

SUPERBASS

Per-note analysis for monophonic EDM bass — and **automatic** sub, harmonics, EQ and compression that make every note translate on any system

User Guide · for v0.33 · CLAP / VST3 / AU

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1 WHAT SUPERBASS DOES

On the same bass line, some notes come out loud and full while others sound thin — and the gap gets worse as the playback system changes, from club PA to earbuds to a phone speaker. SuperBass analyses the incoming bass **note by note**, shows you which notes lack sub energy and which are perceptually too loud, and evens out those differences across six processing axes.

in — analysis (pitch·energy) → **SUB** (always first) → **HARM · SAT · EQ · WIDE · COMP** (reorderable) → out
the **generated sub** is always drawn in cyan on screen

AXIS	ROLE	WHO SETS THE DEPTH
SUB	Fills missing sub energy at the detected pitch (continuous 0 / -1 octave crossfade)	Automatic — one proportional knob
HARM	Adds precise 2nd/3rd harmonics so notes stay audible on small speakers. Never stacks on harmonics the source already has	Automatic (perceptual) — Natural/Normal modes
SAT	Harmonic <i>character</i> — true waveshaping, five types	You (character axis)
EQ	Trims perceptually excessive notes with a note-tracking shelf	Automatic — learned from a capture
COMP	Evens out the remaining note-to-note spread, in parallel. Level matching built in — turning it on does not change overall loudness	Automatic — Fill/Level modes
WIDE	Stereo width for the mid band only (above the sub). Mathematically no effect on the mono sum	You (character axis)

One philosophy throughout — **measurement decides *how much*; you only decide *what character***. That is why each uniformity axis (SUB · HARM · EQ · COMP) has exactly one knob.

2 INSTALLATION & ACTIVATION

Install locations

FORMAT	MACOS
CLAP	/Library/Audio/Plug-Ins/CLAP
VST3	/Library/Audio/Plug-Ins/VST3
AU	/Library/Audio/Plug-Ins/Components

The installer lets you pick only the formats you need. If the plugin doesn't show up afterwards, run a plugin **rescan** in your DAW. The version shown in the top bar tells you which build is actually loaded.

Activation

On first launch, enter your **email and license key** in the activation screen. Activation is needed once; after that SuperBass **works fully offline** — planes, guest studios, air-gapped machines. While online it renews itself silently in the background; there is nothing to manage. Seats (machines) are managed in the web dashboard.

3 QUICK START — THREE MINUTES

- 1 Insert on your bass track**
Use it on monophonic bass (sub bass, bassline synths). Chords are not what it analyses.
- 2 Play, and watch MONITOR**
Just play — the per-note heatmap and spectrum fill in. **AUTO REC** is on by default, so measurement data accumulates while the transport runs.
- 3 Capture a representative section**
Pick a part where the bass covers its range: **Record New** → play → **Stop & Analyze**. When analysis succeeds it is **applied automatically**.
- 4 Turn on axes in the top bar**
Start with **SUB ON**, then add HARM · EQ · COMP as needed. A/B freely — COMP is level-matched, so the comparison is honest.
- 5 Shape the character (optional)**
In the SETUP tab: SAT type, WIDE width, HARM attack/sustain — to taste.

4 THE TOP BAR — VISIBLE FROM EVERY TAB

CONTROL	WHAT IT DOES
SUBHARMEQSATCOMPWIDE	Global on/off for the six axes. An ● LED lights when active, and a disabled axis greys out its controls in SETUP. With every axis off, the input passes through bit-exact — nothing changes behind your back.
COMP lift readout	The COMP button shows the current fill amount in real time.
OUTPUT	Final output gain (−24 ... +12 dB). 0 dB is true unity.
CLIP	Lights as a white block for 1.5 s when the output clips.
BYPASS	Full bypass.

5 THE MONITOR TAB — OBSERVE AND MEASURE

An analysis view that **never touches the audio**. Switching tabs, or resetting anything here, has no effect on the sound.

Spectrum

Grey = input, white = output, cyan area = the sub being generated right now. The

POST

 toggle overlays or hides the processed spectrum. The dashed vertical line marks the detected fundamental; the translucent band is the target sub range.

