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Grand Rounds by ReSound: Better Hearing Aid Outcomes for Musicians

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Field Training Audiologist
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Programming Tips for Musician Patients



Learning Objectives

- Discover why musicians have different listening needs.
- Identify programming changes to help the musician population.
- Make changes in ReSound's music program for better patient outcomes.



Risks/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.



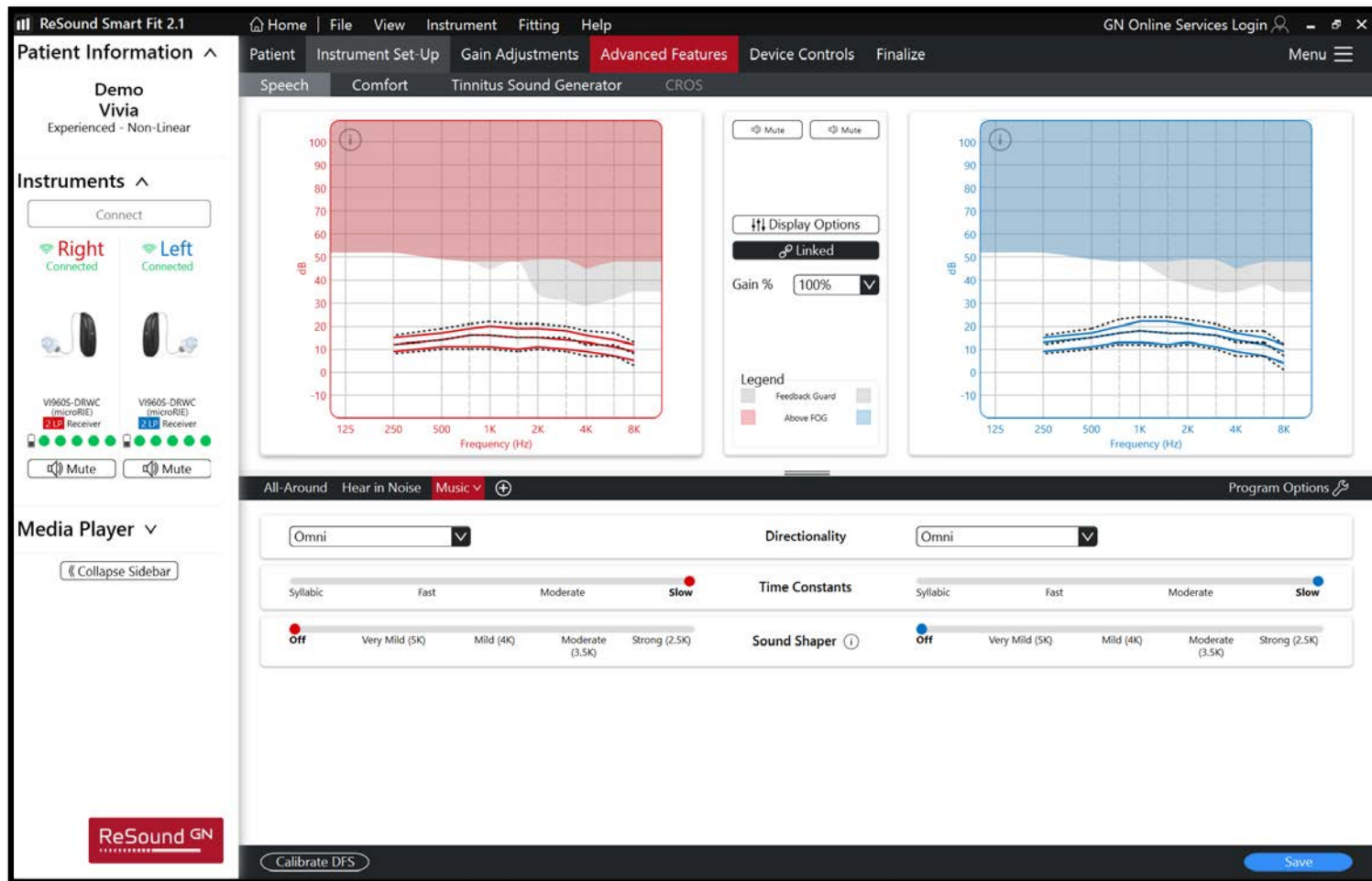
Why is programming different for musicians?

