SA2RATE 2
Plugin Manual

Developed by Brainworx in partnership with Looptrotter and distributed by Plugin Alliance.
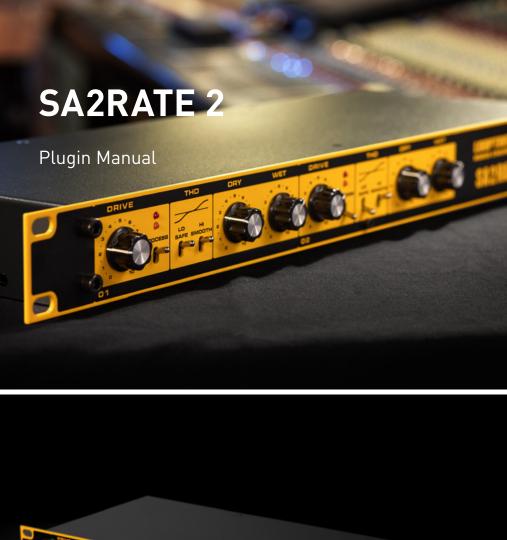
PLUGIN ALLIANCE   LOOPTROTTER AUDIO ENGINEERING   BRAINWORX

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About

The second generation of the saturator is fitted with Looptrotter's world famous solid state saturation circuit. It was created to add low order harmonics and smoothly even the signal in a musical and ear friendly way, significantly increasing the RMS level without raising peaks at the same time, so desired in modern music production.

Drive controls the input level of the processed signal and the depth of the saturation. Process (True Bypass) allows to switch between dry and saturated signal. The amount of added harmonics is indicated by two LEDs lighting up at 4 and 8% THD.

LO Safe and Hi Smooth engage the pre-/de-emphasis circuits. LO Safe prevents the lower frequencies from distortion. This option is particularly useful while processing instruments with content rich in low frequencies like kick, bass, drum group or the whole mix. HI smooth boosts high frequencies before the saturation circuit and attenuates them after. This allows deeper saturation of higher frequencies with harmonics, and smoothes the signal with very subtle compression.

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Features

- Exacting emulation of the World Class Saturation Processor SA2RATE 2. Endorsed and approved by Looptrotter

- Warm up your audio with pleasing harmonics and gentle peak reduction

- Sweepable LO Safe/ HI Smooth THD filters

- BRAINWORX Plugin-Only Features (added by BX):

  o Brainworx´s TMT inside: Tolerance Modeling Technology (US Patent No. 10,725,727) simulates channel-to-channel variances in electronic components for the most realistic analog sound in the computer
  o MAGIC Feature which warms up and opens the whole mix, giving it a vivid, analog feel.
  o Two Gain Compensation modes for DRIVE and MAGIC
  o Mono-Maker - Sums your low-frequency content to mono, giving you focused, punchy bass response.
  o Stereo Width - To expand the stereo width of your tracks
  o Scalable User Interface

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Channel Specific Features

❶ Power

Switches the processing on/off.

❷ Drive

Controls how much signal is fed into the circuit at the input stage i.e. before any EQ stage and, of course, the saturation stage. The depth of saturation (the amount of added harmonics) is indicated by two LEDs, lighting up at 4 and 8% THD.

❸ Process

Switches the processing on/off.

❹ Lo Safe

This parameter activates a pre-/de-emphasis for low frequencies (cut-off frequency 225 Hz) i.e. a low shelf filter with gain of -6 dB for the pre-emphasis, and gain of +6 dB for the de-emphasis.

❺ Hi Smooth

This parameter activates a pre-/de-emphasis for high frequencies. A combination of a low cut and a high shelf filters results in a boost/attenuation of 10.4 dB at about 12.5 kHz.

❻ Mix

This knob controls the mix of dry and wet signals. A value of 0 results in a 100 % dry / 0 % wet mixed signal. A value of 100 % results in a 0 % dry / 100 % wet mixed signal.

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① Magic On/Off

Switches the magic processing on/off.

② Magic Mix

This knob controls the mix of dry and wet (magic circuit) signals. A value of 0 results in a 100 % dry / 0 % wet mixed signal. A value of 100 % results in a 0 % dry / 100 % wet mixed signal.

③ Lo Frequency

Changes the frequency of the low-range pre/de-emphasis filters.

④ Hi Frequency

Changes the frequency of the hi-range pre/de-emphasis filters.

⑤ Gain Compensation Drive

Switches between two different gain compensation behaviours and off-mode. Gain Comp 1 Mode makes up for any change in gain when varying the Drive or Mix Knobs. Gain Comp 2 makes up proportionally (2:1) for any change in gain.

⑥ Gain Compensation Magic

Switches between two different gain compensation behaviours and off-mode. Gain Comp 1 Mode makes up for any change in gain when varying the Magic Mix Knob. Gain Comp 2 makes up proportionally (2:1) for any change in gain.

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Plugin Only Features

❶ Stereo Mode

- Analog: 2 different TMT channels.

- Digital: The same TMT channel used for both channels (L&R).

This button is only available on Stereo instances and is the heart of Brainworx´s patented Tolerance Modelling Technology (TMT). When ANALOG is activated, small inherent differences between the modeled componentry in each left and right channel will produce a pleasing, analog sound, as though one were working between two adjacent channels on an actual console. With the button switched to DIGITAL, the two Stereo channels will be identical in circuitry, providing a theoretically perfect, digital Stereo sound.

❷ TMT Channel selector

Select the TMT channels by turning the knob.

❸ Random Channel

Assigns random values for the TMT channels, depending on the Stereo Mode button state (analog or digital).