Per-note map

Every played note stacks into two rows — the top row (Source) is how strong the note is in your source, the bottom row (Reproduce) is **how it will reproduce on the current playback profile**. Categories are told apart by brightness and pattern, not colour:

MARKING	MEANING
Solid (brightest)	Too Low — the system can't reproduce it directly. HARM's target
Dots	Can be supported by synthesizing one octave down
Outline	Reproduces directly — stable
Dashed outline	Not observed enough yet

The profile (Low/Slope/Sub top) describes your target playback system — zone decisions and sub generation follow it, so a club-PA profile and a small-monitor profile

behave differently. The chart below shows each note's median energy and its spread (whiskers), in dB or in **sone** (how loud it actually sounds to the ear).

Last-8-notes waveform strip

Each detected note drops a waveform into the strip. **All eight cells share one scale**, with the session-median baseline running across them — so "is it even?" is read not by comparing sizes but by checking that **every waveform touches the same line**. Each cell is labelled with note name, peak dB and sone.

CONTROL	WHAT IT DOES
×1 / ×2 / ×3	Vertical contrast — at ×3, a 1 dB difference reads like 3 dB. For fine unevenness
HOLD	Freezes the strip. It also auto-holds on silence and releases on the next note
POST	Overlays the processed waveform — see the correction shrink the spread

TIP

If the waveforms look even but the sone numbers jump around — your source is physically even but *perceptually* uneven. That is exactly what this plugin corrects.

6 THE CAPTURE WORKFLOW

The capture area at the bottom of MONITOR is the heart of the plugin. One measurement drives four things at once: **SUB's level reference, the envelope template, HARM's correction curve, and EQ's cut curve**. SUB and COMP work automatically without a capture — but the per-note precision correction wakes up only with one.

BUTTON	WHAT IT DOES
Record New	Start a new measurement. Hit play and let it hear a section that covers the bass range (up to 180 s; append more sections with Add)
Stop & Analyze	Runs the analysis. On success it is applied automatically — no separate Apply needed
AUTO REC	On by default — while the transport runs and signal is present, measurement data accumulates on its own. Auto-collected data is applied only when you explicitly adopt it ; the sound never changes behind your back
Target	Uniformity target — <i>Median of performance or Highest note</i>
Apply	Toggles the applied state. Turn it off to fall back to automatic levels — always reversible
Export / Import	Save/load measurements as files — reuse them across songs that share a bass patch, or share with your team
Reset Capture	Deletes the measurement (click twice within 3 s, to prevent accidents)

Analysis results (per-note statistics and correction curves) are saved with your project.

The capture *audio* is not — use Export if you want to reuse it.

7 THE SETUP TAB — CHAIN AND SECTIONS

CHAIN — processing order

SUB is always first (fixed by design, to protect the phase alignment of the generated sub). The other modules can be reordered with **◀ ▶**; sound flows left to right on screen. Reordering applies with a short fade — no clicks. Disabled modules appear dimmed in the chain.

SUB

CONTROL	WHAT IT DOES
SUB (knob)	Proportional scale for the generated sub (0–150 %). Its level and envelope are automatic
OCTAVE	<i>Auto</i> (continuous 0/–1 octave crossfade by pitch) / 0 / –1 fixed
PHASE	Phase relation between the generated sub and the source (0–360°). If some notes get thin, sweep this

HARM — corrective harmonics

CONTROL	WHAT IT DOES
HARM (knob)	Proportional depth. How much each note needs is decided perceptually
MODE	<i>Natural</i> (default) — a harmonic layer on every note, deeper where notes fall short. Consistent timbre. <i>Normal</i> — only on deficient notes (corrective only; the legacy behaviour)
ATTACK	How fast harmonics bloom at the onset — short means harmonics land right on the transient; long lets the natural attack pass untouched
SUSTAIN	How long harmonics hold against the source's decay — lower it and they die away sooner than the note, sitting naturally inside it

HARM **never stacks on harmonics the source already has** — it reads the spectrum and fills only what is missing, so there is no beating from doubled-up partials.

