SMILE BUS 3000

Character Bus Compressor and EQ // Emetic DSP

Overview

The Smile Bus 3000 is a character bus compressor, tone shaper and movement processor designed for tracks, groups and full mixes. Its architecture combines three distinct analogue-inspired compression models, model-aware automatic input staging, proprietary Groove Hold movement control, Smart Audition Match, a musical Smile EQ and calibrated Presence contours, Low Focus stereo-bass control, internal or externally keyed sidechain operation, wet/dry Mix, clear scrolling and phrase-level displays.

Rather than behaving like a transparent utility compressor, the Smile Bus 3000 is designed as a connected compression system. Each Type has its own dynamic response, detector movement, harmonic behaviour, drive response, and calibration personality.

The interface is intentionally compact, while the DSP underneath handles the more sophisticated work: model-specific attack, release, knee and ratio behaviour, restrained host-tempo guidance, adaptive internal oversampling, dynamic Drive and bass-safe gain staging.

System Requirements

Windows

Windows 10 or Windows 11. A DAW that supports VST3 plugins.

macOS

macOS 11 or later. VST3 and Audio Unit (AUv2) versions are included. Compatible with both Apple silicon and Intel Macs.

Installation

Windows VST3

Extract the download and copy the complete Smile Bus 3000.vst3 folder to:

C:\Program Files\Common Files\VST3

macOS

Open the Smile Bus 3000 .pkg file and follow the installer steps. It installs both the VST3 and Audio Unit (AUv2) versions in the standard macOS plugin folders.

Close your DAW before installing or removing the plugin. Reopen it and rescan plugins if required.

Trial, Licence & Activation

A 14-day trial starts automatically the first time you open the plugin window. No licence key or internet connection is needed during the trial, and all controls and processing are available. After 14 days, the plugin continues to work but silences the audio for 3 seconds every 60 seconds until it is activated.

To activate, open the information panel, choose Licence & Activation, paste your licence key and click ACTIVATE. An internet connection is required for activation. The duo bundle licence unlocks Smile Bus 3000 and Parametic on the same computer. After activating one plugin, open the other and click REFRESH LICENCE so it updates. If "Unable to connect to activation server." appears, check your internet connection and try REFRESH LICENCE again.

Click DEACTIVATE before moving the licence to another computer.

