

**USER MANUAL**

**\_STAGE-73 V2**

**ARTURIA**

**\_The sound explorers**

# Special Thanks

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**Product version: 2.0**

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# **Thank you for purchasing our virtual electric piano, Stage-73 V2!**

We are certain it will give you many hours of inspiration and enjoyment.

Stage-73 V2 is the newest addition to our extensive family of instruments that recreate hard-to-find classic keyboards and synths. In addition to bringing the authentic sound of this essential instrument to your music, we have added some 21st century features that were never available in the original!

The instrument upon which this virtual model is based became an indispensable part of pop, soul and jazz music after its introduction in the mid-1960s. Its sound remains popular today, having survived the onslaught of a certain digital synthesizer in the 1980s.

But since maintaining and transporting an actual unit poses many challenges, we're confident Stage-73 V2 will bring you all of the benefits with none of the hassle!

# Table Of Contents

1. INTRODUCTION.....	2
1.1. What is Stage-73 V2? .....	2
1.2. History of the original instrument .....	3
1.3. The road to fame.....	4
1.4. What does Stage-73 V2 add to the original?.....	4
1.5. What's new in V2? .....	5
2. Activation & First Start.....	6
2.1. Register and Activate .....	6
2.2. Initial setup.....	6
2.2.1. Audio and MIDI settings: Windows .....	6
2.2.2. Audio and MIDI settings: Mac OS X.....	8
2.2.3. Stage-73 V2 as a plug-in .....	8
3. USER INTERFACE.....	9
3.1. Virtual keyboard.....	9
3.2. The Upper Toolbar .....	10
3.2.1. The menu.....	10
3.2.2. Browsing Presets .....	12
3.2.3. Stage / Suitcase selector .....	12
3.2.4. Open / close Advanced panel.....	13
3.2.5. Open / close FX panel.....	14
3.2.6. Side Panel .....	14
3.3. The Lower Toolbar .....	15
3.4. Side Panel.....	14
3.4.1. MIDI controller configuration.....	16
3.4.2. Assigning / Un-assigning controls.....	17
3.4.3. Min / Max value sliders .....	17
3.4.4. Relative control option .....	18
3.4.5. Unassigning or 'un-learning' a MIDI mapping.....	19
3.5. The Preset Browser in Detail .....	20
3.5.1. Browse Presets With MIDI Controller.....	20
3.5.2. Playlists.....	21
4. Stage-73 V Control Panel .....	22
4.1. Front Panel Controls.....	22
4.1.1. The Suitcase model.....	22
4.1.2. The Stage model.....	24
4.2. Advanced Panel.....	25
4.2.1. Physical components .....	25
4.2.2. Model.....	26
4.2.3. Tuning.....	26
4.2.4. Hammer Hardness.....	26
4.2.5. Output.....	26
4.2.6. Pickup Distance.....	26
4.2.7. Pickup Alignment.....	27
4.2.8. Damper Duration.....	27
4.2.9. Noise Gate.....	27
4.2.10. Pickup Noise .....	27
4.2.11. Hammer Noise .....	27
4.2.12. Tine Noise.....	27
4.2.13. Damper Noise .....	27
4.2.14. Dynamics.....	27
4.2.15. Tonebar Resonance .....	27
4.2.16. Velocity Curve .....	28
4.3. FX Panel.....	29
4.3.1. Effects .....	29
4.3.2. Amp.....	47
4.3.3. Room .....	50
5. SOFTWARE LICENCE AGREEMENT .....	51

# 1. INTRODUCTION

Stage-73 V2 is the latest update to our popular modelled electric piano instrument, part of our extensive family of instruments that recreate hard-to-find classic keyboards and synths. In addition to bringing the authentic sound of this essential instrument to your music, this update brings significant enhancements including optimized modelling and expanded effects to make Stage-73 V2 an even more powerful tool in your audio arsenal.

## 1.1. What is Stage-73 V2?

Stage-73 V2 is a software version of the classic electric piano manufactured by Fender in the late 20th century.

First we thoroughly analyzed the physical and mechanical properties of both the Stage and Suitcase versions of this instrument. Then we constructed a mathematical model to represent every aspect in perfect detail, from the resonance of the tines to the way the composition of the hammers affects the tone.

Then using the original schematics we recreated the electrical characteristics of every version of every component, from the pickups to the preamps.

Throughout each stage of development we constantly compared our results with the physical units and made adjustments as needed. We also recorded an IR (impulse response) of the spring reverb of a Fender Deluxe Reverb amplifier, the one most often paired with the Stage model piano, so the end result is incredibly authentic.

Stage-73 V2 runs both as a standalone instrument on Windows and Mac OS X and as a plug-in in all major formats inside your DAW. It has easy MIDI learn functionality for hands-on control of many of its parameters, and as a plug-in also allows parameter automation for greater creative control.

## 1.2. History of the original instrument

Electric pianos began to be developed almost as soon as humans harnessed electricity. The first models were actually acoustic pianos with built-in magnetic “pickups”, which convert the motion of strings into electrical signals that can be amplified through a speaker system.

While much lighter than conventional acoustic pianos, these early electric pianos still weighed hundreds of pounds due to their soundboards. The quest for greater portability led to the development of new electromechanical assemblies that used metal bars or rods to generate a tone, which was in turn captured by a pickup and fed to an amplified speaker.

The sound of an electric piano was a vast departure from that of an acoustic piano, but it became increasingly popular in the studio and on the stage. Part of the reason for their popularity was that the sound could be isolated and modified more easily through electronic circuits such as a reverb, chorus, phase shifter or delay. This allowed the artist to create a more distinctive sound that could be readily identified on the radio.

Stage-73 V2 emulates the electromechanical characteristics of the tine-based electric pianos designed by Harold Rhodes. The sound was more rich and full than their only serious competitor, the Wurlitzer, and proved suitable for anything from blazing funk and jazz to gentle ballads.

The Suitcase was the first of the two 73-note models to be manufactured. The piano section was paired with a set of amplified speakers that also doubled as a stand, which made it a complete package: just pack it up and take it any place with electricity.

These instruments rose to prominence in the 1960s and dominated the popular music scene for decades. Their sound continues to be used heavily today.

Among the notable features of these electric pianos were:

- Portability
- Sturdiness
- Easier to maintain than an acoustic piano
- Early models had a rounded top, which was later replaced by a flat top to support a synthesizer or other keyboard

There were a number of components to their unique sound.

- A pure, bell-like tone
- Tines and tone bars as opposed to reeds or strings
- Longer sustain than the Wurlitzer
- The earliest model had hammers with felt tips
- The models from 1969 forward had hammers with Neoprene tips

### 1.3. The road to fame

The sound of the tine-based electric pianos was a perfect complement for many styles of music, with a tone that ranged from shimmering to biting, even with minimal processing. Its relatively compact size ensured that bands, studios and rehearsal rooms would want to have one, and it began to enjoy common use on musical recordings and in live performances.

Notable users and songs:

- The Beatles: "Get Back"
- Chick Corea: "Spain", "La Fiesta"
- Doobie Brothers: "Minute by Minute"
- The Doors: "Riders on the Storm"
- Eagles: "New Kid in Town", "I Can't Tell You Why"
- Earth, Wind & Fire: "Shining Star", "Reasons"
- Peter Frampton: "Baby, I Love Your Way"
- Herbie Hancock: "Chameleon"
- Billy Joel: "Just the Way You Are"
- Elton John: "Daniel", "Little Jeannie"
- One Day as a Lion: "Wild International"
- Pink Floyd: "Breathe"
- Linda Ronstadt: "Blue Bayou"
- Steely Dan: "Peg"
- Stevie Wonder: "You Are the Sunshine of My Life", "Isn't She Lovely"

### 1.4. What does Stage-73 V2 add to the original?

Recreating an instrument in software allows us to add more advanced features, while of course remaining true to the original hardware! But there are a number of features in Stage-73 V2 that were difficult to adjust or simply didn't exist on the original:

- Two models available at the flip of a switch: Stage or Suitcase
- Presets! Change every parameter instantly, including the effects, by selecting a new preset.
- Instant access to tone-shaping features that were 'under the hood' and usually maintained by a technician:
  - Master tuning
  - Dynamic range
  - Pickup distance and alignment
  - Hammer noise and hardness: variable from felt to neoprene
  - Damper distance from the tines
  - Tone bar resonance: how long they will sustain
- Velocity curve shaping and presets
- Stomp-box effects units with variable routing order
- Output routing: direct or through a modeled amplifier



## 1.5. What's new in V2?

Stage73-V2 brings about many exciting and powerful updates and enhancements:

- New engine with optimized emulations of the classic hardware
- Updated pedal rig with 13 effects pedals, including Analog Phaser and Cry Wah.
- Amp module with Twin Amp and Rotary Speaker emulations available for both keyboard models
- High-quality convolution module with 9 types of reverb, including real spaces and vintage gear
- New Library with enhanced user experience
- Macros for adjusting multiple parameters from a single control
- Enhanced Model presets that recreate tone characteristics of various versions of the original hardware

## 2. ACTIVATION & FIRST START

Stage-73 V2 works on computers equipped with Windows 8.1 or later and Mac OS X 10.13 or later. You can use the stand-alone version or use Stage-73 V2 as an Audio Units, AAX, VST2 or VST3 instrument.



