MAKE BELIEVE™ STUDIOS

METRIC HALO




# Angus 404 User's Guide

# Make Believe Studios Angus 404 Users Guide

Metric Halo

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# 1. Introduction

MB Angus 404, from Make Believe and Metric Halo, models the Aengus 404, the eight-band graphic equalizer that Aengus built in the 1970s. We modeled it on my own units here at Make Believe Studios, including the way their bands interact and the harmonic color they add when you drive them.

Aengus began in Massachusetts in the early 1970s, when engineer Bill Riseman and an artist he was working with bought one of the last consoles made by the original API. It was a set of input modules without a frame, center section or patchbay, and an API employee helped them finish it. From there they built more consoles, and a studio of their own: Aengus Studios, with the studio upstairs and the console shop downstairs. Steve Crump, Michael Blackmer and Jesse Henderson were among the engineers there. In about four years Aengus built somewhere between 20 and 30 consoles, for rooms including Long View Farm and Indigo Ranch in Malibu, where records by Korn and Slipknot were made.




Steve Crump designed the Aengus 404, with input from Bill Riseman. A graphic equalizer in the 500-series format was a new idea then; the 404 came before API's own 560. It breaks up earlier than other graphic EQs, which gives it a crucial element of its sound: incredibly rock and roll, and musical. Strawberry studios in the UK built two into almost every console they made, and the EQ still has devoted users, Sylvia Massy and Ross Hogarth among them.

For the whole story, watch my video, The Story of Aengus Studios and Consoles.

*Rick Carson, Make Believe Studios*

# 2. Operation

MB Angus 404 is the digital realization of the legendary Aengus 404 eight-band graphic EQ, used on what seems like every great guitar recording since Les Paul stuck magnets under the bridge...




Each EQ band has twelve settings from −12 dB to +15 dB, in 2 dB steps near zero and 3 dB steps toward each end. Naturally, Angus 404 captures the real response of the original unit, including overlap interaction and cross modulation artifacts between bands, so that "2 dB" may be more of a guideline than a rule...

This is a party EQ, meant to be driven by maniacs behind massive analog consoles in sweaty basement bomb shelters surrounded by Marshall stacks from floor to ceiling.

At least that's its reputation... In practice you will find it to be the most useful and musically adventurous graphic EQ you've ever had the pleasure to use.

The Aengus 404 built its reputation as *the* desert-island guitar EQ, but the way its filters interact with each other lets it add great harmonic richness and beautiful saturation character to all kinds of source material.

### Using the Controls

The knobs and the other controls respond to these mouse gestures:

- Drag up or down, or use the scroll wheel, to adjust a control.
- Command-drag or Command-scroll to adjust it in finer steps (Ctrl-drag or Ctrl-scroll on Windows).
- Option-click to reset it to its default (Alt-click on Windows).
- Option-Control-click to set it to its minimum (Alt-Ctrl-click on Windows).
- Control-click or right-click to type a value. On Windows, right-click, or hold Ctrl and click without dragging: with Ctrl held, a drag adjusts in finer steps instead.

You can also double-click a control to reset it to its default. MIOConsole3d's Alt-Click and Double-Click On Control preferences decide what Option-click and double-click do there.

### EQ Enable



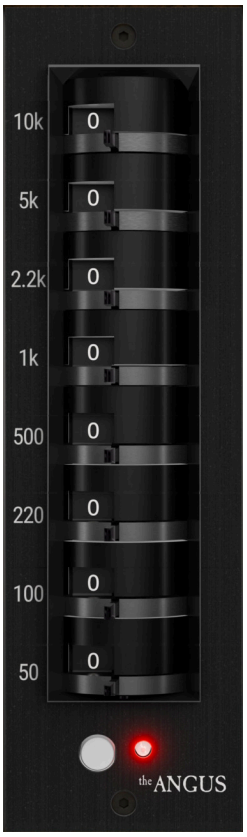

The white button below the filter stack is **EQ Enable**. It lights when the EQ is on, which is the default setting.

When the button is off, the eight bands are flat, and everything else in Angus 404 keeps running: the EQ's boxtone model, Input, Drive and Output, the channel mode, Wet/Dry and the level match. When you change the EQ Enable, the bands glide to flat and back rather than jumping. EQ Enable can be automated.

To take Angus 404 out of the signal path entirely, use the Bypass button in the plug-in header, or the insert bypass in your DAW or MIOConsole3d.

## Filter Bands

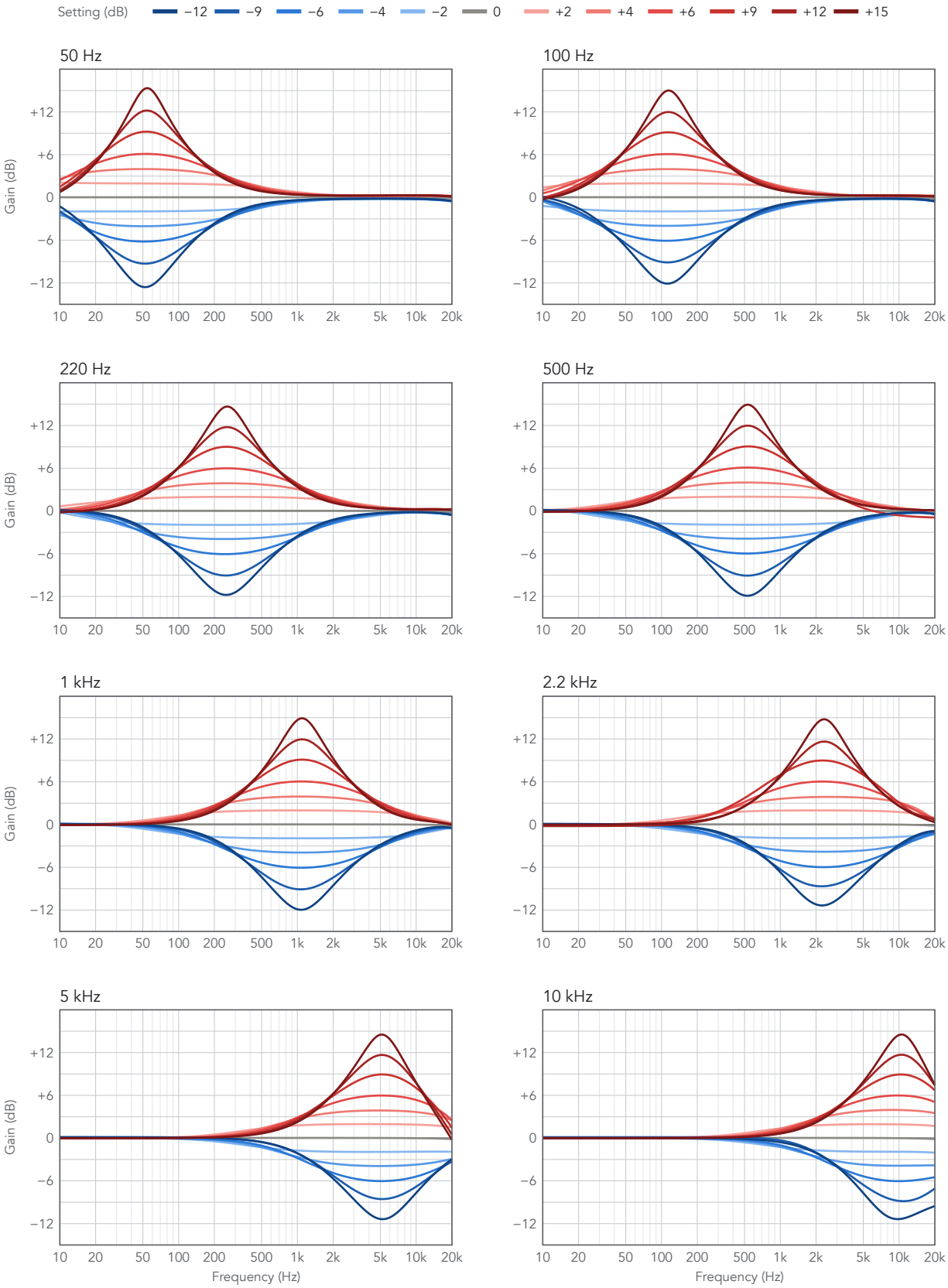
Eight EQ bands are available via stepped thumbwheel switches per band. Filter band frequencies are set at 50 Hz, 100 Hz, 220 Hz, 500 Hz, 1 kHz, 2.2 kHz, 5 kHz and 10 kHz. Each band's settings are −12, −9, −6, −4, −2, 0, +2, +4, +6, +9, +12 and +15 dB.