❹ Parameter Link

If a control in one channel is changed, the same control on the other channel is set to the same value.

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❶ M/S

Engages Mid/Side processing. When this is set to On, the Left Side processes the Mid Signal (sum) of both channels and the Right Side processes the Side Signal (difference) of both channels.

❷ Density

Adjusts overall Input and Output gain simultaneously to compensate for loudness while feeding more or less signal to the processing chain.

❸ Mono Maker

The Mono Maker tool is a critical component to several Brainworx processors, and it is an invaluable tool when mastering or tightening up a mix. Sweepable from 20 Hz to 2 kHz, this parameter folds the processed sound to mono at and below the frequency set. The most common setting is between 100-200 Hz, below which bass frequencies reside, where common practice deems that most sound should be mono. Other uses include folding an entire mix in order to check mono compatibility and avoid phase incoherency.

❹ Stereo Width

Makes your mix wider than it originally was by increasing the Stereo Width without losing the center of your recordings.

❺ Total Output (Main Out)

Adjusts the total output of the stereo signal. Ranges from -10 dB to +10 dB.

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Top Toolbar

❶ UI Scaling

Adapt the graphical user interface to the size and resolution of your screen. The plugin will check if the user interface will fit your screen before enlarging it. So if you accidentally chose a zoom factor which is too big for your current settings, the plugin will automatically stay at the maximum possible zoom factor.

❷ Undo / Redo

You can undo and redo changes you made to the controls of the plugin at any time. The Undo / Redo will work for as many as 32 steps.
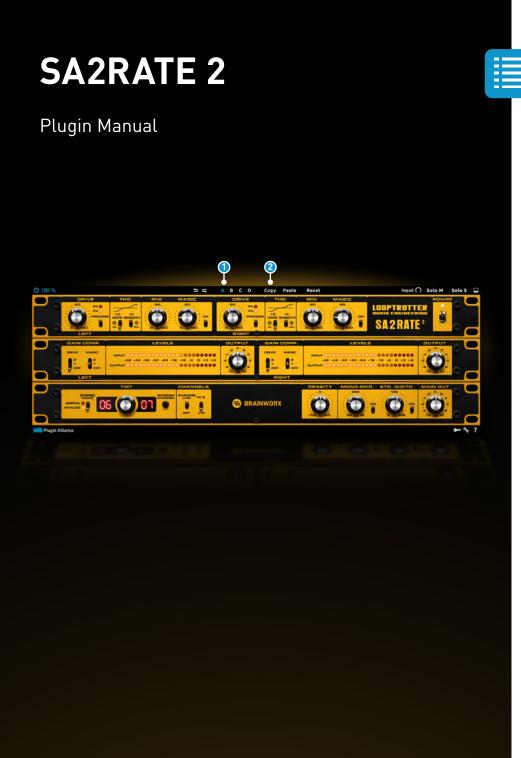
❸ Input

Adjusts the input level of the signal. Ranges from -12 dB to +12 dB.

❹ M/S Monitoring (for Stereo Channels only)

Solo M: Solos the Mid (Sum) signal being processed by the plugin.
Solo S: Solos the Side (Difference) signal processed by the plugin.

❺ Icon

The icon closes and opens the bottom panel containing the Brainworx's plugin only features.

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❶ Settings (A/B/C/D)

The plugin offers four internal settings (A/B/C/D) which will be stored with every preset. So, one preset can contain up to four settings. You may use similar settings with more or less saturation in one setup / preset. Now, the SETTINGS can be automated in your DAW! This way it´s possible to use different sounds for your lead vocals or drums in various sections of the song. Automate the A/B/C/D settings, and you can still tweak knobs of the individual settings without overriding multiple parameters in your DAW, which would be time-consuming.

❷ Copy / Paste

To set up variations of similar sounds you don´t have to dial in the settings several times. Let´s say you like your setting A and want to use the same sound, just with less compression, as setting B.

• Simply press Copy while you are in setting A.

• Switch to setting B by pressing 'B' in the settings section.

• Press PASTE, now setting B is identical to setting A.

• Reduce the compression on the B setting.

Now you can switch between A & B and decide which one sounds best or automate different settings for various sections of your session.

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Bottom Toolbar

❶ PA Logo

Clicking the Plugin Alliance logo takes you to the Plugin Alliance website via your web browser, that´s if your computer is online.

❷ Key (Icon)

Clicking on the key icon brings up the activation dialog, allowing you to manually reauthorize a device in the event of a license upgrade or addition. You can also use this feature to activate additional computers or USB Flash Drives.

❸ ? (Icon)

Clicking the ? icon opens up a context menu that links to the product manual PDF, as well as other helpful links, e.g. to check for product updates online. You must have a PDF reader installed on your computer to be able to read the manual.

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Modifier Keys

Tested with Logic Pro X, Pro Tools, Cubase and PreSonus Studio One Mac/Win.

AU

Fine Control	= Shift
Jump between Default / Last Setting	= Option

VST / VST3

Fine Control	= Shift
Jump between Default / Last Setting	= Command (Mac), Ctrl (Win)

AAX

Fine Control	= Command (Mac), Ctrl (Win)
Jump between Default / Last Setting	= Option (Mac), Alt (Win)

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System Requirements & FAQ (Links)

For latest System Requirements & Supported Platforms

https://www.plugin-alliance.com/en/systemrequirements.html

Particular details for your product

https://www.plugin-alliance.com/en/products.html

Installation, Activation, Authorization and FAQ´s

https://www.plugin-alliance.com/en/support.html