Mid side Matrix

Manual for version **3.15**

- Introduction
- Background
- Visualization
- Interface Preview
- Controls
- Specs
  - Supported Channel Configurations
- Presets
- Acknowledgements
- Authors
- Translators
- About Goodhertz Plugins
  - User Interface
  - Preset Bar
  - Toolbar
  - Keyboard Shortcuts
  - Right-Click Actions
  - Right-Click Preferences
  - Mouse Modifiers
  - Automation
  - Plugin Settings
  - System Requirements

Contact Support

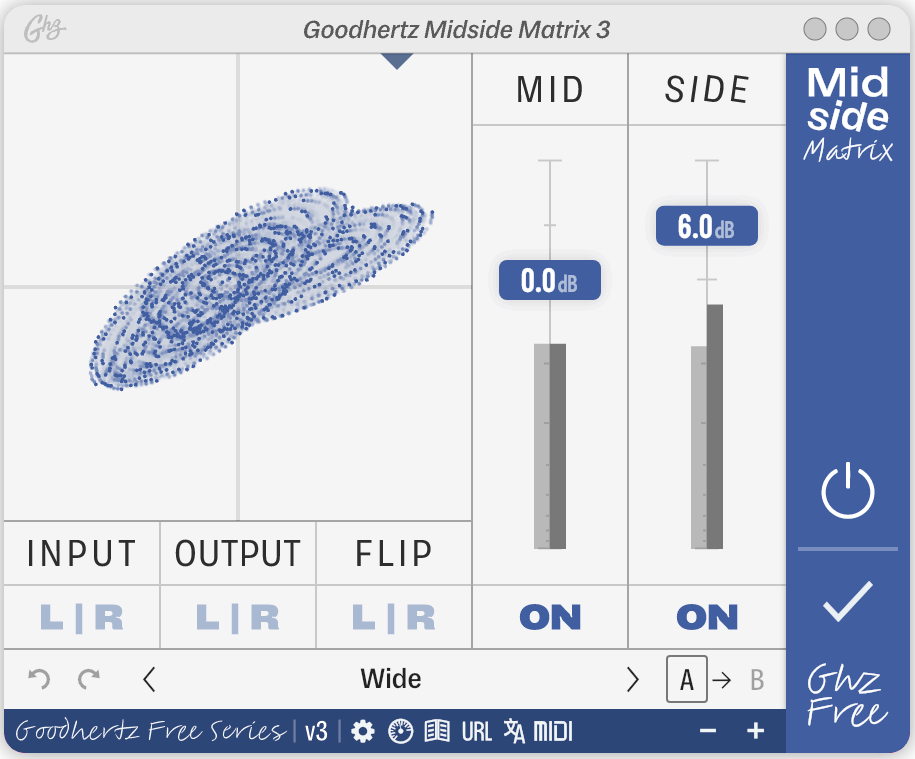
Midside Matrix

Easy Mid/Side Conversion

Midside Matrix is the utilitarian younger sibling of Midside, our full-featured, mastering-grade *mid/side* processor. **Midside Matrix** accomplishes the essential *mid/side* processing & conversion tasks in a simple, lightweight package — and it's FREE!

Interface Preview

Here's a screenshot of Midside Matrix in action. Click anywhere on the interface to jump to a control's definition below.



Background

To read more about the concepts of Mid/side audio, please see the Background section of the Midside manual.

- Want to enhance the width and size of the chorus in your mix? Try automating up the Side Gain when the chorus hits.
- Want a bridge section to feel smaller and more compact? Automate the Side Gain down.

