Voxengo Marvel GEQ User Guide

Version 1.16

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

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Introduction

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) for professional audio and music production applications. Marvel GEQ provides extensive internal channel routing capabilities, and supports mid-side channel processing.

Marvel GEQ allows audio engineers and musicians to apply EQ adjustments quickly, 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

- 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

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".

Graphic EQ View

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 a channel group whose EQ curve should be edited in the panel, the "Underlay" selector selects a channel group whose EQ curve to display as underlay. EQ settings of another group can be copied to the current group by using the "Copy" 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 macOS) 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 may need to boost adjacent bands as well to reach the required gain value at 126 Hz. Note that Marvel GEQ internally builds a continuous EQ curve, so such concept of "slope" or "band's quality factor" does not apply. The frequencies presented in the equalizer are equispaced on a logarithmic scale from 20 to 20 kHz.

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), FFT algorithm by Takuya Ooura, 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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