

Groundwaves

Low-end control for unmastered material — tames boom, tightens transients, adds harmonic weight, and keeps the bottom octave mono-safe before the rest of the chain touches it.

Formats • AU, VST3 (macOS) **Version** • 1.0 **Manufacturer** • Smash Happy Audio

CONTENTS

- | | |
|---------------------------|-----------------------|
| 01 Overview | 07 De-Mud |
| 02 The Interface | 08 Wall of Bass |
| 03 Bass Anchor | 09 Output |
| 04 Boom Tamer & Sub Happy | 10 Undo & A/B Compare |
| 05 Translator | 11 Specifications |
| 06 Groundwork | 12 Troubleshooting |

What Groundwaves is for

Groundwaves sits early in a mastering chain, working on unmastered mixes that typically arrive peaking around -6 to -3 dBFS. Its job is entirely the bottom octave and a half: fold stray low-end width to mono, tame sustained boom without squashing transients, tighten what's left, add a touch of harmonic weight where the low end needs body, and clear out boxy 200–400 Hz mud — all before the rest of the chain (tone, harmonics, glue, limiting) ever sees the signal.

Every module opens fully neutral. A knob at 0% is genuinely off — there are no hidden enable toggles to forget about, and no built-in ceiling or limiter, since that's assumed to live downstream.

02 / The Interface

The interface

Five sections run left to right — Groundwork, De-Mud, Boom Tamer, Translator, Output — each with its own colour and a measured meter (never a knob-derived guess) showing exactly what it's doing to the signal in real time. A live low-end spectrum analyzer runs along the bottom of the window: the silhouette is a genuine 20–400 Hz reading of your output, with a faint ghost line showing the untouched input for comparison, and shaded per module wherever that module is adding or removing energy — so you can see Boom Tamer pulling boom down or Groundwork lifting weight up, directly on the spectrum.

03 / Bass Anchor

Bass Anchor

Bass Anchor collapses the stereo image to true mono below a crossover frequency (50–300 Hz, adjustable). Stray low-end phase differences are one of the most common reasons a mix that sounds great in headphones falls apart on a mono speaker or a club system — Bass Anchor removes the risk at the source, before anything else in the plugin touches the signal.

Engage it from the toggle in the Output section; the crossover point is marked directly on the spectrum landscape so you can see exactly where mono begins.

Boom Tamer & Sub Happy

BOOM TAMER

Targets sustained 30–70 Hz buildup with a two-stage approach: a hold-timer ignores the first ~12 ms of a hit (so transients pass untouched) and only clamps down once low energy has held past that window, then a soft-knee saturator handles whatever peaks remain. The knob controls both stages together.

SUB HAPPY

A sub-band (below 120 Hz) transient tightener living in the Groundwork rail. Attacks get lifted, hanging low-end tails get pulled in — a fader, not a toggle, so it engages gradually past zero.

Translator

Two vertical faders generate low-end content rather than just controlling what's already there:

- **LOW** — a tracked sub-octave synth: isolates 50–120 Hz, divides it down an octave, and adds a clean, mono, headroom-clamped sine-like tone underneath. Useful for translating low-end onto small speakers that can't reproduce the true fundamental.
- **MID** — rectifies and bandpasses the isolated sub band into an 80–200 Hz harmonic that reads on smaller systems even when the fundamental doesn't.

JUDGE BY EAR

Octave dividers can warble on dense, polyphonic bass parts. Keep LOW low to start and bring it up only as far as the material tolerates.

Groundwork

Groundwork does two things at once from a single knob: a subsonic high-pass (Ground Lift, 20–60 Hz, with its own independent slope switch from 12 to 48 dB/octave) removes rumble first, and a parallel saturator adds gain-normalised low-end harmonics and a bounded band emphasis around 45–95 Hz — the "beef" — purely additively, with no makeup gain to fight against.

Ground Lift can be switched off independently of the Groundwork knob if you only want the harmonic weight without the high-pass.

De-Mud

Three dynamic notches track the 200–400 Hz zone and only cut when buildup is actually detected — clean material at any knob setting reads close to 0 dB of reduction. The meter shows the real, measured gain reduction happening this instant, not a number derived from the knob position, so it behaves like a genuine compressor GR meter.

Wall of Bass

The opposite instinct to Bass Anchor: a tightly compressed, locked 40–60 Hz hug delivered to the stereo *sides* only. Because it works exclusively on the side signal, it's provably mono-safe — the centre image is never touched, so it can never introduce mono cancellation. Use it to add a wide, felt low-end presence without widening (or endangering) the true sub.

Output

A linear trim, -12 to +6 dB, alongside Bass Anchor and Wall of Bass. There's no built-in ceiling here by design — an overload LED latches if Groundwaves' own processing pushes past 0 dBFS, warning you to back off rather than silently limiting for you.

Undo & A/B compare

UNDO

Steps back your last change. Related edits made in quick succession are grouped into a single undo step.

ALT

A/B compare: first press stores your current settings as the alternate; press again to flip and compare. Both states save with your project.

Specifications

Formats	Audio Unit, VST3
Platform	macOS, Apple Silicon
Modules	Bass Anchor, Boom Tamer, Sub Happy, Translator (Low/Mid), Groundwork, De-Mud, Wall of Bass, Output
Processing	16x oversampled dynamics/saturation chain, double-precision filter design throughout
Latency	Reported and constant; matched automatically for host-native bypass
Ceiling	None built in — overload LED warns instead of limiting
Channel configuration	Stereo in / stereo out

Troubleshooting

A module's meter isn't moving even though the knob is up

Every meter in Groundwaves shows measured effect, not knob position. Reduction modules (De-Mud, Boom Tamer) only light up when there's actually something to reduce — clean material at 100% can still read close to 0 dB.

The overload LED is lit

Groundwaves has no built-in ceiling by design. Back off whichever module is adding the most energy (Groundwork and Translator are the two additive modules) or gain-stage the Output trim down — a limiter downstream is expected to catch anything left over.

Translator sounds warbly on a bass part

The LOW voice is an octave divider, which can struggle to track fast, dense, or highly polyphonic bass lines cleanly. Reduce LOW or judge its use case by ear on the specific material.