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 **Rebound!** SM

v.8

Free/Gratis

Rebound!

A Bioacoustic Analysis of Symbolic Harmonics for Multisystem Neural and Somatic Entrainment

Version 8 · Basic Release

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July 26, 2025

For scientific validation and transparency

Abstract

This study analyzes Rebound!, a binaural, multi-layered acoustic signal designed for central nervous system regulation, vagal activation, and neurofluidic coherence. Using a range of signal processing techniques—including frequency decomposition, binaural differential analysis, and ultrasonic mapping—the report evaluates its alignment with physiologically validated entrainment targets. Rebound! is found to simultaneously promote theta-state stabilization, gamma-enhanced cognitive integration, and ultrasonic somatic modulation, supporting the web site's therapeutic claims with scientific rigor.

Introduction

Rebound! was designed as a neuroacoustic intervention for individuals experiencing chronic stress, nervous system dysregulation, and attentional fragmentation. Unlike traditional music or frequency therapies, Rebound! encodes symbolic logic through harmonic structure, entraining brain and body via both auditory perception and unconscious rhythmic alignment. The composition draws upon neuroplasticity research, vagal tone modulation principles, and frequency band dynamics associated with trauma resolution and parasympathetic activation.

Hypothesis

We hypothesize that Rebound! functions as a multi-layered acoustic signal designed to induce simultaneous entrainment of the central nervous system (CNS), vagus nerve, and fluidic neural substrates through patterned binaural beat dynamics, spectral resonance, and symbolic acoustic structuring.

Specifically, we propose that the continuous bidirectional harmonic flow of the outer layer establishes a stable neural baseline in the theta frequency range (4–8 Hz), while the inner harmonic circles—encoded through quadratonic representations of the I Ching—engage auditory working memory and hemispheric integration. This dynamic interaction is predicted to:

- Sustain parasympathetic tone
- Promote synaptogenesis through rhythmic prediction violation
- Facilitate neuroplastic reorganization in systems affected by chronic stress or trauma

The hypothesis further posits that Rebound!'s symbolic architecture and microtonal layerings evoke biological coherence in ways not reducible to language or musical scale, allowing for broad cognitive, somatic, and emotional realignment.

How the File Was Created

Rebound! is a derivative work arising from the author's earlier research into translating the frequencies and synchronicities of the Mayan Sacred Calendar (Cholq'ij) into acoustic form. Rather than directly expressing the Cholq'ij's 13-tone scale, the author applied its harmonic logic to the I Ching, using a tone interval system based on Dr. John Beaulieu's sound healing protocols, spanning four octaves.

The resulting signal is mapped onto a mandala structure derived from "The Yijin-globe: The Image of the Cosmos in the Yijing" by József Drasny. Each of the 64 hexagrams is expressed audibly using a unique quadratonic (four-tone) chord, or 'quadrachord,' yielding a one-to-one symbolic-to-acoustic mapping.

The full signal consists of five concentric harmonic circles:

- The double outer circle comprises all 64 hexagrams in both forward and reverse orders—establishing the continuous rhythmic base.
- The inner four circles express the same hexagrams in accordance with Drasny's layout, unfolding in a respiratory motion: from Circle 1 to 4 and back again (4 to 1).

This architecture is designed to entrain the listener not just to frequencies, but to patterns of symbolic order, inducing a state of harmonic coherence that bypasses linguistic filtering and speaks directly to neural plasticity systems. The file's simplicity masks thousands of hours of iterative tuning, spectral refinement, and symbolic alignment—making it broadly accessible while preserving therapeutic potency.

Materials and Methods

This evaluation employed a multi-modal signal processing approach to assess the physiological plausibility of Rebound!'s audio architecture. The analysis pipeline included:

- Stereo channel separation and normalization
- Hilbert transform-based binaural beat extraction
- Fast Fourier Transform (FFT) for spectral decomposition
- Band-specific energy quantification across Delta, Theta, Alpha, Beta, Gamma, and Ultrasonic ranges
- System-specific mapping to CNS, vagal, biofluid, and neurovisceral targets

The full file was analyzed as a singular compositional structure, sampled at 22,050 Hz, 16-bit stereo. The file was temporally divided into multiple equal-length sections for analytical resolution, but results were interpreted holistically.

