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# **G8 Gate Documentation**

***Release 1.0.0***

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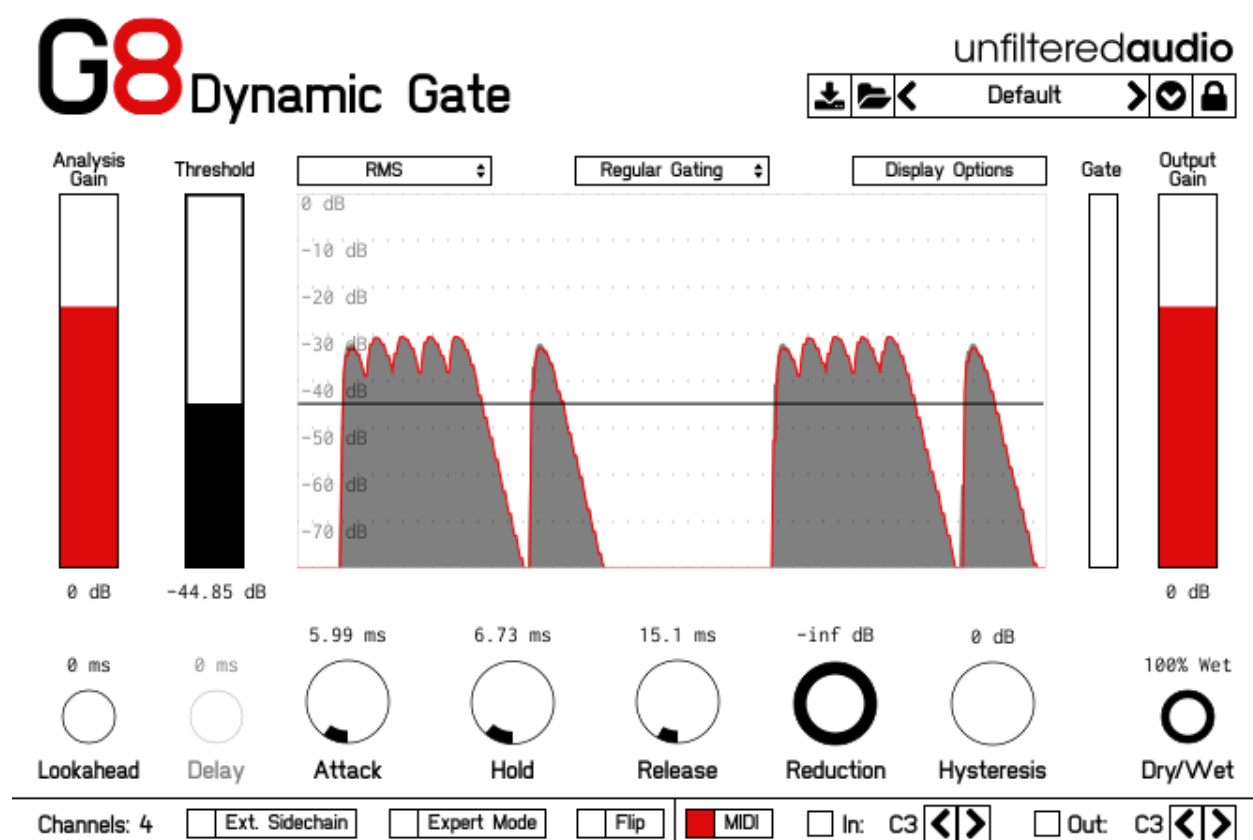
Welcome to the G8 Gate manual! If you are reading this as a PDF, you can find our online version at <http://g8-gate.readthedocs.org/>

This is the open-source manual for G8 Gate, a VST/AU plug-in by Unfiltered Audio. If you find any typos, or want to add information, feel free to modify it on Github and send us a pull request.

Contents:



## Introduction



G8 is a high-quality noise gate with many tricks up its sleeve. It is both a professional dynamics workstation and an experimental amplitude effect. Use it for noise reduction, AM/granular synthesis, bouncing ball rhythm programming, tremolo, trajectory panning, transient shaping, and much, much more.

Gating is an effect commonly used to reduce audio noise by only allowing signals over a certain amplitude threshold to pass. Generally, this is used to eliminate unwanted noise from tracks, but with G8, it can also be used for exaggerated stuttering rhythms and all sorts of other creative dynamic effects.

Flip Mode and Reject Outputs allow you to use G8 as an “amplitude splitter,” or a way of routing different volumed sections of a single track into different creative effects. This technique can be used to add interesting and unique non-linear (a.k.a. amplitude-dependent) effects such as compound distortions, delays, reverbs, and EQ—each of which, when once set up, can be tweaked and modulated simply through changing a single threshold knob. Cycle and single-shot envelope gating modes allow you to easily create intricate amplitude triggered stutter effects. These are especially

powerful when combined with G8's fully supported MIDI input and output triggers.

Use it for noise removal, transient shaping, amplitude-dependent effects routing, glitchy rhythms, and much more. A large number of presets will get you started!

## 1.1 Features

- “Cycle” and “One-shot” gating modes, allowing you to use G8 as a stutter effect, AM synth, granular synth, or triggerable envelope. Combined with G8's MIDI features, you can use these modes to create intricate rhythms, bouncing ball effects, or drum replacement.
- Sidechain support (in select hosts, please see the compatibility list for more information).
- Independent Analysis Gain and Output Gain controls.
- RMS and Peak style metering, allowing you to pick the right tool for the job.
- Lookahead control, with accurate latency reporting to the host.
- Wet/Dry knob for parallel gating, compression, or expansion.
- Variable reduction, allowing control over the depth of the gating.
- Hysteresis and Hold parameters to prevent “chatter” or unwanted dropouts.
- Customizable MIDI input and output, allowing you to trigger G8 from MIDI clips, or to synchronize instruments to G8.
- “Reject” Outputs. These follow the opposite gating envelope as the output, allowing you to use G8 as a two-band amplitude splitter!
- Flip mode, which reverses G8's threshold analysis behavior.
- Expert Mode, featuring an advanced routing, amplitude, and filtering matrix for each channel, as well as individual input monitors for up to 4 channels. Use this to clean up the analysis input, or to create unpredictable gating polyrhythms.



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## **Getting Started**

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### **2.1 Installing G8 Gate**

For non-Steam installations, simply run the provided installer. On Windows, you will need to select your VST directory if the installer doesn't pick the right one by default.

For Steam installations, download G8 Gate through your Steam Library page, under "My Software". After G8 is downloaded, run it once through Steam to install pre-requisites and to open the Unfiltered Audio Plug-in Manager. Once the manager is opened, click "Install" to install G8.

### **2.2 Syncing Presets With Steam Cloud**

On Steam, G8 Gate provides the ability to store your presets on Steam Cloud. This allows you to access your presets on every computer that you install G8 on.

