

Phonak Target 5.4

August 2018

SoundRecover2 fitting guide

This guide contains details on using and/or fitting of SoundRecover2 available in Phonak Target fitting software. The following fitting guide is intended for adults. For Pediatric fittings please see the separate Junior Mode fitting guide. SoundRecover2 is a frequency compression system with adaptive behavior. It is available in Naida V/Naida B, Sky V/Sky B and selected Phonak hearing aids. It is defined by two cut off frequencies CT1 and CT2. The new adaptive behavior in SoundRecover2 enables the cut off frequency CT1 to be set at lower frequencies than before. As a result typical compression ratios will be lower in SoundRecover2. For fitting SoundRecover2 two sliders are available in the software. For additional details on programming and fitting Phonak hearing aids, please refer to the Phonak Target Fitting Guide.

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The Connecting the hearing instruments

iCube II: No cables to the hearing instruments are needed. Just insert the battery and turn it on by closing the battery compartment.

NOAHlink or HI-PRO: Connect the programing cables to the hearing instruments and the fitting device.

Confirm that the correct fitting device is shown. To change the fitting device, use the pull down menu. Click **[CONNECT]** to start the fitting. The connected instruments will appear.

Once hearing instruments are connected, the [Acoustic parameters] screen will automatically pop up. Please verify or change the coupling options as needed so they correspond to the fitting.



The Audiogram

The SoundRecover2 default parameters will be pre-calculated based on the audiogram for the better ear.

The default parameters will be calculated/set for the better ear and applied to both ears.

Click on **[Client]** > **[Audiogram]** > to enter the audiogram.



Default values and Curve Display

SoundRecover2 is a complex algorithm that follows this general rule for activation:

SoundRecover2 is

- ON by default for flat or sloping hearing losses where the 8kHz threshold is 45dBHL or poorer and
- OFF by default for reverse sloping losses (8kHz \geq 30dB better than 3kHz).

When ON by default, SoundRecover2 will be enabled by default in all hearing aid programs, automatic and manual. It can be disabled by clicking on the Enable SoundRecover2 checkbox.

Click on **[Fine Tuning]** > **[SoundRecover]** > **[SoundRecover2]** > disable by un-checking **[Enable SoundRecover2]**.

SoundRecover2 settings can be viewed in the Target curve display.

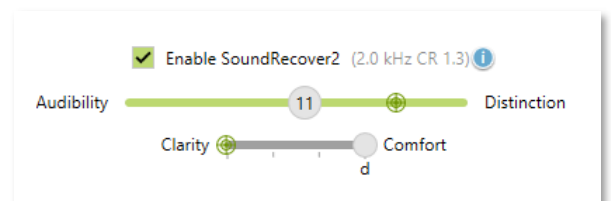
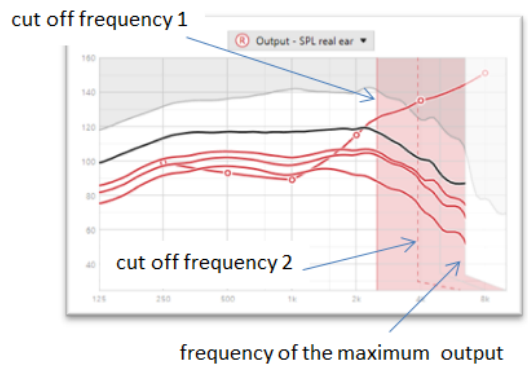
The shaded area, in red for the right ear and blue in the left ear, gives information in which frequency range SoundRecover2 is active. The algorithm is defined by 3 parameters. The first solid-line cut off frequency1, the 2nd dashed-line cut off frequency2 and the 3rd line maximum output frequency.

Adaptive compression is applied to frequencies in the shaded area which fall between both cut off frequencies. This frequency region is compressed if the input is dominated by high frequency energy, otherwise it remains uncompressed. Frequencies in the shaded area which fall at frequencies higher than cut of frequency 2 (the dashed-line) are always compressed. Frequencies outside the shaded area, 1 are always uncompressed

There is no output at frequencies above the maximum output frequency.

The SoundRecover2 pre-calculation can be fine-tuned binaurally by moving the sliders.

Click on **[Fine Tuning]** > **[SoundRecover]** > **[SoundRecover2]** > adjust the values with the Sliders.



Fine tuning

The two slider controls for SoundRecover2 are displayed below the curve graph. The sliders are inter-dependent.

Changing any slider will influence the cut off frequencies, compression ratio and the maximum frequency of the output. The sliders can be adjusted by clicking directly on the slider or by click-and-hold and slide on the number circle on the slider.

The performance of SoundRecover2 is described by perceptual dimensions and the sliders are labelled to reflect the three important perceptual dimensions:

- **Audibility** of high frequency sounds like phonemes /s/, /f/ and /th/,
- **Distinction or discrimination** of lowered high frequency sounds like /s/ and /sh/ and
- **Sound quality** of low and mid frequency sounds, like vowels /a/, /e/, /i/.