### 2.1. Register and Activate

Once Stage-73 V2 has been installed, the next step is to register the software. The registration process will require you to enter the serial number and the unlock code you received with the product.

To proceed, go to this web page and follow the instructions:

<https://www.arturia.com/register>

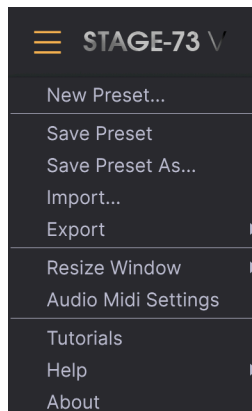
Note: If you don't have an Arturia account you will need to create one. The process is quick, but it does require that you can access your e-mail address during the registration process.

Once you have acquired an Arturia account you will be able to register the product.

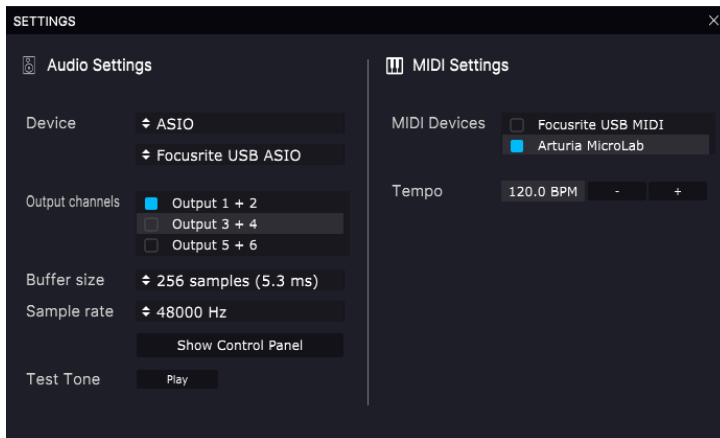
### 2.2. Initial setup

#### 2.2.1. Audio and MIDI settings: Windows

At the top left of the Stage-73 V2 application is a pull-down menu. It contains various setup options. When running Stage-73 V2 as a standalone, you will need to set these options to get sound and MIDI flowing in and out. If you are running Stage-73 as a plug-in, then you can skip this section because audio and MIDI settings will be handled by your host application.



You will then see the Audio MIDI settings window. This works in the same way on both Windows and Mac OS X, although the names of the devices available to you will depend on the hardware you are using.



Starting from the top you have the following options:

- **Device** lets you choose which audio driver you want to use to route sound out of the instrument. This might be your computer's own driver like Windows Audio, or an ASIO driver. The name of your hardware interface may appear in this field.
- **Output Channels** lets you select which of the available outputs will be used to route audio out. If you only have two outputs, only two will appear as options. If you have more than two you can select a specific pair of outputs.
- The **Buffer Size** menu lets you select the size of the audio buffer your computer uses to calculate sound. A smaller buffer means lower latency between pressing a key and hearing the note. A larger buffer means a lower CPU load as the computer has more time to think, but can result in a small latency. Find the optimum buffer size for your system. A fast, modern computer should easily be able to operate at 256 or 128 sample buffer size without creating pops or clicks in the sound. If you are getting clicks, try raising the buffer a little. The latency is displayed on the right hand side of this menu.
- The **Sample Rate** menu lets you set the sample rate at which audio is sent out of the instrument. The options here will depend on the capability of your audio interface hardware though even most computers' own hardware can operate at up to 48kHz which is perfectly fine. Higher sample rates use more CPU power so unless you have a good reason to go up to 96kHz, then 44.1k or 48k is usually fine. The Show Control Panel button will jump to the system control panel for whatever audio device is selected.
- **Play Test Tone** helps you to troubleshoot audio issues by confirming whether sound can be heard through the correct device.
- Your connected MIDI devices will appear in the **MIDI Devices** area. Click the check box to accept MIDI from the device you want to use to trigger the instrument. In standalone mode, Stage-73 V2 listens for all MIDI channels so there's no need to specify a channel. You can specify more than one MIDI device at once.
- The **Tempo** setting adjusts the internal instrument tempo that is used for pedal effects which can be synced to tempo.

## 2.2.2. Audio and MIDI settings: Mac OS X

The process is very similar to initial setup for Windows and the menu is accessed in the same way. The difference is that OS X uses CoreAudio to handle audio routing and the audio device selection is made in the second dropdown menu. Apart from that, the options work the same way as described in the Windows section.



## 2.2.3. Stage-73 V2 as a plug-in

Stage-73 V2 comes in VST, AU and AAX plug-in formats for use in all major DAW software such as Cubase, Logic, Pro Tools and so on. You can load it as a plug-in instrument and its interface and settings work the same way as in standalone mode, with a couple of differences.

- You can automate numerous parameters using your DAW's automation system.
- You can use more than one instance of Stage-73 V2 in a DAW project. In standalone mode you can only use one at once.
- You can route Stage-73 V2's audio outputs more creatively inside your DAW using the DAW's own audio routing system.

## 3. USER INTERFACE

Stage-73 V2 is packed with great features, and in this chapter we'll make sure you know what each one does. We think you'll be amazed by the huge range of sounds that can be made with this instrument.

And while Stage-73 V2 is very flexible, there's nothing complicated about it. That will always be the main focus of every Arturia product: to unleash your creativity while remaining easy to use.

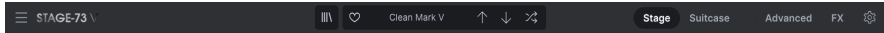
### 3.1. Virtual keyboard



The virtual keyboard allows you to play a sound without the need for an external MIDI device. Simply click on a virtual key to hear the currently selected sound. You can also drag the cursor across the keys to hear a glissando.

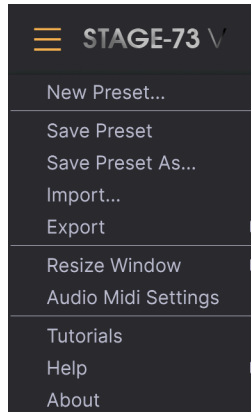
Clicking near the front edge of the key results in a higher velocity note; clicking near the back of the key produces a soft velocity.

## 3.2. The Upper Toolbar

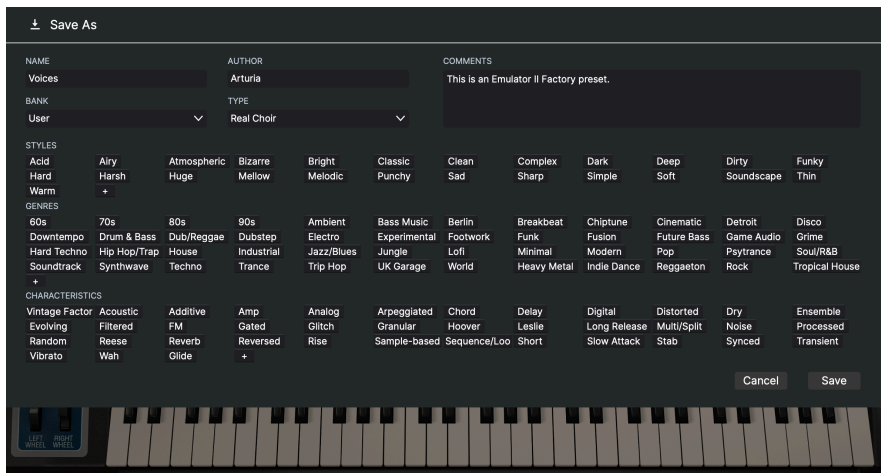


The toolbar that runs along the top of the instrument provides access to many useful features including the Stage-73 V2 menu, preset browsing features, access to the "advanced" Screen mode and lastly the gear button which opens the side panel giving access to various MIDI functions including global MIDI channel and mapping features.

