MAKE BELIEVE™ STUDIOS

METRIC HALO

Davids 2 Bus Users Guide

Make Believe Studios Davids 2Bus Users Guide

Metric Halo

Revision: 4.1.12

Publication date May 6, 2026

Table of Contents

List of Figures

1. Introduction

"**Davids 2Bus**" is the 1st of the signature **MixbusTv** line of plugins we developed with MH and MB and I wanted to start with what I consider a big part of my sound, a combination of processors that time and time again proved to work on almost every mix. But we wanted to make it simple to use and almost take the guess work out of the equation, just hit the right level and mix into it and your mix will be easier and come together much faster. What we didn't expect is that this plugin turned out to be so versatile and the biggest engineers out there are using it for creative effects too.

-- David Gnozzi

David's 2bus takes inspiration from David Gnozzi's famous 2bus processing. David is well known for his analog collection and the skills to use it and over the years he developed a quite muscular chain of analog pieces that he found worked the best in a specific combination and with specific settings. We started the plugin by capturing his chain, removing the guesswork giving the user a very user-friendly interface and a few controls that do a lot of things under the hood.

Ear tuned by our team and David himself, **David's 2Bus** is a combination of tape saturation, transformers and different stereo effects all in one.

2. Operation

The best way to start getting a feel for Davids 2Bus is to get a mix playing on a stereo bus, instantiate the plug-in, and click in the preset selector to load the *DG-Davids2Bus* preset.

This is David Gnozzi's default setting. It has an immediately audible effect without being over-exaggerated, making it the perfect starting point for tinkering.

Built primarily as a 2bus processor, Davids 2Bus is meant to be used as a first instance on your mix bus, before a compression stage: *hitting it at the right level is key* for this plugin. The two green LEDs in the Drive and Texture Level meters are not there by chance. Use the input and output knobs to make sure you hit the right level and get the right amount of tape saturation and bump, transient control, then transformer enhancement with the Texture knob and the two different flavors A and B, and then finish it off with a little stereo manipulation.

Follow up with your favorite compressor and you're good to go!

But the plugin doesn't stop here. Engineers around the world are using this "off label", applying much more aggressive settings and extreme stereo effects to single tracks and groups. From vocals to guitars this plugin is as much a creative tool for modern mixing that it is a subtle processing for your entire mix.

Please Note that when operating in mono instances, the I/O Gain stages, Drive and Texture operate as usual, but the Width and 3D/Phase sections of Davids 2Bus are disabled.

Drive and Input / Output Gain controls

Input gain into the processor and post-processor **Output** gain are located above the main UI at the right of the plug-in preset header. Both the Input and Output have an operating range of ±24dB.
Use the Input gain to set the incoming signal to ride near the green LED in the Drive meter (shown below). Fine tune by ear of course, but this range is the sweet spot for the distortion models.

Drive, Input & Output level controls

Use the Output control to optimize levels for the next processor in the signal path.

Once you have your Input and Output operating levels set, **Drive** is a level-compensated control allowing live alteration of the saturation effect while maintaining the relative input and output levels you have set for Davids 2Bus.

A +3dB Drive setting increases the signal to the processing stages while decreasing the processor output level by 3dB. Conversely, a -6dB Drive setting will attenuate the signal into the processor stages by 6dB while increasing 6dB at the output.

Use Drive to automate hard-driven passages along with cleaner, less distorted lines as the song progresses, or assign Drive to a MIDI control pedal for live performance.

Drive section

The Drive section consists of three elements: the **Drive** meter, a **Blend** control, and an on/off switch.

Basically, Drive is a parallel tape saturation emulator stage.

The Meter displays the pre-saturation input signal. Use the Input gain (see above) to set the level of saturation. The green LED in the Drive meter serves as a suggested starting point for setting the input gain.

Note that the Drive meter in this stage is not set to an audio dB scale, rather it is a visual aide to hitting the saturator sweet spot.

The Blend control is a dry/wet mix between the dry input signal (after the Input gain) and the wet saturated signal. 0% is zero saturation, 100% is full saturation.

The On/Off switch enables or disables Drive section processing (including the Drive meter) passing the input signal through unprocessed to the Texture stage.

Texture section

The Texture section consists of a **Level** meter, a **Texture** control, and a three-position A/B/OFF switch.

Texture processing is built around two different transformer-based circuits ("A" and "B"), each modeled with ten different input and output analog stages, and just the transformer itself alone.

- The A/B/OFF switch selects between two transformer circuits, or OFF, which disables/bypasses Texture stage processing. The A transformer model tends to beef the low end, reminiscent of an Ampex tape head bump. The B model tends to push the high end.
- The Texture knob selects between the various signal path models of the A and B transformer circuits:

  Step 0 (fully counterclockwise) is the raw transformer circuit model (A or B).

  Steps 1 through 10 select between ten different signal paths into and out of the core transformers, ten models for A, and ten for B. These models are arranged in order of intensity, and are gain compensated for ease of use and direct comparison.

The Texture Level meter reads the output of the transformer model processing in dB relative scale.

Width section

The Width section is basically a mid-side control with a significant twist.

Width operates as a gain control for just the side signal of an M/S processor. With Width set at 0% (fully counterclockwise) the side signal is turned off, leaving only mono output. The twist here is, the control has a range of 0% to 600%... so with 0% outputting straight mono (e.g. 0% side signal), 100% being unity gain for both mid and side (straight unaltered stereo), 600% (fully clockwise) boosts the side signal by 600% (15dB or so).

The ON/OFF switch defeats/bypasses the Width control. Option-click the Width control knob to return to the default 100% setting.

Note that mono audio passes at unity gain through this process stage, so even at full Width the stereo phantom center image never caves completely. It's the 3D/Phase stage that turns mono inside out...

3D / Phase section

3D and Phase process the output signal from the Width processor.

3D and Phase (especially when combined with significant Width) are the epitome of the phrase "a little goes a long way".

Describing their effect in audio terms is very program dependent, so let's stick with what the controls actually do, and you can fit that into what you hear while tinkering with it.

3D and Phase control a parallel processor which phase shifts the mono signal (which Width left alone), then mixes it back into the Width-processed stereo. The phase shift itself is a band-limited 90°.

The 3d control is the gain (as a percentage) of the phase-shifted signal that is added into the side: 0 (fully counterclockwise)= -Inf, 100% = 0dB (unity gain), 160% (fully clockwise)= +4dB.

The Phase knob controls the delay in milliseconds between the original mid signal and the phase-shifted mid signal that gets summed back into the stereo bus.

The effect sounds chaotic, but with a little tinkering it can add huge weight and forwardness to your mid-centric program, and by the same token, push the mid back into the soundfield without losing resolution or dynamics.

