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Grand Rounds by ReSound

Directionality Session 2

Valerie Kedem, Au.D.
Field Training Audiologist
GN ReSound

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LEARNER OBJECTIVES

- *After this course, participants will be able to distinguish between ReSound's Hear in Noise directionality options*
- *After this course, participants will be able to define Hear in Noise Smart 3D app capabilities based on hearing aid technology level.*
- *After this course, participants will be able to change Hear in Noise directional options based on patient feedback.*

Directional Sound Processing

Role

Improves SNR by reducing the amplification of sounds coming from behind the user.

End user benefit

Improves speech intelligibility in noisy situations.

Directionality uses the sound collected by two microphones to enhance the amplification of sounds coming from the front more than sounds coming from behind

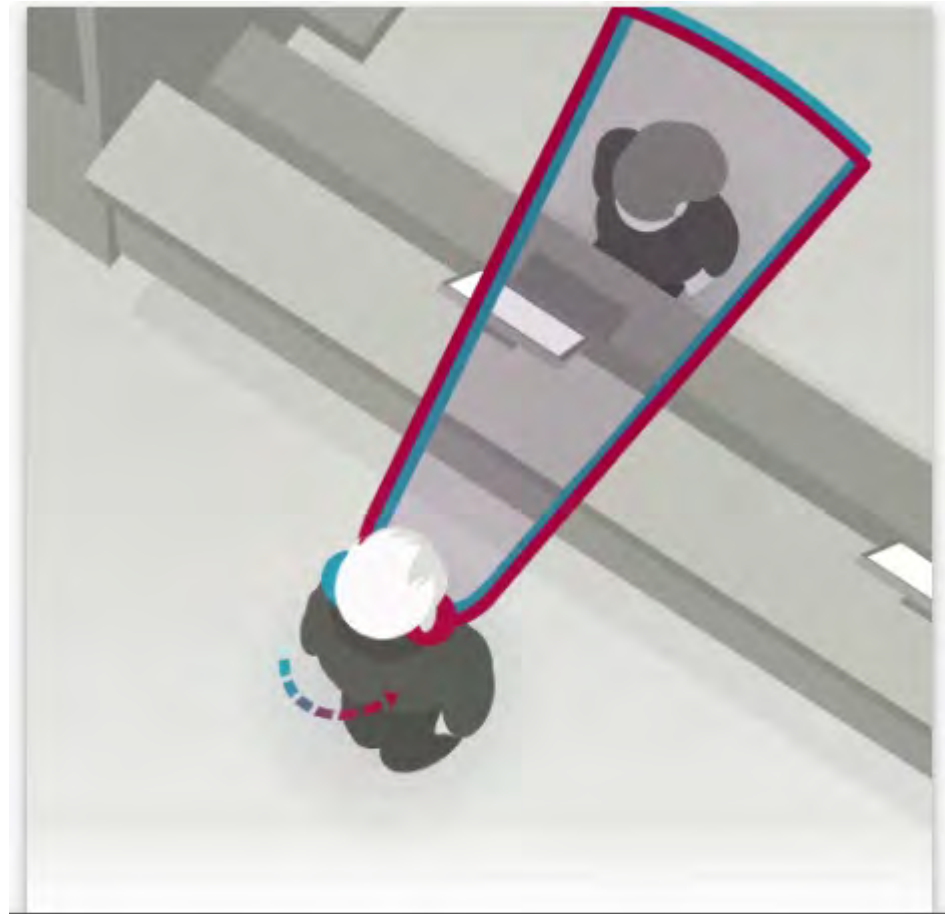
Front Focus and Ultra Focus

Program 2: Hear in Noise

Level 9: Front Focus

Level 7: Ultra Focus

Level 5: Restaurant



Autoscope Directionality

Autoscope is an automated form of Multiscope where the beamwidth adjusts depending on the strength of the speech signal in front of the user.

