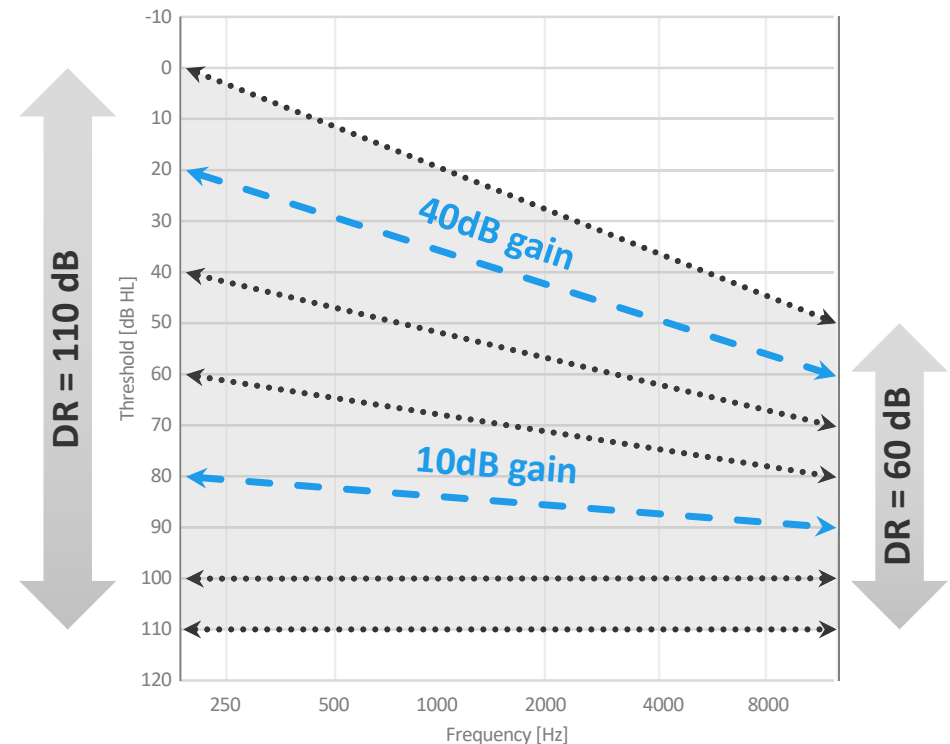
May be better for patients with cognitive considerations



Wide Dynamic Range Compression

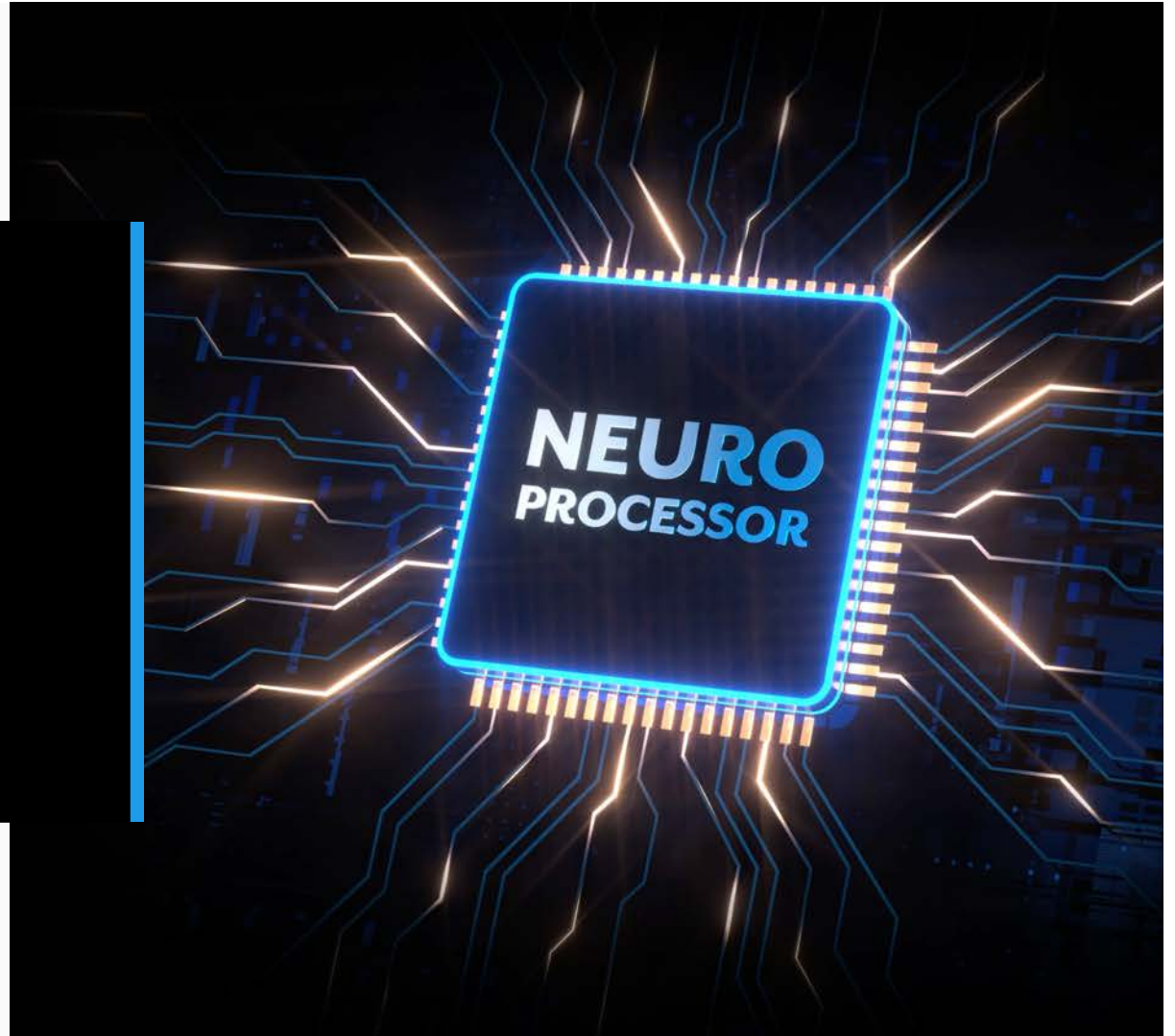
The hearing aid provides different degrees of amplification depending upon input level

Attempts to reproduce the full dynamic range of the world into a reduced dynamic range



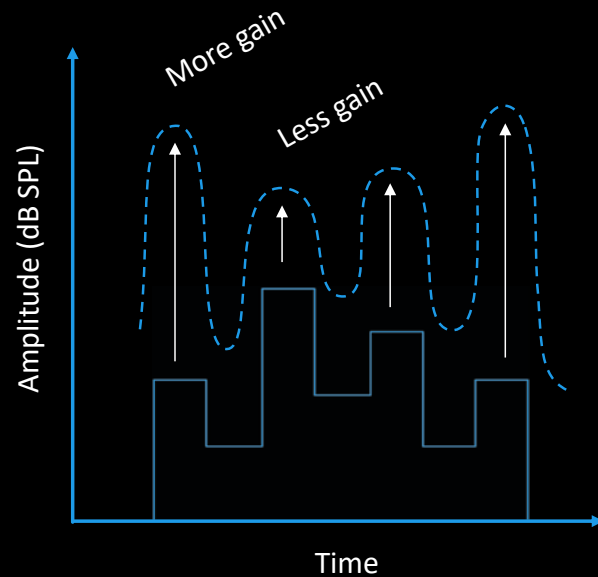
Additive Compressor

Neuro Sound Technology 2.0



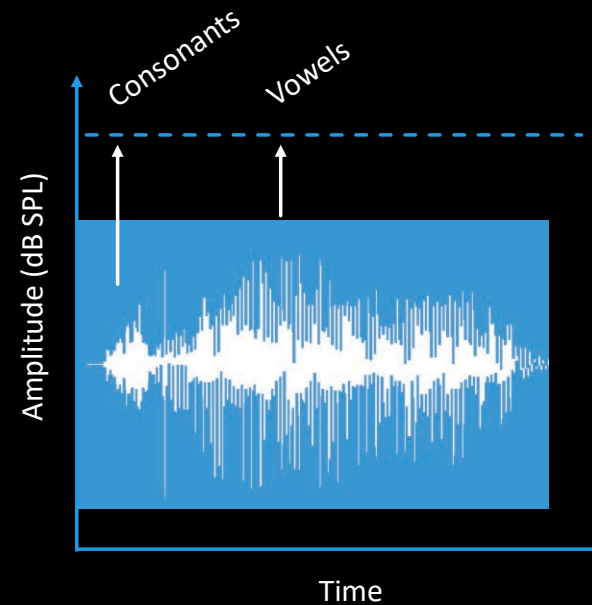
Additive Compressor

Slow Compressor



VS.

Fast Compressor



Compensating for Loss of Function

Outer Hair Cells: Fast compressive amplification

Provide frequency- and place-specific compressive amplification of the Basilar Membrane traveling wave

Loss of Function:

Loss of sensitivity & Frequency selectivity

Loudness recruitment

Inner Hair Cells: Amplification, via slow moving compression, to keep speech within the residual dynamic range

Transform acoustic signals into neural patterns

Loss of Function:

Loss of sensitivity & signal resolution

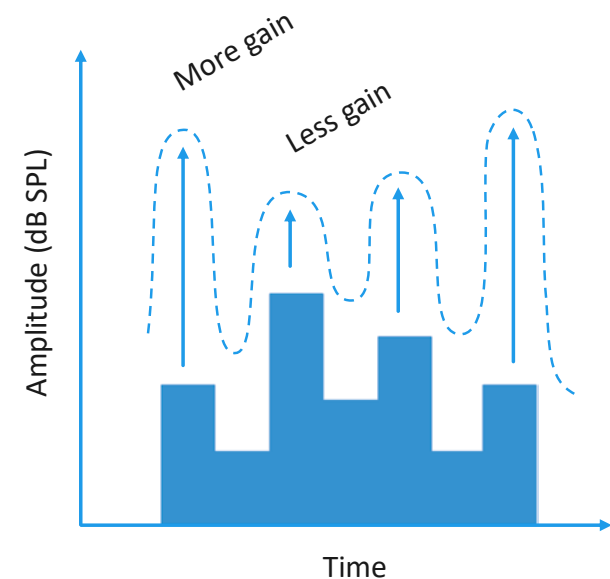
Additive Compressor

Fast and slow compression logic run independently and in parallel

Slow Compressor

The slow compressor accounts for the audiogram and ensures that the environmental input is within the patient's dynamic range

Soft sounds are soft but audible, average sounds are comfortable, and loud sounds are not too loud



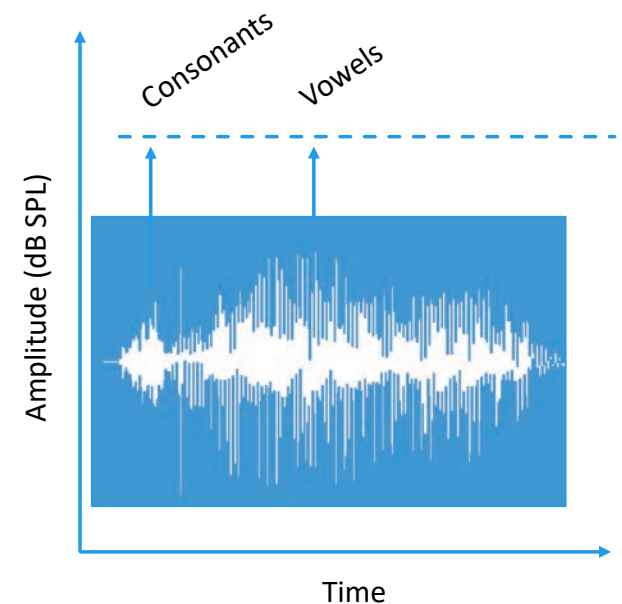
Additive Compressor

Fast and slow compression logic run independently and in parallel

Fast Compressor

Operates on the dynamic, fast-moving broadband components of an input signal

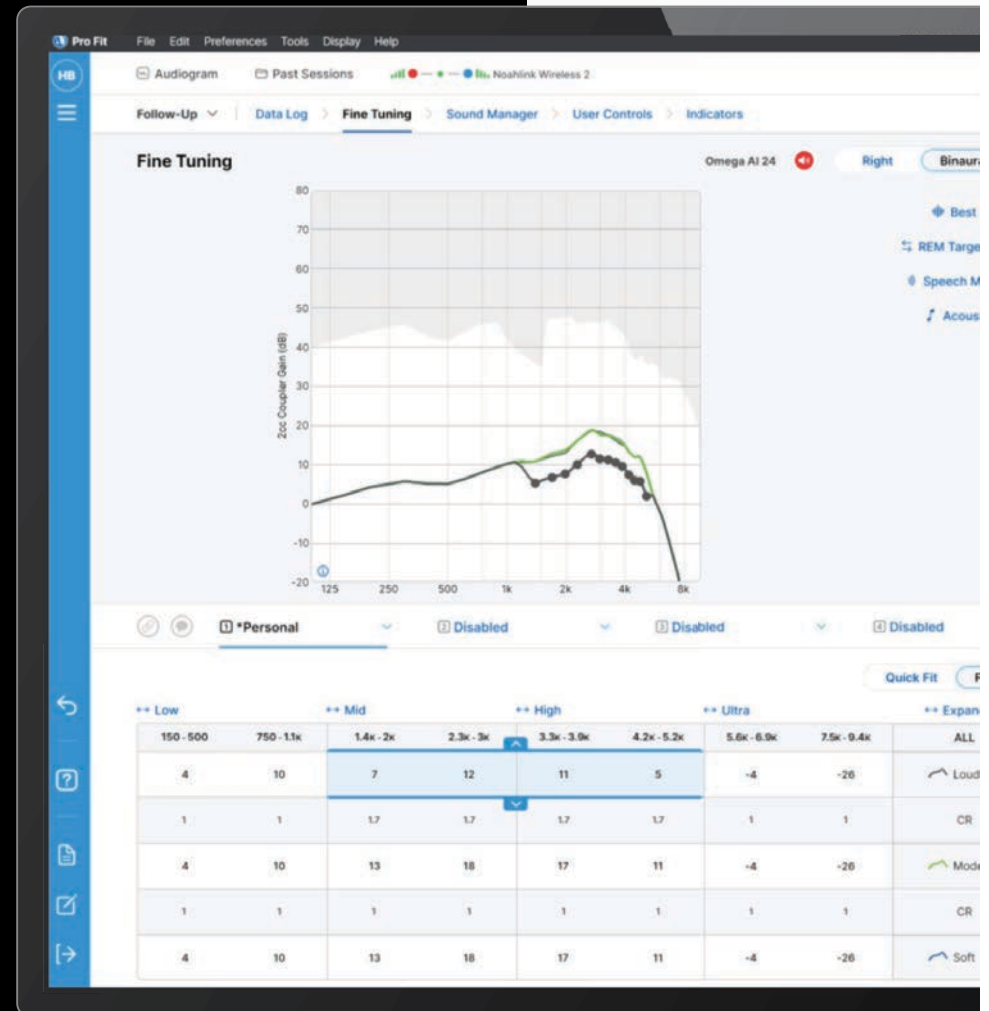
More gain for soft sounds, like consonants

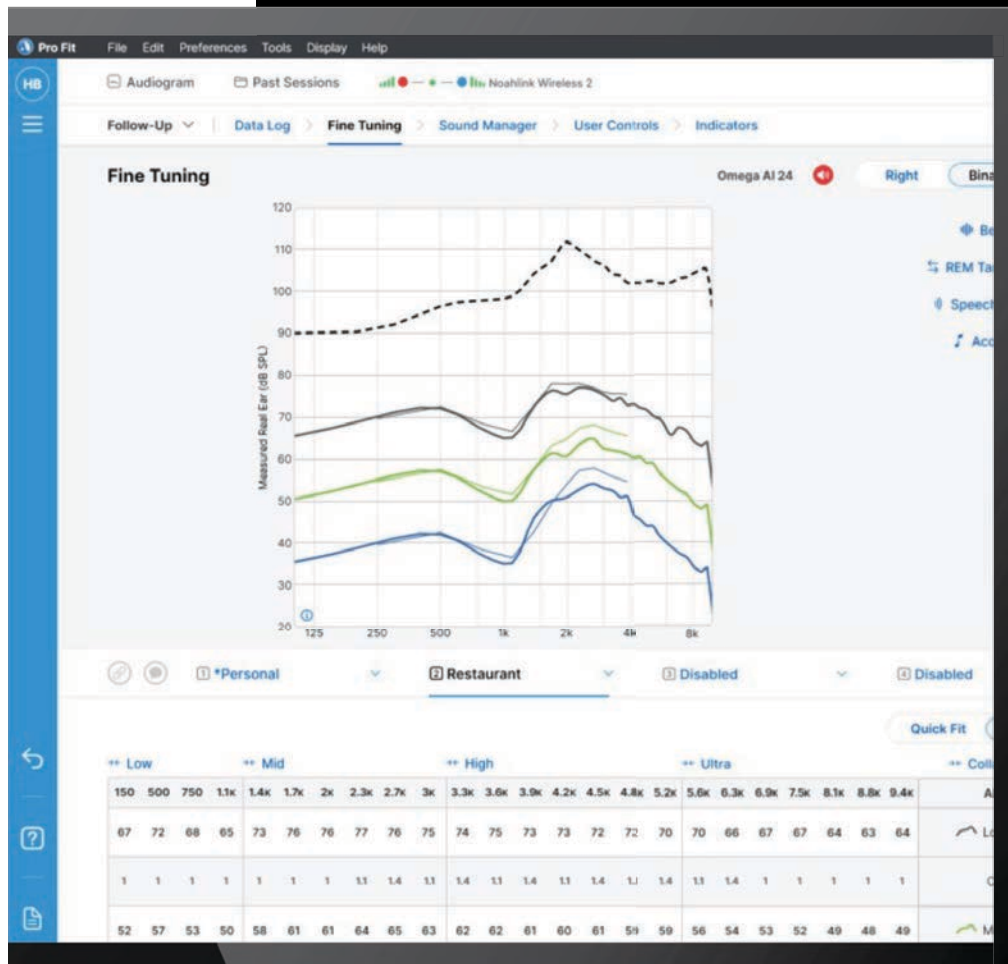


Potential Patient Reports

Environment Softs compression changes could be beneficial:
 Less compression for soft sounds and
 less compression for loud sounds

