

QUICK START / 1.0.0

Twelve kinds of heat

What it is

Satura is a saturation and distortion processor with twelve modes in three groups. Studio modes model whole analog stages for mixing: tape, transformer iron, triode and pentode tubes, and a class-A transistor console channel. Pedal modes are overdrive and fuzz circuits: a diode clipper and a two-transistor fuzz. Shape modes are creative: a variable-knee clipper, a wavefolder, a rectifier, class-B crossover distortion and a sample-rate and bit crusher.

Each mode has its own Character control, a second axis that changes what the mode is: tape speed, core size, the tube's operating point, the diode type, how starved the fuzz's supply is. The interface has two layers. The upper plate is the saturator itself: DRIVE, the twelve modes and CHARACTER, BIAS and DYNAMICS. The lower plate holds what surrounds it, in signal order: INPUT and its meter on the left, the input stage (what goes into the saturation), the display, the output stage (what comes out of it), and OUTPUT and its meter on the right.

Start in five steps

1. Close your DAW and install. Insert Satura on a track, a group or a bus.
2. Activate it with your AudioNode licence key on the activation screen, or import your licence file (see the last page).
3. Pick a mode on the mode display (the arrows step through them; click the number or the name for the full list), or a preset from the bar along the top.
4. Turn DRIVE up until you hear the colour you want. With AUTO GAIN on, the level stays put while the saturation grows, so you judge the colour and not the loudness.
5. Use MIX to blend the dry signal back in, and OUTPUT for the final level.

Formats and latency

macOS 11 or later: Apple Silicon and Intel, AU and VST3. Windows 10 or later: 64-bit VST3 (the interface uses the Microsoft Edge WebView2 Runtime, which Windows 10 and 11 include). Mono and stereo tracks. Satura reports a few samples of latency (the shaper runs at eight times the sample rate), and your DAW compensates it.

MODES / 1.0.0

The twelve modes

Studio

TAPE: magnetic tape, with hysteresis between record and playback equalisation. The highs saturate first, and the playback head's bump adds low-end weight. Character: tape speed, from 30 to 7.5 ips (a lower, bigger bump, more high-frequency loss and a wider loop).

IRON: a transformer core. The flux follows the integral of the signal, so lows drive the core harder than highs: the bass thickens while the top stays clean. Character: core size, from large (only the deepest lows saturate) to small.

TRIODE: a single-ended triode stage with warm even harmonics; loud hits charge the coupling capacitor and shift the bias, so notes bloom. Character: operating point, from hot (clips on the top of the wave) to cold (cuts off on the bottom, and sooner).

PENTODE: a sharper knee and more odd harmonics than a triode, with screen sag on sustained notes. Character: knee, from soft to hard.

CONSOLE: a class-A transistor channel into an output transformer, subtle 2nd and 3rd harmonics for glue. Character: silicon to germanium (more 2nd harmonic, less headroom).

Pedal

DIODE: a diode clipper, as in overdrive pedals, solved from the diode law. Character: germanium (clips early and soft), silicon (the middle) and LED (late and hard, with more headroom).

FUZZ: a two-transistor fuzz, hard, asymmetric and nearly square. Character: supply voltage, from full to starved (more asymmetry, gating and sputter).

Shape

CLIP: a pure clipper with a variable knee, from soft (rounded peaks) to hard (squared, louder and brighter). **FOLD:** a wavefolder; past the ceiling the wave folds back on itself, from triangle to sine folding. **RECTIFY:** from half wave (adds even harmonics) to full wave (the lower half flipped up, an octave higher). **CROSSOVER:** class-B crossover distortion, a dead zone around zero, so quiet signals turn gritty while loud ones pass cleaner; Character widens the gap. **CRUSH:** sample-rate and bit reduction, from 24 kHz and 12 bits to 1.5 kHz and 4 bits.

CONTROLS / 1.0.0

Shaping the saturation

Saturate

DRIVE (0 to +36 dB) sets how hard the signal hits the mode. At 0 the sound passes clean in every mode; the first 6 dB fade the saturation in. CHARACTER is the mode's own control (previous page). BIAS shifts the operating point so one side of the wave clips first, adding even harmonics (on Iron it magnetises the core, so one half of the loop saturates first); the DC it would leave is removed. DYNAMICS ties the drive to the transients: toward PUNCH, attacks take a cleaner path at matched level so they stay sharp while the sustain saturates; toward CRUNCH, attacks are driven harder and flattened into the sound.

