



# Character User's Guide

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# MH Character Users Guide

Metric Halo

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# 1. Introduction

Character is an oversampled analog modeling plug-in for digital audio workstations. We measured a number of our customers' favorite analog signal processors to determine what they did to the audio signal being run through them. By measuring the harmonic distortion fingerprint of each device, we have been able to recreate their unique properties in Character.

Character has always employed 8x oversampling, and with v4 more oversampling options have been added for even greater flexibility.



Character's User Interface

By combining circuit modeling with variable gain, Character is capable of shaping your sound with subtle or over-the-top results.

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## 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](#).

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## 3. Installation

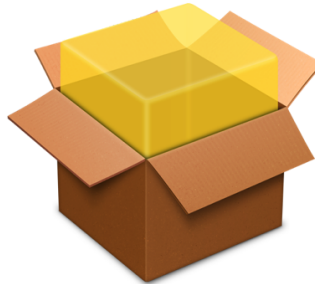
For both Mac and Windows, there is a single standard installer for the Production Bundle that allows you to decide which plug-ins to install to your computer, depending on what individual plug-in licenses you own and what formats you use.

**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

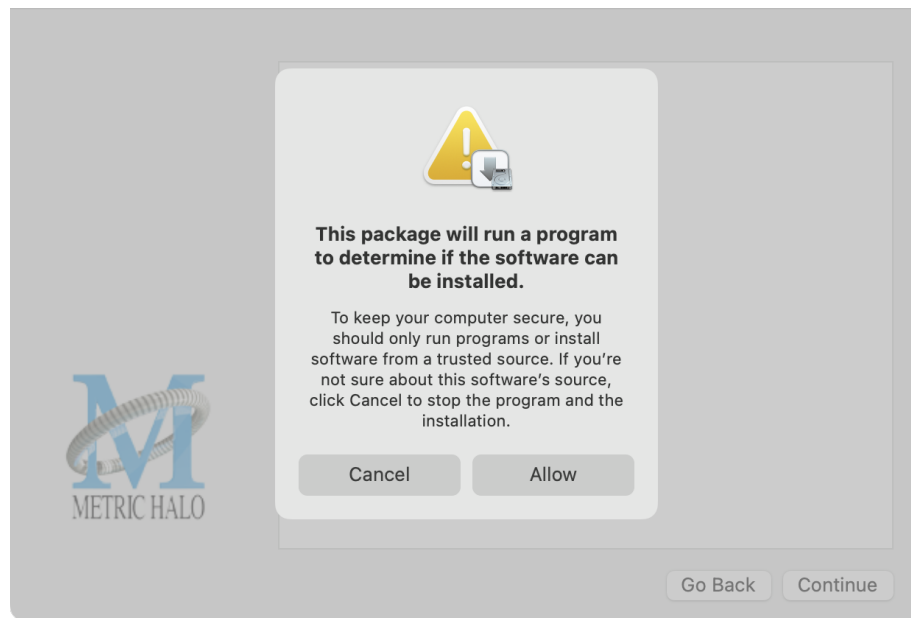
*Please note*– The following graphics show installation on a macOS 12 system; the process may be slightly different in other versions of the OS, but the basic concepts are the same. Small details such as file sizes shown may vary with subsequent releases.

- Double-click the "MH Production Bundle.pkg" application



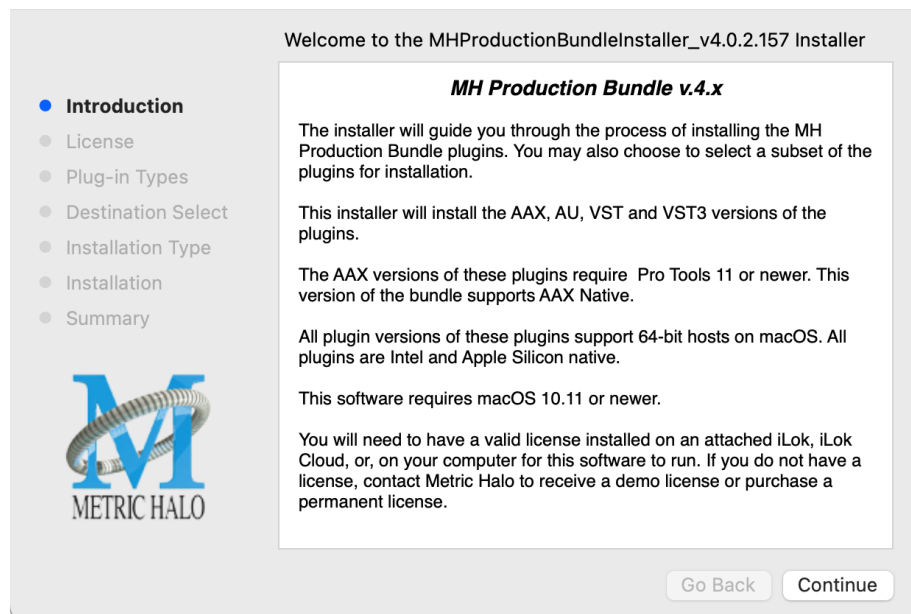
MHProductionBundleInstaller\_  
v4.0.2.157.pkg

- 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:



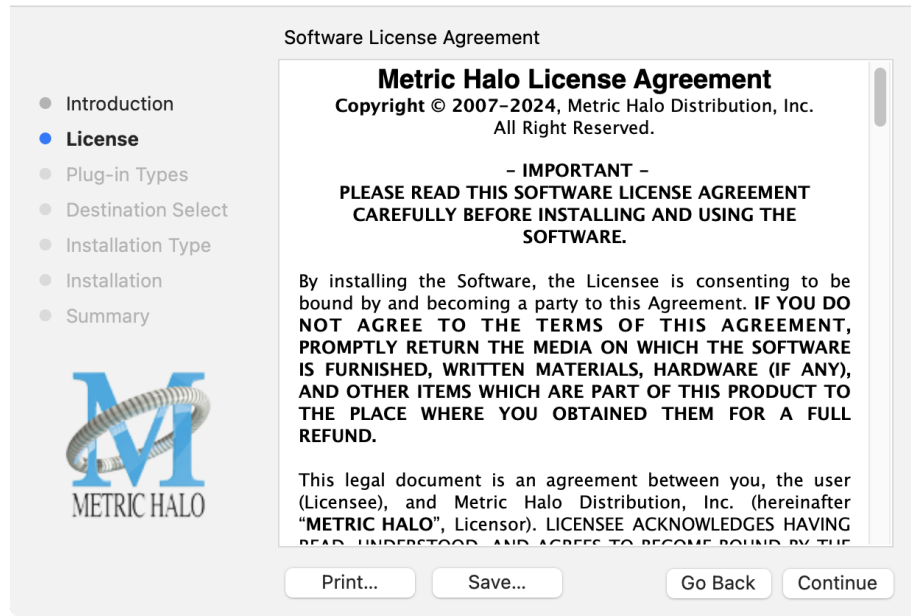
Click “Allow” to proceed...

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



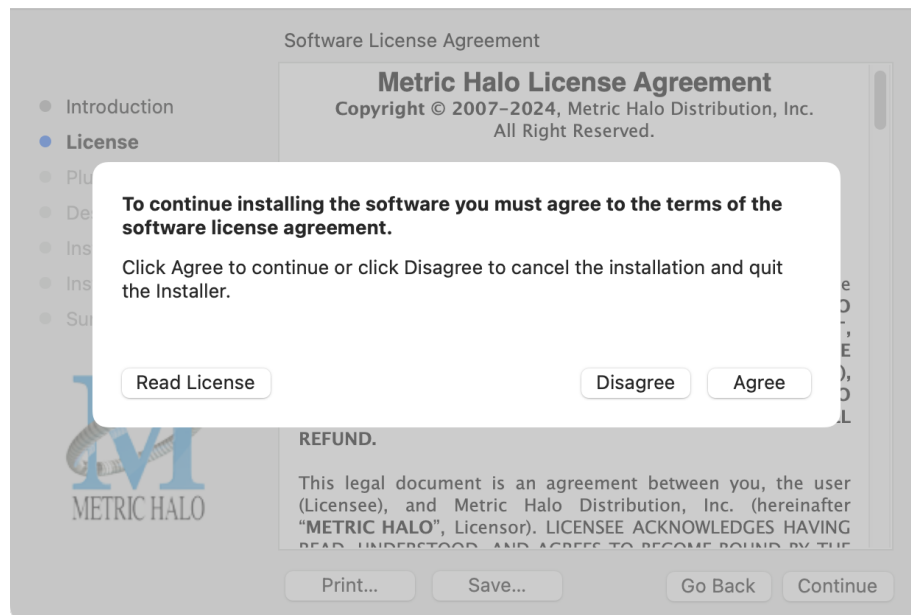
Click “Continue”...