- Speech understanding is the main goal of hearing aids
- WDRC, noise processing, DFS, and directional microphones distort music, leading to:
 - Poor pitch discrimination
 - Poor melodic intonation (distortion)
 - Poor instrument identification (timbre)
- Music has a greater dynamic range than speech and easily gets over 100 dB SPL
- There is no standard protocol for optimizing music appreciation in hearing aids
- Few patients ask for help, and often the ones that ask are told nothing can be done

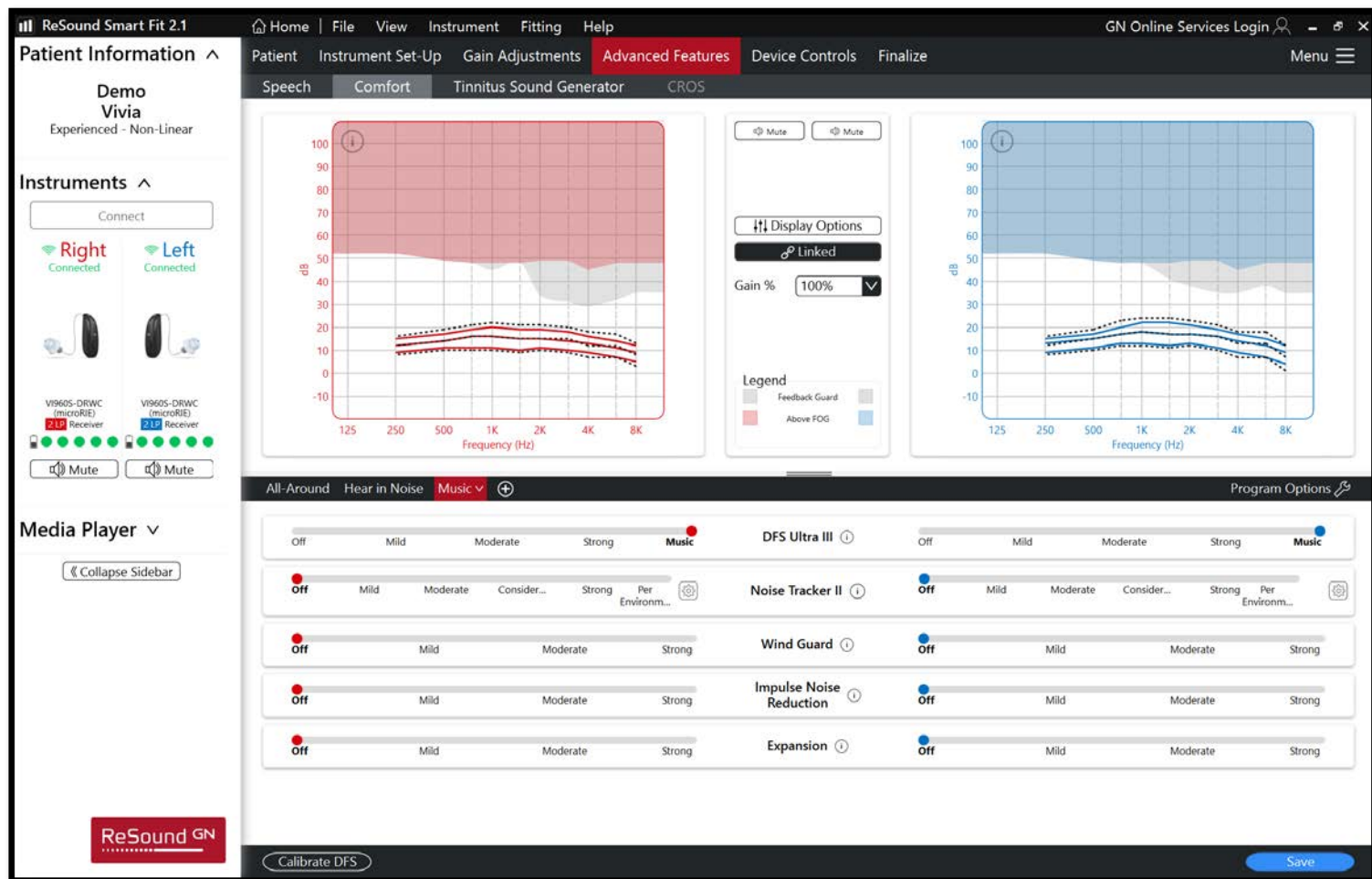
What changes can help musicians?

