



Andrestia Audio

Audio plugins built for engineers.

Saturation Box

Saturation Box is four analog saturators built on circuit and magnetics physics: a 12AX7 triode preamp stage, an EL84 pentode power stage, magnetic tape, and an iron-core transformer. Each is a running model of the circuit, not a curve, so it responds to how you play. Bias shifts under sustained level, the supply sags, tape compresses, iron folds the low end first.

Free. AU and VST3 for macOS 11 and later, Apple Silicon and Intel. No account, no dongle, no subscription.



Index

Page 3: At a glance

Page 4: The panel

Page 7: The four models

Page 9: Terms of Use

At a Glance

Pick a model: **TRIODE**, **PENTODE**, **TAPE**, or **XFMR**.

- Turn **DRIVE** up until it sounds right. With **AUTO GAIN** on (the default), the level stays put, so what you hear changing is the character, not the volume.
- Pull **MIX** back until the effect sits in the track.

That's the whole method. Everything else on the panel is for shaping where and how the saturation lands.

Installing

Requirements:

- macOS 11 (Big Sur) or later
- Apple Silicon or Intel (one universal installer)
- A host that loads Audio Units or VST3: Logic Pro, Ableton Live, Cubase, Reaper, Studio One, Bitwig, and others

Steps:

1. Download 'SaturationBox-0.2.0.pkg' from andrestia.com/plugins/saturation-box.
2. Open the installer. It is signed and notarized by Apple, so there is no Gatekeeper workaround.
3. It installs to the system plugin folder '/Library/Audio/Plug-Ins/Components/Saturation Box.component' '/Library/Audio/Plug-Ins/VST3/Saturation Box.vst3'
4. Restart your DAW, or rescan plugins. In Logic: Preferences > Plug-in Manager > Reset & Rescan Selection.
5. Find it under Andrestia Audio > Saturation Box.

Updating:

Run the newer installer over the old one. Sessions keep loading; presets and settings carry over.

Uninstalling:

Drag the two files above to the Trash.

The Panel

[logo]	Andrestia Audio	[Preset]	[• VINTAGE]
TRIODE PENTODE TAPE XFMR			
DRIVE (large)	TONE (small)	OUTPUT (small)	MIX (small)
SATURATION BAND			
LOW CUT	HIGH CUT	(lamp) (switch) AUTO GAIN	VU meter
ANDRESTIA AUDIO · SATURATION BOX · V0.2.0			150%

Model: Triode / Pentode / Tape / Xfmr. Default: Triode.

Which circuit the signal goes through.

Drive: 0 to +36 dB. Default: 12 dB.

Gain into the circuit; the amount of saturation.

Tone: -100 to +100. Default: 0.

Tilt EQ before the saturator: dark left, bright right (± 6 dB shelves at 100 Hz and 10 kHz).

Output: -12 to +12 dB. Default: 0.

Trim on the wet signal only.

Mix: 0 to 100%. Default: 100%.

Dry/wet blend, phase-coherent.

Low Cut: 20 Hz to 2 kHz. Default: 20 Hz. Below this, the signal bypasses the saturator.

High Cut: 1 kHz to 20 kHz. Default: 20 kHz. Above this, the signal bypasses the saturator.

Auto Gain: on / off. Default: on.

Holds the level as Drive changes.

Vintage: on / off. Default: off.

More bias drift on the tube models, a higher noise floor on all four.

The Panel (Cont.)

Drive

The one knob that matters. Everything downstream - harmonics, compression, bias shift, sag - scales with how hard the circuit is hit. Drive also lowers a gentle high-frequency roll-off as it rises (from 22 kHz at 0 dB to about 13 kHz at 36 dB), the way pushed gear loses a little top.

With Auto Gain on, turning Drive up does not turn the track up. Judge the character; set the level with Output.

Tone

A tilt applied before the saturator, so it changes what the circuit is fed rather than equalising the result. Brighter Tone means the highs saturate harder; darker means the lows do. There is a light detent at zero.

Output

Wet-side trim, ± 12 dB. Applies after the model, before the Mix blend, so it does not touch the dry signal in a parallel setup.