- Now you will see the Metric Halo License Agreement:



After you have read it, click "Continue"...

- Next, click "Agree" to accept the License Agreement:

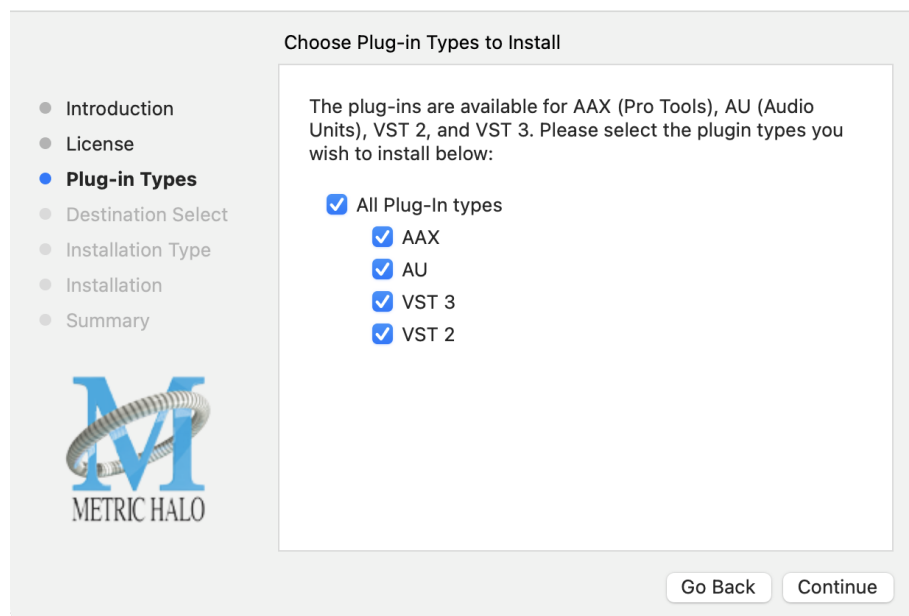


- The Choose Plug-in Types selector window defaults to no plug-ins selected, so that you may choose just the plug-in formats you wish to install. Checking *All Plug-In Types* will install Audio Unit, VST2, VST3 and AAX plug-ins to their respective folders in the root Library directory:

- 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.

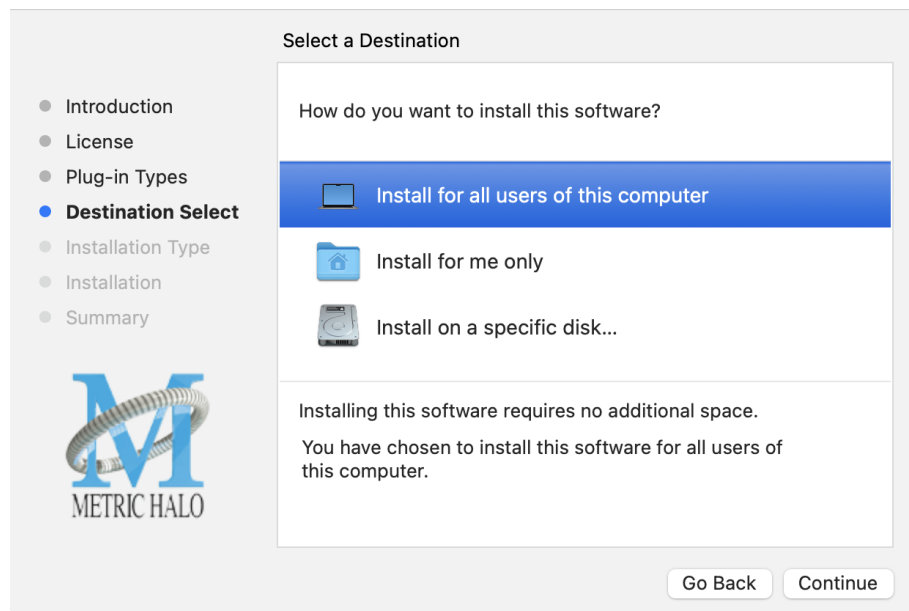
Existing sessions will recall with the v3 instances for both Native/DSP, and you can continue to add new instances of the v3 plugins (for example, if you want to be able to use DSP versions for tracking).

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.

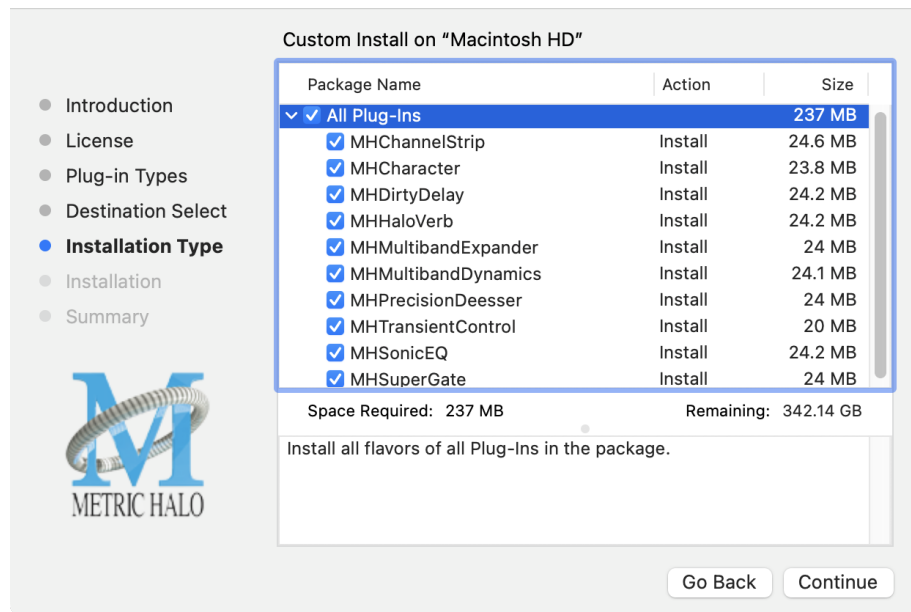
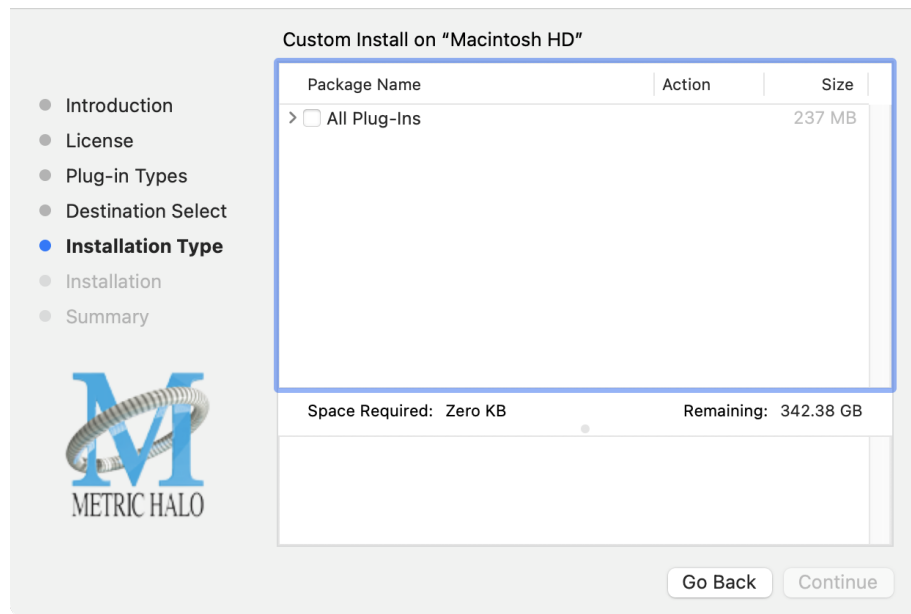
If you load sessions with v3 instances, but only have v4 installed, Pro Tools will automatically migrate the instances to v4 Native with the parameter settings intact.

- “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.



