SuperGate
User's Guide

MH SuperGate Users Guide

Metric Halo

Revision: 4.0.2

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1. MH SuperGate Overview

SuperGate is a next-generation dynamics plug-in specializing in isolating (or removing) audio events based on the program dynamic signature.

SuperGate's User Interface

SuperGate employs a number of controls not usually found in an audio gate, providing unprecedented control over the detector behavior and the attack/release shapes of the gate attenuation stages.

Features include:

- State machine "gate open" and "gate close" operation eliminates modulation between gate gain stages and the source audio
- Threshold (gate open) and Hysteresis (gate close) detector level controls
- Detector Lookahead aids detection of slower transient events
- Independent Gate Attack Time (up to 1000ms) and Attack Curve shape controls
- Gate Hold up to 2 seconds before Gate Release engages
- Independent Gate Release Time (up to 4000ms) and Release Curve shape controls
- Sidechain Detector Filter with six fully tune-able filter curves
- External Detector Source input routable from any MIOConsole hardware input or bus
- Listen Source selections monitor the *Gated* signal, *Gate Closed* (program the gate is rejecting) or the *SideChain* post-filter feed to the detector
- Attenuation control determines the gain reduction applied to audio rejected by the gate (from 0dB to -144dB)
- Duck mode: reverses the gate action, so the gate *closes* to attenuate audio when the detector is above Threshold, and *opens* when below Threshold

The SuperGate Detector/Gain History shown above to the left displays the filtered detector response to your source audio as a white line with grey fill, scrolling from right to left. The applied gate attenuation is overlaid as the green line with green fill.

Simply put: Green passes through the gate, grey does not.

2. System Requirements

Hosts:

- *Pro Tools™ (Mac)*: Pro Tools 11 or higher running on a Macintosh computer. The v4 software currently supports Native AAX operation only.

- *Pro Tools™ (Windows)*: Pro Tools 10 or higher running on a Windows computer. The v4 software currently supports Native AAX operation only.

- *Native (Mac)*: Any Intel or Apple Silicon-native Mac DAW (64-bit) that supports AU, VST2, VST3 or AAX plug-ins.

- *Native (Windows)*: Any Intel Windows (64-bit) DAW that supports VST2, VST3 or AAX plug-ins.

Please Note: All v4 plug-ins are 64-bit (as were v3). If you have a need to work with an old 32-bit host, please contact MH Support and ask for the 32-bit Production Bundle v2 installer.

Operating System:

- *Mac*: Any Apple Silicon (ARM) or Intel-based Mac running Mac OS X 10.9 or newer

- *Windows*: Any Intel-based Windows PC running Windows 10 or newer.

Licensing:

- A PACE iLok.com account. You can authorize your v4 license to your computer, iLok Cloud or any 2nd or 3rd generation iLok USB key.

  The first generation blue-green iLok USB keys are no longer supported by PACE for new product authorizations.

  Please note that prior v2 and v3 licenses are separate and remain valid: you do not have to trade in your old iLok license. Production Bundle v3 and earlier plug-ins will continue to serve on older systems in addition to the v4 installations on newer platforms, with full preset compatibility between v3 and v4.

- One license authorizes the software on any platform.

- The most recent iLok License Manager installer can be found here: iLok License Manager application and driver installers.

  Older operating systems may require a specific version of the iLok driver, which can be found here: Legacy iLok application and driver installers.

3. Installation

For both Mac and Windows, there is a single standard installer for the Production Bundle that allows you to decide which plug-ins to install to your computer, depending on what individual plug-in licenses you own and what formats you use.

IMPORTANT: Please make sure you have your license installed and available *before* you first launch your host after running the installer. Otherwise, you will receive a message on launch that the software is not licensed, asking you to "Buy" or "Quit". There are some hosts that will not rescan for your plug-ins on the next launch after the license is installed, and some hosts do not provide a user menu preference to rescan.

Mac

Please note– The following graphics show installation on a macOS 12 system; the process may be slightly different in other versions of the OS, but the basic concepts are the same. Small details such as file sizes shown may vary with subsequent releases.

- Double-click the "MH Production Bundle.pkg" application
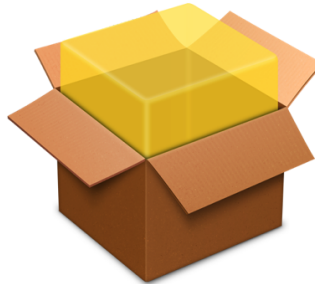
MHProductionBundleInstaller_
v4.0.2.157.pkg

- The first window requests permission for the installer program to scan for the presence of earlier versions of Metric Halo plug-ins. Clicking "Cancel" will quit the installer. Click "Allow" to proceed:
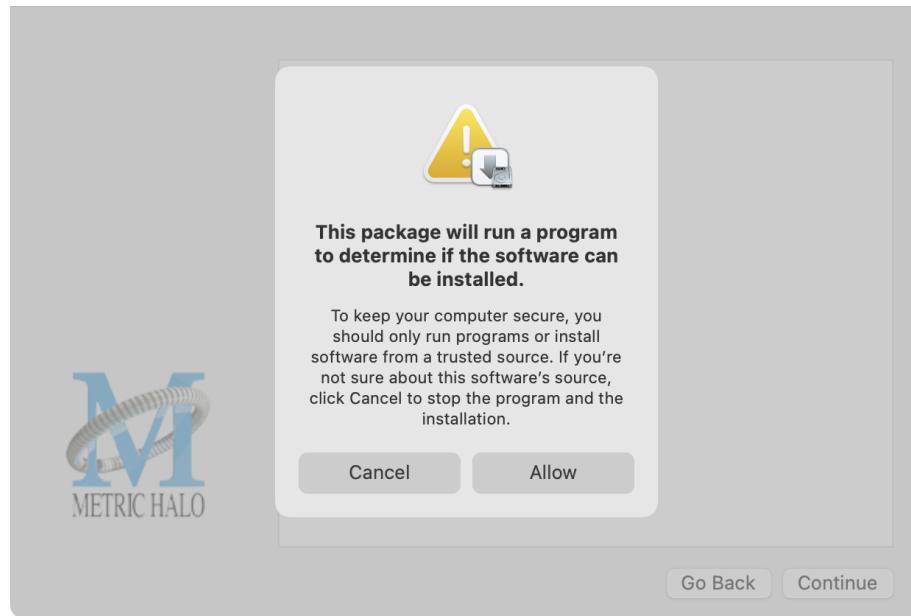
Click "Allow" to proceed…

- The installer dialog will appear, detailing the plug-in formats and system requirements to be installed:
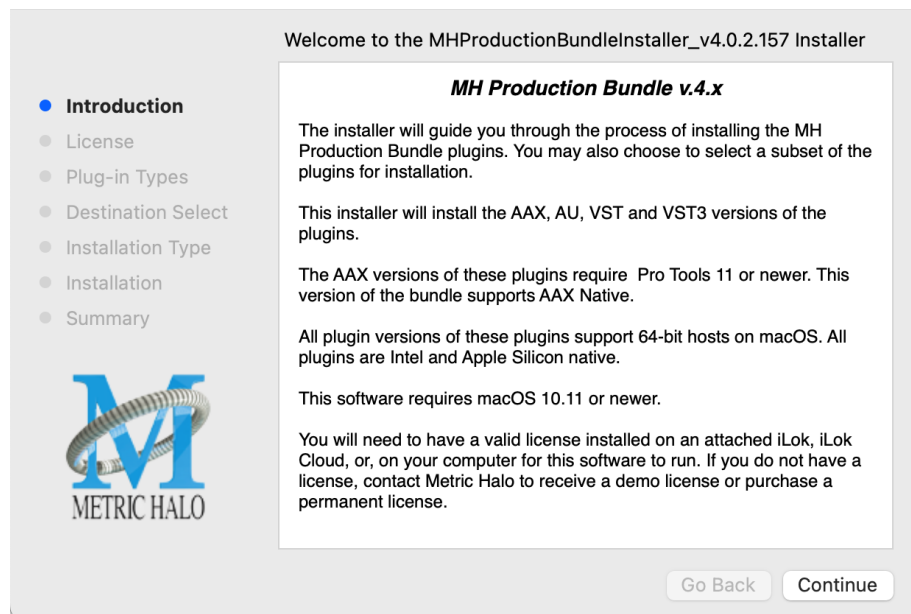
Click "Continue"…

• Now you will see the Metric Halo License Agreement:
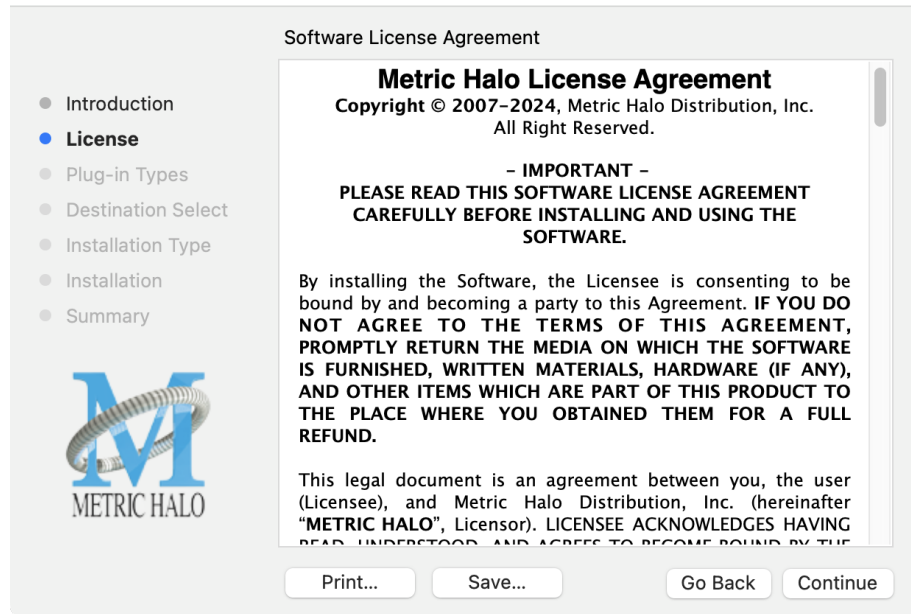
After you have read it, click "Continue"…

• Next, click "Agree" to accept the License Agreement:
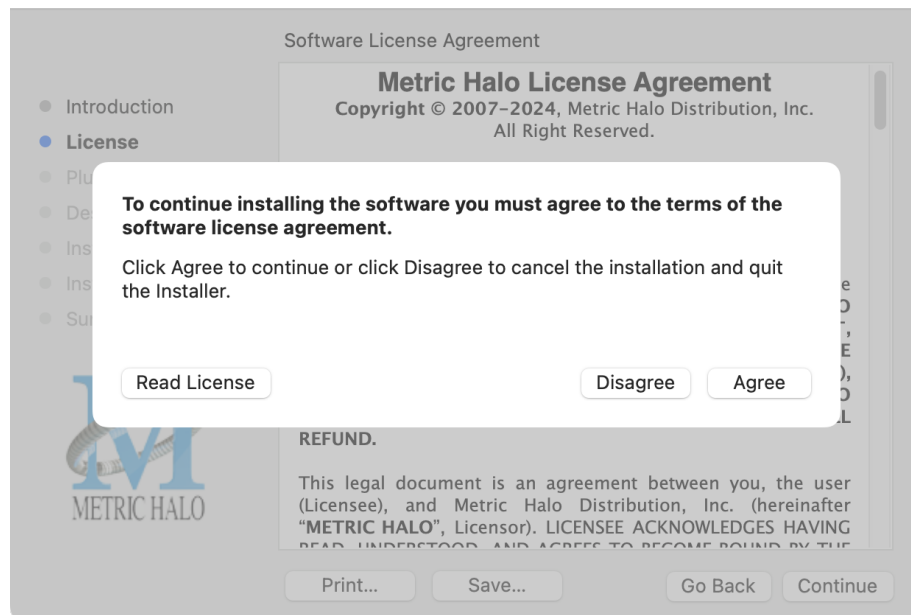
- The Choose Plug-in Types selector window defaults to no plug-ins selected, so that you may choose just the plug-in formats you wish to install. Checking *All Plug-In Types* will install Audio Unit, VST2, VST3 and AAX plug-ins to their respective folders in the root Library directory:
  - AU to **/Library/Audio/Plug-Ins/Components**
  - VST 2 to **/Library/Audio/Plug-Ins/VST**
  - VST 3 to **/Library/Audio/Plug-Ins/VST3**
  - AAX to **/Library/Application Support/Avid/Audio/Plug-Ins**

  Selecting any one or more specific plug-in types will install or upgrade only those formats, leaving older plug-ins in unselected format types untouched.

  Your plug-in format selection will be saved as a preference and pre-set automatically for future Metric Halo family plug-in installations on this computer. Of course you may change your selections at that time.
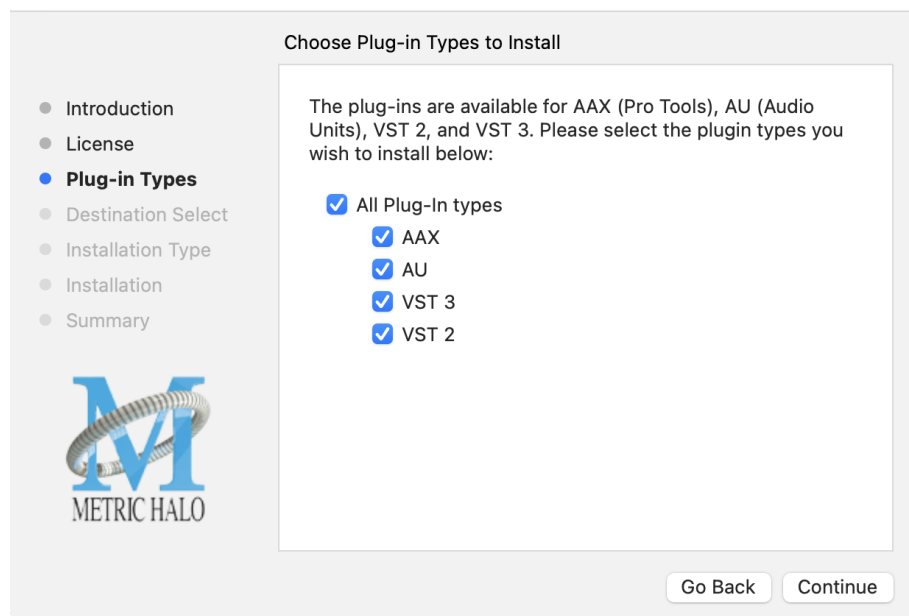
- **Important note for Pro Tools users**

  Version 4 of the AAX plugins will install alongside v3, so both will remain available in your system. There are two reasons for this:

  1. The v4 plug-ins are currently Native only and do not provide DSP executables for HDX/Carbon DSP chips.
  2. At the request of many Pro Tools users, we have made changes to the AAX v4 plug-ins to provide finer and more consistent behavior of EQ parameters when controlled by EuCon control surfaces and Pro Tools automation.

     In some specific workflow cases, these changes have the potential to affect automation playback of older sessions, so the safe route would be to keep older automated sessions running on v3, and using v4 for new sessions.

     For specifics on these changes, please see the latest release notes within the v4 plug-in UI by clicking on the Metric Halo logo in the upper left corner of the plug-in window.

  Existing sessions will recall with the v3 instances for both Native/DSP, and you can continue to add new instances of the v3 plugins (for example, if you want to be able to use DSP versions for tracking).

  You can add v4 instances as you wish to take advantage of the new features and new plug-ins.

  You can switch v3 instances to v4, and your settings will be preserved.

