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# Voxengo Marvel GEQ User Guide



Software version 1.2

<http://www.voxengo.com/>

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## Introduction

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Marvel GEQ is a linear-phase 16-band graphic equalizer plug-in with multi-channel operation support (supporting up to 8 input/output channels, audio host application-dependent). Marvel GEQ offers extensive internal channel routing capabilities, and supports mid/side channel processing.

Marvel GEQ allows audio engineers and musicians to apply quick EQ shape adjustments, both to audio tracks and full mixes. The linear-phase filtering offered by Marvel GEQ is suitable for equalization tasks where high quality and excellent sonic character are a must.

## Features

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- 16-band graphic equalizing
- Freehand drawing mode
- Linear-phase equalizing
- +/- 12 dB gain range per band
- Stereo and multi-channel processing
- Internal channel routing
- Channel grouping
- Mid/side processing
- 64-bit floating point processing
- Preset manager
- Undo/redo history
- A/B comparisons
- Contextual hint messages
- All sample rates support
- 9 ms compensated processing latency

## Compatibility

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

This plug-in is compatible with Windows (32- and 64-bit Windows 7, Vista, XP) and Mac OS X (10.5 and later versions, 32- and 64-bit, Intel processor-based) computers (2 GHz dual-core or faster processor with at least 1 GB of system RAM required). A separate binary distribution file is available for each target computer platform for each audio plug-in specification.

## User Interface Elements

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Note: Most interface elements (buttons, labels) located on the top of the user interface and on the bottom are standard among all Voxengo plug-ins and do not require much learning effort. For an in-depth description of these and other standard user interface elements and features please refer to the “Voxengo Primary User Guide”. Learned once it will allow you to feel comfortable with all pro audio plug-ins from Voxengo.

### Graphic EQ View

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Marvel GEQ features a single graphic EQ view, having sixteen +/- 12 dB equalizer bands each, spanning from 20 Hz to 20 kHz. Graphic EQ View features the “Reset” button which allows you to reset the current group to the default setting; the “Inv” button that inverts the equalizer curve, and the “Up-Down” button, which 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 shape should be edited in the view, the “Underlay” selector selects which channel group’s EQ shape to display underlay. EQ settings of one group can be copied to another group by using the “Copy to” button.

Underlay can be useful when manipulating two EQ shapes for two channel groups simultaneously, to see how these shapes differ from each other. When working with a single channel group, the underlay is usually unnecessary.

Note that the band gain read-outs can be dragged for vertical linear adjustment, or adjusted with the mouse wheel. You may also double-click the read-out for keyboard value entry.

You may hold the right mouse button on the equalizer view to enable “drawing” mode allowing you to quickly draw a sketch of the required equalizer curve. Additionally holding the “Ctrl” (“Command” on Mac OS X) in the “drawing” mode you can reset the bands to the default state.

Marvel GEQ performs linear-phase equalization by building a so called “finite impulse response” filter kernel. Note that due to a limited size of this kernel, the EQ shape’s precision in the lower frequencies is low – for example, when you boost only a single band at 126 Hz, its effective gain may be lower than the value you have specified: you have to boost adjacent bands as well to reach the required gain value at 126 Hz.

## Credits

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This plug-in was produced by Aleksey Vaneev in Syktyvkar, Komi Republic, Russia.

DSP algorithms and internal signal routing code were created by Aleksey Vaneev.

Graphics user interface code and the “standard” graphics design were created by Vladimir Stolypko.

Plug-in is implemented in multi-platform C++ code form and uses “zlib” compression library (written by Jean-loup Gailly and Mark Adler), FFT code by Takuya Ooura, VST plug-in technology by Steinberg, AudioUnit plug-in SDK by Apple, Inc. (used under the corresponding licenses granted by these parties).

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