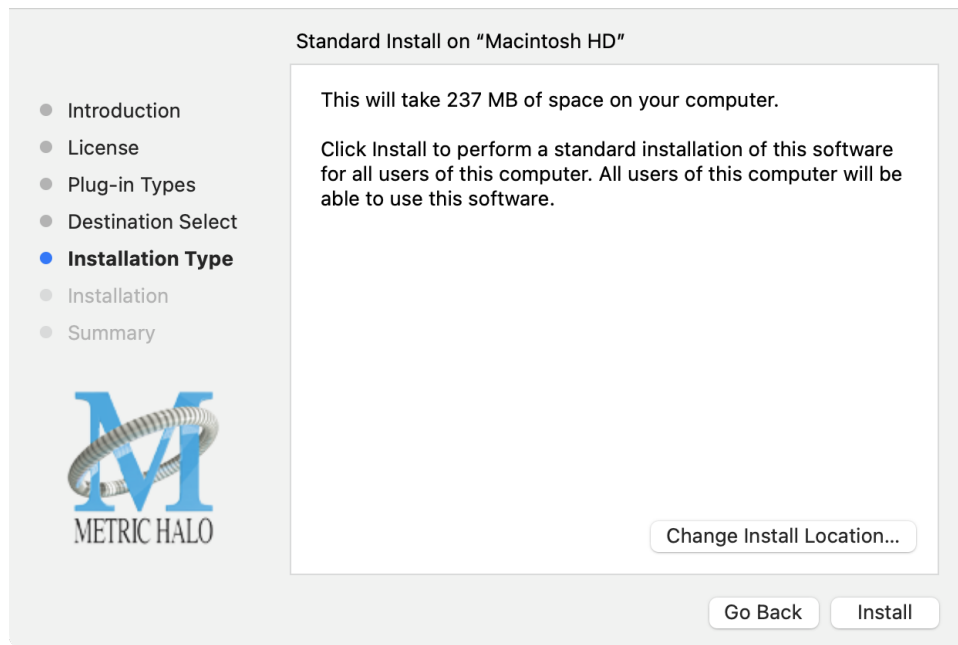
We recommend that you use the standard installation location unless you have a specific reason not to.

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

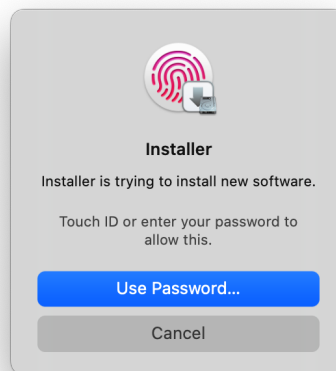


Clicking the disclosure triangle opens the selection list of the individual plug-ins. Make your selections and click “Continue” to proceed.

- The final confirmation window displays the total size of the selected installation. Hit “Install” to proceed.

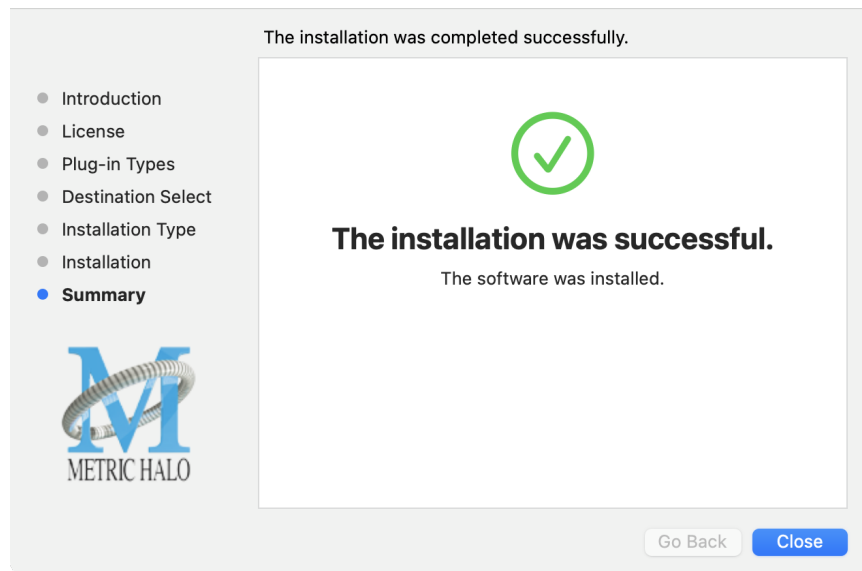


- If present, Touch ID/Face ID will execute the installation once it recognizes your biometrics:



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

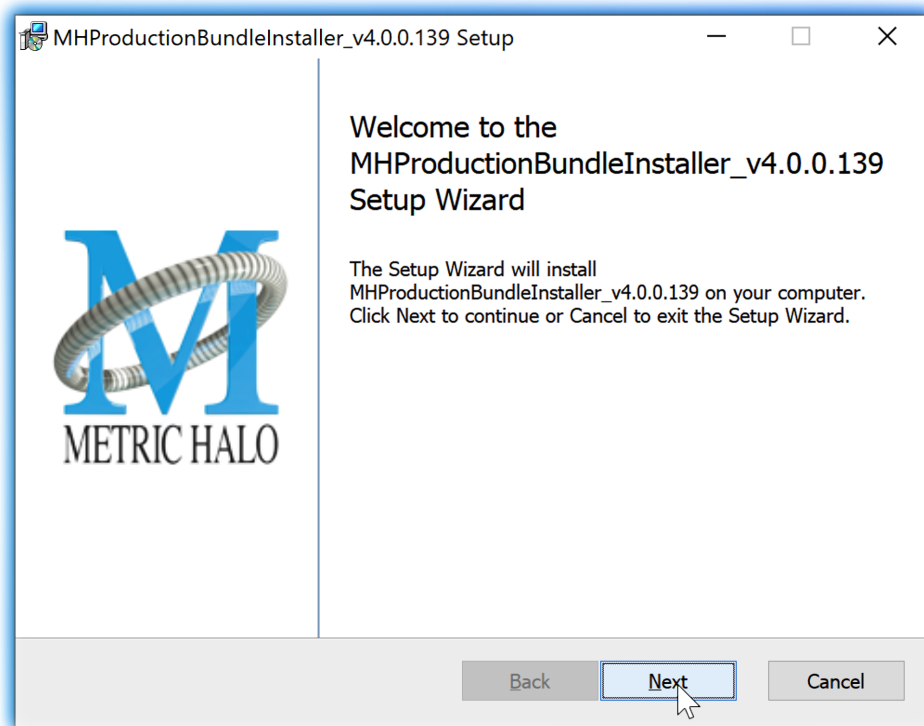
*Please note* – The following graphics show installation on an Windows 10 system; the process may be slightly different in other versions of the OS, but the basic concepts are the same. Small details such as file sizes shown may vary with subsequent releases.

- Double-click the “MHProductionBundleInstaller\_v4.x.x.xxx” application



**MH Production Bundle Installer**

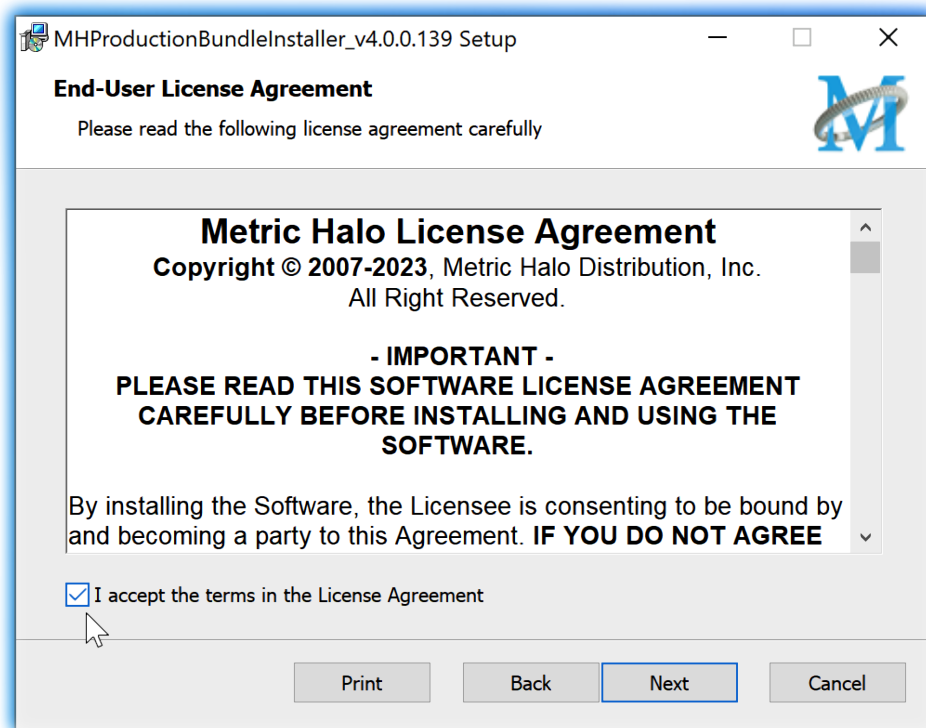
- The installer dialog will appear:



**Welcome Dialog**

Click “Next” to proceed.