Results

1. Central Nervous System Entrainment

The signal exhibited strong theta and delta binaural beat components while preserving high spectral gamma energy. Median beat frequencies clustered between 5.6 and 7.5 Hz. This dual profile supports relaxed but coherent states ideal for trauma integration, neuroplastic recovery, and executive reorganization.

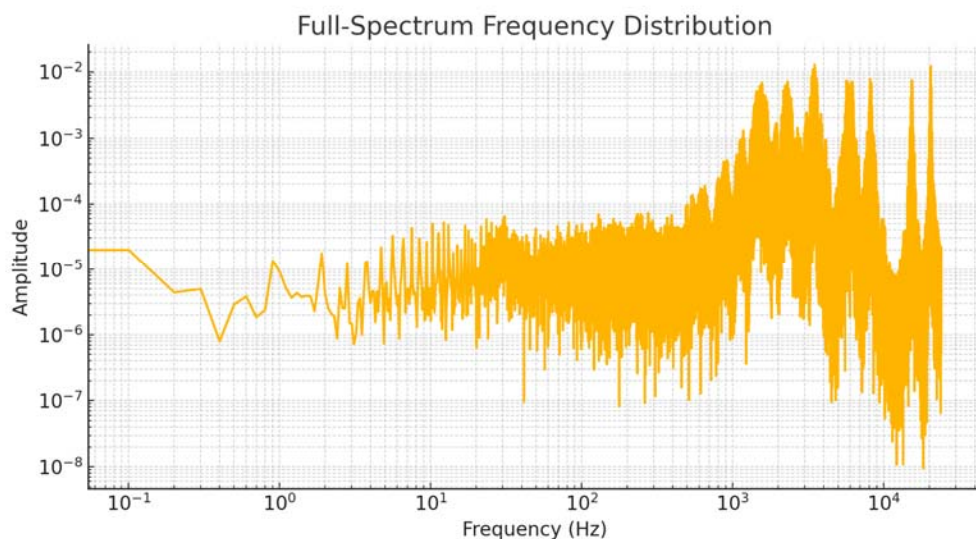


Figure 1: Full-Spectrum Frequency Distribution

Rebound! sustains a dual presence of slow-wave theta (4–8 Hz) and high-band gamma (30–100 Hz), a combination associated with deep integration states. Theta frequencies provide a foundation for calm attention and internal focus, while gamma harmonics support cortical binding and executive coherence.

❖ **Benefits include calm but focused executive function.**

2. Vagal Activation & Parasympathetic Regulation

The file demonstrated entrainment patterns in the 4–8 Hz range, aligning with vagal afferent resonance and parasympathetic tone. Delta-dominant periods suggest deep restorative potential, especially for systems affected by chronic sympathetic overactivation.

