Rave Generation

EXCITANCE

Exciter & Bass Enhancer

User Manual

Overview

Excitance is a dual-process audio enhancement plugin inspired by classic late-1970s and 1980s harmonic exciter and bass enhancement hardware. It pairs two independent processors - a harmonic exciter for the highs and a bass enhancer for the lows, each running as a parallel sidechain alongside the untouched dry signal.

The EXCITER side works by generating new harmonic content above the source material's existing spectrum. Rather than simply turning up what's already there (as an EQ would), it synthesizes harmonics that weren't in the original recording. The result is more sparkle, definition, and air - without pushing the output level up in any meaningful way.

The BASS ENHANCER side takes a completely different approach. Instead of boosting bass amplitude, it manipulates the timing and dynamics of low-frequency content to create the perception of a heavier, more sustained low end. Your speakers and amplifiers don't work any harder, but the bass feels significantly bigger.

Both processors can be used independently or together. Additional features include a Spectral Phase Refractor (SPR) for bass phase correction on the main audio path, a mastering-grade 6 dB/oct input high-pass filter, a Timbre control for shaping the harmonic character, two clipper modes (authentic half-wave Rectifier and smooth Cubic), a Density mode for denser harmonic generation, continuous Peaking and Null Fill controls for precise filter shaping, Phase and AutoTrace switches for the bass section, a three-way Mono mode for club/vinyl bass centering, an Exciter stereo width control, auto-tuned output shelving EQ, per-section Solo monitoring, up to 4x oversampling, a latency-compensated wet/dry mix, and a soft-clip output limiter.

Signal Flow

Input → HPF → SPR → Input Gain → [EXCITER + BASS ENHANCER + Dry] → Sum → Output Gain → Clip → Mix → Output EQ → Clip → Output

The plugin first passes your input through an optional 6 dB/oct high-pass filter for subsonic cleanup, then through the optional Spectral Phase Refractor which corrects bass phase alignment on the main audio path. The signal then splits into three parallel paths. The dry signal passes straight through untouched. The EXCITER sidechain taps the input through a high-pass filter, generates harmonics, and feeds a small amount back. The BASS ENHANCER sidechain taps through a low-pass filter, shapes the phase and dynamics, and feeds that back too. The final output is all three paths summed together, passed through an optional safety clipper, blended with the dry signal via the Mix control, then shaped by an auto-tuned output shelving EQ and a final safety clipper.

Because both sidechains run in parallel (not in series), they don't interfere with each other. Each one works on its own frequency territory independently.

BASS ENHANCER

BASS ENHANCER reshapes the perception of existing bass through dynamics and phase rather than simple amplitude boost. It isolates the low end with a tunable second-order low-pass filter (20–400 Hz), runs it through a leveling stage that keeps the output at a near-constant level regardless of how hard the input is hitting, then sums the result out-of-phase with the dry signal.

The clever part is the leveling stage. When your input is quiet, the processed bass represents a bigger share of the mixed output - so the bass fills in. When the input is loud, the processed signal becomes a tiny fraction of the total - so the peaks barely change. You get the sensation of deeper, more sustained bass without actually pushing your levels up. That means no extra clipping risk, no overdriven speakers, and no headroom problems.

The out-of-phase summation is the other half of the trick. Because the compressed sidechain is subtracted from the dry signal rather than added to it, the bass region develops a frequency-dependent shape that the ear hears as bigger and more present, while the actual peak levels stay nearly identical to the input.

BASS ENHANCER Controls

Drive	Sets the intensity of the bass processing (0–100%, default 50%). Higher settings mean more sustain and a denser bass effect. Lower settings are more transparent. Find the sweet spot where the bass notes feel longer and more solid without becoming muddy.