HVAC Systems at home





Programming for Restaurants

Consider Restaurant Inputs:

Speech between 150-750 Hz isate for volume of the environment

Compression Present 1000-3900 Hz
You talk louder to overcome it

Linear 4000 Hz and Above
Other diners talk louder due to overall noise level

Dropping loud input to provide more comfort will “smoosh” speech

Programming for HVAC Systems

BVA Co. system is often managed by the Machine algorithm

Linear between 150-750 Hz

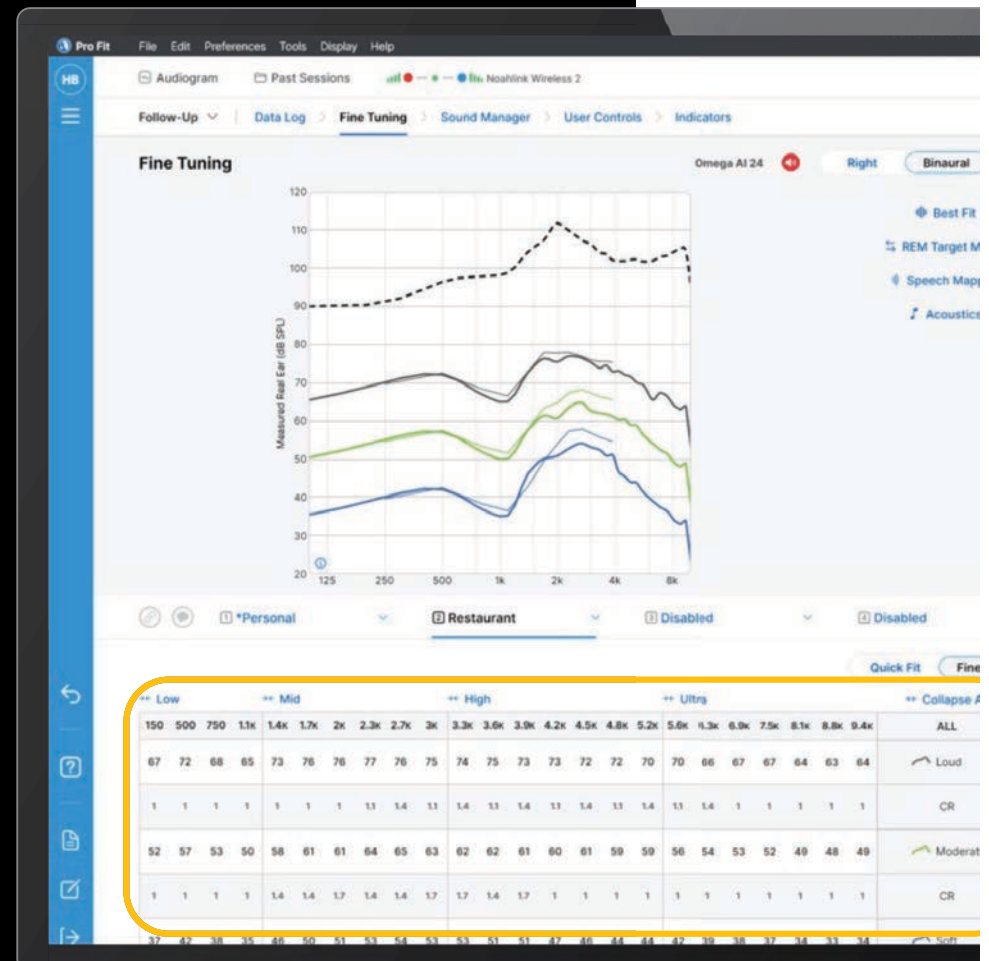
Mechanical noise fans and compressors

Compression present 1000-3900 Hz

Aerodynamic noise from the air velocity

Linear 4000 Hz and above

Pathway noise from air moving through the ductwork



Advanced Programming Tools



Best Fit & Target Match

Best Fit:

Best Fit Frequency Response & Features

Target Match:

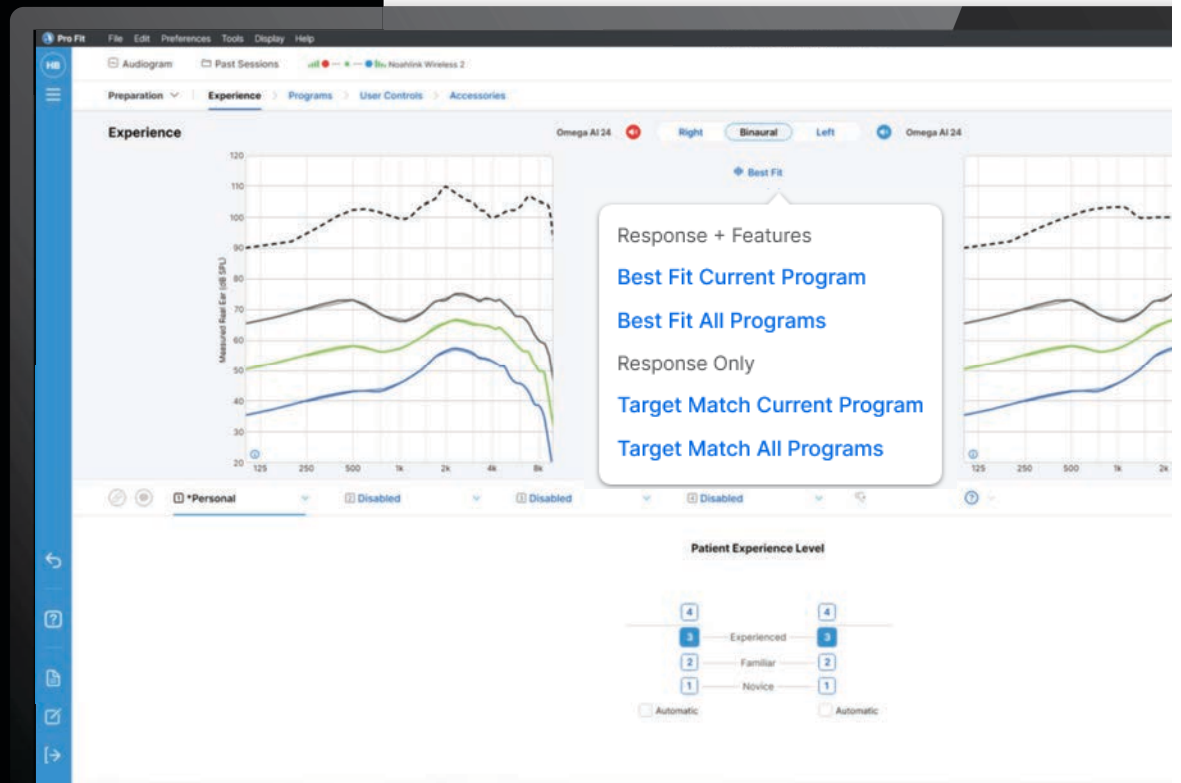
Target Match Frequency response

Current Program:

Only Adjusts Selected Program

All Programs:

Adjusts All Programs Within the Hearing Aids



User Controls

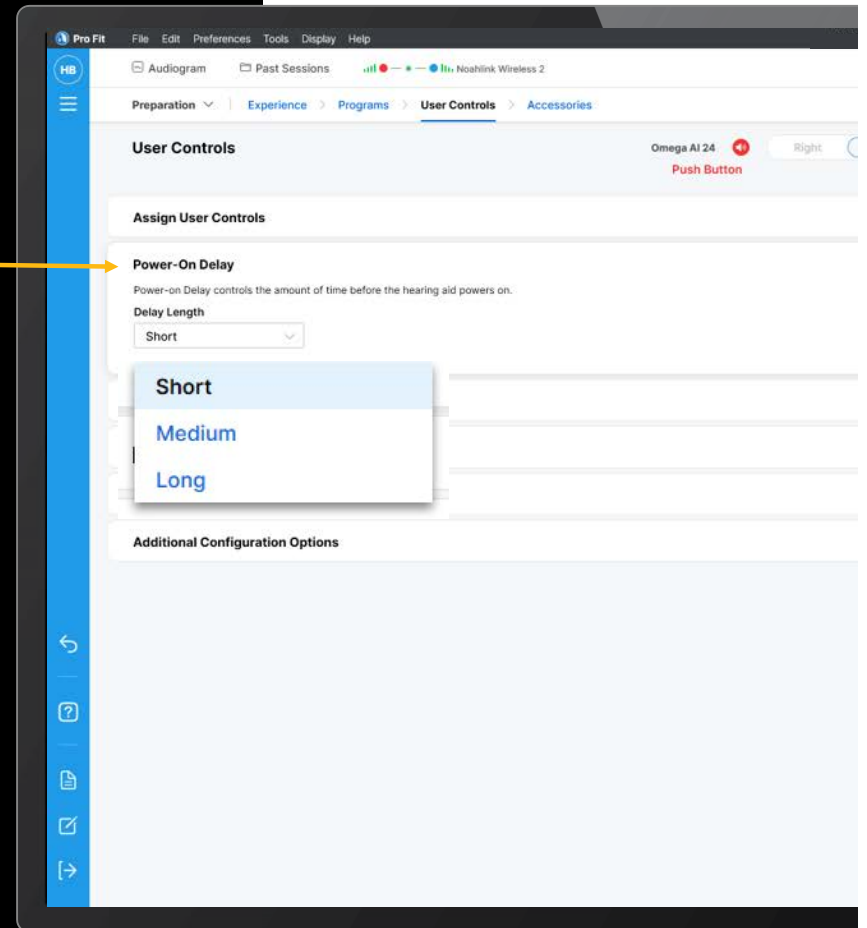
User Control Settings

Power-On Delay

Short: 5-7 Seconds

Medium: 10-12 Seconds

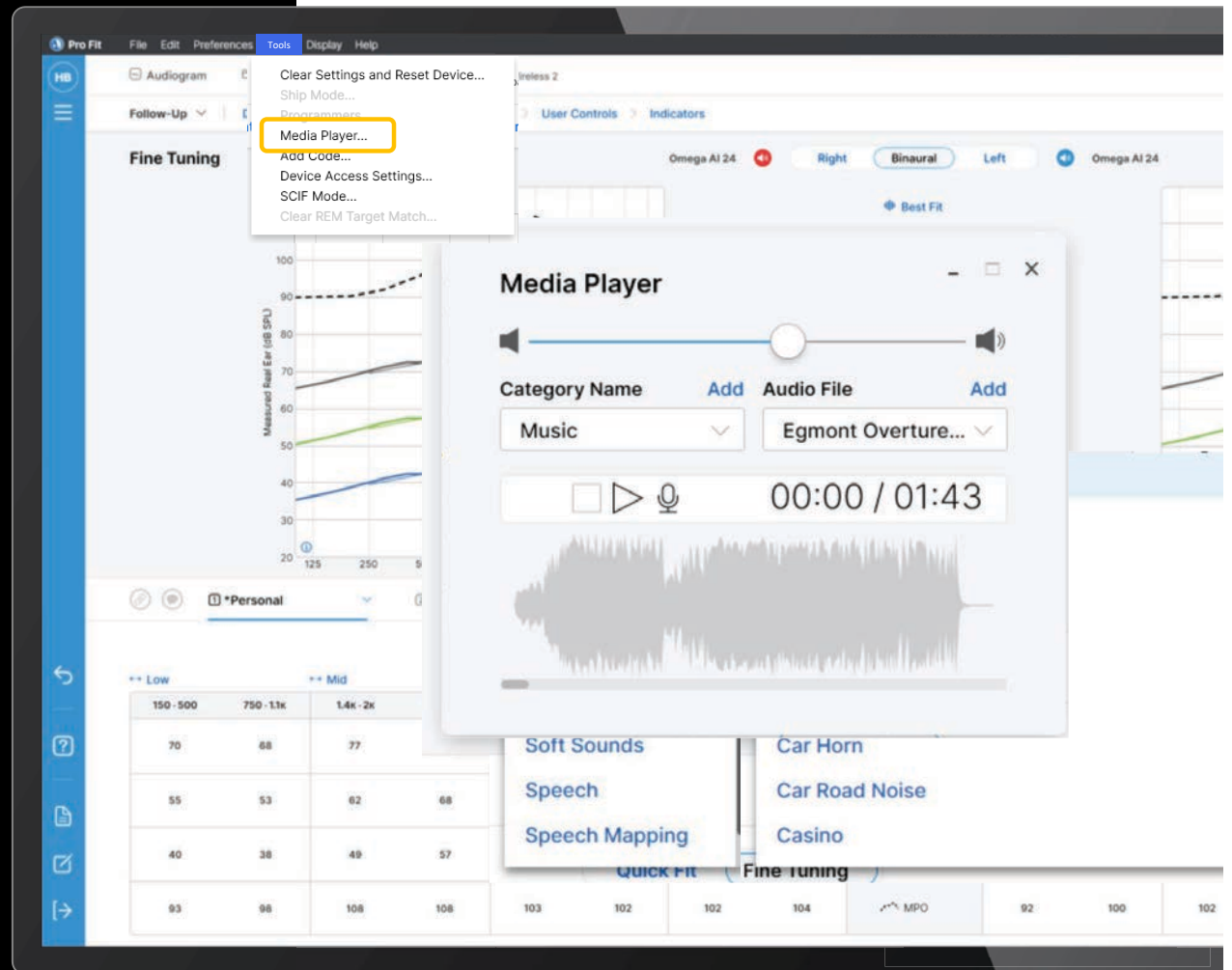
Long: 15-17 Seconds



Media Player

Allows for playing different audio files while programming

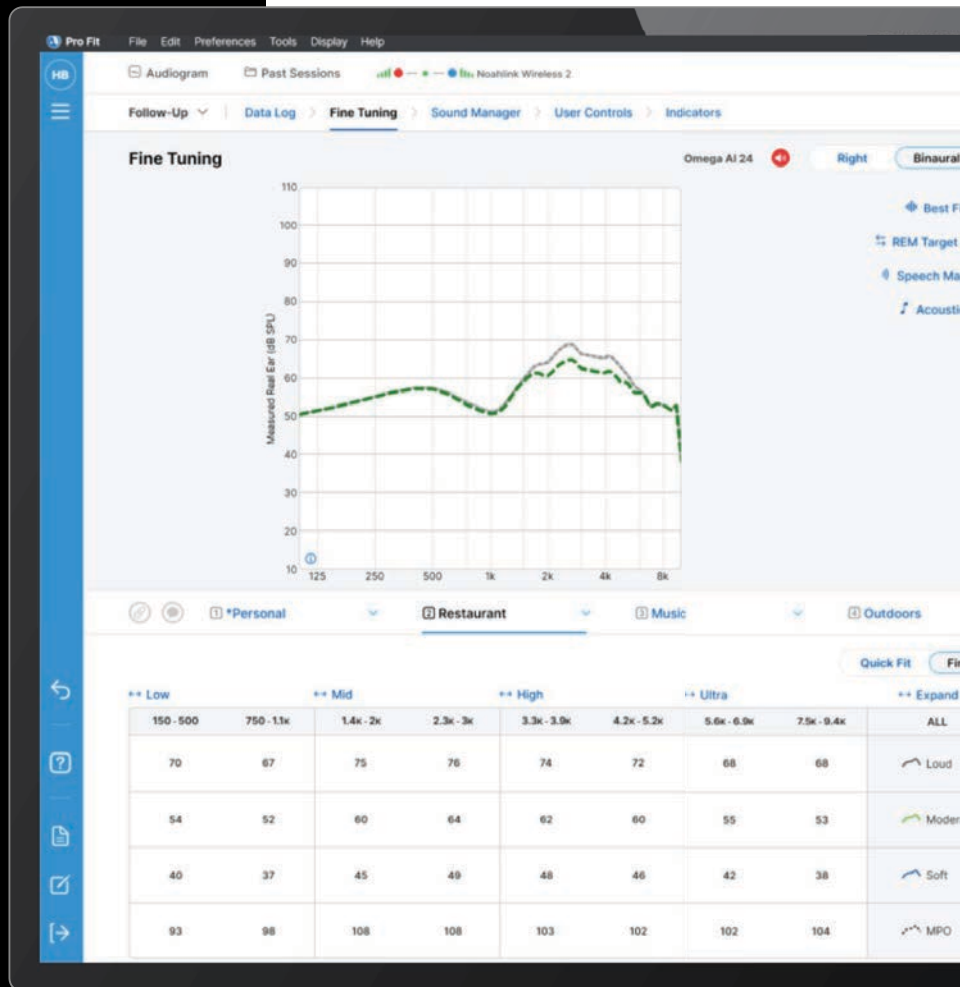
Features categories of audio files and varying audio samples