Please Note (for all Metric Halo plug-ins):
Tooltip mouse-over pop-ups are available for the controls by clicking the circular **?** Help icon in the plug-in header bar.

Knob parameter values are displayed via tooltip overlay as you adjust.

Right-click a control to enter a value manually.

3. Plug-In Header Bars

All Metric Halo and Make Believe family plug-ins display the MH header bar at the top of the plug-in window. This header bar allows you to organize and access all your presets across all supported plug-in formats on Mac, Windows and Metric Halo 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.

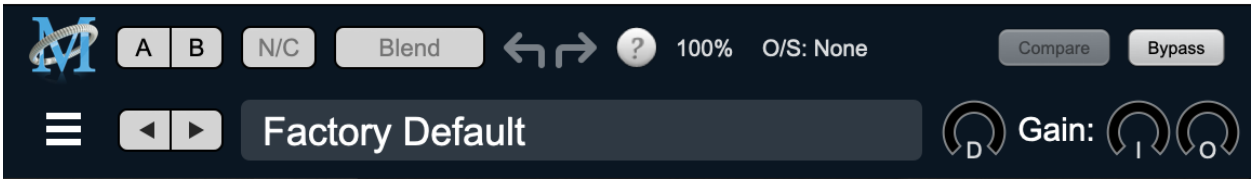
With the constant evolution of computer capabilities opening the door to new production techniques and music delivery formats, the differences between DAW software workflows have become ever more diverse. Many of the major DAWs provide their own plug-in headers within every plug-in instance window, providing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

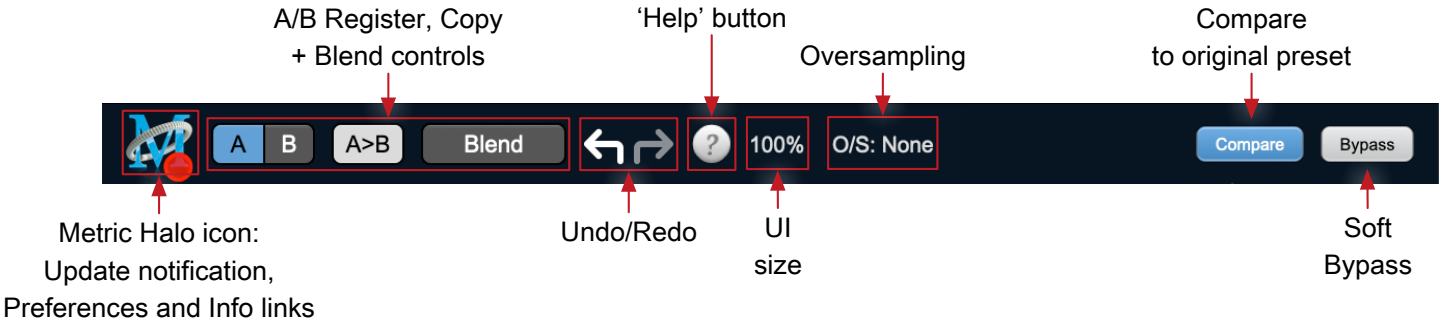
The top row handles plug-in operations, including update notification and download, access to MH online resources, GUI preferences, tooltip help, A/B parameter snapshots, snapshot Blend, plug-in Undo/Redo, Oversampling modes, Compare and soft Bypass.



Davids 2Bus Plug-in header

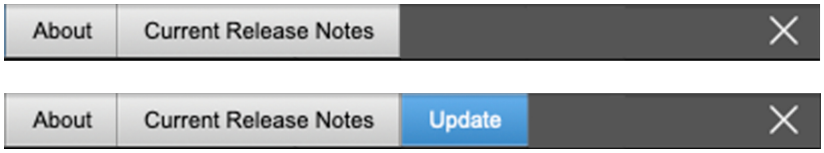
The lower row (with the 'hamburger' menu icon at the left) is all about preset management, with an added Output Gain control at the far right.

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 About tab in focus. This sidebar has context-sensitive tabs across the top for GUI **About** and **Current Release Notes**.

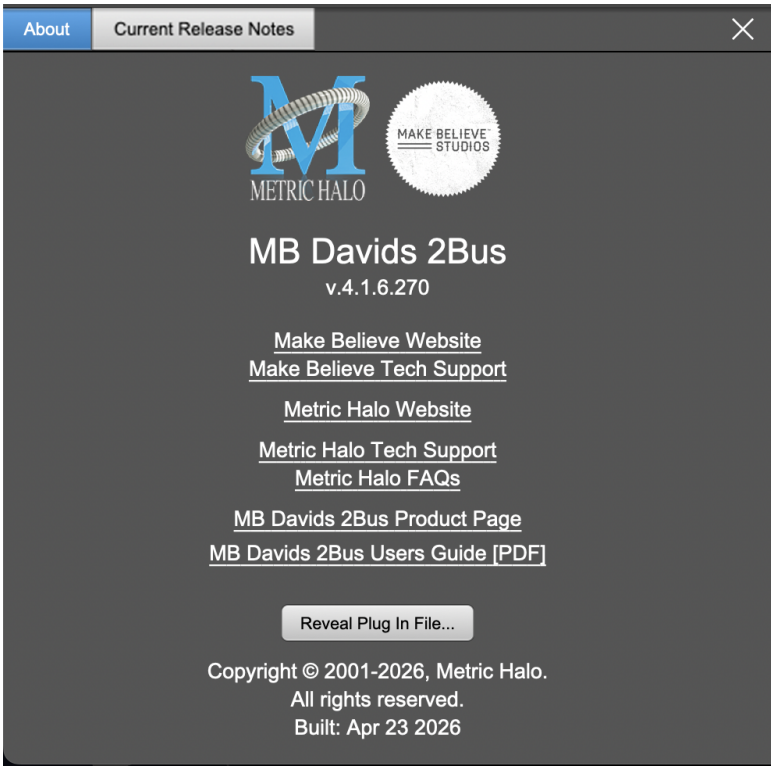


Plug-in control pane tabs

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.