- Slow acting compression (Slow Time Constants)
- More linear frequency response, fewer channels (or small difference between channels)
- Raise MPO
- No frequency compression (keep Sound Shaper at Off)
- Less processing of signal overall (noise reduction, Digital Feedback Suppression)
- High input dynamic range and extended bandwidth also help more sound get in to processor

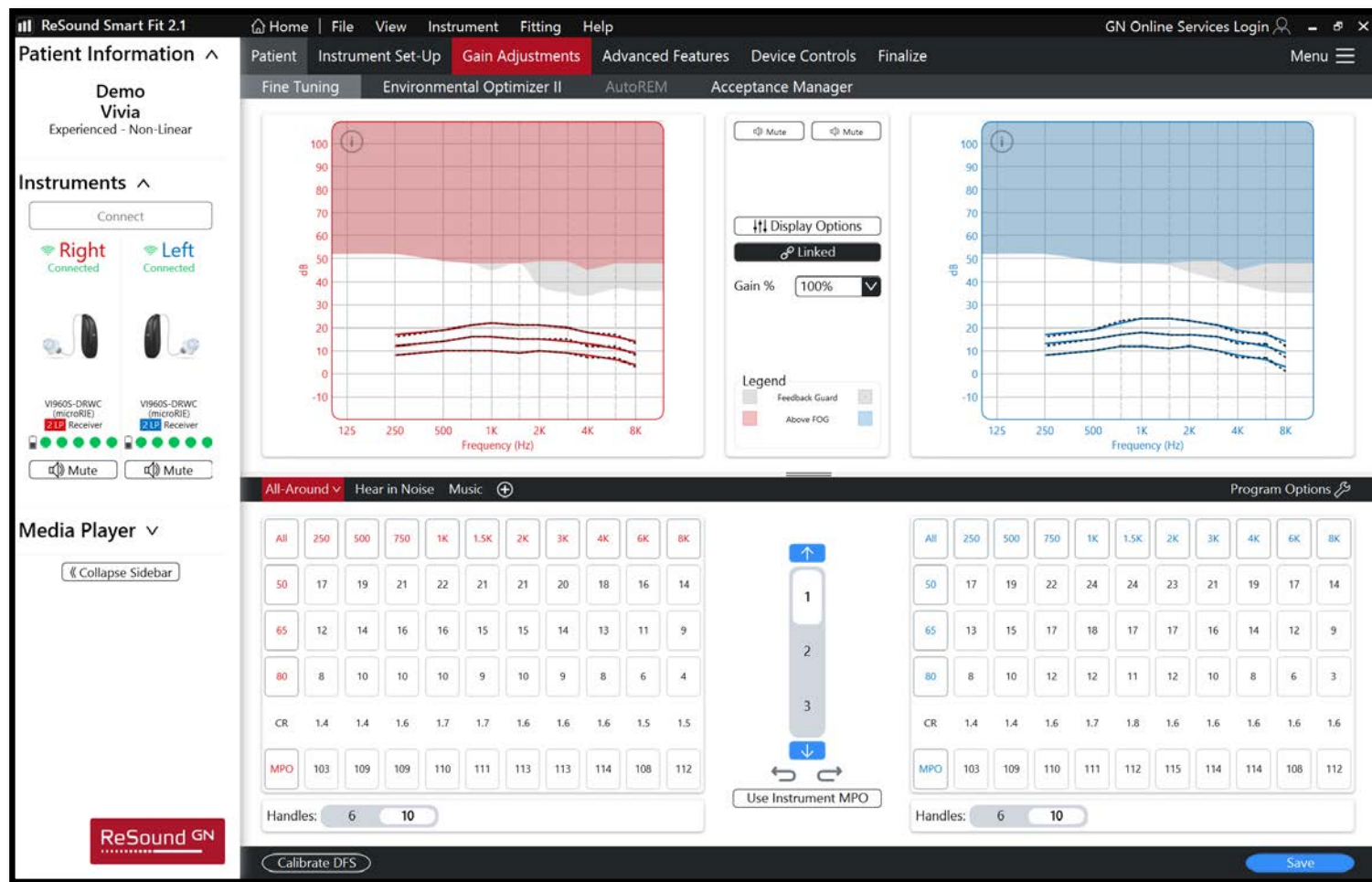
Advanced Features in Music program



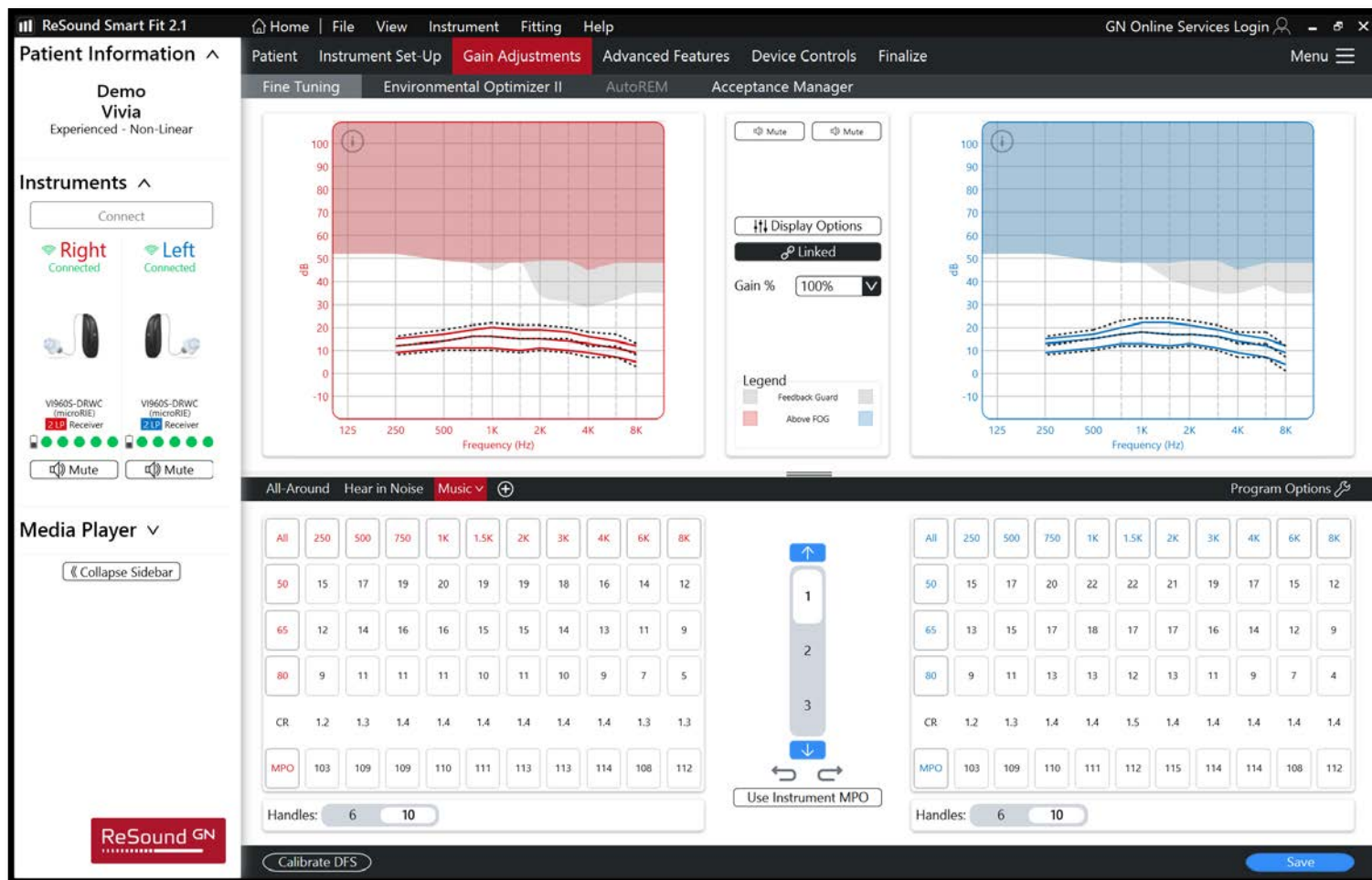
Advanced Features in Music program



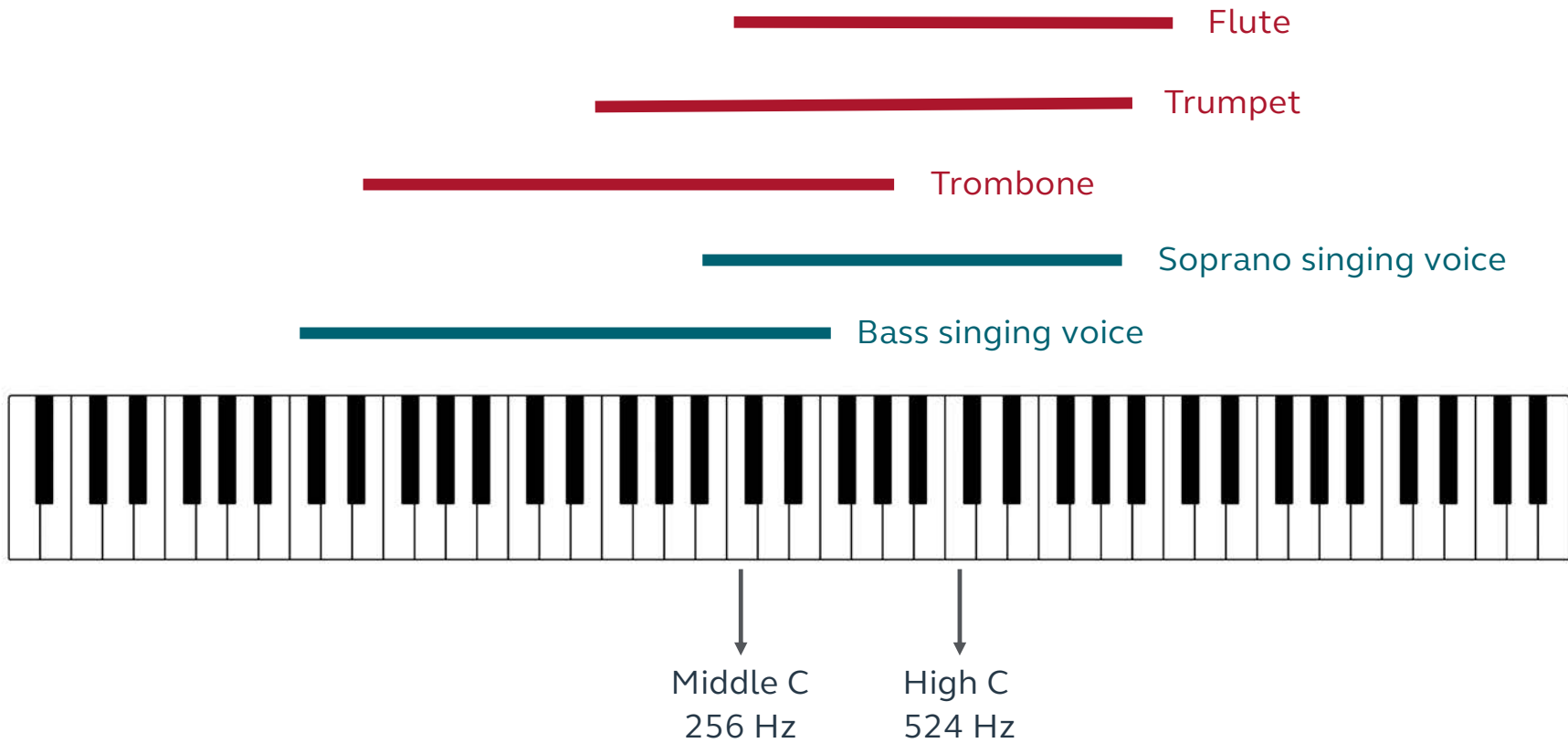
Less Compression



Less Compression

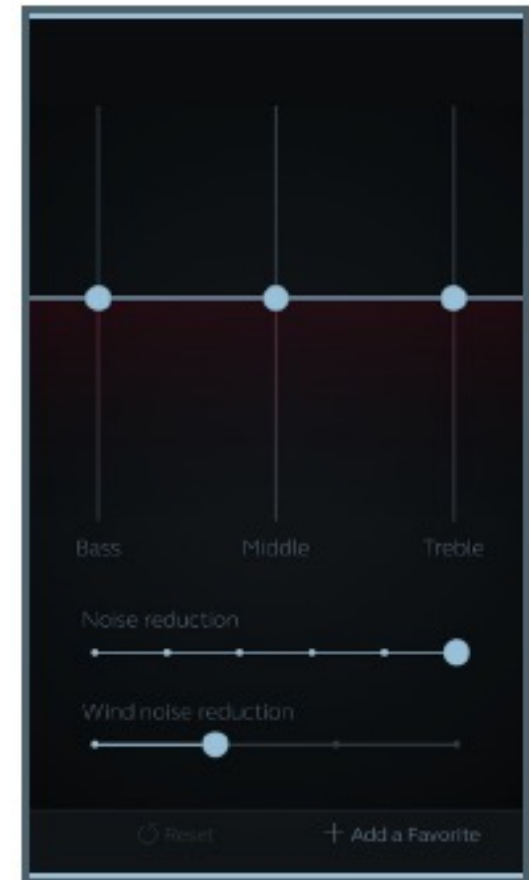


The Frequencies of Music