### 3.2.1. The menu



- **New Preset:** This option creates a new preset with default settings on all parameters. It is a good place to start if you would like to create a new sound from scratch.
- **Save Preset:** This option will overwrite the currently loaded preset with any changes you have made. If you would like to save the current preset under a different name, use the "Save As..." option below.
- **Save Preset As...** This lets you save your preset under a different name. Clicking this option reveals a window where you can name your preset and enter information about it.



**i** 🎵: Arturia's powerful browsing system lets you save much more than just a preset name. For example, you can enter the Author's name, select a Bank and Type, select tags that describe the sound, and even create your own Bank, Type, and Characteristics. This information can be read by the preset browser and is useful for searching the presets banks later. You can even enter freeform text comments in the Comments field, which is handy for providing a more detailed description of a sound. This can help you remember a sound or to provide context to other users with which you are collaborating.

- **Import:** This command lets you import a preset file, which can be either a single preset or an entire bank of presets.
- **Export Menu:** You can export presets in two ways: as a single preset or as a bank.
  - **Export Preset:** Exporting a single preset is handy when you want to share a preset with someone else. The default path to these files will appear in the "save" window, but you can create a folder at another location if you like. The saved preset can be reloaded using the *Import Preset* menu option.
  - **Export Bank:** This option can be used to export an entire bank of sounds from the instrument, which is useful for backing up or sharing presets. Saved banks can be reloaded using the *Import Preset* menu option.
- **Resize Window:** The window can be resized from 50% to 200% of its original size without any visual artifacts. On a smaller screen such as a laptop you may wish to reduce the interface size so it doesn't dominate the display. On a larger screen or a second monitor you can increase the size to get a better view of the controls. The controls work the same at any zoom level but smaller controls can be easier to see at higher magnification levels.

**i** 🎵: While working with Stage-73 V2, you can also use the keyboard shortcuts Ctrl & +/- (or Cmd & +/-) to quickly adjust the window size.

- **Audio Settings: (only available in Standalone mode)** Here you manage the way the instrument transmits audio and receives MIDI. See the section Audio and MIDI settings for more information about this topic.

**i** !: The Audio Settings menu is only available in when using Stage-73 V2 in Standalone mode. When using it as a plugin, the host software handles all of the parameters in this menu including audio and MIDI routing, buffer size settings, and more.

- **Tutorials:** Stage-73 V2 comes with tutorials that walk you through different features of the instrument. Select one of the tutorials to get step-by-step descriptions of how to make the most of the Stage-73 V2 features.
- **Help:** This section provides handy links to the Stage-73 V2 User Guide and Frequently Asked Questions page on Arturia's website. Note that accessing these pages will require an Internet connection.
- **About:** Here you can view the software version and developer credits. Click the About window again to close it.

### 3.2.2. Browsing Presets

Stage-73 V comes packed with lots of great-sounding factory presets and we hope you'll create many more of your own custom presets. To help you search through large numbers of presets, we have a powerful preset browser with a number of features to help you find sounds quickly.



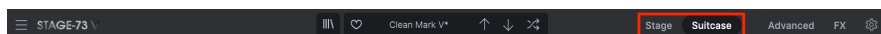
The browsing features of the Toolbar (shown above) include the following:

- The **Preset Browser** (on the left) opens and closes the preset browser. This is covered in detail in the next section of this guide
- The **Like Button** allows you to tag presets as favorites. Click the like button to like or unlike the preset.
- The **Preset Name** is listed next in the toolbar. Clicking on the name reveals a pull-down menu with other available presets. Click on any name to load that preset or click away from the menu to close it.
- The **Arrow icons** select the previous or next preset in the filtered list. This is the same as clicking on the preset name and selecting the next option in the list, but does it with only one click.

**i** !: The Previous and Next arrows can be MIDI mapped. This means you can use buttons on your MIDI Controller to easily step through the available presets without having to use the mouse at all.

### 3.2.3. Stage / Suitcase selector

These buttons determine which electric piano model is used. The graphic in the main area of the interface will update to reflect the current selection.

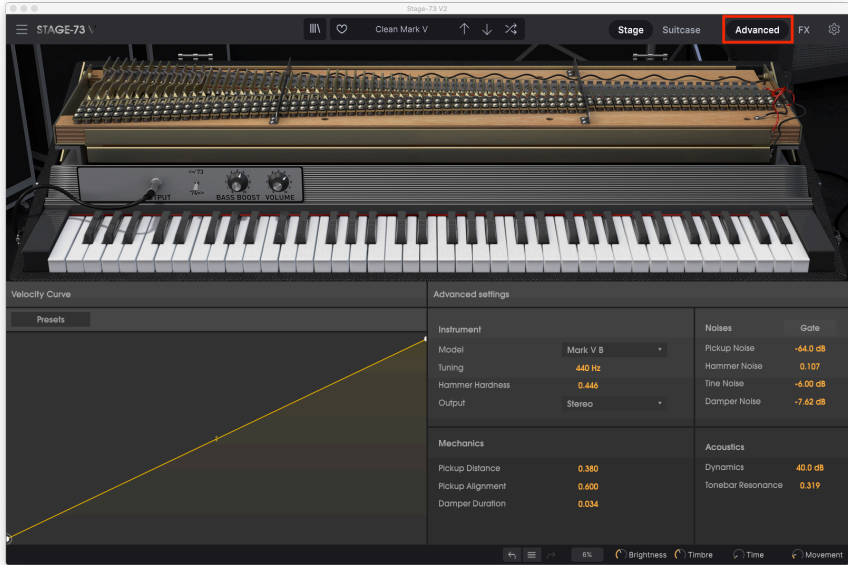




### 3.2.4. Open / close Advanced panel

The **Advanced** button toggles the instrument's Advanced panel. Click once to show the panel, click again to hide it.

The Advanced panel lets you access the more advanced features of the instrument like pickup distance, hammer hardness and the velocity curve editor. See [Advanced Panel \[p.25\]](#) section of this manual for more detail on these controls.



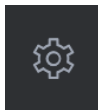
### 3.2.5. Open / close FX panel

The **FX** button toggles the instrument's FX panel. Click once to show the panel, click again to hide it.

In the FX panel you can create a processing chain using any of the 13 available effects pedals, as well as high-quality Amp and Room modules. This panel is covered in more detail in the [FX Panel \[p.29\]](#) section of this manual.



### 3.2.6. Side Panel



At the far right of the Toolbar, you will find the Gear icon which when pressed opens up the Side Panel. The Side Panel gives access to various MIDI related options. In here you can set the global MIDI channel, set up MIDI controller mapping to virtually any parameter of the Stage-73 V2, select either a generic MIDI keyboard controller OR one of Arturia's own MIDI controllers, set the Macros and access the tutorials.

### 3.3. The Lower Toolbar

The Lower Toolbar runs along the bottom of the user interface and provides quick access to several important parameters and useful bits of information.



- **Parameter Name** on the left displays the name of the parameter as you adjust controls. The current value of the control is listed in a tooltip that appears next to the control.
- **Undo** undoes the last change.
- **Redo** redoes the last change.



! The Undo and Redo buttons only become visible AFTER you have started editing on the Main Panel. Try moving the Freq (or any other) control now and you'll notice the Undo button will magically appear.

- **Undo History** lets you to see a list of recent changes. Click on a change to restore the patch to that state. This can be useful in the event you happened to go too far in your sound design and want to revert to an earlier configuration.
- **CPU Meter-Panic Button** displays the current CPU usage of the instrument and when pressed it resets all MIDI signals in the event of stuck notes or other issues.




! If the CPU meter is high, you may hear clicks, pops and other audible glitches in playback. In this case, consider increasing the audio buffer size setting. This is found under Audio Settings when working in Standalone Mode or in your host music software's preferences menu. Alternatively, you can limit polyphony with the Poly and Unison settings.

## 3.4. Side Panel

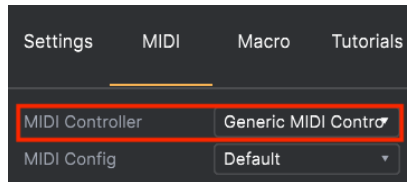
The Gear icon at the top right side of the upper toolbar opens up the Side Panel.

- **Settings** this sets the global MIDI channel for the Stage-73 V2

 By default, Stage-73 V2 will receive MIDI data on all 16 MIDI channels (All setting). You can change this by selecting a specific channel here. You will need to do this if, for example, you want to use an external controller with multiple instances of Stage-73 V2. In this situation, every instance can be set to a unique channel, and you can change the preset or MIDI channel on your controller to control the different instances of Stage-73 V2.

- **MIDI** this section lets you set the MIDI controller you are using and setup the mapping of MIDI CC commands.