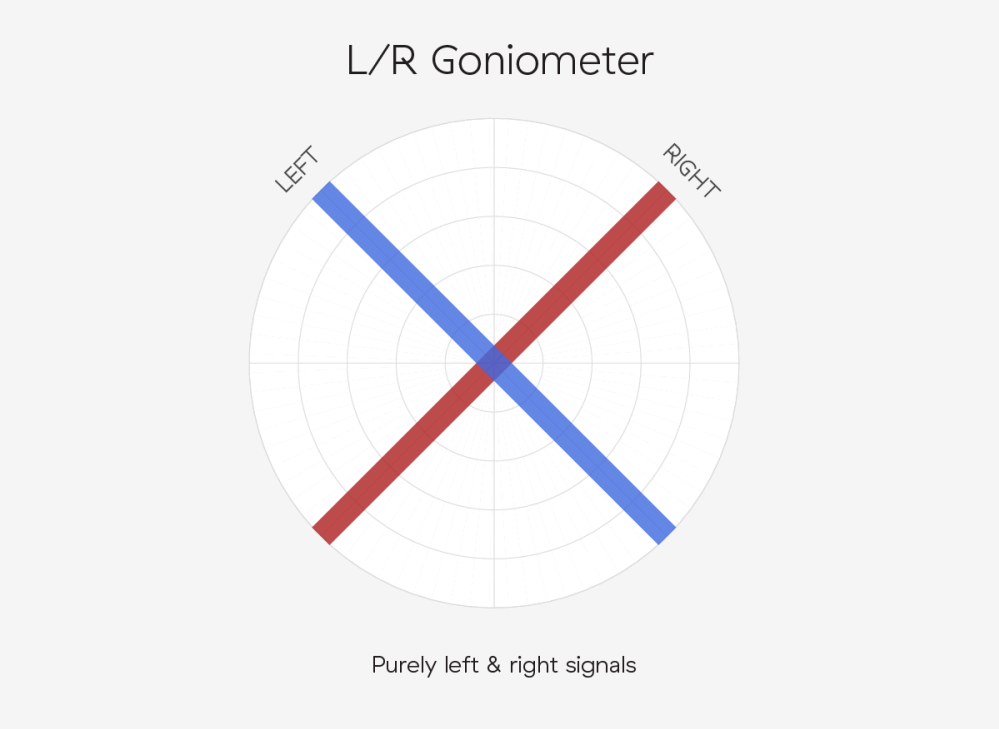
- Want to turn your favorite stereo analog compressor into a *mid/side*-capable compressor? Use **Midside Matrix** to encode a stereo signal as M/S to feed the compressor, and another instance **Midside Matrix** to decode it post-compression.

Visualization

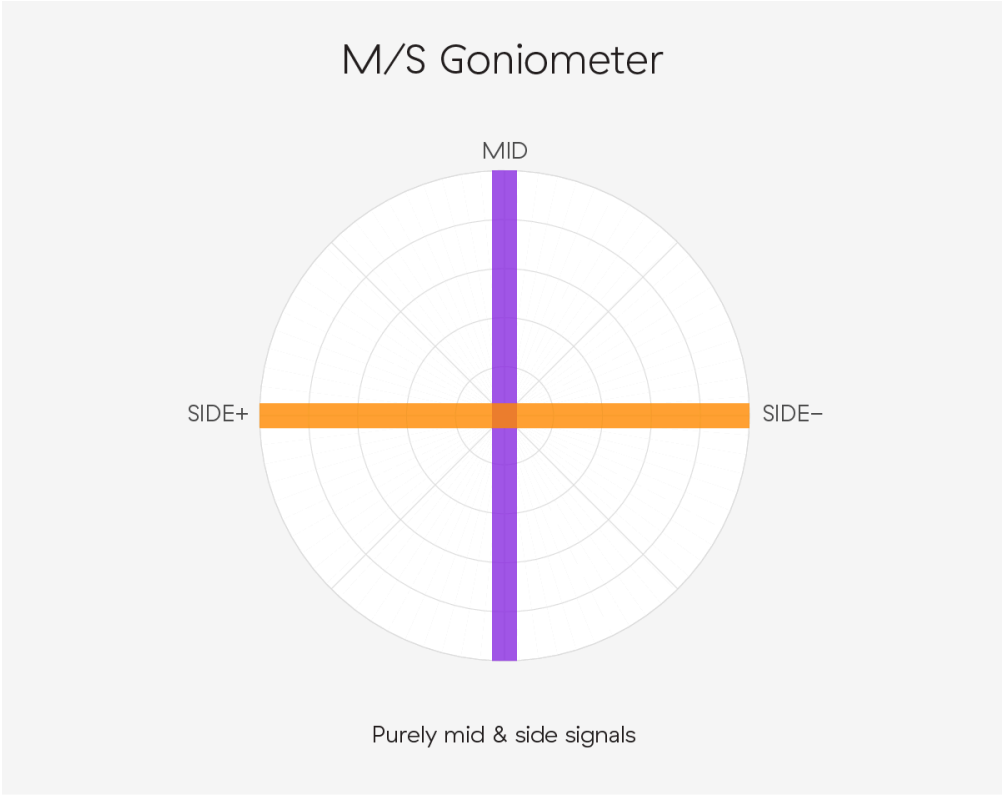
Goniometer

Midside Matrix includes a large real-time stereo display called a goniometer (or vectorscope). By interpreting the goniometer, it's possible to quickly deduce many characteristics about the stereo field and the precise relationship between left & right channels.