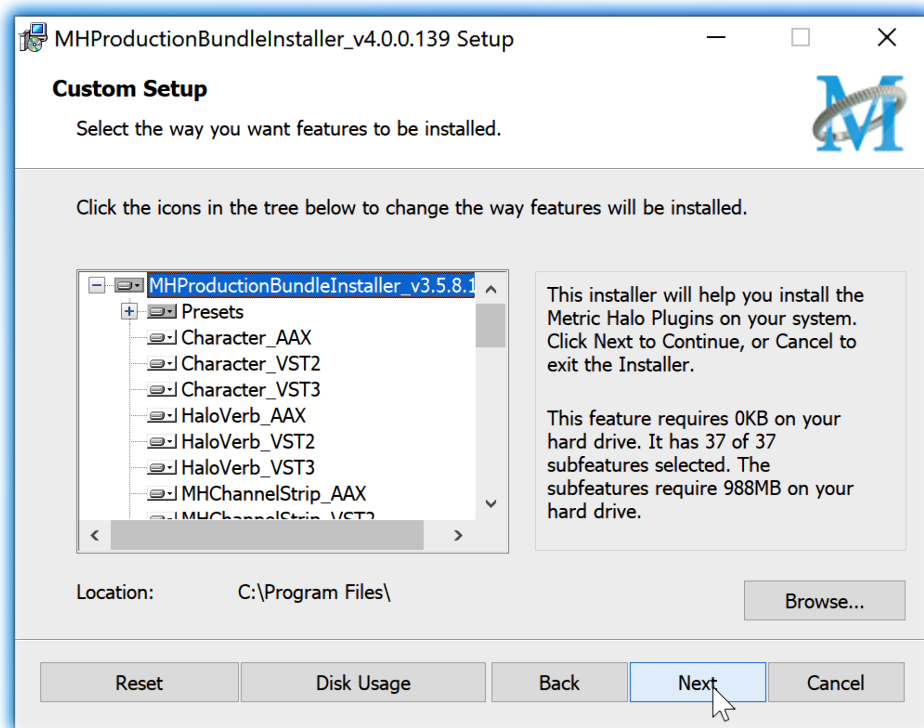
- Read the Metric Halo License Agreement:



**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

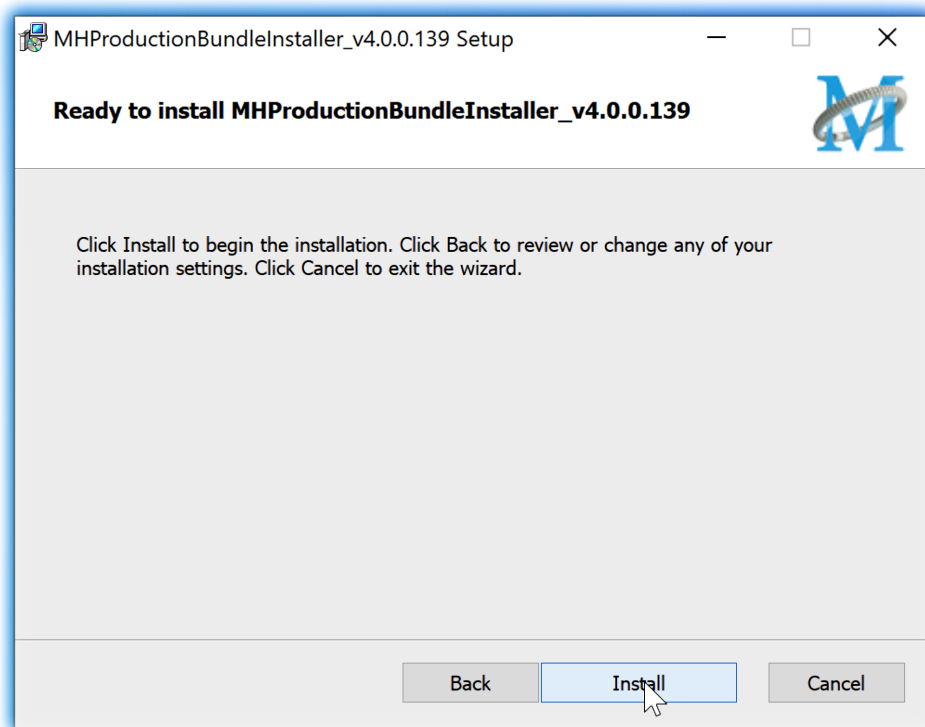
The Windows installer **Custom Setup** page allows you to refine the features to be installed and their location.

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 plugins. See your host software documentation.

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

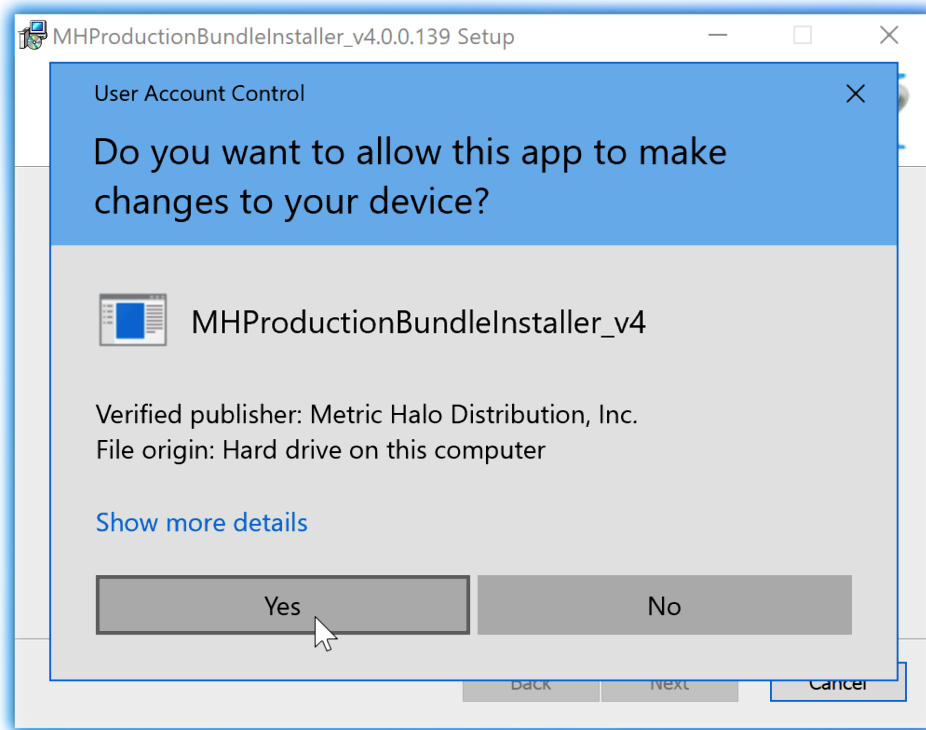
- The next page is a confirmation to continue, offering a last chance to go back and review your selections from the previous window:



**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:

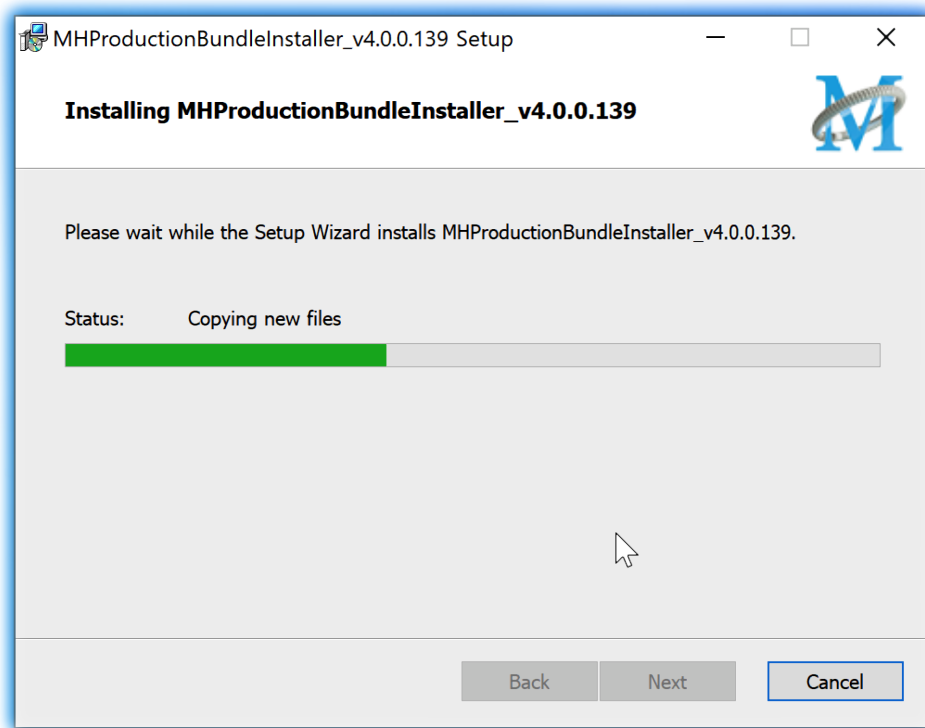


**Final installer verification and permission to execute**

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

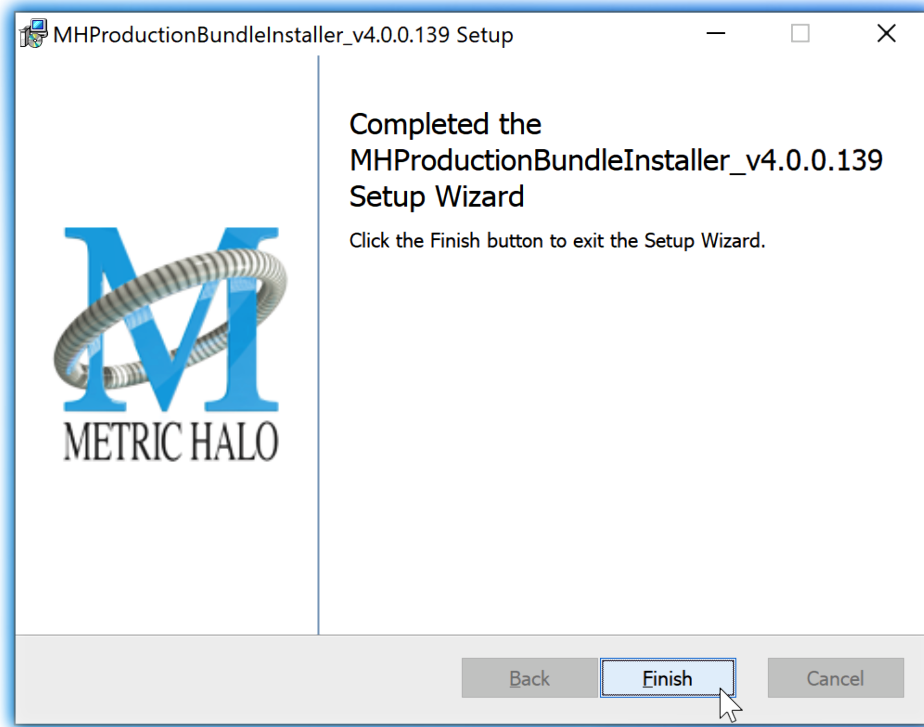
Click "Yes" to proceed with the installation.

- 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.

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## 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.

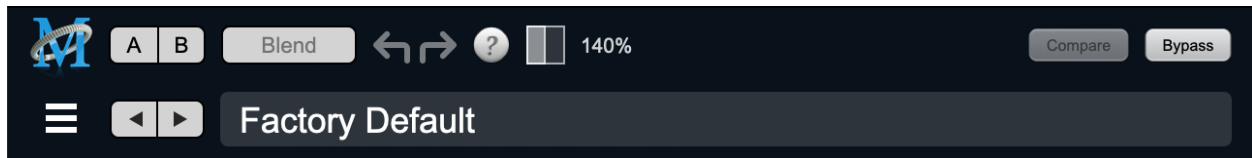
With the constant evolution of computer capabilities opening the door to new production techniques and music delivery formats, the differences between DAW software workflows have become ever more diverse. Many of the major DAWs provide their own plug-in headers within every plug-in instance window, providing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

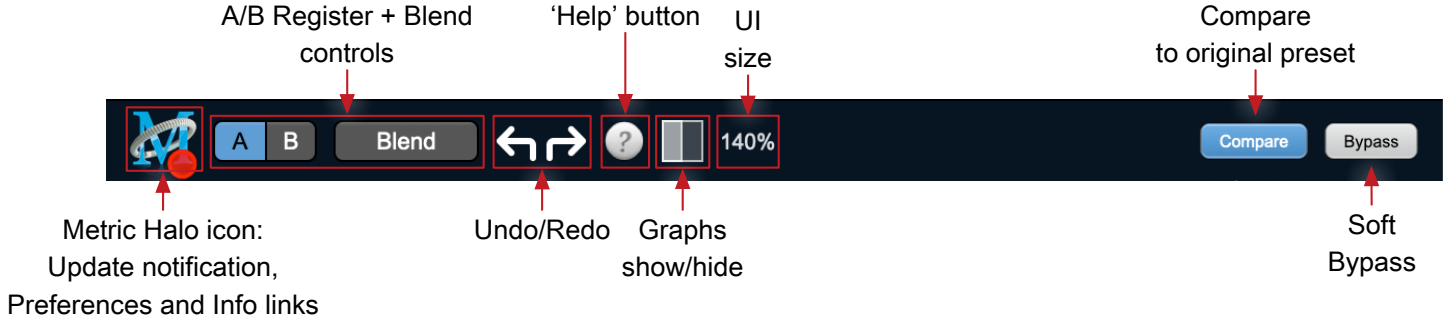


**MH Plug-in header (default setting: eq and dynamics graph display closed)**

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

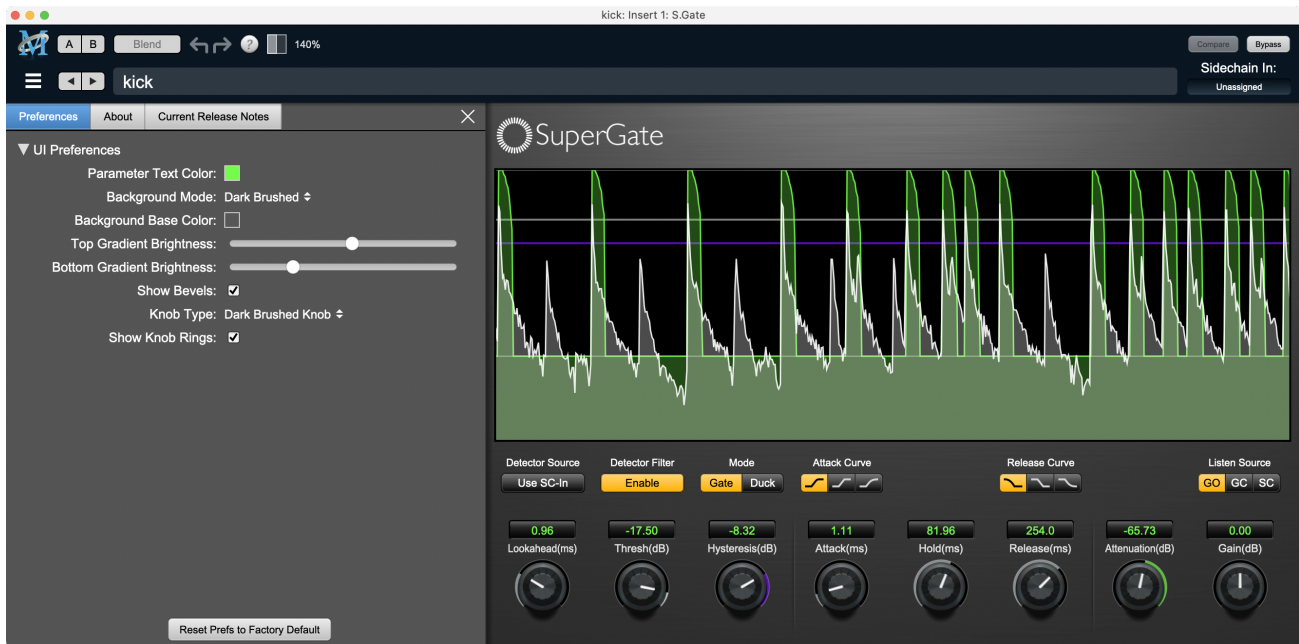
The menu includes organizational and preset import/export features for sharing saved preset files with the outside world, and restoring presets from early days MIO and MH plug-in versions.