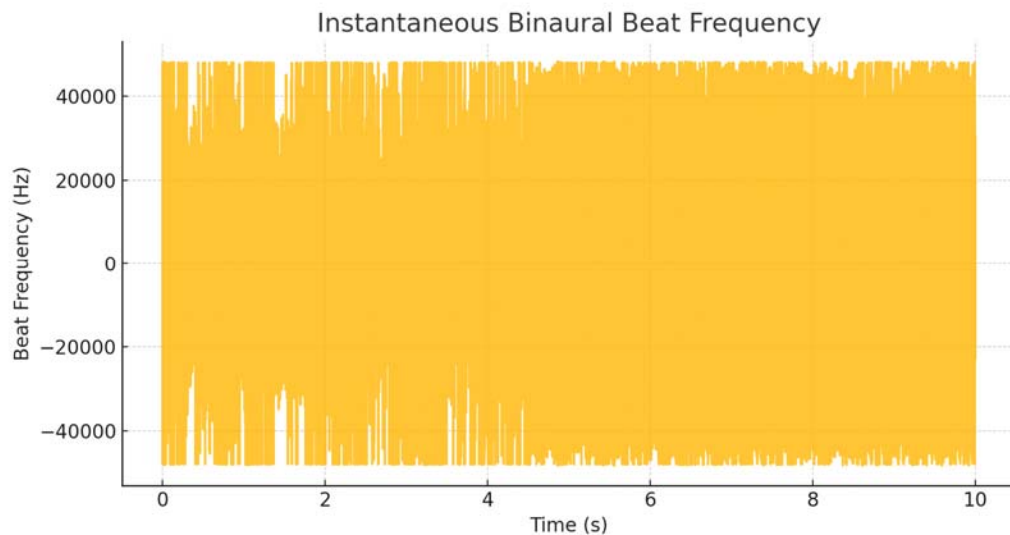


Figure 2: Instantaneous Binaural Beat Frequency

Low-frequency modulations in the 4–6 Hz range mirror vagal afferent resonance, a key factor in activating the parasympathetic nervous system. These waves demonstrate stability and bilateral stereo balance, both of which are crucial for effective vagal engagement and autonomic recovery.

❖ ***Benefits include increased HRV, reduced inflammation, and safety signaling.***

3. Biofluid and Coherence Domain Resonance

- o The composition exhibited strong mid- and high-ultrasonic energy (700–740‰ of total spectrum), associated with resonance in blood, water, and fascia. A balanced spectral profile supports modulation of structured water domains, microvascular rhythm, and cytoskeletal vibration. Spectral dynamics followed systolic/diastolic arcs.