Multicurve

Comparison of multiple programs

Does not include Music program



Changing the Display

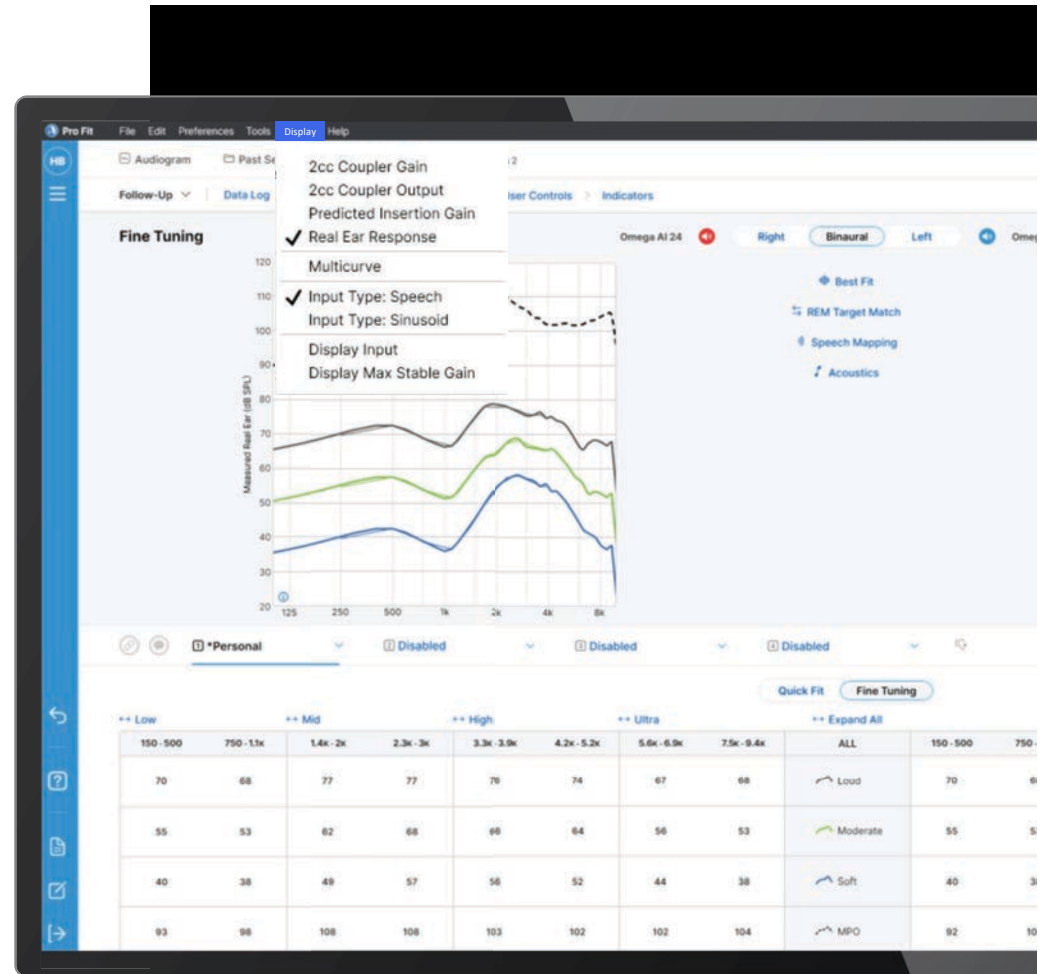
Display Options:

2CC Coupler Gain (dB)

2CC Coupler Output (dB SPL)

Predicted Insertion Gain (dB)

Real Ear Response (dB SPL)



Fitting Precision

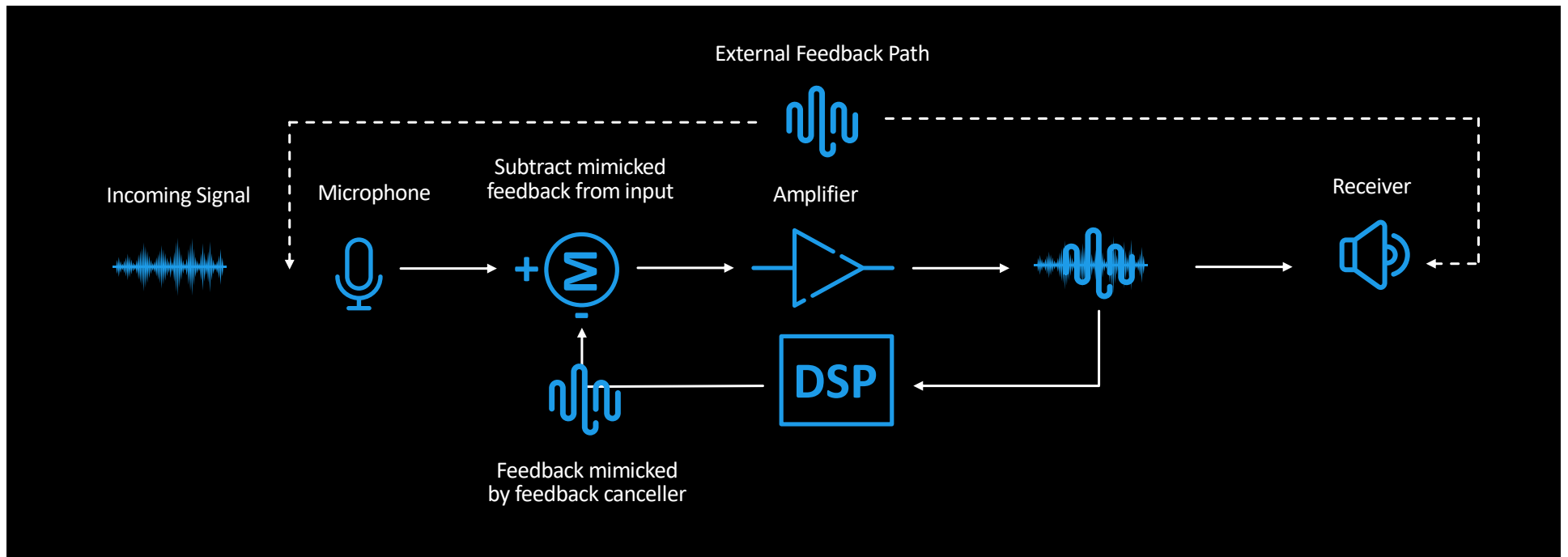


**Feedback
Cancellation**



**Optimize Acoustic
Model**

Two unique features for personalizing the hearing aid fitting using the Feedback Cancellation Initialization (FBCi) measurement



Feedback Cancellation

Automatically suppresses feedback before it happens with the primary goal of maintaining audibility

Running the feedback canceller initialization is recommended at every first fitting to ensure the personalized settings are unique to that patient's ear canal

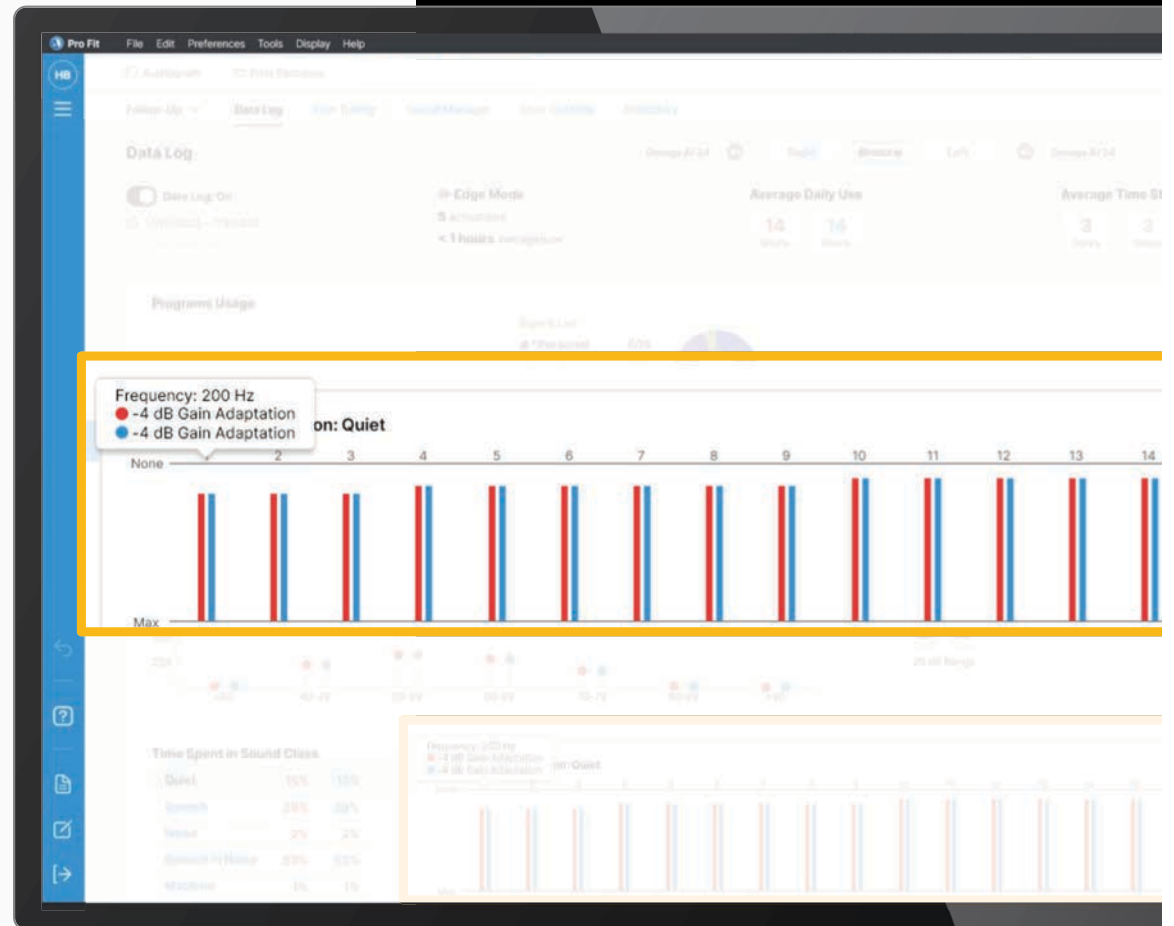
Data Log & Feedback

Average Gain Adaption:

Average amount of gain adaptation that occurred per channel while the environment was active

Not available for Speech

Click on the sound class to view



REM Target Match

A streamlined process for automatically matching real ear targets to provide an accurate and efficient fitting experience



REM Target Match

Omega AI 24  Right **Binaural** Left  Omega AI 24

Experience Level 3

Fitting Formula e-STAT 2.0

Acoustic Options Medium Vent

Verifit Target

Stimulus

- Current gain adjustments will be lost by running REM Target Match.
- Select the Real Ear system you wish to use and ensure it is powered on.
- Select target and stimulus to be used during REM Target Match.
- Click Launch to begin.

The Real Ear system has been successfully launched. Click Next to proceed.

Verifit2 (1406) 

Setup 

REM Target Match

Fully integrated workflow via the REM Target Match Tool

Allows for **live display** of **simultaneous binaural real ear measurements** relative to target

Automatic target matching for both the e-STAT proprietary and standard prescriptive formulas

Allows for manual fine tuning to further personalize a fitting as needed

REM Target Match

REM Target Match is an automatic real ear measurement (REM) tool that allows the hearing professional to quickly and automatically fit hearing aids using the unique acoustics of the patient's ears

Steps for REM Target Match

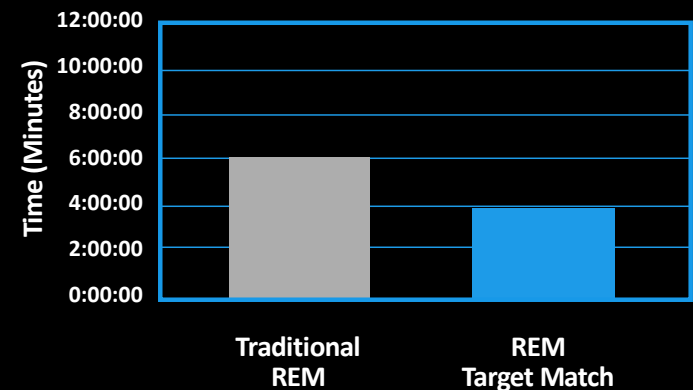
1. Setup
2. Calibration*
3. Unaided**
4. Aided

*Calibration completed through Verifit console; **Verifit does not support unaided measurements

Compatible Devices Include:

Verifit 1 and 2
MedRx Avant REM Speech+
Interacoustics Affinity Compact
Inventis Trumpet
Otometrics Aurical FreeFit

Average Time for REM – Verifit 2 (BTE)



REM Tips & Tricks



Verifit Good to Know



If calibration has been completed daily or weekly, the calibration prompt will be skipped, and the user will be prompted to start Aided measurements



If the Binaural Sound Field Assist is skipped using the Verifit 2, measurements will be run monaurally until all measurements are complete



Verifit 1 will only run monaural measurements (i.e. one ear at a time)
The measurements will automatically switch between ears until all measurements are complete

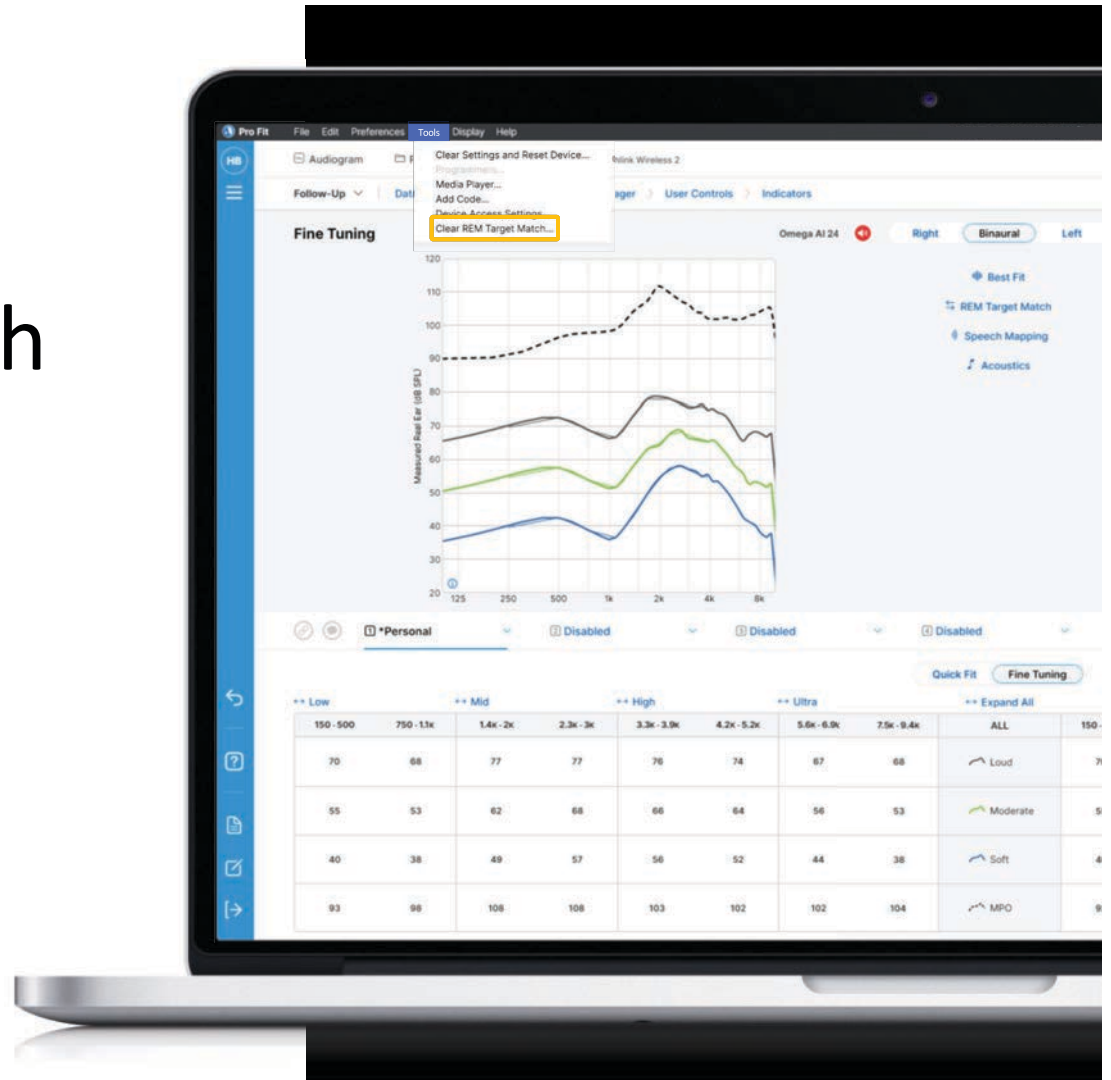
Verifit 2 will run simultaneous binaural measurements