## Plug-In Header: Top Row



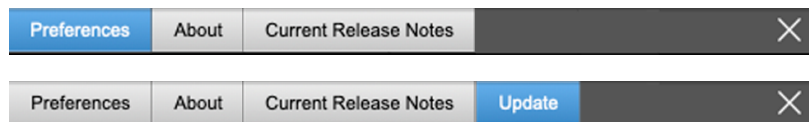
## Metric Halo Header Icon

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)**

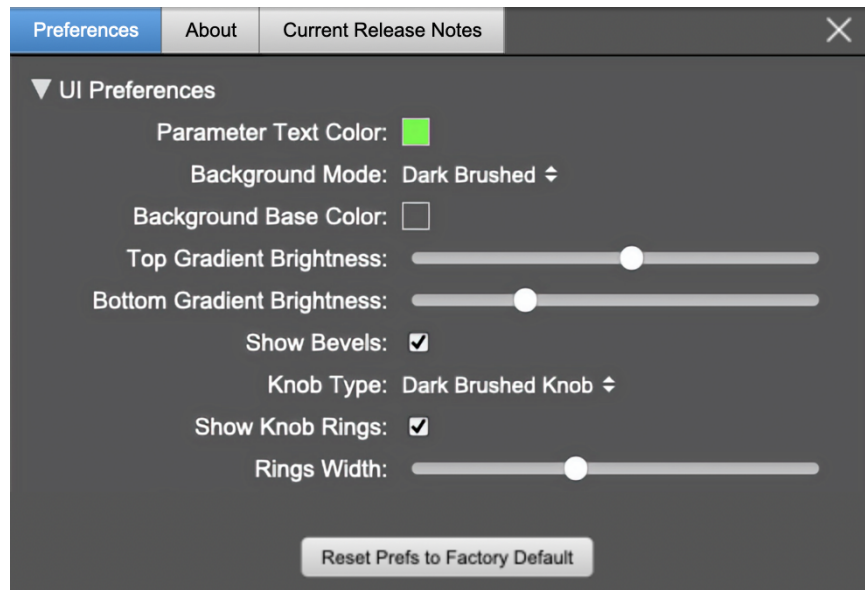
This sidebar has context-sensitive tabs across the top for GUI **Preferences** (shown above), **About**, and **Current Release Notes**.



**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)

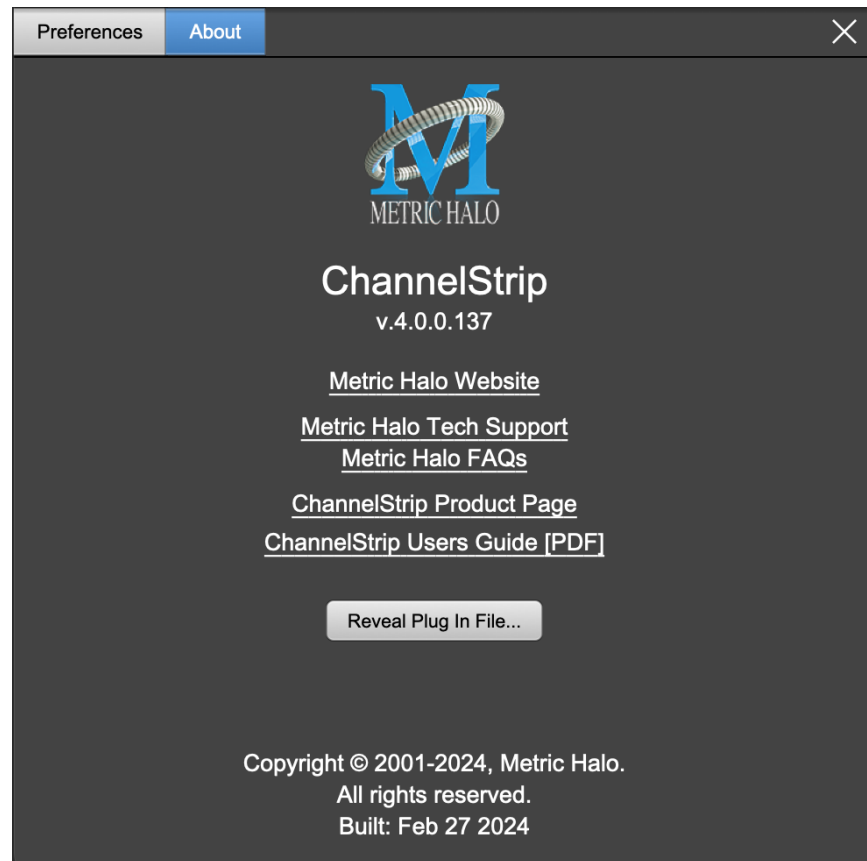
- **EQ Colors**

- **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



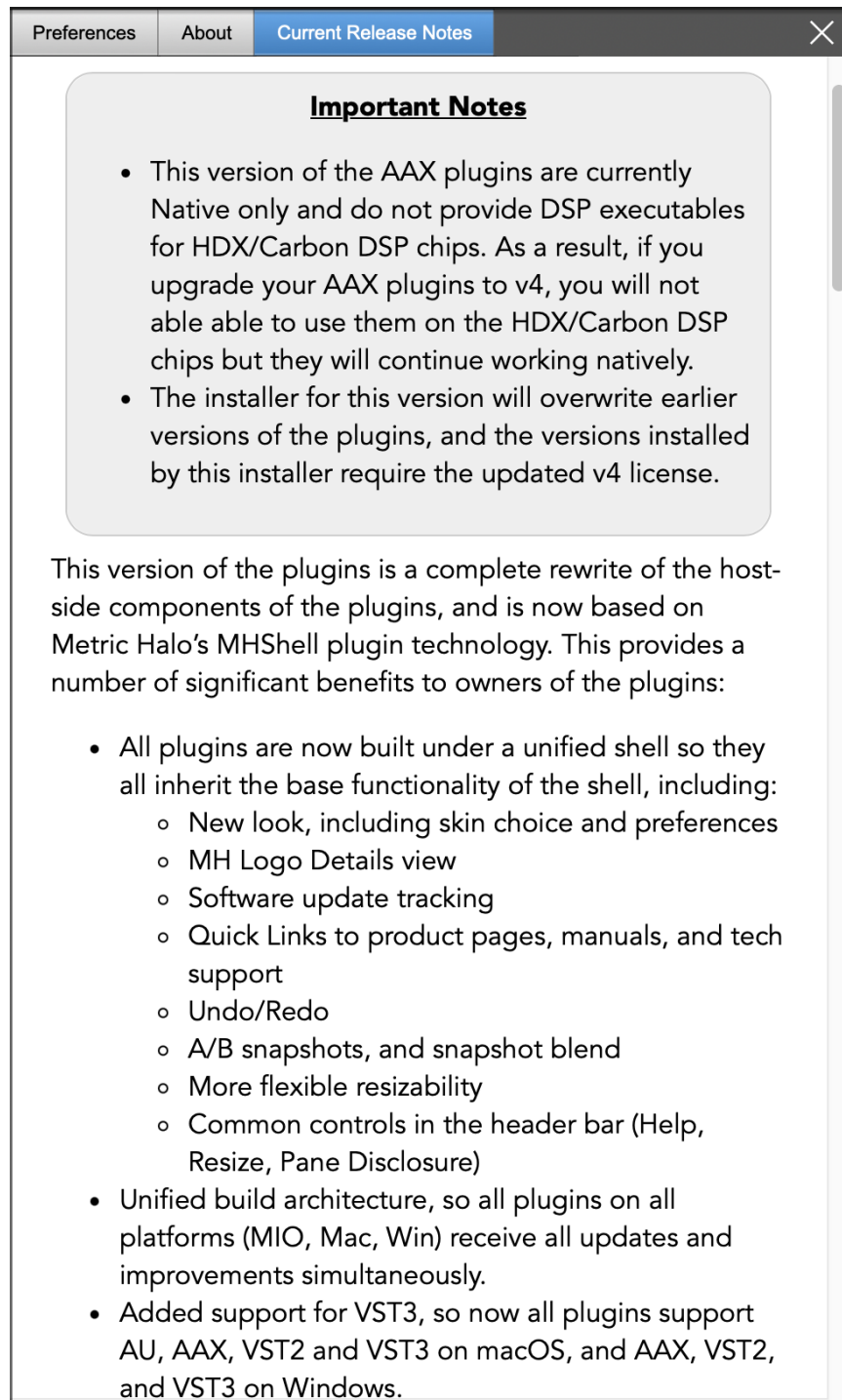
**About tab (ChannelStrip shown)**

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.