Figure 1

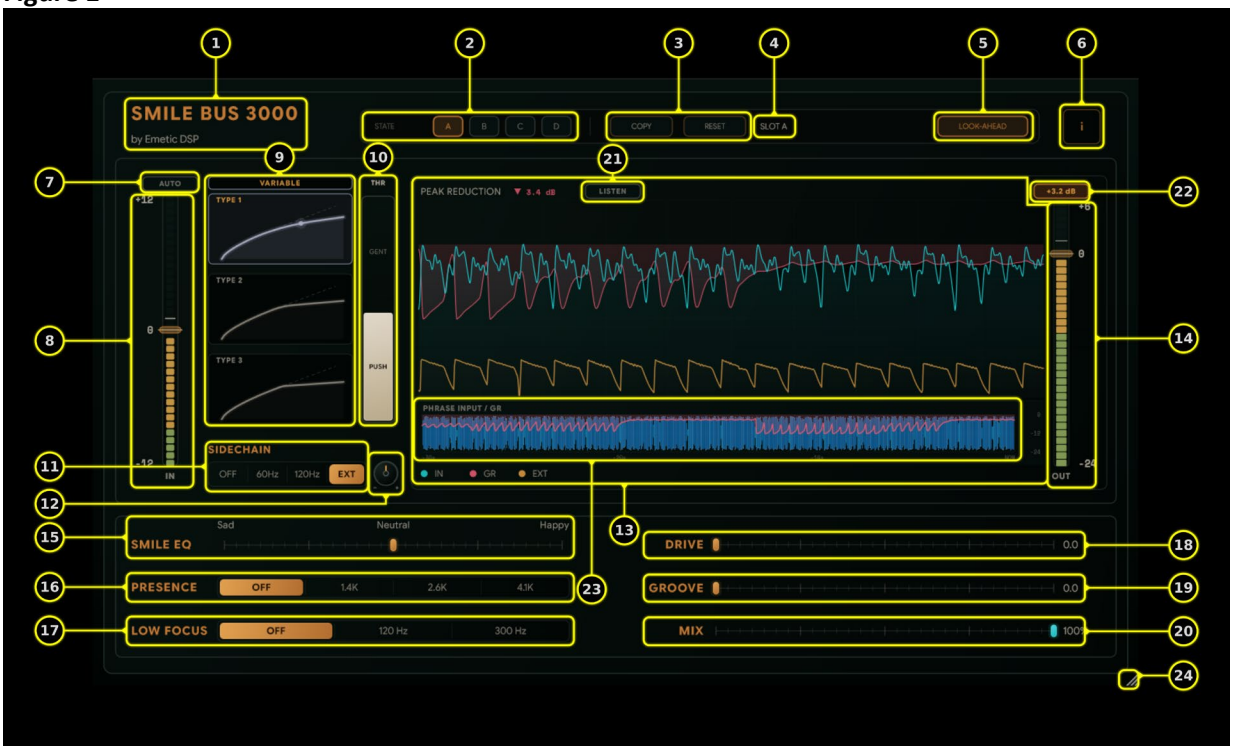


Figure 1 shows the main Smile Bus 3000 interface.

Control Layout

1. **Plugin Name / Bypass** – clicking SMILE BUS 3000 toggles plugin bypass.
2. **A / B / C / D State Slots** – instant store and recall slots for comparing complete plugin setups.
3. **Copy / Reset Controls** – copies the current setup to another slot or returns the active slot to its defaults after confirmation.
4. **Slot Name Display** – identifies the currently active state slot.

5. **Look-ahead Button** – switches between the lowest-latency Live mode and Look-ahead mode.
6. **Info Button** – displays plugin information, licence controls, website and manual links, and the plugin version.
7. **AUTO Input Button** – enables model-aware automatic input staging. When active, it displays the currently applied automatic input correction in dB.
8. **Input Meter / Audio Input Trim** – shows the staged programme level entering the compressor. Drag the handle to apply ±12 dB of manual input trim; double-click to reset it to 0 dB.
9. **Type Selector** – selects one of the three compression characters: Type 1 (Variable), Type 2 (Stress), or Type 3 (Punk Pump). The selected tile displays the model's knee curve and measured operating point.
10. **Gentle / Push Threshold Switch** – selects the model's operating window. Gentle is smoother and bus-friendly; Push digs in harder for tracks, drums and stronger compression.
11. **Sidechain Selector** – selects Off, 60 Hz, 120 Hz, or EXT detector operation.
12. **EXT Trim** – applies a continuous ±6 dB manual offset to the external sidechain detector. It is available only when EXT is selected.
13. **Scrolling Graph** – buffer-independent fixed-scale display showing staged input level, gain-reduction movement and external sidechain detector activity.
14. **Output Meter / Trim** – shows the fixed +6 dB to −24 dB output scale and includes the Output Trim handle for final level adjustment. Double-clicking the handle resets it to 0 dB.
15. **Smile EQ Slider** – moves from Sad through Neutral to Happy, applying a musical tonal curve to the processed path.
16. **Presence Selector** – provides three calibrated push-pull EQ contours at tuned frequencies.
17. **Low Focus Selector** – progressively narrows low-frequency stereo information in the processed signal at 120 Hz or 300 Hz, or leaves it unchanged when Off.
18. **Drive Slider** – pushes the selected compression model harder, increasing model-specific character and harmonic behaviour.
19. **Groove Hold Slider** – preserves rhythmic movement while the compressor works harder, using model-aware control-voltage shaping and tempo-guided movement.
20. **Mix Slider** – blends between the untouched dry signal and processed wet signal for latency-aligned parallel compression.
21. **Listen Button** – auditions only the signal removed by the compressor gain cell.
22. **Match Control** – toggles Smart Audition Match. When enabled, it displays the applied wet-path compensation in dB; when disabled, it reads MATCH while analysis continues in the background.
23. **Phrase Graph** – shows approximately 30 seconds of incoming programme activity and phrase-level gain-reduction movement.
24. **Resize Handle** – resizes the scalable plugin interface.