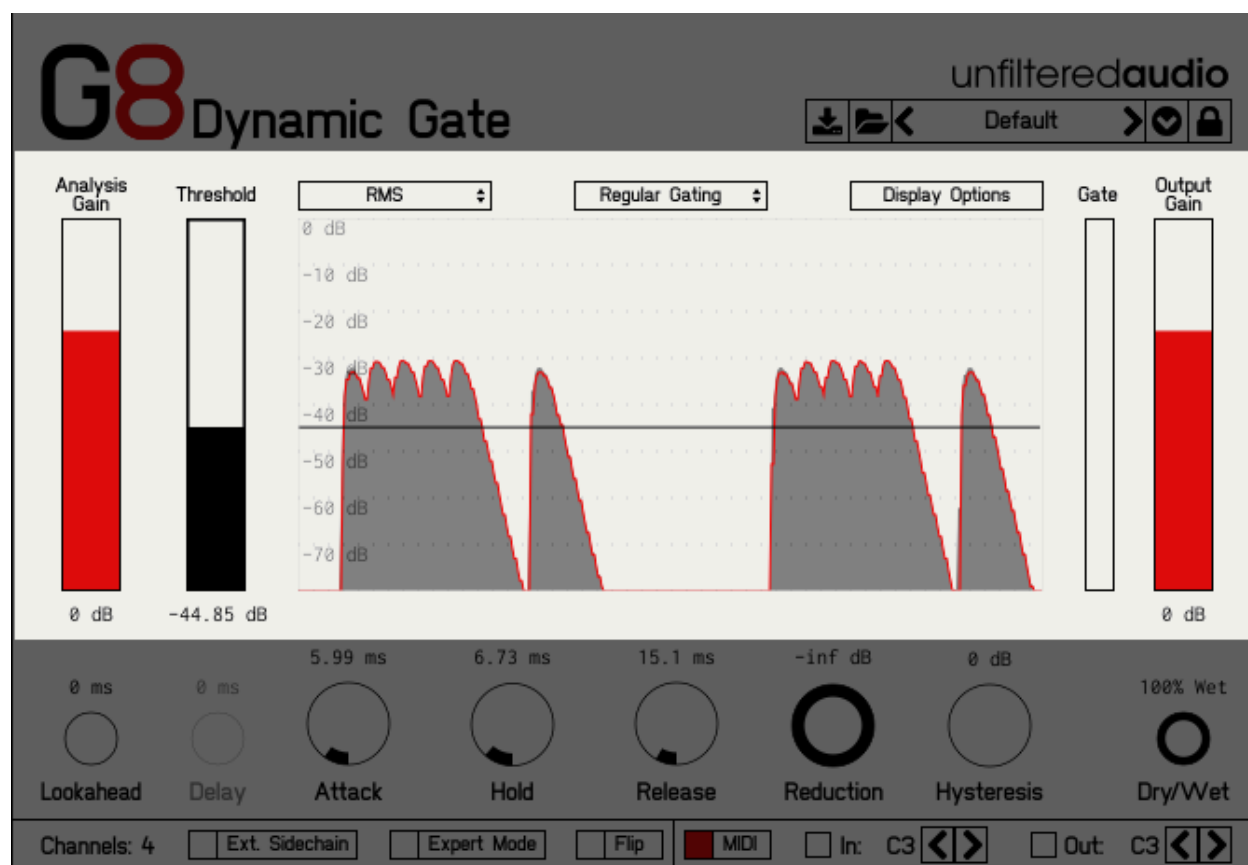
To set it up, run the Unfiltered Audio Plug-in Manager through Steam by selecting "Run" on your G8 Library Page. From there, click "Enable Steam Cloud". This will create a folder called "SteamCloud" in your user presets directory. All presets saved to this directory will be automatically backed up to the Steam Cloud every time you run the Plug-in Manager.

### **2.3 Browsing Presets**

G8 comes with a wide array of presets to get you started. The preset manager on the top-right of G8 is used to load, save, or browse presets. If you want to get a good feel for the power of G8, spend some time with these presets before browsing the manual.



### 3.1 Gains and Display



**Analysis Gain:** Controls the amount of gain applied to the analyzed audio signal. The analyzed signal is considered separately from the outgoing signal in G8. Because of this, this control does not affect the amplitude of the signal that you can hear.

**Threshold:** Controls the level of the gate's threshold. When this threshold is exceeded by the amplitude of the incoming audio, the gate will open and allow the audio to pass through. When the incoming audio is below the threshold value on the other hand, the gate will close.

**Gate Meter:** A non-interactive component that displays the current value of the gate envelope. If you would like to see a more detailed history of the envelope's value, you can click the "Display Options" button and enable the "Show

Gate” parameter, which will then add the envelope to the waveform display.

**Output Gain:** Controls the amount of gain applied to the outgoing signal from G8. This gain does not affect the analysis levels of the incoming audio.

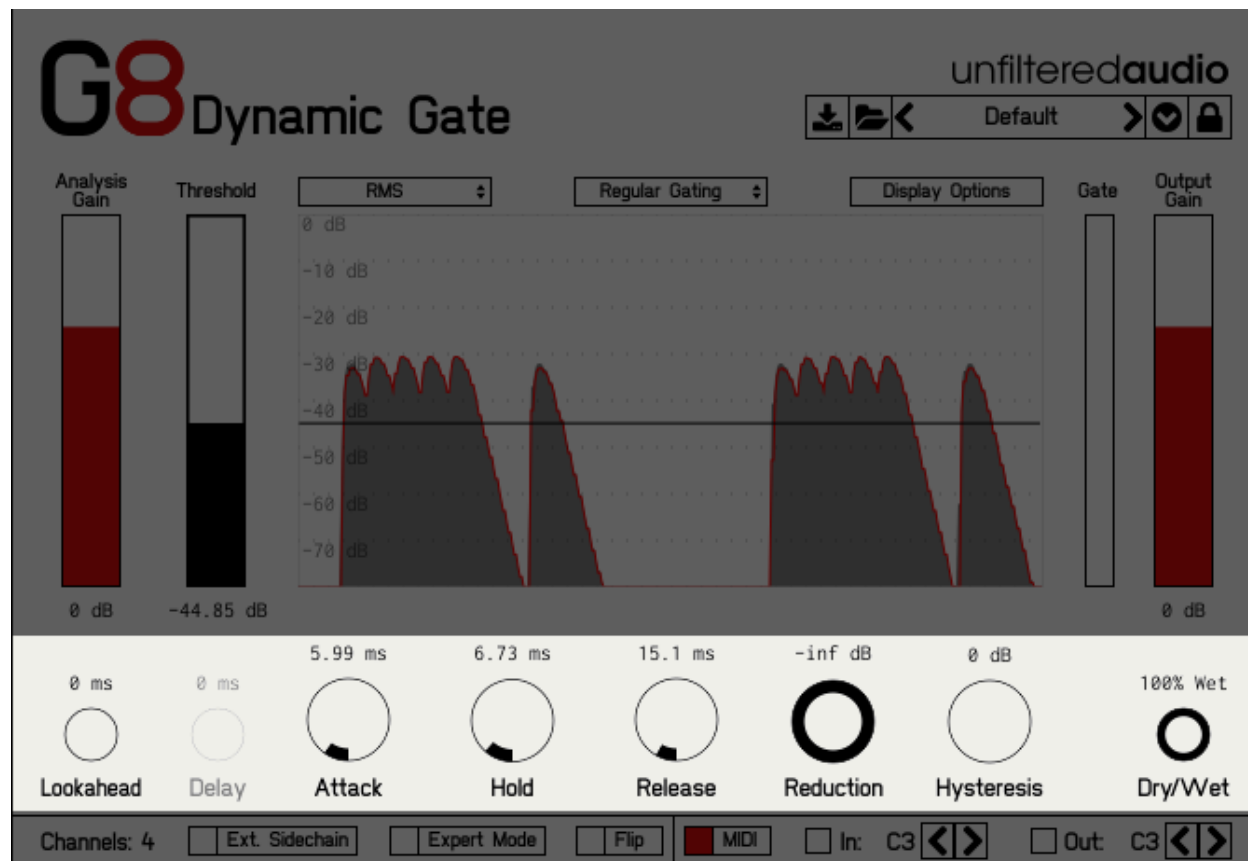
**RMS/Peak:** Selects the analysis type. Use “Peak” for more rapid analysis of signals with many transients (i.e. percussive signals).