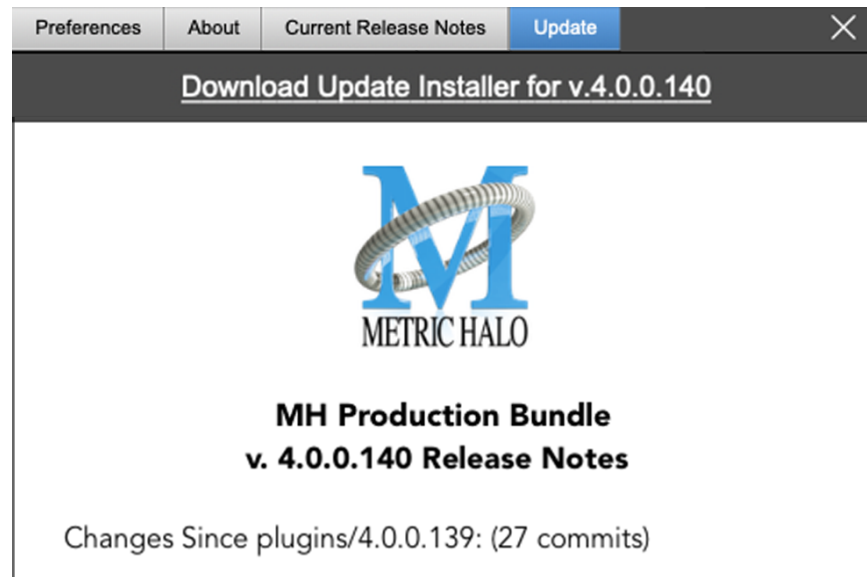
## Current Release Notes

**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 synopsis 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

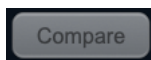


**UI Size Selector**

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



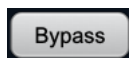
**Compare Button (inactive)**



**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)**



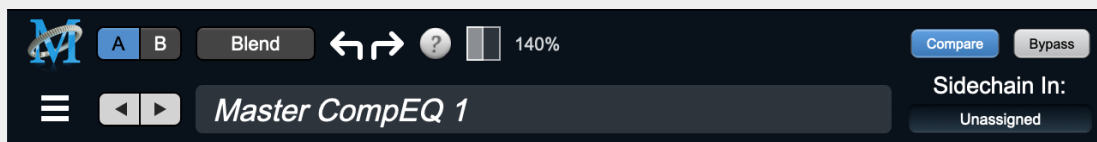
**Soft Bypass Button (bypassed - plug-in is not processing)**

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).

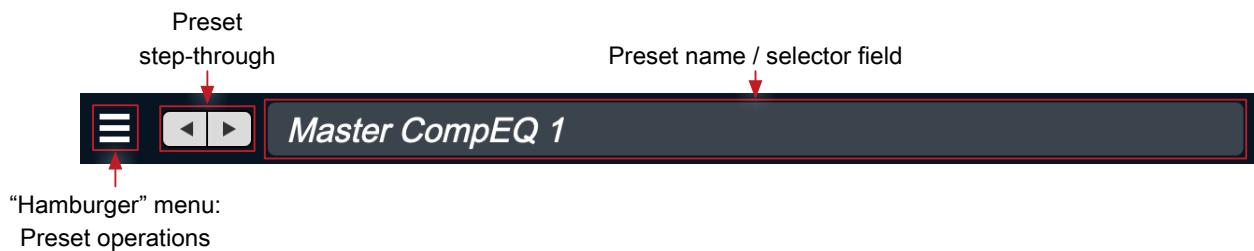


**MIOConsole3d ChannelStrip header**

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.

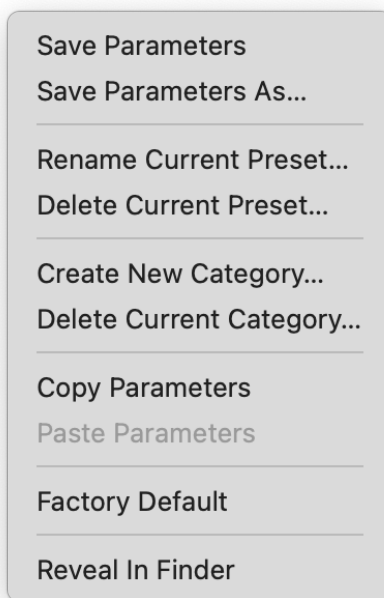
For this reason, external sidechain assignments are the one parameter which can not translate between a host-based DAW preset and the same preset opened within MIOConsole3d.

## 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.

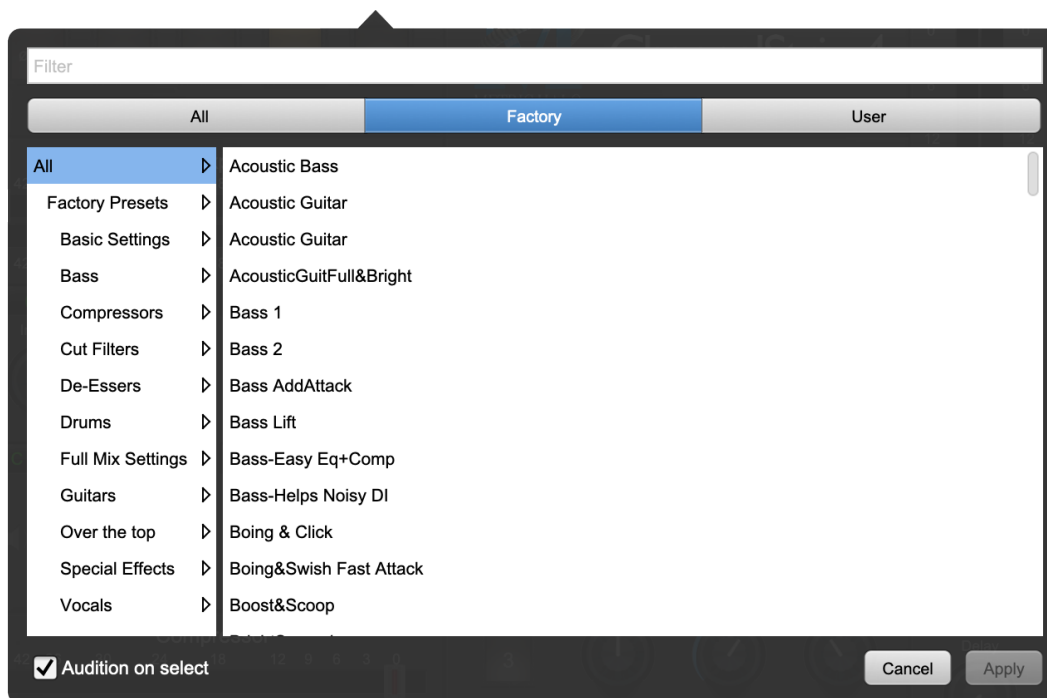
## Preset Step-Through Buttons



**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.

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## 5. Operation

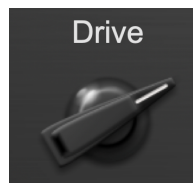
The Character user interface uses a few different control elements to control its processing. These elements are:

### Character Model selector

None	Transformer	Valve	FET
SoftSat	SoftSat Gain	Boutique Tube	American Transformer 1
American Transformer 2	California Tube Mic	California Tube Line	Modern Tube DI
Modern Tube EQ	Modern Tube Soft Sat	Modern Tube Mic LG	Modern Tube Mic MG
Modern Tube Mic HG	Modern Tube Sym	Modern Tube Mic Soft Sat	Classic British Mic Pre
American Solid State	California Vocal Box	California Vocal Box Drive	British Mic Pre Clone

The selection grid selects Character's model. Click, click-drag or use the arrow keys to instantly change models. There are over 20 models available, which are detailed in the [Processing](#) chapter.

### Control Knob



Control Knobs are used to control the Drive and Output Gain parameters. 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. If you hold down the Mac **⌘** (Command) key or Windows **Control** key when you click, you will be able to adjust the value with finer precision. If you hold the Mac **⌥** (Option) key or Windows **Alt** key when you click, the knob will reset to its default value. You may also double-click a knob to reset it.

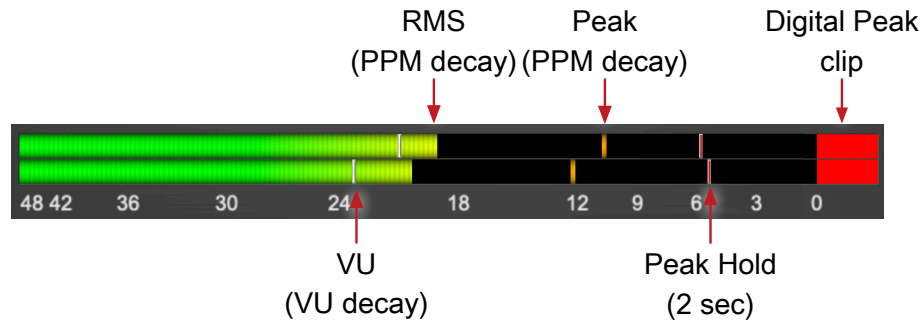
Right-click the knob to display a text entry field that allows you to type in a number directly. The pop-up will remain active until you dismiss it by clicking somewhere else or hitting the **return**, **enter**, **tab**, Mac **⌘**. (Command + .), Windows **Alt** key or **ESC** keys. Hit **return** or **enter** to confirm the value and dismiss the pop-up. Hit the **tab** key to confirm the value and display an entry field for the next control. **⇧-tab** (Shift + tab) will display the entry field for the previous control. Hit the Mac **⌘**. (Command + .), Windows **Control**. (Control + .) or **ESC** (Escape) to dismiss the pop-up and cancel the change.