Here are some examples of how simple stereo signals appear in the goniometer:



Left and Right in Goniometer



Mid and Side in Goniometer

Controls

Primary Controls

Mid

Mid On/Off

Default On

Turns the Mid Gain `On` or `Off`.

Options: `Off`, `On`

Mid Gain

Default 0.0dB

Adjusts the gain of the *mid* signal.

Mid Gain includes a level meter embedded in the slider.
This meter shows the peak level of the *mid* signal both pre (lighter color) and post (darker color) **Midside Matrix**'s processing.

If the signal peak exceeds or equals `0.0dB` the meter color turns red, indicating that clipping *could* occur. **Midside Matrix** will never clip internally, due to its double-precision floating-point processing, but the signal might be clipped at a later stage (by the host/DAW or DAC).

Side

Side On/Off

Default On

Turns the Side Gain On or Off.

Options: Off, On

Side Gain

Default 0.0dB

Adjusts the gain of the *side* signal.

Side Gain includes a level meter embedded in the slider.

> This meter shows the peak level of the *side* signal both pre (lighter color) and post (darker color) **Midside Matrix**'s processing.
>
> If the signal peak exceeds or equals 0.0dB the meter color turns red, indicating that clipping *could* occur. **Midside Matrix** will never clip internally, due to its double-precision floating-point processing, but the signal might be clipped at a later stage (by the host/DAW or DAC).

Routing

Input Mode

Default L | R

Sets the input signal format.

Options: L | R, M | S

Output Mode

Default L | R

Sets the output signal format.

Options: L | R, M | S

Flip L/R

Default L | R

Swaps the left and right channels.

Options: L | R, R | L

Master On/Off

Default On

Bypasses **Midside Matrix**'s processing.

> We recommend using the **Master On/Off** instead of your DAW's plugin bypass to avoid digital artifacts.

Specs

Supported Channel Configurations

Input Channel #	*Output Channel #*
Stereo	Stereo

Presets

The presets are a great way to get to know each plugin. The preset drawer can be accessed at the bottom of each plugin by clicking the current preset name.

- **General**
  - *Default*

- *Wide*
- *Narrow*
- *Mid Only (Mono)* *Sum to mono*
- *Side Only* *Remove the mono image*
- *L/R to M/S* *Convert a left/right signal to mid/side*
- *M/S to L/R* *Convert a mid/side signal to left/right*
- *L/R to R/L* *Convert a left/right signal to right/left*

Acknowledgements

Annlie Huang / Chris Conover / Diana Zheng / Jack Stratton / TaeHo Park

---

Authors

Devin Kerr / Rob Stenson / Jasper Duba / Noah Dayan

Translators

TaeHo Park / Tiago Frúgoli / Gustavo Guzmán / Reda Kermach / Noah Dayan / Gal Cohen / Sydney Bolton / Enrico Cirene

---

About Goodhertz Plugins

User Interface

Goodhertz plugins are made to be workhorse tools that sound amazing. We've put a lot of thought and care into the audio quality and plugin usability, and for that reason, we've opted for simple and direct controls & interfaces that don't rely on photorealistic knobs or ornamental screw heads to communicate their meaning.

We've also decided to only include meters and graphs when we feel they will directly lead to a better sonic result. Meters/graphs can consume significant CPU resources, and we firmly believe that **if it sounds good, it is good**.

Our meters can be reset at any time using the "Reset Meters" button (in certain plugins) and manually enabled or disabled via the "Enable Metering" User Preference.

Preset Bar

Button	*Action*
↺	Undo the last parameter change.
↻	Redo the last parameter change.
<	Switch to the previous preset.
"Preset Name"	Opens the preset drawer (Option/Alt + Click to reset all plugin settings to preset).
>	Switch to the next preset.
A	Selects the A settings state.
→ ←	This copies the current settings to the opposite A/B state; i.e. if you're on the A state, clicking the arrow will copy those settings to the B state.
B	Selects the B settings state.