**Behavior Mode:** Selects the behavior of the gate envelope. Choose between “Regular Gating”, “One Shot”, and “Cycle”. Please see the section on “Alternate Gate Behaviors” for more info.

**Display Options:** Provides a menu to enable or disable the entire waveform display, or individual components of the waveform display. The three options can each be enabled/disabled individually:

- Show Input (Gray): Shows the input signal used to compare to the threshold value during analysis.
- Show Output (Red): Shows the output signal after the gating has been applied.
- Show Gate (Black): Shows the normalized gating envelope as it is applied to the incoming signal.

## 3.2 Gate Controls



**Attack:** Controls the amount of time it takes for the gate to open to maximum amplitude after the incoming audio goes above the threshold. Extremely short values (< ~10 ms) can result in clicks, due to the rapid change in amplitude.

**Hold:** Controls the amount of time that the gate is required to stay at maximum amplitude for. If the incoming audio drops below the hysteresis point before the hold stage is finished, the hold stage will complete before the release stage begins.

**Release:** Controls the amount of time that it takes for the gate to go from maximum amplitude to minimum amplitude. This stage occurs after the incoming audio drops below hysteresis, and after the hold stage is completed.

**Reduction:** Controls the amount of gain removed from the audio signal when the gate is closed. This effectively sets a minimum amplitude for the gate envelope.

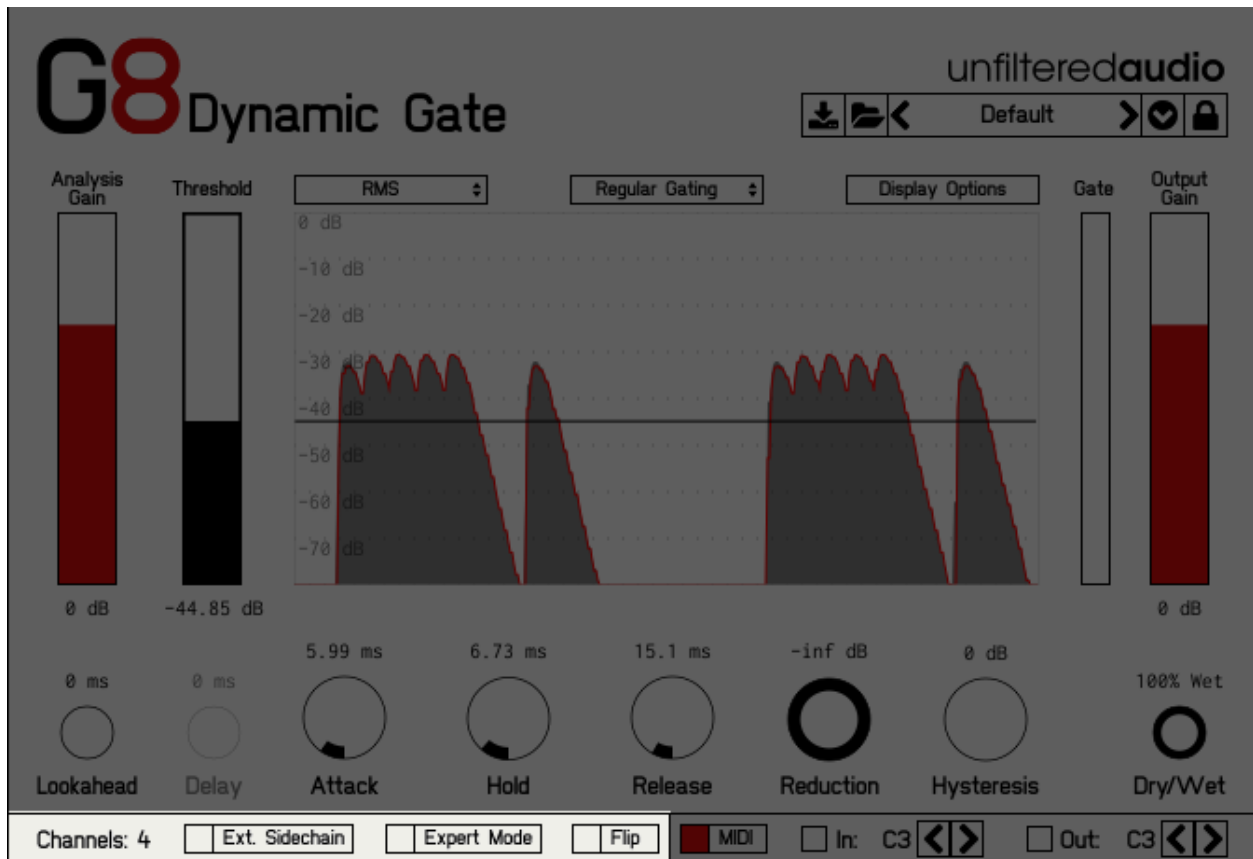
**Hysteresis:** Controls the hysteresis point, often referred to as the “bottom threshold”. The audio signal must drop below this bottom threshold before the gate can close.

**Dry/Wet:** Controls the balance between the “dry” (unaffected) incoming signal, and the “wet” (affected) outgoing signal. Please keep in mind that the “dry” signal is delayed by the Lookahead value, meaning that it is not a truly bypassed signal. This was done so that the wet and dry signals maintain the same phase.

**Lookahead:** Delays the signal by a chosen amount to allow the gate’s analysis stage to better predict incoming transients.

**Delay:** This control is only active when “Cycle” mode is selected (Please see the section on “Alternate Gate Behaviors”). Controls the length of silence inserted between envelope cycles.