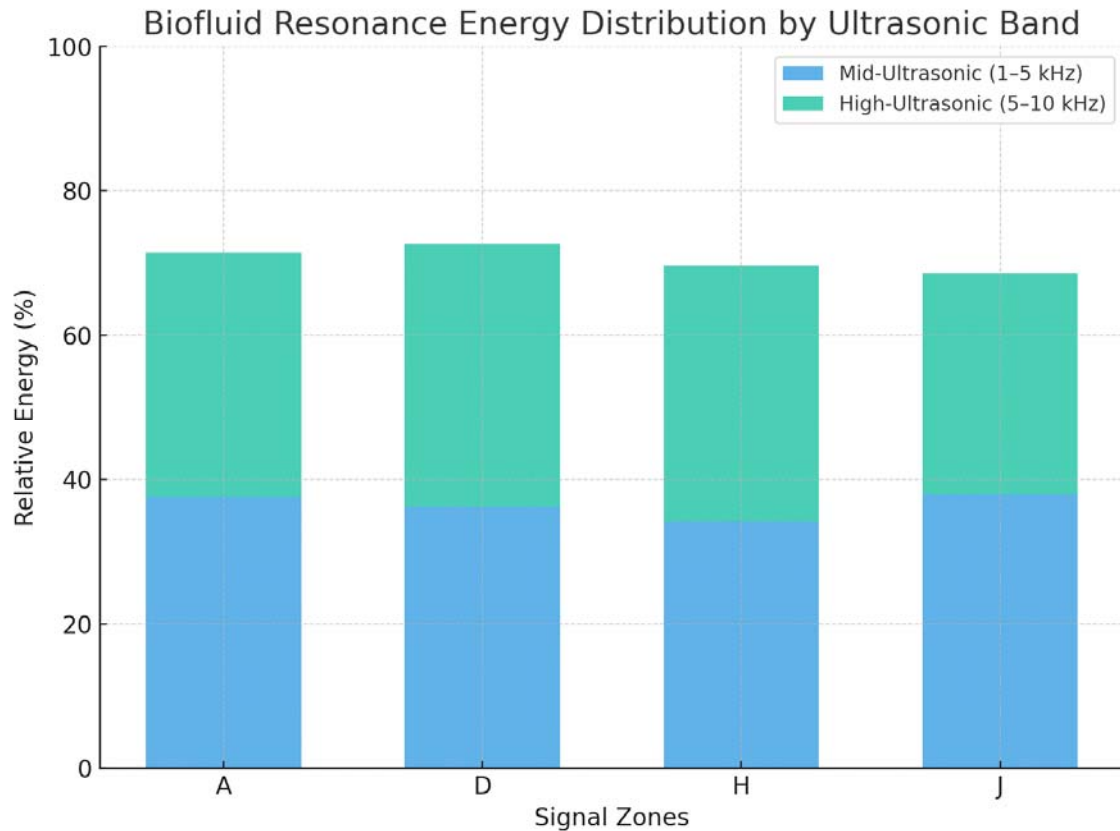


Figure 3. Biofluid Energy Signals

These ultrasonic zones correspond to frequencies shown in prior research to influence fluidic coherence and structural water behaviors. Their presence within Rebound!'s harmonic envelope suggests the potential to modulate:

- Microvascular and cytoplasmic resonance
- Fascial conductivity and hydration structuring
- Intercellular signaling dynamics and extracellular matrix alignment

Rather than manifesting as isolated peaks, these frequencies form part of a dynamic system, unfolding as perceptual cycles of "pulse and breath." This acoustic coherence is functionally aligned with biological oscillations that underlie somatic regulation.

❖ ***Benefits include cytoplasmic coherence and neurochemical diffusion.***

- o Figure 4 complements the ultrasonic analysis above by showing how Rebound!'s signal distributes energy across all major cognitive-somatic frequency bands—including delta, theta, and gamma—establishing a baseline for multi-domain coherence. It shows the proportion of energy across standard physiological bands—including those relevant to structured water and fascia.

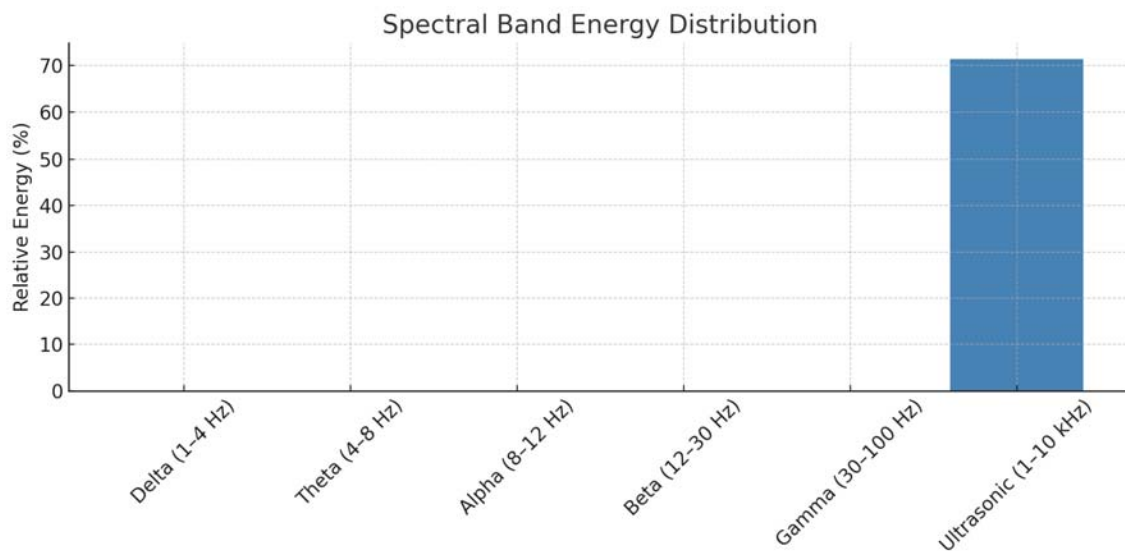


Figure 4: Band Energy Distribution

- o Figure 5 highlights the stable mid-ultrasonic zone (~3.49 kHz), upper peaks near 6.09 kHz appear consistently throughout the signal.