Main Controls

Smile Bus 3000 is built around a small number of musical controls:

- Input Trim / Auto
- Compression Model Type
- Gentle / Push Threshold Mode
- Sidechain
- Smile EQ / Presence / Low Focus

- Drive
- Groove
- Listen
- Output Trim / Match
- Look-ahead
- Mix

The intention is that each control makes a meaningful musical difference without forcing the user into technical setup. The compressor models contain their own internally tuned ratios, knees, release behaviour, detector shaping, Groove Hold response, harmonic behaviour, and gain calibration.
The result is a processor that lets the user choose a compression attitude rather than having to adjust numerous controls.

Smile EQ, Drive, Groove and Mix are adjusted by dragging their handles. Double-clicking a handle restores its default value: Smile EQ to Neutral, Drive to 0.0, Groove to 0.0, and Mix to 100%.

Scrolling Level / Peak Reduction Graph

The scrolling graph shows a fixed-scale visual history of level and gain-reduction behaviour. It is not intended to be a forensic analyser. Fixed-time DSP measurements keep the display consistent at different DAW buffer sizes, and the active knee tile uses the same measured compressor data.
The graph uses a fixed +6 dB to -24 dB range and shows input level, final audible gain-reduction movement, high peak-reduction markers, and post-filter external sidechain activity when present. The numeric Peak Reduction and MATCH values are intentionally stabilised for readability while the graph itself continues to receive the full meter stream.

Phrase Graph

The Phrase Input / GR graph provides a longer-term view of how the incoming audio and the compressor's gain-reduction movement relate across a musical phrase. It displays approximately 30 seconds of rolling history as a waveform and spectral information rather than only as short-term meter activity and is designed as a musical overview rather than a precision spectrum analyser.
The centred waveform represents the incoming signal before compression. Deep blue indicates stronger low-frequency weight, richer blue and cyan indicate increasing low-mid, midrange and presence energy, and pale cyan or white highlights indicate clearly audible upper-frequency detail. Brief high-frequency events such as hi-hats, cymbals and sharp attacks receive additional highlighted definition, while the underlying waveform colour continues to represent the wider spectral content of the signal.
The red line shows phrase-level gain reduction on the fixed 0 to -24 dB scale. Because the waveform and gain-reduction history share the same timeline, the display makes it easier to see which parts of the incoming phrase are causing the compressor to react and how consistently the selected Type, threshold mode, Sidechain setting and Groove Hold amount are controlling the material.

A / B / C / D Recall

Smile Bus 3000 includes four internal comparison slots: A, B, C and D. These are designed for fast in-session comparison between different compressor setups. Use them to compare different Types, Gentle/Push choices, Groove Hold amounts, Drive amounts, Look-ahead on/off, Sidechain settings,

Smile EQ positions, Presence focus, Low Focus settings, MATCH on/off, Mix amounts, and Output Trim level-matching.

The active slot auto-saves after edits; the small indicator dot shows when the current slot has been modified and is waiting to save.

The Copy command arms the current state for storage. After pressing Copy, select A, B, C or D to copy the current settings into that slot. Selecting a saved slot recalls its stored settings. Reset requires confirmation and returns the current plugin parameters to default values.

Scalable Interface

The Smile Bus 3000 has a scalable high-resolution vector interface. The GUI can be resized from compact to larger display sizes while preserving the same layout and aspect ratio with a drag of the handle. The chosen size is restored when the plugin window is reopened.