### 3.3 Advanced Controls (Bottom Left)

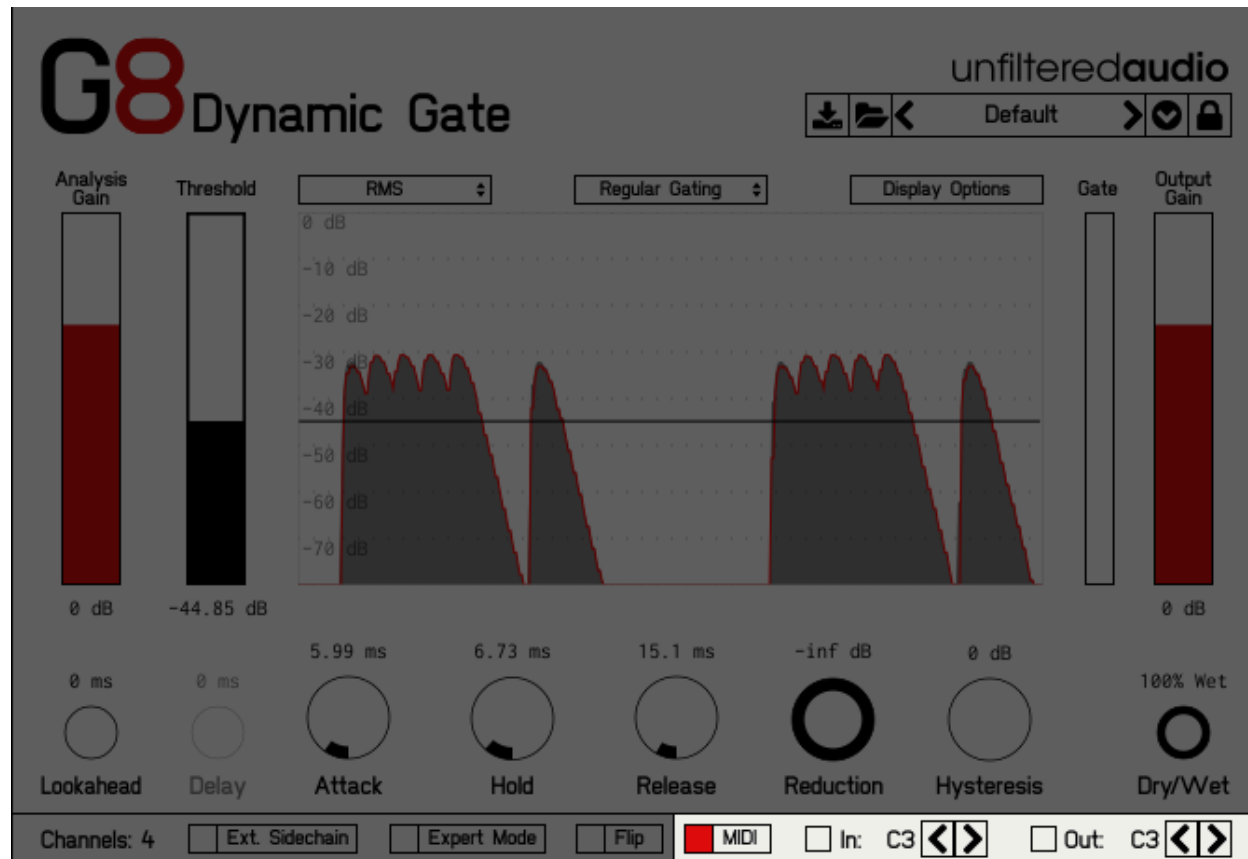


**Channels Display:** Displays how many channels your host currently supports. This number is equal to the number of input channels. You can use this for troubleshooting your setup.

**Expert Mode:** Toggles whether or not Expert Mode is active. For more information, please see the section on “Expert Mode”.

**Flip Mode:** Toggles whether the primary outputs and reject outputs are swapped. For more information and techniques, check out “Reject Outputs” and “Flip Mode.”

### 3.4 MIDI Controls (Bottom Right)



**MIDI:** Toggles whether G8’s MIDI inputs and outputs are active. When this toggle is de-activated G8 will not send or receive MIDI notes.

**In:** The MIDI input section has a display lamp that will light up any time G8 detects a matching incoming MIDI note. The left and right arrows are used to change which note G8 will look for to activate this trigger.

**Out:** The MIDI output section has a display lamp that will light up any time G8 is sending MIDI output. The left and right arrows are used to change which note G8 will use to send triggers.

For more information, please see the section on “MIDI”.

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## Additional Features and Modes

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### 4.1 Alternate Gate Behaviors

Cycle Mode and One-Shot Mode, are variations on G8's default gating behavior, each of which change the way in which the gating envelope will be applied while the gate is "open" (i.e. the input signal is above the threshold level).

#### **Cycle Mode:**

In Cycle Mode the gating envelope will continuously cycle through each of its stages- Attack, Hold, Release, and Delay (optional). Each of the gating parameters control the length of its corresponding portion of this envelope, and the cycle will be repeated until the input signal falls below the threshold level triggering a final release. The speed of each cycle is the sum of the lengths of all four segments (Attack, Hold, Release, and Delay).

Cycle Mode is useful for creating effects such as amplitude-sensitive tremolo (i.e. when the guitar gets loud, add tremolo), especially in combination with variable reduction amounts. If the envelope lengths are set very low (< 50ms), you can create AM synthesis where the length of the entire cycle functions as the carrier frequency. Similarly, if the delay time is increased while the rest of the envelope values remain very low, you can create granular synthesis where each cycle is heard as an individual sound grain.

#### **One-Shot Mode:**

One-Shot Mode is a variation on Cycle Mode, where the gating envelope only fires a single time whenever the input signal goes over the threshold level. The envelope runs through the Attack, Hold, and Release stages immediately, no matter how long the incoming audio is above the threshold for. The envelope will not fire again until the audio has dropped below the threshold and risen above it again. One-Shot mode works best on non-layered sounds, such as an individual drum channel. You can use One-Shot mode, for instance, to drastically alter the character of a snare hit, or to turn a more sustained synth part into percussion tones.

#### **Additional Notes:**

When in Cycle or One-Shot Mode, G8 will generate a MIDI out note whenever the envelope is triggered. Using this feature in One-Shot Mode is a great way to replace drum hits with another source. In cycle mode, you can use it to create MIDI rolls, automatic bouncing balls, and other otherwise difficult to program flourishes.

### 4.2 Reject Outputs

One of G8's most innovative features is its ability to create "Reject Outputs" when used in four-channel mode. The Reject Outputs are a set of auxiliary outputs that output the sound that is currently being blocked by the gate. If this is hard to conceptualize, mixing together the gated signal and the Reject Outputs will give you back your original signal.

This opens up all sorts of creative mixing possibilities using a technique that we call "amplitude splitting". This allows you to create non-linear (amplitude dependent) effect chains using any other plug-in you wish. For a simple example,

you could create an amplitude dependent auto-panner. Simply mix the main outs down to one channel, and the Reject Outputs down to another. If you are creating a four-channel mix, this is an easy and flexible surround auto-panner!

For more information on how to connect the Reject Outputs in your DAW, please refer to the section “Using G8’s Sidechain Inputs and Reject Outputs”. If your host doesn’t support G8’s four-channel layout, then please refer to the next section on using the “Flip Mode”.

## 4.3 Flip Mode

When “Flip Mode” is active, the main outputs and the Reject Outputs are swapped. This is useful for a number of reasons. First, if your host does not support G8’s four-channel mode, then this will still give you access to G8’s Reject Outputs. Second, this mode is visible to automation! This allows you to increase the complexity of your Reject Output effect chains by switching between the two modes. Third, it allows you to simply use the Reject Outputs if you have no use for the main outputs.

Why would you want access to only the Reject Outputs? Well, one of our favorite uses of the Flip Mode is to use G8 as a bizarre compressor! To achieve this, activate Flip Mode, and then change the amount of reduction that G8 is using. There are many other wild effects waiting to be discovered in this mode, especially in combination with G8’s alternate behaviors.

## 4.4 Expert Mode

Expert Mode is an optional mode that provides more in-depth control for advanced analysis situations. In this mode, you have access to the gain of each individual channel, along with the ability to filter the analysis signal. You also have the ability to change between different modes of analysis.