### 3.4.1. MIDI controller configuration

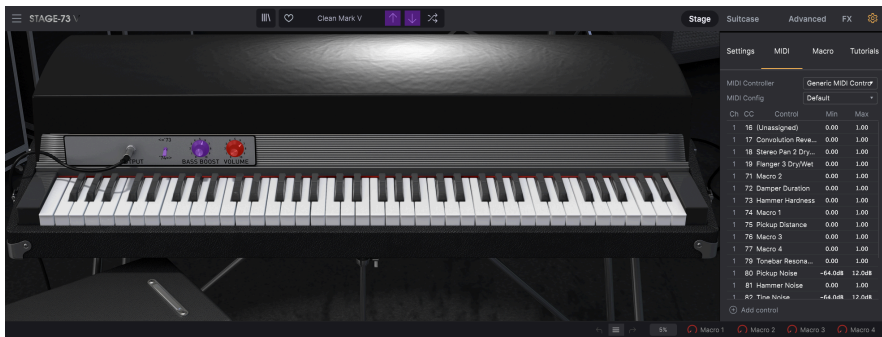


If you click on the drop-down menu to the right of where it says MIDI Controller you can set whether you are using a generic MIDI controller or one of Arturia's own. Underneath this you have the MIDI configuration dropdown menu. Here you can manage different setups of MIDI mappings for controlling Stage-73 V2. For example, if you have multiple hardware controllers (small "live performance" keyboard, large "studio" keyboard, pad based controller, etc.), you can create a profile for each of them just once and then quickly load it here. This saves you from having to redo the MIDI mapping assignments from scratch each time you swap hardware.

Once you have created a profile, you can save, delete, import or export it using the options in this menu.

Your MIDI Mapping profiles are listed at the bottom of this pull-down menu and the currently active profile has a checkmark next to it.

Underneath this you will see all the MIDI mappings currently setup. MIDI-assignable parameters are shown highlighted and you can map physical controls on your MIDI Controller to them. A typical example might be to map a real expression pedal to the Master Volume control, or a physical knob on the MIDI controller to the Frequency knob of the Filter module.



Purple controls are unassigned whereas red ones have already been assigned to an external MIDI control.

### 3.4.2. Assigning / Un-assigning controls

When MIDI Learn mode is switched on, click on any purple control to select it. Then turn a knob, move a slider or push a button on your MIDI controller. Your selected on-screen control will change from purple to red, indicating that a link has been made between your hardware control and the on-screen software parameter.

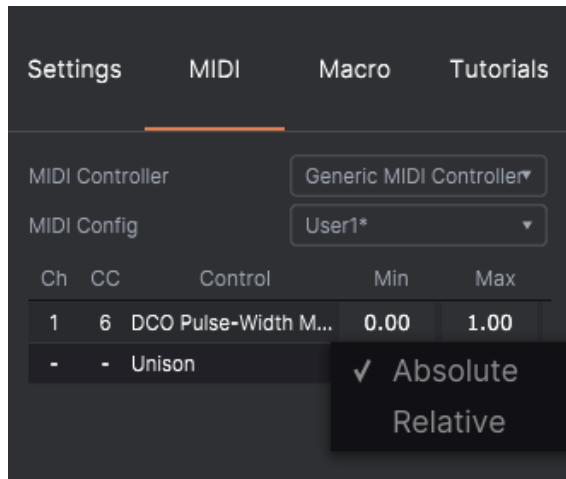


! Pitch Bend is a reserved MIDI controller that cannot be assigned to other controls.

### 3.4.3. Min / Max value sliders

By default, a hardware control will span the entire range of the on-screen control (i.e., from 0 to 100%). The minimum and maximum value sliders let you restrict the range something other than 0%-100%. This is very useful for making sure you cannot accidentally make the sound too quiet or too loud when performing.

### 3.4.4. Relative control option



If you right click on a mapped parameter in the list, you can make a parameter "absolute" or "relative". Only change to "relative" if your hardware MIDI control is sending "relative" MIDI messages. If the MIDI controller is sending out "absolute" messages leave it set to "absolute" (this is the more common behavior).

A "relative" change instructs the receiving device to increase or decrease its current value. The receiving device (Stage-73 V2 in this case) interprets this command as "increase/decrease your current value." This type of control is often implemented on "endless" or "360 degree" knobs that do not have hard stops at the ends of their range. The advantage of this is that physical knobs always remain in sync with on-screen controls. However, not all hardware devices support this mode of operation which is why both options are available in Stage-73 V2.

**i** There are two common types of messages when working with MIDI knobs: Absolute and Relative. Absolute positioning sends the exact position of the knob as a specific numerical value (i.e., "Set value to 54, 55, 56, etc.") when you turn the knob on your hardware controller. This is the most common implementation and is almost always used when using potentiometer knobs with "hard" stops at the ends. One downside to this implementation is that if you change presets, your physical knob and on-screen control will be "out of sync" with each other and turning the physical control can cause the on-screen control to suddenly jump to that position.

### 3.4.5. Unassigning or "un-learning" a MIDI mapping

Click on an assigned parameter to highlight it then press the delete button on the keyboard to disconnect.

- **Macro** this function lets you setup the functionality of the macro section. Basically a macro lets you change a group of parameters together and there are 4 available (you can see the status of the 4 macros along the lower toolbar). The macro is selected using the back or forward arrows either side of the name and if you click on the name it can be changed.



You can add extra controls into the macro by selecting "add control" and clicking on the desired control on the panel. You will see it get added to the macro control list and you can set upper and lower limits for each control. When you tweak one of the macro controls in the lower toolbar you will see all the link controls move. Very handy indeed!

## 3.5. The Preset Browser in Detail

The Preset Browser is where you can search through all of the presets. Open the Preset Browser by clicking the library symbol on the toolbar. To close the Preset Browser and return to the main screen, click the "X" that appears in the Toolbar.

To narrow down your choice and help you find the sounds you want, you can enter keywords in the search bar. You can narrow your search further by clicking on one of the drop down menus under the search bar which lists categories and has tags to point you in the right direction. You can cancel the list by pressing "clear all".

The results of your search are listed in the middle column. You can easily audition any displayed preset by clicking on it and playing a connected MIDI keyboard. You can sort the list results in various ways by clicking the column headers directly above the preset names. If you're feeling spontaneous, click the Shuffle button at the top right to randomly select one preset from the results list. This is a fun and quick way to audition sounds without having to step through the list one-by-one.

Details about the currently selected preset are listed in the right column.

**i** : Factory presets cannot be modified, deleted or overwritten. Only "User" (user generated) presets can be deleted, overwritten or saved under a different name. This is done by using the "Delete" "Save" or "Save As" buttons at the bottom of the right column. If you have modified a Factory preset and would like to save it, you must save your modified preset under a different name (only the "Save As" option appears in this case since you cannot delete or overwrite factory sounds).

### 3.5.1. Browse Presets With MIDI Controller

This option allows you to browse presets using the Browse knobs on Arturia MIDI Controllers. This makes it incredibly efficient to quickly audition sounds without having to reach for the mouse. To use this feature, select your Arturia controller from the menu and its Browse knob will be automatically mapped to preset browsing.



## 3.5.2. Playlists

In the lower left corner of the Preset Browser window is a feature titled Playlists. This is used to collect presets into collection groups, such as a set list for a particular performance or a set of presets related to a particular studio project.

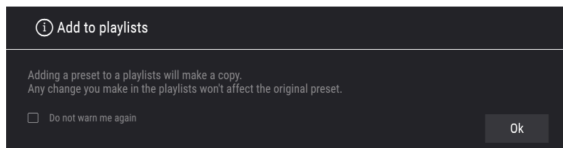
### 3.5.2.1. Add a playlist

To create a playlist, click the **+ New Playlist** button. Give the playlist a name and it will appear in the Playlists menu. To rename the playlist at any time, double click on the name.

### 3.5.2.2. Add a preset to the playlist

You can use the Search window to locate the presets you want to add to your playlist. Once you have found the right preset, click and drag it onto the playlist name on the left.

You will see a message which tells you that the new preset will be duplicated. Stage-73 V2 will create a copy of the preset so that you can modify settings in the playlist presets without impacting the original preset it is based on, and vice versa.



To view the contents of a playlist, click on the playlist name.

### 3.5.2.3. Re-order the presets in the playlist

Presets may be reorganized within a playlist. For example, to move a preset from slot 3 to slot 1, drag and drop the preset to the desired location.

This will move the preset into the new location.

### 3.5.2.4. Remove a preset from the playlist

To remove a preset from a playlist, right click on the preset name.

### 3.5.2.5. Delete a playlist

To delete a playlist, right click on the playlist name.