Tune	Low-pass filter frequency (20–400 Hz). Turn left to focus on deep sub-bass; turn right to bring the effect up into upper bass and low-mid territory. Kick-heavy music might want 80–100 Hz, while bass guitar work might benefit from 120–150 Hz. The extended upper range up to 400 Hz lets you reach into upper bass and low-mid territory for toms, cello, and male vocals.
Amount	How much processed bass is mixed into the output (0–100%). Moderate settings give you the magic - perceptibly heavier bass without the meters moving. Push it too far and you will start to see peak levels climb, so keep it reasonable.
Process	On/off switch for the BASS ENHANCER sidechain. When off, no bass enhancement is applied.
Peaking	Continuously varies the low-pass filter's resonance (0–100%). At 0% the filter has a gentle slope - smooth and uncolored. At 100% there's a resonant peak right at the Tune frequency, concentrating the bass enhancement on a tighter band around your chosen point.
Phase	Inverts the polarity of the BASS ENHANCER sidechain before it is mixed back with the dry signal. Off gives the classic bass enhancement character. On flips the phase relationship, which fundamentally changes the tonal character of the bass enhancement - some material responds better to one setting than the other. Note that Phase on may increase the output level, so you may need to reduce Amount or Drive to compensate.
AutoTrace	Enables self-optimizing dynamics in the leveling amplifier. When on, the processor tracks the input level and automatically adjusts its internal threshold so the bass enhancement stays consistent regardless of how loud or quiet the source material is. Drive becomes less sensitive and the effect works across a wider dynamic range. Particularly useful for full mixes, live recordings, or any material where the bass level varies over time.
Mono	Three-way stereo bass mode. Off leaves the stereo image untouched. Bass Only sums the bass sidechain to mono before adding it back. All Bass goes further - it M/S-encodes the dry signal and high-passes the side channel at the Tune frequency, forcing all bass below that point to the center. Inspired by club sound and vinyl cutting workflows where mono bass is essential for speaker tracking and groove stability.
Solo	Mutes the dry signal and outputs only the BASS ENHANCER sidechain. Useful for hearing exactly what the bass processing is adding. Turn off when done tuning. Requires Process to be on.

EXCITER

EXCITER is a high-frequency sidechain exciter. Your signal is tapped through a tunable high-pass filter (600 Hz – 7 kHz), which selects the frequency range that will be excited. This filtered signal is then processed to generate new harmonics, with special attention to transients - sharp attacks get more harmonic emphasis, while smooth sustained tones are treated more gently. This keeps things sounding natural rather than harsh.

Excitance offers two distinct harmonic generation modes via the Clip switch. Rectifier (the default) uses a parallel topology with a half-wave rectifier path and a clean compressed path, crossfaded by the Timbre control. Cubic is an alternative mode using a cubic soft clipper with DC pre-offset - smoother and more forgiving than the rectifier.

The Peaking control varies the sidechain filter's resonance from a gentle slope to a focused peak at the Tune frequency, while Null Fill restores presence at the Tune frequency that can get lost when the sidechain is mixed back in. The Density switch offers a High mode that compresses peaks and expands quiet signals for denser, more consistent harmonic generation. The generated content is blended into the original signal at a much lower level - you hear it as added clarity and dimension, not as distortion.

EXCITER Controls

Tune	Corner frequency of the sidechain high-pass filter, from 600 Hz (fully left) to 7 kHz (fully right). Lower settings pull in more midrange for a forward presence effect. Higher settings target only the top end for an open, airy quality.
Harmonics	How aggressively new harmonic content is generated (0–100%, default 0%). Low settings are subtle - good for vocals and full mixes where you want transparency. High settings add real bite and edge, great for drums, guitars, and synths that need to cut through.
Timbre	Controls the harmonic character (0–100%, default 0%). In Rectifier mode, Timbre crossfades between the half-wave rectifier path at 0% (EVEN — dense, dramatic, strong even harmonics) and a VCA-style soft saturator path at 100% (ODD — odd-symmetric harmonics, smoother and warmer). In Cubic mode, Timbre DC-offsets the input into an asymmetric soft clipper - 0% (EVEN) produces both even and odd harmonics with a warm asymmetric character, 100% (ODD) produces only odd harmonics with a symmetric curve.
Amount	How much of the generated harmonics get blended into the output (0–100%). A little goes a long way. Start low, increase until you notice added clarity, and stop before it gets harsh.
Process	On/off switch for the EXCITER sidechain. When off, no high-frequency enhancement is applied.