Toolbar

Introduced in version 3.10, the toolbar at the bottom of the plugin holds a handful of shortcut buttons.

Icon	*Action*
⚙	Opens preferences menu
⏲	Shows diagnostic information
📖	Opens plugin manual in your default web browser
URL	Opens a URL representation of the current plugin control state (Command/Ctrl + Click to copy the URL to the clipboard)
文A	Opens language-selection menu
MIDI	Opens MIDI Learn menu
~~HQ~~ HQ!	Toggles HQ mode (only in certain plugins)
↺●	Resets all meters (only in certain plugins)
–	Shrink interface
+	Enlarge interface

Keyboard Shortcuts

Action	*Keyboard Shortcut*
Enter New Parameter Value	Once you've clicked or double-clicked a control, type in a value, then hit `ENTER`, `RETURN`, *or* `TAB`. Depending on the control type, we support a variety of input values, such as fractions (e.g. 1/4 for 0.25), the kilo suffix (e.g. 4k for 4000), note values for time- and rate-based controls (e.g. 1/8T for an eighth note triplet or 1/4D for a dotted quarter note, relative to the current DAW or plugin BPM), and musical notes for frequency controls (e.g. A#5 for 923.33 Hz or Eb2 for 77.78 Hz).

Action	*Keyboard Shortcut*
Increment Parameter Value	`↑` *or* `→` arrow keys
Decrement Parameter Value	`↓` *or* `←` arrow keys
Jump to Next Parameter	`TAB`
Jump to Previous Parameter	`SHIFT` + `TAB` *or* `` ` `` (backtick)
Escape Parameter Focus / Close any Open Drawers	`ESC`
Tap Tempo	`T` *or* **Click** (N.B. For this to work, you must have a BPM, milliseconds, or rate (Hz) control selected.)
Save Preset	`N` (N.B. For this to work, the preset panel must be open.)
Set Preset as Favorite	`F` (N.B. For this to work, the preset panel must be open.)
Edit Preset	`E` (N.B. For this to work, the preset panel must be open.)
Update Preset	`U` (N.B. For this to work, the preset panel must be open.)
Delete Preset	`DELETE` (N.B. For this to work, the preset panel must be open.)

Right-Click Actions

Action	*Instruction*
Read about Control in manual	**Right-Click** & select “Show in Plugin Manual”
Reset Control to Default	**Right-Click** & select “Reset to Factory Default Value”
Lock Control when switching presets	**Right-Click** & select “Lock When Switching Presets”

Action	*Instruction*
Copy current plugin settings to clipboard	**Right-Click** & select “Copy as URL to Clipboard”
Paste all plugin settings from clipboard	**Right-Click** & select “Paste From Clipboard”
Reset all plugin settings to Defaults	**Right-Click** & select “Reset All to Defaults”
Reset all plugin metering	**Right-Click** & select “Reset Meters” (only available in certain plugins)
Reset all plugin settings to Preset	**Right-Click** & select “Reset to [preset] Preset”
Update Preset with current plugin settings	**Right-Click** & select “Update [preset] Preset”
Create new Preset with current plugin settings	**Right-Click** & select “Create New Preset”
Go to the plugin’s manual page	**Right-Click** & select “Read [plugin name] Manual”

Right-Click Preferences

Action	*Explanation*
Language	Switch the display language of text elements in Goodhertz plugins. We currently support the following languages: English, Spanish, Portuguese, French, Italian, Japanese, Korean, Chinese (Simplified), Chinese (Traditional), and Arabic.
Advanced Pane	By default, this is *Closed in New Instances* — i.e. when you add a new instance of a plugin, it does not show you the advanced controls available by hitting the `•••` button in the sidebar. If you’d like new instances to start with the advanced controls showing, choose *Open in New Instances*. Either way, each instance remembers whether its advanced pane was open, including when you reopen a saved session.