## 4. STAGE-73 V CONTROL PANEL

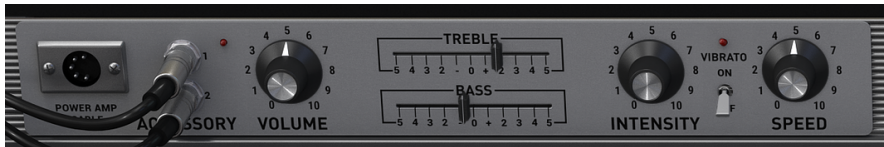
### 4.1. Front Panel Controls

The front panel of Stage-73 V2 is as streamlined as the original instruments. There are two main models, Suitcase and Stage, that can be accessed by clicking the corresponding button in the upper toolbar. There are slight differences in the front panel controls of each model, but they have the identical features ‘under the hood’ in the Advanced section.

It’s important to know that there is more to each model than its appearance. Variations in the features were often accompanied by modifications to the signal path, or the hardware, or both. We have painstakingly modeled every nuance of every version of these instruments, from the pre-amps to the hammers, from the tremolo to the sound board.

#### 4.1.1. The Suitcase model

The front panel of the Suitcase has EQ sliders for Treble and Bass, a Vibrato control section, an effects loop, a power amp connector, and a master volume control.



##### 4.1.1.1. Power amp

Click on the cable, or on the connector when the cable is not present, to toggle the modeled power amp circuit on or off. The “off” setting (cable absent) bypasses the internal instrument amp. Note that with either setting the instrument output is fed into the FX section - if you would like a completely dry signal output for processing externally, you should also bypass the [FX panel](#) [p.29].

##### 4.1.1.2. Accessory [FX loop]

These connectors are always present. They route the signal from the pre-amp to the effects units under the piano and then back again.

##### 4.1.1.3. Volume

This knob serves as the master volume control of the pre-amp. At its higher settings it will overdrive the amplifier slightly, just like the original instrument.

##### 4.1.1.4. Treble / Bass controls

These sliders allow you to cut or boost the high and low frequencies of the output signal.

#### 4.1.1.5. Vibrato switch / Intensity / Speed

The “vibrato” is actually a tremolo effect because it alters the amplitude of the signal, not the pitch. But in the interest of authenticity we kept the labels as they were for the original instrument.

Click the switch in the middle to toggle the Vibrato effect on and off. The LED will light when Vibrato is active.

The Intensity knob controls the depth of the vibrato. The effect adds a subtle motion to the sound as it alternately changes the volume of each side. At its maximum the audio signal will seem to bounce between the left and right channels.

The Speed knob controls the rate of the vibrato.

## 4.1.2. The Stage model

Stage-73 V2 includes two versions of the Stage model, selectable by the left-side switch pictured below. And while there are slight differences in the front panel controls between the two, the major difference is actually in the circuitry being modelled. We took great care to recreate the characteristics of both.



### 4.1.2.1. '73 / '74 switch

Click this switch to toggle between the '73 controls and the '74 controls.

### 4.1.2.2. Tone ['73 and earlier]

The Tone control is present only in the '73 version. It is a multi-band EQ which cuts and boosts the high and low frequencies at the same time.

### 4.1.2.3. Bass Boost ['74 and later]

This control boosts and cuts only the lower frequencies of the electric piano.

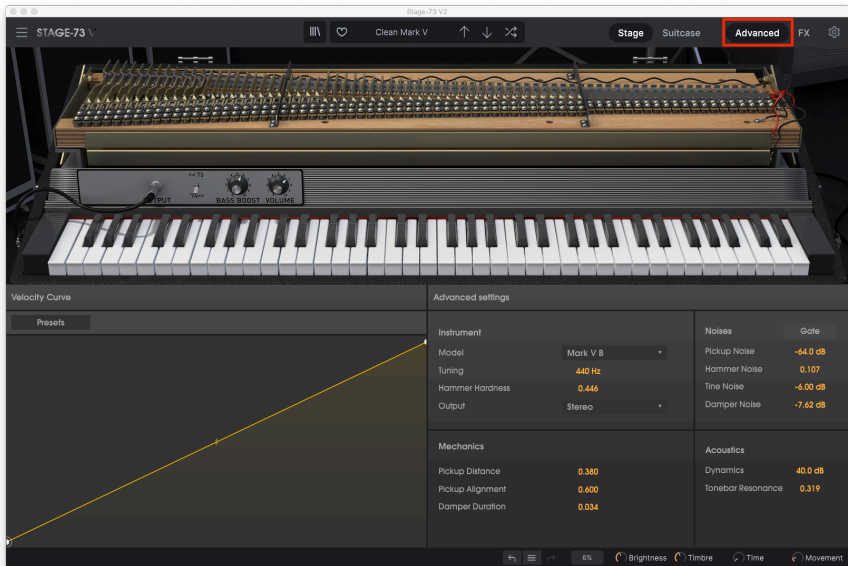
### 4.1.2.4. Volume [both]

This knob serves as the master volume control of the pre-amp. At its higher settings it will overdrive the amplifier slightly, just like the original instrument.

## 4.2. Advanced Panel

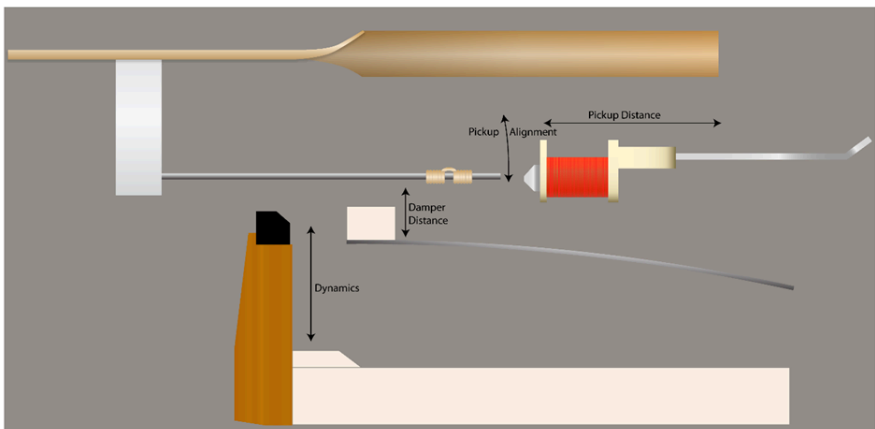
The Advanced features can be accessed by clicking the **Advanced** button at the top right corner, revealing additional controls that allow a much greater level of control over the sound of the instrument.

The advanced controls are the same for both the Stage and Suitcase models.



### 4.2.1. Physical components

The following side view of the physical relationship between the keys, the tone bars and the tines may be helpful in visualizing some of the following parameters.



### 4.2.2. Model

The advantage of physically-modelled instruments like our Stage-73 V2 is that they are much more customizable than their sample-based counterparts. We have painstakingly modelled each component of these classic keyboards, allowing us to configure and tune the modelled components to achieve a variety of different sound characteristics. New for V2, we have included tailored Model profiles for some of the most iconic iterations of the original hardware:

- Classic A
- Classic B
- High Tines
- Main
- Mark V A
- Mark V B
- Modern

### 4.2.3. Tuning

The entire instrument can be tuned flat or sharp by as much as 1.5 semitones with this control. In the middle position the instrument will be tuned to the pitch standard of A440.

### 4.2.4. Hammer Hardness

The early tine-based pianos used hammers covered with felt, which had a pleasing effect on the attack of the sound. However, they proved not to be as durable and needed to be changed too frequently.

Various solutions were tried, including neoprene rubber tips covered with felt. The final version of the hammers was the most durable, using only neoprene rubber tips.

We have modelled all types of hammer composition, and this parameter allows you to dial in exactly which sort of attack you want the notes to have: gentle (felt) to aggressive (neoprene) and every level in between the two.

### 4.2.5. Output

This menu allows you to choose among 3 different types of outputs from the keyboard, before it is routed into the FX section:

- **Mono** is a mono line output from the keyboard.
- **Stereo** is a stereo line out from the keyboard.
- **Room** is a stereo microphone recording of the keyboard.

With Stereo and Room you will notice that the panning will mirror the position of the keys, moving from left to right as you go up the keyboard. With mono output the stereo image will always be centered regardless of which keys are pressed.

### 4.2.6. Pickup Distance

The distance of the pickups from the tines has an effect on its output level and a slight impact on its tone.

#### **4.2.7. Pickup Alignment**

The alignment of the pickups has a significant effect on the overall tone of the instrument. As the pickups move further off-axis they are able to reproduce more of the fundamental frequencies of each note, resulting in a richer tone.