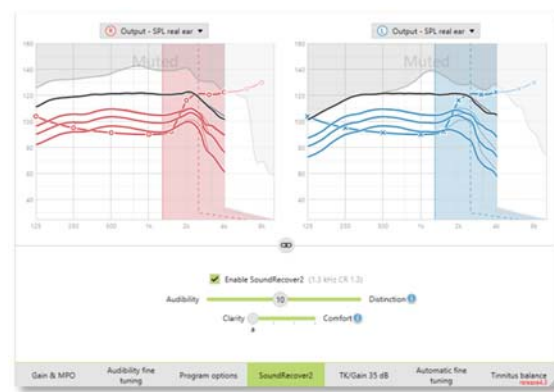
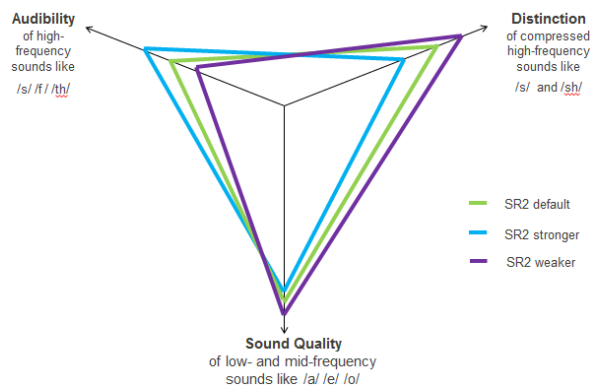
The fine tuning attributes attached to these labels are shown in the triangle. Slide toward **[Audibility]** to increase the ability to detect an /s/ and /sh/. Slide toward **[Distinction]** to increase the ability to distinguish the difference between /s/ and /sh/.

Slide toward **[Comfort]** to increase the naturalness of vowel sounds.

Adjust the Audibility-Distinction slider first during fine tuning

Note that the Clarity-Comfort slider will automatically re-set each time the Audibility-Distinction slider is adjusted to automatically optimize for sound quality of vowels.

When the sliders are both fully left, at **[Audibility]** and **[Clarity]**, then the maximum lowering results, this would be expected to provide the maximum audibility or detection of high frequencies.



Tips for fine tuning

What do I hear if;

the [Audibility – Distinction] slider is fitted more towards Audibility?

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If too much **[Audibility]**: for example the client reports it "sounds lispy", or "sounds like loose false teeth", then move slider toward **[Distinction]**.

If /sh/ is not detected with SoundRecover2 on or off, move slider toward **[Audibility]**.

If vowel quality is disliked, move slider towards **[Comfort]**.

High frequency sounds will be more audible (e.g. /sh/, /s/) for the majority of audiometric degrees and patterns.

High frequency sounds may sound slightly less familiar (e.g. lisping of /s/)

/sh/ and /s/ will sound more different – bear in mind: /s/ and /sh/ are not discriminable at all if they aren't audible.

High frequency sounds may be less audible (especially very high ones, e.g. /s/) for the majority of audiometric degrees and patterns.

What do I hear if;
the **[Clarity – Comfort]** slider is at his default value?

Results in the best possible balance between Audibility and Distinction of high frequency sounds (e.g. /sh/,/s/) (based on the individual needs for the wearer).
Sounds with harmonic structure (voiced speech sounds or music) may sound slightly less familiar.

the **[Clarity – Comfort]** slider is fitted more towards comfort?

Low and mid frequency sounds (as vowels e.g. /a/,/i/) will sound more familiar.
Slightly less audibility and distinction for high frequency sounds (e.g. /sh/,/s/).

What should I do if;
the high frequency audibility is not sufficient?

Fit the **[Audibility – Distinction]** slider more towards Audibility

high frequency sounds do not sound sufficiently familiar?

Increase the **[Audibility – Distinction]** slider towards more distinction

/sh/ and /s/ do not sound sufficiently different?

Increase the **[Audibility – Distinction]** slider towards more distinction

sounds with harmonic structure, like vowels do not sound sufficiently familiar?

Increase the **[Clarity – Comfort]** slider towards more comfort

Recalculate

Clicking on **[Recalculate]** will **[Reset all fine tuning changes]** to the pre-calculated settings.
The pre-calculated settings are also indicated on the sliders by target symbols.

Verification

The following verification is recommended for adults:

1. **Good:** Live voice /sh/ or /s/ or "Mississippi" to check detection. A word like "moon", or "name" to check vowels.
2. **Better:** Test box verification
3. **Best:** Phoneme Perception Test: especially for fine tuning for adults with severe to profound hearing loss.

See also the

User Guide for the Phoneme Perception Test.

Best practice protocol: Pediatric verification for SoundRecover2

Finishing the fitting session

You can close the session at any time by clicking **[Save and close session]** in the top right corner of the screen. The save dialog will confirm the successful save to the hearing instruments. After saving, Phonak Target will guide you to the start screen.

Information and description of symbols and System Requirements

Information and the description of symbols and an overview of system requirements can be found in the Phonak Target Fitting Guide.

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