Each filter step has a wider effective bandwidth at lower cut and boost settings, with the relative bandwidth narrowing as cut/boost magnitude increases.

### Band Response

The graphs on the next page show the frequency response of each band at all twelve of its settings, with the other bands at 0. The boost and cut curves are not mirror images of each other, and a band's center sits a little above its nominal frequency, as it does on the hardware.




**The EQ band responses for each setting**

### Drive and Input / Output Gain controls

**Input** gain into the processor and post-processor **Output** gain are in the Utility Control Bar, with **Drive** between them. Input and Output each have a range of ±24 dB, and Drive ±12 dB.




**Input, Drive & Output level controls**

Once you have your EQ boosts/cuts and your Input and Output operating levels set, **Drive** is a level-compensated control allowing live alteration of the saturation effect while maintaining the EQ curve and the relative input and output levels you have set for the Angus EQ.

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

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

Use Drive to automate hard-driven instrument or vocal passages while maintaining the same EQ curve into cleaner, less distorted lines as the song progresses... or, in MIOConsole3d, assign Drive to a MIDI control pedal for live performance.

### Channel Modes

On a stereo instance, the mode selector in the Utility Control Bar sets how the two channels pass through Angus 404:




- **L/R**: left and right, as they are. This is the default.
- **R/L**: left and right swapped.
- **Mono**: the two channels summed to mono.
- **M/S**: the EQ and the saturation work on the mid (the sum of the channels) and the side (their difference), each with its own eight bands.

Below the selector are two channel gains, each with a range of ±24 dB. In L/R and R/L they are the **L** and **R** gains, which set the level of the left and right outputs: the knob labeled L is always the left output's. In Mono, the L and R gains come before the sum, so you can use them to balance a stereo source into it.

The channel mode is a setup choice, and cannot be automated; the channel gains can.

### M/S

In M/S, Angus 404 encodes the input to mid and side before the EQ and decodes it back to left and right after it. The faceplate shows two modules side by side, **MID** and **SIDE**, each with its own eight bands and its own EQ Enable button. The two buttons switch the one EQ Enable, so both modules' EQ goes in or out together.



The first time you switch an instance to M/S, the SIDE bands start as a copy of the MID bands. Once you change a SIDE band, the SIDE settings stay as you set them: switching to another mode and back to M/S keeps them, and they are saved with your session and in presets.

Because the saturation also works on the mid and the side, M/S sounds different from L/R even with the same settings on both modules. That is the point of the mode: you can drive the center of a mix differently from its edges.

In M/S, the two channel gains are the **M** and **S** gains, which set the level of the mid and the side. They are separate from the L and R gains: switching the mode switches which pair the knobs show, and each pair keeps its settings for when its mode comes back.

# 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.

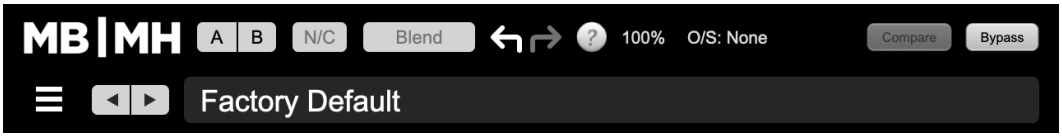
With the constant evolution of computer capabilities opening the door to new production techniques and music delivery formats, the differences between DAW software workflows have become ever more diverse. Many of the major DAWs provide their own plug-in headers within every plug-in instance window, providing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

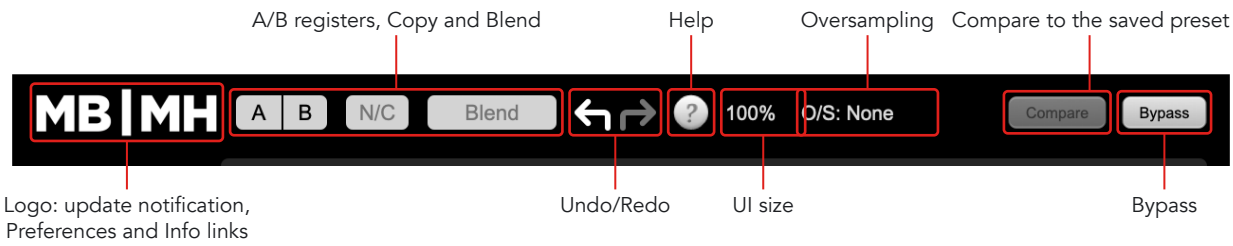



**Angus 404 Plug-in header**

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

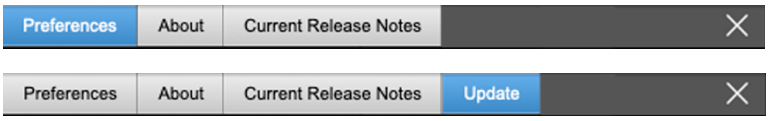
Angus 404 also has a Utility Control Bar, with Input, Drive and Output, the channel mode and its gains, the level match, Wet/Dry, delta and the DC filter. It shows across the top of the window or as a column at the side.

### Plug-In Header: Top Row




#### MB/MH Header Logo

Clicking the MB/MH logo expands the entire plug-in window to the right and opens a multi-function control sidebar with the Preferences tab in focus. This sidebar has context-sensitive tabs across the top for GUI **Preferences**, **About**, and **Current Release Notes**.