#### **4.2.8. Damper Duration**

This parameter controls the distance of the dampers from the tines, which affects how quickly a tine will stop vibrating after a key is released.

#### **4.2.9. Noise Gate**

While turned on, pickup noise will only be present while a key is held down. While turned off, pickup noise will be present at all times.

#### **4.2.10. Pickup Noise**

Controls the volume of noise in the pickups.

#### **4.2.11. Hammer Noise**

This parameter controls the relative level of noise generated by the hammers when they strike the tines. The combined use of this and the Hammer hardness parameter can result in a tone completely devoid of hammer noise or completely dominated by it.

#### **4.2.12. Tine Noise**

Adds a bright, bell-like resonance to the tines when keys are pressed.

#### **4.2.13. Damper Noise**

Adds the noise of the damper falling on the tines when keys are released.

#### **4.2.14. Dynamics**

This parameter models what happens when the hammers are moved closer to or farther from the tines. The closer they are to the tines, the less dynamic range there will be.

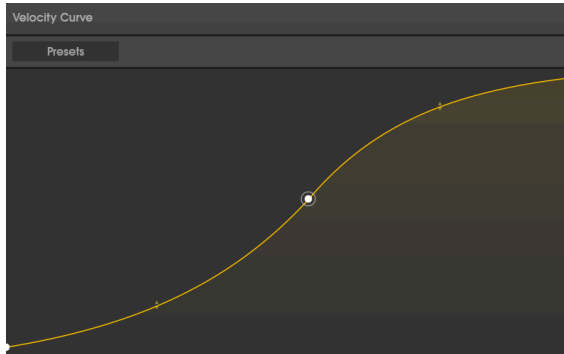
This has almost a compressor-like effect, as notes played softly will be relatively loud and their overtones will be heard more clearly.

#### **4.2.15. Tonebar Resonance**

This parameter adjusts the sustain time of the tines by simulating changes in the characteristics of the metal tone bars. A more resonant tine will sustain longer, while a less resonant tine will not sustain as long.

## 4.2.16. Velocity Curve

The Velocity Curve panel allows you to adjust how the software responds to incoming MIDI velocity, or how hard you press the keys.



As notes are played on the keyboard, you will see a yellow dot light up along the graph indicating the velocity at which each note was played. The height represents the amplitude at that particular MIDI velocity.

A number of preset curves are provided and you can easily create your own.

### 4.2.16.1. Curve Presets menu

Click this menu to access factory and user velocity curves along with several edit options.

- Select a preset from the list to load it.
- If you have edited a velocity curve and would like to save it, click the Save or Save As option in the menu and give the preset a name. Once saved, the preset will appear in the Presets menu for later use.
- To delete a user preset, click the X next to the Preset name and confirm that you would like to delete it. Note that only user-created presets can be deleted.

### 4.2.16.2. Editing a velocity curve

Think of the editor window as an X/Y grid, with the Velocity value along the X axis and Amplitude along the Y axis. Each velocity curve can have up to 16 points and segments between points can be curved.

- Click anywhere on the graph to create a segment point.
- Left-click a point to remove it.
- Click and drag a point to move it to a different location.
- Click and drag the up/down arrows between points to adjust the curvature of the segment.
- If you go a little wild, don't worry! Just click the **Preset** button and select one of the presets to load one of the factory curves.



## 4.3. FX Panel

Stage-73 V2 features an updated FX section, which now houses the effects pedals, amplifier and room convolution reverb. The FX section can be accessed by clicking the **FX** button located on the upper toolbar.



There are four slots for creating your own custom configuration of FX modules, followed by a fixed amplifier and room reverb.

There are three global controls at the top of the FX section:

- **In Gain** adjusts the volume of the signal sent into the chain. Be careful when using the In Gain knob after you've created an effects chain containing compressors and limiters, as this may affect the dynamics of the sound.
- **Out Gain** adjusts the volume of the processed sound.
- **Bypass** disables the effects, amp and room so that you are only hearing the unprocessed sound from the instrument. This can be useful if you intend to process the sound with other types of amplification or effects in your DAW.

To disable a module in the chain, click the **power** button at the top of the corresponding module. When disabled, the module will be bypassed and will have no effect on the sound. To enable a module, click the power button again.

You can save and recall presets for effects, amplifier, or room reverb by clicking on the library button at the top of the corresponding module.

### 4.3.1. Effects

Let's first look at the effects pedal section. Here you can add up to four different effects pedals to shape the sound. You can place as many or as few effects as you need in the four slots and effects slots can remain empty.



To load an effect, click the + button in the middle of the slot and select from one of the 13 available effects pedals. Alternatively, you can click the menu at the top of the fx slot and you will be presented with the same menu of effects.

To change an effect pedal position in the signal chain, hover over the body of the pedal until the cursor changes to a hand icon then click and drag it to a different slot. If there is an effect already loaded in the target slot, it will swap positions with the one you drag on top of it.

Let's now look at the various types of available effects pedals.

#### 4.3.1.1. Chorus pedal



Chorus works by taking an audio signal and mixing it with one or more delayed and pitch-modulated copies of itself, making the sounds harmonically richer and adding a sense of movement and space.

This effect can be observed in live vocal choirs where multiple singers perform the same melodic line which, due to small differences in each performer's timing and pitch, creates a thicker, moving sound.

Control	Description
LFO Freq	Controls the frequency of the LFO that will modulate the delayed signal to produce the effect.
Depth	Sets the depth of the modulation applied by the LFO.
Feedback	Adds feedback to the chorus, to achieve a harsher or ringing tone.
Delay	Controls the amount of delay applied to the signal. The more delay, the deeper the chorus effect.
Voices	Sets the number of 'voices' (delay lines) the effect will use, with a different starting phase for each voice, to achieve a higher chorus density.
Stereo	Switches the Chorus output between mono and stereo.
Shape	Lets you choose the wave shape of the modulating LFO.
Dry/Wet	Controls the balance between processed and unprocessed sound.

#### 4.3.1.2. Flanger pedal



The Flanger works by mixing identical copies of the input signal, with one signal delayed by a small and gradually changing amount of time. While the Chorus works with longer delay times, the Flanger uses much shorter delay times which produces a characteristic undulating swept comb filter effect.

Control	Description
LFO Freq	Controls the frequency of the LFO that will modulate the delayed signal to produce the effect.
Depth	Sets the depth of the modulation applied by the LFO.
Feedback	Adds feedback to the flanger signal, to achieve a harsher or ringing tone.
Stereo	Switches the Flanger output between mono and stereo.
Phase Invert	Inverts the phase of the flanger signal to create effect variations through phase cancellations.
LP Filter	Filters the frequencies above the cutoff point, to achieve a more muted sound.
HP Filter	Filters the frequencies below the cutoff point to achieve a brighter, less boomy sound.
Dry/Wet	Controls the balance between processed and unprocessed sound.

#### 4.3.1.3. Compressor pedal



A Compressor reduces the volume of the audio signal above a defined threshold which has the effect of smoothing out volume differences between loud and quiet sections. By making the louder sections quieter, this allows you to apply additional gain to the signal to make the quieter sections louder. The Compressor is a very useful tool for creating a more balanced sound that sits well in a mix.

Control	Description
Threshold	Sets the level above which volume compression will be applied to the sound.
Ratio	Sets the amount of compression. Higher values mean more compression/gain reduction. For example, a ratio of 5 means that for every 5db of volume above the Threshold, the signal will only go up by 1db.
Attack	Sets the time it takes for the compressor to reach the maximum compression once Threshold is reached.
Release	Sets the time it takes for the compression to return to zero once the audio volume falls below the Threshold.
Out Gain	Manual volume gain (make up) amplification to compensate for the reduction due to compression.
Make Up	Turns automatic gain (make up) compensation on and off.
Dry/Wet	Controls the balance between processed and unprocessed sound.

#### 4.3.1.4. Analog Phaser pedal



Phasing is the psychedelic sweeping effect that was popular in the 1960s and 70s and adds a sense of movement and swirling to the sound. It works by creating a copy of the input signal, feeding it through a series of all pass filters which create peaks and valleys in the frequency spectrum, then mixing it back with the original signal. As the all pass filters are modulated, frequencies that are out of phase cancel each other, producing the phaser's characteristic "whoosh" sweeping effect.