Suggestions for ReSound Smart 3D

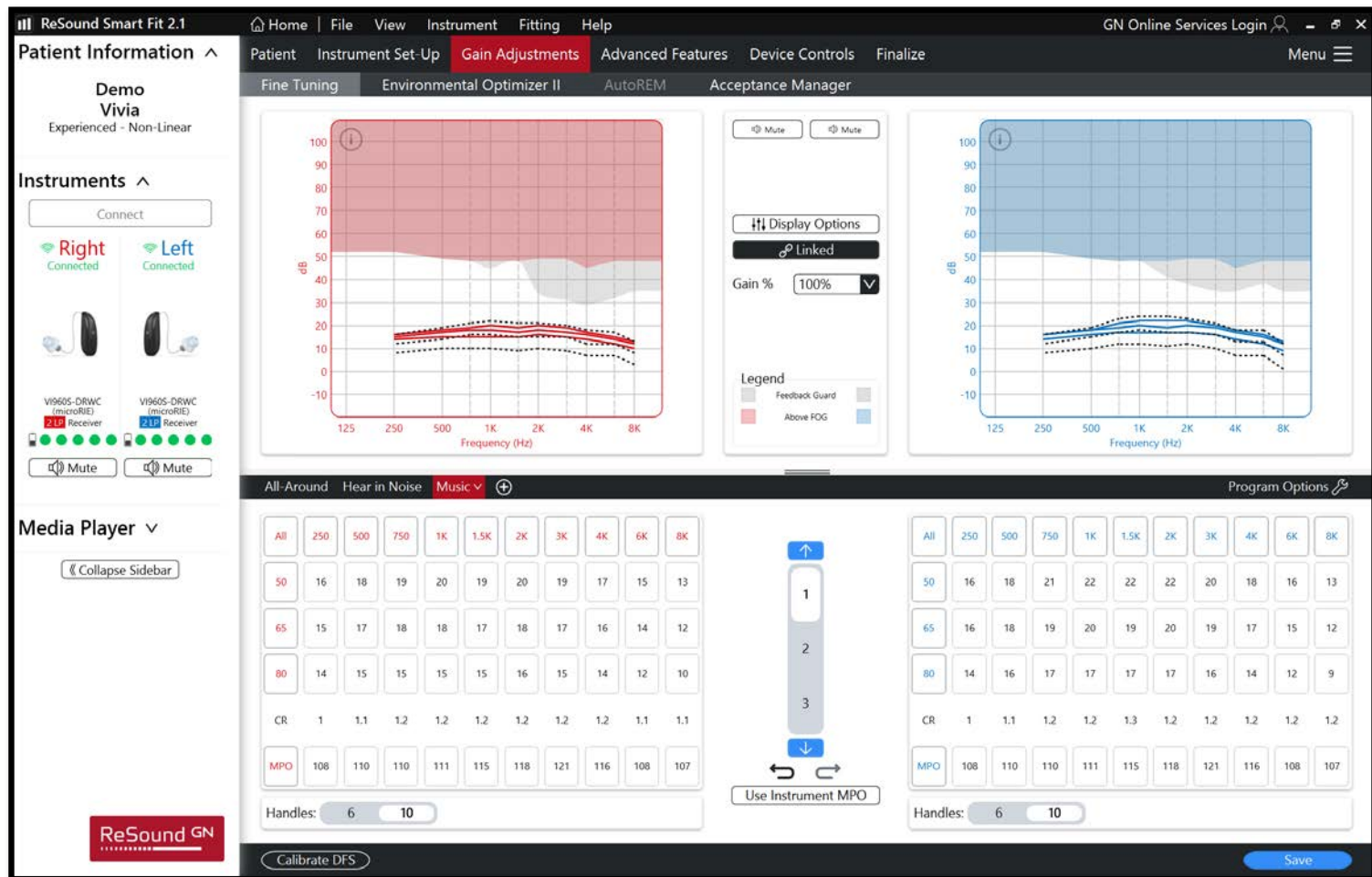
- Use Music program for streaming
- Consider increasing Streaming Bass Boost
 - Device Controls > Accessories
- Use bass/mid/treble to give patient ownership of finding what sounds best
- Frequency cutoffs for bass/mid/treble
 - Bass: 125-1000 Hz
 - Mid: 1000-3000 Hz
 - Treble: 3000-9500 Hz



What changes do I typically make?

- Further flattening of the frequency response
- Give more/less gain based on patient preference (what instrument[s] do they play)?
- Raise MPO to ensure good headroom
- Consider M&RIE
- Counsel on use of Music program, ReSound Smart 3D adjustments to give the patient ownership of the listening situation
 - Not every music situation will sound the same

Flatter frequency response, higher MPO



Poll Questions



Thank You!

References

- Chasin, M (2012). Music and Hearing Aids: An Introduction. *Trends in Amplification*, 16, 3
https://www.researchgate.net/publication/233964744_Music_and_Hearing_Aids-An_Introduction