How to Clear REM Target Match Measurements

Select the “**Tools**” Menu
in the Upper Toolbar

Choose Clear REM Target Match
From the Drop Down Menu

Select “**OK**” to Delete



REM Target Match

①

Experience Manager

REM Target Match Tool will
always target match to
experience level 3

REM Target Match

Viewing Measurement Curves

2

Once you exit the REM Target Match tool, there isn't a way to access the REM measurement curves again

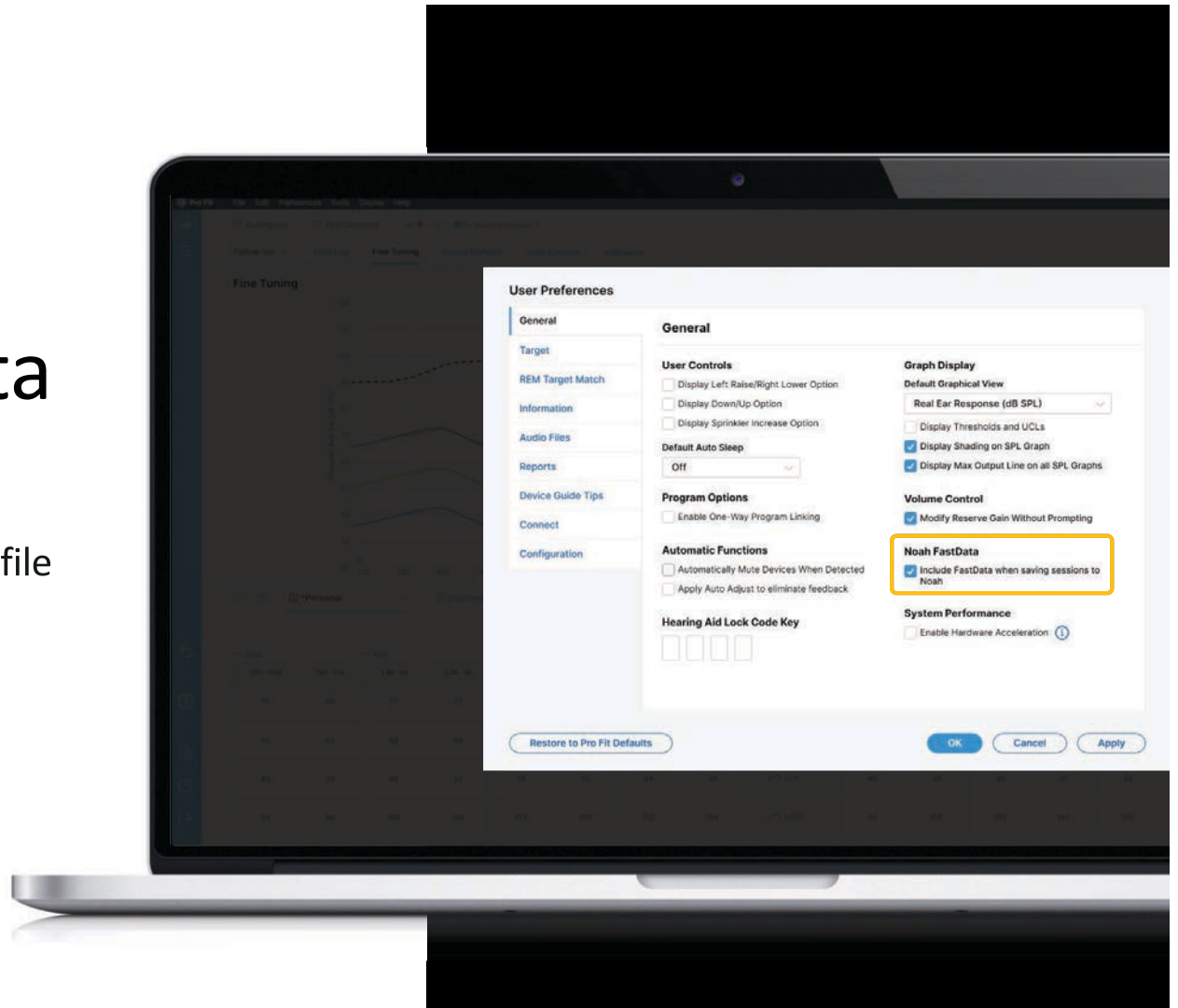
Printing the fitting report graph before closing is recommended

NOAH Fast Data

Measurements are visible
in fitting report

Data is not saved in the NOAH file
unless using NOAH Fast Data

Select Preferences > General



REM Target Match

3

Selecting Max Sound Level

Select the loudness level at which
the system will automatically
stop measuring

May be useful to align the
max sound level with UCL
measurements

REM Target Match

4

Entering Bone Conduction Thresholds

On the Verifit systems,
NAL-NL2 requires bone
conduction entry at 500 Hz
and 2000 Hz

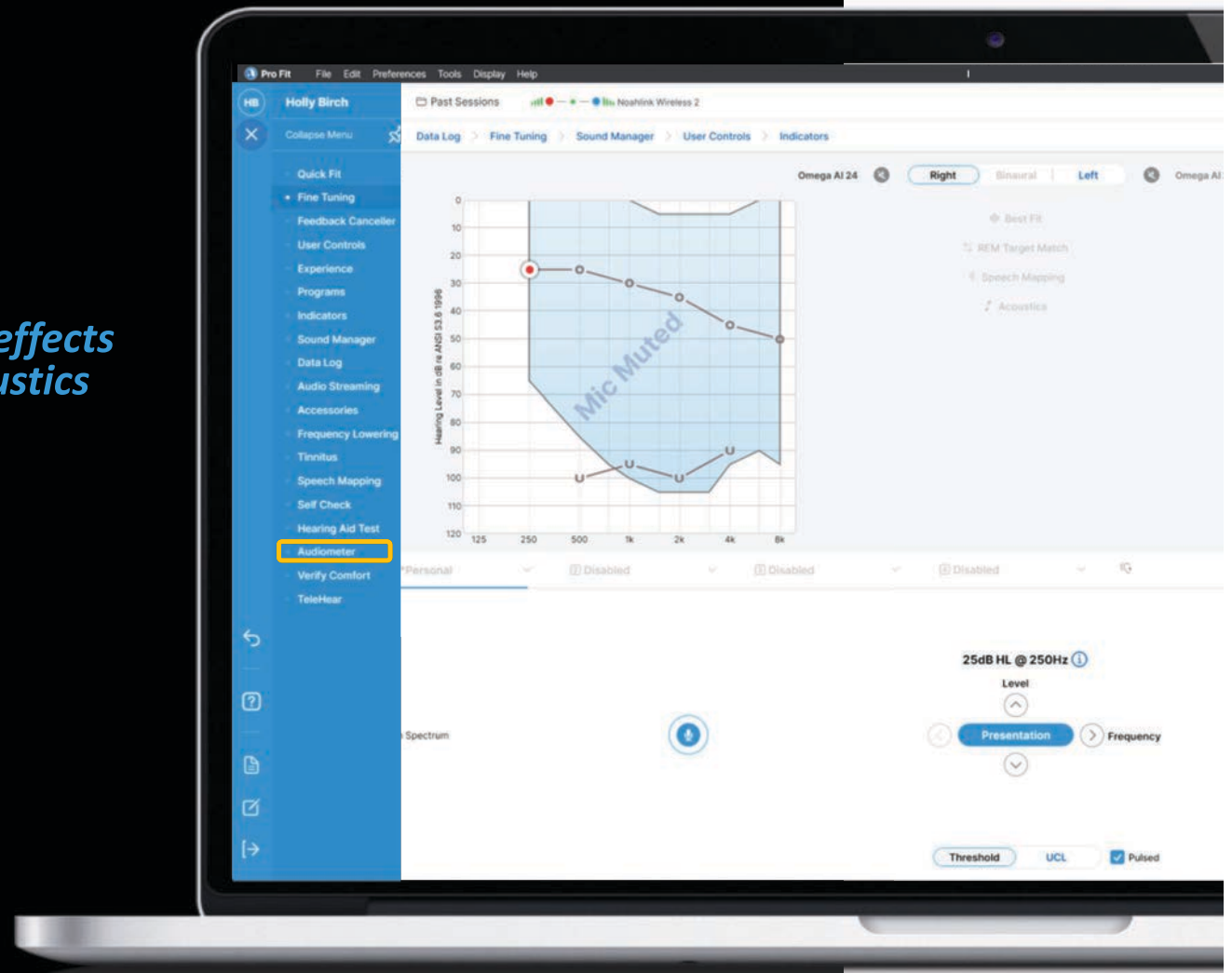
Effectively captures the effects of transmission line acoustics

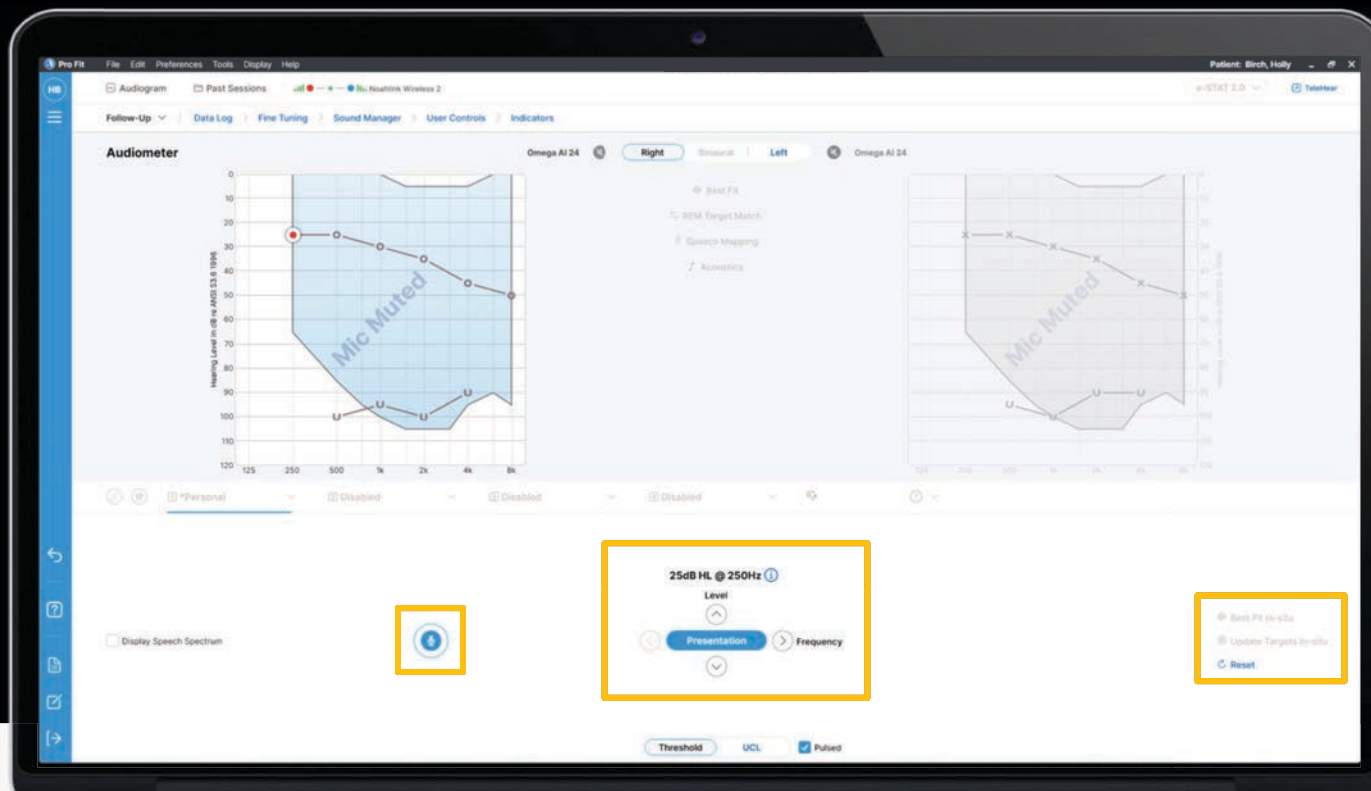
In-Situ Audiometer controls

Atypically shaped ear canal

Unexpected vent effects

Changes in acoustics





Audiometer

If a major change in threshold(s) is noted, it is *not* necessarily a change in hearing

Often a Result of:

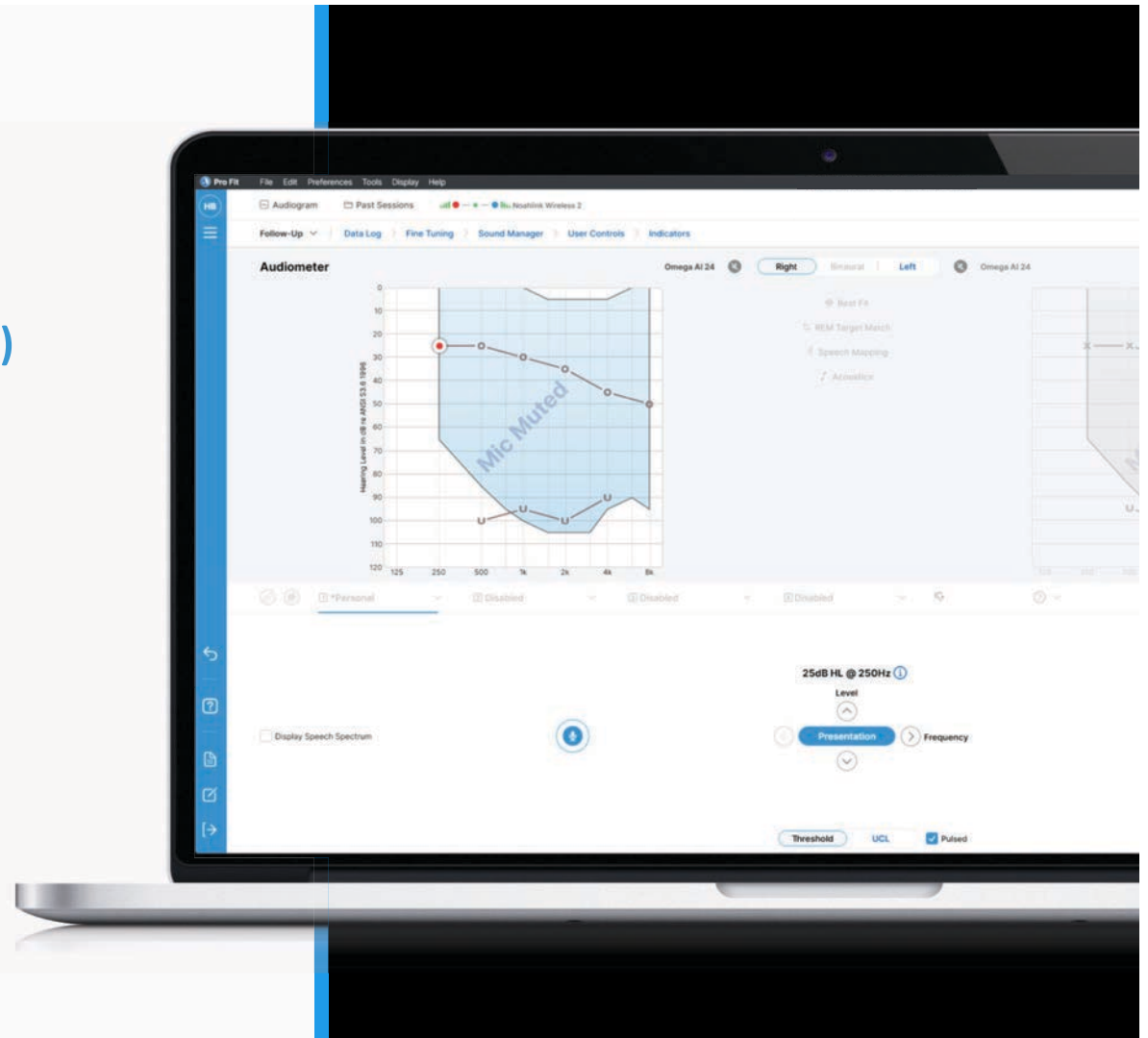
- Ear anatomy

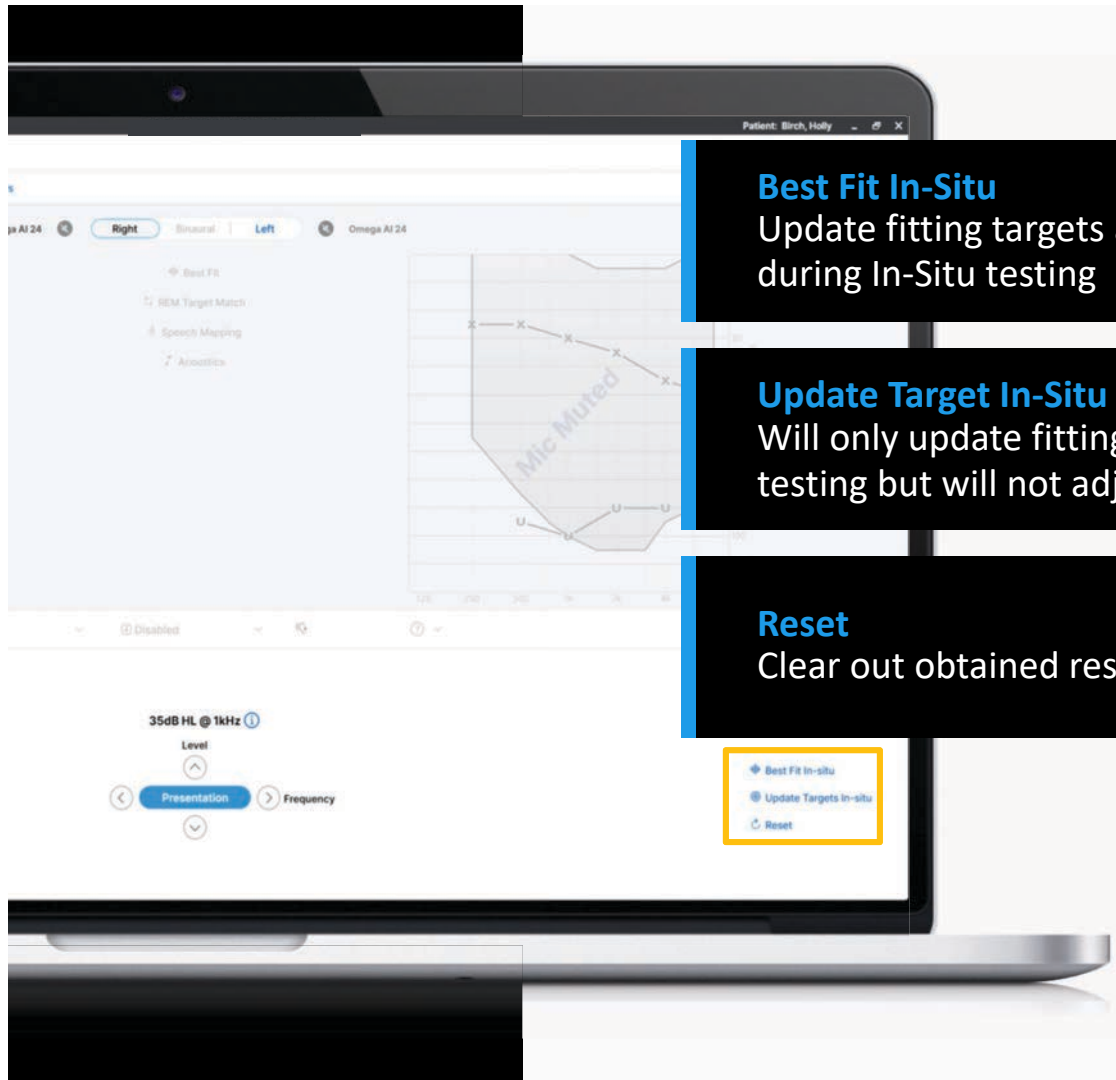
- Receiver placement

Significant change in low frequencies

- Reduce environmental noise

- Verify proper insertion





Best Fit In-Situ

Update fitting targets and Best Fit devices to results obtained during In-Situ testing

