



BODY SHIFTER



Spectral Envelope Scaler / Shifter

Plugin Type: VST3 / AU for **Windows** and **macOS**



Introduction

Body Shifter is an innovative spectral processing plugin that allows you to shift the body of your sounds independently from its pitch. This allows you to quickly reposition the energy distribution in the frequency spectrum, making it an essential tool for mixing and sound design. Whether you're shifting the body of percussion/drums to a different position in the frequency spectrum, reshaping vocals, or enhancing instrument character, Body Shifter offers an intuitive and entirely new way to sculpt your sounds.

A Must-Have for Modern Producers/Audio Engineers

With Body Shifter, producers can break free from static EQ'ing and unlock a new dimension of sound shaping. Whether you're designing intricate soundscapes, mixing dynamic percussion, or crafting expressive vocals, this plugin gives control in ways no other tool can.

Step into the future of sound manipulation - add Body Shifter to your plugin arsenal today!



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Figure 1: Body Shifter's main Interface

Main Features

- **SCALE:** Adjusts the global frequency scaling of the body in octaves. (e.g., 1 doubles the frequency, -1 halves it. So setting Scale to -1 will make 500 Hz - 250 Hz and 15000 Hz - 7500 Hz)
- **OFFSET:** Offsets the frequency spectrum of the body in Hz. (e.g., +50 Hz makes 500 Hz - 550 Hz and 15000 Hz - 15050 Hz)
- **WIDTH:** Introduces slight variations in scaling between the left and right stereo channels to enhance stereo separation.
- **MIX:** Blends between the processed and original (dry) signal.
- **OUTPUT:** Adjusts the final gain of the processed signal (-/+ 18dB).
- **VIEW:** Allows customization of what is displayed in the spectrum analyzer. IN BODY OUT



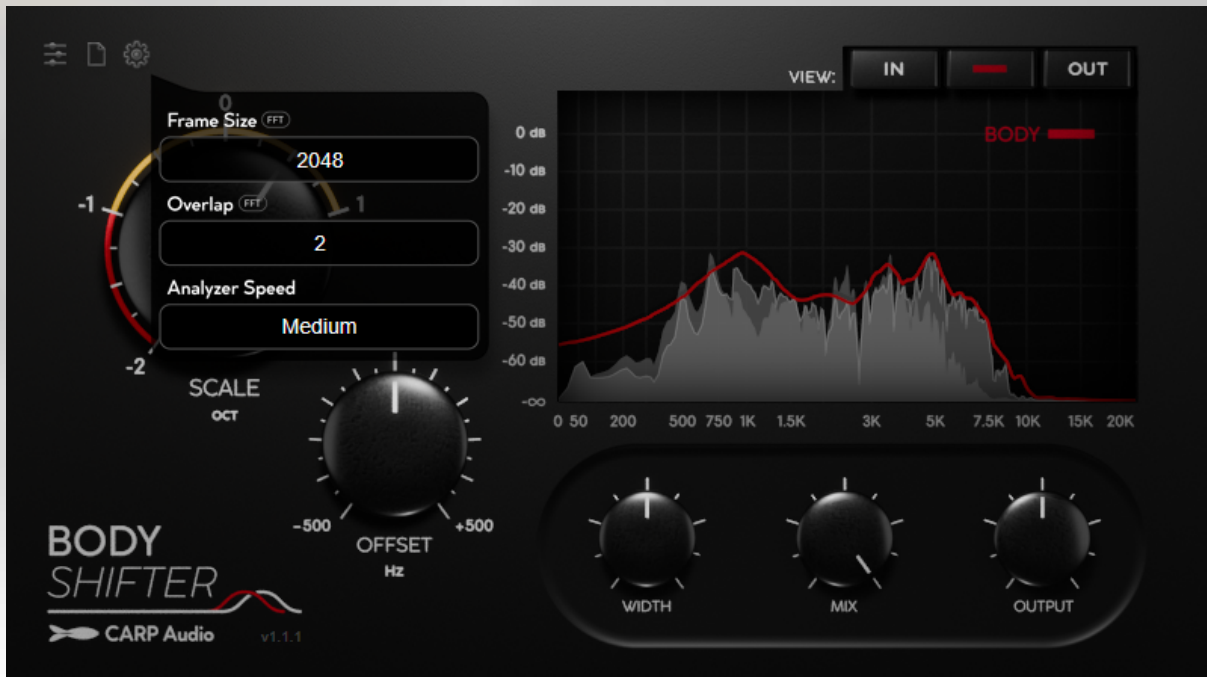


Figure 2: Body Shifter's Settings Panel

Settings Panel

Access the settings by clicking the gear icon in the interface. The following options are available:

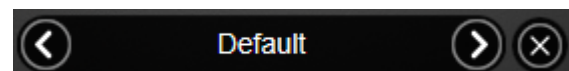
- **Frame Size:** Determines the size of FFT frames in samples, affecting resolution and responsiveness.
- **Overlap:** Controls the overlap factor of FFT frames, balancing smoothness and accuracy.
- **Analyzer Speed:** Adjusts the release speed of the spectral analyzer for visual feedback.