  If you load sessions with v3 instances, but only have v4 installed, Pro Tools will automatically migrate the instances to v4 Native with the parameter settings intact.

- "Select a Destination" lets you install the plugs for *all users* (if you are logged in as an admin), *only your user*, or to another volume entirely.
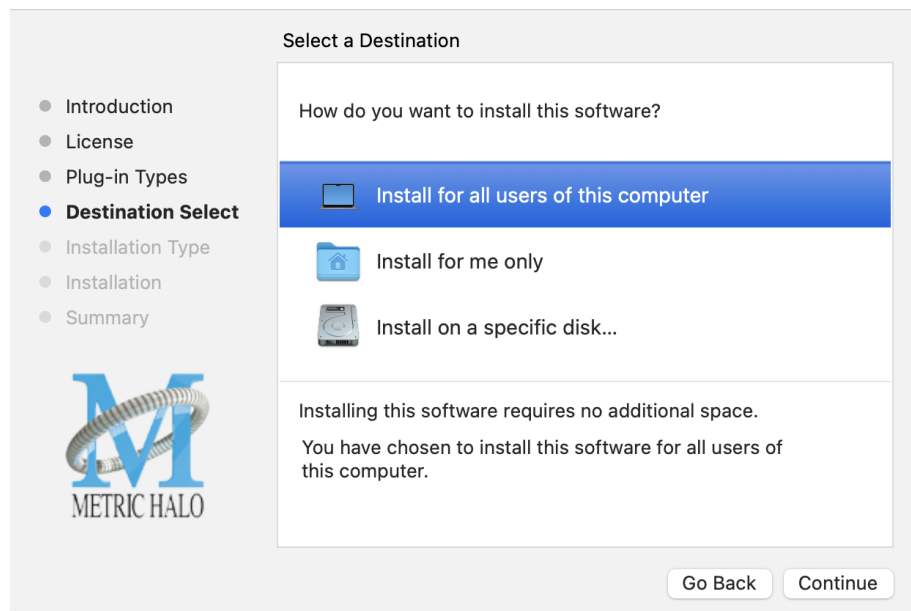
We recommend that you use the standard installation location unless you have a specific reason not to.

- The "Custom Install" selector window defaults to no plug-ins selected, so that you may choose exactly the plug-ins you wish to install.

Custom Install on "Macintosh HD"

Package Name	Action	Size
> ☐ All Plug-Ins		237 MB

Introduction
License
Plug-in Types
Destination Select
Installation Type
Installation
Summary

Space Required: Zero KB   Remaining: 342.38 GB

Go Back   Continue

Custom Install on "Macintosh HD"

Package Name	Action	Size
⌄ ✓ All Plug-Ins		**237 MB**
✓ MHChannelStrip	Install	24.6 MB
✓ MHCharacter	Install	23.8 MB
✓ MHDirtyDelay	Install	24.2 MB
✓ MHHaloVerb	Install	24.2 MB
✓ MHMultibandExpander	Install	24 MB
✓ MHMultibandDynamics	Install	24.1 MB
✓ MHPrecisionDeesser	Install	24 MB
✓ MHTransientControl	Install	20 MB
✓ MHSonicEQ	Install	24.2 MB
✓ MHSuperGate	Install	24 MB

Introduction
License
Plug-in Types
Destination Select
Installation Type
Installation
Summary

Space Required: 237 MB   Remaining: 342.14 GB

Install all flavors of all Plug-Ins in the package.

Go Back   Continue

Clicking the disclosure triangle opens the selection list of the individual plug-ins. Make your selections and click "Continue" to proceed.

- The final confirmation window displays the total size of the selected installation. Hit "Install" to proceed.
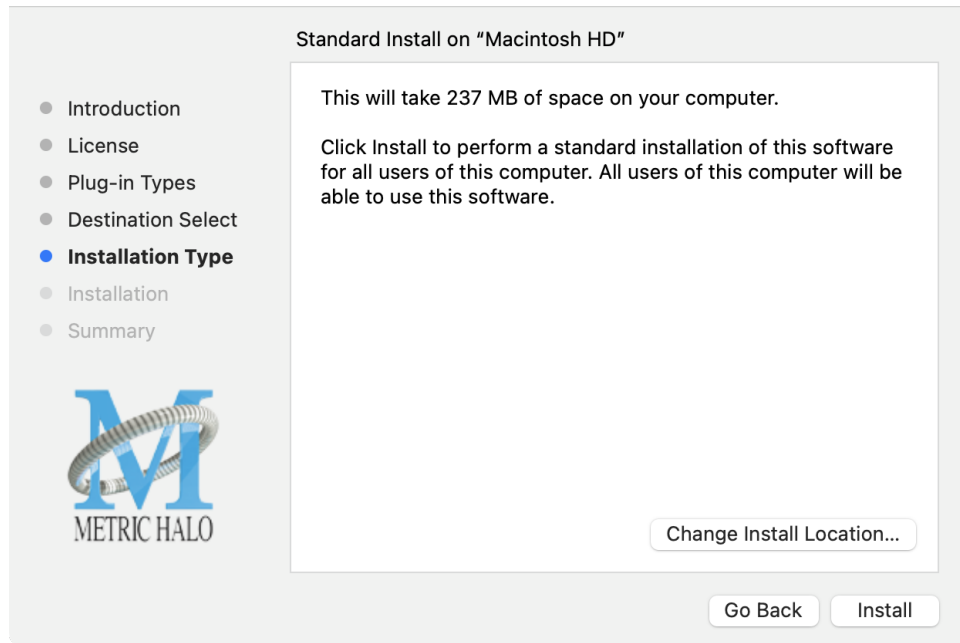
- If present, Touch ID/Face ID will execute the installation once it recognizes your biometrics:
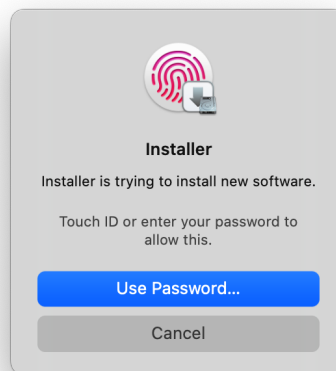
Otherwise, enter your login password as usual and click "Install Software".

- Once the installer has finished, you'll see this dialog:
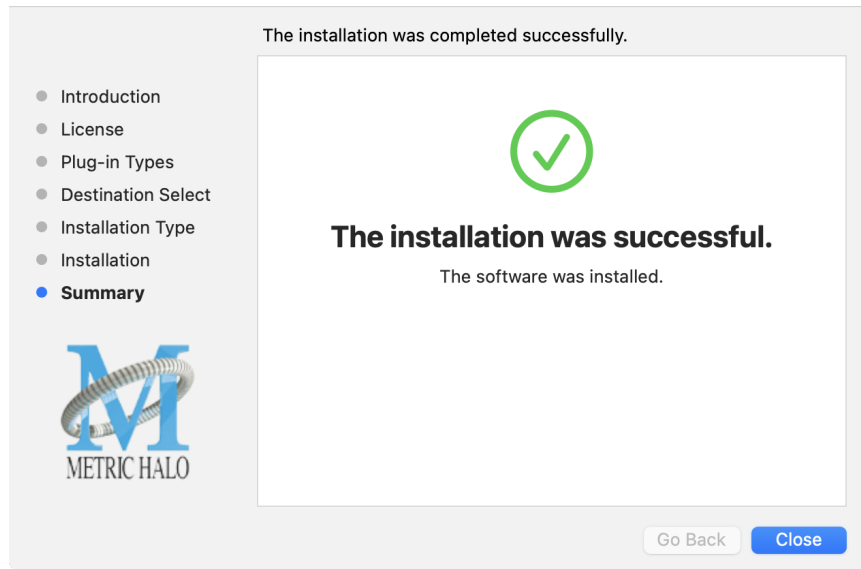
If you do *not* see the "Installation Successful" message, contact MH Support.

- The final step is to go to https://www.ilok.com/ and ensure you are up to date with the latest version of the iLok License Manager. Use the iLok License Manager to install the software license to your iLok key or directly to your computer.

That's it! Enjoy using Metric Halo plug-ins!

Windows

Please note – The following graphics show installation on an Windows 10 system; the process may be slightly different in other versions of the OS, but the basic concepts are the same. Small details such as file sizes shown may vary with subsequent releases.

- Double-click the "MHProductionBundleInstaller_v4.x.x.xxx" application

MH Production Bundle Installer

- The installer dialog will appear:
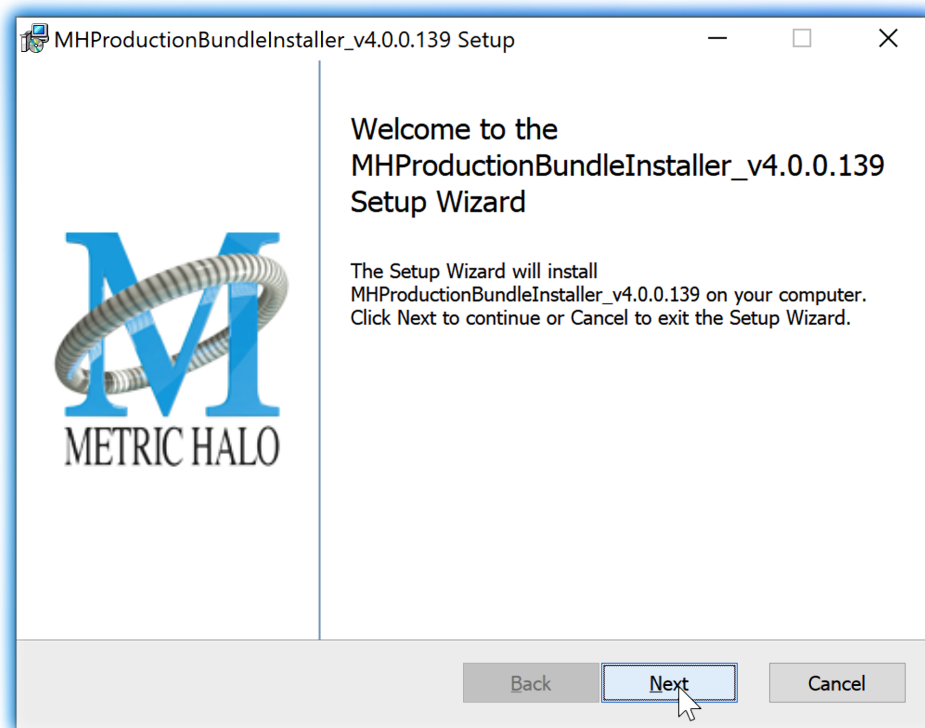
Welcome Dialog

Click "Next" to proceed.

- Read the Metric Halo License Agreement:

License Agreement

After you have read it, click next to "I accept the terms of the License Agreement" and click "Next".

• Custom Setup Options
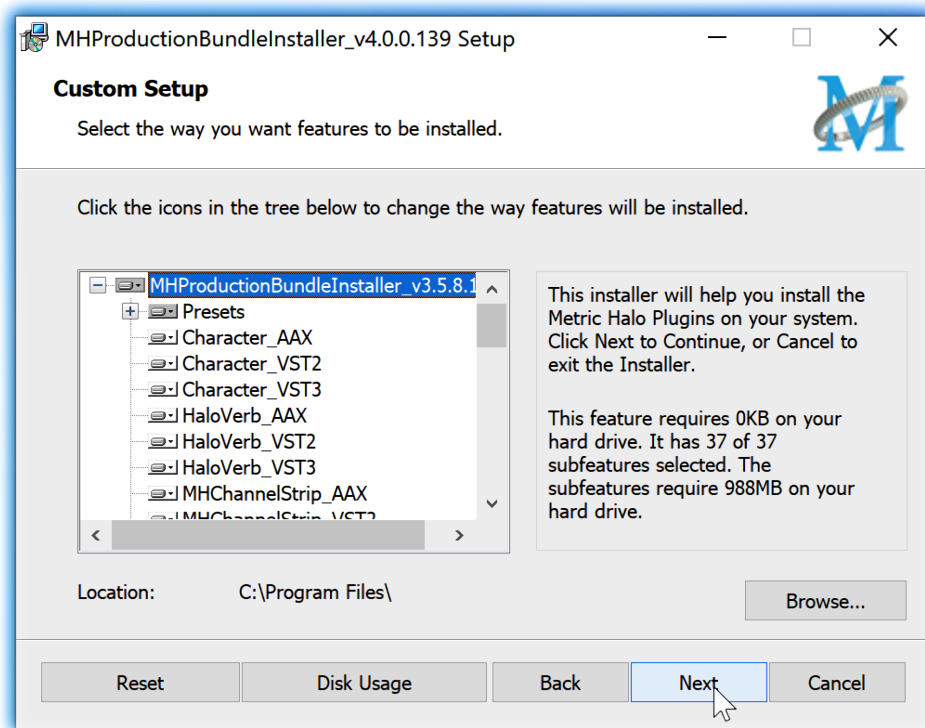
Custom Setup

The Windows installer **Custom Setup** page allows you to refine the features to be installed and their location.

By default, the full bundle with VST2, VST3 and AAX will be selected for installation to the C:\Program Files\ folder. Click **Browse** to change the installation target folder.

We recommend that you use the file path that will allow your host software to recognize the plug-ins. See your host software documentation.

When you have made your selections, click "Next" to continue.

- The next page is a confirmation to continue, offering a last chance to go back and review your selections from the previous window:
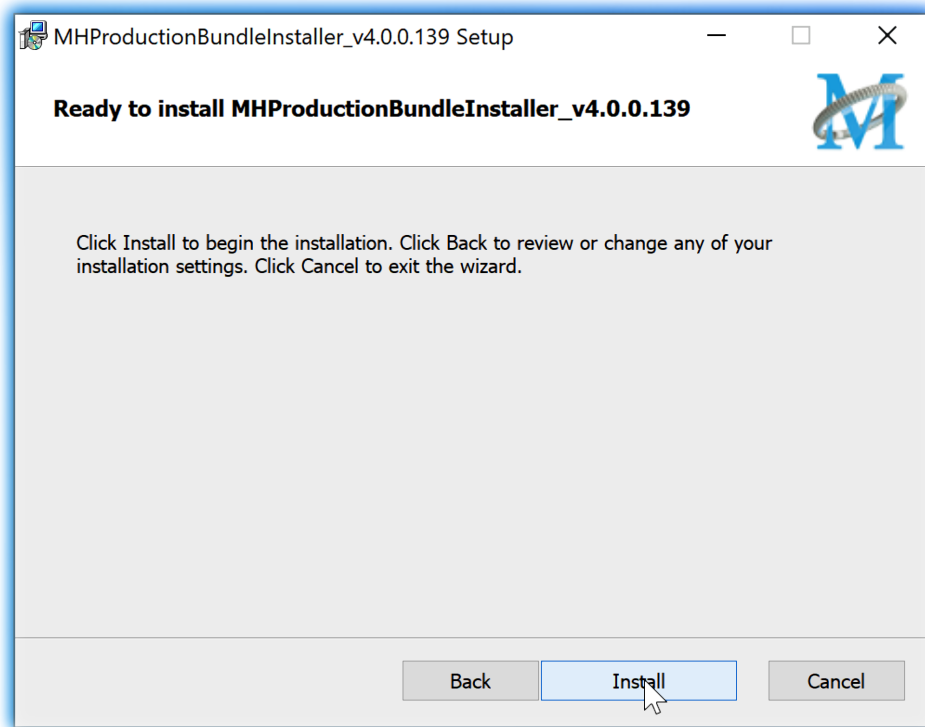
Ready to Install

Click "Back" to return to the Setup page, "Cancel" to cancel the installation, or click "Next" to continue.

