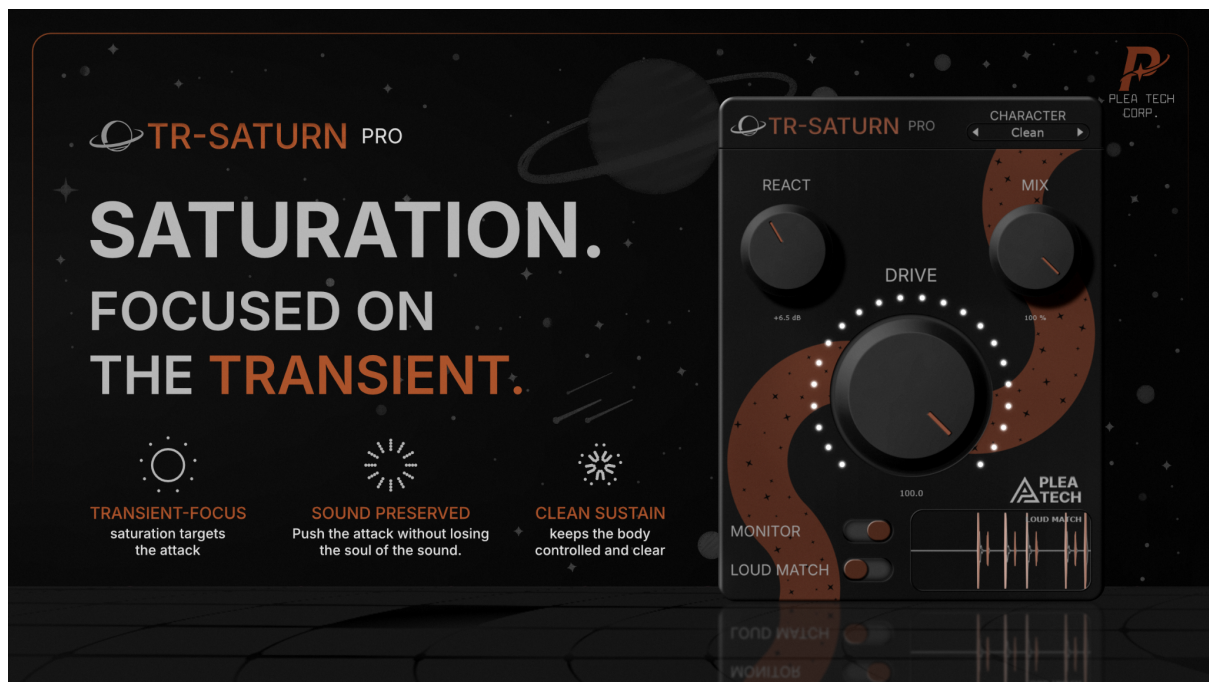


TR-SATURN: FIELD GUIDE & PRACTICAL MANUAL

Let's be honest. You probably slapped this on a drum bus, cranked the big knob to 75, thought "damn that's loud," and then opened this PDF because you wondered why your snare suddenly sounds like a sledgehammer hitting drywall.

Welcome.



TR-SATURN is a transient-isolated saturator. It is not an emulation of a rare 1969 broadcast console found in a Bavarian basement. It does not have artificial tape hiss or a fake vacuum tube glow rendered in OpenGL. It exists because normal saturation plugins destroy drum attacks, and standard transient shapers cannot add dirt.

Here is what it does, how to use it without ruining your mix, and the two completely different ways you can set it up depending on how your brain works.

WHAT IT ACTUALLY DOES TO YOUR SOUND

When you slam a drum track into a normal saturator, the initial transient spike is the loudest thing in the signal. That spike hits the distortion ceiling first, gets flattened into a pancake, and loses its punch. You get nice fuzzy warmth, but your snare drum loses its crack and sinks backward into the mix.

TR-SATURN splits the incoming sound into two separate paths:

1. **The Transient Path:** Just the immediate crack, smack, and pick attack.

2. **The Sustain Path:** The body, room ring, reverb tail, and low-end tone.

It takes the transient and drives it into custom saturation curves to give the hit weight, grit, and snap. It leaves the sustain body completely clean, applying only a gentle EQ tilt so the room sound never pumps or distorts. Then it sums them back together through an oversampled linear-phase pipeline o.O.

If you leave the drive at zero, it passes audio through with zero phase smear. It cancels against the dry signal down past -120 dB.

THE TWO WAYS TO USE THIS (CHOOSE YOUR RELIGION)

There are two distinct workflows for dialing in **TR-SATURN**. Neither one is wrong. One is fast, the other is surgical.

WORKFLOW A: The Direct Sculptor (**Monitor OFF**)

Input → Detect → Saturate Attack + Tilt Body → Mix at 100%

WORKFLOW B: The Parallel Transient Harvester (**Monitor ON + Blend**)

Input → Solo Transients Only → Hard Saturation → Blend with Mix Knob

APPROACH 1: THE DIRECT SCULPTOR (MONITOR OFF)

This is the standard set-it-and-forget-it approach. You put the plugin as an insert on your drum bus, snare track, or synth bass.

1. Leave MONITOR turned OFF.
2. Set MIX to 100%.
3. Turn on LOUDNESS MATCH so volume jumps do not fool your ears.
4. Turn up DRIVE to taste. The plugin will automatically saturate the hits, fatten the low end on the tails, and catch runaway peaks with an internal soft ceiling.
5. Pick your CHARACTER flavor depending on whether you want warm tape compression, dirty tube grit, or raw diode clipping.

Use this when you want your drums to sound finished, glued, and punchy in ten seconds.