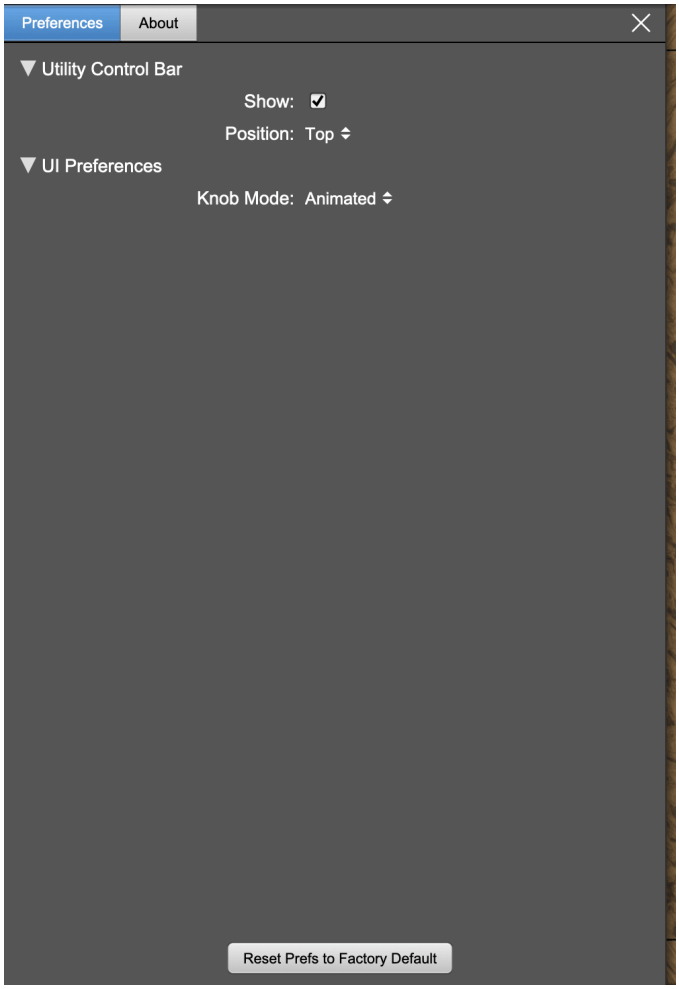



**Plug-in control pane tabs**

When updates are available for download from Metric Halo, the logo shows a red dot (see Update Notification) 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 logo again, or the "**X**" at the right edge of the tab bar.

### Preferences tab




**Angus 404 Preferences**

As you may have noticed, when instantiating the Angus 404 plug-in, the EQ band gain wheels are animated to rotate to the zero (0) position. This is the default behavior.

The animation also applies when resetting the bands to default (0).

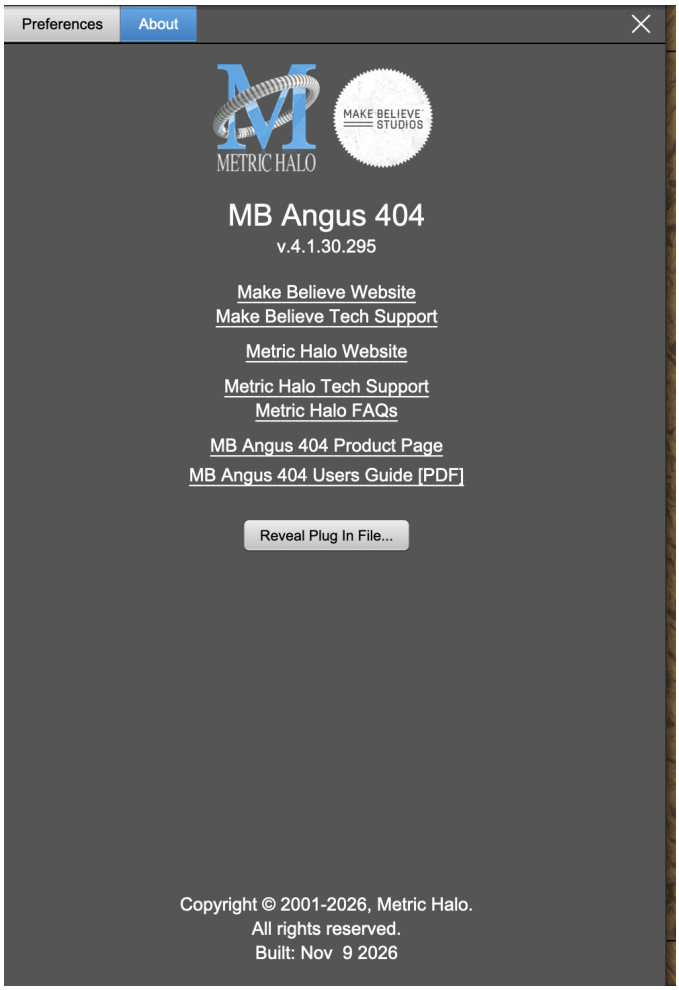
To disable the animation, switch the **Knob Mode** preference from *Animated* to *Normal*.

Under **Utility Control Bar**, **Show** sets whether the Utility Control Bar is shown, and **Position** sets where: *Top*, across the top of the window, or *Side*, as a column at the side. It is shown at the top by default.

**Note**: UI preferences will be saved to the computer and automatically applied to the next instance of Angus 404 of whatever native format, even on another DAW or MIOConsole3d.

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.

**About tab**

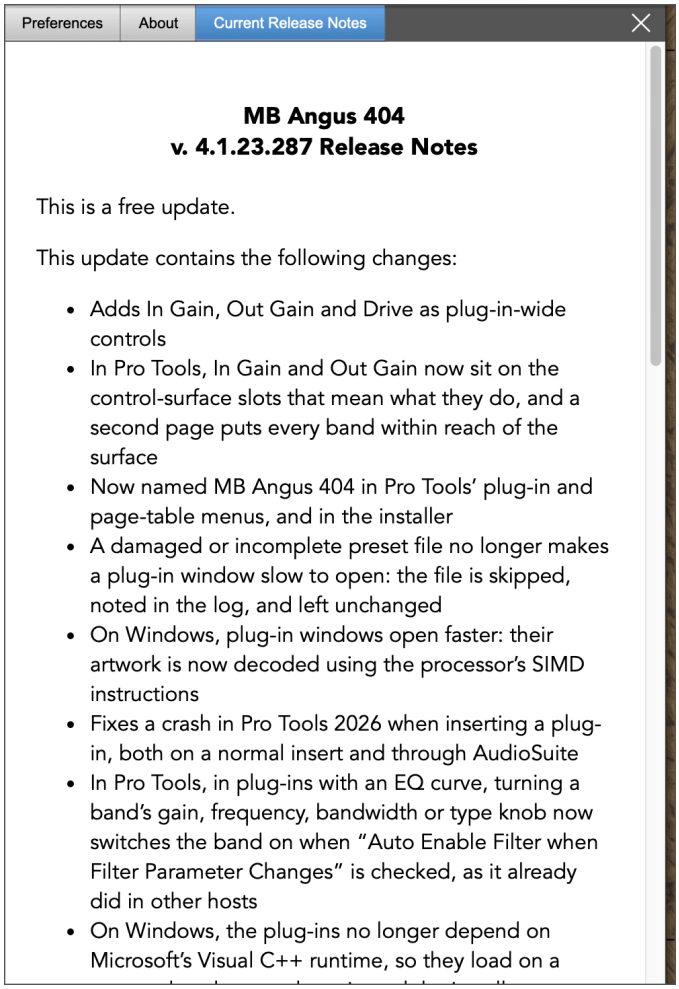



The **About** tab reveals the current plug-in version information and provides convenient web links to product info, support pages and the current manual on the Metric Halo main website.

