Introducing IVGI – Saturation

IVGI is a dynamic saturation processor capable of very subtle to extreme effects. It is available in a wide variety plugin formats for PC and Mac.

IVGI's base sound is comparable to the DESK mode of the big brother plugin SDRR. Both started with the same base but evolved into different creatures. You can think of them as twins who were separated at birth.

IVGI was designed to react dynamically to the input signal. Even the modelled fluctuations react dynamically and also change depending on the drive setting, so that it doesn't get in the way of the SOUND. Stereo tracks can benefit from the plugin's modelled crosstalk behaviour with controllable level. Just as with its big brother SDRR, IVGI features "Controlled Randomness" which determines the drift and variance inside the unit. It contributes to the liveliness and realness of IVGI's saturation character. All internal processes are modulated to some extent to make this possible.

IVGI gives you a sensible amount of controls to manipulate the character of the saturation. It offers a unique ASYM MIX knob to alter the symmetry of the signal without affecting the harmonic content. Usually, asymmetry leads to an increase in even-order harmonics, but in IVGI's case, increasing the asymmetry makes the negative part of the signal cleaner. This way you can preserve the dynamic structure of the source and get a more transparent result. Actually, you can think of ASYM MIX as a transparency control. Note, the ASYM MIX control is not a typical wet/dry mix knob.

IVGI also lets you alter the frequency response of the saturation.  The RESPONSE control is the result of clever eq-ing, a bunch of pre- and de-emphasis filters and some specific compression characteristics, all affecting the resultant character of the saturation. If you turn the knob to the left, low frequencies are more affected by the saturation. You'll also notice some high end roll-off and some low end bump and compression. On the other hand, if used sparingly, the RESPONSE control increases transparency. Turned to the right, high frequencies are more affected by the saturation. On more extreme settings you'll notice some increased HF compression and hysteresis effects. Also, if turned to the right, the signal gets brightened up, so that the typical high end loss caused by the saturation circuit, gets compensated with a super gentle and unobtrusive high shelving filter, especially designed for IVGI.

IVGI features comprehensive (VU, 300ms rise/fall) metering, too. You can monitor Input, Output or the difference between Input and Output RMS levels, making level-matching easy. This has been implemented to make it easier to avoid being fooled by "louder is better" when making comparisons. Just make sure the needle moves around 0 dB, then you're good to go. If the needle shows negative values, then the input signal is louder than the saturated signal, just turn up the OUTPUT until the needle hits 0dB again. If the needle is in the red, then the output is louder than the input. Just lower… uh, you know what to do :-).

IVGI is internally calibrated to 0VU = -18dBFS.

WORKFLOW:
1. Use the input TRIM control to make sure that your input signal hits around 0dBVU. This is the optimal work level for IVGI.
2. Use the DRIVE to adjust the saturation effect to taste.
3. Use the OUTPUT control to compensate for any volume difference caused by the saturation effect.

DETAILS

- IVGI reacts dynamically to the input
- Zero to very low aliasing even at extreme settings
- Variable noise modelling (program material and settings dependent) avoids noise becoming a problem
- 4x oversampling
- 7 samples of latency
- Adjustable frequency dependency
- "CONTROLLED RANDOMNESS" - every internal process is modulated to a certain extent to simulate drift, variance and internal fluctuations
- Special designed super smooth and unobtrusive high shelving filter to brighten up sounds
- Adjustable asymmetry of the saturation gives control over harmonic content and transparency of the saturation
- Smooth compression characteristics
- Optional crosstalk simulation
- Accurate VU metering of input and output levels
- Unique RMS output-input difference metering mode for easy level matching
- Low memory footprint

APPLICATIONS

- Add density to signals
- Warm up sterile sounds
- Brighten up dull sounds
- Add low-end "oomph" and compression
- Compress / glue individual tracks or busses
- Smooth de-essing, remove annoying nasal frequencies

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## Controls

VU meter mode:
Besides In and Out you can also display the RMS difference between Out and In.

Click on the meter to Bypass/Un-bypass
Note that the bypassed signal is post-TRIM.

TRIM:
Input level control. Make sure that the VU needle hits around 0 dBVU for ideal operation.
Note that the meter is operating as a VU meter with 300ms rise/fall.

Crosstalk-Level:
Turn fully counter-clockwise to disable crosstalk completely.
Max. crosstalk level is around -60 dB.
Default crosstalk level is around -90 dB.

DRIVE:
Determines the saturation amount.

OUTPUT gain in dB.

RESPONSE:
How the saturation affects the frequency response of the signal:

LF+: focus on low frequencies (gently cutting high frequencies, adding low-end bump)

N: neutral

HF+: saturating and compressing high frequencies more (adding tape like warmth, or use for smooth de-essing), also brings back some highs with an ultra smooth high shelf filter.

ASYM MIX:
0: Symmetric saturation, strong compressive character.

10: Asymmetric saturation, more transparent character.

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Code and GUI: Tony Frenzel

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