To get you started, here are some ideas for how to use Expert Mode:

- Use the filters to remove noise from your analysis signal. You can remove clicks and pops from your analysis signal to make sure that they don’t open the gate at the wrong moments.
- Control an uneven stereo signal by applying separate gain to each channel or setting Analysis Mode to “Average”.
- Create a mix of your main input and external sidechain input. Balance these correctly to create unusual gating polyrhythms.
- For even more unusual gating behavior, change the analysis mode to “Average” and use two very different input sources.

## 4.5 MIDI



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## Recipes and Ideas

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### 5.1 Autopanner

- Take the main outputs from G8. If possible, mix the stereo outputs down to mono (Your DAW probably has a utility for doing this.)
- Pan that track towards one channel.
- Take the reject outputs, mix them down, and pan them towards the opposite channel.
- **For Transient-based Autopanning**, use the “Regular Gating” mode and set the Threshold to a useful value. Your Attack, Release, and Hold times will control how quickly the pan occurs after the threshold is crossed.
- **For Regular Autopanning**, use the “Cycle” mode and set the Threshold to its minimum value. Again, the Attack, Release, and Hold times will control the panning envelope.
- For either above mode, the Attack and Release times give you separate control over how quickly the audio pans to one channel and how quickly it pans back. It is a rather dynamic effect!

### 5.2 Tremolo

- Set G8’s behavior to “Cycle” (instead of “One-Shot” or “Regular Gating”).
- Set the Threshold to its minimum value. You should hear a dramatic tremolo effect.
- For a softer tremolo effect, adjust the “Reduction” value.
- Attack, Release, and Hold settings will affect the tremolo’s speed.

### 5.3 Granulation/AM Synthesis

- Set up the Tremolo patch described above.
- Set the Attack, Release, and Hold settings to extremely low values. When you can no longer hear the individual cycles, you have achieved AM Synthesis.
- To space the grains out more, increase the “Delay” setting.

## 5.4 Bouncing Ball MIDI Generation

- G8 does not need to receive audio for this effect to work.
- Set the threshold to its minimum setting.
- Change G8's behavior mode to "Cycle". The gate meter should be jumping up and down.
- Connect G8's MIDI output to an instrument that you would like to trigger (For more detailed instructions, please see the section on "Using G8 In Your Host").
- You should now hear the instrument triggering at a regular rate. For a more rapid bounce, decrease the Attack, Hold, and Release times.
- Once you have a bounce setting that you like, increase/decrease the Delay parameter.

## 5.5 Percussion Synthesizer

- Set G8's behavior to "One-Shot".
- Run a synthesizer into G8. A great starting patch is a simple mix of a sine tone and white noise.
- Set G8's Attack time to about 10 ms. Set the Hold to 0 ms and the Release to around 100.
- Set G8's Threshold to an appropriate setting.
- Each time you play a note on the synth, G8 will apply its envelope. Since G8 is capable of creating extremely short envelope segments, it makes a great alternative to some synths' less flexible built-in envelope generators.
- For more fun, set G8's behavior to "Cycle" for repeated percussion.

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## Using G8 in Your Host

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**Special Note:**

If you plan on using the Sidechain Inputs and Reject Outputs, we recommend using the VST version of G8 whenever possible.

## 6.1 Ableton Live



### MIDI In to G8:

- Add an instance of G8 to an audio track that you want to apply gating to.
- Create a MIDI track. Optionally, create a clip with the pattern that you want to use for gating.
- Click the “IO” symbol on the right side of the Ableton window to show the input/output section for each track.
- Go to the created MIDI track, and select the “MIDI To” dropdown, selecting your audio track that G8 is using.
- The subcategory dropdown menu right below this should now activate allowing you to select “1 G8 Gate.” Selecting G8 will route the MIDI track into G8 so that you can use it to control the gate’s envelope. Make sure to set G8’s MIDI input note is set to whatever note is being used in your pattern.

**MIDI Out from G8:**

- Add an instance of G8 to an audio track.
- Create a MIDI track.
- Click the “IO” symbol on the right side of the Ableton window to show the input/output section for each track.
- Go to the created MIDI track, and click the first “MIDI From” dropdown, selecting your audio track that G8 is using.
- The subcategory dropdown menu right below this should now activate allowing you to select “1 G8 Gate.” Selecting G8 will route the MIDI from G8 into this track.
- Set “Monitor” to “In”. This will enable MIDI to reach this track, even when it’s not set to record.

**Sidechain Ins:**

- Add an instance of G8 to an audio track that you want to apply gating to.
- Create a second audio track with the clip you want to use as a sidechain.
- Click the “IO” symbol on the right side of the window to show the input/output section.
- Go to the sidechain track, and select the “Audio To” dropdown, changing “Master” to your main audio track.
- The subcategory dropdown menu right below this should now activate allowing you to select “3/4 G8 Gate.” Activating this setting will route the sidechain track into the third and fourth inputs on G8 so that you can use it to control the gate’s envelope.
- **If you would still like to hear the audio going to G8’s sidechain input**, create another audio track.
- Set the new audio track’s input to the track that you are sending to G8.
- Set “Monitor” to “In”. Now you will simultaneously hear G8 Gate and its sidechain input.

**Reject Outs:**

- Add an instance of G8 to an audio track that you want to apply gating to.
- Create a second audio track for receiving audio from G8’s Reject Outs.
- Click the “IO” symbol on the right side of the window to show the input/output section.
- Go to the track that is receiving audio from the Reject Outs, and click the first dropdown box under “Audio From”. From here, select the track that G8 is on.
- The second dropdown box will now allow you to select “G8 Gate 3/4”.
- Set “Monitor” to “In”. This will allow you to always hear the audio coming from G8’s Reject Outs.

## 6.2 Bitwig Studio



### MIDI In

- Create an instrument track.
- Add an instance of G8 to this instrument track. There should not be anything before G8 on this track.

- Create a MIDI clip. The MIDI from this clip will go to G8's MIDI input.

To route audio into G8 with this setup:

- Create an audio or instrument track that you want to be gated.
- Set the output of that track to be the instrument track that G8 is currently on.

#### MIDI Out

-Place an instance of the instrument you want to send MIDI to *after* G8 Gate.

#### Sidechain Ins and Reject Outs:

Unfortunately, Bitwig does not support routing to or from multi-channel plug-ins at this time. When Bitwig is updated, we will update this manual to provide instructions on how to use it.

## 6.3 Cubase

## 6.4 Digital Performer

## 6.5 FL Studio

**Please note that G8 Gate will not produce a gating effect in FL Studio until the Reject Outputs are manually set to a different channel.** This is due to the fact that FL Studio groups a plugin's aux ins and aux outs together. Keep this in mind when using Expert Mode, as well, as a standard input will be sent to inputs 1, 2, 3, and 4 until the sidechain input is manually setup.



### Sidechain Ins

- Create an instance of G8.
- Select a mixer track to route to G8's sidechain input.
- With the sidechain track focused, click on the “Send to” button on G8's track (see above photo).
- Open up G8's editor and select the settings page.
- Change input 3/4's routing to “1”. This will route the sidechain mixer track into G8.