Clicking the "MB Angus 404 Users Guide [PDF]" link will open and display the latest Angus 404 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, in MIOConsole3d, 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 gray means the register is empty
- Dark gray 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 a register (Alt-clicking on Windows) 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 can be automated in your DAW and, in MIOConsole3d, mapped to external MIDI control so you can operate it in real time. 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 gray means it is empty
- Dark gray means it has settings, but is unselected
- Blue means it has settings and is selected

Click on Blend to pop up 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 gray 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 gray 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

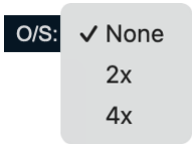



**UI Size Selector**

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 an Angus 404 plug-in.

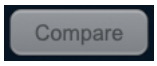
### Oversampling Selector




**Oversampling Multiplier Selector**

Each instance of Angus 404 can run with 2x or 4x oversampling. The default is **None**. How much is offered depends on the sample rate: 2x or 4x at 44.1 and 48 kHz, 2x at 88.2 and 96 kHz, and none at higher rates.

### Compare Button




**Compare Button (inactive)**




**Compare Button (active)**

To use the compare button, a preset must first be loaded. The compare button will light 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.

### Bypass in Angus 404

Bypassed, Angus 404 passes its input through delayed by exactly the latency it reports, including the oversampler's when oversampling is on, so switching the bypass does not change the timing. Unless you have matched the levels, it can change the level: the bypass passes the input through at unity gain, and takes out the gains and Drive along with the EQ. With the level match set, the processed output is matched to the input's loudness, so switching the bypass compares the two at about the same level. Switching crossfades over 30 ms, and once the crossfade to bypass is done, the processing stops.

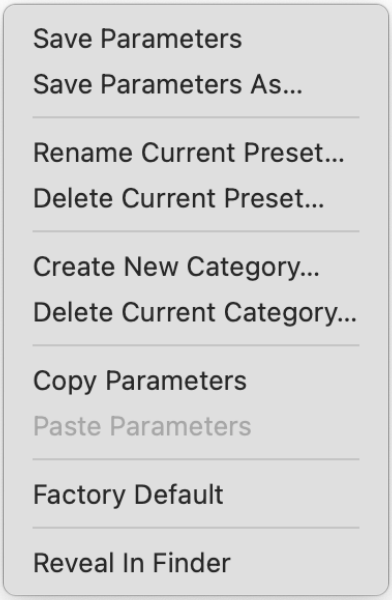
The bypass takes the whole plug-in out, saturation included. To flatten only the EQ and keep the EQ's boxtone model, use EQ Enable on the faceplate.

## 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. If the category you want does not exist yet, you can create it here, without leaving the dialog.
- **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** (**Show in File Explorer** on Windows) opens the folder in which the current preset is saved, with the preset file selected.

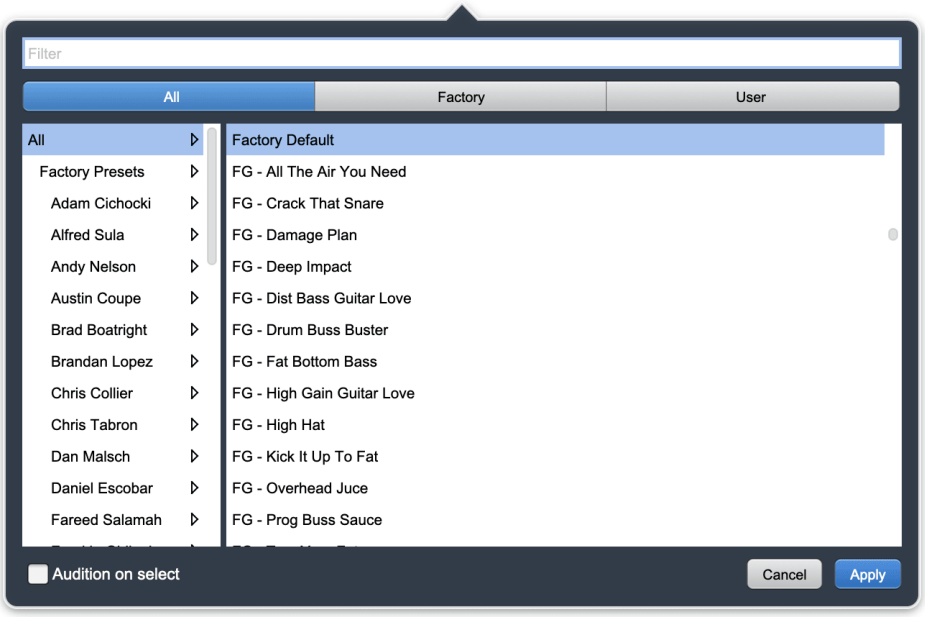
### Preset Step-Through Buttons



**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**

Click the preset name to open the Preset selector. It shows the preset categories on the left, and the presets in the selected category on the right.

Type in the **Filter** field at the top to show only the presets whose names contain what you type; capitals do not matter. The field is ready for typing as soon as the selector opens. The **All**, **Factory** and **User** buttons below it show all presets, only the factory presets or only your own.

Double-click a preset, or select it and press Return, to load it and close the selector.




**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.

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

## Utility Control Bar

The Utility Control Bar holds the controls that act on Angus 404's signal as a whole, around the EQ: its gains, its channel mode, the level match, Wet/Dry, delta and the DC filter.




**Utility Control Bar at the top**

The bar shows across the top of the window, or as a column at the side. To move it, click the switch at its end, or set **Position** in the Preferences tab, where **Show** hides it.




### Input, Drive and Output

**Input** sets the level into Angus 404, and **Output** the level out of it. **Drive** adds its gain to the input and takes the same gain off the output, so it changes how hard the EQ and its boxtone model are driven without changing the level out. Input and Output each have a range of ±24 dB, and Drive ±12 dB; each defaults to 0 dB. See Drive and Input / Output Gain controls for how to use them.

### Channel mode and its gains

On a stereo instance, the mode selector sets how the two channels pass through: **L/R**, **R/L**, **Mono** or **M/S**. The two knobs beside it are the L and R gains, or the M and S gains in M/S. See Channel Modes.

### Level match

**Offset Gain** is a gain after Angus 404 that matches its output level to its input's, so you can compare the processed and unprocessed sound at the same loudness. Its range is ±24 dB. You can set it three ways:

- Drag the readout as you would a knob, or click it and type a value, to set it by hand.
- Hold **Match Gain** while the music plays, then let go: Angus 404 measures the level match while you hold the button, and sets the offset when you release it.
- Hold **Auto** while the music plays, then let go: Angus 404 learns the level match from the music, and from then on predicts it from the settings, so the offset follows as you change the EQ, Drive and the other controls. Click **Auto** again to turn it off.

### Wet/Dry

The **Dry Wet** knob mixes the processed signal with the input. The input is delayed to match the processed signal's latency, so mixing them causes no comb filtering, with or without oversampling. The default is 100%, all processed signal.

### Delta

Turn on **delta** to hear only what Angus 404 changes: the processed signal less the input. It comes after the level match, so what you hear is the difference at matched level.