SAT — character saturation

CONTROL	WHAT IT DOES
TYPE	Classic / Tube (even harmonics, soft) / Tape / Transistor (odd harmonics, firm) / Fuzz
SAT (knob)	Drive — how hard the curve bends
LO / HI	The shaped band. Below the low bound the sub always passes clean

The display shows the transfer curve and the harmonic profile it generates; the shaped band appears as a region on the spectrum. Where HARM is surgical, SAT is a true nonlinearity — its harmonics derive from the source waveform itself, which is where the "glued" feel comes from.

EQ — note-tracking cut

One knob (**EQ**) sets only the depth. Which note gets cut, and by how much, comes from the learned curve — and it works as a shelf above the sub band only, so the low end never gets thin. The display shows the cut curve with a frequency axis, a corner marker that moves with the current note, and pre/post spectra. **Until a capture is applied, EQ does nothing even when enabled** — the status line tells you why.

COMP — parallel auto compressor

CONTROL	WHAT IT DOES
COMP (knob)	Compression depth (0–150 %)
MODE	<i>Fill</i> (default) — lifts only the quiet notes up to the program floor. Your attacks are never touched. <i>Level</i> — two-way: also presses notes that poke above the floor, for stronger levelling

Threshold, ratio and release are derived from the program automatically and shown in the status line. **Level matching is built in:** on or off, the overall loudness stays the same — you compare uniformity, not the louder-sounds-better illusion. The detector is perceptually weighted, so heavy sub content doesn't pump it.

WIDE — mid-band stereo width

CONTROL	WHAT IT DOES
WIDE (knob)	Width
MODE	Chorus (slow, deep) / Ensemble (multi-voice) / Dimension (subtlest and safest)
RATE / DEPTH	Modulation speed and depth
LOW	Lower bound of widening — it cannot go below the sub band
MONO	Hold to hear the mono fold-down — a club-PA preview

WIDE processes the Side signal only, so the **mono sum is mathematically unchanged**. The classic widener accident — bass vanishing on a club PA or a phone — structurally cannot happen. The trade-off: in mono the effect itself disappears. That is not a bug; it is the price of that safety.

8 READING THE DISPLAY — COLOURS AND STATES

MARKING	MEANING
Grey line	Input (before processing)
White line	Output (after processing)
Cyan	What the plugin is generating — the sub region, the on-LEDs. Cyan on screen means "being created right now"
Long-dashed line	Subtraction (EQ cut) — something removed, not added
Inverted white block	Warnings (CLIP, Bypass ON)
Greyed-out section	That axis is off — enable it in the top bar

Whenever a display has nothing to show, it says **why, and what to do next**, right where the graph would be. An empty view is never a malfunction.

I turned EQ on and nothing happens

EQ only works from a learned curve. Make and apply a capture (§6) and it comes alive — if the status line says **EQ on, no capture applied**, that's the state you're in.

COMP doesn't change the loudness — is that right?

Yes — that's the built-in level matching. It keeps the loudness and reduces only the note-to-note *spread*. Watch the waveform strip (at ×3 contrast) to see the spread shrink.

HARM changes timbre from note to note

Keep **MODE** on *Natural* (the default). Normal adds harmonics only to deficient notes — corrective, but the character can flicker between notes. If the harmonics feel detached from the source, lower **SUSTAIN** so they decay sooner than the note.

Some notes suddenly lose low end

Likely phase cancellation between the generated sub and the source. Sweep **PHASE** in the SUB section, and enable COMP to fill the residual dips.

The plugin doesn't appear in my DAW

Run a plugin rescan. If an earlier install failed, the DAW may have cached the failure — clear it from the failed-plugins list and rescan.

What happens in mono?

Sub, harmonics, EQ and COMP are fully mono-compatible. WIDE's effect disappears in the mono sum, but no low end is lost (§7 WIDE). When in doubt, hold **MONO** and listen.

Can I reuse a measurement in another song?

If the bass patch and the playback target are the same, a measurement outlives the song. **Export** it, then **Import** in the other project.