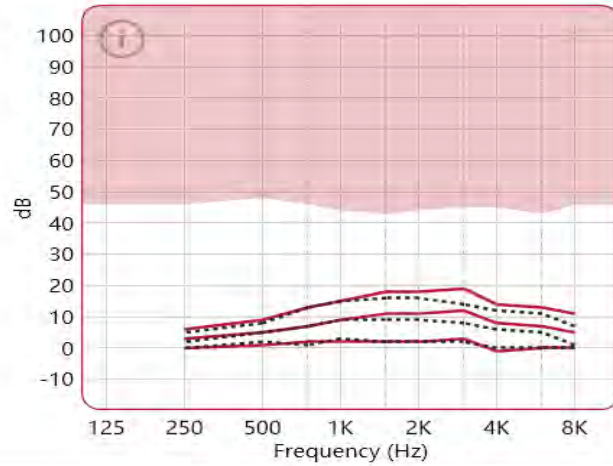


Level 9: Front Focus

Patient Instrument Set-Up Gain Adjustments Advanced Features Device Controls Finalize

Menu

Speech Comfort Tinnitus Sound Generator CROS



Mute Mute

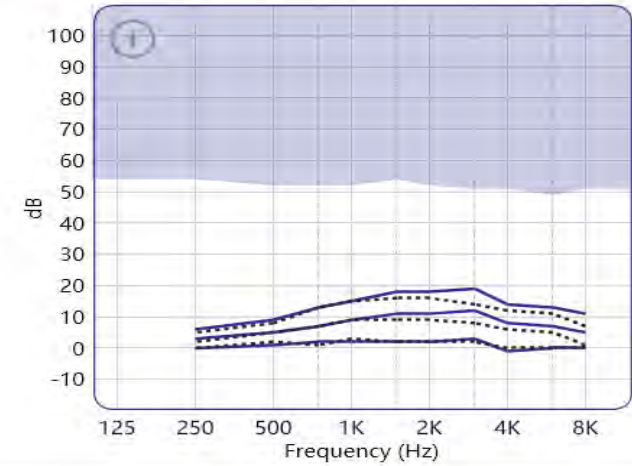
Display Options

Linked

Gain % 100%

Legend

Above FOG



All-Around Hear in Noise

Tools

Front Focus

Directionality

Front Focus

Very Low Low Medium High

Directional Mix

Very Low Low Medium High

Syllabic Fast Moderate Slow

Time Constants

Syllabic Fast Moderate Slow

N/A

Sound Shaper

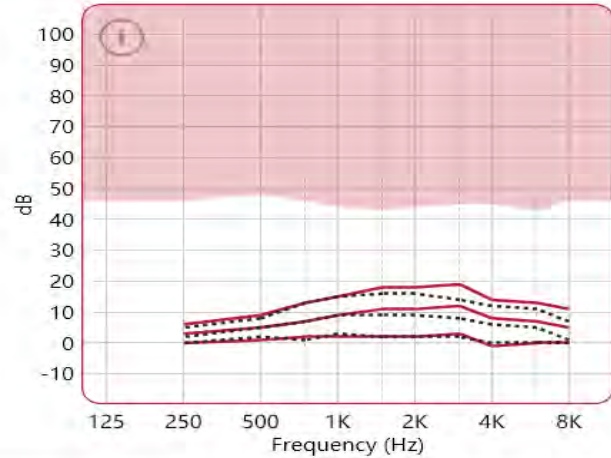
Off Very Mild (5K) Mild (4K) Moderate (3.5K) Strong (2.5K)

Level 9: Autoscope Adaptive Directionality

Patient Instrument Set-Up Gain Adjustments Advanced Features Device Controls Finalize

