
Voxengo Peakbuster User Guide



Version 1.6

<https://www.voxengo.com/product/peakbuster/>

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Introduction

Peakbuster is an attack-phase boosting, reduction, and harmonic enhancement plugin for professional music and sound production applications. Peakbuster is a multi-band transient enhancer effect plug-in that uses an advanced automatic algorithm. Peakbuster stands from the competition in its ability to always sound natural, even on a full-spectrum master bus. The strength of the effect depends on the material being processed: the algorithm masterfully analyses dynamics of the sound it processes, and applies boosting or cutting in quantities that are “exactly right”. Moreover, the algorithm has a suitably “fast” reaction time making its adjustments sound “fluid”, not “all over the place”.

The amount of effect can be chosen independently for the lower and higher frequency ranges: this permits the use of Peakbuster on a variety of program material, both full mixes and individual tracks.

Additionally, due to the nature of the algorithm’s design, Peakbuster applies a unique harmonic coloration or enhancement: so, even if the gain adjustment meter shows only a minimal gain adjustment amount at a given time, the plug-in still transforms the sound being processed in a way that to some engineers may sound “on a completely another level”; we at Voxengo would call it “beyond tube warmth”.

Beside transient boosting, Peakbuster also features the “FX1” mode which works as a “spectral compressor” effect that performs a unique transformation useful on individual tracks like bass and vocals, it makes them “stand out”. The “M3” mode offers you a transient reduction mode which works as a very transparent “deharsher” and “polisher” effect.

Features

- Automatic transient boosting and reduction
- Special “spectral compressor FX” mode
- Selectable processing band count
- Stereo processing
- Up to 8x oversampling
- 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”.

Dynamics

The “Trim” parameter controls the internal “biasing gain” of the algorithm. This parameter allows one to get around algorithm’s “hard-to-describe” level-dependency, to choose a “sweet spot” of its dynamic action so that it works better on both quiet and loud parts of the program material. The “M1”/“FX1”/“M3” selector switches between “normal”, “special FX” and “reduction” mode. The “FX1” mode uses a slightly transformed internal topology of the “normal” mode, which, as a result, produces a drastic change of the sonic character of the algorithm: it starts to work as a “spectral flattener” that boosts quieter spectral parts, especially higher frequencies. This can be useful on individual tracks to make them stand-out in a mix. This mode naturally works as a kind of “spectral compressor”. On a full mix the effect may be fatiguing, though.

The “M3” mode is a “reduction” mode which suppresses transients. This mode is effective at attaining “smooth” and “polished” sound, but may not be useful alone on full mixes since it may reduce “punch” of the sound. However, if 2 Peakbusters are used in a chain, in M3 then M1 mode sequence, this combination works as an effective “sound polisher” for any sound material, on both individual tracks and full mixes: it retains the original “punch” while removing a usually unwanted “harshness” from the sound. In this chain, the first Peakbuster applies reduction while the second Peakbuster restores transients. Such chaining may be also used to control the amount of reduction and boosting being applied, independently.

The “FX Lo” and “FX Hi” parameters affect effect’s strength at the lower and higher frequencies, respectively. These parameters define two pivot points that are interpolated from 20 to 20 kHz. The “R” switch enables “residue” signal monitoring. This is essentially a difference between output and input signals. It allows you to get an overview of the signal boosts performed by the plugin. It is effective for the “Trim” parameter tuning. Note that this switch enables broadband monitoring, not just monitoring of lower frequencies.

Envelope

The “Bands” parameter specifies the number of processing bands. This parameter affects both the overall “coloration” and CPU usage.

The “Snap Time” parameter adjusts the duration of the “snapping” stage of the attack phase, how long a boost of a transient lasts. The smaller the parameter’s value is the “snappier” the transients become, but at the expense of stronger harmonic coloration.

The “Body Time” parameter adjusts the duration of the “body” stage of the attack, with higher values reducing perceived “snap” in favor of overall transient's body's loudness.

Note that if you are using Peakbuster together with TEOTE, it is suggested to place Peakbuster before TEOTE for the best sonic results.

Out

The “Out” panel shows plug-in’s master output level. You can change the plug-in’s output level with the “Out Gain” knob. Level meter’s ballistics can be adjusted in plug-in’s Settings window.

Credits

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

Graphics user interface code by Vladimir Stolytko. Graphics elements by Vladimir Stolytko 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 and 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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Beta-Testers

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Happy Mixing and Mastering!