APPROACH 2: THE PARALLEL TRANSIENT HARVESTER (MONITOR ON + MIX KNOB)

This is the secret weapon approach for producers who want insane transient bite without changing the fundamental tone of their original recording.

1. Turn MONITOR to ON.
2. Solo your drum track. Now you only hear isolated clicks, snaps, and drum attacks popping out of pure silence. The sustain body is completely muted.
3. Tweak REACT until you are grabbing only the exact attack edge you want. If room reverb or cymbal bleed is sputtering through, turn REACT up.

4. Set CHARACTER to Iron or Crush, and push DRIVE high. Since you are listening only to the transient slice, you can distort the absolute hell out of it without muddying the body.
5. Now, start rolling the MIX knob down from 100% toward 20% to 40%.

What happens? The plugin blends your hyper-distorted, razor-sharp transient spikes right back on top of your completely clean, unmolested dry track.

Because the dry path inside the engine is delay-compensated to the exact sample of the oversampler, there is zero comb filtering. You get the pristine low-end and natural room decay of your original recording, layered underneath an aggressive, dirty transient bite that cuts through any wall-of-sound guitar mix...

THE CONTROLS & WHAT THEY DO

DRIVE

The main throttle.

Turning this up does four things under the hood at once:

- Pushes the isolated attack deeper into the saturation curve (up to 4x input gain).
- Increases the punch level.
- Applies a linear tilt to the sustain body (adds +2 dB of weight at 200 Hz and pulls down harsh cymbal glare by -3 dB at 10 kHz).
- Engages a soft-knee hyperbolic ceiling to keep peak levels civilized.

REACT

The trigger sensitivity (+3.0 dB to +12.0 dB, default +6.0 dB).

This controls how stubborn the transient detector is before it opens the gate.

- Lower (+3 to +5 dB): Jumpier. Catches subtle acoustic guitar pick scratches, light hi-hat ticks, and vocal plosives.
- Higher (+7 to +12 dB): Selective. Completely ignores soft background details and only triggers on direct, hard hits like snare cracks and heavy kick transients.

Pro tip: Flip MONITOR on while adjusting this. It makes dialing in the trigger threshold idiot-proof.

CHARACTER

The saturation flavor.



These are custom mathematical transfer curves running on a high-speed rational approximant. They have zero DC offset and zero slope distortion at low levels.

- Clean: High-headroom soft saturation. Pure odd harmonics. Adds density and RMS thickness to the attack without changing its tone.
- Tape: Warm, dense, magnetic core compression. Rounds off the extreme top-edge spike and replaces it with thick analog thud.
- Tube: Asymmetric triode curve with heavy second-order even harmonics. Adds grease and attitude. Makes snares and claps feel wide and forward.
- Iron: Transformer core behavior with magnetic flux weighting. Gives a heavy, weighty thump to kicks, 808 plucks, and synth bass hits.
- Crush: Asymmetric diode clipper. Nasty, bright, and aggressive. If your drum hits need to cut through heavily limited bass music, pick this.

MONITOR

The truth button.

Mutes the clean sustain path and plays only the isolated, saturated transient slices. Essential for setting up your REACT threshold and critical for the Parallel Harvester workflow.



LOUDNESS MATCH

The ego check.

When engaged, an internal 300 ms RMS detector compares the wet output to the dry input and levels the volume within a ± 6 dB window.

Plugins that get louder when you turn knobs are tricking your brain into thinking they sound better. Turn this on to hear what the saturation is actually doing to your dynamic balance instead of getting seduced by raw volume.

MIX

Parallel dry/wet balance (0% to 100%).

Blends the processed wet signal with the delay-compensated dry input. Use 100% for the Direct Sculpt workflow, or back it down to 20–40% when using the Parallel Harvester workflow.

PRACTICAL PRESETS FOR COMMON PROBLEMS

1. THE SLUGGISH TRAP SNARE (NEEDS CRACK, NOT RING)

Workflow: Approach 1 (Direct Sculpt)

Drive: 60.0

React: +5.5 dB

Character: Crush

Monitor: Off
Mix: 100%

Why it works: The diode curve puts a sharp, sizzly crack on the initial rim hit while leaving the long reverb tail completely free from nasty digital distortion.

2. THE 808 THAT DISAPPEARS ON PHONE SPEAKERS

Workflow: Approach 2 (Parallel Harvester)
Monitor: On
Drive: 75.0
Character: Iron or Tube
React: +7.0 dB
Mix: Dial back to approximately 35%

Why it works: The sub-bass sine wave stays 100% clean and deep, while the initial pitch drop gets coated in second-order harmonics that translate on tiny laptop and phone speakers.

3. TAMING SPIKY, PIERCING ACOUSTIC GUITAR PICKS

Workflow: Approach 1 (Direct Sculpt)
Drive: 40.0
Character: Tape
React: +4.0 dB
Mix: 100%

Why it works: Tape saturation rounds off harsh pick clicks and turns them into warm, woody thumps without deadening the sustain of the strings.

TECHNICAL TRIVIA (IF YOU CARE)

- Latency: Fixed 3.0 ms lookahead. The detector reads the future so the saturator never chops off the first microsecond of a wavefront. Your DAW compensates for this automatically.
- Phase: 3-channel unified 2x FIR pipeline. Left audio, right audio, and the transient mask are oversampled together. No comb filtering when recombining.
- CPU: Zero memory allocations on the audio thread. Everything runs in flat SIMD-friendly arrays.
- “Is that the Spectaverb 2 artwork you used for the promo art?” Maybe. Possibly. Yes/No...

Now go make some noise.

Niels - Plea Tech.