Voxengo Sobor User Guide

Version 3.4

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

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Introduction

Sobor is a stereo reverberation effect plug-in for professional music production applications. This reverb plug-in provides a wide palette of reverb spaces while requiring only a minimal effort to obtain useful results. The tails created by this reverb are very dense and produce a well-defined spatialization. Since the reverb uses a kind of "true-stereo" algorithm the panned sounds receive a good stereo-field placement. We believe Sobor provides one of the lushest and widest reverb tails available on the market.

Beside producing a shining reverb sound at medium and larger space settings, Sobor is equally great-sounding at ultra-small space settings, going as far as being able to imitate guitar cabinet sound at 100% wet setting. Sobor can even be used to "re-cabinet" a bass-guitar sound yielding very natural results.

The early reflections placement and reverb levels are chosen automatically based on a pre-defined model that depends on the "Size" and "Ambience" parameters. Additionally, the user may specify the "Pre-Delay" and "Stereo Width" parameters. Sobor is technically based on Feedback Delay Networks (FDNs) with the Hadamard matrix, and uses self-modulation techniques.

Sobor is great on any sound sources: vocals, guitars, synths, drums, mixes. This reverb is a relatively CPU-demanding effect: for comfortable use it requires a higher-end processor. But the CPU load can be reduced by a factor of 2.5 using the complexity selector above the "Ambi" knob.

Features

- Easy-to-use design
- "True-stereo" processing
- Lush and smooth reverb tail
- Reverb variations
- 3 ambience modes (reverb characters)
- 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 at 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".

Character

This group of knobs affects reverb's characteristics.

The "Size/ER" parameter controls the perceived reverb's (room's) size. This parameter affects reverberation time and early reflections spread. Internally, this parameter is mapped to a logarithmic scale with reverb times ranging from 14% to 590%. Note that at very low "Size" values the reverb may have a "comb filtering" character: this is intentional, made for creative uses, and can be partially fixed using higher "Ambience" and "Pre-Delay" settings. A selector near the "Size" caption specifies a variation of the reverb. Subtly affects reverb's sound, including reflections and spatial character, especially at small reverb sizes. Also gradually affects early reflections prevalence (loudness). Note that changes to this parameter produce a noise burst.

The "Ambi" parameter controls the perceived "ambience" of the reverb, with 0% producing "enclosed space" sound while 100% producing an "open space". The lower "ambience" values produce a damped "closed" room sound (plate-like) while higher values produce "brighter" sound with an open and bright pre-delayed sonic character. This parameter can be also used to control the resulting reverb tone of low-frequency sounds like bass-drums.

The "Ambience Mode" selector – the first above the "Ambi" switch – selects between natural (1) and alternative (2, 3) modes (reverb characters). Mode "2" is more boomy, with a feedback'y character, and rougher "vintage" feel; in this mode, the "Ambience" parameter also adjusts the frequency of resonance. Note that in mode 2 resonances can be quite loud and work more like a special effect than a neutral reverb. Mode "3" is similar to Mode "2", but offers a slightly less "resonant" character.

The "Algorithm's Complexity" selector – the second above the "Ambi" switch – selects algorithm's complexity in 4-16 range. The sonic difference between the modes comprises of algorithm's graininess and early reflections. At lower values a sound of "older" and "coarser" reverb units is recreated that may be even more desirable for some music genres. At the same time, at lower values the plugin becomes more than 2 times less CPU-demanding.

The "Pre-Delay" parameter adds a preliminary delay to the reverb signal, usually used to tune the reverb sound to the program material being processed. Also affects reverb's spread (or focus) at higher settings, progressively.

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

Tone

This set of parameters controls the frequency response of the reverb sound.

The "Damp Lo" parameter specifies corner frequency of the low-frequency damping filter. Controls the amount of low-frequency reverberation, "boominess" of the reverb. Can be also used to reduce low-frequency noisy rumble if it appears when processing certain sound material like piano.

The "Damp Hi" parameter specifies corner frequency of the high-frequency damping filter. Imitates air and room surface damping. The "1x/2x/3x" switch selects the strength of the damping. The "1x" mode produces brighter sound, the "3x" produces dimmer sound. The "3x" mode may be useful when used with the high "Ambience" settings, to reduce overall brightness.

The "Tilt" parameter specifies gain adjustment of the fixed high-shelf filter. This parameter can be used to make the overall reverb sound brighter or dimmer. This is effectively a "tilt" filter, with positive values producing a brighter sound.

Out

The "Reverb" parameter controls the loudness of the reverb signal. The "Polarity" switch flips reverb's signal polarity by 180 degrees; in some cases, switching the polarity is useful for reducing overall boominess.

The "Dry Gain" parameter controls the loudness of the dry input signal routed to the output. The "Mute" switch can be used to disable the dry signal in the output mix. Muting the dry signal permits the use of the plug-in as a "send" effect. Note that the "Mute" switch is "persistent": its state is not affected by preset loading using plug-in's preset features.

Both knobs can be changed synchronously with the right mouse button or holding down the Ctrl (Cmd on macOS) key.

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), "base64" code by Jouni Malinen, filter design equations by Robert Bristow-Johnson, 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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Questions and Answers

Q. It does not seem like I can set the "Wet Gain" to "-inf" when automating it?

A. Please automate plug-in's Bypass parameter instead, to mute the reverb signal.

Happy Mixing and Mastering!