Update Target In-Situ

Will only update fitting targets to results obtained during In-Situ testing but will not adjust the frequency response of the aids

Reset

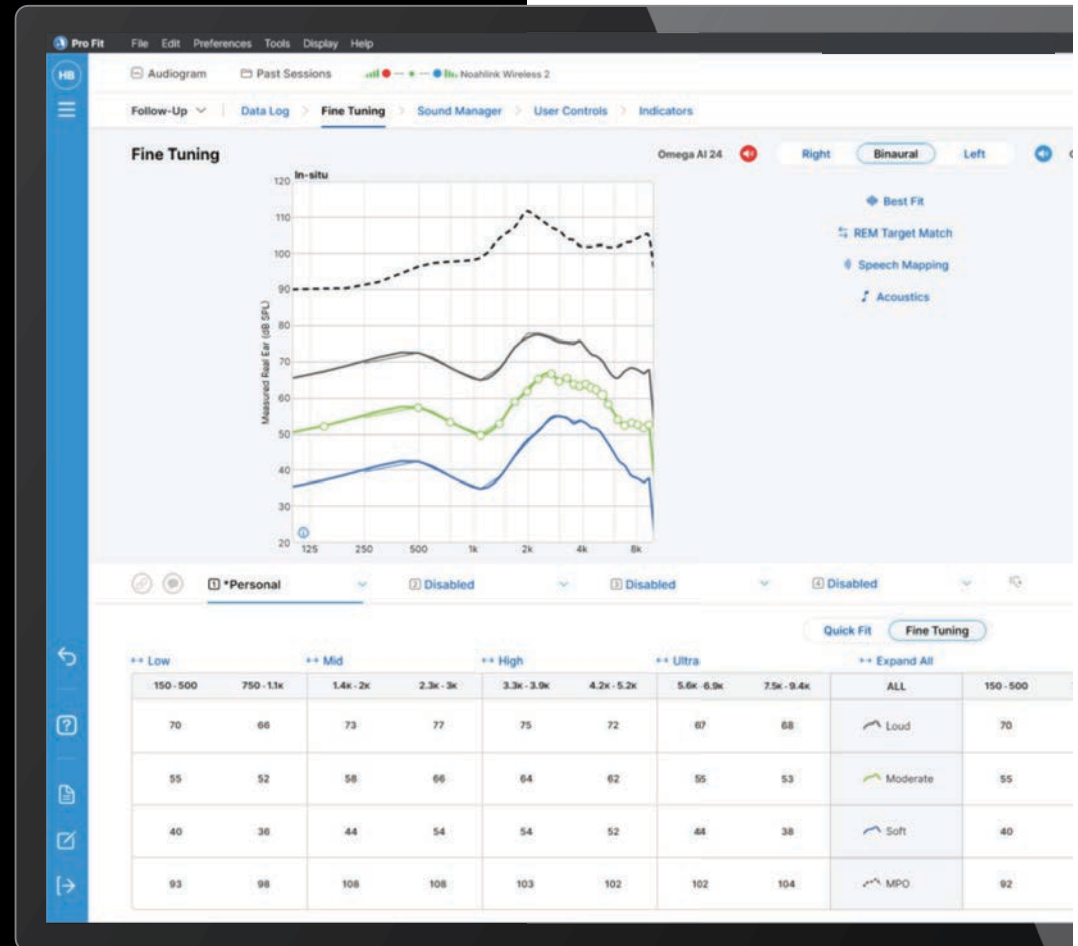
Clear out obtained results during In-Situ testing

Programming with Audiometer

For example:

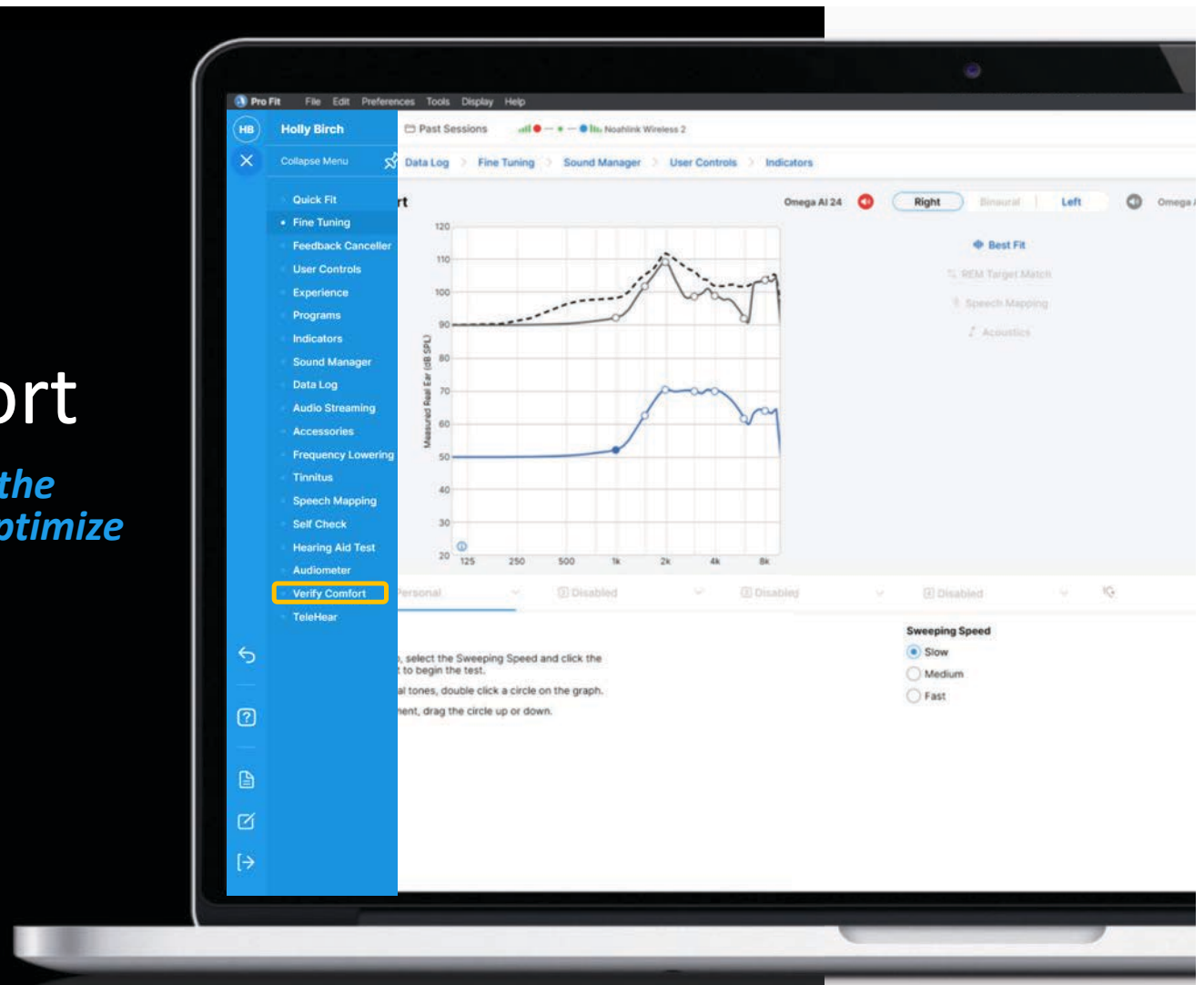
Patient is reporting all sounds are too loud in the right ear

Perform in-situ for the right ear and update the fitting



Verify Comfort

Tone Sequencing across the frequency response to optimize the dynamic range



Verify Comfort

Tool to confirm loud and soft inputs sound satisfactory to the patient

Present a sequence of tones across the frequency response curve

Often routinely included in initial fittings

Soft Input Curve

50 dB

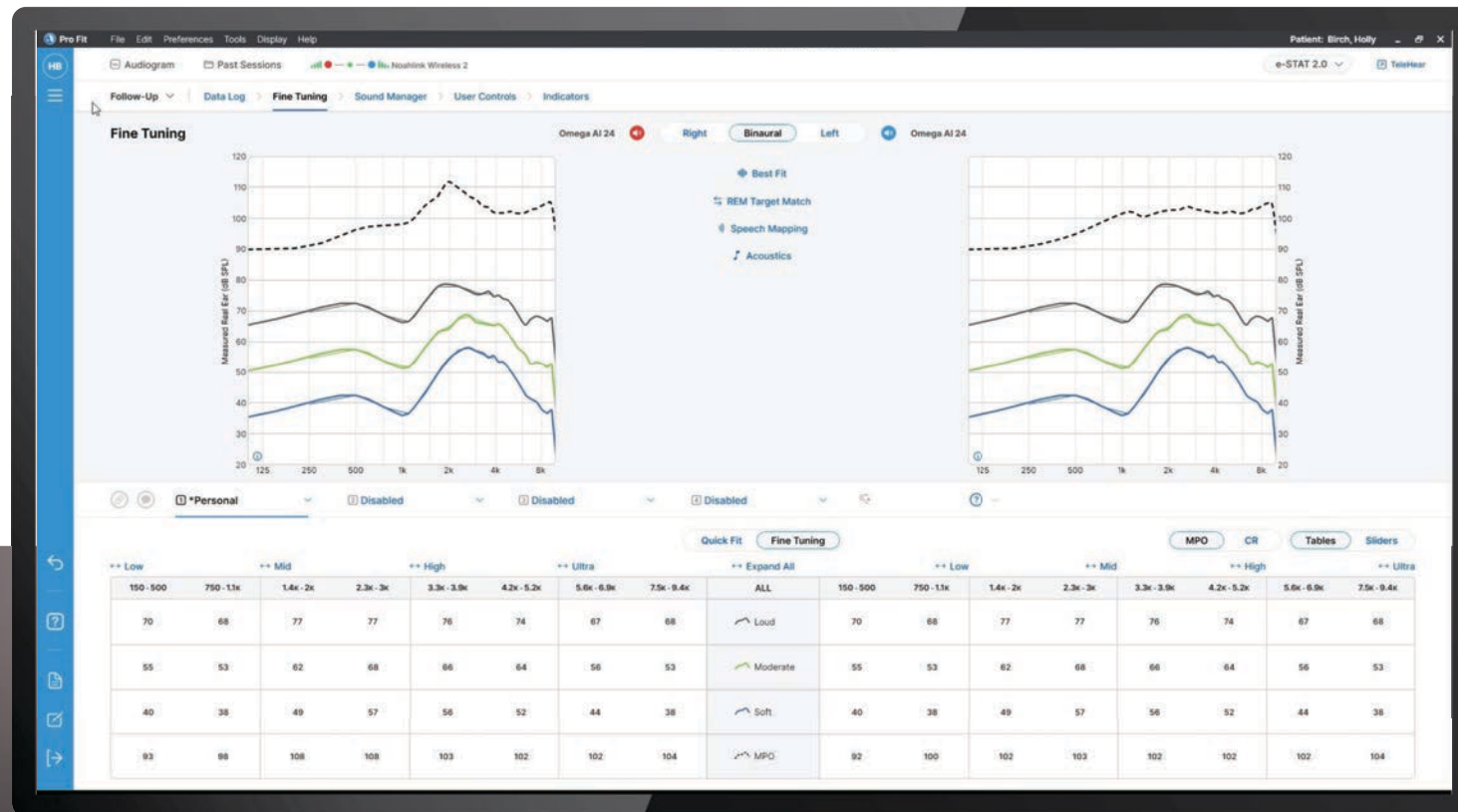
Sounds should be audible but soft

Loud Input Curve

90 dB

Sounds should be loud but not exceed comfort level

Verify Comfort

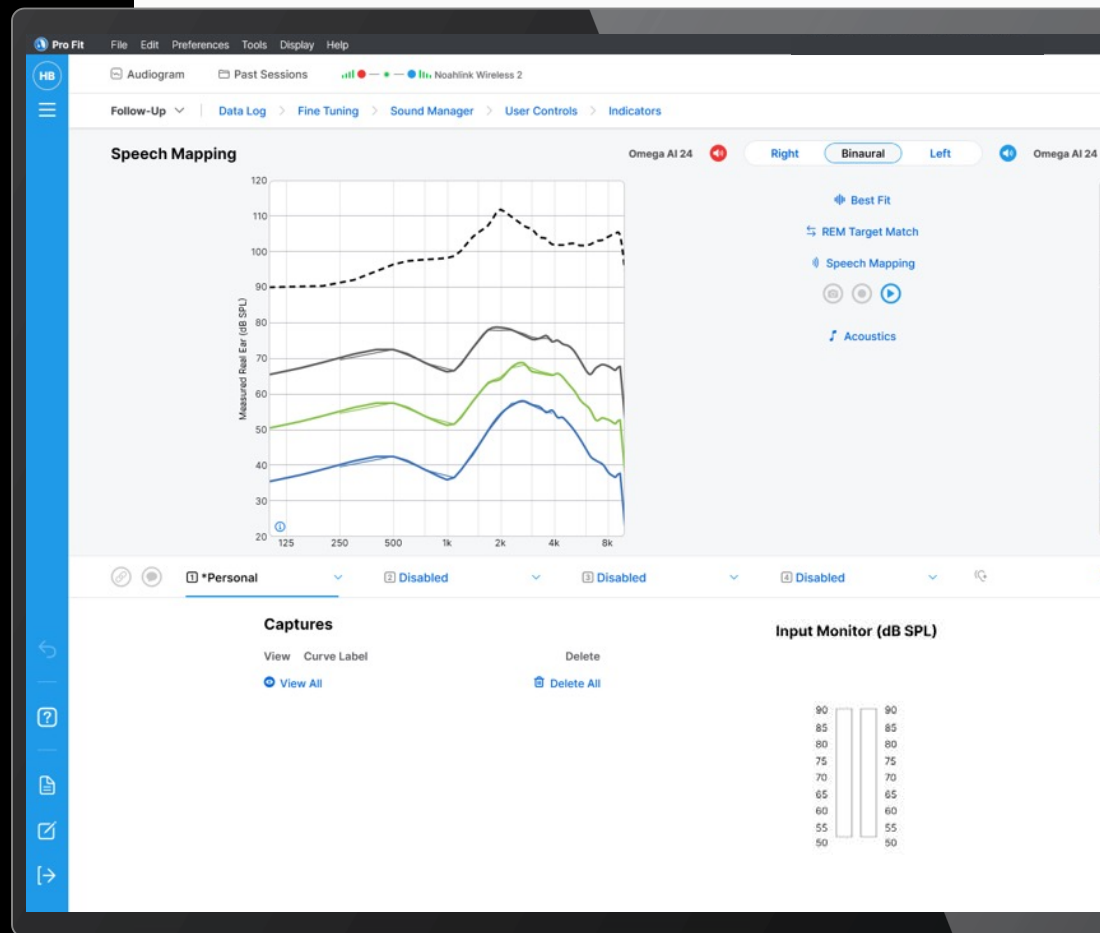


Speech Mapping

Real-time curve captures to understand and verify hearing aid performance

Can be used for counseling, fitting, and troubleshooting

Can have up to 7 captured curves printed at a time



Speech Mapping

Loudness:

Overall too loud or too soft

Loudness comfort

Feedback:

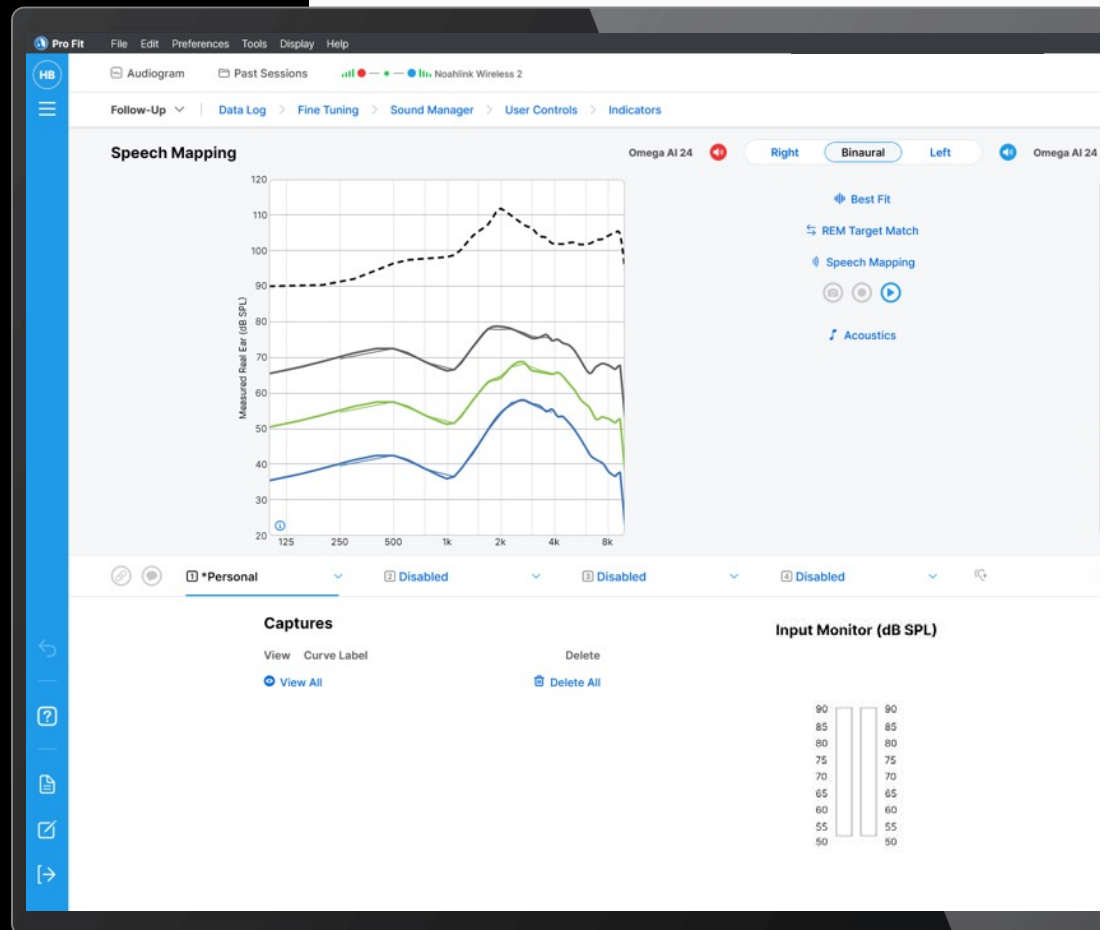
Hearing aids

Noise

Sound Quality:

Pumping

Shutting down



Speech Mapping

Captures:

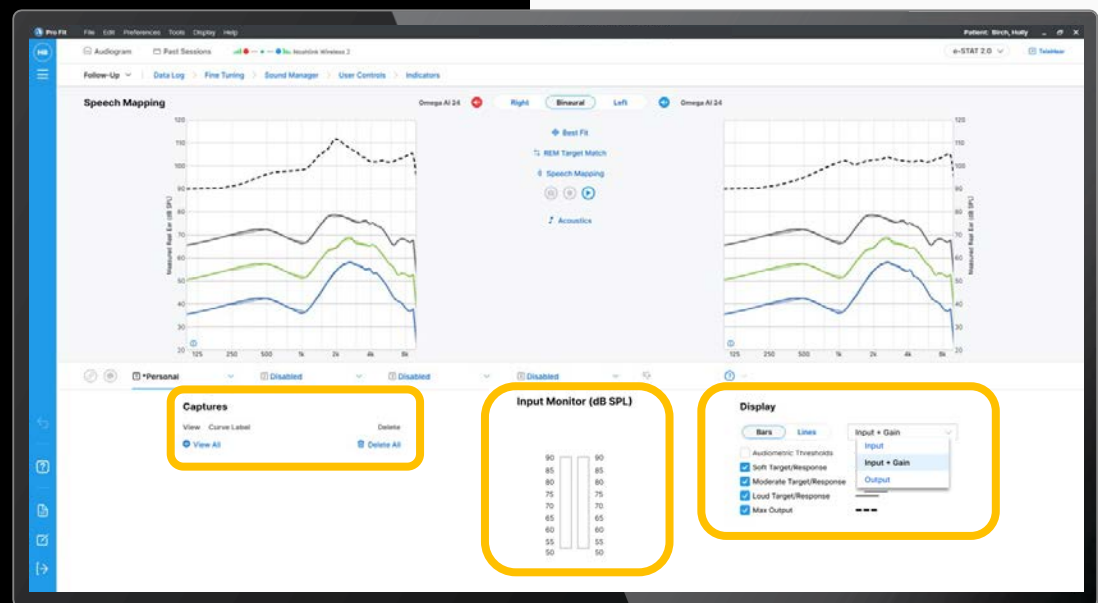
Allows for viewing selected recorded captures

Input Monitor:

Shows the average input level being picked up by the hearing aids

Display:

Allows for selected Target displays, as well as different views for recording captures



Speech Mapping

Camera:

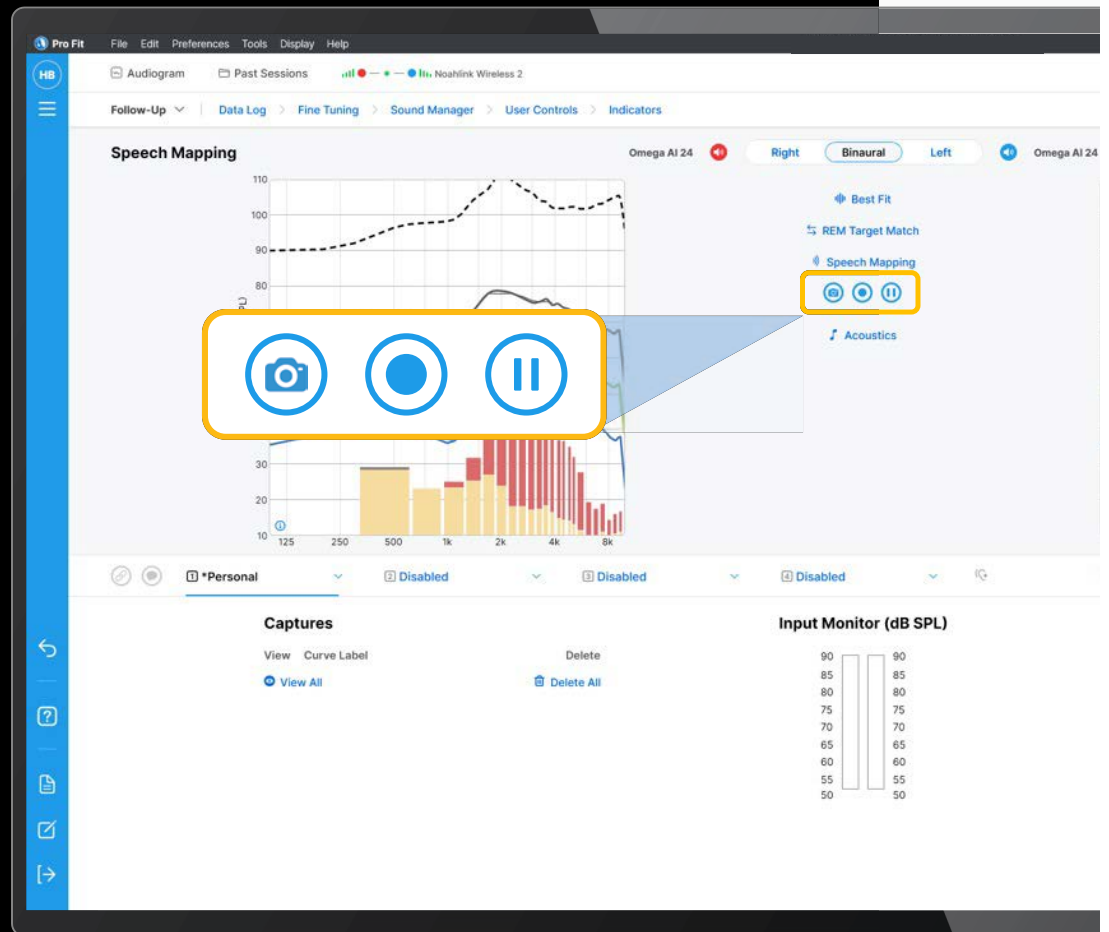
Instant Capture

Record:

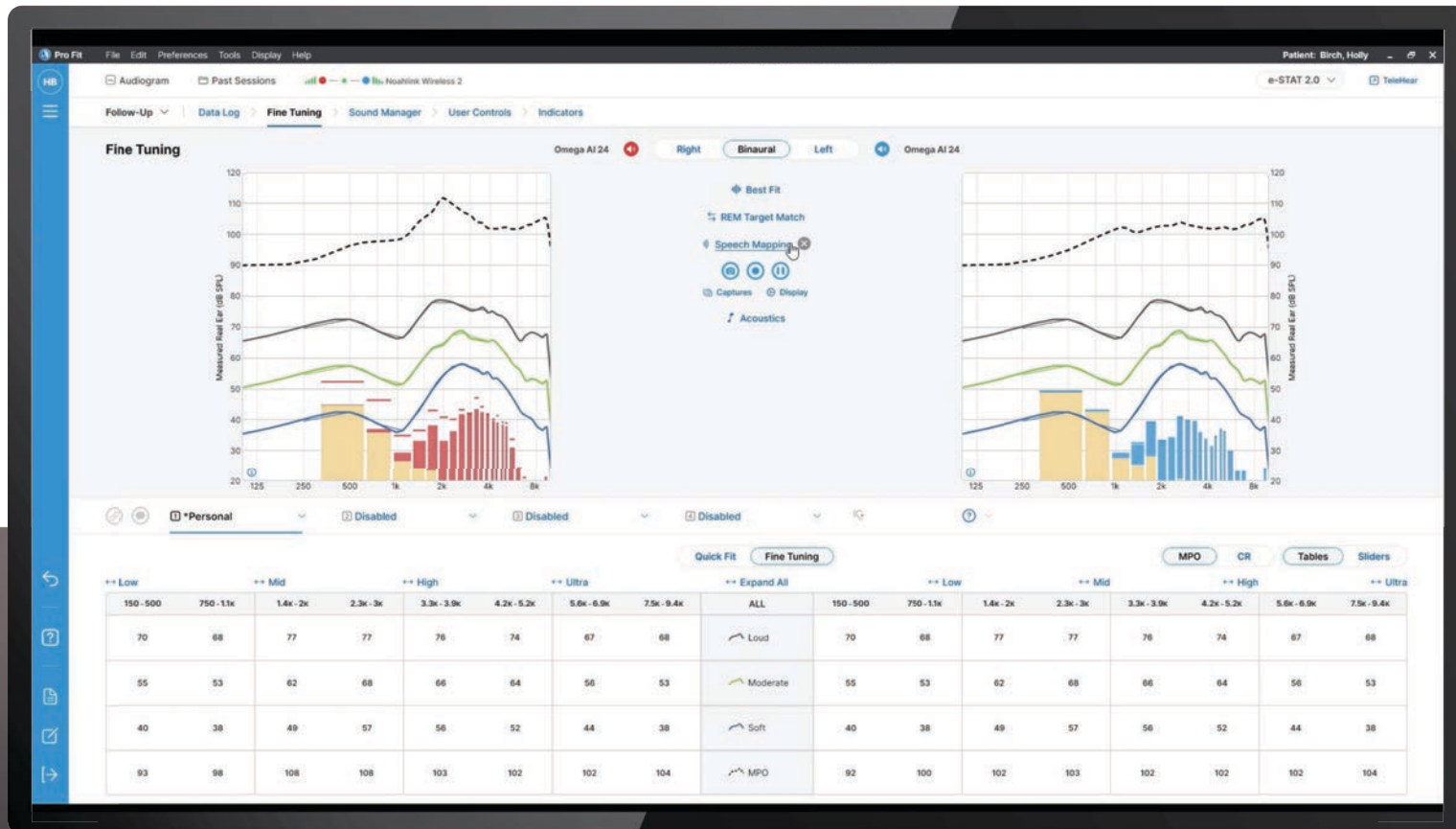
10 Second Average Capture

Play/Pause:

Activate/End Speech Mapping



Programming for Audibility



Frequency Lowering

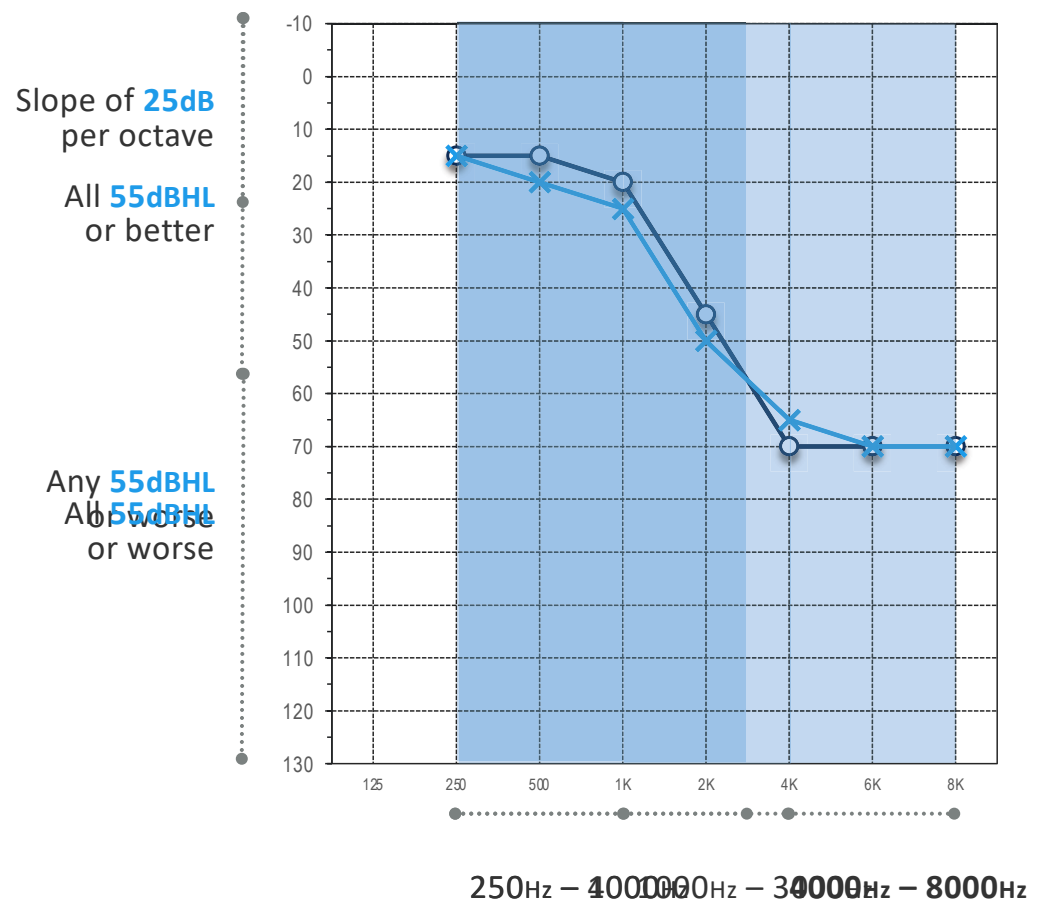




Frequency Lowering

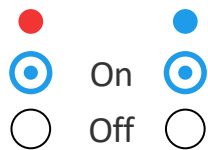
Replicates high frequency inputs at a lower frequency