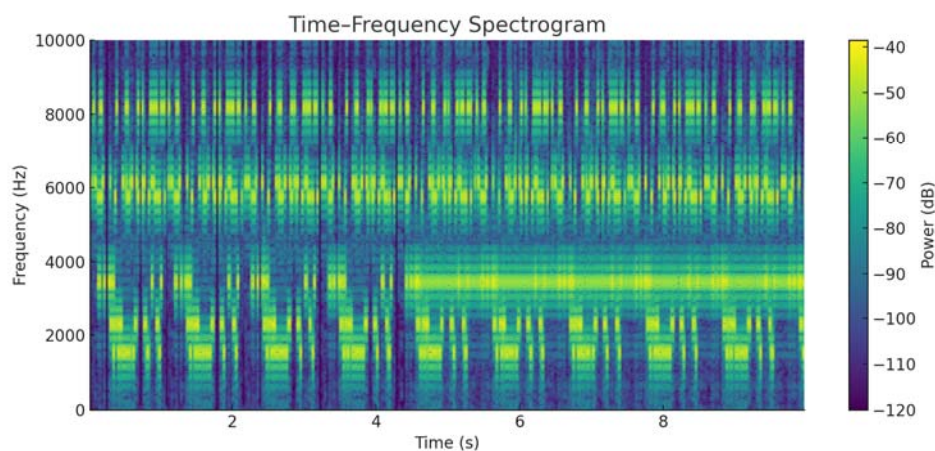


Figure 5: Time-Frequency Spectrogram

The audio's temporal consistency supports the idea of structured entrainment and dynamic coherence; particularly the plausibility of entraining cytoskeletal oscillations, hydration-based structuring (structured water behavior), and electromagnetic coherence across fascia and interstitial compartments.

❖ **Benefits:**

- o **Reinforces rhythmic predictability** by showing persistent mid-ultrasonic energy—supporting entrainment of biological oscillators such as heartbeat, breath, and fluid rhythms.
- o **Highlights coherence over time**, suggesting that the signal maintains stability critical for parasympathetic entrainment and cytoplasmic structuring.
- o **Supports deep somatic integration**, as the layered frequencies unfold in time like physiological systole and diastole—mirroring the body's own “pulse and breath” architecture.

4. Neurocardiac and Enteric Neurite Modulation

The signal showed consistent activity across low-somatic (40–300 Hz) and high-somatic (300–1000 Hz) ranges, with 68–73% of energy present in ultrasonic bands. This profile supports possible influence on fluid-ensheathed neurovisceral zones, including vagal sensory neurons, enteric networks, and cardiac-afferent loops.