Action	*Explanation*
Control Granularity	By default, all Goodhertz controls move in small increments when dragged. If you prefer controls to operate with larger increments by default, change this option to *Coarse*. N.B. This will swap the behavior of the Shift mouse modifier - i.e. Shift-dragging will move a control with standard granularity when set to *Coarse*.
Dark Mode	Allows you to choose the color palette used for displaying the interface. If you prefer the look of dark colors (or work in a darker environment) enable this option. The *Auto* option will automatically adjust the color scheme depending on the system preferences of your machine (Mac only).
Enable Hover Markers	By default, this is *On* — i.e. all controls will show markers on hover. If you find this behavior unnecessary, deselect this option and no markers will be shown.
Enable Metering	By default, this is *On* — i.e. in normal operation, all audio meters and visualizations available in Goodhertz plugins are enabled and running. If you'd like to turn them off and disable all metering and visualization, deselect this option. And to turn them back on, simply reselect it. N.B. If you're struggling to use a large number of Goodhertz plugins on an older processor with an integrated GPU, sometimes disabling metering can help.
Enable Scroll Input	By default, all Goodhertz sliders can be *scrolled* in addition to dragged. If you find this behavior unnecessary, deselect this option and no scrolling events will be used to control Goodhertz sliders.
Enable Tooltips	By default, this is *On* — i.e. all controls will show a tooltip on hover. If you find this behavior unnecessary, deselect this option and no tooltips will be shown.
GPU Acceleration	By default, this is *Enabled* — i.e. the GPU will be prioritized whenever possible to improve graphics performance. If your graphics card does not support GPU acceleration, this preference will be automatically set to *Reduced*. N.B. If you experience graphics issues, disabling this preference may help.
Keyboard Focus	By default, you can get keyboard focus on any Goodhertz control with a single click. Change this option to ensure keyboard focus only occurs

Action	*Explanation*
	on double clicks.
Window Size	Enlarge or shrink the Goodhertz plugin window by selecting an option here. This will save your preference for all instances of this plugin.
Diagnostics	Displays general information about the plugin and the configuration of your system for diagnostic purposes. If you experience any issues with the plugin, it can be helpful to include this information when contacting us. N.B. Clicking this window will copy the contents to the clipboard.
MIDI Learn	Configure the mapping used to control parameters via MIDI messages. To assign a MIDI number to a control, enable *MIDI Learn* and send a MIDI message while a control is focused. To remove an assigned mapping, click on a mapping entry in the list or select *Clear All* to reset the entire mapping. N.B. You can assign different types of MIDI messages including Pitch Bend, Note, and CC messages.

Mouse Modifiers

Action	*Combination (Mac)*	*Combination (Windows)*
Reset Parameter to Default Value	`OPTION` + Click	`ALT` + Click
Move Control with Coarse Precision	`SHIFT` + Drag	`SHIFT` + Drag
Move Control with Fine Precision	`COMMAND` + Drag	`CTRL` + Drag
Move Control with Normal Precision	Drag	Drag

Automation

Unintentional digital clicks and pops are the worst. They happen for lots of reasons and often end up wasting your time with needless revisions or mastering surgery. When they go unnoticed, they can make their way onto commercial albums and releases.

Plugin automation is a common cause of clicks and pops. Sweeping an EQ band, changing a delay setting, and even automating a plugin bypass can cause digital artifacts if poorly handled.

This is not true for Goodhertz plugins. Any parameter in a Goodhertz plugin, even on/off switches, can be automated freely and smoothly without clicks, pops, or zipper noises (unless otherwise noted). You can push them, pull them, LFO them — whatever you do, they'll handle it gracefully.

Since our Master On/Off controls won't create artifacts, we recommend that you use them rather than your DAW-supplied plugin bypass if you want to disable plugin processing.

Plugin Settings

Goodhertz plugin settings can be copied and pasted as text urls, which look like this: https://goodhertz.com/vulf-comp/3.0.9?cm=0&wf=0&lf=100&lfc=50

To copy and paste, right click anywhere on the plugin interface and select either the copy or the paste option.

E.g. If you paste "https://goodhertz.com/vulf-comp/3.0.9?cm=0&wf=0&lf=100&lfc=50" into Vulf Compressor it will recall the settings associated with that url. This way you can easily send an *exact* plugin setting to someone — in an email or a text — without any guesswork or screenshots.

System Requirements

Mac OS X ≥ 10.13

Audio Unit 64-Bit, VST 64-Bit, VST3 64-Bit, **or** AAX 64-Bit host

Windows ≥ 10
VST 64-Bit, VST3 64-Bit, **or** AAX 64-Bit host

Contact Support

To send plugin feedback, please e-mail us at feedback@goodhertz.com.

If you're having trouble, experiencing a technical issue, or you think you've found a bug, please email support@goodhertz.com.

Find all our contact info & bug-reporting protocol on the contact page.