Voxengo MSED User Guide

Version 3.0

http://www.voxengo.com/product/msed/

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Introduction

MSED is a professional audio encoder-decoder plug-in for mid-side processing which is able to encode (split) the incoming stereo signal into two components: mid-side pair, and vice versa: decode mid-side signal pair into stereo signal.

MSED is also able to work in the “inline” mode with the ability to adjust mid and side channels’ gain and panning without the need of using two plug-in instances in sequence.

MSED can be used to flip the phase of the mid and side channels by 180 degrees, and swap the stereo channels, and to extract the mid or side channel.

MSED features the “plasma” vector scope, stereo correlation and balance meters which make it easier to monitor the stereo information present in the audio signal.

Features

- Mid-side encoder and decoder
- Inline mode
- “Plasma” vector scope
- Stereo correlation and balance meters
- Input channel swapping
- 180-degree phase flipping
- Mid-side panning
- 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) and Mac OS X (10.6 and later versions, 32- and 64-bit, Intel processor-based) computers (2 GHz dual-core or faster processor with at least 2 GB of system RAM required). A separate binary distribution file is available for each target computer platform for each audio plug-in specification.

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User Interface Elements

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.

Parameters

The "Mode" selector specifies which processing mode should be used. The "Encode" mode engages the mid-side encoding mode (input left/right signal is converted into mid-side signal). The "Decode" mode enables mid-side decoding (input mid-side signal is converted into left/right signal). The "Inline" mode performs mid-side encoding, mid-side channel gain and panning adjustment and then decoding, sequentially.

The "Ch Swap" switch swaps input channels when enabled.

The "Flip 180" switch allows you to flip signal phase in both channels by 180 degrees. Such flipping does not swap channels.

The "Mid Gain" parameter adjusts the middle channel gain (in decibels). The "Mid Mute" switch can be used to mute the middle channel completely.

The "Side Gain" parameter adjusts the side channel gain (in decibels). The "Side Mute" switch can be used to mute the side channel completely.

Note that you can drag either the "Mid Gain" or "Side Gain" knob with the right mouse button to enable inversely linked adjustment of both knobs.

The "Mid Pan" parameter adjusts middle channel's stereo panning.

The "Side Pan" parameter adjusts side channel's stereo panning.

The left meter is the stereo correlation meter, 500-millisecond average. Values -1..0 represent anti-phase, 0 – surround, 0..1 – in-phase stereo information.

The right meter is the stereo balance meter in decibel left/right, 500-millisecond average.

Plasma Vector Scope

This window displays output signal's vector scope, drawn in a "plasma-like" style. This vector scope has a very special design. It uses loudness normalization which places loudest signals on the outside, and different frequencies at different radiuses. Lower frequencies, below 100 Hz, are placed on the outside while higher frequencies are gradually placed inside the vector scope, with >10 kHz signals placed at about 40% of the outside radius. The reasoning behind such design is that with loudness normalization the higher frequencies usually draw a very disperse images filling the display and making spotting issues in the lower frequencies harder. Also such design produces a more "alive" display where you can see how loudest frequencies change.

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Other than that, the vector scope provides the classical information: centered signals draw a vertical line, panned signals draw diagonal lines, out-of-phase signals draw horizontal lines, and uncorrelated signals draw circles.

Credits

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.

This plug-in is implemented in multi-platform C++ code form and uses “zlib” compression library (written by Jean-loup Gailly and Mark Adler), LibLZF by Marc Alexander Lehmann, 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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