Menu

Speech Comfort Tinnitus Sound Generator CROS



Mute Mute

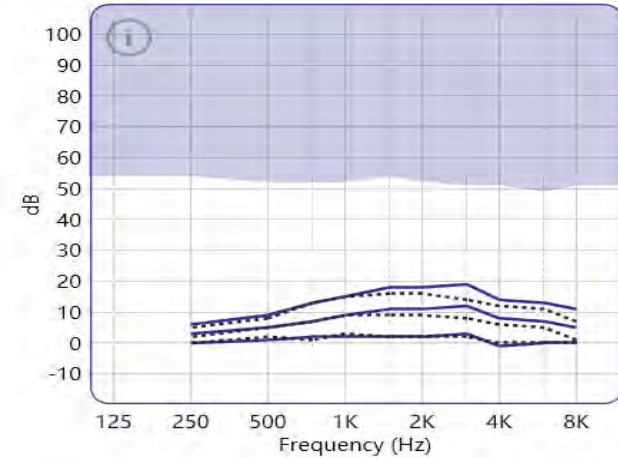
Display Options

Linked

Gain % 100%

Legend

Above FOG



All-Around Hear in Noise

Tools

Autoscope Adaptive Directionality

Directionality

Autoscope Adaptive Directionality

Autoscope

AutoScope

Autoscope

Very Low Low Medium High

Directional Mix

Very Low Low Medium High

Syllabic Fast Moderate Slow

Time Constants

Syllabic Fast Moderate Slow

N/A

Sound Shaper

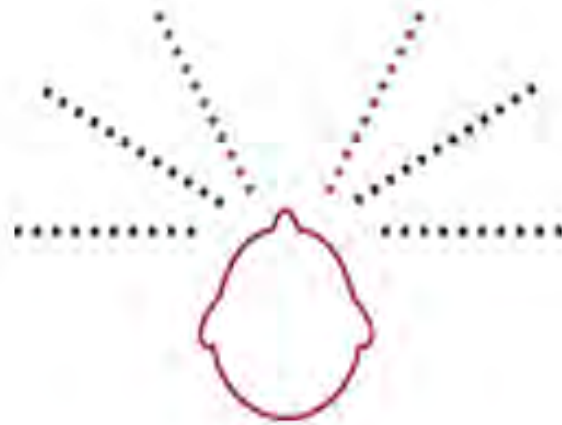
Off Very Mild (5K) Mild (4K) Moderate (3.5K) Strong (2.5K)

Calibrate DFS

Save

Multiscope Directionality

Multiscope Directionality is an advanced form of Adaptive Directionality that allows the width of the directional beam to be set in the fitting software, in effect making the area of focus larger or smaller.



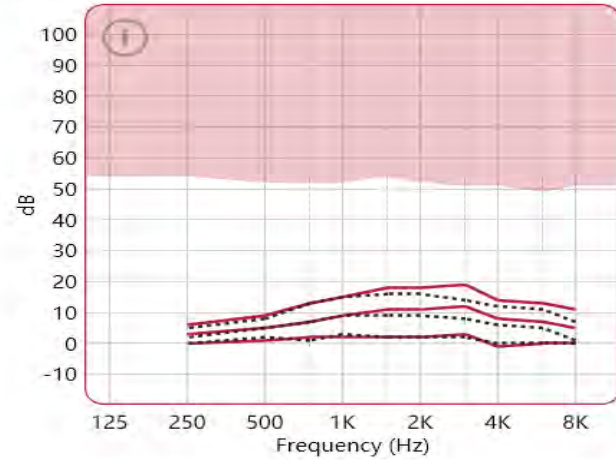
MULTISCOPE DIRECTIONALITY SPECIFICATIONS		
SETTING	MONAURAL FITTING APPROX. ANGLE OF FOCUS	BINAURAL FITTING APPROX. ANGLE OF FOCUS
Narrow	 50°	 80°
Medium	 70°	 120°
Wide	 90°	 180°

Level 7: Ultra Focus

Patient Instrument Set-Up Gain Adjustments Advanced Features Device Controls Finalize

Menu

Speech Comfort Tinnitus Sound Generator CROS



Mute Mute

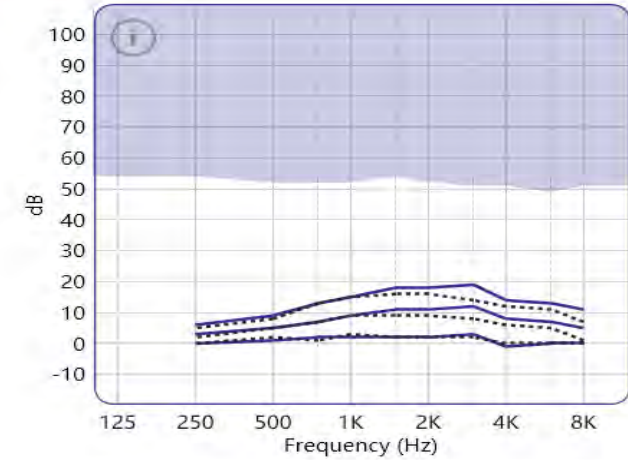
Display Options

Linked

Gain % 100%

Legend

Above FOG



All-Around Hear in Noise

Tools

Ultra Focus

Directionality

Ultra Focus

Syllabic

Fast

Moderate

Slow

Time Constants

Syllabic

Fast

Moderate

Slow

Off

Very Mild (5K)

Mild (4K)

Moderate (3.5K) Strong (2.5K)

Sound Shaper

Off

Very Mild (5K)

Mild (4K)

Moderate (3.5K) Strong (2.5K)

