



# SATURATOR

## MODEL NT-02A



# USER GUIDE

# OVERSTAYER SATURATOR NT-02A - SAFETY AND INSTALLATION

## Power Requirements

The Saturator NT-02A uses a +12VDC @ 1500mA power supply (included). Please make sure you are using the correct supply. Contact us for replacement power supplies [info@overstayeraudio.com](mailto:info@overstayeraudio.com).

## Installation

1. Please unplug the adaptor from AC power and verify the adaptor specifications match the voltage and current requirements of the equipment before attaching the DC adaptor plug.
2. Keep the linkage between the adaptor and its power cord secured tightly, and verify the DC plug is fully inserted into the jack on the equipment.
3. Protect the power cord from being trodden on, pinched, crushed or squashed.
4. Use only an approved power cord, and do not defeat the safety grounding pin which must be connected to earth at all times. Do not use a ground lift.
5. An approved power cord should meet or exceed the specifications of Part # SVT, 3G×18AWG or Part # H03VV-F, 3G×0.75mm<sup>2</sup>.
6. Maintain proper ventilation for the unit in use to prevent it from overheating. Do not install near any heat source or device that produces heat.
7. If the equipment is not to be used for a long period of time, disconnect the equipment from power supply to avoid damage by voltage peaks or lightning strike.

## Warning / Caution !!

1. Risk of electrical shock. All failures should be examined by a qualified technician. Please do not remove the case of the adaptor under any circumstances!
2. Risk of fire or electrical shock. The openings should be protected from foreign objects and/or dripping liquids.
3. Using the wrong DC plug or forcing a DC plug into an electronic device may damage the device or cause a malfunction.
4. Adaptors should be placed on a reliable surface. A drop or fall could cause damage.
5. Do not use or install in places with high moisture or near water.
6. Do not use or install in places with high ambient temperature or near fire source.
7. Disconnect the unit from the AC power before cleaning. Do not use any liquid or aerosol.

Please contact your local qualified recyclers when you want to dispose of this product.

## DESCRIPTION

The Overstayer Saturator is a 100% analog dual channel harmonics and distortion processor, with tone shaping filters and multiple amplifiers for a wide of array of character, from subtle thickening to extreme distortion, balanced to taste with an integrated blend control.

## FRONT PANEL CONTROLS

**LOW CUT** - 12 dB (2 pole) sweepable high pass filter with a separate Resonance control. Wide range sweepable from 30 Hz to 4.7KHz, and at high Resonance settings can be driven into oscillation. This is the start of the signal path, and helps define the shape of the distortion and harmonics that follow. The Low Cut circuit is bypass-able with the corresponding button.

**RES** - The resonance control for the high pass filter. Controls the amount of peaking at the cutoff frequency. With high resonant peaks dialed in, the filter can add in huge amounts of low end, while cutting the subs below the set freq. Monstrously huge kick drums, giant dub-style basses, telephone filter fx, self oscillating harmonics are all easily possible with the Saturator filter section.

**BOOST** - Adds a fixed amount of clean gain to raise low level signals and overdrive whatever is next in line. Also engages a pad after the GAIN amp to compensate for the added gain. Functions like a clean boost pedal on the front end of an amplifier.

**SATURATION** - Discrete amp. Controls the amount of non-linear amp saturation and soft clipping. Wide ranging character from subtle harmonic distortion to extreme analog saturation. The saturation section can be bypassed and removed from the audio path, while still allowing use of the filters and Shape 3 circuit.

**SATURATION LED** - Green LED displays when incoming audio passes the saturation threshold, allowing for quick setup into the sweet spot.

**HIGH CUT** - Fixed 6dB lowpass filter at 6KHz tames the highs especially with high gain distortion.

**GAIN** - Discrete op amp primarily provides clean gain, but can be clipped and overdriven with boost or high gain settings.

**SHAPE 3** - Activates a pre and post emphasis filter to shape the distortion response of the entire unit, and adds 3rd harmonic saturation circuit. This function can be used in conjunction with the "Saturation" circuit, or independently.

**BLEND** - Control to set a balance between the source signal and processed signal.

**OUTPUT** - This sets the final output level, post blend.

**IN** - Master bypass for both channels of the Saturator NT-02A.

## **OPERATION**

The Low cut filter resonance can be driven into self oscillation at high settings (7+), and depending on the gain and frequency will create very LOUD tones! Setting the RES just on the verge of feedback and then tuning it to the source can create musically related harmonics and sustain, and it super fun. Lower RES settings can be tuned to kicks and basses for thick low boosts.

The Saturator has several gain stages in series, each with different characteristics. In order of signal flow, the stages are:

1. **BOOST** - Fixed gain amplifier to provide clean gain to overdrive whatever amps follow, similar to using a clean boost pedal to overdrive a tube amp. Also engages a pad after the GAIN amp.
2. **SATURATION** - Amp stage with the greatest harmonic distortion and soft clipping. Can be subtle (tapping the LED above it) for thickening and warming, to extreme distortion.
3. **GAIN** - Provides clean gain, but can be overdriven, especially used in conjunction with BOOST.
4. **SHAPE 3** - Activates a pre and post emphasis filter and adds 3rd harmonic saturation circuit. The pre emphasis is inserted before the BOOST stage, so engaging this shapes the response of all preceding stages. The amount of harmonics is determined by the signal level, (the GAIN control). The LED to the right of blend indicates the soft clip point of shape 3)

We find experimenting with each stage individually to start can be helpful. SHAPE 3 changes the response of all the stages, so SATURATION will respond differently whether SHAPE 3 is in or out. This can be easily heard by running a full bandwidth signal through like a drum loop, set the SATURATION until there is clipping, then engage SHAPE 3. The low frequency content will be retained with SHAPE 3 in, and the harmonics will be shifted upwards in frequency.

The most subtle mode, and sometimes the most useful when we are just looking to make things bigger and thicker is to start with only SHAPE 3 engaged, and adjust the GAIN starting at 0 control to taste. The LED to the right of blend indicates the soft clip point, so starting here and inching up there is a wide sweet spot of soft clipping and compression without distortion. Match peak levels to the bypassed signal to see how it

increases apparent volume. For a more dramatic effect, engage SATURATION and spread the load a bit between the amps, still set conservatively.

Please contact us at [info@overstayeraudio.com](mailto:info@overstayeraudio.com) with any questions.

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