Control	Description
Rate	Controls the speed of the LFO that will modulate the phasing effect.
Depth	Controls the amount of modulation applied by the LFO.
Feedback	Controls the amount of phase resonance by adding feedback to the signal.
Poles	Determines the steepness (number of poles) of the all-pass filters that will process the modulation signal.
Sync	Synchronizes the modulation speed to the internal tempo, or your DAW's tempo when using as a plug-in.
Mono/ Stereo	Determines whether the output from the pedal will be stereo or mono.
Dry/Wet	Controls the balance between processed and unprocessed sound.

#### 4.3.1.5. Delay pedal



Delay adds dimension and spaciousness to the signal, by creating echoes that can be spread over the stereo image. When using longer delay times, this can also add a rhythmic quality to the sound, especially when working with sounds that have a more pronounced attack.

Control	Description
Time	Controls the time the delayed line will sound after the original signal. May be tempo-synced.
Feedback	Adjusts how many times the delayed line will repeat (more feedback, more delay lines).
Stereo	Controls the stereo spread of the signal. At the lowest value, the signal will be mono.
Sync	Synchronizes the delay time to the internal tempo, or your DAW's tempo when running as a plug-in. When synced, the Time value will then display values in note format.
Ping Pong	In ping-pong mode, delay lines will alternate between left and right in the stereo field.
LP Filter	Filters the frequencies above the cutoff point to achieve a more muted sound.
HP Filter	Filters the frequencies below the cutoff point to achieve a brighter, less boomy sound.
Dry/Wet	Controls the balance between processed and unprocessed sound.

#### 4.3.1.6. Distortion pedal



This pedal offers 4 different types of distortion, ranging from subtle drive, crunch and grit to extreme distortion, fuzz and bitcrushing.

Use the left and right arrows to select one of the 4 distortion types. Each type will have its own associated controls below.

**Bitcrusher:** This effect distorts the sound by reducing the number of bits used to define the waveform. The less bits used, the more the signal is degraded and distorted. Downsampling is another way of inducing distortion. As the sample rate is reduced, aliasing is introduced to the sound, creating "ghost partials" in the spectrum.

Control	Description
Bit Depth	Reduces the number of bits used to represent the waveform.
Downsampling	Reduces the sample-rate of the input signal.
Dry/Wet	Controls the balance between processed and unprocessed sound.



**Overdrive:** The Overdrive effect is well known by guitar players and adds a "fuzziness" to the sound. This effect is modelled after a solid-state circuit.

Control	Description
Drive	Controls the distortion intensity.
Out Gain	Controls the volume of the processed signal output.
Tone	Controls the brightness of the resulting signal.
Dry/Wet	Controls the balance between processed and unprocessed sound.

**Wavefolder:** This is a type of distortion effect where the signal is amplified until it clips, then the peaks above the clip point are folded downward. Usually, this type of distortion enriches the spectrum with high-frequency content and can produce complex frequencies out of simple waveforms.

Control	Description
Drive	Controls the distortion intensity.
Out Gain	Controls the volume of the processed signal output.
Type	Controls the shape of the wavefolding. Hard produces more distortion.
Dry/Wet	Controls the balance between processed and unprocessed sound.

**Waveshaper:** This distortion effect applies a mathematical shaping function to the input signal to produce a modified output. The result may be anything between subtle overdrive to pure noise.

Control	Description
Drive	Controls the distortion intensity.
Out Gain	Controls the volume of the processed signal output.
Dry/Wet	Controls the balance between processed and unprocessed sound.

#### 4.3.1.7. Equalizer pedal



An equalizer is a bank of filters where each filter works in a specific band of the frequency spectrum, boosting or cutting those frequencies to change the overall spectrum balance. It can be used for subtle tone adjustments, or for accentuating certain bands to allow them to cut through the mix.

The Equalizer has three bands - a shelf in the low region (Low Shelf), a bell in the middle (Peak), and a shelf in the high region (High Shelf).

Each band features a gain control and a frequency control.

The mid band also features a Q (bandwidth) control, which allows you to specify the width of the cut or boost to mid frequencies. Small values can be used for a more surgical cut or boost, while larger values affect more frequencies around the cut-off (center) frequency.

<b>Control</b>	<b>Description</b>
Low Shelf Gain	Controls the gain/attenuation (between -15 dB and 15 dB) of the Low Shelf band.
Low Shelf Frequency	Controls the shelf frequency of the Low Shelf band (between 50 Hz and 500 Hz).
Peak Gain	Controls the gain/attenuation (between -15 dB and 15 dB) of the Peak band.
Peak Frequency	Controls the peak frequency of the Peak band (between 40 Hz and 20 kHz).
Peak Q	Controls the Q (bandwidth) of the Peak band (between 0.001 and 15.0).
High Shelf Gain	Controls the gain/attenuation (between -15 dB and 15 dB) of the High Shelf band.
High Shelf Frequency	Controls the shelf frequency of the High Shelf band (between 1 kHz and 10 kHz).
Scale	Controls the depth of the equalization effect.

#### 4.3.1.8. Reverb pedal



The Reverb pedal allows you to place the sound in a virtual space. This is an algorithmic Reverb, unlike the Room module at the end of the effects chain which is convolution-based. However, this Reverb can be placed anywhere in the signal chain, so that other effects can be applied to the sound after it has been processed by the reverb.

Control	Description
Pre Delay	Controls the time between the original signal and the first echoes (early reflections).
Size	Controls the size of the room or space (basically, the reverb 'body'). The bigger the size, the more reverb that's added.
Decay	Controls the length of the reverb effect. Should be articulated with the Damping parameter for a more realistic effect.
Damping	In a room, this parameter defines the absorption coefficient of the reflection surfaces. The higher the damping, the faster high frequencies will decay.
M/S	Adjusts the stereo wideness of the effect, from mono to an increasingly wide stereo image. Takes advantage of Mid/Side processing.
LP Filter	Filters the frequencies above the cutoff point to achieve a more muted sound.
HP Filter	Filters the frequencies below the cutoff point to achieve a brighter, less boomy sound.
Dry/Wet	Controls the balance between processed and unprocessed sound.

#### 4.3.1.9. Stereo Pan pedal



The Stereo Pan pedal can be used to add stereo motion to the sound. It uses an LFO (low frequency oscillator) to bounce the sound between the left and right channel to create a sense of movement.

Control	Description
Rate	Controls the speed of the LFO. Can be synced to internal tempo, or your DAW's tempo when running as a plug-in.
Shape	Defines the shape of the LFO. Available options are Sine, Triangle, Saw, Ramp, and Square.
Sync	Synchronizes the cycle of the LFO to the internal tempo, or your DAW's tempo when running as a plug-in.
LP Mono	When set to On, the low frequencies are not modulated by the effect.
Dry/Wet	Controls the balance between processed and unprocessed sound.

#### 4.3.1.10. Analog Delay pedal



Analog Delay is another type of delay pedal with a slightly different sound. The principle is the same - the input audio is recorded and played back after a small amount of time. A feedback circuit then introduces more copies of the delayed audio back into the original signal.

This particular delay pedal is great for more dubby sounds with lots of feedback. Since this delay is modeled after analog hardware, it will introduce more coloration than the other Delay pedal options.

Control	Description
Time	Specifies the time interval between the original and delayed signal. May be synced to internal tempo, or your DAW's tempo.
Feedback	Adjusts how many times the delayed line will repeat (more feedback, more delay lines).
Sync	Synchronizes the delay times to the internal tempo, or your DAW's tempo when running as a plug-in.
Feedback Tone	Controls the tone (brightness) of the resulting feedback delays.
Rate	Controls the rate of the LFO modulation source. When Sync is on, the rate is synced to the internal tempo, or your DAW's tempo when running as a plug-in, and is expressed in note values.
Depth	Controls the amount of modulation.
Dry/Wet	Controls the balance between processed and unprocessed sound.

#### 4.3.1.11. Limiter pedal



The Limiter is a type of compressor that serves a very specific purpose. It essentially works as a volume “ceiling” to prevent the signal from going above a certain volume. This is especially useful when working with sounds with a wide dynamic range and many effects that could potentially cause the signal to clip and result in clicks and pops.

Control	Description
Input Gain	Controls the amount of gain added to the input signal. The VU Meter gives a visual reference of the current volume.
Release	Controls the time it takes for the audio to recover from limiting.
Output Level	Controls the output gain, after limiting.
Dry/Wet	Controls the balance between processed and unprocessed sound.



#### 4.3.1.12. Tape Echo pedal



The Tape Echo pedal is a recreation of a famous tape echo unit from the 70s and 80s, which worked by recording snippets of the input audio onto magnetic tape, then playing them back with a delay. Due to the nature of magnetic tape, this imparts a natural tape saturation effect to the delays.