The display shows the transfer curve on the left: input across, output up, with a dashed line where output would equal input, so the further the curve bends away from it, the harder that mode is working (a loop means the mode has memory, as tape and iron do). The white dot on the curve follows your music: it sits at the level your signal is hitting the saturation right now. On the right are the first 15 harmonics of a 240 Hz test tone: red bars are even harmonics, white bars odd ones. Below them: THD, the even harmonics' share of the distortion, and the 2nd and 3rd harmonics' levels.

Input stage (left): what goes in

The left half of the lower plate shapes the sound going into the saturation, in rising frequency. LOW CUT removes lows, 12 dB per octave (off, or 20 Hz to 1 kHz), so bass doesn't turn to mud as it saturates. BASS (a shelf below about 120 Hz), MID (a broad bell around 1 kHz) and TREBLE (a shelf above about 3.5 kHz) each boost or cut by up to 12 dB, and each works on its own. A boosted band is louder and distorts first; a cut one is quieter and stays cleaner. A mid boost before Fuzz or Diode is the classic lead sound; a treble cut keeps a vocal's sibilance from crackling; a bass boost into Iron or Tape fattens the low end.

Output stage (right): what comes out

The right half works on the saturated sound. TONE tilts it dark or bright, up to 6 dB either way about 800 Hz. MIX blends the dry signal back in, aligned to the sample, for parallel saturation. AUTO GAIN keeps the level steady as DRIVE and CHARACTER change, from measurements of each mode, so you judge the colour and not the loudness. Hover over any control for a one-line reminder of what it does.

Input, output, meters and power

INPUT (far left, -24 to +24 dB) trims the level coming in, before everything else and for the dry signal too; OUTPUT (far right, -24 to +12 dB) sets the final level. Each has a stereo peak meter below it, left and right on a dB scale from +6 to -60 dBFS: white segments, red at 0 dBFS and over, a held peak marker, a clip light above each bar that stays on until you click the meter, and each channel's highest recent peak as a number. The POWER switch at the right of the top bar bypasses Satura with a short crossfade (its light is on while Satura is processing).

PRESETS AND LICENSING / 1.0.0

Presets and activation

12 factory presets

The bar along the top manages presets. Click the preset number or name for the list of factory and user presets, or step through them with the arrows; a red dot by the name means a control has moved since the preset loaded. SAVE names the current settings and keeps them as a user preset (press Return to save, Escape to cancel); DELETE removes the current user preset after a second press; INIT returns every control to its default. The factory presets are also in the Fletcher Audio logo's menu and your DAW's program list: Default, Tape Bus, Iron Bass, Warm Vocal, Console Glue, Punchy Drums, Drum Crunch, Fuzz Lead, Folded Synth, Octave Up, Crossover Grit and Crushed Hats. A preset sets every control except INPUT and the power switch. User presets are files in Fletcher Audio/Satura/Presets in your user application data folder (on a Mac, ~/Library/Application Support). Your DAW also lists them as programs.

Activate

Open Satura. On the activation screen, paste your AN- licence key and select Activate, or choose Import licence file and select the file from <https://audionode.io/licences>. The first activation needs an internet connection. Until it is activated, audio passes through without Satura processing. To check your licence later, click the Fletcher Audio logo and choose Licence.

Your licence

One licence holder can use Satura on up to three computers. After a successful check it keeps working offline for up to 30 days. Manage your computers at <https://audionode.io/licences>.

Updates

Click the Fletcher Audio logo to check for updates or turn automatic checks off. Downloads open the Satura page on audionode.io; the plugin never replaces itself inside a running DAW.

Troubleshooting and support

No effect: check the licence (Fletcher Audio logo, then Licence), that the power button is lit and that MIX is above 0. Too loud: turn AUTO GAIN on or lower OUTPUT. Harsh top end on hard modes: turn TREBLE down before the saturation, or TONE toward dark after it. For help, email hello@audionode.io with your order details, your operating system, DAW and plugin version.