

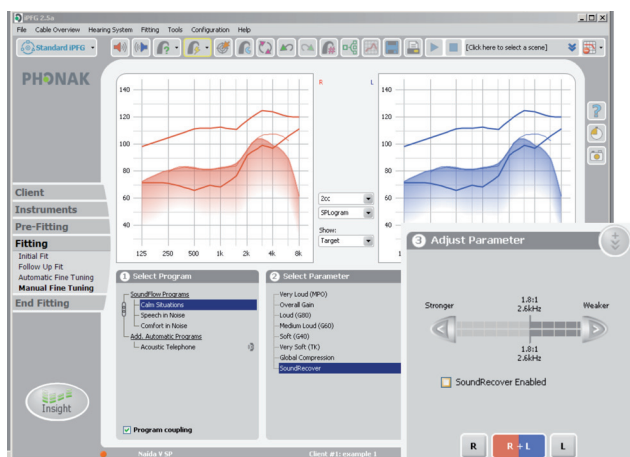
Guidelines for verifying hearing instruments with SoundRecover

What is SoundRecover and is verification important?

SoundRecover is a non linear frequency compression algorithm. It compresses and shifts frequencies from a high frequency area where they are not audible down to a lower frequency area where they are audible. Verification of targets is an essential part of the fitting process and it is important to be aware of what changes occur when using SoundRecover. This not only provides reassurance that high frequency speech sounds are now audible but also enables you to optimize settings to get the best possible results.

Step 1: Turn SoundRecover off

Turn SoundRecover off by unclicking [SoundRecover Enabled].



Step 2: Verify that gain and MPO are within tolerance level

Using a 60/65 dB input with your chosen fitting formula, confirm that gain and MPO prescription targets are met. Please be aware with more severe high frequency losses meeting targets may not be achievable with SoundRecover off.

Step 3: Turn SoundRecover on

Turn SoundRecover on by clicking [SoundRecover Enabled].



Step 4. Verify MPO and gain targets with SoundRecover enabled

Using a modulated speech signal, repeat verification at a 60/65 dB input and check that the curve above the cut off frequency has shifted to the left and is within audible range. Verify the maximum output of the hearing instrument using the MPO test. Results above the cut-off frequency should not be interpreted.

Step 5: Perform a listening check

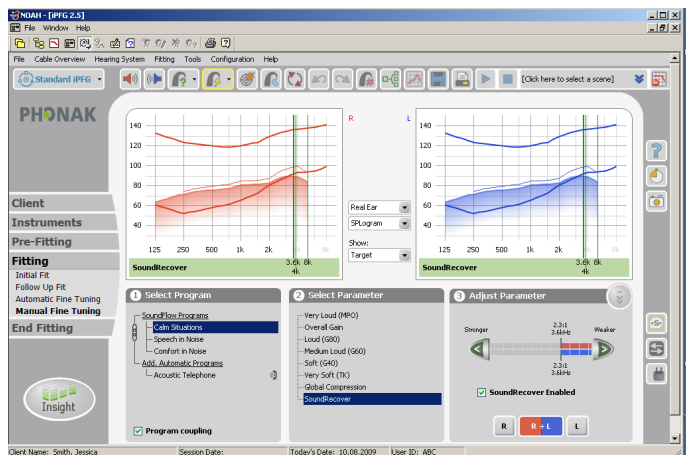
High-frequency speech sounds are lowered in frequency with SoundRecover, causing a change in perceived pitch. SoundRecover may make /s/ and /sh/ sound unusual but they should still be distinguishable. Vowel sounds should always remain clearly identifiable.

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Advanced fine tuning

It is important that /s/, /sh/ sounds are distinguishable from each other. Check with the client to make sure. If the client is unable to hear high frequency sounds such as /s/ and/or /sh/ and no improvement in speech understanding is noted, increase the strength of the FrC settings in „Manual Fine Tuning“.

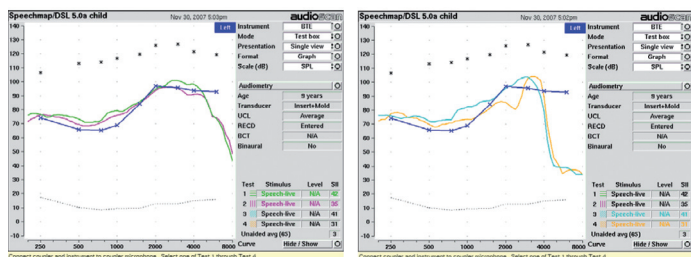


If the frequency response of the hearing instrument is too similar with and without frequency compression applied, it may not be possible for the patient to note any significant improvement in high frequency audibility. Increasing the strength of SoundRecover may allow for an increase in audibility and speech understanding.

Live voice/ frequency specific speech band tests

To further verify that /s/, /sh/ sounds are distinguishable from one another, live voice testing can be used. If you use an AudioScan Verifit system you could also opt to use frequency specific speech band tests to check this. Comparing the peaks of the high frequency /s/, /sh/ allows you to judge audibility level and any confusion between these two sounds. There may be some overlap of the curves you record but the overlap must not be too severe. If /s/, /sh/ are audible but not distinguishable from each other, decrease the strength of SoundRecover.

The following screenshot is taken from the Audioscan Verifit System but the principles can be applied to any verification system.



Once /s/, /sh/ sounds have been made audible and distinguishable, occasionally further fine tuning is needed. It is important to ensure that the client has acclimatized to SoundRecover before fine tuning. The process of learning or relearning sounds takes place in the central auditory system and the time needed to adapt to new sounds will vary from person to person. An increase in speech understanding can take as little as a week to several months. Table 1 outlines when this may be necessary. For a verification guide using the latest Audioscan Verifit tests, visit: www.phonak.com/paediatric_fitting

Table 1

Comment	Possible solution
Sound quality is "harsh" or "piercing"	Decrease the strength of SoundRecover in „Manual Fine Tuning“ in iPFG. Check that MPO is set correctly
The hearing instrument sounds "too loud"	Decrease the strength of SoundRecover in „Manual Fine Tuning“
Vowels sound unnatural	Decrease the strength of SoundRecover in „Manual Fine Tuning“
An "echo like" distortion is heard	Decrease the strength of SoundRecover in „Manual Fine Tuning“
Clinician-/significant other may hear their own speech exiting through the earmold of the client	Remake earmold. Use thicker earmold tubing

More Information:

You can provide the client with our useful SoundRecover information sheet, available in the Reports section of iPFG. For more information on SoundRecover see:

- www.phonakpro.com
- www.phonak.com/pediatric_fitting
- www.phonak.com/soundrecover
- Your Phonak representative for support and information