Smart Candidacy Criteria



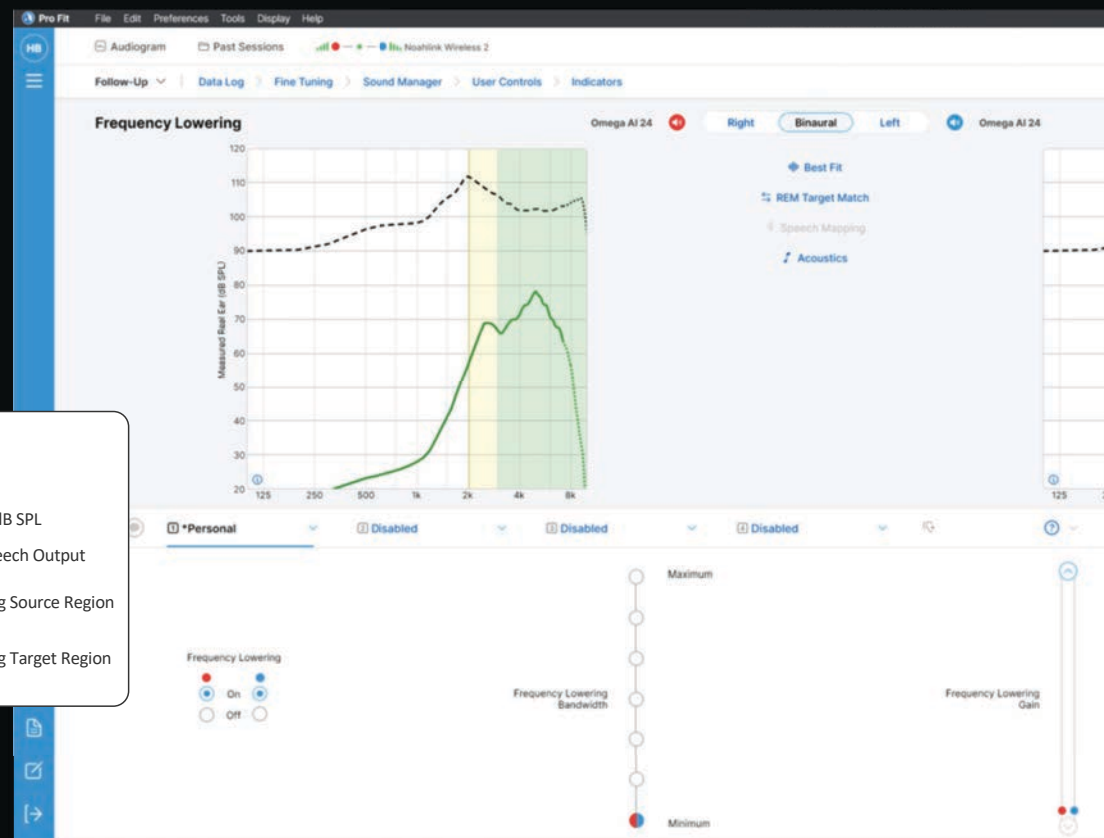
Source and Target Regions

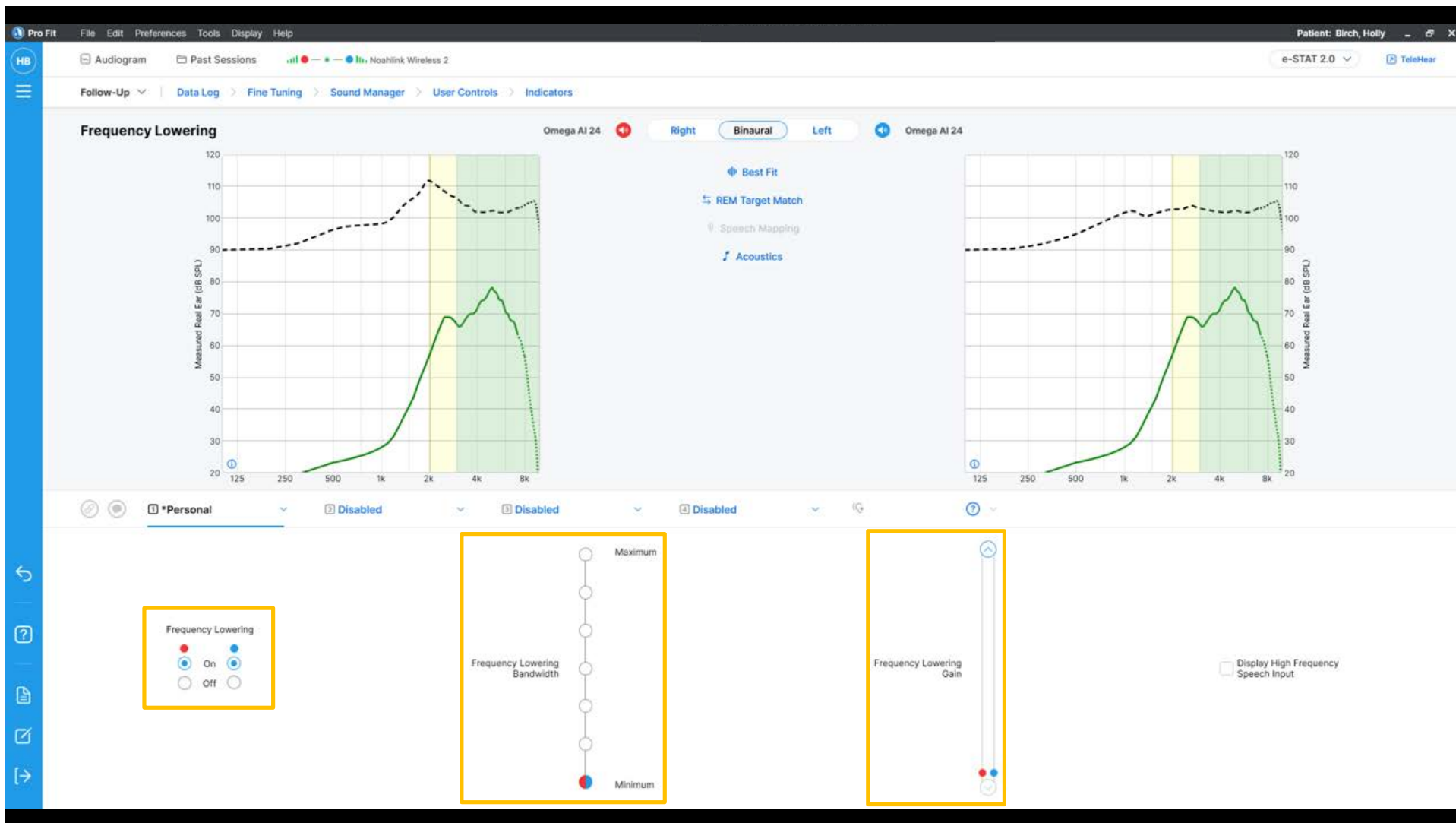
Frequency Lowering



Graph Legend

- Maximum Output dB SPL
- High Frequency Speech Output
- Frequency Lowering Source Region
- Frequency Lowering Target Region



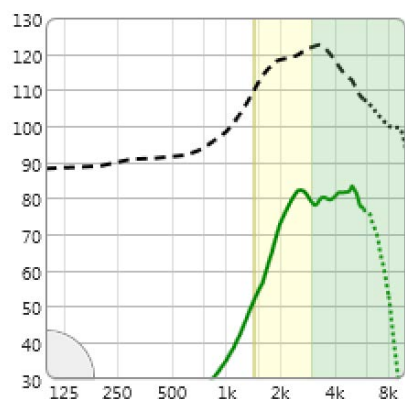


Frequency Lowering Bandwidth

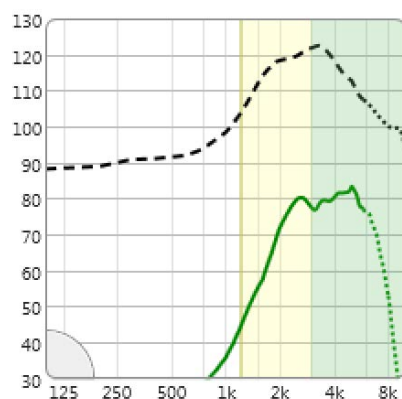
Adjusts the *Source*
& *Target* Regions

7 Discrete Settings

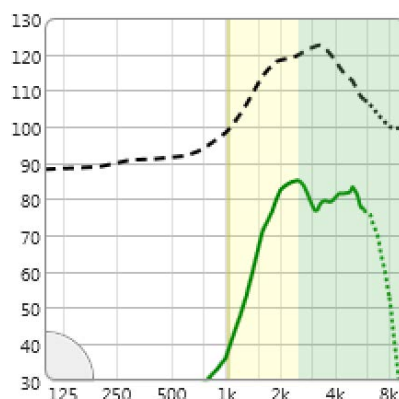
Based on Audiometric Thresholds



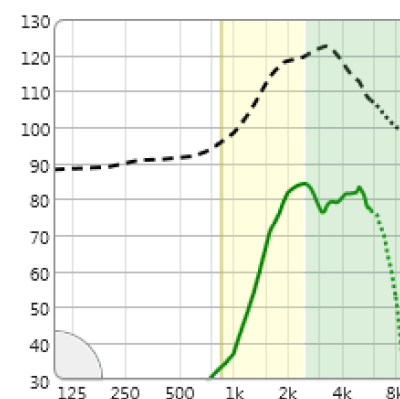
SETTING 1



SETTING 3



SETTING 5



SETTING 7

Frequency
Lowering
Gain



Frequency Lowering Gain

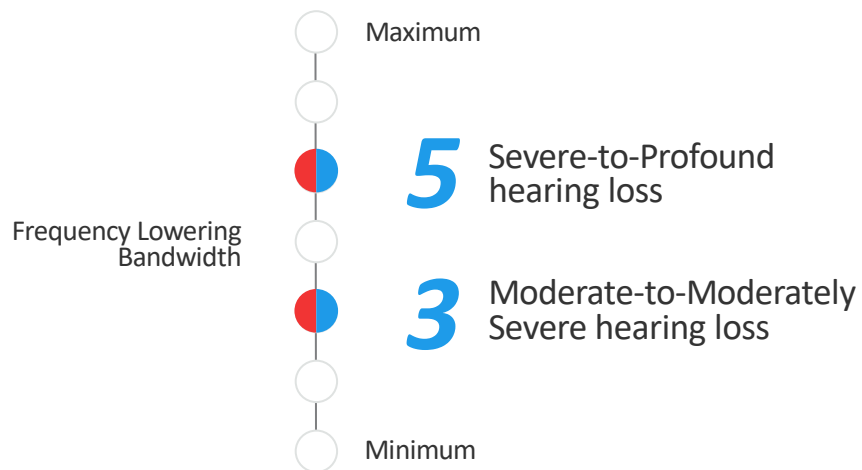
Controls Amount of Recreated Signal

Extends From 0 dB – 10 dB

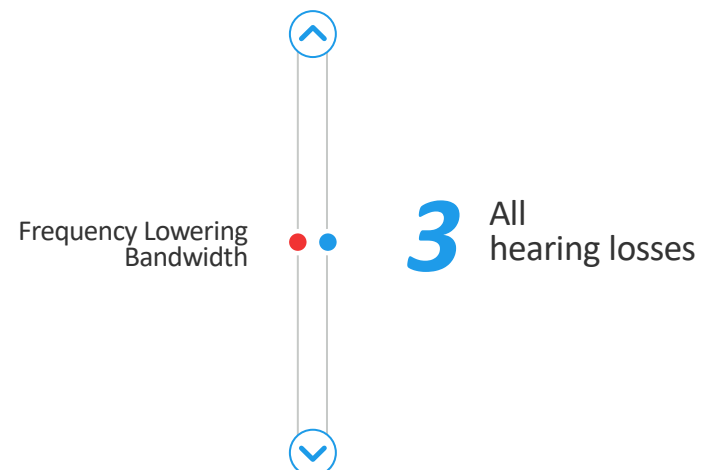
Can Be Changed in 1 dB Increments

Customized Best Fit Settings

Frequency Lowering Bandwidth



Frequency Lowering Gain

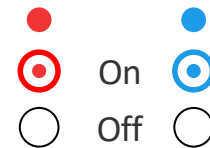


Enabling by Memory

Frequency Lowering is not available
in the dedicated Music program

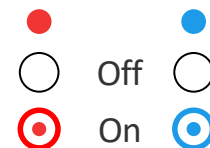
1 *Personal

Frequency Lowering



2 Outdoors

Frequency Lowering



Frequency Lowering Validation

Frequency Lowering Validation

Education & Training

QuickTIPS

Neuro Processor/Thrive Platform

QUICKTIP

Frequency Lowering Validation

Instructions for Live Voice Validation

- 1 With frequency lowering off, present words from a plural word list (available on page 2) while masking (preading cues.
- 2 Ask the patient to repeat the word.
- 3 Mark the response as correct or incorrect.
- 4 Calculate the patient's score in percent correct.
- 5 With frequency lowering on, use an alternate list and repeat test to obtain the patient's score.
- 6 Compare patient's scores:
 - * The goal is for the patient to achieve an improvement in performance feature ON versus OFF (ideally greater than or equal to 20%).
 - * If improvement is not achieved, increase Gain in 1 dB steps and re-evaluate performance.
 - * If approximately two or three increases in Gain do not yield better performance, return the Gain to 3 dB and increase the Bandwidth setting by one step and re-evaluate performance.
 - * Continue to adjust Gain and/or Bandwidth as needed to achieve a performance improvement.
 - * Ensure that final settings are comfortable for the patient.

NOTE: At the time of the first fitting with frequency lowering, the professional should focus on adjustments required to maximize benefit and ensure comfort. The patient's report of sound quality should be considered at the time of follow-up once a period of acclimatization has been provided to ensure that initial settings are not adjusted to levels that would be unhelpful.

- 1 Use the Fitting Adjustment Guide below to make adjustments for sound quality, if needed at a follow-up visit. Repeat behavioral validation procedure to ensure settings provide patient benefit.

Follow-Up Adjustment Guide

	Patient Report	Adjustment	Considerations
OWN VOICE	Own voice sounds like static or echo	Decrease Gain, Decrease Bandwidth	Adjust Gain first. If reports persist, adjust Bandwidth.
	/s/ sounds too lispy	Decrease Gain	Keep in mind that a slight 'lisp' on /s/ sounds is normal.
INTELLIGIBILITY	/s/ sounds too unnatural	Decrease Bandwidth	
	Difficulty detecting /s/sounds or identifying plural sounds	Increase Gain Increase Bandwidth	Adjust Gain first. If report persists, adjust Bandwidth.
	Other voices echo	Decrease Bandwidth Decrease Gain	Adjust Bandwidth first. If report persists, adjust Gain.
	Echo or lip artifacts	Decrease Bandwidth	Alternatively decrease Bandwidth and Gain until report is resolved.
SOUND QUALITY	Processing too noticeable	Decrease Gain	

List 1	Score
Key	
Days	
Plays	
Toys	
Cities	
Bricks	
Pig	
Cloud	
Ways	
Ear	
TOTAL:	

Validation Strategy

Turn Frequency Lowering OFF

Mask lip reading cues

Present a sample word list

Have patient repeat words

Score % correct

Validation Strategy

Continued

If the patient scores < 80%,
turn Frequency Lowering on

Repeat the steps above

GOAL

To see an improvement of in word recognition
ability with the feature on vs off

List 1	Score
Key	
Days	
Plays	
Toys	
Cities	
Bricks	
Pig	
Cloud	
Ways	
Ear	
TOTAL:	

Fitting Report

Customized for Keeley Test Session: 11/4/2022

Device Guide

Customized for Keeley Test Session: 11/4/2022

Data Log Report

Customized for Annie Chaika Session: 1/18/2024

Right Ear

Model	Omega AI 24 RIC RT
Receiver	M
FW	
Serial#	281661218
Fitting Formula	u STAT 2.0
Data Log Dates	10/22/2023 - 1/18/2024

Average Daily Usage

Time Worn	2 hours
Time Streaming	0

Volume Control

Program	Arg Input (SPL)	Time in Program	On/Off	Directional	Setting
1 - Personal	60 dB	100%	On	Off	Adaptive
2 - Disabled	NA	0%	NA	NA	Off
3 - Disabled	NA	0%	NA	NA	Off
4 - Disabled	NA	0%	NA	NA	Off

Time Spent in Sound Class

Program	Quiet	Speech	Noise	Speech in Noise	Machine	Wind
1 - Personal	58%	9%	37%	19%	4%	0%
2 - Disabled	NA	NA	NA	NA	NA	NA
3 - Disabled	NA	NA	NA	NA	NA	NA
4 - Disabled	NA	NA	NA	NA	NA	NA

Average Input Level

dB (SPL)	<40	40-49	50-59	60-69	70-79	80-89	>90
Average Time	8%	31%	10%	19%	17%	18%	2%

Audiogram Report

Customized for Howard Blaine Date of Test: 1/28/2025

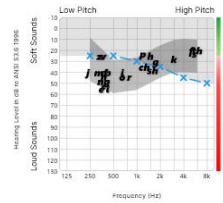
Verification Report

Customized for Howard Blaine Session: 1/29/2025

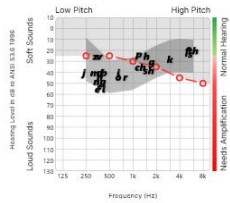
Hearing Loss Simulator

Customized for Howard Blaine Session: 1/29/2025

Left Ear: Patient Audiogram
Articulation Index = 45%



Right Ear: Patient Audiogram
Articulation Index = 45%



Notes

Blank area for notes.