### Toggle Button



Toggle buttons are simple on/off switches. They light up when they are on and are dark when they are off. Toggle the state of the button by clicking on it. This button is used to enable [Auto Drive](#) within Character.

## Output Meter



For the main output stage of Character we have provided meters driven with SpectraFoo™ metering technology. These meters show digital Peak, Peak Hold, RMS level and VU level.

Both the Peak and RMS level are represented with fast PPM ballistics.

The instantaneous Peak level is represented by the floating colored pip. Peak Hold is 2 seconds, indicated as a red floating marker pip.

The RMS level is the solid colored bar which transitions from green at “safe” high-headroom levels to yellow at -18dBFS, then to orange and finally red approaching -6dBFS.

The VU meter is the white floating marker pip showing IEEE standard 300 ms RMS average level.

When Character is on a mono insert there will be a single meter.

The output section clip lights activate if there is an over in the output stage or in any of the processing section input stages. It is reset by clicking on the meter.

### A Note About Clipping Indicators:

The clip lights do not mean that the plug-in is clipping; it means that the audio level in the DSP is currently over 0 dBFS. If you do not lower the signal level you run a chance of actually clipping the input of another processor or D/A convertor.

## Oversampling selector



Character has always operated at 8x oversampling to ensure coverage of all potential harmonics generated for all character models. Character v4 has expanded on the oversampling options and made them selectable via the **Oversampling** menu above the Character Model selector.

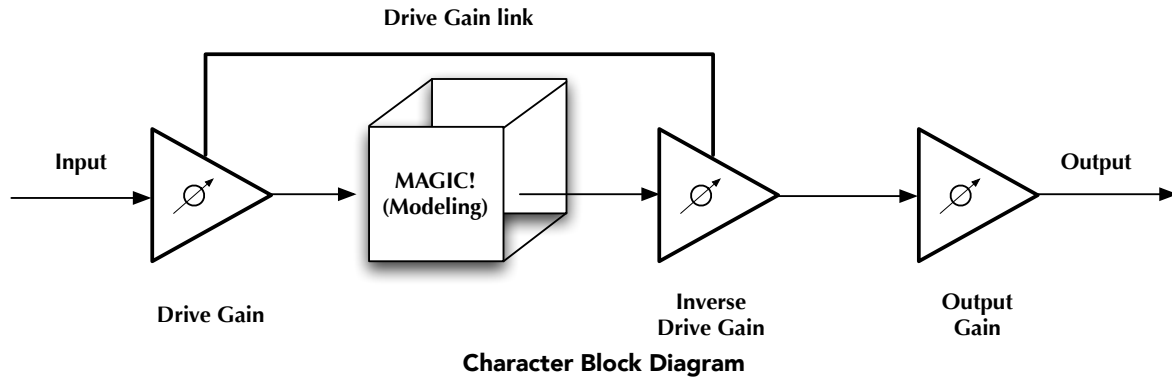
The oversampling options are detailed in the Processing chapter.

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# 6. Processing

## A Detailed Description

In this chapter we discuss what each parameter does and how the controls work. While Character has a fixed number of model types, there are an infinite number of combinations in conjunction with the Drive control.



The block diagram above illustrates the overall structure of the processing system provided by Character. This diagram does not indicate the metering blocks.

Now let's examine the various processing blocks indicated in the diagram.

### Drive

The Drive control applies  $\pm 24$  dB of gain to the signal before it goes to the modeling section. This allows you to attenuate the signal for a subtle effect, or boost to get a more dramatic effect.

As gain is changed before the modeling stage, the inverse gain is applied after. For example, if you set the Drive control to +6 dB, the gain is boosted 6 dB before the model and cut by 6 dB after. This allows you to "push" the modeling section with no increase in output level. You may also hit the model with less signal by setting the Drive control to a negative value without loss of overall volume.

You may still experience an increase in signal level when using positive Drive gain with some models; you can use the Output Gain control to correct this.

Please note that the Drive parameter may have a greater range than you need for a given model, particularly when Auto Drive is engaged.

### Auto Drive

When creating a new instance of Character, Auto Drive is turned off by default. When engaged, the Auto Drive button enables a detector that will automatically sense lower level input signals and apply more drive gain that varies with the signal level.

The effect of enabling Auto Drive is to have a more consistent amount of distortion applied for all input levels. As a result, the effect of the various circuit models becomes more pronounced with Auto Drive engaged. In some instances can lead to heavy distortion. Turn the drive knob to the left to compensate, or leave Auto Drive off for a more subtle effect.

## Character Model

Each Model represents a digital “copy” of an analog device; some models are made from measuring a device with different combinations of settings. The most effective way to utilize Character is to listen to how each model affects your sound rather than relying on the name alone.

- None: No modeling is applied.
- Transformer: Applies the harmonic distortion signature of a transformer-coupled input.
- Valve: A tube-based EQ input stage.
- FET: Model of a solid state (transistor) front end.
- Soft Sat: Tube-based EQ with saturation.
- Soft Sat Gain: Soft Sat, with a set gain compensation for peak level loss due to the saturation effect. Gain compensation is referenced at Drive = 0.
- Boutique Tube: Hand-made tube mic pre.
- American Transformer 1: A variation of the “Transformer” model.
- American Transformer 2: Second variation of the “Transformer” model.
- California Tube Mic: American designed tube mic pre.
- California Tube Line: American designed tube line input.
- Modern Tube DI: Mastering quality tube DI.
- Modern Tube EQ: Mastering quality EQ.
- Modern Tube Soft Sat: Mastering quality EQ with saturation.
- Modern Tube LG: A tube mic pre with a low gain setting.
- Modern Tube MG: A tube mic pre with a medium gain setting.
- Modern Tube HG: A tube mic pre with a high gain setting.
- Modern Tube Sym: Mastering quality EQ
- Modern Tube Soft Sat: Mastering quality tube mic pre with saturation.
- Classic British Mic Pre: A favorite large console mic pre.
- American Solid State: FET mastering EQ.
- California Vocal Box: Transformer coupled tube vocal processor.
- California Vocal Box Drive: Transformer coupled tube vocal processor with increased gain.
- British Mic Pre Clone: A popular clone of a favorite British mic pre.

The “soft sat” variations are particularly good at providing the analog glue that many engineers want for their final mixes. The “sat” stands for “saturation”, such as you would get with analog tape. The “soft” part of the name indicates that the level is *lower* after processing. You may want to use the Output Gain to make up the lost gain.

While most of the models can be applied to every channel, overuse of the saturation models can lead to undesired effects.

## Oversampling

The Oversampling selector provides five oversampling settings:

- **None:** No oversampling... for that vintage digital grit. 0 latency.
- **2x:** IIR minimum phase filters. Provides good aliasing suppression with low cpu cost. 2 samples latency. A great fit for less complex characters in a heavy mix.
- **8x:** Default setting. IIR minimum phase filters. Near-perfect aliasing suppression (second only to the 8x Lin) with somewhat higher cpu cost. 4 samples latency. Best compromise for complex characters in a busy mix environment.
- **2x Lin:** FIR linear phase filters. Lower distortion, better depth and detail with a higher cpu tax. Suggested for cpu-conscious immersive sessions and high sample rate production. 15 samples latency.
- **8x Lin:** FIR linear phase filters. Best all around performance (lowest distortion, greatest detail, least time smear) with a relatively higher cpu cost. Suggested for sub-mix buses/stems and exposed tracks featuring harmonically-rich character. 15 samples latency.

Note that the 'None' and 'Lin' settings are perfectly time-compensated by the host and will properly null against source audio (if you are into that kind of thing). The minimum phase settings by definition do incur a phase shift and will not return a perfect null no matter what.

## Output Gain

The Output Gain applies  $\pm 24$  dB of gain to the signal after it has been through the modeling stage. This can be used to increase the final output level after using a soft saturation model or otherwise gain-stage the signal for the next processor.

## Using Character in Your Projects

There are several ways to use Character:

- Inserted on a single channel: This lets you add a little "flavor" to a channel by itself or as a pre-processor for another plug-in. By automating the Drive and Output Gain controls you can use Character as a creative effect.
- Inserted on all channels: Create a virtual mixing console, or use different models for different groups of inputs; mic pres for vocals, DIs for bass, tubes for drums...

Use MIDI automation to control the Drive parameter of multiple Character instances as a way to push track groups forward or back in the mix in a more natural and colorful way than standard fader control.

- Inserted on the master bus: Put a Soft Sat model on the master 2 bus for the analog "glue" to finish off your mix.
- All of the above!

# 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**

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## 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](mailto:support@mhsecure.com)
- (727) 725-9555

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