### Reject Outs

- Create an instance of G8.
- Select a mixer track to route G8's Reject Output to.
- With the G8 mixer track focused, click on the "Send to" button on the Reject mixer track (see above photo).
- Turn the Gain on the send completely off. Otherwise, you will hear all of G8's track AND the Reject.
- Open up G8's editor and select the settings page.
- Change output 3/4's routing to "2" ("1" is the Master Out). This will route G8's reject outputs to that track.

- Please note that if the Reject Out and the Main Out are both audible, G8 will not have an effect on the audio. If you want traditional gating behavior, mute the Reject Output mixer track.



### MIDI In

- Create a MIDI Out Device and an instance of G8.
- Select a port to send MIDI on.
- Open up G8's settings menu.
- Select the same port to receive MIDI on.

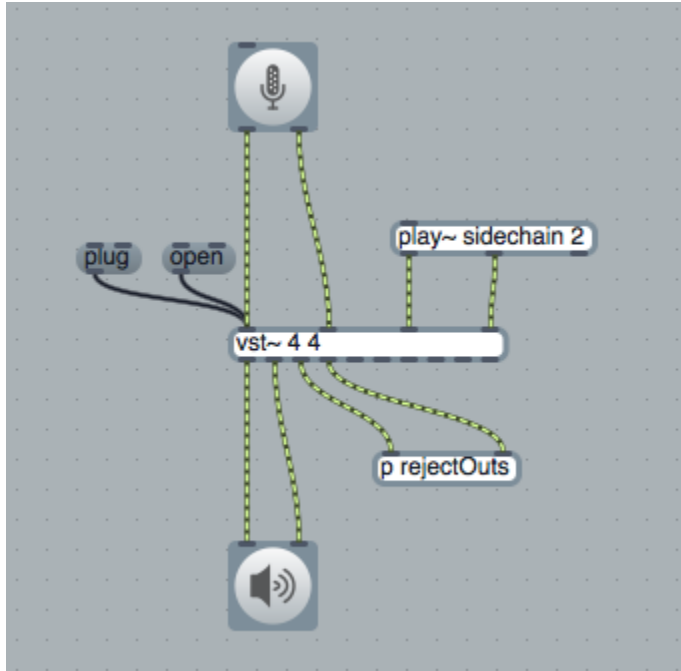
### MIDI Out

- Create an instance of G8.
- Open up G8's settings menu.
- Select a MIDI Out port.
- Open up an instrument that you would like to send MIDI to.
- Open this instrument's settings menu.
- Set the instrument's MIDI In port to be the same as G8's MIDI Out port. In the image above, we are triggering Madrona Labs' Aalto, one of our favorite softsynths.

## 6.6 Logic Pro X

Unfortunately, Logic does not support Sidechain Ins, Reject Outs, or MIDI Out at this time. We are waiting for aux port support from the JUCE plug-in library that we are using. Additionally, MIDI Out from AU is not supported in most AU hosts. When we add in aux port support for Logic, we will release a free update for G8.

## 6.7 Max/MSP



### Sidechain Ins and Reject Outs:

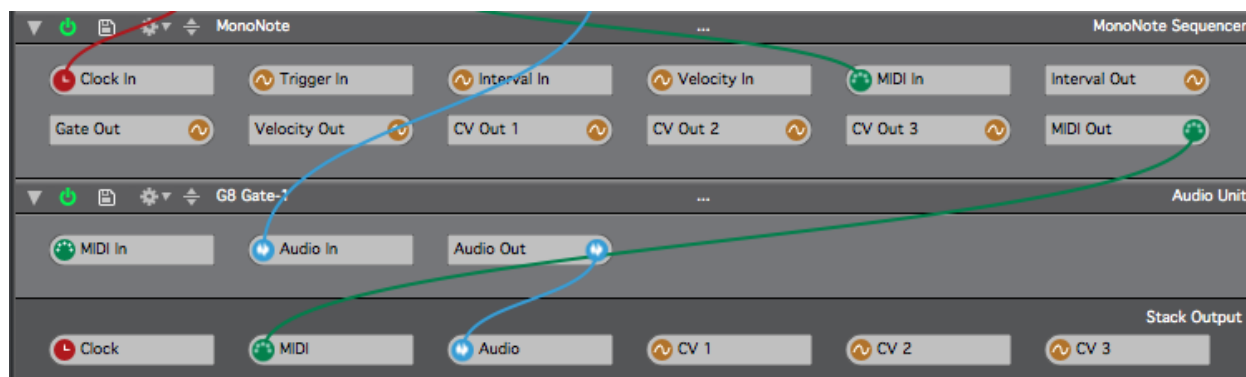
Due to the modular, visual nature of Max/MSP, it is extremely easy getting setup with G8's routing.

- Create a “vst~ 4 4” object. The “4 4” argument means that the plug-in will have four inputs and four outputs.
- Create a message object (hit ‘m’ to create one quickly). Write “plug” (no quotes) in this message box. Connect it to the first input of the vst~ object.
- Click the “plug” message. It will bring up a window to load a plug-in on your hard drive. On OS X, this will be under /Library/Audio/Plug-ins/VST/Unfiltered Audio/. We recommend using the VST version in Max/MSP.
- Create a message object, this time called “open”. This message object will allow you to see your interface.
- The first two inputs of the vst~ object are the main ins, while the second two are the sidechain ins.
- The first two outputs of the vst~ object are the main outs, while the second two are the reject outputs.

### MIDI

Using MIDI in Max/MSP is outside the scope of this manual. The above instructions will help you to get G8 loaded and running. For an interactive guide to using automation with the vst~ object, hold “alt” and click the vst~ object while the Max patching window is unlocked.

## 6.8 Numerology



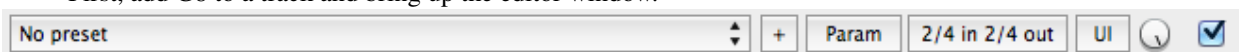
### MIDI in to G8

After G8 is loaded into a rack, hit your “Tab” key to switch to cabling mode. Here, you can easily connect other modules to G8’s MIDI input.

## 6.9 REAPER

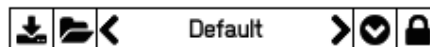
### Initial Setup for Sidechain Ins and Reject Outs

- You will need to make G8 aware of four input and output channels.
- First, add G8 to a track and bring up the editor window.

