



Notch Therapy How-To Guide

A therapy approach clinically proven to reduce the annoyance of tonal tinnitus

Tinnitus management through acoustic therapy is the treatment method of choice for many hearing care professionals. Tonal tinnitus, which includes all types of pure-tone like whistling, ringing or humming, is the most common form of tinnitus.¹ New research shows rather than using traditional noise therapy that treats the effects of tinnitus, spectral notching can treat tonal tinnitus from its anatomic origin. The therapeutic effects of spectral notching can be achieved by wearing hearing instruments featuring Notch Therapy.

Unlike traditional sound therapy which introduces another acoustic stimulus to the patient, Notch Therapy is inaudible and works in the background to relieve the annoyance of tinnitus. Based on the concept of “re-attracting” lateral inhibition², Notch Therapy uses spectral notching and applies it to traditional amplification with hearing instruments. It aims to attack tinnitus on two fronts: 1) enhancing the auditory environment by amplification, 2) suppressing the tinnitus associated neural hyperactivity with enhanced lateral inhibition.

A double-blind study showed that when compared to control subjects who used hearing aid amplification alone, those who used hearing aids with Notch Therapy exhibited a clear improvement in as few as three weeks and maintained the benefit past six months.³

Notch Therapy is only available in Signia hearing instruments. Notch Therapy can be customized to treat the patient’s tonal tinnitus in a few simple steps with Connexx[®] fitting software. Find the patient’s pitch match by using Guided Matching, Manual Matching, or choosing a known pitch from Direct Entry. Perform the frequency check to verify the correct octave of the pitch match and finally apply the notch to desired programs. It’s that quick and easy.

Home Audiogram Hearing Instruments **Fitting** Documentation

TeleCare Noahlink Wireless

First Fit ✓
Own Voice Processing ✓
Dynamic Soundscape Processing 2.0
Basic Tuning
Fine Tuning
Tinnitus
Sound Therapy
Notch Therapy
Personalization
Configuration
Program Handling

Pure C&G T 7AX M (119/60) Pure C&G 7AX M (119/60)

dB HL

125 250 500 1k 2k 4k 8k Hz

Test Side

Guided Matching Manual Matching Direct Entry

Selected tonal tinnitus frequency: 3333 Hz

Frequency Check

Which tone sounds most similar to your perceived tinnitus?

Tone A (35 / 35 dB HL, 1667 Hz): Select

Tone B (38 / 38 dB HL, 3333 Hz): Select

Tone C (36 / 36 dB HL, 6667 Hz): Select

Restart

Activate Notch

1 Universal
 2 Noisy Environ...
 3 Reverberant Ro...
 4 TV
 5 Tinnitus Signal

Completed
Frequency 3333 Hz has been recorded as tonal tinnitus.

Restart

Disconnect
Noahlink Wireless

Danielle, AX (No birth date available) | Serial Number: FA91305 DAL3572 | Programming device: Noahlink Wireless | Synchronized

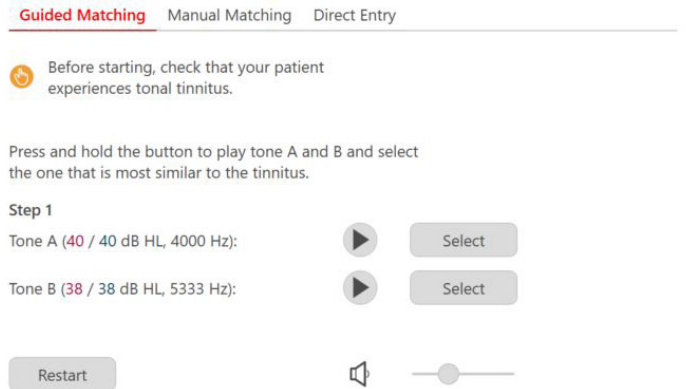
1. Turner, J.S. (1990). Auditory dysfunction: Tinnitus. In H.K. Walker, W.D. Hall, & J.W. Hurst (Eds.), Clinical methods: The history, physical, and laboratory examinations. Boston: Butterworths.
2. Teismann, H., Okamoto, H., & Pantev, C. (2011). Short and intense tailor-made notched music training against tinnitus: The tinnitus frequency matters. PLoS ONE, 6(9).
3. Strauss, D.J., Corona-Strauss, F.I., Haab, L., & Hannemann, R. (2015). Notched environmental sounds: a new hearing aid-supported tinnitus treatment evaluated in 20 patients. Clinical Otolaryngology.

How to fit Tinnitus Notch Therapy – step-by-step using guided matching

To implement Tinnitus Notch Therapy for patients using Signia hearing instruments, complete a First Fit using the Connex fitting software, and fine tune the settings and adjust any settings, if needed. Fine tuning should be completed, including programming any additional listening programs if required, prior to setting up Tinnitus Notch Therapy.

Next, open the Tinnitus tab on the left-hand navigation bar, and select Notch Therapy.

Guided Matching: The Tinnitus frequency is determined using a simple A-B comparison. All the hearing care professional has to do is to play ▶ Tone A and Tone B, compare both and then decide via Select which one is more similar, i.e. closer in pitch to the perceived Tinnitus:

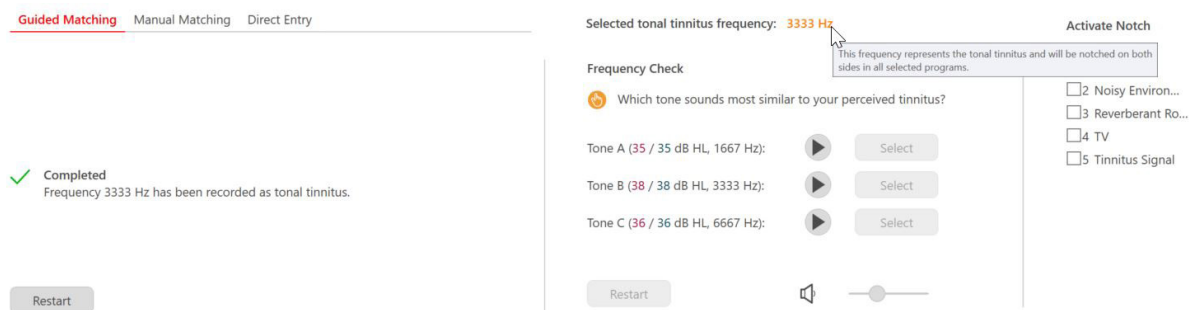


The underlying algorithm will automatically calculate the next step based on the patients' selection. Test tones will be played at an initial loudness of 5 dB SL, based on the Audiogram. In case the estimated individual loudness should not be suitable, it may be adjusted using the slider on the lower right:



The procedure will automatically terminate as soon as the required amount of steps has been reached, depending on the wearer's given responses. The determined frequency is automatically selected and can be directly used to activate the Tinnitus Notch for the desired listening programs.

Frequency Check: This procedure is a final step during tinnitus pitch matching. It can correct a misjudgment of pitch by octaves, also referred to as octave confusion, which can occur with pitch matching. The Frequency Check is very similar to the Matching procedure. Play Tone A, Tone B, and additionally Tone C, if available. Ask the patient to compare these three, and then choose the tone most similar, i.e. closest in pitch, to the perceived tinnitus.



Activate Notch: The Tinnitus Notch can be activated in all compatible listening programs, as desired, via checkbox:

Activate Notch

- 1 Universal
- 2 Noisy Environ...
- 3 Reverberant Ro...
- 4 TV
- 5 Tinnitus Signal