About tab

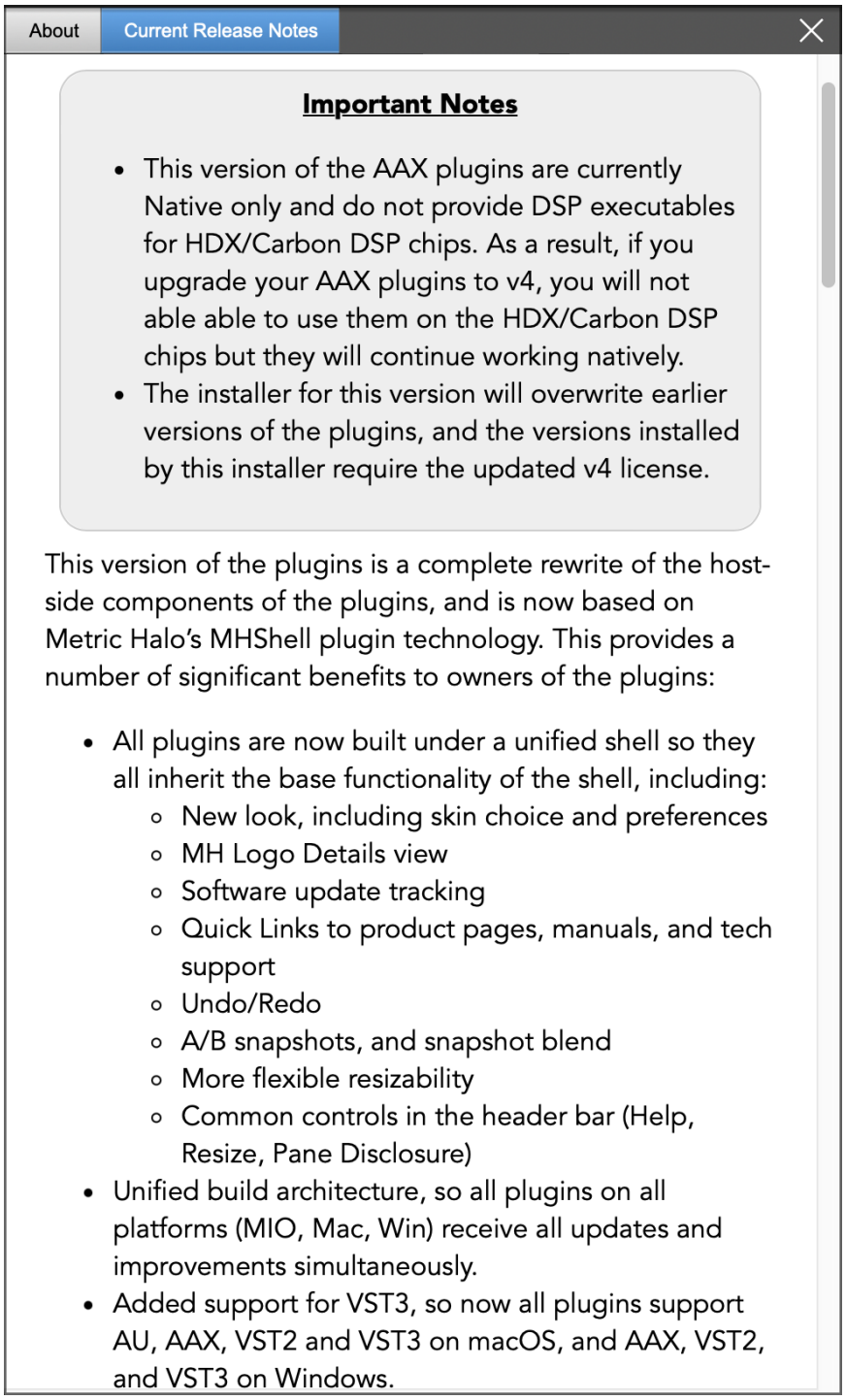


The **About** tab reveals the current plug-in version information and provides convenient web links to product info, support pages and the current manual on the Metric Halo main website.

Clicking the "MB Davids 2Bus Users Guide [PDF]" link will open and display the latest manual 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 (only appears when an update is available)

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 will be release notes detailing the major changes included in the update, with bugfix revisions for the most recent software releases listed further below. 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

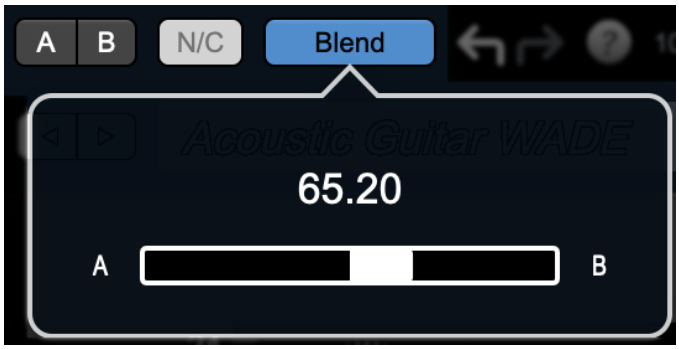
You can perform the following actions:

- 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.
- The Copy button will show **N/C** and remain inactive until one or both of the registers is in use. The Copy button will alternate between **A>B** (copy A to B) or **B>A** (copy B to A) depending on which register is selected. Clicking the Copy button then copies the settings from the selected register to the target register, overwriting the prior contents (if any).
- <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.

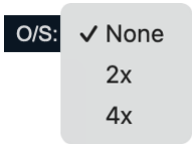
UI Size Selector

UI Size Selector

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

The size is remembered and applied the next time you insert a Davids 2Bus plug-in.

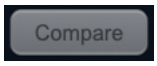
Oversampling Selector



Oversampling Multiplier Selector

2x or 4x oversampling may be selected for each plug-in instance. The default Oversampling setting is **None**.

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.

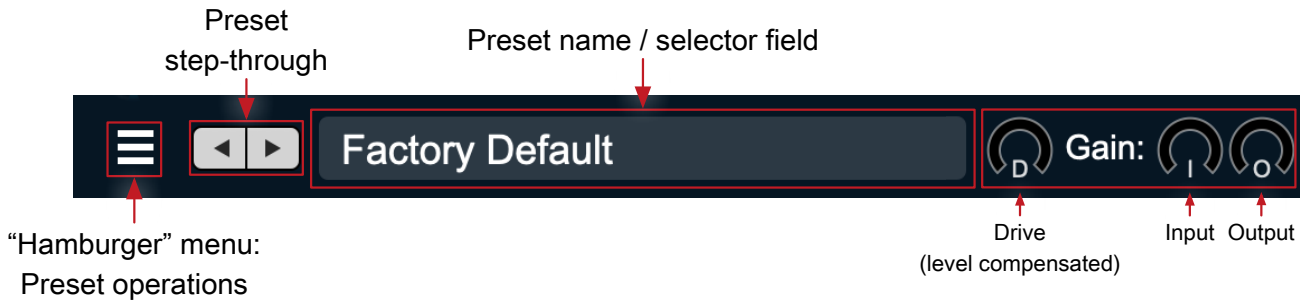
Soft Bypass

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

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

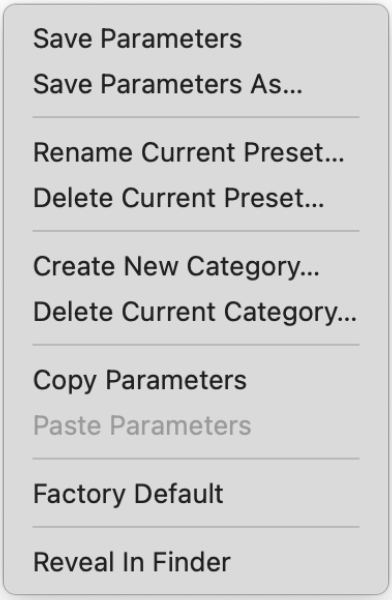
When glowing yellow, this button will maintain the time delay through the channel and will continue to show metering, but will cleanly disable the processing.