- A final dialog before executing the installation process is a security confirmation, providing a verification of the location of the installer executable and information regarding the publisher of the installer package and its contents:
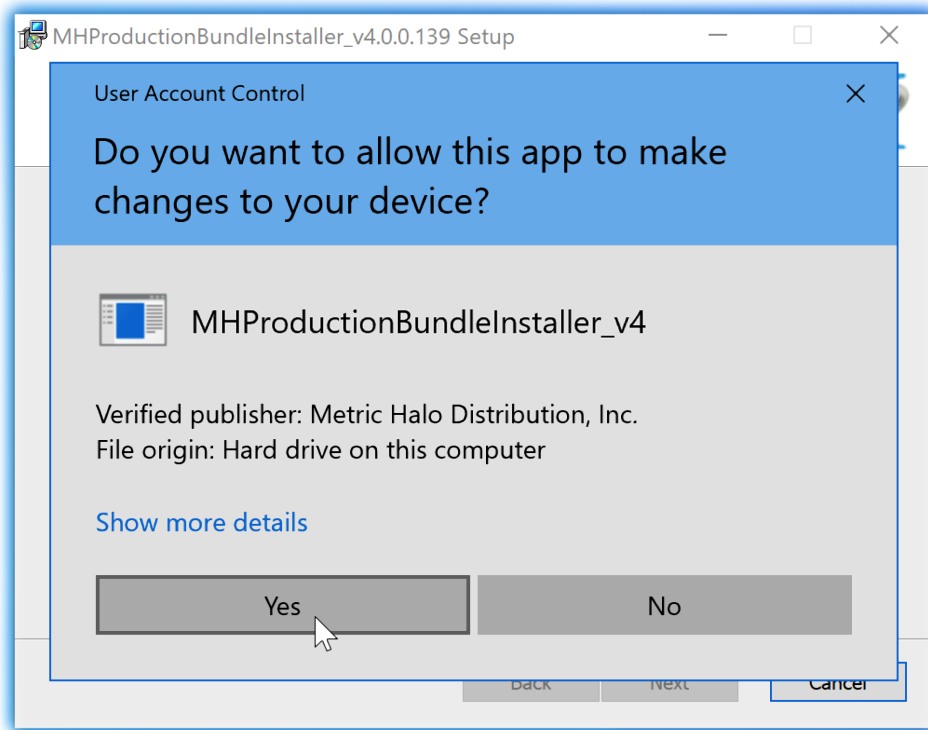
Final installer verification and permission to execute

Clicking "Show Details" and digging through the ensuing submenus will reveal signing credentials and other data for confirming the legitimacy of the installer executable.

Click "Yes" to proceed with the installation.

- The Setup Wizard will install and register the files:
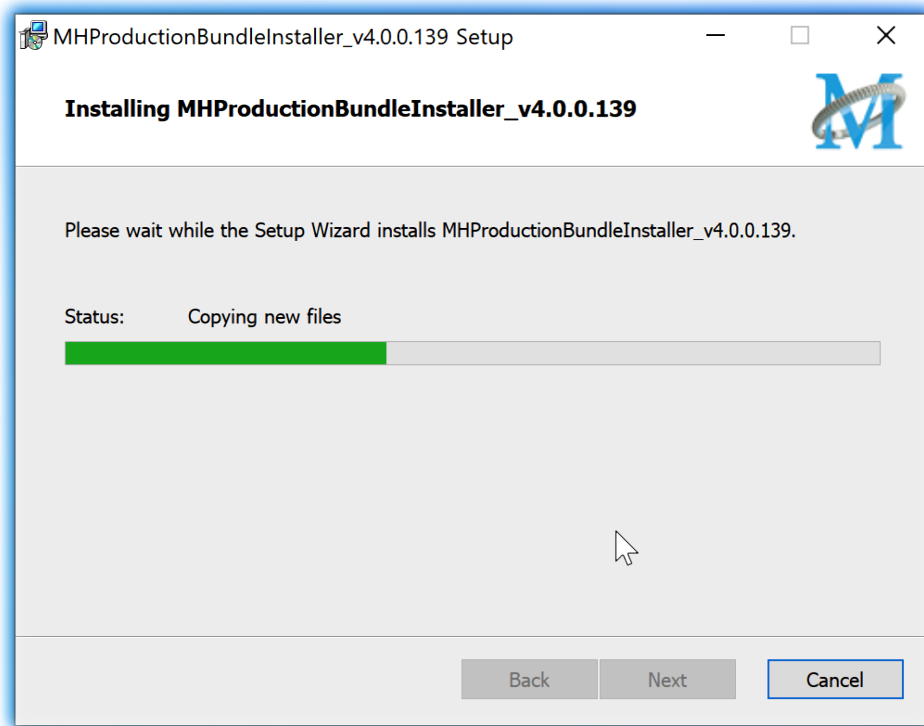
Installation in Progress

- Once the installer has finished, you will see this dialog:
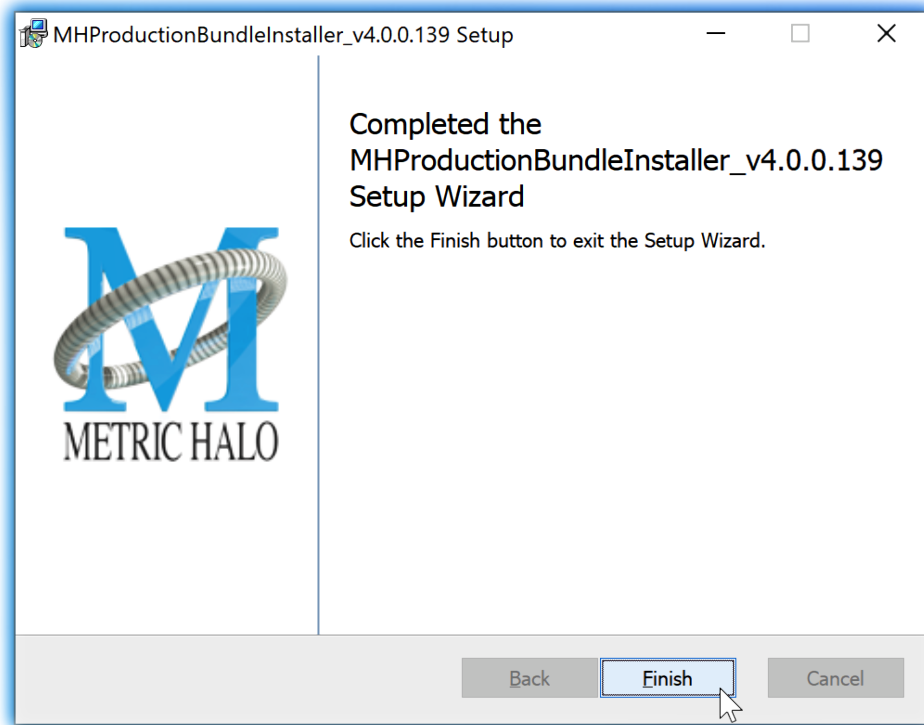
Installation Complete

If you do *not* see this installation "Completed" dialog, contact MH Support.

- The final step is to go to https://www.ilok.com/ and ensure you are up to date with the latest version of the iLok License Manager. Use the iLok License Manager to install the software license to your iLok key or directly to your computer.

That's it! Enjoy using the Metric Halo Production Bundle!

Update Notification (all platforms)

All Metric Halo Production Bundle plug-ins will automatically check for newer version availability (if your computer is connected to the internet).

Plug-in Update Alert

If a new version is found, the Metric Halo icon in the plug-in header bar will sport a lovely red dot. Click on the dotted icon and check the Update Notification tab for release notes and download instructions.

4. Plug-In Header Bars

All Metric Halo family plug-ins display the MH control bar directly above the processor control UI. This control bar is very helpful for organizing your MH presets, as it allows you to organize and access all your presets across all supported plug-in formats on Mac, Windows and our hardware DSP via MIOConsole3d.

It is especially useful in that, regardless of platform, it provides a straightforward, powerful and consistent processing workflow wherever you might be working.

With the constant evolution of computer capabilities opening the door to new production techniques and music delivery formats, the differences between DAW software workflows have become ever more diverse. Many of the major DAWs provide their own plug-in headers within every plug-in instance window, providing their own feature set catering specifically to their internal workflow.

Conversely, other equally popular DAWs provide no added feature support for plug-ins (such as plug-in parameter Undo/Redo), opting instead to insert plugs as a straight processing block.

The MH family plug-in header bar bridges that gap by offering the most asked for plug-in functions in a simple GUI, making all of our plug-ins functions and their presets available to every user on every platform.

The plug-in header bar has two rows of controls, with the Metric Halo logo icon at the top row left.

The top row handles plug-in operations, including update notification and download, access to MH online resources, GUI preferences, tooltip help, A/B parameter snapshots, snapshot Blend, plug-in Undo/Redo, Compare and soft Bypass.
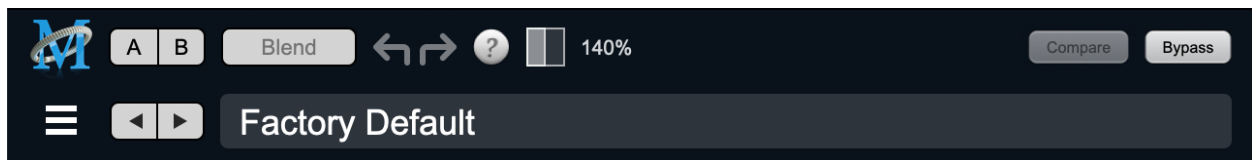
MH Plug-in header (default setting: eq and dynamics graph display closed)

The lower row (with the 'hamburger' menu icon at the left) is all about preset management.

The menu includes organizational and preset import/export features for sharing saved preset files with the outside world, and restoring presets from early days MIO and MH plug-in versions.

Plug-In Header: Top Row
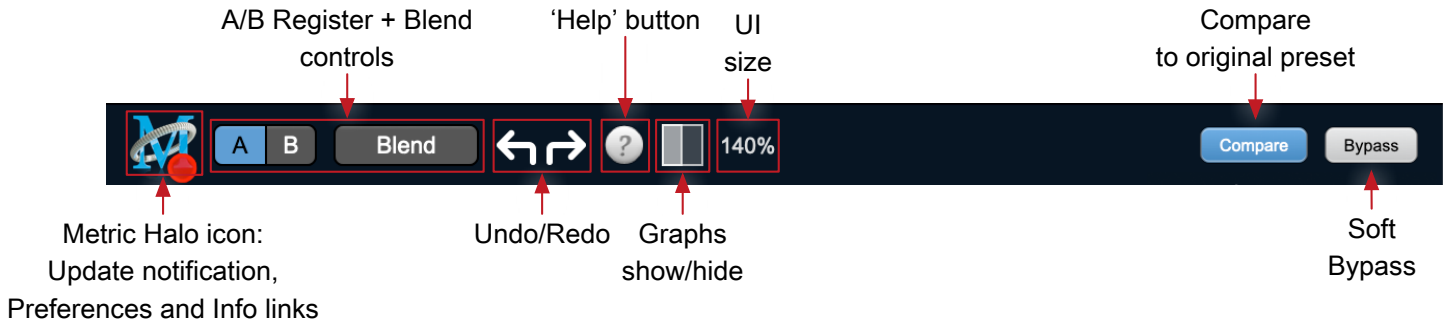
Metric Halo Header Icon

Clicking the MH icon expands the entire plug-in window to the right and opens a multi-function control sidebar with the Preferences tab in focus:
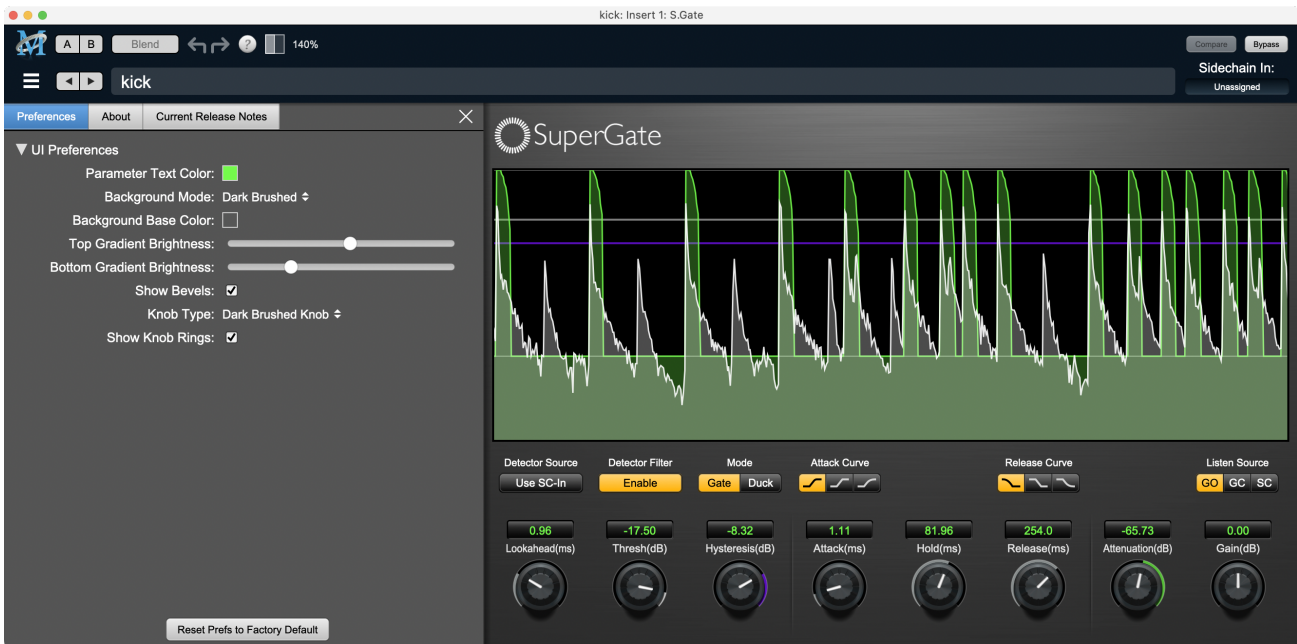
Preferences tab (example shown is SuperGate with sidechain filter graph closed)

This sidebar has context-sensitive tabs across the top for GUI **Preferences** (shown above), **About**, and **Current Release Notes**.
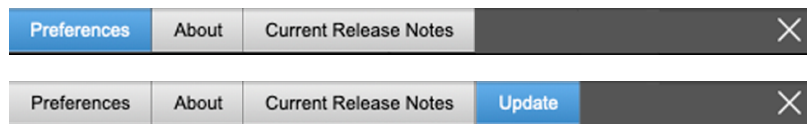
Plug-in control pane tabs

When updates are available for download from Metric Halo, the MH icon will sport a blatant red dot (shown in the header map at the top of this page) and an **Update** tab is added to the sidebar. These tabs are dynamic by design, and additional tabs may appear as new content becomes available.

To close the sidebar, click the MH icon again, or the "**X**" at the right edge of the tab bar.