Input Trim

Input Trim applies real gain before the compressor and the selected model's character stages. It therefore changes how strongly the signal drives the compressor rather than simply altering the final output level.
The manual range is −12 dB to +12 dB, with 0 dB as the neutral position.
Positive settings drive the selected model harder. Negative settings reduce the operating level before compression. The Input meter displays the resulting signal level after both manual Input Trim and any active AUTO Input correction.
With Input Trim at 0 dB and AUTO switched off, the established Smile Bus 3000 processing level remains unchanged.

Auto Input

AUTO automatically places the incoming programme near the preferred operating level of the selected compressor Type, or "sweet spot".
Unlike a conventional output auto-gain control, AUTO applies real, smoothly changing gain before compression. It analyses the untouched pre-trim input and uses separate model-specific operating targets so that each model Type is driven in the most characterful way:

- Type 1 — Variable: gentler operating level for smooth bus compression and glue.
- Type 2 — Stress: stronger transient-driven operation for punch and character.
- Type 3 — Punk Pump: the strongest operating level for more obvious movement and pumping.

AUTO has a wider internal correction range than the manual ±12 dB Input Trim. The manual control remains available as the engineer's deliberate offset.

Type Selector

The Type selector chooses the main compression model. The three Types are voiced as recognisable analogue-inspired archetypes rather than cosmetic variations of the same compressor. Each tile uses the same buffer-independent metering data as the scrolling graph to show the measured operating point against the model's knee curve. Release behaviour remains programme-dependent but is also gently guided by host tempo; it is never hard beat-synchronised.

Type 1 – Variable

Type 1 is the smooth, vari-mu model. It is voiced for mix-bus glue, mastering-style cohesion, vocal buses, synth buses, and any situation where you want to add depth and polish.

Its response uses a broad soft-knee behaviour, smooth feedback-style movement, programme-dependent recovery, and subtle tube/transformer-style rounding. At Drive 0, Type 1 already has a small analogue character floor, so it does not feel sterile. Increasing Drive adds density and soft harmonic weight while keeping the model refined.

Use Type 1 when you want 'expensive' bus compression, smooth glue, weight, natural recovery, depth without obvious distortion, and compression that feels controlled rather than excited.

Type 2 – Stress

Type 2 is the punchy workhorse model. It is designed for drums, bass, leads, parallel buses and modern production compression where the compressor should grab with authority.

Type 2 uses a more assertive detector profile, stronger transient attitude, detector presence emphasis, and model-specific harmonic movement. At Drive 0, Type 2 is the cleanest of the three colour paths, retaining its confident detector and transient behaviour without added Drive saturation. Increasing Drive adds extra harmonic bite and aggression.

Use Type 2 when you want that smack, drum-bus control, modern attitude, transient confidence, and a more aggressive harmonic response when driven.

Type 3 - Punk Pump

Type 3 is the dirty pump model. It is voiced for raw VCA-style movement, French-house-style bus pumping, obvious gain-reduction character, and gritty glue.

The current design uses a full-band, bass-safe drive concept so the bass participates in the grit and movement rather than being left behind. Type 3 feels dirty and physical, not thin or fizzy. At Drive 0, Type 3 still has a subtle VCA character floor; increasing Drive adds more rawness and pump energy.

Use Type 3 when you want raw bus movement, obvious compression character, gritty glue, sidechain-driven bounce, and that analogue compressor attitude.

Gentle / Push Threshold Mode

The THR switch selects a different operating window without changing the selected compression Type. Threshold is the main change, with model-specific knee, ratio and range adjustments where required to preserve the intended character.
Gentle is the recommended bus-compression setting. It keeps gain reduction smoother and more conservative for mix buses, groups and mastering-style use. Push lowers the operating point, so the compressor digs in harder for tracks, drums, parallel compression, and more obvious character.
Use Gentle when you want polish and cohesion. Use Push when the source needs stronger control.

Sidechain

The Sidechain selector controls how the detector listens to the signal. Sidechain settings affect detector behaviour only; they are not intended as audible filters on the main signal. The 60 Hz and 120 Hz settings are calibrated as musical detector tilts rather than hard detector mutes, so compression remains available while low-frequency over-triggering is reduced.