### DC Filter

Turn on **dc filter** to remove DC from the output, with a high-pass filter at about 5 Hz. Driven hard, the EQ's boxtone model can add DC. It is off by default.

Input, Drive, Output, Wet/Dry and the channel gains can be automated. The channel mode, delta, the DC filter, the offset and Auto are setup choices, and cannot.

As you turn a knob in the Utility Control Bar, its value is shown beside it. The knobs and the **Offset Gain** readout respond to the mouse gestures listed under Using the Controls, in the Operation chapter, double-click included.

# 4. Pro Tools Control Surface

Pro Tools shows Angus 404 on both the Insert page and the EQ page of the Avid Control app and of EUCON surfaces. The EQ page of the EUCON surfaces is laid out for a four-band parametric EQ, and its knobs carry Avid's fixed names for the controls. Angus 404 is not that kind of EQ, so its controls sit on Avid's knobs as listed here when you are looking at the EQ page; the names on the surface are Avid's, not Angus 404's. This does not apply to the Insert page, where Angus 404's parameter names are displayed properly.

The Avid Control app shows the page on two screens. On the first are the eight band gains, two to each of Avid's four sections:

| **Avid's knob** | **Knob** | **Sel** | **In** |
|---|---|---|---|
| Lo Freq | 50 Gain | S 50 Gain | |
| Lo Gain | 100 Gain | | |
| Lo Mid Freq | 220 Gain | S 220 Gain | |
| Lo Mid Gain | 500 Gain | | |
| Hi Mid Freq | 1k Gain | S 1k Gain | |
| Hi Mid Gain | 2.2k Gain | | |
| Hi Freq | 5k Gain | S 5k Gain | |
| Hi Gain | 10k Gain | | **EQ Enable** |

On the second screen are the controls of the Utility Control Bar:

| **Where** | **Knob** | **Sel** | **In** |
|---|---|---|---|
| Top left | L Gain | M Gain | Channel Mode |
| Top right | R Gain | S Gain | Level Match Auto |
| Third on the left | Drive | AB Blend | Delta |
| Bottom left | Dry/Wet | | DC Filter |
| Third on the right | In Gain | | |
| Bottom right | Out Gain | | |

Press a knob's **Sel** to switch it to the control in the Sel column, and again to switch it back. In L/R, R/L and Mono, use the two top knobs as they are, for the L and R gains; in M/S, press **Sel** on both, and the same two knobs set the M and S gains. Channel Mode's **In** steps through the four modes.

The S band gains are on a stereo instance only, and set the SIDE module's bands in M/S. Four of them, S 50, S 220, S 1k and S 5k, are on the first screen; the others are on the plug-in's faceplate and the Insert page. If you want them on a control surface screen of their own, make a custom map: in the channel view of the Avid Control app, select Angus 404, tap **Custom**, and drag the parameters you want onto the knobs.

The **IN** button at the top of the EQ section shows whether Angus 404 is bypassed, but does not switch it; use the surface's bypass button. Oversampling is not on the EQ page: set it using the UI or the Insert page on the control surface.

# 5. Installation

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

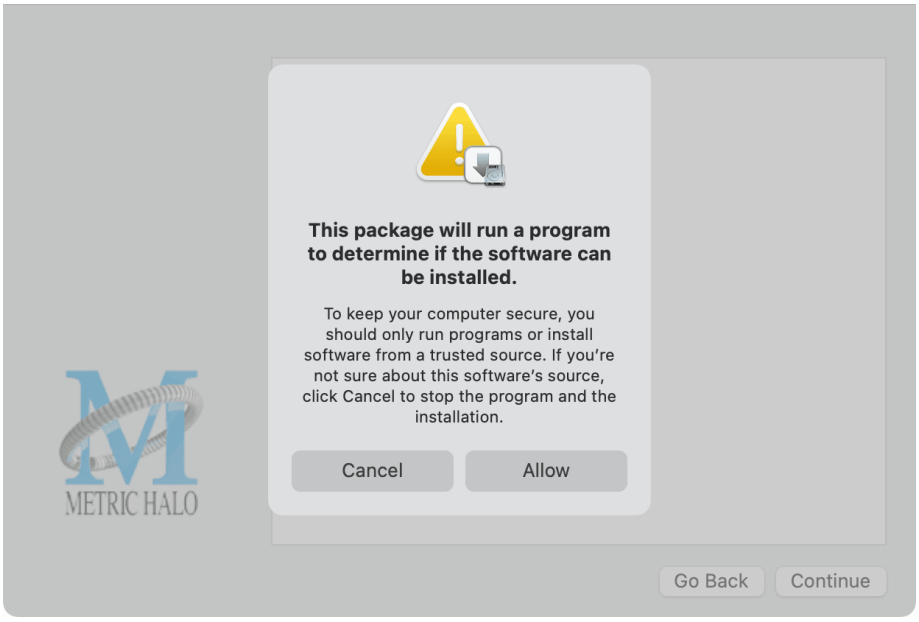
### Mac

*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 "MBAngus.pkg" installer.




- 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.



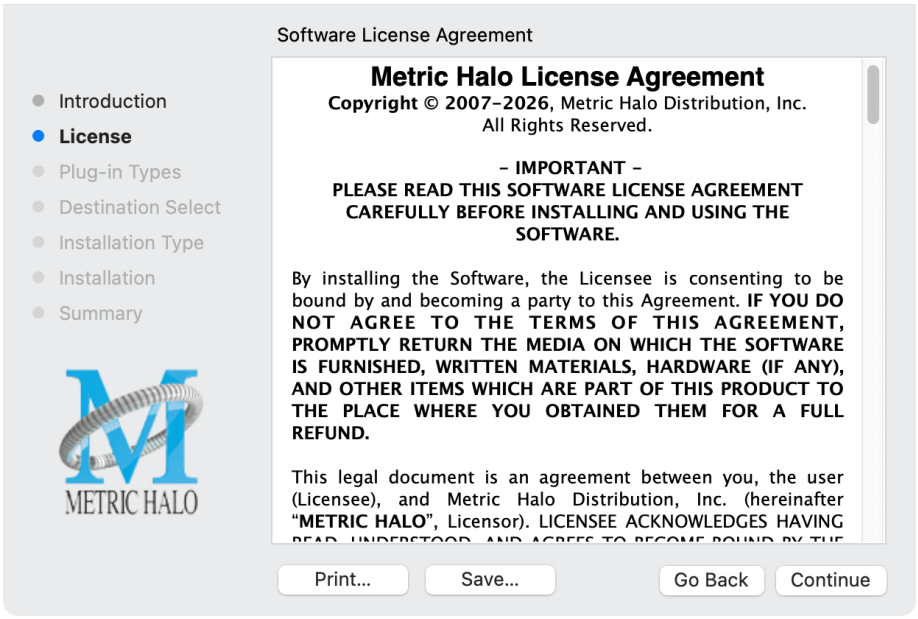

Click "Allow" to proceed…

- The installer dialog will appear:



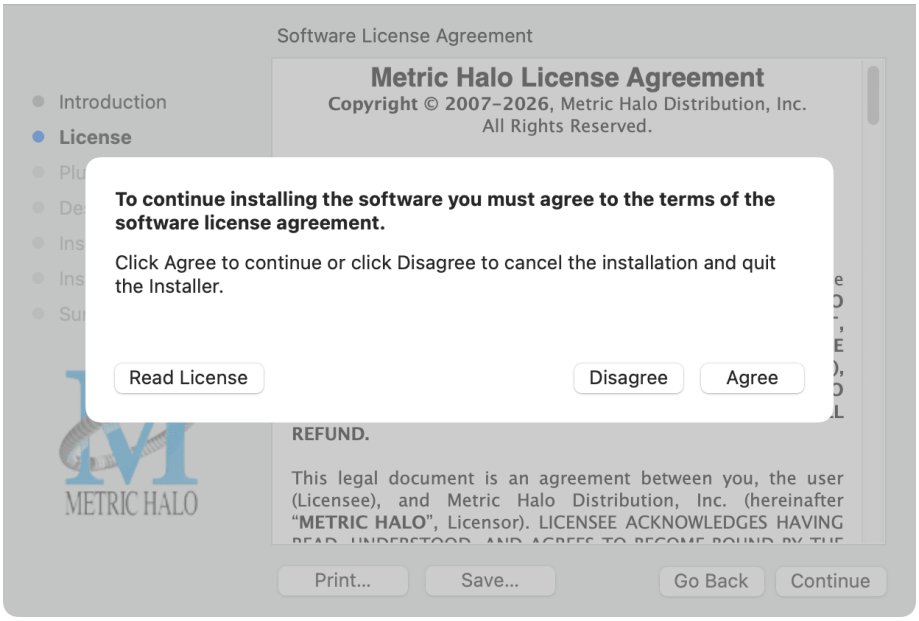

Click “Continue”…

- Now you will see the Metric Halo License Agreement:




After you have read it, click “Continue”…

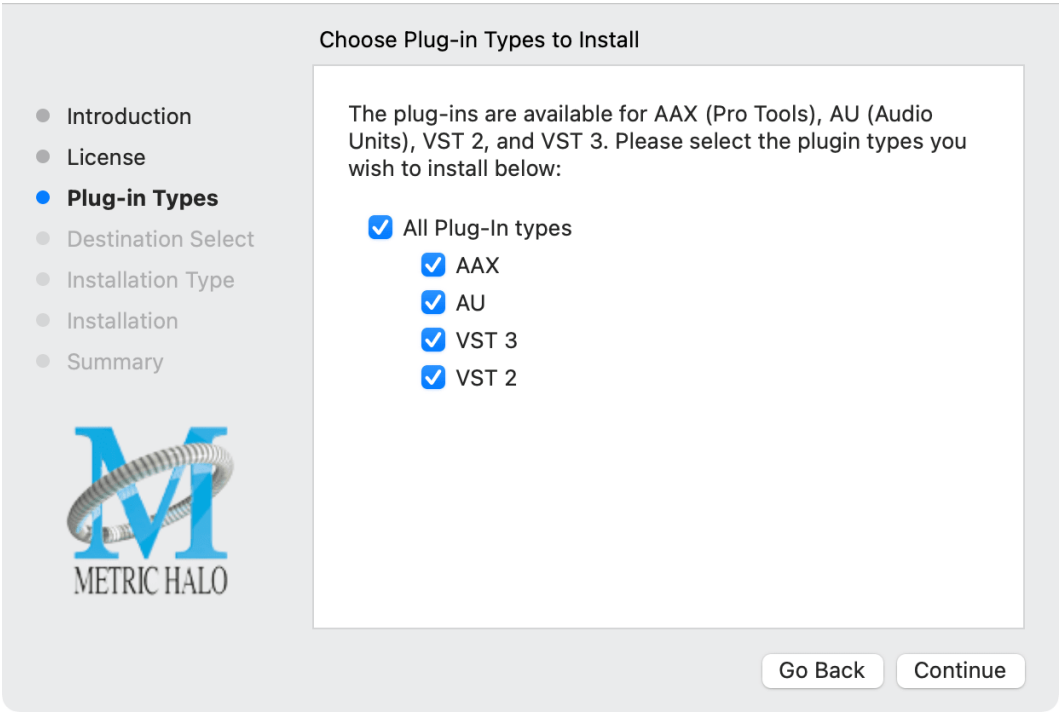
- Next, click “Agree” to accept the License Agreement:



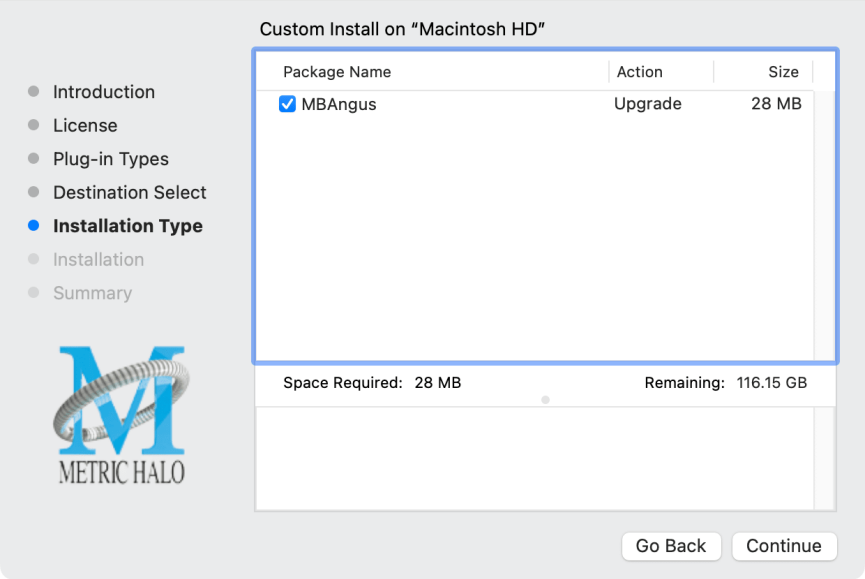
- The default installation will install Audio Unit, VST2, VST3 and AAX plug-ins to their respective folders in the root Library directory:
  - AU to **/Library/Audio/Plug-Ins/Components**
  - VST2 to **/Library/Audio/Plug-Ins/VST**
  - VST3 to **/Library/Audio/Plug-Ins/VST3**
  - AAX to **/Library/Application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