Preferences tab
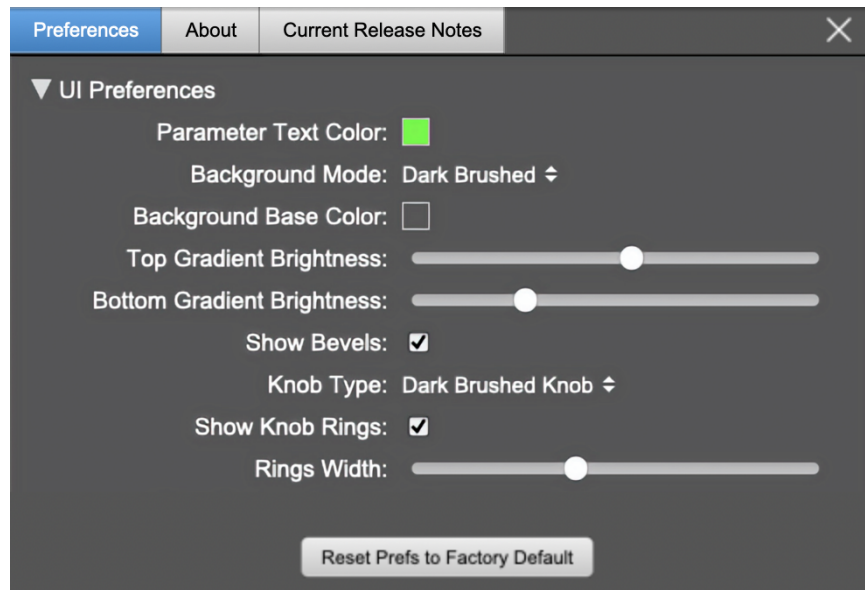
standard plug-in UI Preferences

The Preferences tab provides controls to modify the color scheme of text and graphical elements.

Initially added in response to requests from users with various visual impairments, in practice the ability to match the color of the plug-in to the mixer strip where it resides makes for a nice improvement in workflow.

Shown above are the basic parameter controls used by the majority of Production Bundle plug-ins.

More complex processors, such as ChannelStrip with multiband EQ and dynamics graph grids, will have additional preferences to further customize those UI elements. Processors with simpler graphics will have fewer UI preference controls.

UI parameter changes are live, so you can see changes to the plug-in graphics as you make them. This includes colors, gradients, graphic element show/hide, knob types and bevels.

Clicking color selection swatches opens the standard OS color pickers window with the eyedropper tool for sampling any color visible on your display.

UI Preferences functions are listed on the next page.

> **Note**: The color scheme you set will be saved to the computer and automatically applied to the next instance of that plug-in type of whatever native format, even on another DAW.
>
> You can always revert to the factory default settings by clicking the **Reset Prefs to Factory Default** button at the bottom of the Preferences pane.

Complete Plug-in Preferences List

The following is a list of all the preferences available across all of the plug-ins. They don't all apply to every plug-in, but you can refer here to find the documentation for the prefs that that are displayed in the actual plug-in.

- **UI Preferences**
  - **Parameter Text Color**: sets the text color of all click-to-enter numeric readouts.
  - **Background Mode**: selects the background type and texture.

    Brushed background modes place an uncolored textured metal graphic behind the control elements. Color and Gradient controls will not affect the Light and Dark Brushed backgrounds.
    1. **Light Brushed**: a light brushed metallic facing with mild gradient lighting (the "vintage" Production Bundle faceplate).
    2. **Dark Brushed**: a dark neutral brushed metal facing with a stronger gradient and lighting effect
    3. **Flat Color**: select the background color with the **Background Base Color** picker.
    4. **Gradient Color**: select the background color with the **Background Base Color** picker and adjust Top Gradient Brightness and Bottom Gradient Brightness to taste
    5. **Grad w/Hits**: same as **Gradient Color** with two mild rack light sources from above and one centered below
  - **Background Base Color**: when in color background modes, sets the background color
  - **Top Gradient Brightness**: when in gradient background modes, sets the top gradient brightness
  - **Bottom Gradient Brightness**: when in gradient background modes, sets the bottom gradient brightness
  - **Show Bevels**: show/hide shaded edge and processor section separator bevels
  - **Knob Type**: select from six "physical" knob types, or no knob at all
  - **Show Knob Rings**: show/hide the colored rings surrounding parameter knobs
  - **Rings Width**: widen/narrow the colored rings surrounding parameter knobs
  - **Show Band Swatches**: show/hide the color swatches above each EQ band enable switch (used to set the color of each EQ band)
  - **Swatch Alpha**: opacity control for the band color swatch buttons (does not affect Band Color selection)
  - **Show Graph Grids**: show/hide the numeric grids in dynamics and EQ graph displays
  - **Graph Grid Color**: set the color of the numeric grids in dynamics and EQ graph displays
  - **Graphs Background Color**: set the background color of the dynamics and EQ graph displays
  - **Fill EQ Curves**: shades the area of deviation of each eq band from 0dB reference (makes it easier to see the effect of each filter band amongst multiple active filters)

- **EQ Colors**
  - **Overall EQ Curve Color**: sets the color of the aggregate EQ energy curve (the total sum effect of all active bands)
  - **Band 1 Color**: sets the color of filter band 1 UI elements
  - **Band 2 Color**: sets the color of filter band 2
  - **Band 3 Color**: sets the color of filter band 3
  - **Band 4 Color**: sets the color of filter band 4
  - **Band 5 Color**: sets the color of filter band 5
  - **Band 6 Color**: sets the color of filter band 6

- **Sidechain EQ Colors**
  - **Gate EQ Color**: sets the color of Gate Sidechain filter band
  - **Comp EQ Color**: sets the color of Comp Sidechain filter band

About tab
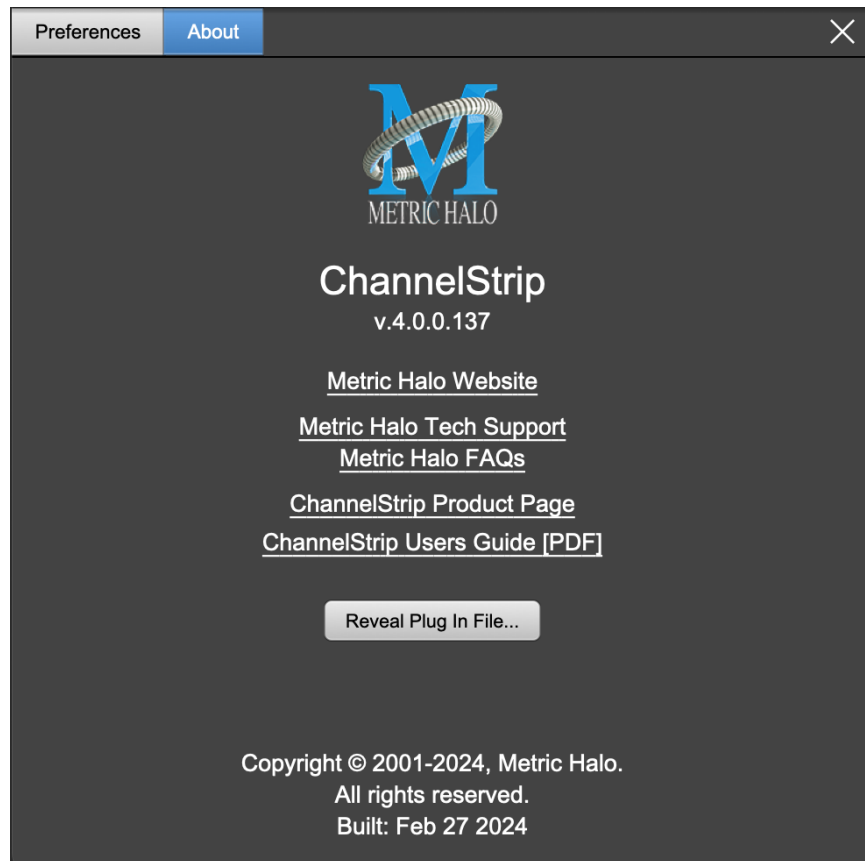
About tab (ChannelStrip shown)

The **About** tab reveals the current plug-in version information and provides convenient web links to product info, support pages and the current manual on the Metric Halo main website.

Clicking the "...Users Guide [PDF]" link will open and display the plug-in manual version in your default web browser.

Reveal Plug-In File... will open the folder containing the current plug-in file, with the plug-in file itself selected. Very handy for troubleshooting on the fly.

Current Release Notes

Preferences   About   **Current Release Notes**   ✕

Important Notes

- This version of the AAX plugins are currently Native only and do not provide DSP executables for HDX/Carbon DSP chips. As a result, if you upgrade your AAX plugins to v4, you will not able able to use them on the HDX/Carbon DSP chips but they will continue working natively.
- The installer for this version will overwrite earlier versions of the plugins, and the versions installed by this installer require the updated v4 license.

This version of the plugins is a complete rewrite of the host-side components of the plugins, and is now based on Metric Halo's MHShell plugin technology. This provides a number of significant benefits to owners of the plugins:

- All plugins are now built under a unified shell so they all inherit the base functionality of the shell, including:
  - New look, including skin choice and preferences
  - MH Logo Details view
  - Software update tracking
  - Quick Links to product pages, manuals, and tech support
  - Undo/Redo
  - A/B snapshots, and snapshot blend
  - More flexible resizability
  - Common controls in the header bar (Help, Resize, Pane Disclosure)
- Unified build architecture, so all plugins on all platforms (MIO, Mac, Win) receive all updates and improvements simultaneously.
- Added support for VST3, so now all plugins support AU, AAX, VST2 and VST3 on macOS, and AAX, VST2, and VST3 on Windows.

Current Release Notes example

Current Release Notes lists a synopsis of major changes (a snippet of which is shown above), with feature and bugfix revisions for the most recent software releases listed below.

Please note that on Windows, the release notes will not be displayed in the pane, and a link to the release notes will be displayed instead. You can click the link to view the release notes using your current default web browser.

Update notification tab
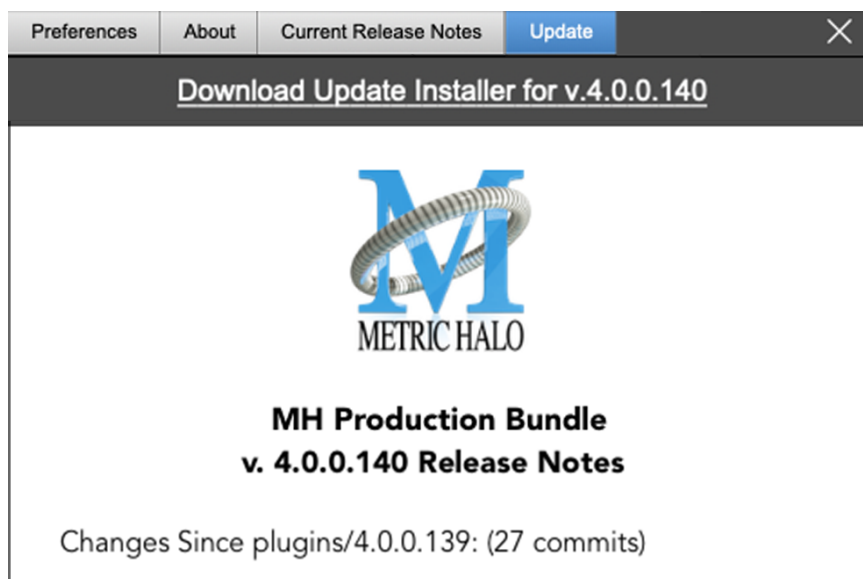
Update tab with new version release notes header
(text from update release notes omitted from above for brevity)

The **Update** tab will contain a link to download the new installer package in the header at the top of the pane.

Below the download link header, you will see new version information with a synposis of the of major changes included in the update, and bugfix revisions for the most recent software releases listed further below. As with the Current Release Notes tab, Windows users will see a link to view the release notes using your current default web browser.

Click the Installer link to download, unzip and run the installer manually, preferably when your audio software is inactive so it can properly scan the new versions at launch.

Plug-in Snapshot Registers: A/B

Plug-in Header: Snapshot Registers: A/B

The A and B buttons control the A and B state registers. The A/B registers are used to store modified parameter snapshots in addition to the original saved preset called up by **Compare**.

The Blend function can be used to smoothly morph between the parameters set in the A and B registers, and Blend is a mappable parameter so it can be operated with external MIDI control. Details of the A/B Snapshot Blend feature follow on the next page.

For each of the A and B buttons the visual display tells you the state of the register:

- Light Grey means the register is empty

- Dark Grey means it has settings, but is unselected

- Blue means it has settings and is selected

You can perform the following actions:

- Clicking on an empty register takes a snapshot of the current settings and saves them to the register.

- Clicking on an unselected filled register copies the register parameters to the current active plug-in settings.

- Clicking on a **selected** register toggles to the other register; this lets you toggle between the register settings without having to move the mouse

- <Option> - clicking on a register snapshots the current settings and saves them to the register, overwriting the prior contents (if any).

- Changing settings when a register is selected will update the settings in the register to reflect the change.

Snapshot Blend

The Blend button allows you to interpolate (or morph) between the parameter snapshots stored in the A and B registers. It becomes active when both A and B have a parameter set stored.

Blend is a MIDI-mappable parameter so it can be operated in realtime with external MIDI control and/or automated in the DAW. This allows you to automate a transition from the A ➔ B register, the B ➔ A register or any setting between the two.

Plug-in Header: Snapshot Blend

The Blend button's visual display tells you the state of the register:

- Light Grey means it is empty

- Dark Grey means it has settings, but is unselected
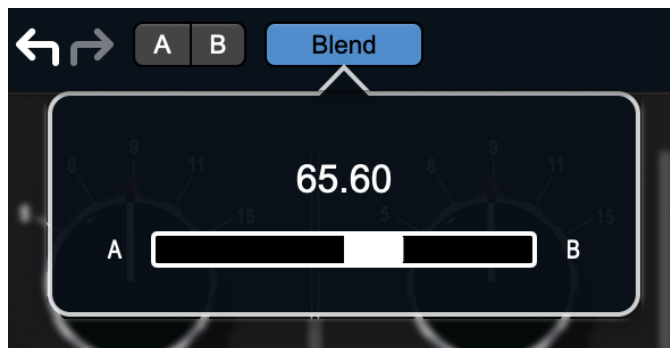
- Blue means it has settings and is selected

Click on Blend to popup the blend control. Slide all the way to the left to apply the settings in the A register. Slide all the way to the right to apply the settings in the B register. Intermediate settings for blend will give you intermediate settings for any parameter that is different in register A and B. The blend control does not change the state of Bypass.

Note that the Blend is not a parallel processing mode where two instances of the processor are running the A and B settings and the output is a parallel blend of the two settings. Rather, Blend interpolates the parameter settings of the two registers to one instance of the processor. You can see the parameter controls move between A and B settings as you slide the Blend control.

The A/B and Blend settings are stored and recalled as part of the plug-in state, but are not saved as individual presets in the preset bar.

While you can use the blend with arbitrary A and B settings we find it works best when you craft the settings in the two registers in such a way as they are related to each other. Specifically, if an indexed (stepped) parameter is different between the two settings, the interpolated value will snap to one of the indexes between the two settings, which can be jarring.

It is best if the parameters that you blend are smooth parameters (e.g. gains, frequencies) and make sure the indexed parameters (enables, modes, band types) are set the same for both registers.

The easiest way to do this is to load the same setting into both registers and then tweak the settings of one of the registers.

This works especially well if you make one of the registers be the basic settings with all the gains or thresholds flattened out so that you can smoothly interpolate between a setting and effectively bypassed - we have found that this allows you to zero in a perfect configuration between too much and too little.

Plug-in Undo/Redo

All the plug-ins provide support for undo/redo from the plug-in header bar.

Plug-in Header: Undo/Redo

The left and right curved arrows represent Undo (Left) and Redo (Right). These arrows are grey when there is nothing to Undo or Redo.

The arrows are white when it is possible to Undo (Left) or Redo (Right). Clicking the left arrow when it is white will undo the last action you made in the plug-in. When you undo something that change is placed on the redo stack, and the Redo button will turn white.

Clicking the Redo button (when it is white) will restore the state that the last Undo changed.