Calibrate DFS

Save

Level 7: Multiscope Adaptive Directionality

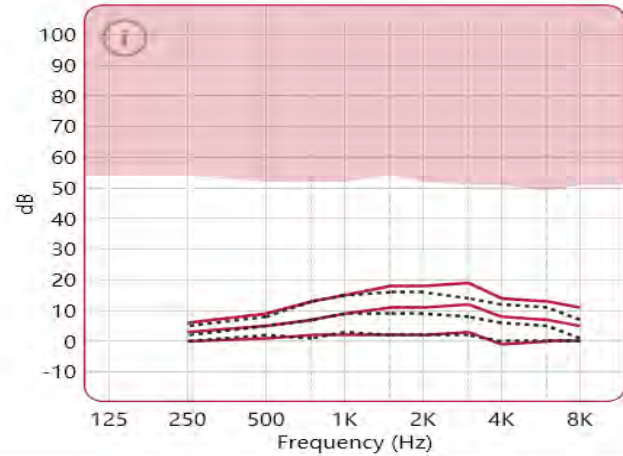
Patient Instrument Set-Up Gain Adjustments Advanced Features Device Controls Finalize Menu

Speech

Comfort

Tinnitus Sound Generator

CROS



Mute Mute

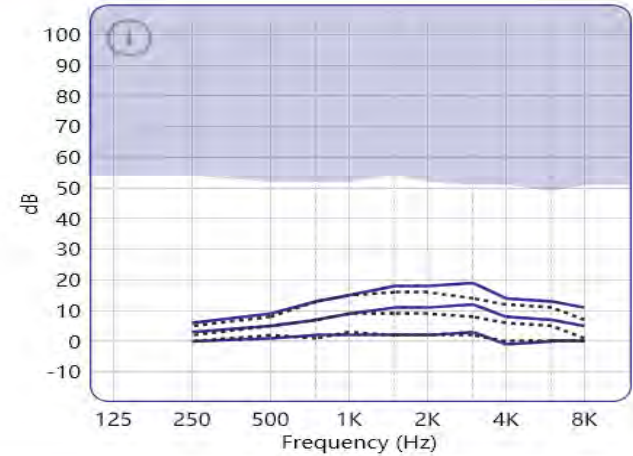
Display Options

Linked

Gain % 100%

Legend

Above FOG



All-Around

Hear in Noise



Tools

Multiscope Adaptive Directionality

Directionality

Multiscope Adaptive Directionality

Narrow

Multiscope

Narrow

Syllabic

Fast

Moderate

Slow

Time Constants

Syllabic

Fast

Moderate

Slow

Off

Very Mild (5K)

Mild (4K)

Moderate (3.5K) Strong (2.5K)

Sound Shaper

Off

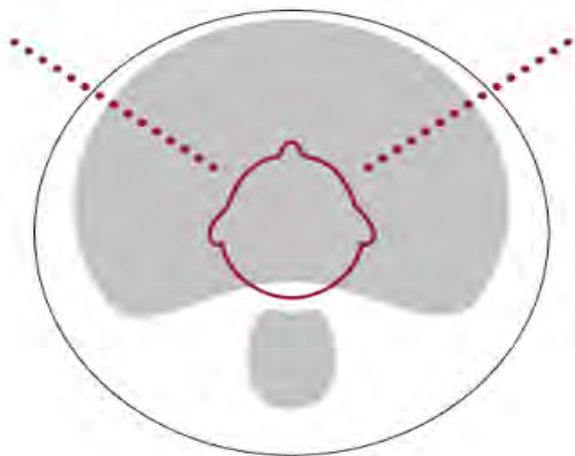
Very Mild (5K)

Mild (4K)

Moderate (3.5K) Strong (2.5K)

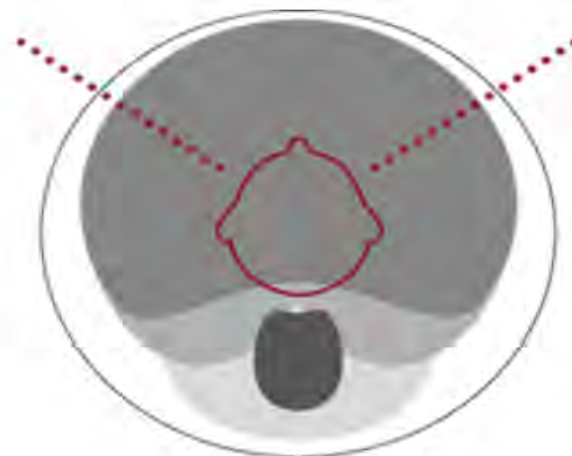
Calibrate DFS

Save



Fixed Directionality

Fixed directionality is the simplest directional option and provides a nonvarying hypercardioid pattern. In this setting, signals coming from behind and the sides are reduced in order to enable the user to better concentrate on signal from the front. The directional characteristics are constant and static. If selected, this type of directionality is always 'on.'