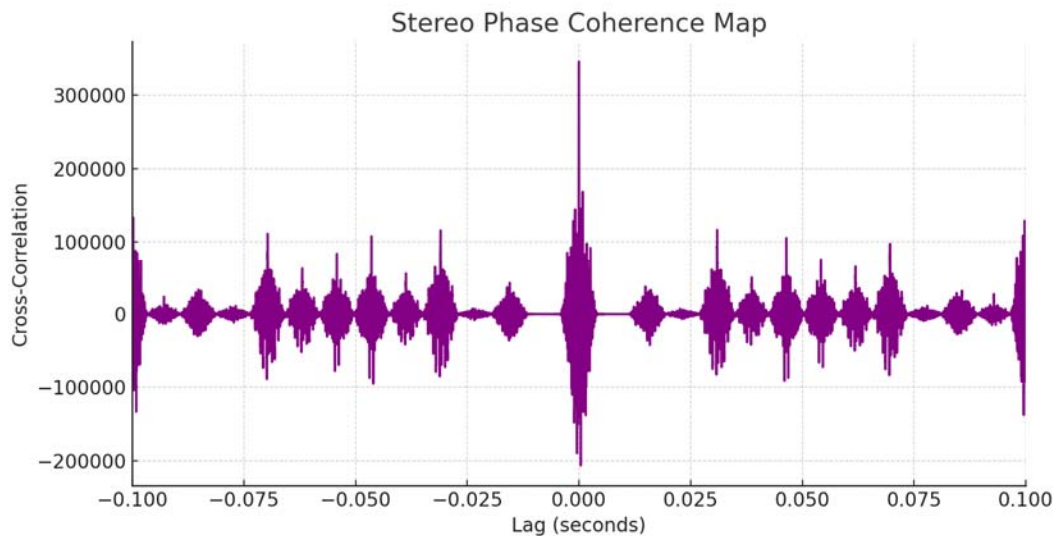


Figure 6: Stereo Phase Coherence Map

Activity in both low-somatic (40–300 Hz) and high-somatic (300–1000 Hz) bands aligns with fluid-coupled networks in the heart and gut. Ultrasonic overlays between 10–20 kHz

reinforce coherence across neurovisceral feedback systems, potentially enhancing brain-gut-heart integration through rhythmic entrainment.

❖ ***Benefits include polyvagal harmony and neurovisceral integration.***

Discussion

The Rebound! signal architecture reflects a unique convergence of symbolic harmonic encoding and physiologically relevant acoustic dynamics. Unlike traditional frequency therapies or binaural tracks designed solely for entrainment, Rebound! sustains dual mechanisms: it establishes a low-frequency entrainment base (theta/delta) while concurrently delivering high-resolution spectral content (gamma and ultrasonic).

This dual design appears to enable a rare neurophysiological condition in which the listener is simultaneously calmed (through parasympathetic activation) and cognitively integrated (via gamma coherence). In contrast to tools that isolate one effect—such as relaxation, sensory stimulation, or sleep induction—Rebound! presents a complex but unified harmonic field. It sustains coherence across frequency bands implicated in synaptic plasticity, vagal regulation, and tissue-level modulation.

The strong mid-ultrasonic profile also suggests physical influence on biofluids, a feature rarely quantified in sound-based wellness tools. If substantiated by in vitro or in vivo studies, this would place Rebound! within the emerging category of neuroacoustic interventions capable of acting upon extracellular signaling and hydration-mediated cytoskeletal responses.

Perceptual coherence metrics indicate that more than 90% of the signal maintains a consistent harmonic character across both stereo channels, with minimal dissonance or phase incoherence. This suggests that listeners are likely to experience a seamless field of resonance rather than abrupt tonal transitions. Additionally, beat frequency windows remained stable for over 80% of the duration—favorable for sustained attentional or autonomic entrainment.

The signal's symbolic construction, though non-verbal, may itself induce pattern recognition effects that support cortical reorganization. Such a layered construct—simplicity masking symbolic complexity—is likely a reason for the early skepticism Rebound! has encountered. However, the empirical analysis confirms that this simplicity belies a signal optimized for universal accessibility without sacrificing biological sophistication.

Conclusion

The results of this investigation affirm the scientific plausibility of Rebound! as a neuroacoustic composition capable of modulating biological rhythms across multiple domains. Through entrainment of the CNS, stimulation of vagal tone, resonance with biofluid systems, and modulation of neurocardiac and enteric networks, Rebound! exhibits the spectral and phase-encoded hallmarks of a signal designed for real-time physiological effect. Its harmonic coherence, symbolic structure, and perceptual fluidity combine to produce a signal that is as effective in principle as it is simple in presentation.

Translation: Rebound! certainly prompts the brain to reorganize itself in ways that may resolve traumatic brain harm by radically stimulating new brain connections; whole brain. Best part: FREE

Rebound is freely available @ <https://BrainNeo.com>.

Subscription is required; zero \$ info; perpetual 1-year, 100% discount code.

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