If the Redo button is white and you make a change in the plug-in, the Redo button will go grey as the redo buffer will be cleared.

Help Button

Help Button

This button toggles the tooltip display. When enabled, tooltips will be shown when the mouse hovers over a control. When the tooltip display is disabled, you may still see tooltips by holding down the **?** key and hovering over a control.

Graph Visible Selector

Graphs Closed

Graphs Open

This button toggles visibility of various response graphs. This button allows you to maximize screen real-estate while still providing details on the processing when they are needed. Not all MH family plug-ins will have this button, and on some plug-ins the button will have three panes. Clicking the button will step through the available views, with hidden panes shown darker in the button graphic.

UI Size Selector

UI Size Selector

This pull-down menu lets you set the plug-in UI size to taste.

The last selected setting for a plug-in processor will be applied to the next new instance you create of that same plug-in. For example, if you open an instance of ChannelStrip and set it to 80%, the next instance of ChannelStrip you create will also open at 80%.

Compare Button
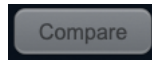
Compare Button (inactive)

Compare Button (active)

To use the compare button, a preset must first be loaded. The compare button will be lit up when the current settings differ from the selected preset. If you click this button while it is lit, the preset settings will be restored, but you can still return to the changes you made by clicking on the button again. It is important to note that any changes you make to activate the compare light are always for comparison to the last loaded preset.

Soft Bypass
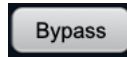
Soft Bypass Button (not bypassed - plug-in is processing)

Soft Bypass Button (bypassed - plug-in is *not* processing)

When glowing yellow, this button will maintain the time delay through the channel and will continue to show metering, but will cleanly disable the processing.

For MH 3d hardware users: A note regarding plug-in Sidechains

In host-based DAWs, the mechanism for routing signals to plug-in sidechain inputs is handled within the DAW itself in a separate routing UI from the plug-in.

In MIOConsole3d, plug-ins which support external sidechain inputs are assigned from within the plug-in UI (as shown below).
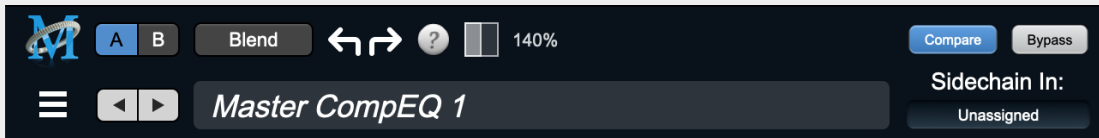
MIOConsole3d ChannelStrip header

In MIOConsole3d, sidechain inputs may be routed from any input or bus available in the system, except for the Main bus. These routes are naturally going to be different from what would be assigned in a DAW session.

For this reason, external sidechain assignments are the one parameter which can not translate between a host-based DAW preset and the same preset opened within MIOConsole3d.

Plug-In Header: Preset Row
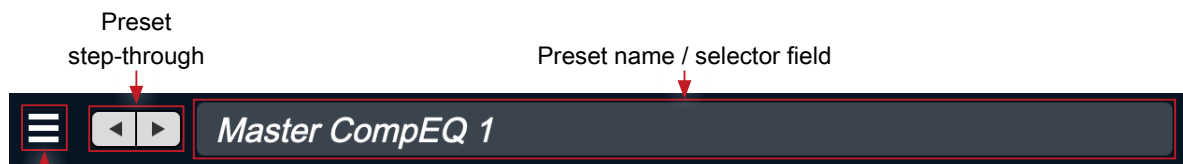
Plug-in Hamburger menu

The preset and parameter functions within the hamburger menu break down as follows:
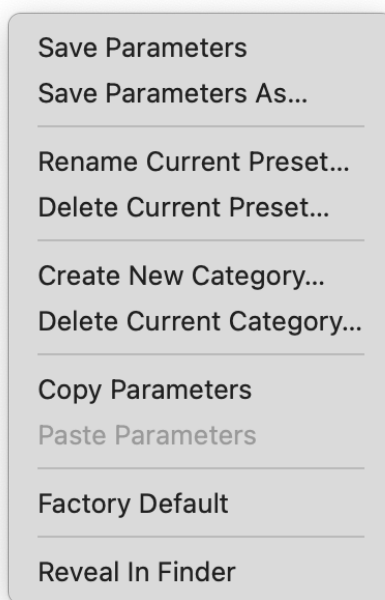
- **Save Parameters** saves the current plug-in parameters to the current preset.
- **Save Parameters As...** opens a dialog box where you can name and choose a category to save your current plug-in settings.
- **Rename Current Preset...** lets you rename the current preset.
- **Delete Current Preset...** deletes the current preset.
- **Create New Category...** lets you create a new preset category for the current plug-in type.
- **Delete Current Category...** deletes the current preset category.
- **Copy Parameters** copies the current parameter set so you can paste them to another instance of the same type plug-in.
- **Paste Parameters** pastes the copied parameters. Note that pasting a parameter set over an existing named preset will change the preset name field to: **[No Preset]**.
- **Factory Default** loads the factory default settings for this plug-in.
- **Reveal In Finder** opens the folder in which the current preset is saved.

Preset Step-Through Buttons

Preset Step-Through Buttons

These buttons step through Factory and User Presets in succession, as they are listed in the Preset Selector window. The left arrow chooses the previous preset. The right arrow chooses the next preset.

Preset Name/selector menu:
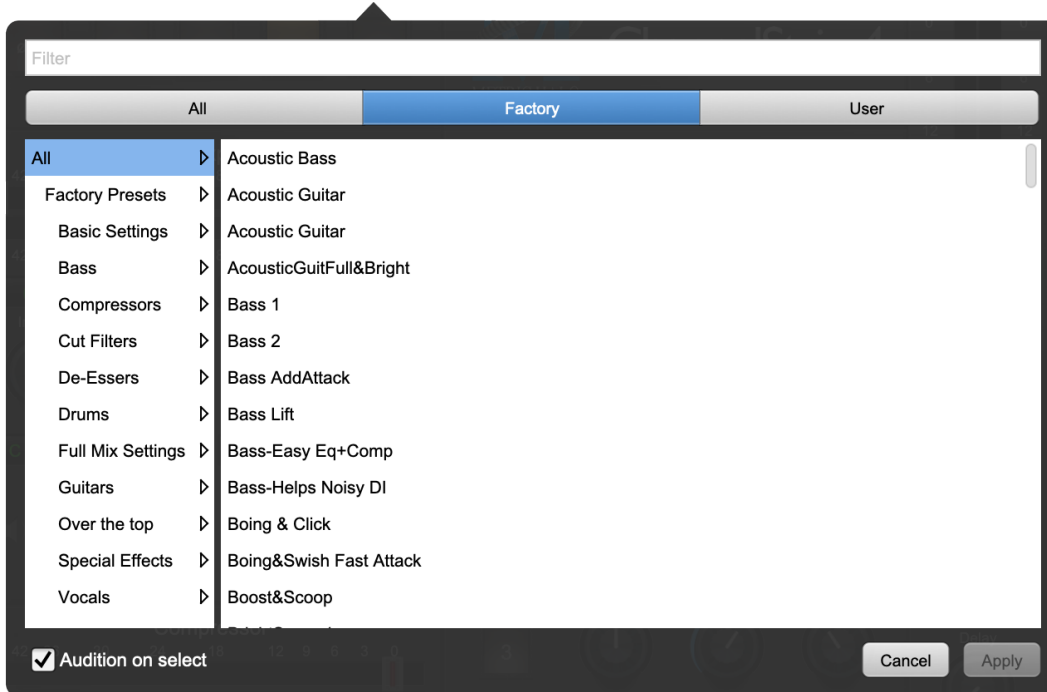
Plug-in Header: Preset selector menu (ChannelStrip shown)

The Preset selector will open to show all the available preset categories, and the presets within those categories.

Preset selector menu: Audition on select

With "**Audition on select**" enabled at the bottom of the window, selecting a preset will temporarily load those parameters so you can hear the effect on the audio you are playing, without actually committing to the preset.

Click **Cancel** to revert to your previous settings and close the selector window.

Hit **Apply** to commit the new preset parameters and close the preset selector window.

5. Operation

The SuperGate user interface uses a few different control elements to control its processing. These elements are:

Control Knob

Control Knobs are used to control the value of various continuous parameters of a process. There are three styles of encoders:

Swept Knob

The rings around these encoders sweep from a minimum value on the left to a maximum value to the right.

Note that *Threshold*, *Hysteresis* and *Attenuation* are negative-going parameters sweeping from 0.00dB on the right to their maximum negative value all the way left.

Spread Knob

The ring around the Detector Filter *Oct*ave encoder starts at 12 o'clock and spreads to both sides equally as the Detector Filter bandwidth is increased.

Plus/Minus Knob

The rings around these encoders start at 12 o'clock and sweep to either side. These knobs are used for the output *Gain* and Detector Filter passband boost/cut controls.

Control tips

You can change the value of each knob in a number of different ways.
- Click and drag the knob to change the value continuously.
- Dragging up or to the right will increase the value, while dragging down or to the left will decrease the value.

    Hint: If you hold down the ⌘ (Command) key when you click, you will be able to adjust the value with finer precision.
- ⌥ (Option)-click to reset any knob to its default value. You may also double-click a knob to reset it.
- **Rapid parameter entry**
  - Double-click the numeric readout of the knob to type in a number directly. The text-entry field will remain active until you dismiss it by clicking somewhere else or hitting the **return**, **enter**, **tab**, or ⌘**.** (Command + .) keys.
  - Hit **return** or **enter** to confirm the value and dismiss the pop-up.
  - Hit the **tab** key to confirm the value and immediately activate the entry field for the next control. ⇧**-tab** (Shift + tab) will display the entry field for the previous control).
  - Hit ⌘**.** (Command + .) or **ESC** (Escape) to dismiss the pop-up and cancel the change.
  - When you enter a number into the pop-up entry, you can use a couple of abbreviations: "k" multiplies the number by 1000 and "m" divides the number by 1000. So if you want to enter 16,500 Hz you can just type 16.5k.

Toggle Buttons

Detector Source **"Use SC-In" is Off,** *Detector Filter* **is On)**

Toggle buttons are simple on/off switches. They light up (colored) when they are on and are dark (uncolored) when they are off. Click to toggle.

In SuperGate, these buttons are used by the *Detector Source* to select between the internal audio and an external sidechain key input, and *Detector Filter* to engage/disengage the audio input filter to the detector. Note that the *Detector Filter* button is duplicated in the main UI and the (sometimes hidden) Detector Filter pane.

Radio Buttons

Radio Buttons (to choose one of each set)

Radio buttons are like toggle buttons, except that they simultaneously disable another parameter when enabled. Selecting a button will light it up (colored) and make the other buttons in the set go dark.

Radio buttons are used to select between *Gate* or *Duck* modes, the three gate *Attack Curve* & *Release Curve* settings, and the three *Listen Source* audio feeds.

Detector/Gain History display
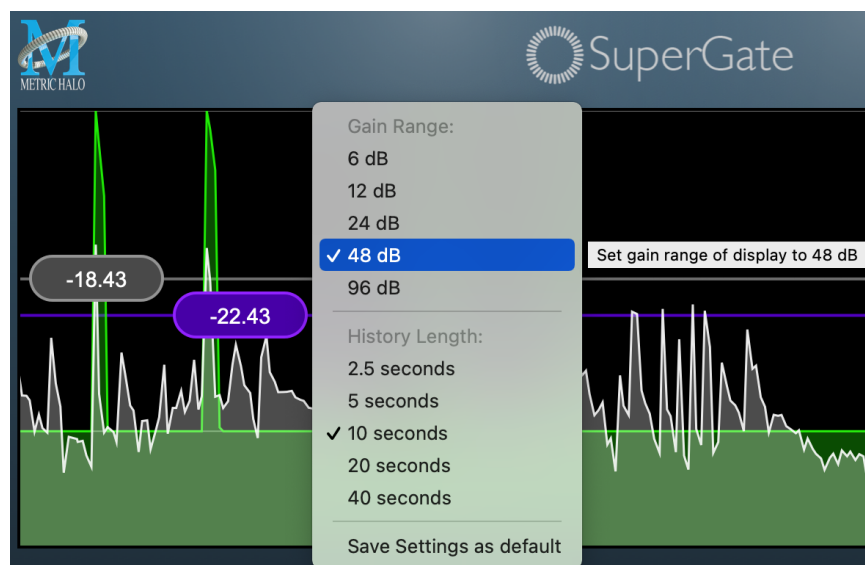
Detector/Gain History with Settings Menu

The SuperGate Detector/Gain History displays the filtered detector response to your source audio as a white line with grey fill scrolling from right to left. The applied gate attenuation is overlaid as the green line with green fill.

The top of the display is always 0dBFS. Solid green reaching the top of the display indicates that the gate is fully open. Since the display is showing only detector response and gain reduction, hitting the top of the display is not an indication of excessive audio level.

Click on the display to reveal the settings menu (shown above).

The default **Gain Range** of the display is 96dB, so it's 0dBFS at the top of the display and -96dBFS at the bottom. This widest display range is the default view since it will reveal any audio program activity down to noise floor levels. There are five options for focusing in on the detector action:

- 6 dB
- 12 dB
- 24 dB
- 48 dB
- 96 dB

History Length is the period of time shown scrolling across the window. Events happening "Now" take place at the right edge of the screen, with recent events scrolling down the path of history to the left. The default History Length shows 20 seconds of audio events in the display. There are five settings available:

- 2.5 seconds
- 5 seconds
- 10 seconds
- 20 seconds
- 40 seconds

The shortest 2.5 seconds setting provides the most detailed view of the detector and gate attenuation response, but it moves by very quickly. Longer History Length settings offer a longer time window at the cost of individual event details.

Lastly, **Save Settings as default** allows you to save your current meter display preferences as your default setting for new instances of the processor.

6. Processing

SuperGate Theory of Operation

Yes, it's *that* much better. This is why…

Processing terms

- *State* (or *Discrete*) data is defined as information that can take only certain values, like the number of coins in a jar, a "true or false" statement, or digital audio samples.
- *Continuous* data can describe a value between any other two values, such as measures of heat, energy, attitude, amplitude, frequency and time (absolute and relative).
- Specifically, a *State* value corresponds to a digital quantity and a *Continuous* value corresponds to an analog quantity.

So, one of the biggest problems with many traditional triggered continuous gain stage topologies (no matter how smart they are) is the interaction between those gain stages and the audio program they are gating. "Continuous Gain" gates are analog-style volume controls, functionally no different than a gain fader, that open at a set "trigger" volume level (dBr) and close after either a set time period or at a "de-trigger" volume level (dBr), with variable attack and release times respectively.

The thing is, in the digital world, applying continuously variable mathematical changes to a moving stream of audio data has audible consequences in the form of aliasing artifacts (zipper noise, static, etc.). To avoid those artifacts, the volume change process must be interpolated to mitigate and smooth out those effects. That interpolation must take place over time (the duration of the level change), and that interpolated gain-shift-over-time by it's very nature has a modulating effect on the source audio.

Granted, that modulation is subjectively less offensive than fingernails across a blackboard, but it does have enough smearing effect to oftentimes make accurate gating an exercise in frustration. At that point, many just take the much longer road of editing the unwanted audio at the track waveform level.

Some more advanced "smart gates" apply AI-style learning algorithms and/or envelope-follower gate designs to trigger and track the source audio more intelligently. There really is some very cool tech out there, unfortunately many of these tools are also continuous-gain processors with these same fundamental process limitations.

SuperGate takes an entirely different approach.