Off

The compressor listens to the internal full-range signal. This is the most direct setting and is useful when you want the compressor to respond naturally to the whole source.

60 Hz

The detector is tilted so very low sub-energy has less control over the compression. This can help retain low-end weight while still allowing kick and bass movement to influence the compressor.

120 Hz

The detector is tilted more strongly, reducing the influence of low-frequency material further while still allowing the body of the signal to be affected. This can make compression feel more stable on bass-heavy mixes, drum buses, and club-oriented material.

EXT

EXT uses the external sidechain input where the host provides one. This allows another signal, such as a kick drum, trigger pulse, or rhythm element, to drive the compressor movement. Type 3 is especially suited to EXT sidechain use for obvious pump and bounce effects.

The EXT Trim knob beside the Sidechain selector provides continuous external-sidechain adjustment from -6 dB to +6 dB to increase or reduce detector sensitivity. Double-clicking resets it to 0 dB. The manual EXT Trim is applied after any automatic calibration, so it remains a genuine engineer-controlled offset and is not cancelled by AUTO.

Smile EQ, Presence and Low Focus

Smile EQ

Smile EQ is a musical tone-shaping control built around three emotional positions: Sad, Neutral, and Happy.

At Neutral, the Smile EQ curve is inactive. Moving towards Happy adds low and top-end lift plus a slight broad mid dip to create a more open, energetic and smile-shaped EQ curve. The Side channel receives a slightly stronger high-frequency lift than the Mid channel, subtly opening the upper stereo image. Moving towards Sad reduces the brighter and larger smile shape while adding a small warmth bell around the low-mid area. The Sad side is not just a dulling filter. It is intended to make the signal feel warmer, softer and more intimate without simply removing top and bottom.

Presence

Presence adds a calibrated push-pull midrange contour to the processed wet path after compression and model colour. Available settings are Off, 1.4 kHz, 2.6 kHz, and 4.1 kHz.
The Presence control is useful for bringing out body, projection, attack, vocal focus, synth definition, or percussion edge. The complete contour peaks at approximately +1.5 dB and includes a tuned supporting dip of roughly -0.7 dB below the selected area, helping the result feel more controlled than a simple harsh peak.

Low Focus

Low Focus progressively narrows low-frequency stereo information in the processed wet signal by filtering the Side channel only. Available settings are Off, 120 Hz, and 300 Hz. The default is Off.
Low Focus does not hard-sum everything below the selected frequency to mono and does not alter centred Mid information. The 120 Hz setting is the more restrained bus and mastering option; 300 Hz produces a stronger, more obvious tightening effect.

At lower Mix values, the dry path reintroduces more of the original stereo bass. Sources that are already mono or centrally focused may show little change, which is the intended behaviour.

Drive

Drive pushes the selected compressor model harder. It is not a generic saturation knob. Each Type responds differently:

- **Type 1** becomes denser and more polished.
- **Type 2** becomes more assertive, punchy and harmonically aggressive.
- **Type 3** becomes dirtier, more physical, and more pump-driven.

Type 1 and Type 3 retain subtle analogue character at Drive 0. Type 2 is intentionally the cleanest zero-Drive colour path while retaining its assertive detector and transient behaviour. Drive should be thought of as pushing the chosen circuit further, not as applying one generic saturation curve.

Higher Drive settings may increase perceived loudness, density, harmonics and gain-reduction behaviour depending on the model and source material.

Groove Hold

Groove Hold is a proprietary movement-control system designed to preserve rhythmic bounce while the compressor works harder. It listens to programme movement, gain-reduction recovery and host tempo information, then subtly shapes the compressor 'control voltage' so the groove keeps its motion instead of being flattened.

Groove Hold is model-aware: Type 1 uses it for smoother, more subtle movement; Type 2 uses it to help preserve punch and smack; Type 3 uses it to retain the model's playfulness, especially with EXT sidechain triggering.

Groove Hold is BPM-guided, not hard beat-synced, for a more natural feel. It works inside the wet/control path before Mix, so the dry path stays untouched for parallel blending.