Peaking	Continuously varies the sidechain filter's resonance (0–100%). At 0% the filter has a gentle slope - smooth and uncolored. Around 50% you get a balanced, flat response. At 100% there's a strong resonant peak (+6 dB) right at the Tune frequency, focusing harmonic generation on a narrow band.
Null Fill	Restores presence at the Tune frequency (0–100%). When the exciter's sidechain is mixed back with the dry signal, a dip naturally occurs at the Tune frequency. Null Fill compensates by adding energy right at that frequency, restoring presence and body without sacrificing the high-frequency extension above.
Clip	Selects the harmonic generation mode. Rectifier (default) uses a parallel topology — a half-wave rectifier path and a clean compressed path, crossfaded by Timbre. Dramatic and characterful. Cubic uses a single cubic soft clipper with DC offset for asymmetry. Smoother, gentler, and more forgiving than Rectifier.
Density	Selects the harmonic generation density mode. Normal passes the signal through the waveshaper unmodified. High compresses peaks and expands low-level signals before the waveshaper, producing a higher density of harmonics with better peak control. Use High when you want a hotter, more consistent harmonic character, or when clipping occurs at high Harmonics settings.
Stereo	Controls the stereo width of the EXCITER sidechain only (0–200%, default 100%). At 0% the exciter output is mono-summed. At 100% the stereo image is preserved. At 200% the width is exaggerated via mid/side processing for a wider, more spacious top end. The dry signal and BASS ENHANCER output are unaffected.
Solo	Mutes the dry signal and outputs only the EXCITER sidechain. Useful for dialing in the Tune, Peaking, and Null Fill settings — you hear exactly what the exciter is generating. Turn off when done tuning. Requires Process to be on.

Master Controls

HPF	Master input high-pass filter (0–200 Hz). A gentle 6 dB/oct slope removes subsonic rumble before it reaches the processors. At 0 Hz the filter is bypassed. Useful for cleaning up accumulated low-end buildup on mix buses and mastering chains, ensuring BASS ENHANCER works on real bass content rather than subsonic noise.
Input	Gain before processing (-20 to +20 dB). Pushing the input hotter drives both sidechains harder for a more pronounced effect. For subtle enhancement, stay near 0 dB.
Output	Gain after processing (-20 to +20 dB). Use this to level-match your processed signal against the bypassed signal, so you can A/B without being fooled by volume differences.
SPR	Spectral Phase Refractor. Processes the main audio signal so that bass frequencies (up to approximately 150 Hz) lead in phase relative to the rest of the spectrum. This corrects the cumulative phase smearing that occurs through recording, processing, and reproduction, restoring clarity, openness, and apparent bass energy without adding any amplitude boost. Works independently of both sidechains - you can use SPR with both processors turned off. Most effective on heavily processed material, overdubbed tracks, live recordings, and reverberant sources.
Quality	Oversampling mode. Normal (1x) is CPU-friendly and adds zero latency. HQ (2x) and Ultra (4x) run the processing at a higher internal sample rate, which reduces aliasing artifacts from the harmonic generation.
Clip 0dB	Catches any peaks that exceed 0 dBFS when you're driving the plugin hard. Keeps your output clean without needing a separate limiter. Default on.
Out Low	Auto-tuned low shelf gain (-12 to +12 dB). The shelf corner frequency automatically tracks the BASS ENHANCER Tune knob, so the low shelf always operates exactly where your bass processing is happening. Boost to emphasize the enhanced low end, cut to tame it. Applied after the dry/wet mix so it colors the full summed output.
Out High	Auto-tuned high shelf gain (-12 to +12 dB). The shelf corner frequency automatically tracks the EXCITER Tune knob, so the high shelf always operates exactly where your exciter is working. Boost to exaggerate the exciter character, cut to tame the highs without removing the new harmonics. Applied after the dry/wet mix so it colors the full summed output.

Mix	Wet/dry blend (0–100%, default 100%). At 100% you hear only the processed output. Lower values blend in the original dry signal for parallel processing.
Bypass	Smoothly fades between processed and dry over about 3 ms to avoid clicks. When bypassed, your signal passes through completely unchanged.