Preset System

Factory Presets are automatically being installed with the plugins, so you don't need to import them yourself. To use the presets follow these steps:

Click on the Preset Icon

Now a Preset Bar with arrows will appear!



Click the arrows to go through the presets and click on the Preset Name to choose a preset from the List, or switch between preset categories (if there are more available)

To Import or Export a Preset or a Preset Bank file, click on the file icon. 



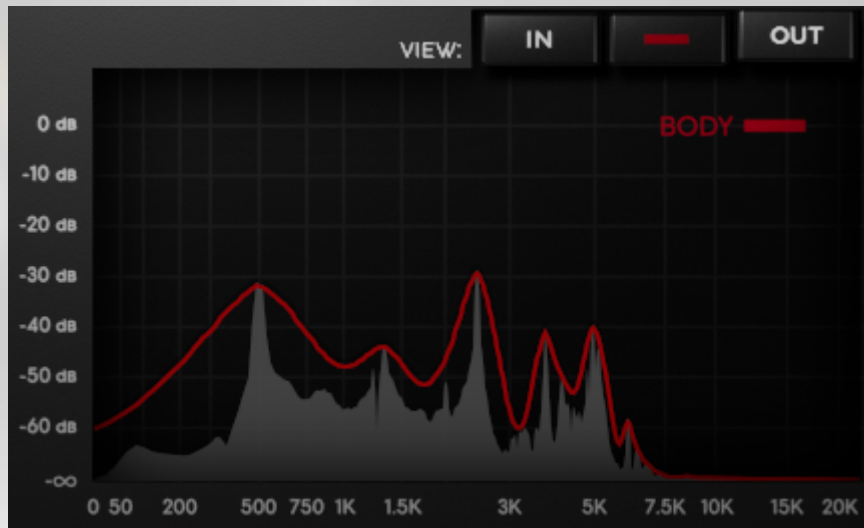


Figure 3: Extracted/Measured Body - Visualization

How It Works (Simplified)

Body Shifter operates using an advanced spectral processing technique:

1. **Frame Analysis** – The input audio is divided into short overlapping frames, and each is transformed into the frequency domain using a Fast Fourier Transform (FFT). See [pg. 4](#) for the frame settings 
2. **Spectral Envelope Extraction** – A smooth spectral envelope is estimated using our advanced algorithm, capturing the frequency balance of the sound.
3. **Whitening Process** – The spectral content is flattened/normalized using the inverted spectral envelope to create a 'Whitened Spectrum'.
4. **Modification** – User-defined transformations (SCALE, OFFSET) modify the magnitude spectrum of the extracted spectral envelope.
5. **Reassembly** – The modified envelope is re-applied to the whitened spectrum, and the processed frames are converted back to the time domain using an inverse FFT (IFFT), altering the frequency balance and perceived timbre while preserving relative harmonic relationships.

This method allows for smooth spectral body shifting by modifying the spectral envelope, enabling precise control over the timbre and tonal balance. By reshaping the envelope, you can displace the spectral energy distribution of your input, emphasizing or de-emphasizing certain frequency regions while maintaining the natural harmonic structure.



Why Use Body Shifter?

In the ever-evolving world of audio production, precision and flexibility are key to achieving a professional mix. Enter Body Shifter, a revolutionary plugin that utilizes an advanced spectral algorithm to measure and manipulate the body of your signal independently from its pitch. This groundbreaking technology enables producers to shape their sounds in ways previously unimaginable, making Body Shifter an essential tool for those seeking ultimate control over their mix.

Redefining Sound Sculpting

Traditionally, achieving the perfect tonality of elements in a mix required painstaking EQ or multiband saturation adjustments that are static and don't adjust while the sound changes over time. However, Body Shifter allows you to shift the body of your sound with a simple turn of a knob. Whether you need to emphasize certain frequencies or reposition the body of an element within the frequency spectrum, Body Shifter is there for you!

Beef Up Low-end

Body Shifter is unmatched when it comes to reinforcing and thickening low end. By shifting the energy distribution in the frequency spectrum towards the lower frequency range without affecting pitch, it enhances bass elements in a way no EQ or traditional processing can. Whether you need deeper, fuller kicks, heavier basslines, or more weight in your mix, Body Shifter ensures powerful low-end presence without muddiness or unwanted artifacts.

The Solution To Common Mixing Problems

Have you ever used an EQ or even a pitch shifter to move percussion elements into the right frequency range, only to be frustrated by staticness of EQ or undesirable pitch changes or artifacts from pitch/formant shifting? Body Shifter solves these issues effortlessly by using a powerful spectral envelope extraction algorithm to scale and offset the entire magnitude spectrum, not just a few peaks. This lets you shift the full tonal balance of any sound.

Need Further Assistance?

If you have any questions or require additional support, please visit our official website or contact our support team at info@carpaudio.com

Thank you for choosing Body Shifter!



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