In SuperGate, like any other gate, you have two jobs: find and isolate the target sound, and determine when to trigger the gate. Unlike other gates, SuperGate lets you customize the gate attack and release gain curves precisely to the sound you are isolating, as you listen, while visually referencing the Detector/Gain History display.

Further, the gate gain curves you build are not a set of dynamic expander parameters, but a programmed set of sample-by-sample instructions defining the gain structure and duration of the Attack-Hold-Release gate envelope itself. When the trigger point is reached during playback, this set of instructions modifies the samples describing the target sound, thereby applying the gate.

Applying the gain curves in this way completely avoids aliasing artifacts, the interpolation stages required to correct for them, and the modulation and smearing effects that degrade the gain transition.

The audible advantage of this approach is immediately apparent as you work with the processor. The *Open* and *Close* gate curves are applied with perfect repeatability as if they were copy/pasted onto the audio stream at the trigger point (which is in fact exactly the case), and all the minute variations of each audio event which provide feel and personality can come through the gate completely untouched.

After all, first and foremost, the job of an audio gate is to let the target audio through unaffected and only attenuate the unwanted signal, right?

SuperGate Process Overview

The block diagram below illustrates the overall structure of the SuperGate.
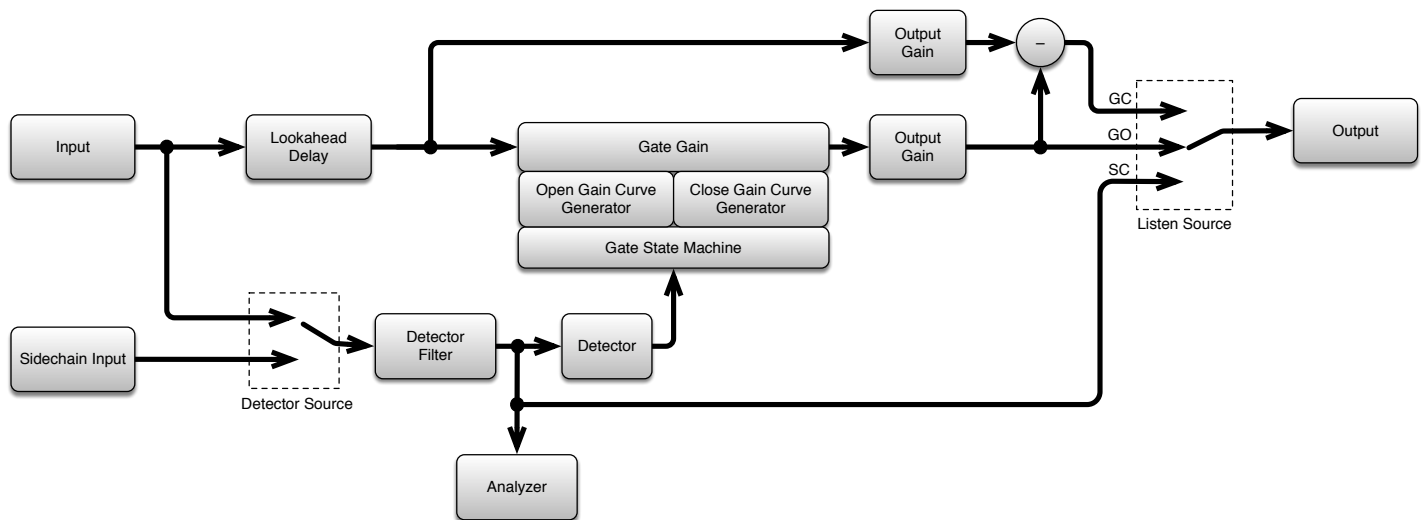
If you follow the horizontal line drawn from the Input to the Output, that is your primary audio signal path. There are actually only two controls in the SuperGate UI directly that directly affect the audio path - the *Lookahead* delay and the *Output Gain* control.

Right in the middle of the audio path is the *Gate Gain* stage. Both of SuperGates graphics displays and all of the remaining controls operate in the modules shown below the Gate Gain stage, in the detector sidechain path. It is here that the gate control settings you create by ear (using the displays as a visual guide) are calculated as state gain operations and imprinted on the source audio.

Here's the breakdown:
- The detector sidechain may be fed from either the Input path or an external key signal.
- The Input (or external key) feeds the *Detector Filter*, where you can fine-tune the signal so the Detector can trigger on a specific frequency range unique to the sound you are trying to gate.
- The Detector's job is twofold:
  1. …to relay the filtered sidechain transient information to the *Gate State Machine*, and
  2. …to feed back the *Attenuator*, *Threshold* and *Hysteresis* control data to the *Detector Gain/History* display. This provides instant visual feedback of your parameter settings in relation to the filtered sidechain audio as you listen (as in, "Oh! So that's what that knob does…").
- The *Gate State Machine*, combines the Detector sidechain output with your control input from the SuperGate UI to program the gain curve map data for the *Open Gain Curve Generator* and the *Close Gain Curve Generator*.
- The Gain Curve Generators translate that curve map data into a series of sample values, with the beginning of each gate curve as the first sample value at the 'Gate Open' and 'Gate Close' trigger points, respectively.
- The *Gate Gain* stage then applies this series of gain values to the audio stream, sample-by-sample, starting at the gate trigger point for the duration of each Gate Gain curve. This imprinting of the 'Gate Open' and 'Gate Closed' gain curves as new samples on the way to the Output stage is a state operation - no aliasing, no interpolation… instant gratification with zero artifacts.

The detector itself doesn't actually react to any of the parameter controls; it is the state machine and the gain curve generators that do.

Detector / Gate State Gain machine interface breakdown

Below is a map of the sidechain audio, detector and state gain machine process blocks, and how they are connected to SuperGates' UI controls and displays.

Detailing the detector sidechain first will provide context for the "Lookahead" and "Output Gain" analog path controls later on.

Black arrows are audio signal and red arrows are state control data.
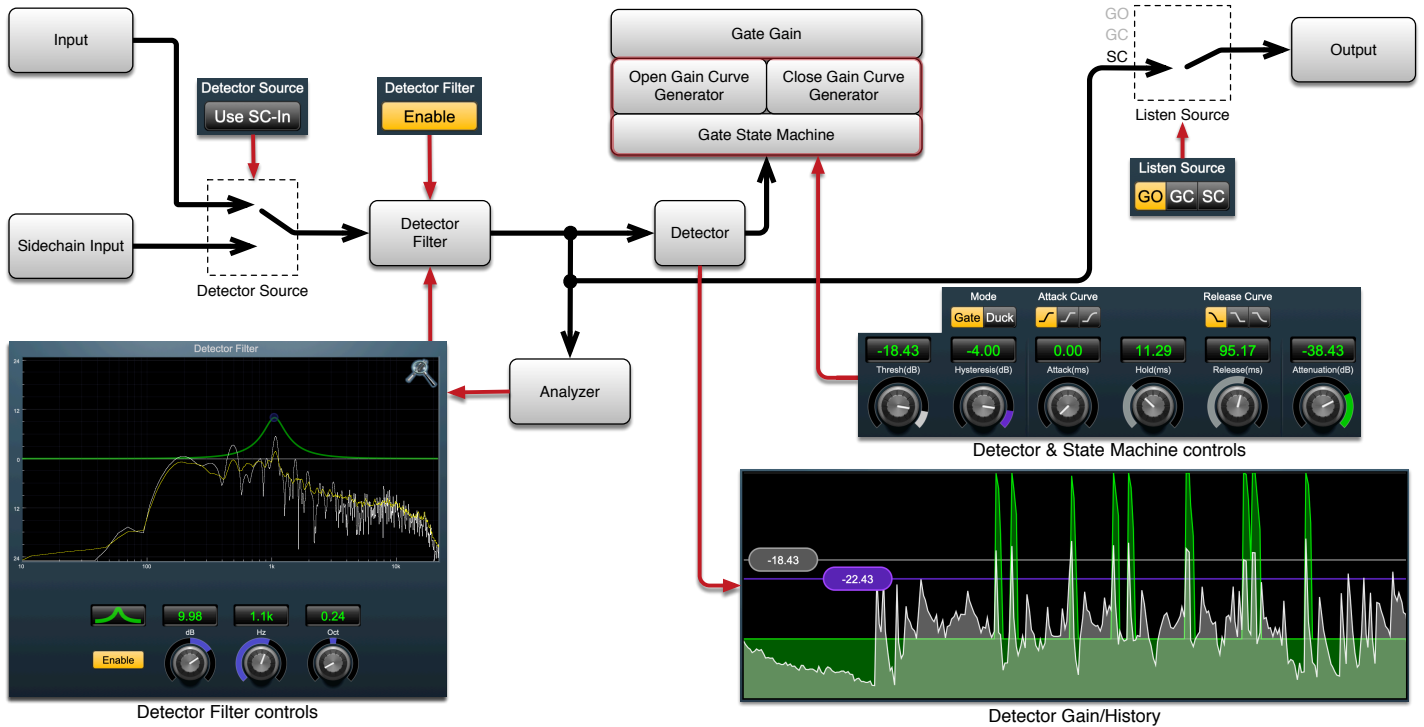
SuperGate Detector and Gate State Machine control map

In the following sections we will follow the detector sidechain and gate control signal path through the process blocks from Input to Output.

Detector Source
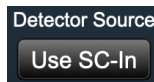
Detector Sidechain-In enable

Detector Source selects the Detector input feed between either the primary audio source (the "Input" block) or the externally-routed sidechain input (the "Sidechain Input" block). When dark, the audio Input is selected. When "Use SC-In" is illuminated, the external Sidechain Input is feeding the Detector.

Note that if "Use SC-In" is illuminated but there is no Sidechain Input routed, there will be no incoming signal to the Detector.

Editorial Note

Those of us who come from a more analog-style audio background tend to approach signal flow as a serial/linear path, traveling from the input through a series of processors and gain stages laid out one after the other, eventually reaching the final output bus.

While the signal processing of SuperGate is non-traditional, the controls and Gain History display have been set up with familiar realtime music workflows in mind. A few minutes auditioning a drum or guitar line and moving the controls while watching the Gain History display will reveal SuperGate's various functions quite clearly.

So, whatever your background, do not be put off by the science… this processor is an absolute blast to play with.

Keep in mind, the SuperGate state gain machine is **attenuation-only**, so unless you manually add too much Output Gain at the final stage, SuperGate is incapable of clipping your source audio. You can feed absolutely evil things through the detector sidechain without fear, often resulting in fascinating and bizarre effects on the audio dynamics.

The Detector Filter

The *Detector Filter* is a single-stage audio EQ with six filter shapes for conditioning the frequency response of the sidechain audio prior to the detector.

The filter window

This circuit is depicted at the bottom left quadrant of the *Detector and Gate State Machine* control map.

The filter processing stage itself is represented in the controls map as the detector filter block, and it is the "Analyzer" block which feeds the filtered signal to the Detector Transfer Function and Detector Spectragraph displays.
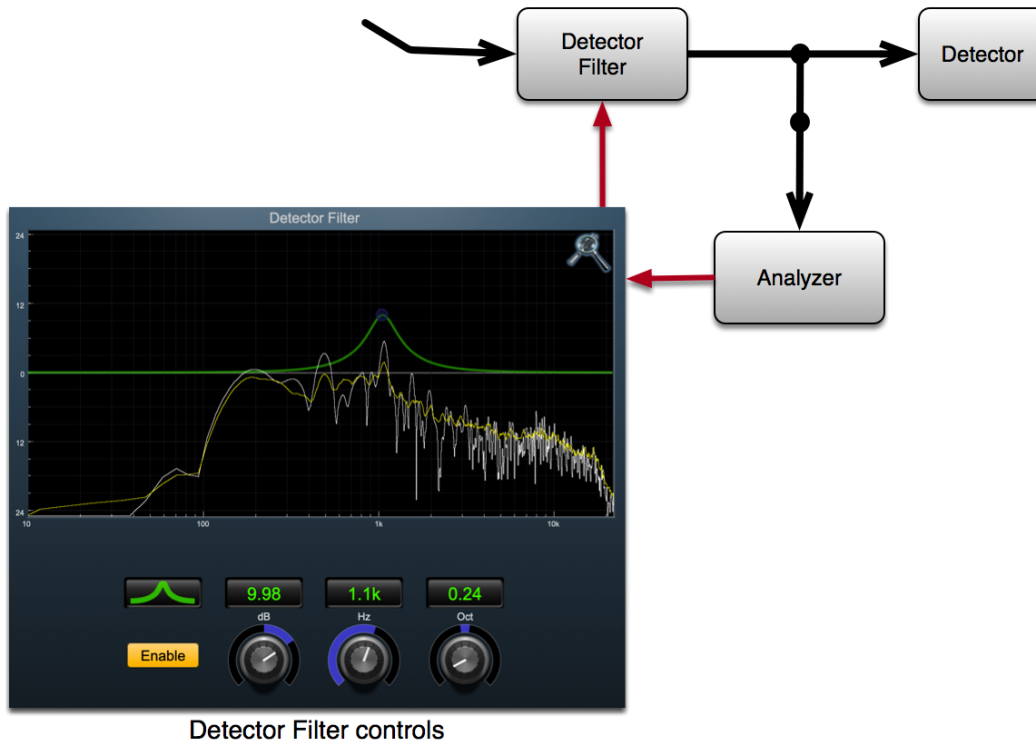
Detector Filter (flow chart focus)

Detector Filter Enable

The *Detector Filter Enable* switch is used to insert the "Detector Filter" into the sidechain feed to the Detector. When dark, the filter is bypassed. When "Enable" is lit, the filter is in-line and processing.

Detector Filter Enable

The "Detector Filter Enable" control is duplicated in both the primary control panel (under the Detector Gain/History display) and in the Detector Filter window.

Detector Filter Transfer Function
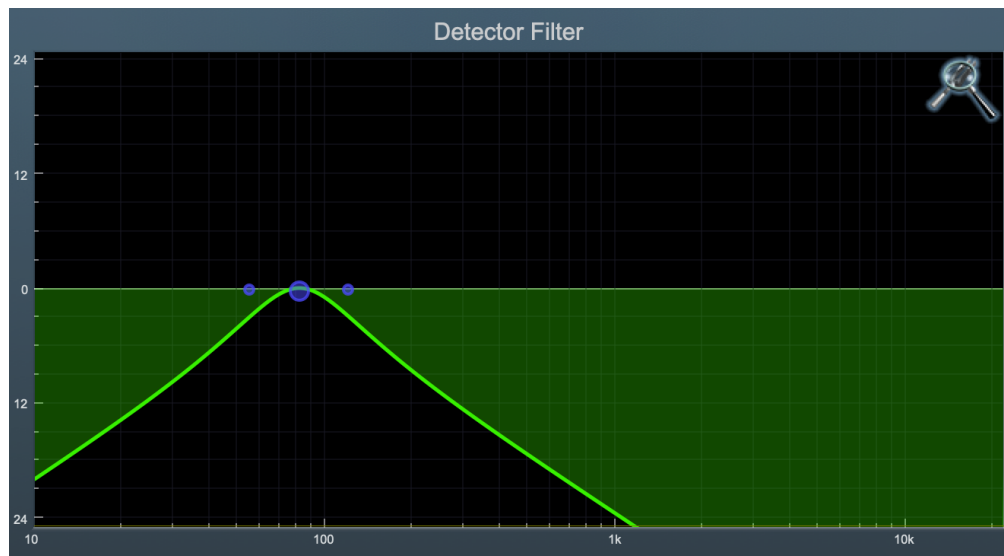
Detector Filter Transfer Function (bandpass filter shown)

The Detector Filter transfer function is both an intuitive control interface and a visual representation of how the filter is processing the signal.

