Voxengo Spatifier User Guide
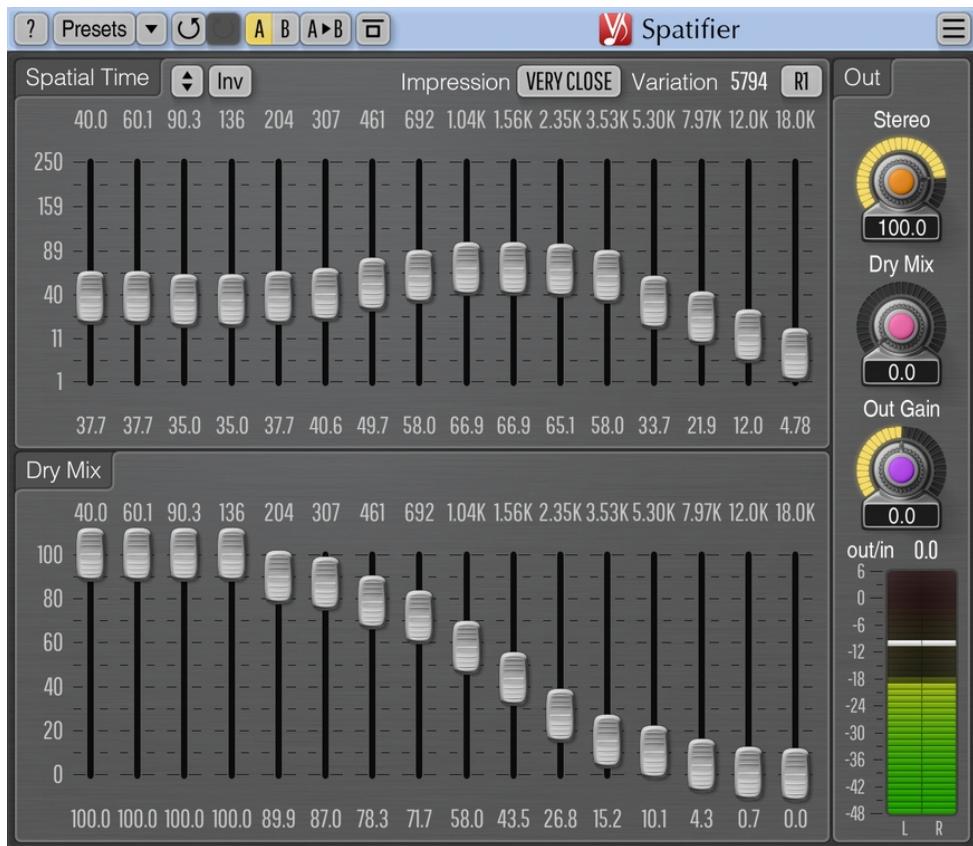
Version 1.10

https://www.voxengo.com/product/spatifier/

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Introduction

Spatifier is a "mono to stereo" spatial enhancer plug-in for professional sound and music production applications. This plug-in can be effectively used to turn mono tracks into spatially-enhanced stereo tracks: it works great for clean and distorted guitars, synth instruments, piano, organ, back vocals, and other sounds. Beside that, Spatifier can be used to "densify" the sound of reverb sends, and to add "body" to thin and flat sounds.

Spatifier decorrelates the signal in the left and right channels while retaining the "mono compatibility". Such decorrelation creates the "as wide as possible" surround effect. This effect can be usually used in place of double-tracking technique. The spatial impression can be adjusted in the range from the "in your face", direct, to a more distant, room sound.

Spatifier achieves its result by first designing a complex impulse response that is then used by its internal convolution processor. The impulse response is defined by means of graphic equalizer-like controls (which can be adjusted in a freehand mode with the right mouse button). This makes it possible to set the spatial effect for each frequency band individually. In many practical cases Spatifier adds a great deal of warmness and enriches the timbre of the sound being processed.

Features

- 16 frequency bands
- 6 spatial impressions
- Selectable random variations
- Stereo processing
- 64-bit floating point processing
- Preset manager
- Undo/redo history
- A/B comparisons
- Contextual hint messages
- All sample rates support
- Zero processing latency

Compatibility

This audio plug-in can be loaded into any audio host application that conforms to the AAX, AudioUnit, VST, or VST3 plug-in specification.

This plug-in is compatible with Windows (32- and 64-bit Windows XP, Vista, 7, 8, 10 and later versions, if not announced otherwise) and macOS (10.11 and later versions, if not announced otherwise, 64-bit Intel and Apple Silicon processor-based) computers (2.5 GHz dual-core or faster processor with at least 4 GB of system RAM required). A separate binary distribution file is available for each target computer platform and audio plug-in specification.

User Interface Elements

Note: All Voxengo plug-ins feature a highly consistent user interface. Most interface elements (buttons, labels) located on the top of the user interface are the same in all Voxengo plug-ins. For an in-depth description of these and other standard features and user interface elements please refer to the "Voxengo Primary User Guide".

Spatial Time

You may hold the right mouse button on the panel to enable the "drawing" mode which allows you to quickly draw a sketch of the required curve. Note that when processing "rough" sounds like overdriven guitars setting the spatial time to low values may produce "flanging" or metallic sound.

Increasing the spatial time at lower frequencies tends to increase the early reflections feel or "boxiness". Increasing the spatial time at higher frequencies tends to increase the impression of depth.

The "Impression" switch selects the spatial impression created by the plug-in. Note that the "Spatial Time" sliders themselves can increase and decrease the spatial impression, but this switch further augments the impression.

The "Variation" entry field allows you to select a random variation of the spatial enhancing effect. Note that these "variation" values cannot be categorized as they work as a "starting seed" in a random number generator. The "R1/R2" switch selects the type of generator to use, with the "R1" generally sounding rougher while the "R2" sounding somewhat smoother.

Dry Mix

This set of sliders adjusts the dry mix amount of individual bands. By means of these sliders you can reduce spatial effect on selected frequencies.

Out

The "Stereo" parameter adjusts "stereo width" of the effect's signal, with 0 producing a "mono effect", 100 being "no width change", and 120 being "slightly anti-phase". This is a simple mid-side balance parameter.

The master "Dry Mix" parameter specifies the amount (in percent) of the original unprocessed signal being routed to the output. This setting is applied on top of the "Dry Mix" sliders. One of the possible tactics when using this plug-in can be getting an "over-processed" sound at first and then adjusting the master "Dry Mix" parameter to achieve a required proportion between the clean and processed signals.

The "Out Gain" parameter controls the overall output signal gain (in decibel).

The "Out" meter shows plug-in's master output level and the difference between output and input signal level in decibels. Ballistics of this level meter can be adjusted in the plug-in's Settings window.

Credits

DSP algorithms, internal signal routing code, user interface layout by Aleksey Vaneev.

Graphics user interface code by Vladimir Stolypko. Graphics elements by Vladimir Stolypko and Scott Kane.

This plug-in is implemented in multi-platform C++ code form and uses "zlib" compression library (written by Jean-loup Gailly and Mark Adler), "LZ4" compression library by Yann Collet, "base64" code by Jouni Malinen, FFT algorithm by Takuya Ooura, filter design equations by Magnus Jonsson, VST plug-in technology by Steinberg, AudioUnit plug-in SDK by Apple, Inc., AAX plug-in SDK by Avid Technology, Inc., Intel IPP and run-time library by Intel Corporation (used under the corresponding licenses granted by these parties).

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Happy Mixing!