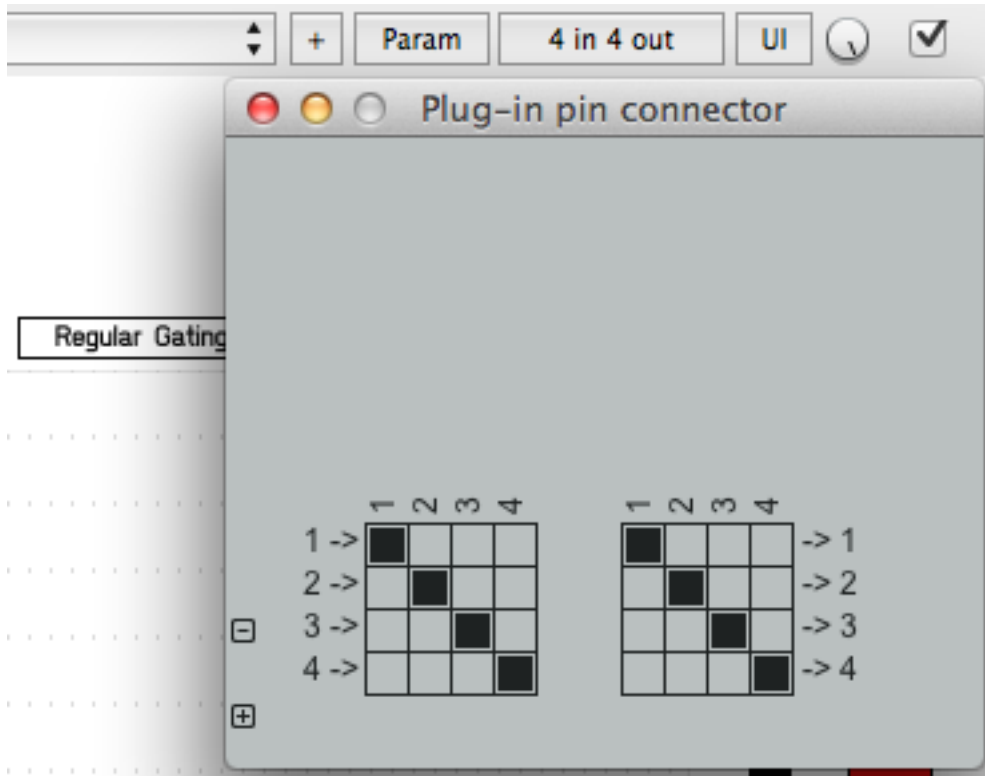


**G8**Dynamic Gate

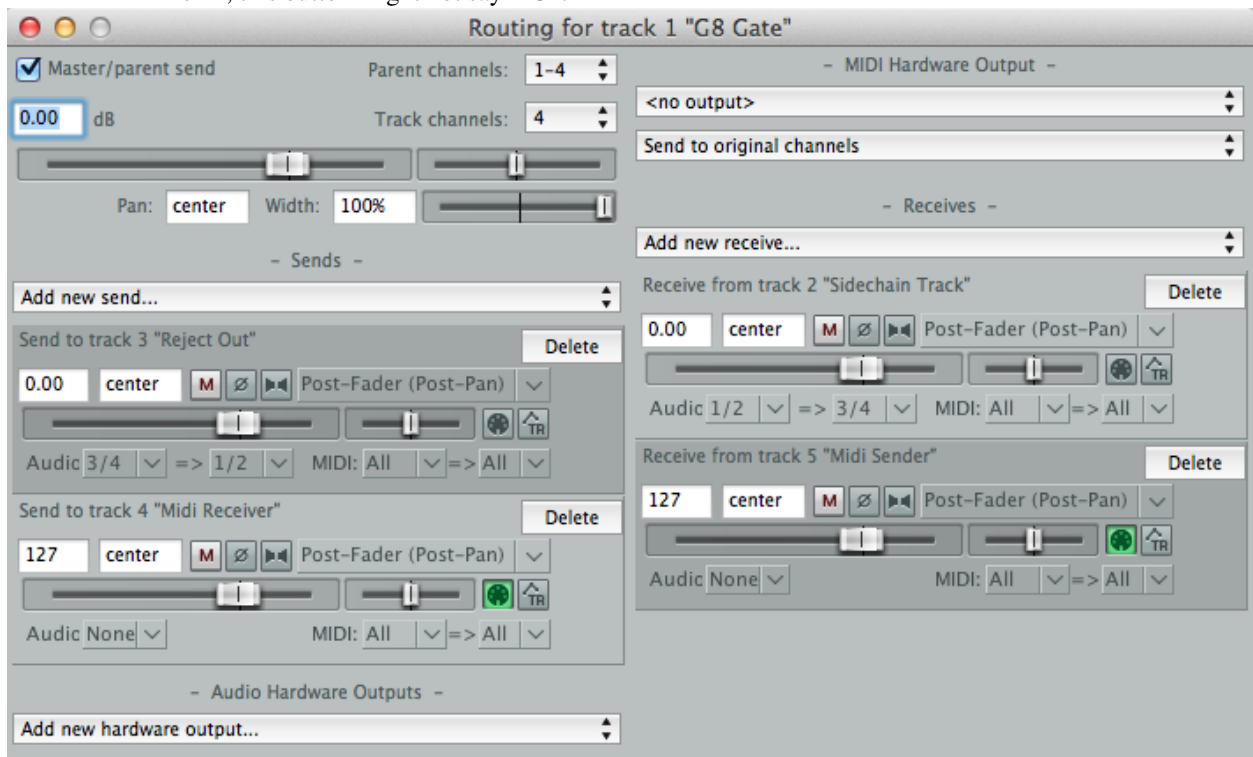
unfilteredaudio



- Click the REAPER button “2/4 In 2/4 Out” to bring up the routing matrix.
- Click the small “+” button on the routing matrix to add 2 channels of input and output.



- The button should now say “4 In 4 Out”. The bottom left corner of G8 should say “Channels: 4”.
- Now, bring up the track’s routing panel by clicking the “IO” button on the G8 track. If you are using a different REAPER skin, this button might not say “IO”.



## Sidechain Inputs

- From the track's routing panel, create a new "Receive" from the track you want to use as the sidechain.
- Select "Audio: 1/2 => Audio: 3/4". This means that the main output of the sidechain track (channels 1 and 2) are being routed to the sidechain inputs (channels 3 and 4) of G8.

### Reject Outputs

- From the track's routing panel, create a new "Send" to the track you want to use for Reject Outputs.
- Select "Audio: 3/4 => Audio: 1/2". This means that the Reject Outputs (channels 3 and 4) of G8 are being routed to the other track's main inputs (channels 1 and 2).

### MIDI Input

- From the track's routing panel, create a new "Receive" from the track you want to receive MIDI from.
- Select "Audio: None". This will automatically turn on MIDI receive for the track. If you would like to receive audio *and* MIDI simultaneously, click the MIDI button (with the MIDI cable icon) to turn on MIDI receive.