Output Trim

Output Trim controls the final output level from -24 dB to +6 dB.
Use Output Trim for final manual level staging after the internal Smart Audition Match has done its work. Compression and harmonic processing can sound better simply because the signal is louder, so careful level matching is still recommended when making final decisions.

Listen

LISTEN auditions the signal removed by the compressor gain cell. It follows the final attack and release envelope, making it useful for hearing what the compression is taking away.
LISTEN is not a complete wet/dry delta. Drive colour, Smile EQ, Presence, Low Focus, Smart Audition Match, Mix, and Output Trim are excluded from the audition, to allow gain reduction to be the focus.

Smart Audition Match

Smart Audition Match compares the complete processed wet path against the dry audio before Mix, helping level comparisons remain more honest. This includes the combined level effect of compression, model colour, Drive, Smile EQ, Presence and Low Focus rather than simply matching the displayed gain reduction.

MATCH is enabled by default. When enabled, the compact control above the Output meter displays the currently applied compensation in dB. Clicking the control disables the compensation and changes its label to MATCH.

Analysis continues in the background while MATCH is disabled and while Mix is set to 0%, so re-enabling MATCH or raising Mix does not require the system to begin measuring again from zero.
Smart Audition Match learns separate compensation states for each Type, Sidechain setting, Gentle/Push mode, and Live/Look-ahead combination. Returning to a previously learned combination recalls its recent compensation smoothly while continuing to refine the measurement from the current audio.

Smart Audition Match reduces loudness bias but cannot guarantee exact perceptual equality for every signal, particularly where compression, saturation or tonal processing significantly changes the crest factor or frequency balance. Output Trim therefore remains available for final gain staging and deliberate level choices.

Look-ahead and Mix

Look-ahead

Look-ahead switches the compressor into a more anticipatory response mode. The three Types respond differently in Look-ahead: Type 1 becomes smoother and more controlled, Type 2 keeps punch while improving transient control, and Type 3 becomes more deliberate and tightly controlled while retaining its rhythmic pump. Groove Hold is look-ahead-aware, using the preview to shape movement smoothly rather than simply clamping harder.

Look-ahead is not always better. For the most immediate and lowest-latency response, leave it off. For more controlled bus compression or more precise sidechain movement, turn it on.

Mix

Mix blends between the dry and processed signal. At 100%, the full processed signal is heard. At lower values, the latency-aligned dry signal is blended back in for parallel compression. This is useful for heavy drum-bus compression with retained transient detail, parallel pump effects, blending Type 3 dirt underneath a cleaner signal, using stronger Drive settings without overwhelming the source, and adding weight and movement while keeping clarity.

Processing Quality and Latency

Smile Bus 3000 uses adaptive internal oversampling: 4x at 44.1 and 48 kHz, 2x at 88.2 and 96 kHz, and 1x above 100 kHz. This keeps the model colour and nonlinear processing consistent without wasting unnecessary CPU at higher host sample rates.

Live mode reports only the small conversion latency required by the processing path; about 0.1ms. Look-ahead mode uses a fixed total latency of approximately 9.3ms; the exact sample count varies with the host sample rate.

Gain Staging Notes

Smile Bus 3000 is a character compressor. Its models include compression, harmonic response, tone shaping, Drive behaviour, and output trimming. This means perceived loudness can change as part of normal operation.
For reliable comparison:

1. Choose the Type first.
2. Choose Gentle or Push for the required compression depth.
3. Set Sidechain and Look-ahead behaviour.
4. Adjust Drive for the desired model character.
5. Set Groove Hold for the desired movement and energy.
6. Shape the tone with Smile EQ and Presence.
7. Choose Low Focus if the low-frequency stereo image needs tightening.
8. Use Mix for parallel blending if needed.
9. Use LISTEN to hear what the compressor gain cell is removing.
10. Compare MATCH on and off, then use Output Trim for final level staging.

A louder setting is not always a better setting.

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