Plug-In Header: Preset Row



Plug-in Hamburger menu

The preset and parameter functions within the hamburger menu break down as follows:



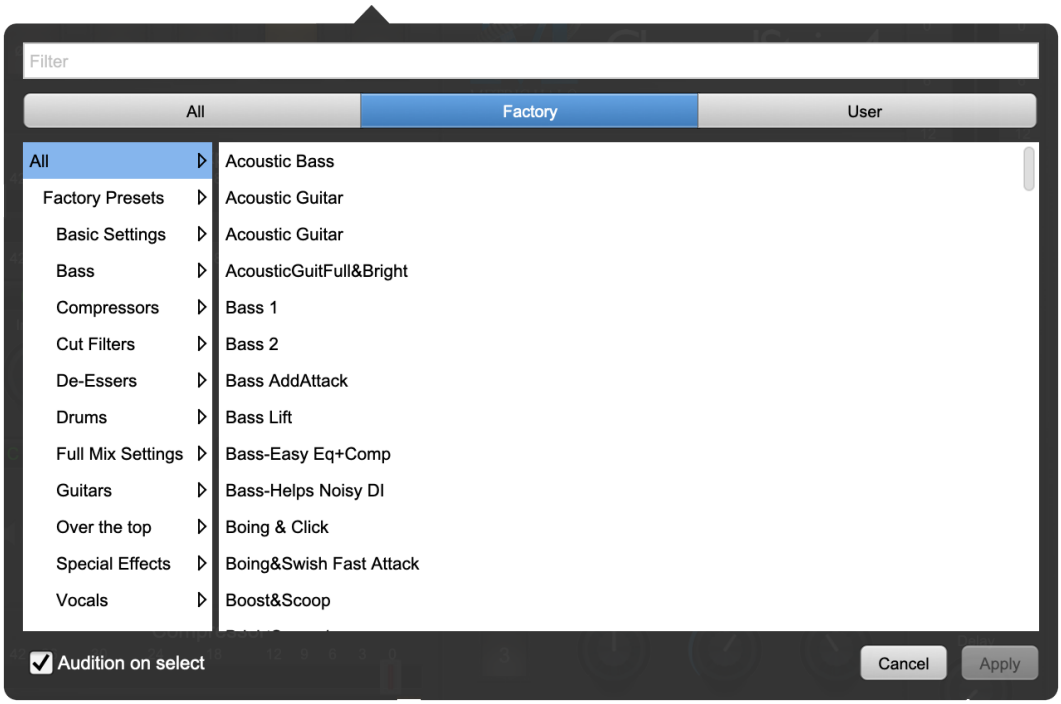
- **Save Parameters** saves the current plug-in parameters to the current preset.
- **Save Parameters As...** opens a dialog box where you can name and choose a category to save your current plug-in settings.
- **Rename Current Preset...** lets you rename the current preset.
- **Delete Current Preset...** 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.

Input / Output Gain

At the far right of the Preset Bar, Davids 2Bus includes Drive, Input and Output gain controls.

Input Gain is pre-process level control for driving input levels to the sweet spot of the Drive saturation stage.

Output Gain is the final stage of the plug-in for optimizing Davids 2Bus levels to the next stage of your signal chain.

The Input and Output controls have a range of ±24dB, with the default at 0.00dB.

Drive is a level compensated control to adjust the saturation drive effect without altering the relative Input and Output gain settings for Davids 2Bus. Drive has a range of ±12dB. See Drive and Input/Output Gain controls for further details.

Command-drag the knobs for fine adjust mode.

4. Installation

For both Mac and Windows, there is a single standard installer for White Room containing all formats that allows you to decide which formats you would like to use.

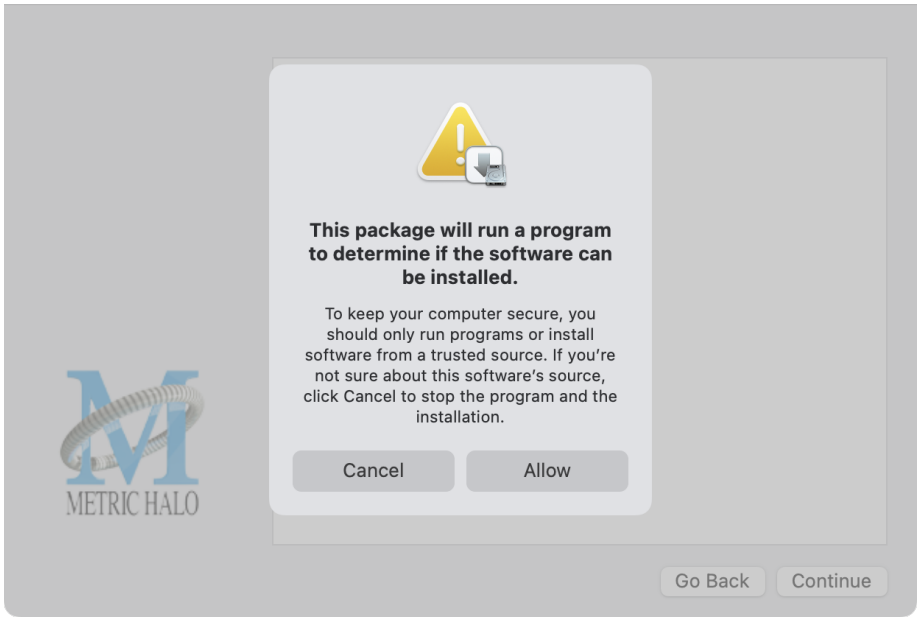
Mac

Please note– The following graphics show installation on a macOS 15 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 "MBDavids2Bus.pkg" application

MBDavids2Bus.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:

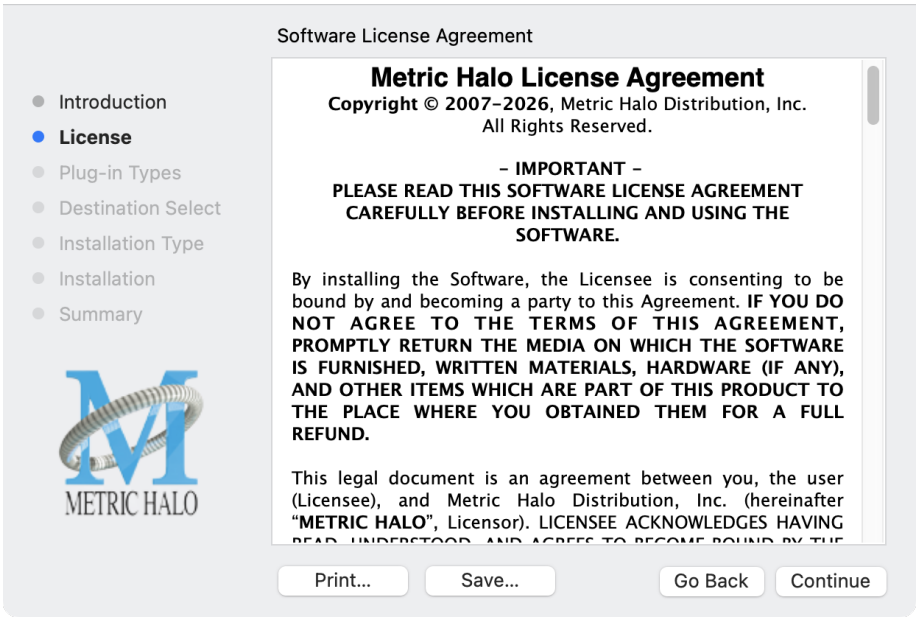


Click "Allow" to proceed…

- The installer dialog will appear:

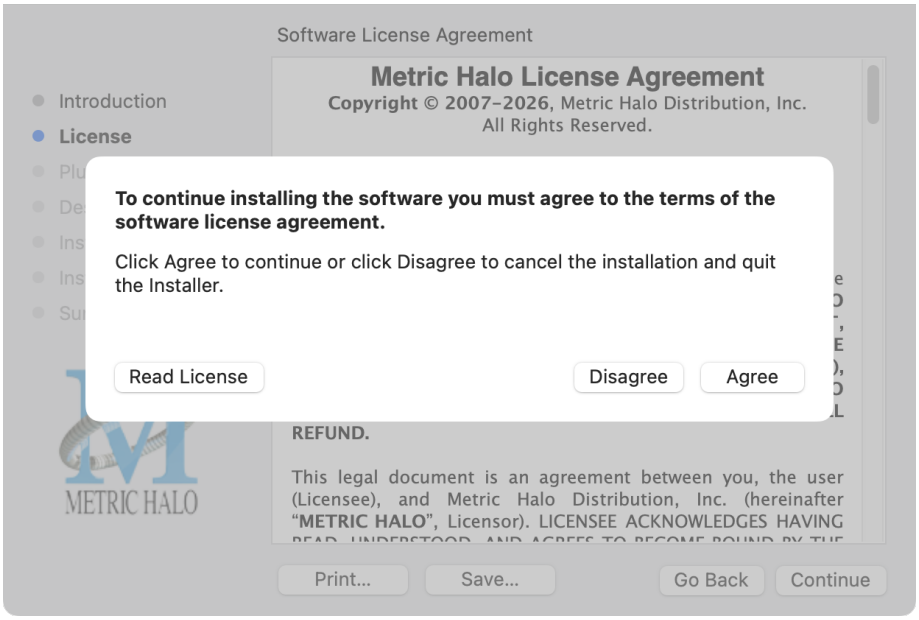
Click "Continue"…

- Now you will see the Metric Halo License Agreement:



After you have read it, click "Continue"…

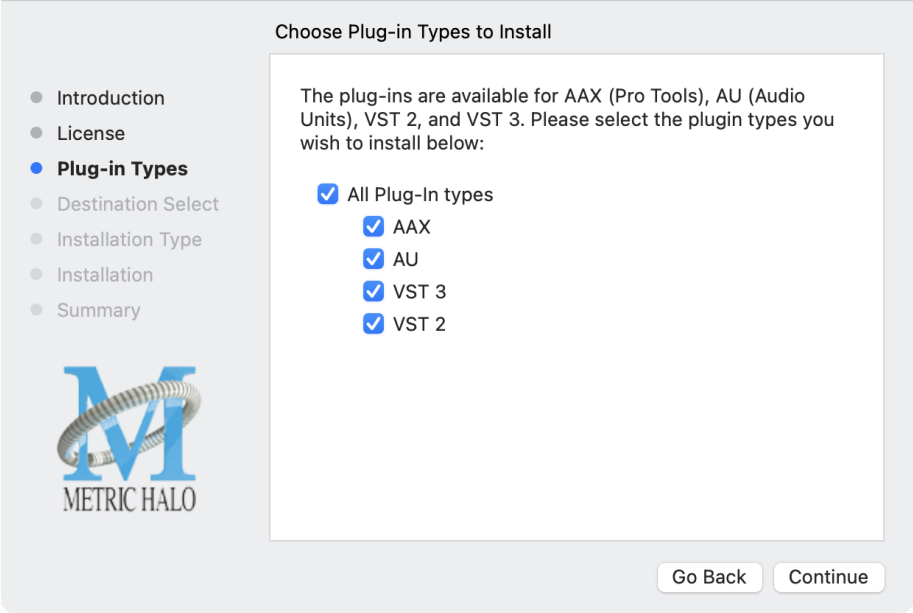
- Next, click “Agree” to accept the License Agreement:



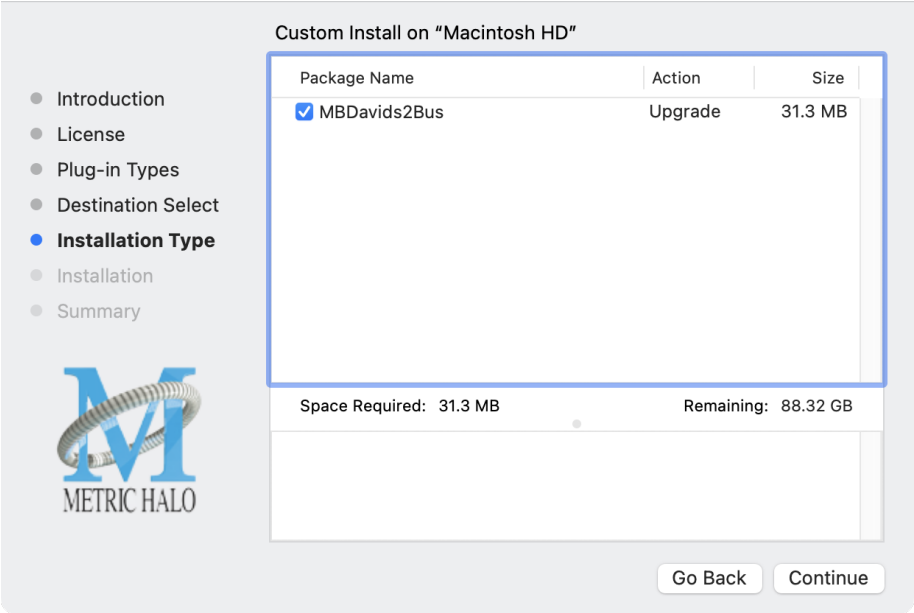
- The default installation will install Audio Unit, VST2, VST3 and AAX plug-ins to their respective folders in the root Library directory:
  - AU to **/Library/Audio/Plug-Ins/Components**
  - VST2 to **/Library/Audio/Plug-Ins/VST**
  - VST3 to **/Library/Audio/Plug-Ins/VST3**
  - AAX to **/Library/Application 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.

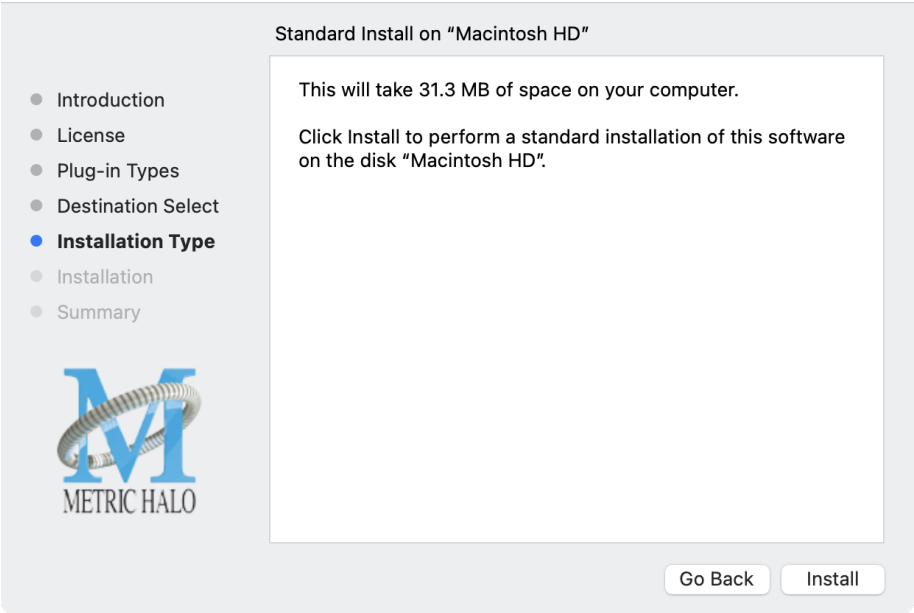


- Since there is only one plug-in to be installed, the "Custom Install" page really only serves to verify whether you are installing or updating Davids 2Bus.



Click "Install" to proceed.

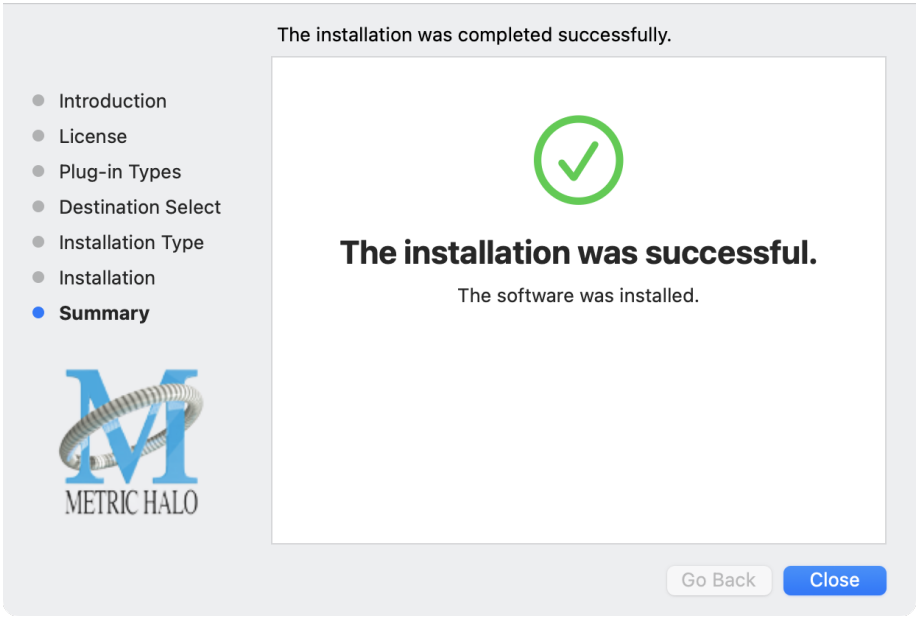
- The final confirmation window displays the total size of the selected installation. Hit "Install" to proceed.



- 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.

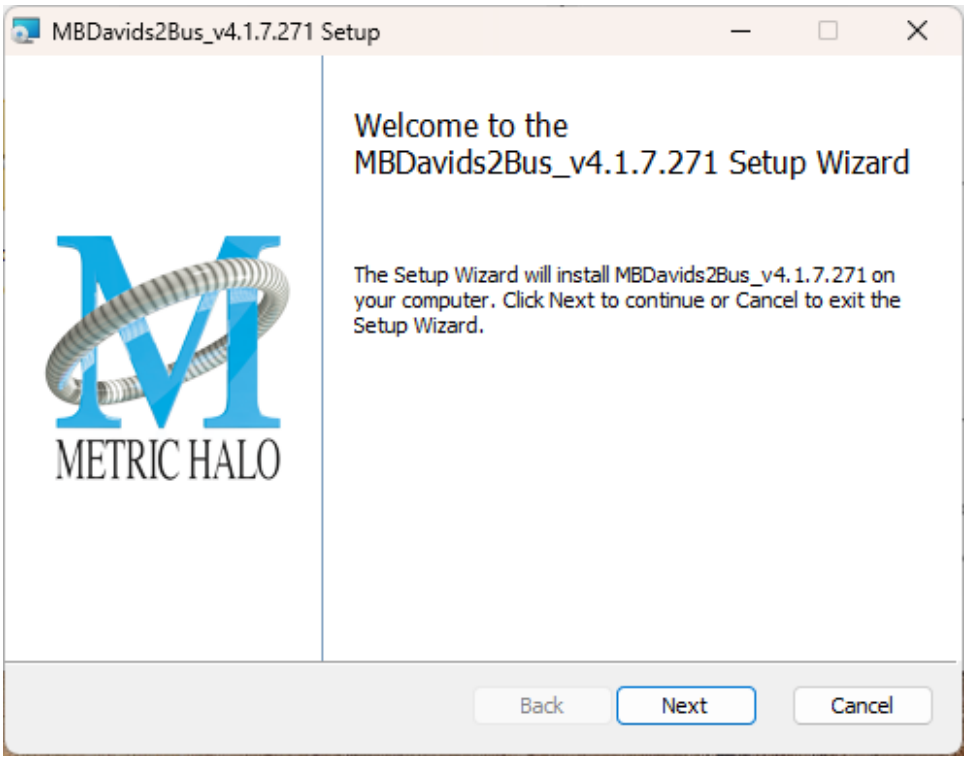
That’s it! Enjoy using MB Davids 2Bus!