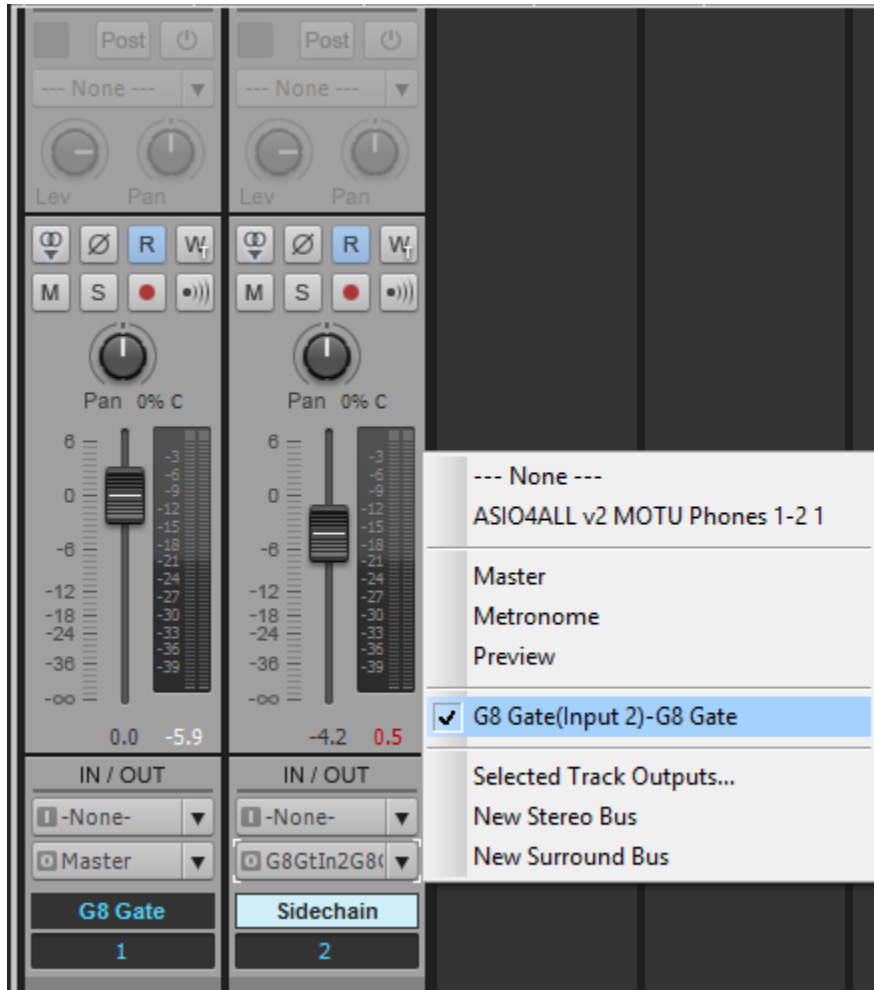
### MIDI Output

- From the track's routing panel, create a new "Send" to the track you want to send G8's MIDI output to.
- Select "Audio: None". This will automatically turn on MIDI send for the track. If you would like to send audio *and* MIDI simultaneously, click the MIDI button (with the MIDI cable icon) to turn on MIDI send.

## 6.10 Renoise

Renoise, unfortunately, does not support routing of multi-channel plug-ins or plug-in MIDI routing. If these features are added to Renoise in the future, we will update this manual with instructions on how to use them.

## 6.11 Sonar



### Sidechain Ins

- Add G8 to an audio track.
- Select another audio track that you want to route to G8's sidechain.
- Select either the Send Out or the Main Out section of that track. With Send, you will still hear the track that you are using for sidechaining.
- Select the output dropdown under your chosen section and select G8 Gate Input 2.

## 6.12 Studio One

### Sidechain Ins and Reject Outs:

Unfortunately, Studio One does not support audio routing to or from multi-channel VST2 plug-ins. We plan on releasing a VST3 version of G8 in the future. This will be a free update to all users.

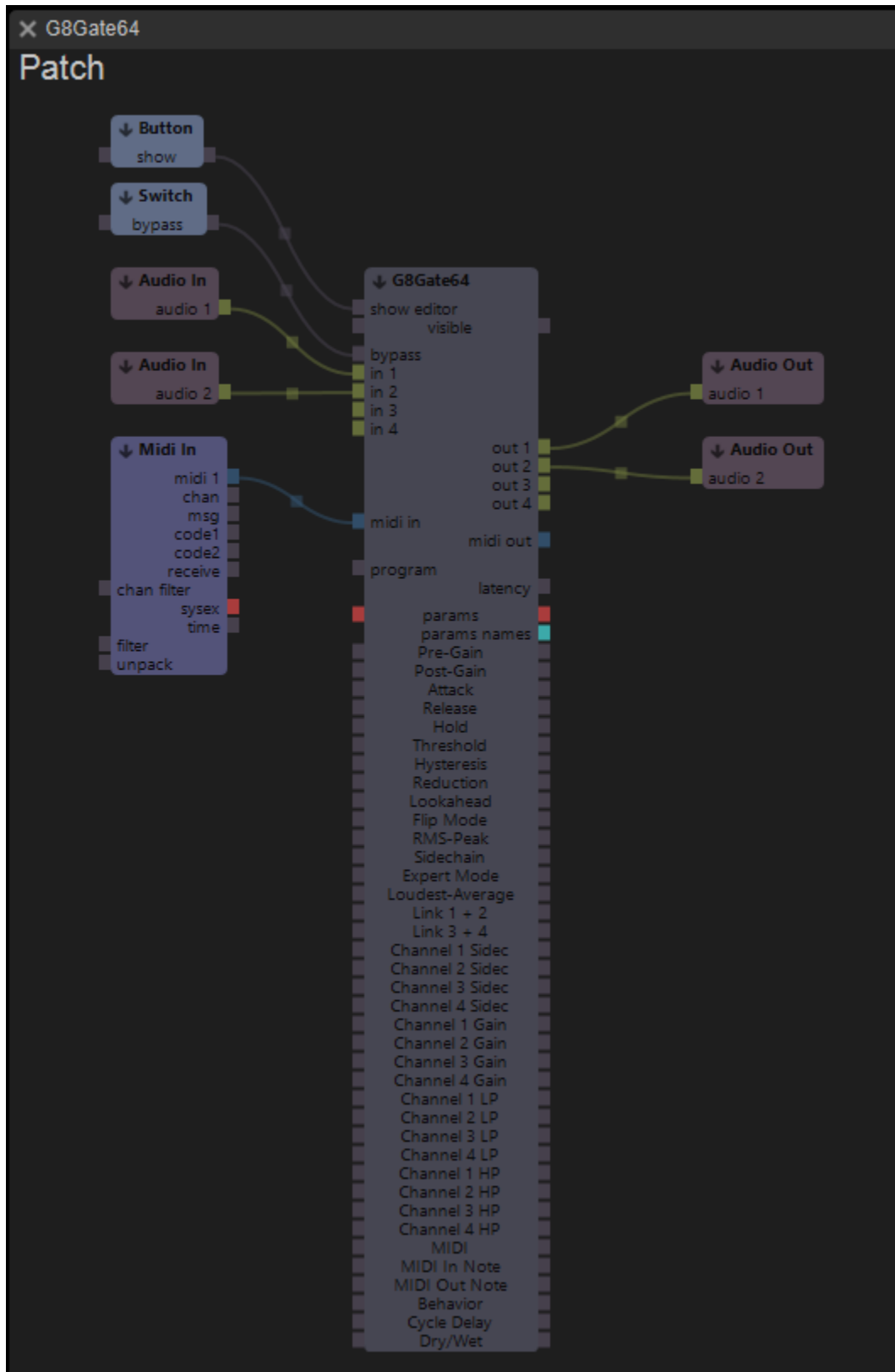
**MIDI:**

Routing MIDI to and from G8 is extremely easy in Studio One.

- Add G8 Gate to an audio track.
- Create an instrument track.
- For receiving MIDI from G8, click the MIDI input selector (the top one) and select G8 Gate channel 1.
- For sending MIDI to G8, click the MIDI output selector (the bottom one) and select G8 Gate channel 1.



## 6.13 Usine Hollyhock



### Sidechain Ins, Reject Outs and MIDI

Setting up G8 is extremely easy in Hollyhock. Simply drop G8 onto a rack, and double-click it to bring up the modular patching view. Sidechain Inputs are inputs 3 and 4, while the Reject Outputs are outputs 3 and 4.

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## Credits and Thanks

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<http://www.unfilteredaudio.com>