Tooltips: Hover over any control and a short description of it appears in the bar at the bottom-left of the plugin. The small info icon to the right of the Bypass switch toggles these hints on or off, and your choice is remembered.

Quick Start

A good approach when dialing in is to work on each processor separately. Turn BASS ENHANCER Amount to zero while you set up EXCITER, then turn EXCITER Amount to zero while you shape the bass. Once both sound right on their own, bring them both up and use Bypass to compare against the original.

Presets & Starting Points

- **Thicker bass:** BASS ENHANCER Drive 40–60%, Tune around 100 Hz, Amount 30–50%. Listen for the low notes becoming longer and fuller. Adjust Drive until you feel the bass hang a bit on each hit.
- **Vocal clarity:** EXCITER Tune 2–4 kHz, Harmonics 20–40%, Amount 20–40%, Timbre 30–50%. Vocals gain definition and cut through the mix more easily, without actually being louder.
- **Air and sparkle:** EXCITER Tune 5–7 kHz, Harmonics 30–50%, Amount 15–30%. Creates shimmer and openness in the top end, especially nice on acoustic instruments and overheads.
- **Aggressive edge:** Keep Clip on Rectifier (default) and pull Timbre toward 0% (EVEN) for the dense, dramatic rectified character. Great on electric guitars, snares, and synth leads that need to cut.
- **Smooth shimmer:** Switch Clip to Cubic for a gentler harmonic character. Cubic produces softer, more forgiving harmonics — great for vocals, acoustic instruments, and master bus sweetening where you want presence without any harshness.
- **Focused excitation:** Turn up Peaking to 60–80% to concentrate harmonic generation around the Tune frequency. Combine with Null Fill at 30–50% to restore presence in the dip below the peak.
- **Wider highs:** Push EXCITER Stereo to 130–180% for a wider, more spacious top end without affecting the dry signal or bass.
- **Club / vinyl bass:** Set BASS ENHANCER Mono to All Bass to force everything below the BASS ENHANCER Tune frequency to the center of the stereo image. Essential for dancefloor systems and vinyl cuts where wide stereo bass causes tracking problems.

- **Tonal rebalancing:** Use Out Low and Out High to rebalance your processed signal. Because the shelves auto-tune to your BASS ENHANCER and EXCITER Tune knobs, they always work exactly where your processing is happening.
- **Parallel processing:** Set Mix to 30–50% and push both processors harder than you normally would. The dry signal preserves your transients while the wet signal adds body and sheen. Works especially well on mix buses and drum groups.
- **Narrowband targeting:** Enable Peaking on either section to tighten the sidechain filter. Use Solo to hear exactly what the sidechain is generating while you dial in Tune, Peaking, and Null Fill. Turn Solo off when done.
- **Subsonic cleanup:** Set HPF to 30–40 Hz for gentle rumble removal on mix buses, or 60–80 Hz for tighter bass on non-bass tracks. This ensures BASS ENHANCER processes real musical content rather than subsonic noise.
- **Phase correction:** Switch on SPR to restore clarity and tighten the low end on heavily processed or overdubbed material. The effect is subtle but adds coherence and perceived bass energy without any level change. Works independently of both processors — try it with everything else turned off first to hear the difference.
- **Alternative bass character:** Toggle BASS ENHANCER Phase on to flip the sidechain polarity for a completely different bass enhancement character. The effect is dramatic - you may need to readjust Drive and Amount to taste. Try both settings and pick whichever suits the material better.
- **Consistent bass on varying material:** Switch on BASS ENHANCER AutoTrace when working with full mixes or live recordings where the bass level varies. The processor adapts automatically so the enhancement stays even across quiet and loud passages, without having to ride the Drive control.
- **Denser harmonics:** Switch EXCITER Density to High for a hotter, more consistent harmonic character. Quiet signals get more excitement while peaks are controlled. Useful when you want the exciter to work harder across a wider dynamic range, or when high Harmonics settings cause clipping in Normal mode.
- **Best quality:** Set Quality to Ultra (4x) for final mixes. The extra oversampling cleans up the harmonic generation and gives you the most transparent result.

Support

For technical support, updates, and additional information:

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