Control	Description
Bass	Controls the volume of low frequencies.
Treble	Controls the volume of high frequencies.
Time	Specifies the time interval between the original and delayed echo signal. May be tempo-synced.
Sync	Synchronizes the echo times to the internal tempo, or your DAW's tempo when running as a plugin.
Intensity	Controls the number of echoes that are produced and, therefore, the intensity of the effect.
Input	Controls the volume of the input signal.
Echo	Controls the volume of the echo signal.
Dry/Wet	Controls the balance between processed and unprocessed sound.

#### 4.3.1.13. Cry Wah pedal



The Cry Wah is a pedal that sweeps a resonant peak filter frequency, either manually or automatically, to create a “wah-wah” effect that was especially popular in funk music. Because the filter range corresponds to the formants produced by the human voice, it gives an expressive talking or crying quality, hence the name “wah-wah”.

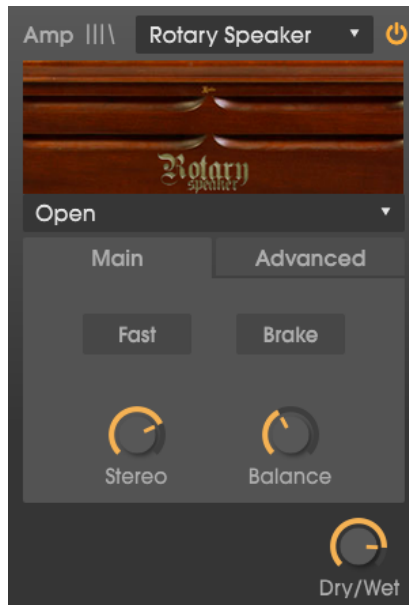
Control	Description
Manual	Sets the baseline frequency for the resonant filter. When Rate and Sens knobs are set to their minimum position, the Manual knob can be used to manually control the frequency sweep, like a classic guitar wah pedal.
Sens	Sets the volume threshold below which the wah effect will be engaged. For immediate effect, set this knob to its minimum position.
Rate	Sets the rate of the LFO that automatically modulates the filter frequency. To bypass modulation, set this knob to its minimum position.
Depth	Sets the range of filter frequency modulation, starting from the baseline frequency specified by the Manual knob.
Dry/Wet	Controls the balance between processed and unprocessed sound.

### 4.3.2. Amp

Following the effects pedal slots is the Amplifier. This is a fixed module and cannot be reordered in the signal chain. There are two available types of amps - a rotary speaker, as well as a model of a popular twin amp. Each amplifier type has its own unique sound and features.

You can select the desired amplifier from the menu at the top.

#### 4.3.2.1. The Rotary Speaker



Rotary speaker cabinets were invented by Donald Leslie in 1940. They became inseparable add-ons to the Hammond organ, to the point of being almost impossible to see one without the other, but have also been used with many other types of instruments due to their distinct swirling sound character.

The Leslie expressiveness was largely due to the independently rotating speaker elements inside the cabinet - a horn (for higher frequencies) and drum (for lower frequencies) - which could rotate at variable speeds to produce the characteristic swirling effect that greatly contributed to the fame of the Hammond organs.

The Leslie 122 cabinet was the most popular and was designed specifically for the Hammond. Later, Leslie created the Leslie 147 which was intended to be a "universal" cabinet to be used with any organ.

- The pull-down menu allows you to switch among different types of cabinet models - **Closed**, **Open**, **122 Closed**, **122 Open**, **147 Open**. Each option gives a subtle variation on the sound.

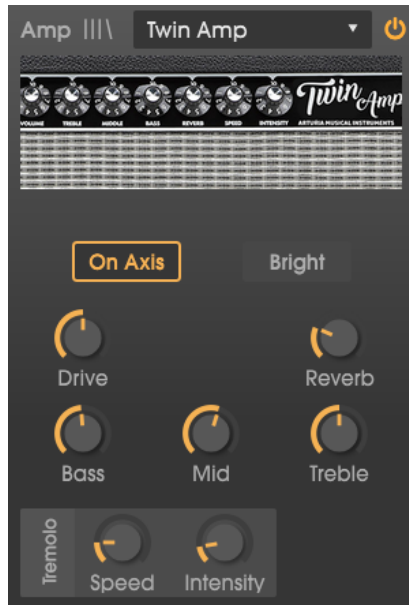
- **Fast** switch controls whether the horn and drum rotate at slow or fast speeds. In the off position, the speaker elements will rotate at their slow rate, specified by the Horn Slow and Drum Slow settings in the Advanced tab. In the on position, the speaker elements will rotate at a fast rate, specified by the Horn Fast and Drum Fast knobs in the Advanced tab.
- **Brake** switch controls whether the rotary speaker is moving or not. When toggled on, speaker rotation will stop. When toggled off, speaker rotation will resume based on the position of the other rotation settings in this panel.
- **Stereo** controls the amount of stereo spacing between the two elements. Turned hard left, the sound is more mono and to the right it becomes wider.
- **Balance** lets you set the mixture between the horn and drum sound for a more muted or brighter effect.
- **Dry / Wet** adjusts the blend of the direct "dry" sound (post pedal effects) and the "wet" sound through the rotary speaker. Turn up this knob to hear more of the rotary speaker effect.

There are a few additional settings in the Advanced tab:



- **Horn Slow** and **Drum Slow** knobs specify the rotation speed of each element when the Fast switch is in the off (slow) position. The slow rotation range is 0.100Hz to 2Hz.
- **Horn Fast** and **Drum Fast** knobs specify the rotation speed of each element when the Fast switch is in the on (fast) position. The fast rotation range is 2Hz to 8Hz.
- **Horn Acceleration** and **Drum Acceleration** knobs control how quickly the speed changes when switching from slow to fast, or when using the Brake. At low settings, it will take longer for the speed to change. At high settings, the speed change will happen quicker.

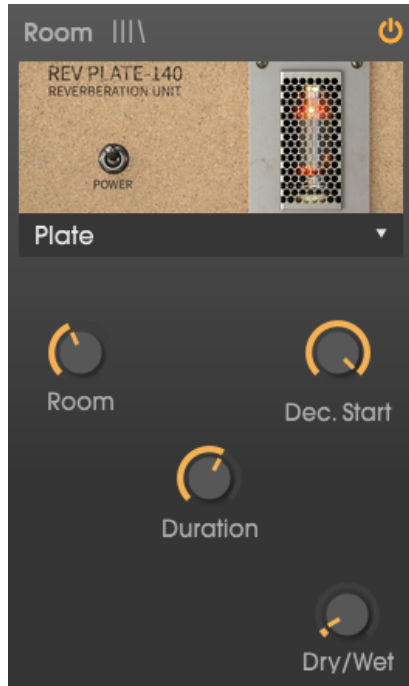
#### 4.3.2.2. Twin Amp



This amplifier is modelled after a famous guitar amp to give you even more options for achieving your desired tone. Twin Amp models all of the characteristics and features of the original amp, including Tremolo as well as two microphone placement positions.

- **On Axis** chooses whether the virtual microphone capturing sound from the speaker is placed on axis (pointing straight at the speaker) or off axis (pointing at an angle). This will give a slightly different tone to the sound, with on axis resulting in a brighter, more present tone.
- **Bright** switch accentuates the higher frequencies of the sound, adding sheen and sparkle to the tone.
- **Drive** knob controls an additional preamp stage that adds overdrive and saturation to the sound.
- **Bass / Mid / Treble** knobs adjust the volumes of the corresponding EQ bands.
- **Reverb** knob lets you dial in reverberation amount. Twin Amp uses a modelled spring reverb.
- **Speed** controls the speed of the Tremolo effect.
- **Intensity** knob controls the intensity of the Tremolo effect.

### 4.3.3. Room



The last processor in the effects signal chain is the Room, a high-quality convolution reverb processor. This too is a fixed module and cannot be reordered in the chain. Convolution reverb works differently than algorithmic reverb - instead of simulating a virtual room and how a sound reverberates in it via algorithmic calculations, convolution uses impulse responses sampled from real spaces and hardware units. These impulse responses capture reverberation characteristics such as frequency response and decay of the given space into a sonic "signature". The convolution processor then allows you to "convolve" your sound with this signature to imprint its reverberation characteristics onto your own sound.

The menu at the top allows you to pick from 9 different types of convolution reverb, ranging from concert halls and studios to vintage plate and spring reverb hardware.

There are four controls which allow you to further shape the character of the reverb:

- **Room** controls the size and tone of the space. A larger space will usually sound darker.
- **Duration** controls the duration of the reverb tail.
- **Decay Start** controls when the reverberated sound starts fading out.
- **Dry / Wet** controls the mix amount of dry and reverberated signals.

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