The horizontal axis provides frequency calibration in Hertz (Hz). The vertical axis provides level calibration in decibels (dBr). The heavy green line indicates the relative change in level introduced by the filter.

Clicking the large colored dot and dragging horizontally will allow you to adjust the center (or knee) frequency. Parametric and shelf filters also allow you to drag vertically to boost or cut passband gain (±24dB).

When using a parametric, shelf or bandpass filter there will also be two smaller colored dots that can be used to control the bandwidth of the filter.

⌘ (Command)–click or double-click the larger 'frequency' dot to toggle the band enable. ⌥ (Option)–click the dot to adjust the bandwidth (dragging right increases the bandwidth, left decreases the bandwidth).

⌘⌥ (Command + Option)–click the dot to switch the filter type.

Click and drag the smaller dots associated with a larger dot to adjust the filter bandwidth.

Click anywhere in the black area of the transfer function to deselect the filter point and dim the filter curve trace when you need to concentrate more on the spectragraph analysis readout.

If you right-click or ⌃ (Control) click on the transfer function, you will see a menu to set the vertical dB scale for the display.

The values are:
- ±3 dB
- ±6 dB
- ±12 dB
- ±24 dB
- ±36 dB

This menu also allows you to specify whether touching the filter controller dots will automatically enable the filter. This preference applies across all instances of SuperGate in your mixer.

Spectragraph Analyzer

The spectragraph display is always live and available as a visual reference even when the Detector Filter itself is not enabled. Clicking the SpectraFoo™ logo in the upper right hand corner of the transfer function will activate the spectragraph, showing the realtime post-filter frequency analysis of your signal:

Detector Filter Spectragraph (±36dB view range shown)

The traces are:

- White: post-filter instantaneous display
- Yellow: post-filter average display

The *instantaneous* trace updates in real-time, allowing you to see the immediate peak level of your audio. The *average* trace displays the level as averaged over a short period, giving you a more general view.

The spectragraph analyses the signal post-filter, allowing you to see the effect of your filter before it hits the detector stage. To disable the spectragraph entirely, click the active 'Foo icon.

If you right-click or ⌃ (Control) click on the transfer function, you will see a menu to set options for the spectragraph:

- Show Instantaneous Trace: Toggles whether the spectragraph shows the instant response of your audio.
- Show Average Trace: Toggles whether the spectragraph shows the averaged response of your audio.

These settings are stored for each transfer function window separately, and for each instance of SuperGate.

> **Hint:** The Bandpass filter is especially efficient in SuperGate if you loop a section of your target audio, narrow the filter to a very tight bandwidth, and slowly move the center frequency while listening. The goal is to eliminate as much spurious signal as possible while retaining the maximum peak level possible from your target instrument.
>
> The more peak signal the detector has to work with, the more room you have to play with the Threshold trigger and Hysteresis de-trigger controls, and the more control you have for shaping the sound of the gated material. If you need more peak signal at a particular frequency for your target instrument, slightly widen the bandpass filter bell until you start to hear bleed from other instruments, then back off a touch.

Filter Type

The SuperGate detector filter stage provides 6 different types of filter shapes:

You can select from these types via three different methods. Each time you click on the Filter Type control, the band will switch to the next type in the list (and wrap to the beginning when you hit the end of the list). If you click and hold the mouse button, a pop-up menu listing all of the types will appear after about 1/4 of a second. You can select the type directly from this pop-up menu. If you want to access the menu without having to wait, hold down the ⌃ (Control) key when you click or right-click.

- **Peaking/Parametric** – a second order bell-shaped parametric boost/cut filter. The Gain control has a boost/cut range of ± 24 dB. When the boost is greater than +15 dB the filter gains a resonant quality which should not affect detector performance but may be audible when monitoring the detector filter sidechain directly. The center frequency of the filter can be any frequency between 20 Hz and 20 kHz. The bandwidth of the filter is continuously variable between 0.1 octaves and 2.5 octaves.

Peaking/Parametric

- **Low Shelf** – a shelving filter that applies boost/cut to low frequencies. The frequency knee (Hz) is continuously variable from 20 Hz to 20 kHz. The gain control (dB) has a boost/cut range of ± 24 dB. The bandwidth (Oct) controls the dip/peak that is added at the end of the transition band.

Low Shelf

- **High Shelf** – a shelving filter that applies boost/cut to high frequencies. The frequency knee (Hz) is continuously variable from 20 Hz to 20 kHz. The gain control (dB) has a boost/cut range of ± 24 dB. The bandwidth (Oct) controls the dip/peak that is added at the end of the transition band.

High Shelf

- **High Cut** – a 12 dB/octave high cut filter with a -3dB point that is continuously adjustable between 20 Hz and 20 kHz.

High Cut

- **Low Cut** – a 12 dB/octave low cut filter with a -3dB point that is continuously adjustable between 20 Hz and 20 kHz.

Low Cut

- **Bandpass** – a bandpass filter with 6dB per octave skirt on the high and low ends of the pass band. The width of the pass band can be adjusted between 0.1 octaves and 2.5 octaves and the center of the pass band is continuously adjustable between 20 Hz and 20 kHz. There is no gain boost/cut control for the bandpass filter.

Bandpass

Gate State Machine: Levels controls

Detector & State Machine controls
(level controls in focus)

Detector Gain/History

Gate State Machine: Level controls
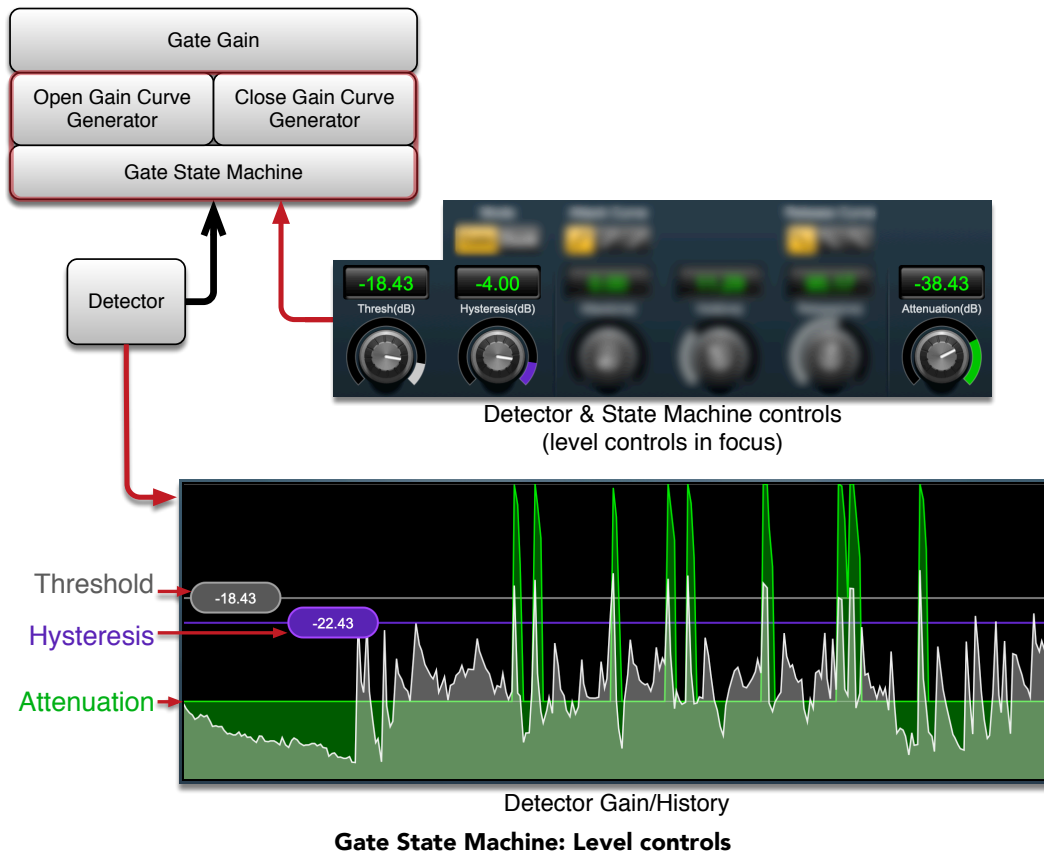
Attenuation(dB): Attenuation level

Attenuation defines the maximum amount of gain reduction applied to the audio when the gate is closed, from the default -144dB (no audio) to 0dB (no attenuation). The Attenuation level serves as a base reference level for the Gate State Machine gain curve operation, and is shown in the Detector Gain/History as the horizontal green overlay upon which the Attack (gate open) and Release (gate close) Curves sit.

The green overlaid audio below the Attenuation line is passed through, the grey audio above the line is removed.

Attenuation is applied to all source audio upon entering the Gate Gain stage.

Note that even though Attenuation is technically applied as the first thing in the gain stage, it is usually the last thing to be set before closing SuperGate and moving on to the next phase of your mix.

In practice, Attenuation sets the amount of non-target instrument bleed allowed into the mix. Very often when trying to isolate an instrument or sound in a messy track, it is extremely helpful to back off the Attenuation and listen to the un-gated audio mixed with your gated audio settings to make sure you didn't miss any soft hits, flams, fluffs or grace notes, and to make sure your gate settings are providing the character of the instrument that best serves the performance.

This is why the Attenuation control is placed at the far right of the control cluster near the Output Gain and Listen Source controls: switching your Listen Source between the *Gate Open*, *Gate Closed* and isolated *Sidechain* feeds while adjusting Attenuation bleed-through not only helps you dial in your settings but often inspires more creative effects for your mix.

Thresh(dB): Threshold level

The *Threshold* control sets the 'gate open' trigger level (in dB) from the default 0dB to -144dB.

When the Threshold level is reached, the first sample of the Attack gain curve is printed on the audio data, proceeding to embed the gate curve until the gate is fully open. The gate will remain fully open until the Hysteresis level is reached and the gate Hold time expires.

Hysteresis(dB): Hysteresis level

The *Hysteresis* defines the level at which the gate Hold timer starts counting down to 'gate close' and the imprinting of the Release Curve.

Hysteresis maintains a set level window relative to the Threshold, ensuring consistent 'gate open' and 'gate close' response to even the most subtle variations in the source audio.

Detector/Gain History "Control Bubbles"

Threshold and Hysteresis controls
shown within the display range (left) and below the display range (right)

The grey and violet "bubbles" that appear in the Detector/Gain History are handles for the detector *Threshold* (grey) and *Hysteresis* (violet) control knobs. The grey and violet lines extending from these handles across the display make it easy to set the precise detector level at which 'gate open' is triggered (Threshold) and when 'gate close' is triggered (Hysteresis).

Note that the violet *Hysteresis* value in the bubble shows the actual parameter level in dB, whereas the numeric Hysteresis value shows the difference between the Threshold and Hysteresis. In the graphical context of aligning the level with respect to audio events, one uses the physical level referenced to 0dBFS, but in the context of detector 'gate open' and 'gate close' commands, the size of the window between those levels becomes more important.

As you move the Threshold control, you will see the Hysteresis follow, maintaining a consistent relative difference between the two. This allows you to change the detector level threshold across a wide range without affecting the behavior of the gate gain stages.

When the Threshold and Hysteresis control bubbles are set below the current Detector/Gain History Gain Range, they rest on the bottom of the display window with a downwards-pointing arrow indicating they are below the windows' view (as shown above right).

Gate State Machine: Gain Curve controls

Attack (330.4ms)   Hold (719.3ms)   Release (435.2ms)
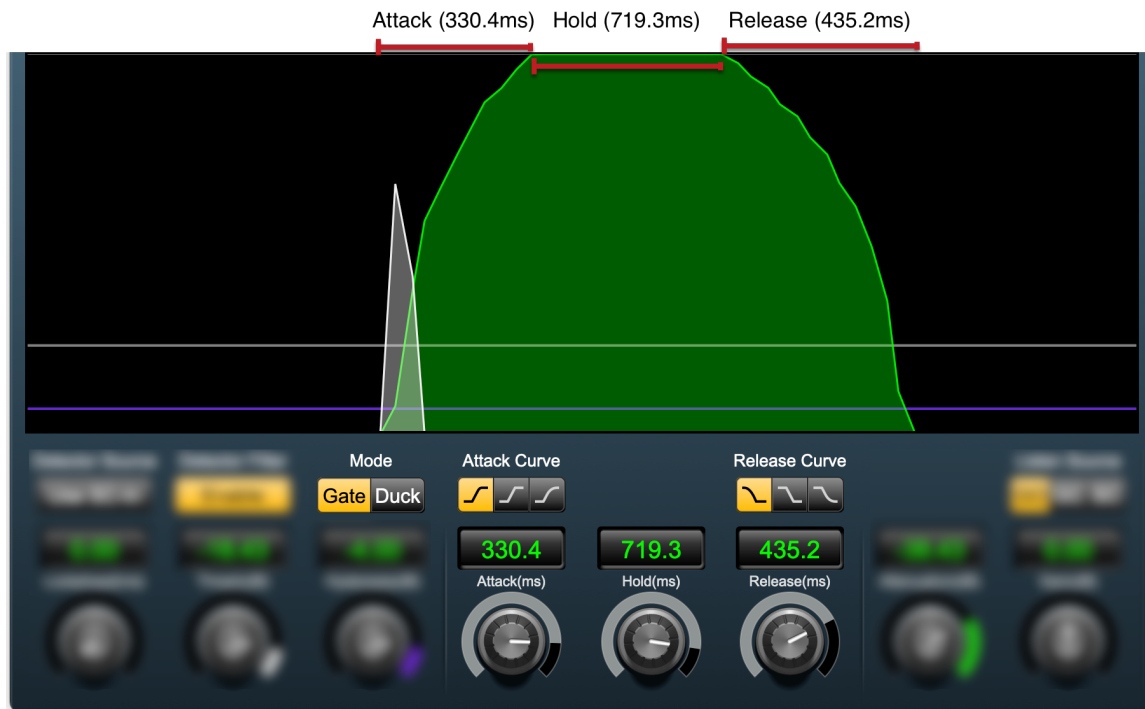
**Gate State Machine: Gain Curve shape, Attack, Hold and Release controls
(Attack, Hold & Release greatly extended for visibility)**

There are five controls in SuperGate dedicated to the shape of the 'gate open' and 'gate close' gain curves.

It is important to remember that these controls are not dynamic by nature, and have no effect on the detector input response.

In SuperGate, the Gain Curve shape controls bear much more resemblance to synthesizer ADSR programming or inline fade curves than what you normally find in a dynamics processor.

Attack(ms): Gain Curve Attack time

Attack controls how quickly the gate opens from 0ms (the default) to a max of 1000ms. The Attack Gain Curve automatically adapts it's shape to match the duration entered.

The 'Attack' gain curve is applied at the moment the detector reaches the Threshold trigger level, opening the gate starting at the Attenuator level and progressing until the gate is fully open.

(Note the slow Attack in the graphic above shows the trick of triggering off one event in order to isolate quieter audio behind it.)