Adaptive Directionality

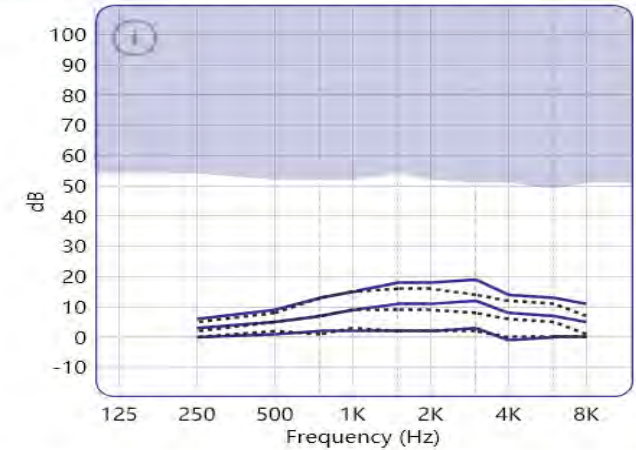
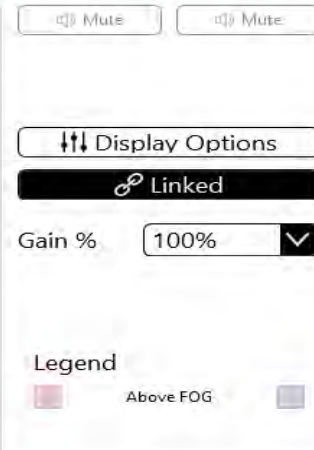
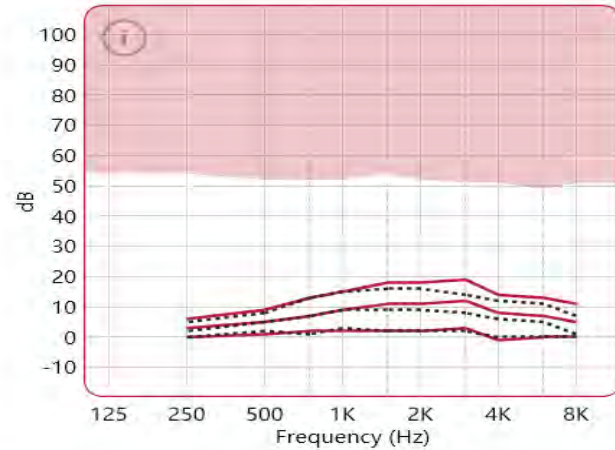
Adaptive Directionality is similar to Fixed Directionality, but Adaptive Directionality dynamically changes the directional pattern to reduce the loudest sounds from the rear. This is preferable to Fixed Directionality for users often in environments with multiple, moving, or simultaneous noise sources.

Level 5: Restaurant

Patient Instrument Set-Up Gain Adjustments Advanced Features Device Controls Finalize