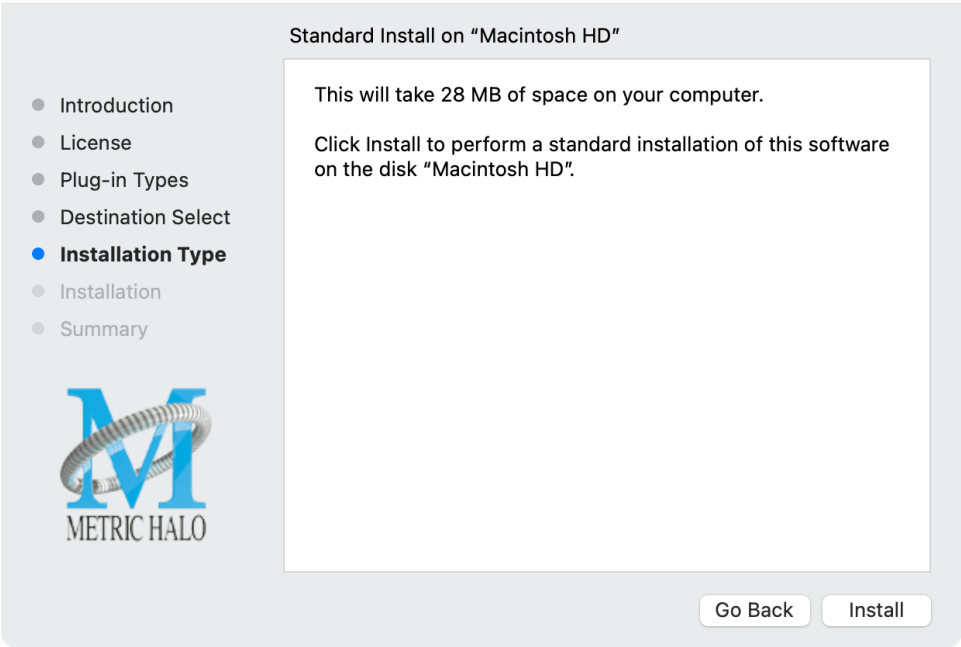


- Since there is only one plug-in to install, the "Custom Install" page only shows whether you are installing Angus 404 for the first time or upgrading it.

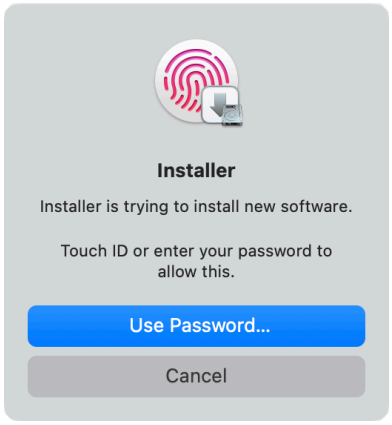



Click "Install" to proceed.

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

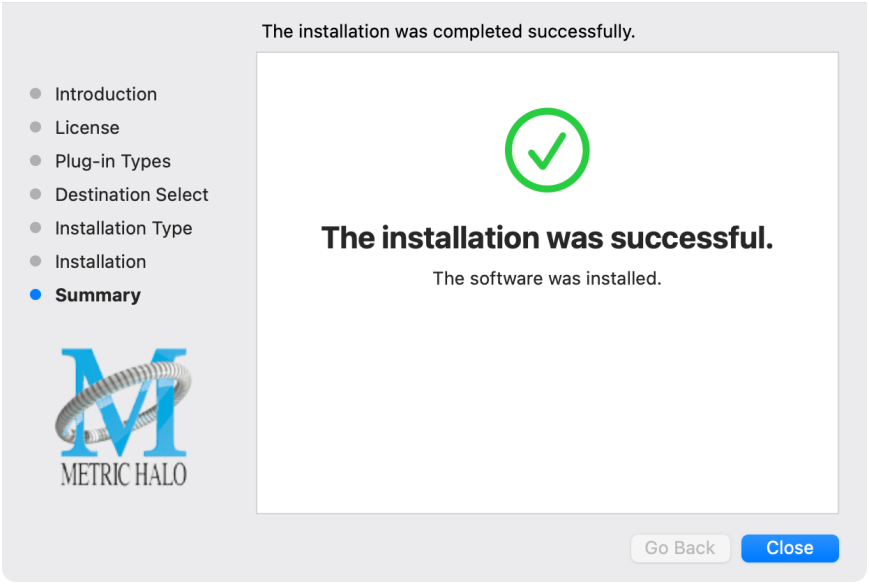


- If present, Touch ID/Face ID will execute the installation once it recognizes your biometrics:




  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 Angus 404!

## 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.

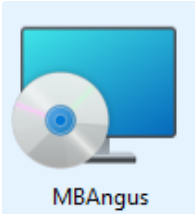


**The installer's name must end in .msi**

The installer you download is a Windows Installer package, and its name ends in `.msi`. Some browsers change the extension to `.exe` as they save it, and the installer will not open properly with that name. Before you launch it, check the extension, and if it is `.exe`, rename the file so that it ends in `.msi` again.

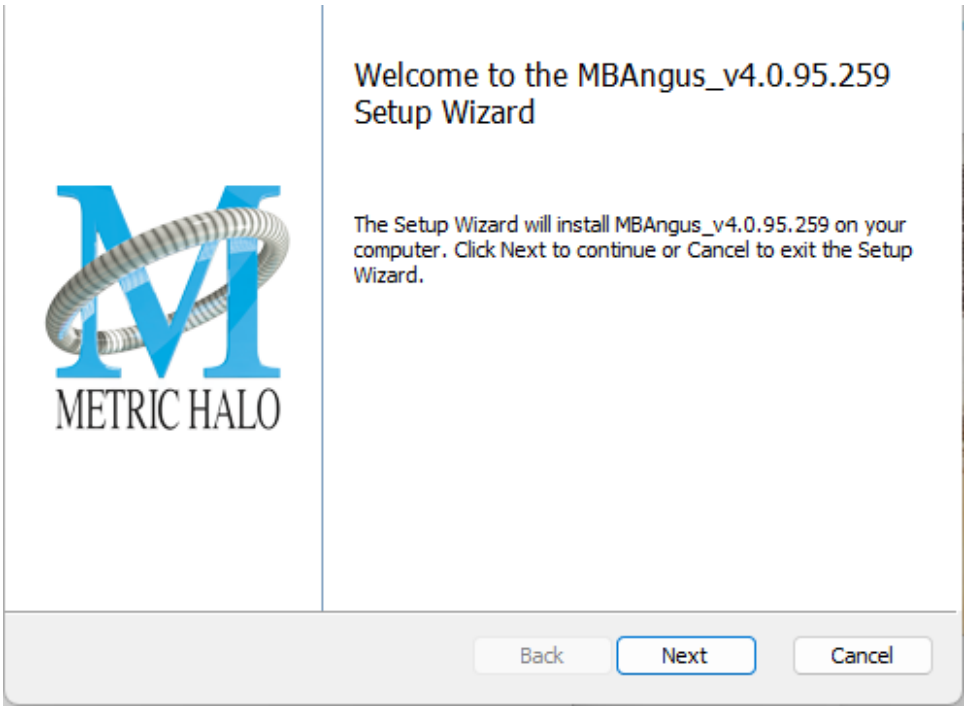
Windows hides extensions by default. To show them in Windows 11, open File Explorer and choose **View** > **Show** > **File name extensions**.

- Double-click the "MBAngus" installer application.




**Installer**

- The installer dialog will appear:




**Welcome Dialog**

Click "Next" to proceed.