Hold(ms): Gain Curve Hold time

The *Hold* control determines how long the gate stays fully open at 0dB of attenuation.
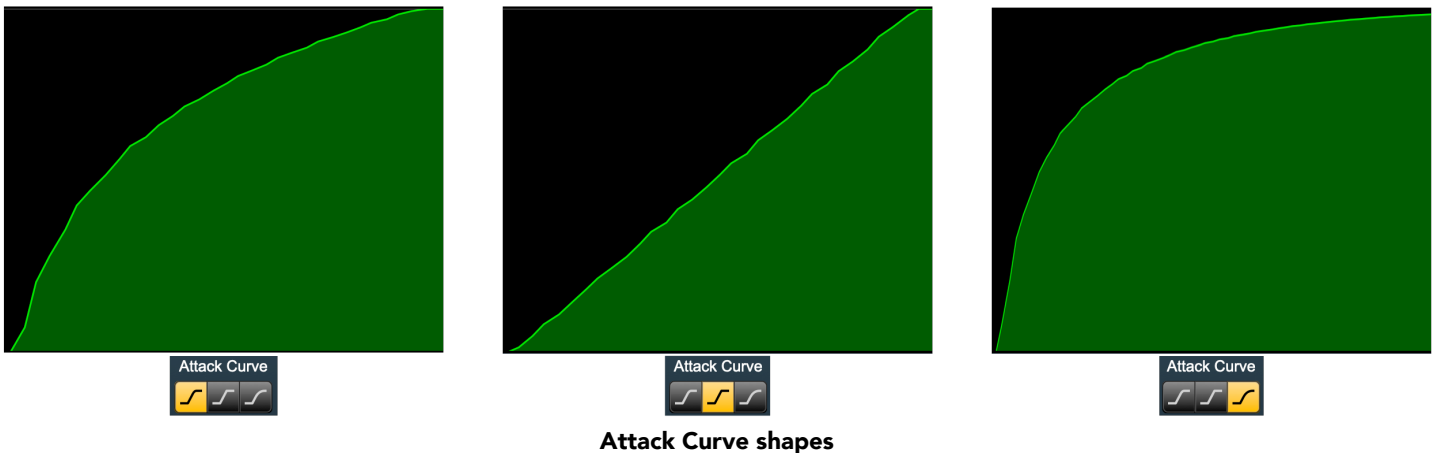
Gate 'Hold' duration may be from 0ms to 2000ms, starting from the moment the detector hits the Hysteresis de-trigger level.

Release(ms): Gain Curve Release time

Release controls how quickly the gate closes from 0ms (the default) to a max of 4000ms.

The 'Release' gain curve is applied at the moment the Hold duration times out.
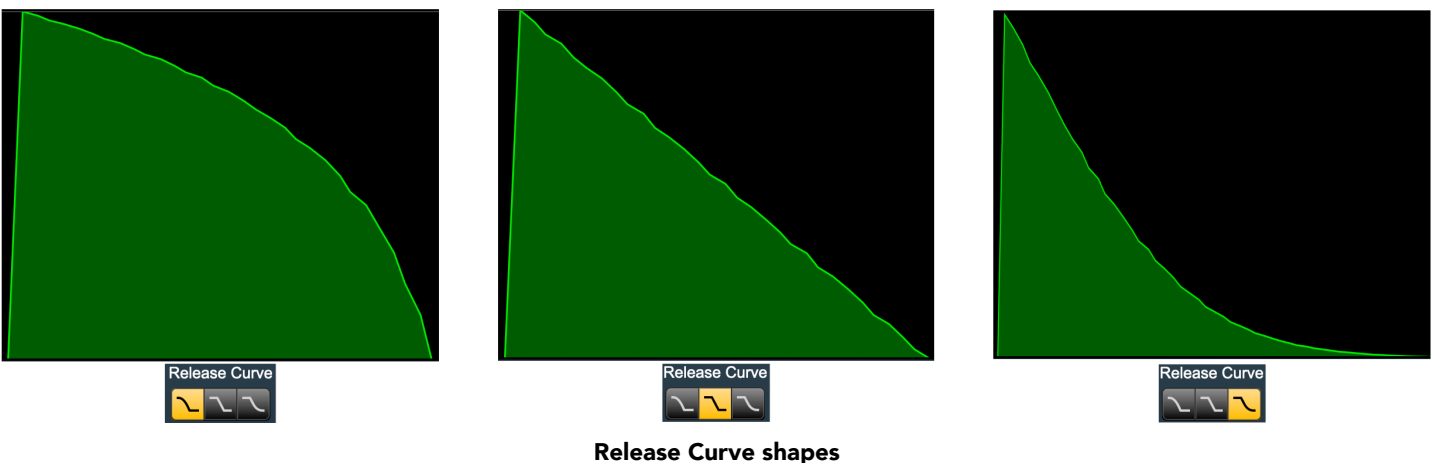
Attack Curve shape selector

Attack Curve shapes

There are three Attack Curve shapes to choose from. As you would expect, the audible differences between them become more subtle as the Attack time decreases, but even at minimal attack times swtiching between the curves reveals a different feel.

- The leftmost (default) curve has a linear gain characteristic, suitable for most purposes and overall a good starting point.

- The mellow child in the middle has a slower ramp-up making it a good choice for slower-responding instruments, pushing sounds back in the soundfield by damping initial transient energy, or in some cases even click/crackle mitigation.

- The third curve has the quickest overall ramp-up, but damps the top of the transient somewhat at longer attack times by taking longer to fully open the gate over that last few dB. This curve is visually similar to the default (leftmost) attack curve but offers a full yet maybe less aggressive option on faster, louder sources.

Release Curve shape selector

Release Curve shapes

The three Release Curves essentially mirror the Attack Curve shapes as far as energy curves go, but in practice there is a huge interplay with the gate Hold parameter which is not present with the Attack Curve.
- As with the Attack side, the leftmost (default) Release Curve is a good general purpose linear decay, appropriate for gating instruments, vocals or dialog. The rapid drop-off at the end of the curve provides good control for isolating instrument events on tracks with significant noise to reject.

- The slower drop-off of the middle Release Curve is especially handy for legato program transitions or emulating manual fader-riding in Duck mode.

- The third release curve has a rapid initial drop-off followed by a gradual transition to the Attenuation floor. This curve is well-suited to transitioning from events requiring a longer Hold setting to reproduce the body of an instrument (say, a kick drum ringout) but needs a fast controlled release to reject spurious instrument noise.

Gate Gain Stage Mode selector
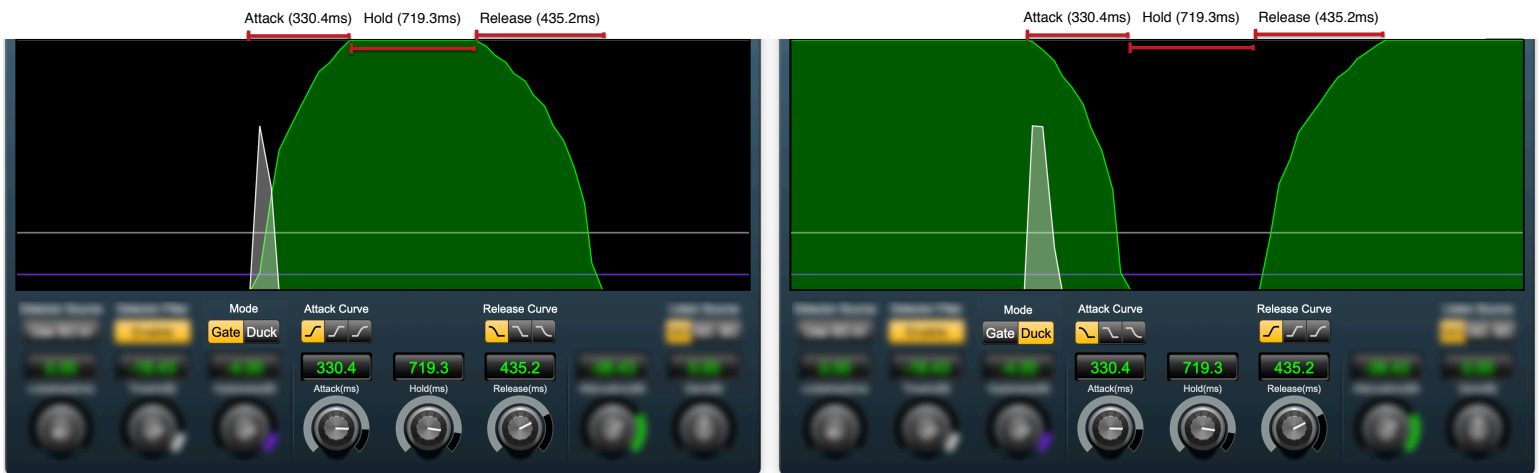
Gate vs. Duck Mode

The SuperGate "Gate/Duck" control does not impact gain curve shapes per se, rather it takes the existing gain curves and flips everything upside down (or backwards…?).

Specifically, please note in the graphic above that Duck mode swaps the Attack gain curves for the Release gain curves without changing any of the level thresholds or time parameters. This creates a literal mirror image of the normal gating behavior.

Ducking with a mild Attenuation setting is particularly useful for broadcast or podcasting to turn down a music bed whenever voiceover program occurs.

Audio path controls
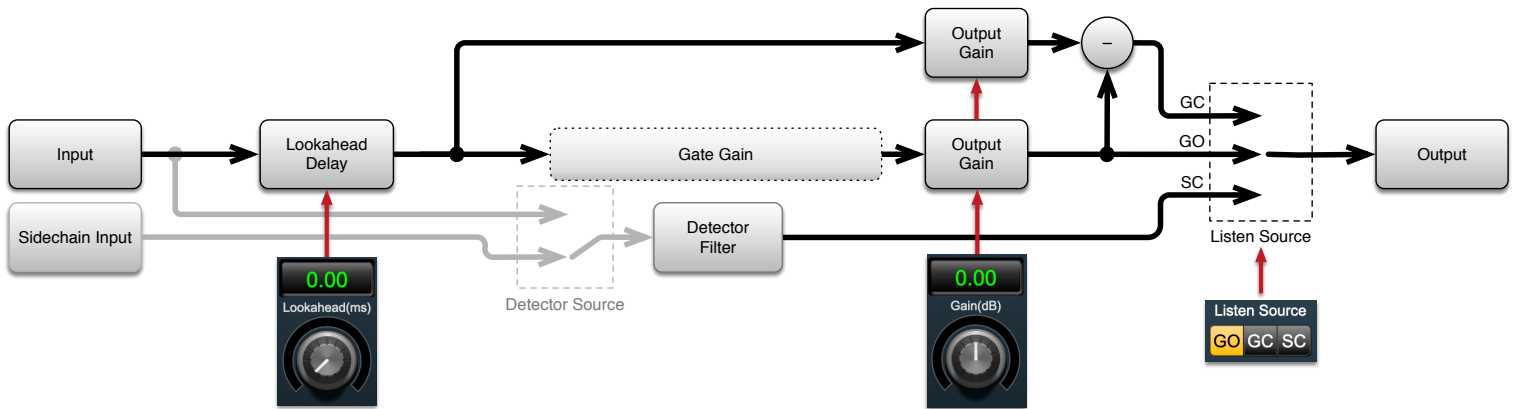
SuperGate primary audio path controls

Lookahead

Lookahead delays the primary audio input signal relative to the detector sidechain.

This is useful in cases where the 'Gate Open' or 'Gate Close' need to be triggered slightly ahead of the Threshold trigger point.

If you hear slight clicks at the gate transitions (sometimes an issue when monitoring the 'Gate Closed' signal), try adding 'Lookahead' until the click goes away.

The 'Lookahead' delay range is from 0ms to 10ms. Keep in mind adding this delay may be audible in some circumstances where relative phase issues may be exposed.

Output Gain

This control allows you to boost or cut the output level after all processing has been applied. The gain range is ±24 dB.

Since the only processing up to this point is creative attenuation, Output Gain is very often left alone at the default 0.0 dB.

On the other hand, since SuperGate is obviously much more than "just another gate", this manual gain stage is included for instances of picking out very low level signals which need a boost, or for dropping the output gain to match with the next processing stage.

Listen Source selector

The **Listen Source** radio button selects between the signal being passed through the gate **GO** = Gate Open), the signal being rejected by the gate (**GC** = Gate Closed), or the filtered detector sidechain input signal (**SC** = SideChain).

As you can see on the signal flowchart, there are two parallel output gain stages above and controlled by the Output Gain control. One passes the original unprocessed audio and the other passes the gated audio from the Gate Gain engine.

- After the output gain stages, the gated audio (on the lower path) continues to the **(GO)** *Gate Open* Listen Source feed.

- This Gate Open output also feeds into a phase-inverter and is summed with the unprocessed signal (on the upper path). Since both gated and unprocessed signals are time-aligned, the inverted gated audio cancels from the original unprocessed signal.

The result of removing the Gate Open audio from the unprocessed original leaves the signal rejected by the gate, which is available at the Listen Source **(GC)** *Gate Closed* selector.

- The filtered detector sidechain audio can be monitored at the **(SC)** SideChain Listen Source selector. Auditioning the isolated sidechain feed is crucial when dialing in the Detector Filter. Oftentimes you may find a better trigger point for a given event at a different frequency than you expect. A real world example would be when a fat body snare has a deep reach into kick drum territory, and you end up finding a faster and more consistent trigger point at the higher frequencies of the kick beater.

It should be noted here that removing an instrument or event from audio is every bit as legitimate as isolating an instrument, and SuperGate is often surprisingly good at it. If you dial in an instrument as if to isolate it, then switch to monitoring the Gate Closed feed you may be surprised just how effectively that instrument has been removed.

At that point a bit of tweaking the Attenuation and Lookahead to smooth the gate transitions, and you may find yourself with a quick and effective mix-minus.

With a little imagination, the speed and accuracy of the state-based gating engine makes for a very flexible and powerful dynamics-based gain control element you can drop in anywhere in your mix.

A. Key Commands

There are several key commands used as modifiers combined with mouse actions:

Command	Mac Key Sequence	Windows Key Sequence
Show tooltips	Hold **?** down	Hold **?** down

Table A.1. Tooltip Control

Command	Mac Key Sequence	Windows Key Sequence
Fine control	⌘ (Command)-click and drag	**Control**-click and drag
Reset to default value	⌥ (Option)-click or double-click	**Alt**-click or double-click

Table A.2. Control Knob Modifiers

Command	Mac Key Sequence	Windows Key Sequence
Confirm & dismiss numeric pop-up	**return**, **enter**	**return**, **enter**
Confirm & move to next entry	**tab**	**tab**
Confirm & move to previous entry	⇧-**tab** (Shift + tab)	⇧-**tab** (Shift + tab)
Dismiss numeric pop-up & cancel change	⌘**.** (Command + .), **ESC**	**Control.** (Control + .), **ESC**

Table A.3. Numeric Field Modifiers

Command	Mac Key Sequence	Windows Key Sequence
Reset Clip	⌥ (Option)–click the meter	**Alt**-click the meter

Table A.4. Meters

Command	Mac Key Sequence	Windows Key Sequence
Toggle band enable	⌘ (Command)–click or double-click frequency dot	**Control**-click or double-click frequency dot
Adjust bandwidth (click then drag)	⌥ (Option)–click frequency dot	**Alt**-click frequency dot
Change filter type	⌘⌥ (Command + Option)–click frequency dot	**Control**+**Alt**-click frequency dot
Access EQ TF settings	⌃ (Control) or right-click graph	Right-click graph

Table A.5. EQ Transfer Functions

Command	Mac Key Sequence	Windows Key Sequence
Popup Parameter Menu	⌃⌥⌘ (Control + Option + Command)–click	**Alt** + **Control**+**Windows**–click
Show Automation Breakpoint	⌃⌘ (Control + Command)–click	**Control** + **Windows**–click
Set Parameter to Default Value	⌥ (Option)–click or double–click	**Alt**-click or double-click
Set Parameter to Minimum Value	⌃⌥ (Control + Option)–click	**Control** + **Alt**-click

Table A.6. Pro Tools Key Commands

B. Service and Support

Metric Halo takes great pride in the reputation for customer service and support that we have built. If you have any problems, questions, or suggestions please get in touch with us at:

- https://mhsecure.com/support

- support@mhsecure.com

- (727) 725-9555

Please keep us informed about your successes and projects. We love to hear from you!