Menu

Speech Comfort Tinnitus Sound Generator CROS



All-Around Hear in Noise

Tools

Adaptive Directionality

Directionality

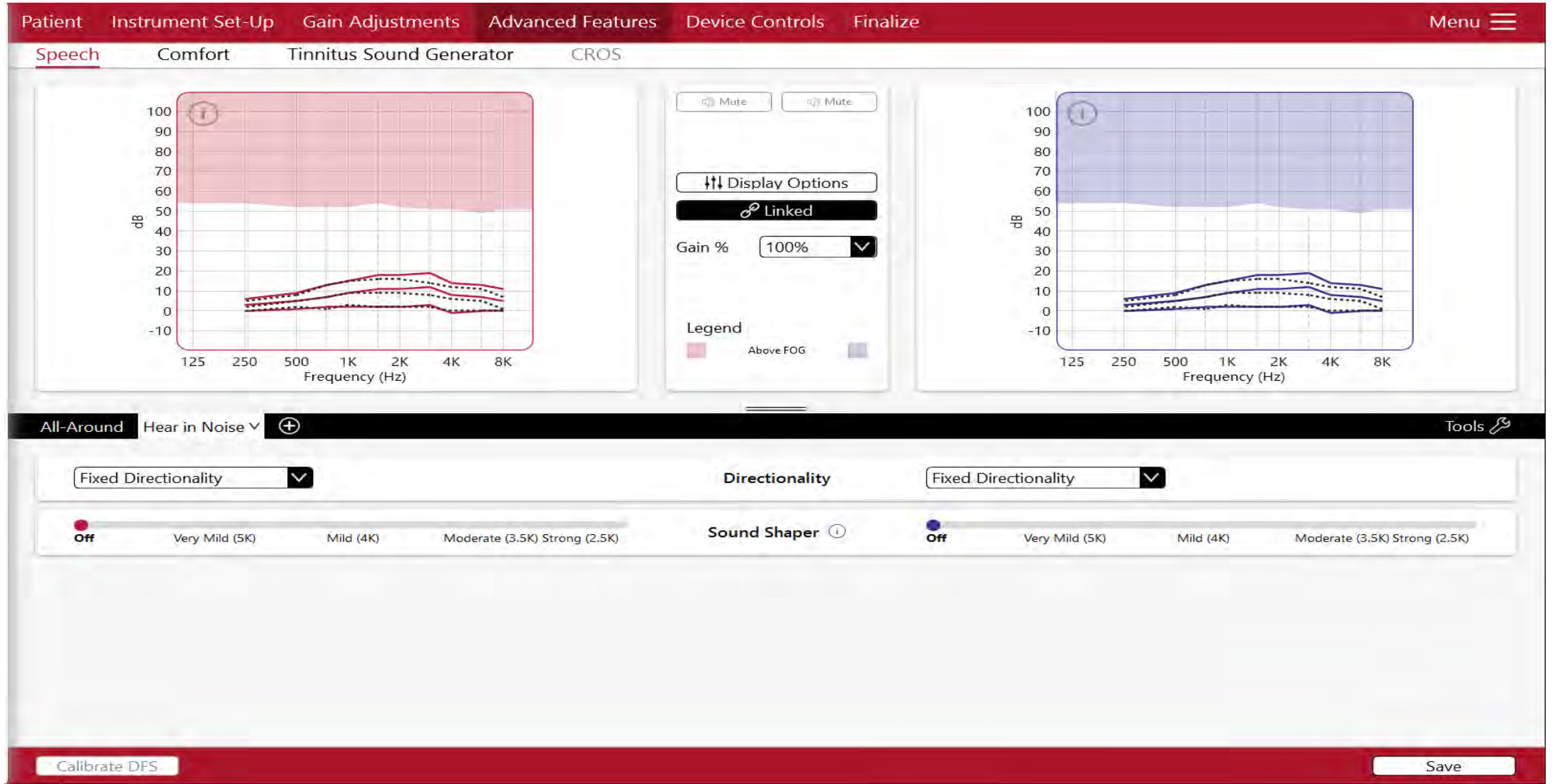
Adaptive Directionality

Off Very Mild (5K) Mild (4K) Moderate (3.5K) Strong (2.5K)

Sound Shaper

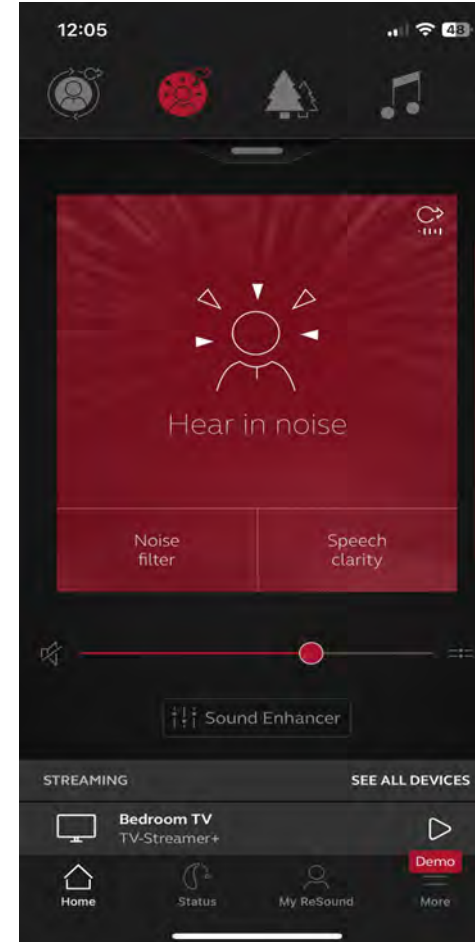
Off Very Mild (5K) Mild (4K) Moderate (3.5K) Strong (2.5K)