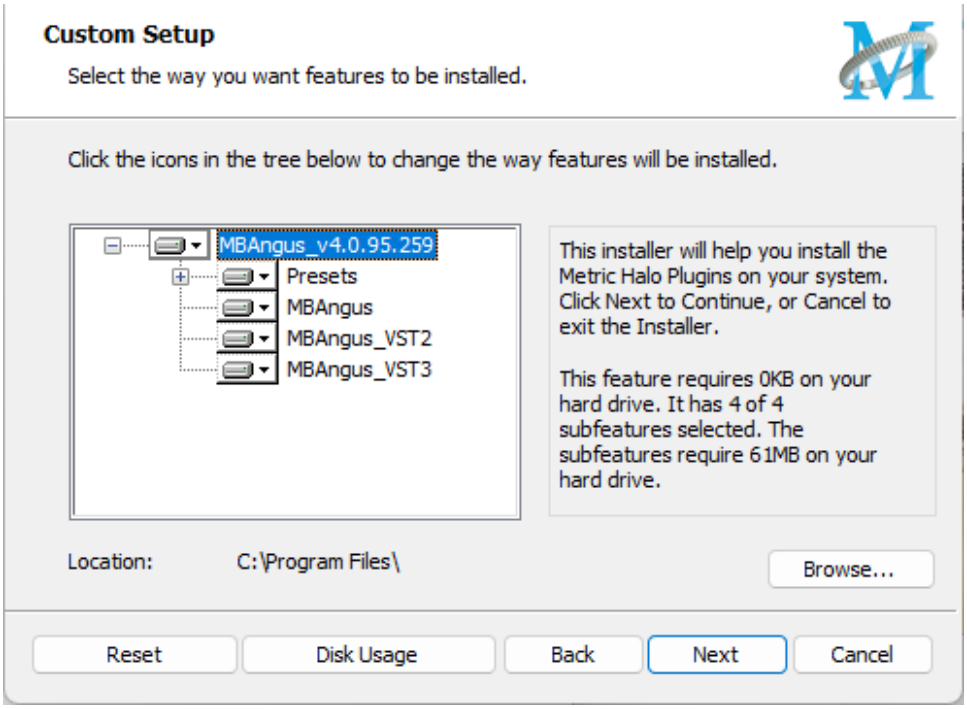
- Read the Metric Halo License Agreement:




**License Agreement**

After you have read it, select "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:

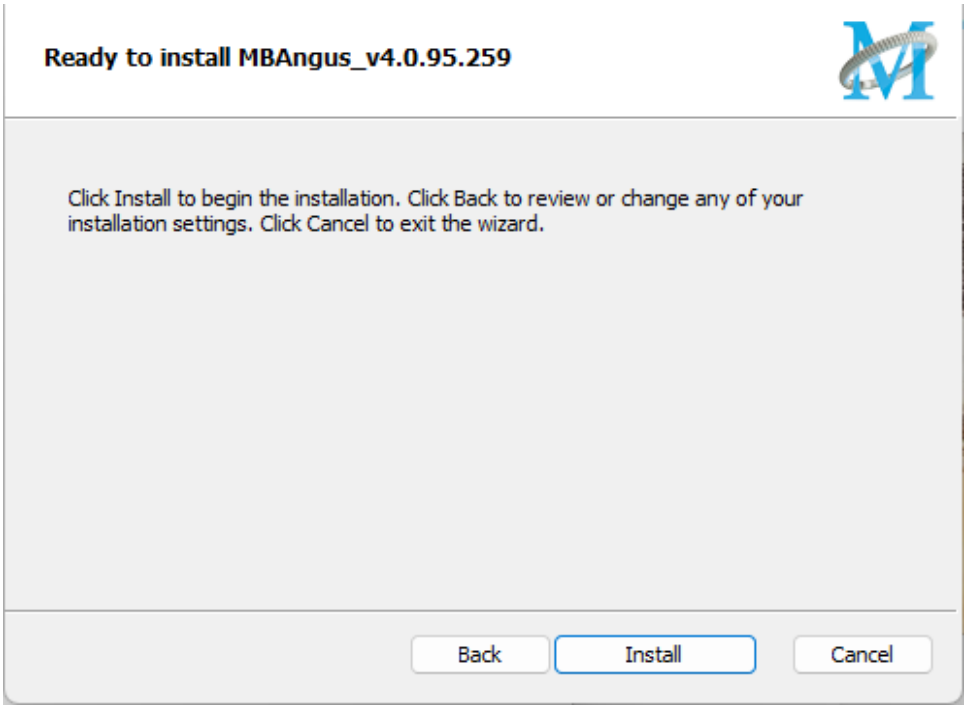
- VST2 to **C:\Program Files\Common Files\Steinberg\VST2**
- VST3 to **C:\Program Files\Common Files\VST3**
- AAX to **C:\Program Files\Common Files\Avid\Audio\Plug-ins**

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 DAW's 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.

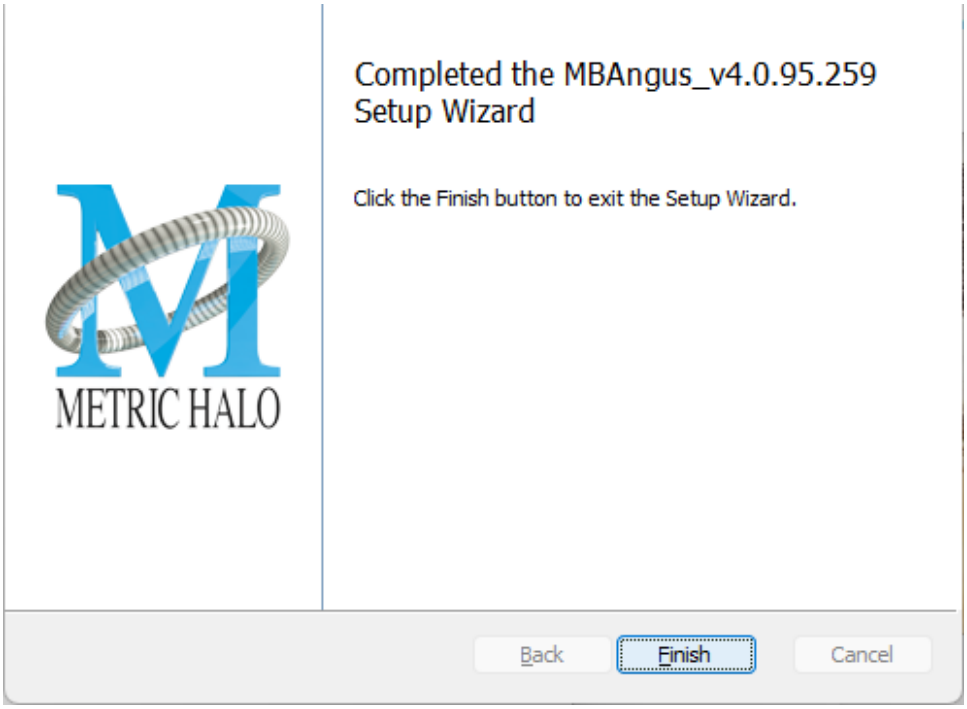
- The next page is a confirmation to continue, offering a last chance to go back and review your selections from the previous window:




**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 Angus 404!

### 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)

Angus 404 checks for a newer version automatically when your computer is connected to the internet.




**Plug-in Update Alert**

If it finds one, the MB/MH logo in the plug-in header bar shows a red dot. Click the logo, and open the **Update** tab for the release notes and download instructions.

# 6. 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 macOS 10.11.6 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.
- 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.

# 7. 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