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# Voxengo Overtone GEQ User Guide



Version 1.18

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

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## Introduction

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Overtone GEQ is 7-band harmonic (overtone) graphic equalizer with multi-channel operation support (supporting up to 8 input/output channels, audio host application-dependent). Overtone GEQ offers extensive internal channel routing capabilities, and supports mid/side channel processing.

Beside equalizing, Overtone GEQ applies harmonic enhancement: it uses 7 harmonic enhancement modules, one for each EQ band. This generates a complex harmonic coloration you will probably like a lot.

Overtone GEQ was designed to allow audio engineers to apply quick EQ shape adjustments together with adding a bit of harmonic richness to the audio material (mainly mixes and sub-mixes due to a comparably high load this EQ puts on a CPU).

## Features

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- 7-band graphic equalizing
- +/- 12 dB gain range per band
- 2 graphic equalizer views
- Complex harmonic coloration
- Stereo and multi-channel processing
- Internal channel routing
- Channel grouping
- Mid/side 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

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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

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**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”.

### Graphic EQ View

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Overtone GEQ features two graphic EQ panels, having seven +/- 12 dB equalizer bands each. Graphic EQ panel features the “Reset” button which allows you to reset the contents of the View to the default settings. The “Inv” button inverts equalizer curve, and the “Up-Down” button, when being dragged, allows you to scale the equalizer curve in order to amplify or attenuate it. The “Edit group” selector selects which channel group’s EQ curve should be edited in the panel, the “Underlay” selector selects channel group whose EQ curve to display as underlay. Underlay can be useful when manipulating two EQ curves of two channel groups simultaneously, to see how these curves differ from each other. When working with a single channel group, the underlay is usually unnecessary.

EQ settings of another group can be copied to the group being edited by using the “Copy” button.

Note that frequency and gain read-outs can be dragged with a mouse for vertical linear adjustment, or adjusted with the mouse wheel.

## **Additional Information**

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Since Overtone GEQ implements graphic equalizing by means of an array of bell-shaped filters, when you boost or cut adjacent bands the actual boost or cut may go over the visual setting (i.e. when some EQ band slider indicates 9 dB, the actual audible boost may be 10.5 dB, if the nearest band also stays at 9 dB).

## Credits

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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), “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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## Questions and Answers

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**Q. I'm having trouble figuring out what the underlay group faders do. Also, why is there two EQ panels? Left/right operation?**

**A.** Underlay faders are “underlay” only and they show how faders in another group look. Two EQ panels are there for convenience only, indeed useful for dual mono equalizing – so that you do not have to switch from one group to another (if it was a single EQ panel only).

**Q. What this “underlay” feature is for?**

**A.** Underlay is there to see how EQ setting of “Edit group” differs from any other (underlay) group.

**Happy Equalizing!**