Pro Fit Reports

Fitting Report

A Report Detailing:

Indicators enabled

Audiogram configuration

Features enabled

Programs assigned

Sound Manager settings

REM Target Match results*

*with Noah Fast Data enabled



Fitting Report

Customized for: Annie Chaska

Session: 1/13/2026

Right Ear



S/N: 251661218

Model	Omega AI 24 RIC RT		
Receiver	M	Acoustic Options	Occluded : Measured
VC Range; Step Size	12dB / -8dB; 4dB	Experience Level	3
Feedback Cancellor	✓	Fitting Formula	e-STAT 2.0
Power-On Delay	Short	Self Check Status	Active
Auto Sleep	Off	Motion Optimized	On

Audiogram

	.125k	.25k	.5k	.75k	1k	1.5k	2k	3k	4k	6k	8k
Office System Air Thresholds (dB HL)	+	30	40	+	50	+	50	+	60	+	70
Office System Bone Thresholds (dB HL)	+	+	+	+	+	+	+	+	+	+	+
Office System UCL Thresholds (dB HL)	+	+	70	+	75	+	60	+	70	+	+

Program	Hz Lowering		Tinnitus		Feedback
	Strength	Gain	Stimulus	Setting	
1 - *Personal	---	---	Off	Strong Adaptation	
2 - Disabled	---	---	N/A	---	
3 - Disabled	---	---	N/A	---	
4 - Disabled	---	---	N/A	---	

Adaptive Features

Program	Consonant Brightness	Sound Enhancement			Situational Sound Management			Directionality	
	Strength	Speech In Loud Noise	Speech In Noise	Quiet	Transients	Wind	Machine	Mode	Spatial Adaptation
1 - *Personal		2	Off	3	2	3	3	Adaptive	On
2 - Disabled	---	---	---	---	---	---	---	---	---
3 - Disabled	---	---	---	---	---	---	---	---	---
4 - Disabled	---	---	---	---	---	---	---	---	---

Indicators				User Controls			Accessories
Low Battery	✓	Startup Sound	✓	Gesture	Right	Left	Accessories are not available for this instrument.
Sleep Sound	✓	Program / Home	✓	Short Press	Volume f t e t ✓	Program f t e t ✓	
Telephone	N/A	Volume	✓	Push & Hold	Sleep Mode f t e t ---	Sleep Mode f t e t ---	
Tinnitus Level	N/A	Accessory Stream	✓	Push & Hold	Sleep Mode f t e t ---	Sleep Mode f t e t ---	
Mute	✓	Manual Alert	N/A	Double	Smart Assistant f t e t ---	Smart Assistant f t e t ---	
Assistant	✓	Edge Mode	✓	Double	Smart Assistant f t e t ---	Smart Assistant f t e t ---	
Offline Mode	✓	Indicator Lights	✓	Tap	Smart Assistant f t e t ---	Smart Assistant f t e t ---	

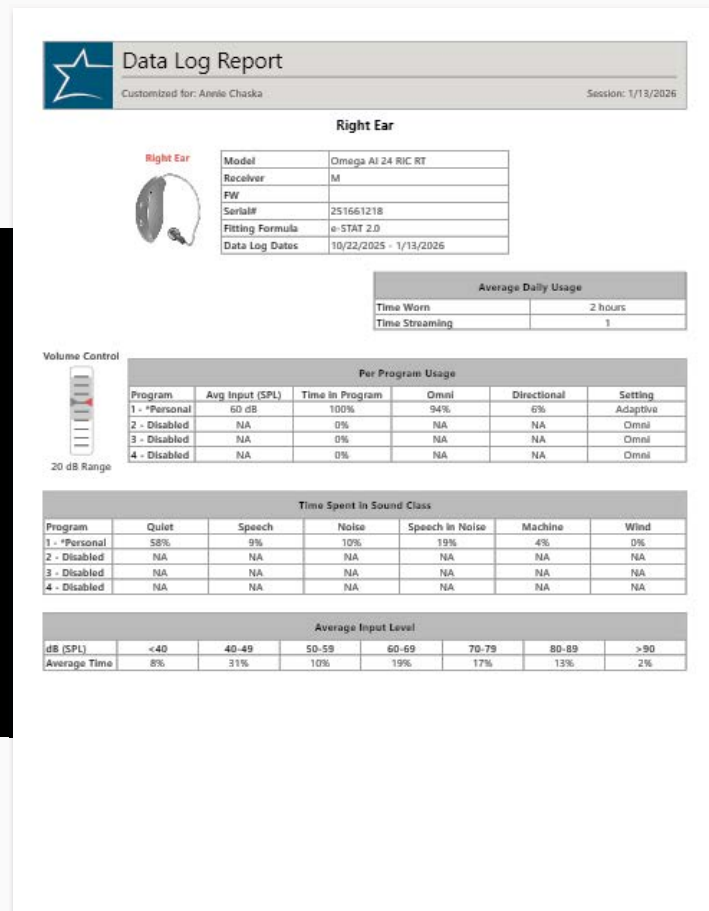
Data Log Report

A Report Detailing:

Battery life

Average dB SPL Input

Percentage of time per sound class

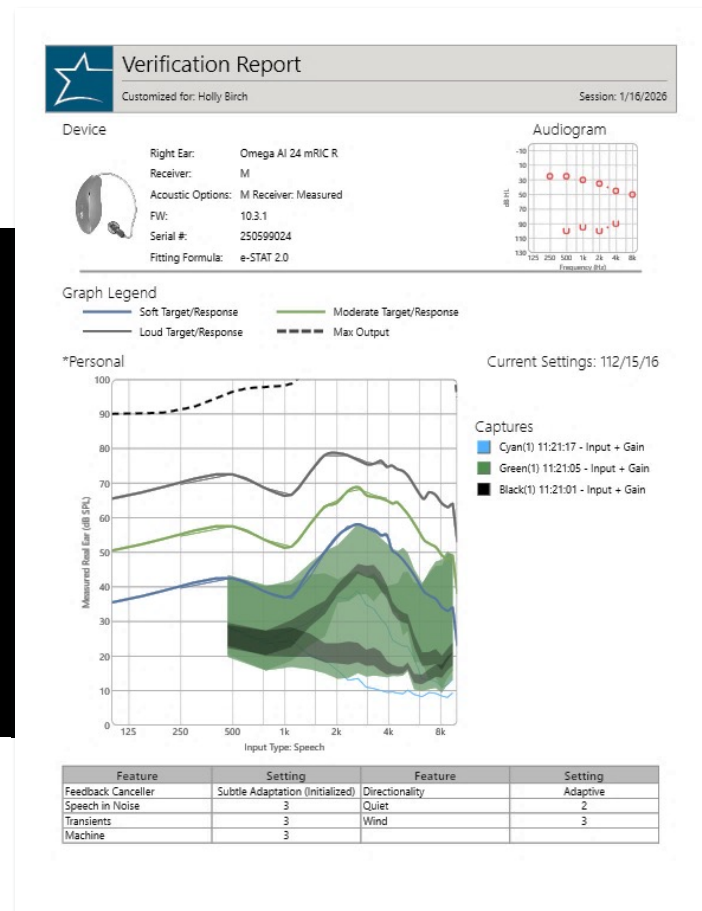


Verification Report

A Report Detailing:

Captures made in Speech Mapping

Details about HA configuration

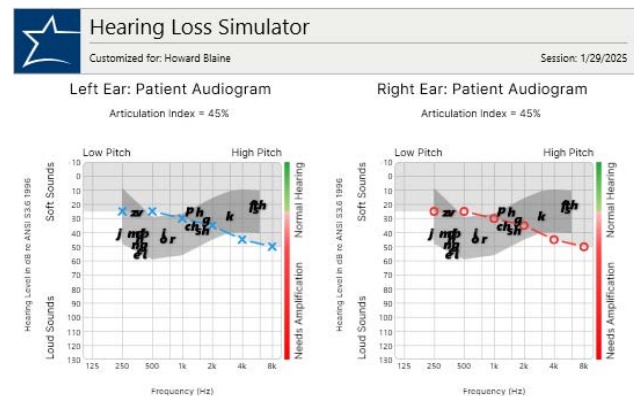


Hearing Loss Simulator

A Report Detailing:

Selected overlays

Patient's audiogram

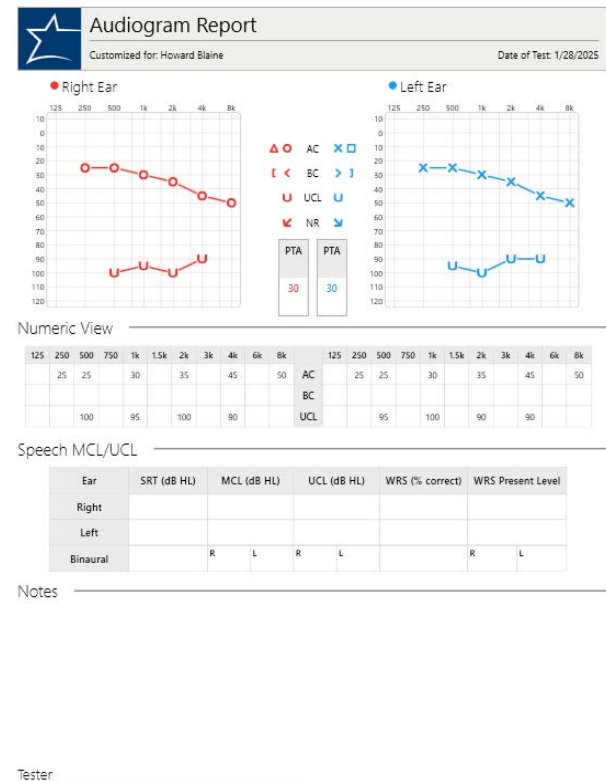


Notes

Audiogram Report

A Report Detailing:

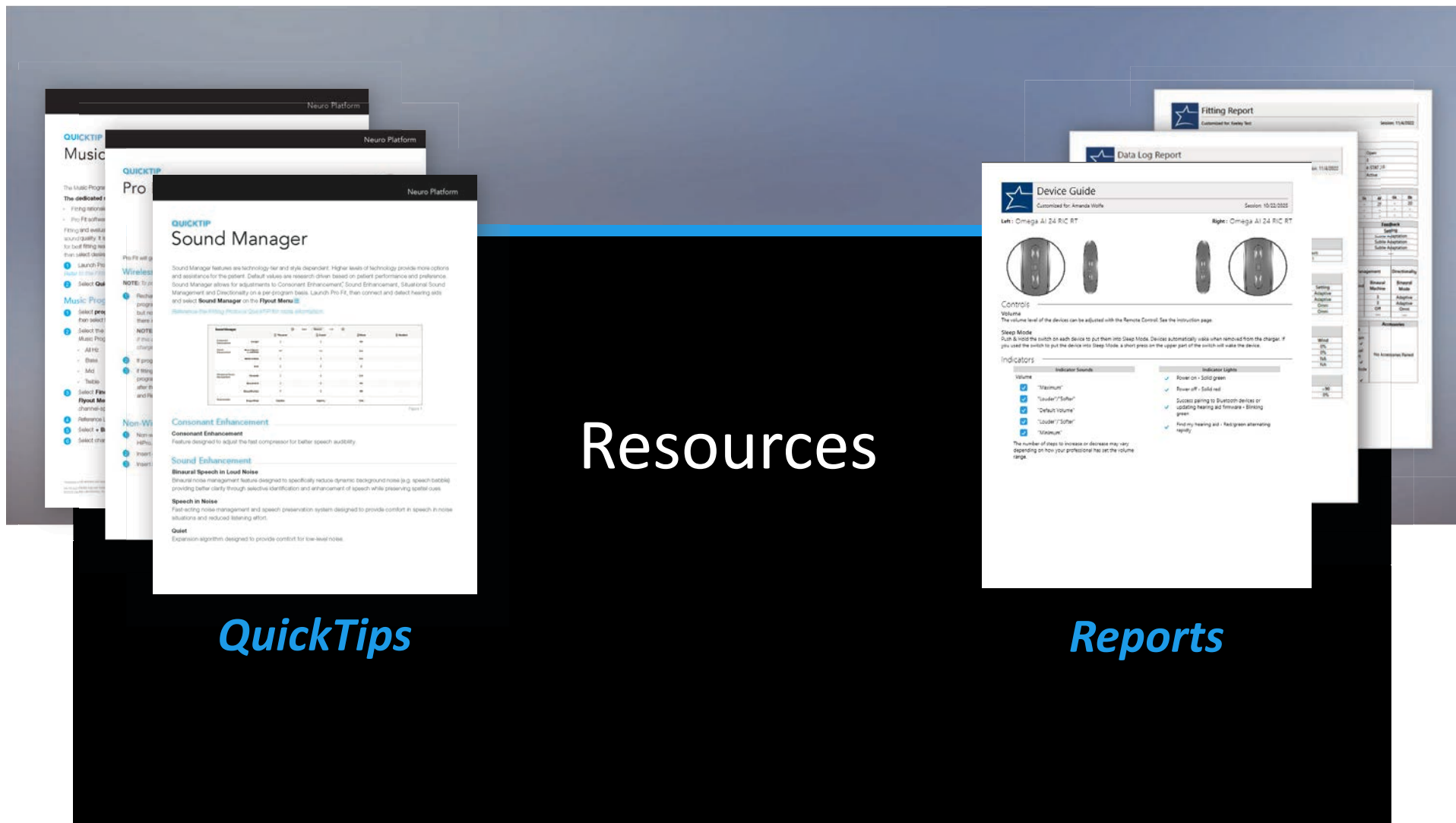
Patient's most recent audiogram



Resources

QuickTips

Reports



Starkey AI Assist vs. Help for Pro Fit

Starkey AI Assist:

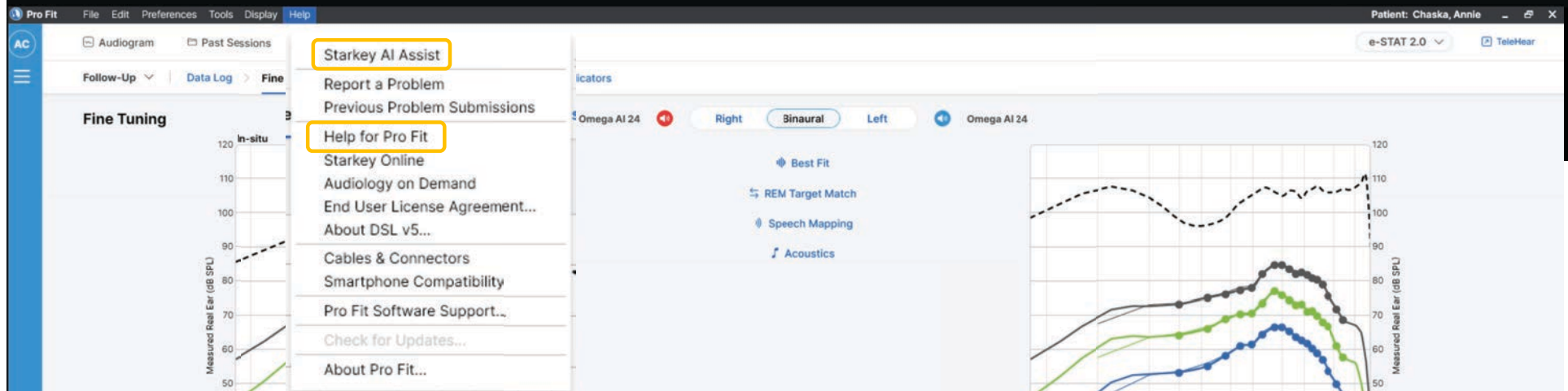
Allows you to access our generative AI assistant that has been trained on Pro Fit

Pulls answers to posed questions from Starkey publications

Help for Pro Fit:

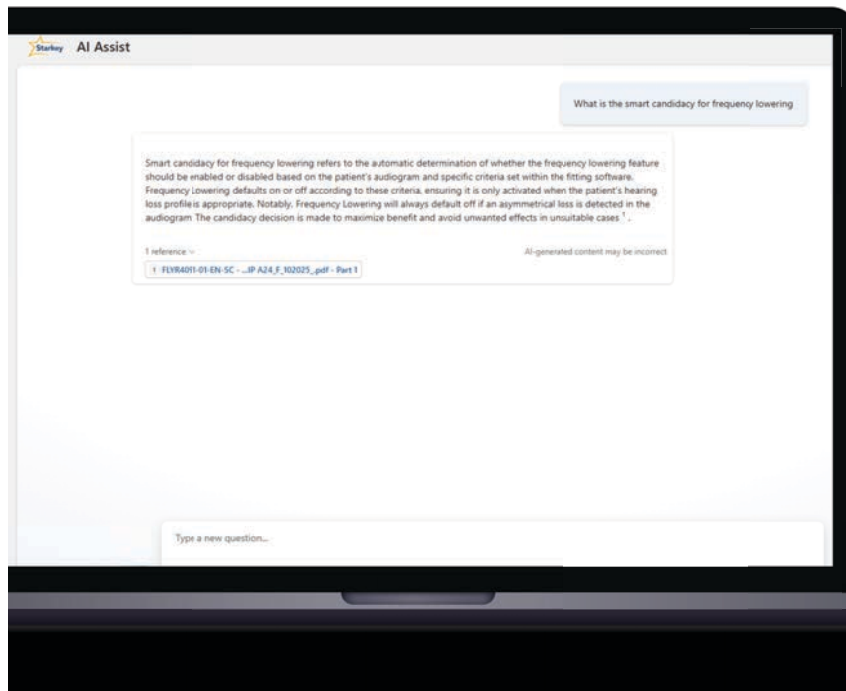
Customizes information based on the screen it is accessed from

Provides links to Quick Tips as well as a glossary of terms and other resources



Starkey AI Assist vs. Help for Pro Fit

Starkey AI Assist: Frequency Lowering



VS.

Help for Pro Fit: Frequency Lowering