Windows

Please note – The following graphics show installation on a Windows 11 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 "MBDavids2Bus" installer application.

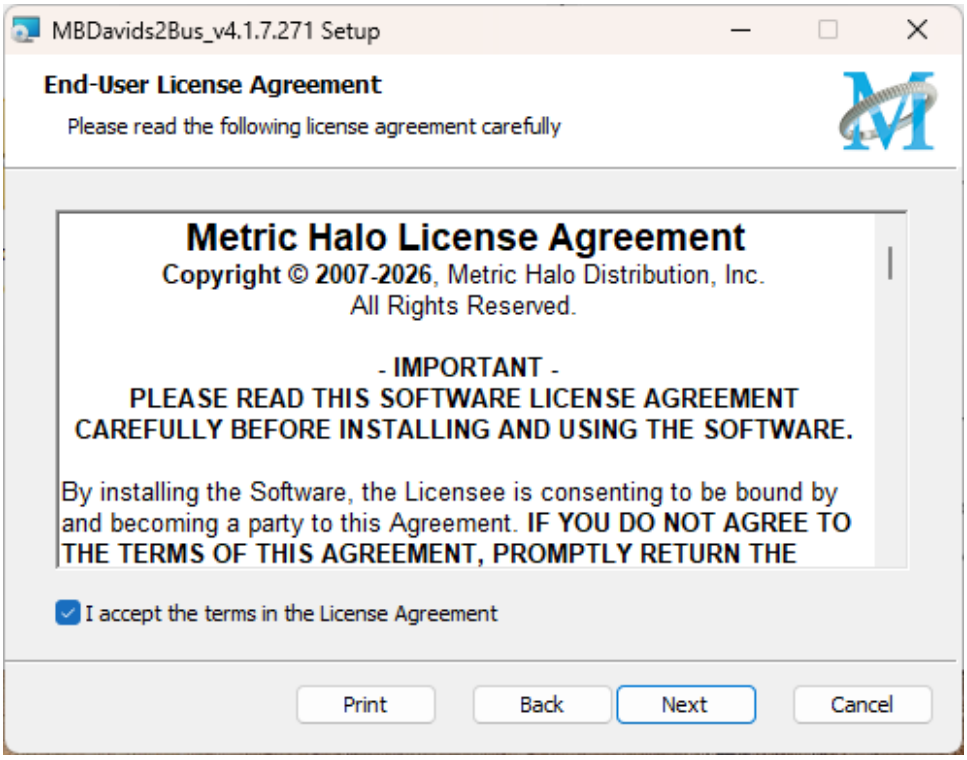
- The installer dialog will appear:



Welcome Dialog

Click "Next" to proceed.

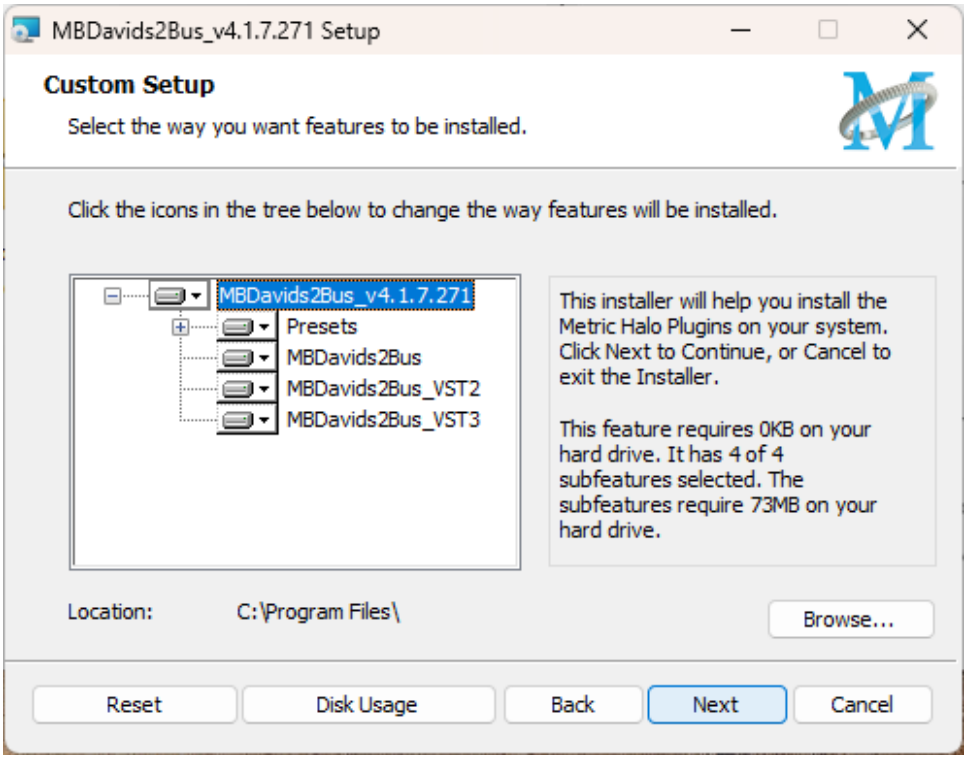
- Read the Metric Halo License Agreement:



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, VST2, VST3 and AAX will be selected for installation to the C:\Program Files\ folder. Specifically:

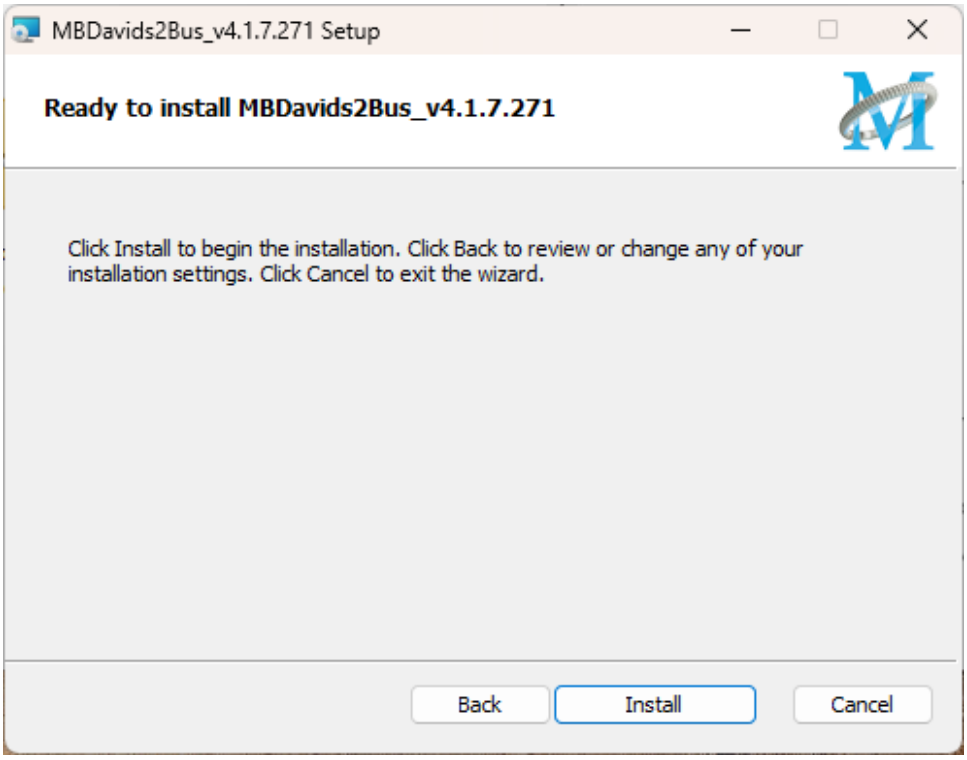
- VST2 to **C:\Program Files\Common Files\Steinberg\VST2**
- VST3 to **C:\Program Files\Common Files\VST3**
- AAX to **C:\Program Files\Common Files\Avid\Audio\Plug-ins**

These default locations are the most commonly used and should be recognized automatically by most DAWs. See your host DAW software Plug-Ins Location Preferences to verify the above directories are in your DAWs Plug-In Locations list.

If not, then you can either click **Browse** to change the installation target folder (the Browse button is in the lower right of the installer Custom Setup window), or add the locations listed above to the DAW Plug-Ins Location Preferences.

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

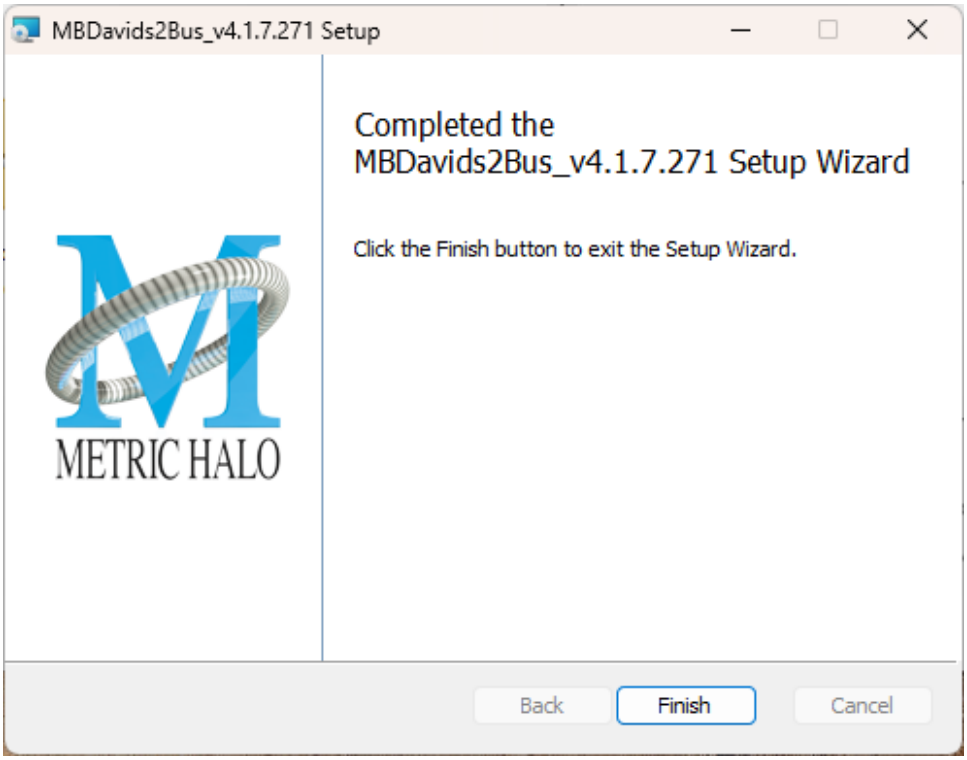
- The next page is a confirmation to continue, offering a last chance to go back and review your selections from the previous window:



Ready to Install

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

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



Installation Complete

If you do *not* see the "Installation Successful" message, contact MH Support.

That's it! Enjoy using MB Davids 2Bus!

Suggested practices and troubleshooting tips

For best results, make sure your DAW is set to scan your audio plug-ins at every launch. This may add a bit of time at launch, but it helps make sure that new and updated plug-ins will be properly registered.

When making changes to DAW Preferences Plug-in Locations, make sure to quit the DAW, finish your installations and restart the DAW so the plug-ins will be properly scanned and ready for you to use.

If new plug-ins do not register, open your Plug-Ins Preferences and clear or reset any plug-in caches, 'ignore' or 'block' lists, then quit and relaunch the DAW to scan and re-register all your current plug-ins. Periodically clearing the plug-in caches is a common studio maintenance practice, especially after installing or removing audio software.

The easiest way to check that your plug-ins have been properly installed is to open C:\Program Files\ and type **vst** in the search field. This will show a list of all your installed VSTs and their locations within nested Program Files sub-directories for comparison against your DAW preferences.

Update Notification (all platforms)

Davids 2Bus 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.

5. 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.

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.

6. Service and Support

Make Believe Studios 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: your_friends@makebelievestudio.com