Mix

The dry path is delayed by exactly the plugin's latency, and the oversampling is linear-phase, so the blend is phase-coherent at every frequency. You can run 30 % Tape on a mix bus without comb filtering.

Low Cut & High Cut

Everything between the two cutoffs goes through the model; everything outside bypasses it on a phase-matched clean path (Linkwitz-Riley crossovers with an all-pass on the low band, so there are no notches at the crossover points).

Use it to saturate a kick without fuzzing the sub, or a vocal without adding grit to sibilance. The bypassed bands do not receive makeup gain, so with a narrow band the level effect of Drive is naturally smaller.

The Panel (Cont.)

Vintage

On the tube models, the bias drift (a slow, sub-audio wobble of the operating point, always present at a low level) is five times deeper.

On every model, the resting noise floor rises from about -100 dBFS RMS to about -88 dBFS. The hiss of a machine that has been loved, not neglected.

VU Meter

Reads how hard the selected model is being driven, from both channels, with fixed ballistics. The top quarter of the scale is “hot”; the red zone means the circuit is working hard, not that anything is clipping - there is no hard clip anywhere in the chain.

Knob Handling

- Drag up/down to turn.
- Shift or Command while dragging: fine control.
- Double-click: reset to default.
- Click the readout: type a value.
- Mouse wheel over a knob nudges it.

The Four Models

All four share the same surrounding chain. They differ in what happens to the signal in the middle.

TRIODE

12AX7 preamp stage

A class-A triode stage with a plate load, solved sample by sample from real 12AX7 equations.

Sound: warm, second-harmonic dominant. Higher harmonics only appear when it is genuinely pushed.

Behaviour: peaks compress rather than clip (soft grid conduction); sustained hits shift the bias and the stage “blooms” back over about 150 ms; the power supply sags under sustained current (~50 ms).

Reach for it on: vocals, bus glue, anything that wants expensive warmth.

PENTODE

EL84-style power stage

A single-ended class-A pentode with a 3 k Ω load. Pentodes have flatter plate curves and a harder knee than triodes, and that is what you hear.

Sound: odd-harmonic dominant from around 12 dB of Drive up. Brighter, more aggressive - British crunch.

Behaviour: the same grid-blocking and sag architecture as the triode, scaled to power-tube current, so the “give” under sustained level is deeper.

Reach for it on: drums, guitars, anything that should bark when hit.

The Four Models (Cont.)

TAPE

magnetic tape

Envelope-driven compression into a gently asymmetric saturator, with a head bump below the stage.

Sound: third-harmonic, gentle and symmetric. Compression is the main event; harmonics are secondary.

Reach for it on: the mix bus, stems, “finish this” duties around 8–12 dB of Drive.

XFMR

iron-core transformer

The signal is integrated (flux), the flux is saturated, and the result is differentiated back. Saturation is therefore frequency-dependent: lows hit the core first, highs pass clean. The leaky integrator also gives the authentic ~20 Hz low-frequency roll-off of real iron.

Sound: clean until it isn't; the grit lives in the low end. At 100 Hz, heavy odd-order saturation with audible compression of the fundamental; at 1 kHz essentially linear until extreme Drive.

Reach for it on: bass, kick, low-end weight without dulling the top.

Switching models is click-free: the outgoing model keeps running for 20 ms while the new one fades in.

Terms of Use

Saturation Box is provided as is, without warranty of any kind. Audio software can clip, crash, feed back, or otherwise behave in ways you didn't plan for; you are responsible for your levels, your monitors, your hearing, and your session backups. To the fullest extent allowed by law, Andrestia Audio is not liable for any damage, loss of work, or other harm that results from using it.

It is free to use for any music project, personal or commercial. Please don't redistribute the installer, resell it, or strip the branding.

Downloading asks for an email address, used only for release announcements, with a one-click unsubscribe in every message.

The full terms and the privacy policy are at andrestia.com/terms and andrestia.com/privacy.

Questions: hello@andrestia.com.

© 2026 Andrestia Audio. All rights reserved.