Level 5: Fixed Directionality



Smart 3D App

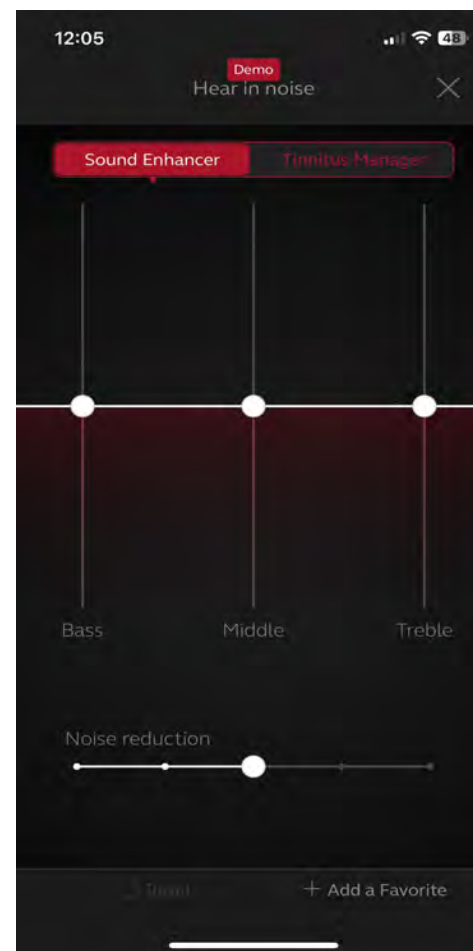
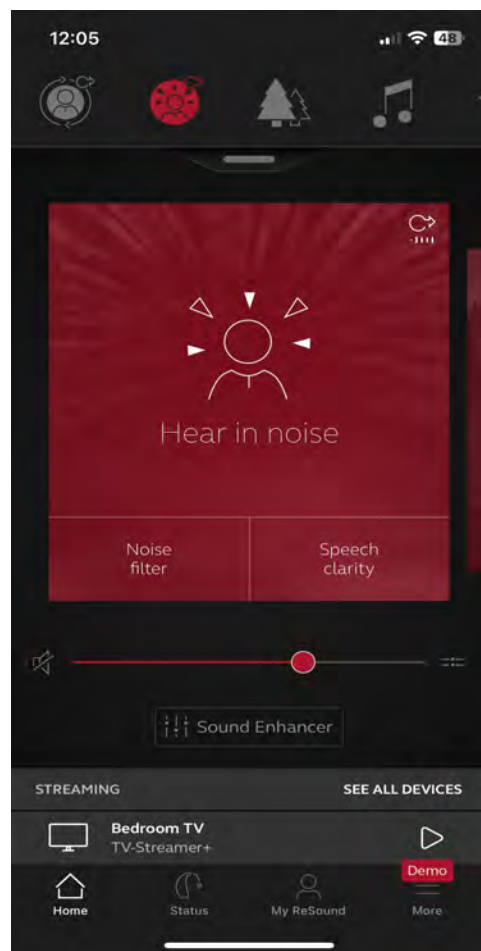
Hear in noise



Smart 3D App

Hear in Noise

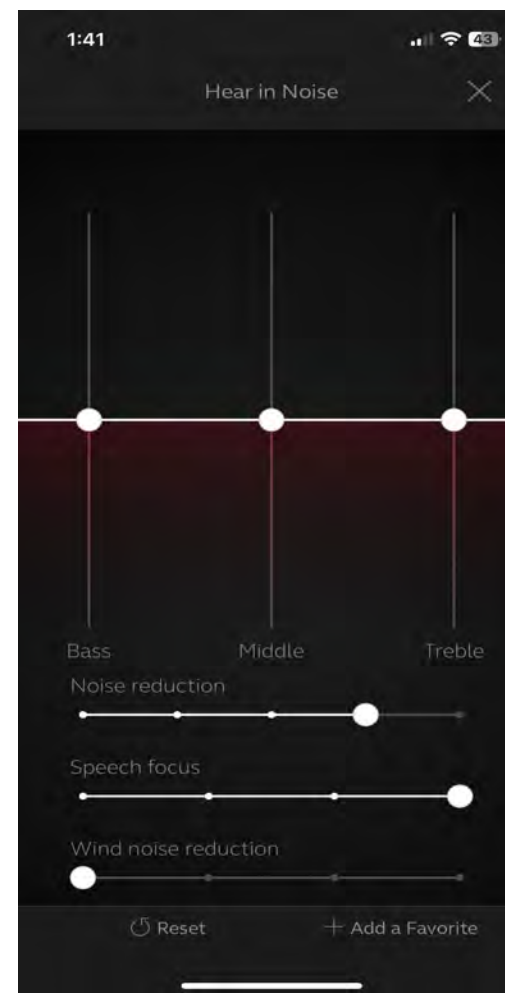
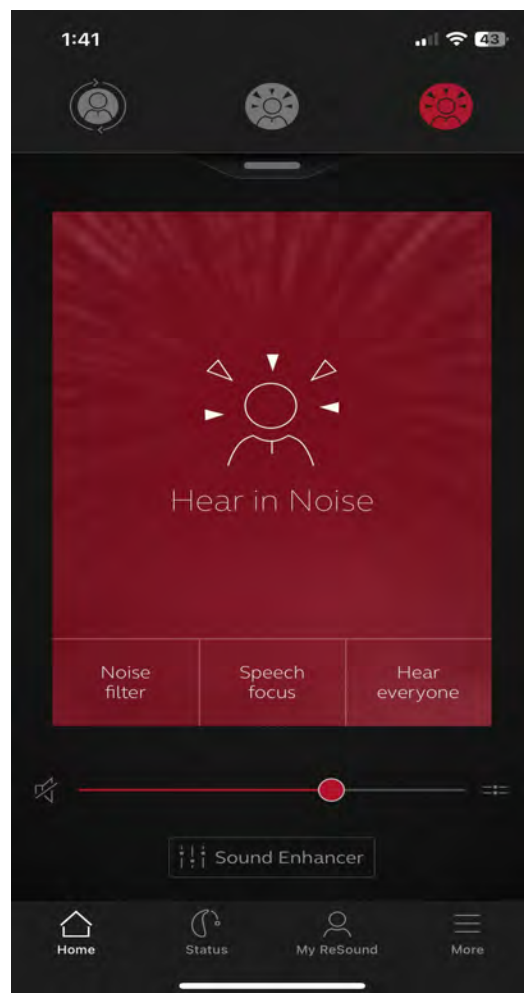
Front Focus



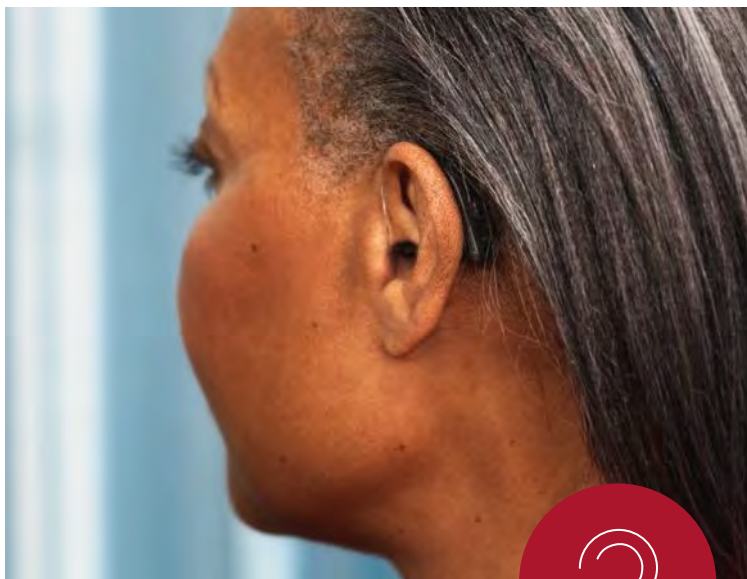
Smart 3D App

Hear in Noise

Autoscope Adaptive Directionality



Case Studies



What to try?

Patient is a long time ReSound wearer and Smart 3D App user.

With her previous sets of hearing aids, patient remembers the Smart 3D app having **Speech focus** and **Hear everyone** in her second program. She is not finding this with her ReSound Nexia's.



What to try!

Patient remembers in her previous ReSound hearing aids the ability to change microphone width in the Smart 3D app. She is not finding this with her ReSound Nexia 9's.

In Smart Fit software:

***Change Directionality to
Autoscope Adaptive Directionality***





What to try?

Patient would like to have a fixed wide beamwidth in Program 2: Hear in Noise.



What to try!

Patient would like to have a fixed wide beamwidth in Program 2: Hear in Noise.

In Smart Fit Software:

Change to Autoscope or Multiscope Adaptive Directonality. Change Autoscope to Wide.



For further information please contact:

ReSound Customer Care at 1-800-248-4327

Additional resources:

Territory Sales Manager

Inside Sales Manager

Field Training Audiologist

Remote Training Audiologist