STAGEBOX

v1.1.1

Contents:

1 Introduction

Welcome to StageBox, the streamlined, easy to use plugin host for keyboard performers. If there is anything you need to know which is not in this manual please reach out to info@stageboxsoftware.com. You can also find tutorial videos here: https://www.youtube.com/@stagebox_software
Enjoy!

2 Installation

You can demo or purchase StageBox from Tracktion.com.

Once you have created an account with Tracktion, you will be able to access StageBox installers for Mac and Windows from your Downloads section. After running the installer you can launch StageBox!

The first time you do this, you will be asked to enter your account details in order to unlock the software. An internet connection is needed for this process, but once activated, no internet connection is needed. A scan of your installed plug-ins is required in order to use them within StageBox, and so you are prompted to do this the first time you run the application. You can scan for VST3s, AUs, or both. How long this process takes will depend on how many plug-ins you have installed on your system.

> **Tip:** scanning for both types of plugins will mean that both the VST3 and AU versions will show up one after the other in the plug-in list, and this can make the dropdown menus cumbersome, so I suggest that you scan for *either* VST3 *or* AU.

Once the plug-in scan is done, you will need to select an audio interface to use for your output, and also select a sample rate and buffer size to use.

I usually use 48k unless there's a good reason not to. Using higher sample rates can mean less overall latency in the system, but at the expense of higher DSP use.

Lower buffer sizes will mean lower overall system latency, but at the expense of higher DSP usage.

Tip: A buffer size of 128 should give an overall system response that is in the same order as a hardware keyboard / synth.

If you now hit Done, and connect a midi keyboard, you will be able to use StageBox! (further details about all the various settings parameters are in the Settings in Detail chapter.)

3 Overview

Once installation is complete, and the plugin and audio settings have been made as in the previous chapter, you will see the main StageBox interface, and a default Song 1 will have been created:

The main interface has four sections:

> **Global** - the bar along the top which contains file management, Perform Mode, and All Notes Off.
>
> **Setlist** - which shows any Songs you have created.
>
> **Song** - which shows information relating to the whole Song.
>
> **Sound** - which shows information about individual Sounds that are a part of a Song.

Let's look at these in reverse order (counter intuitive I know… but I think it will make sense!)

3.1 Sound

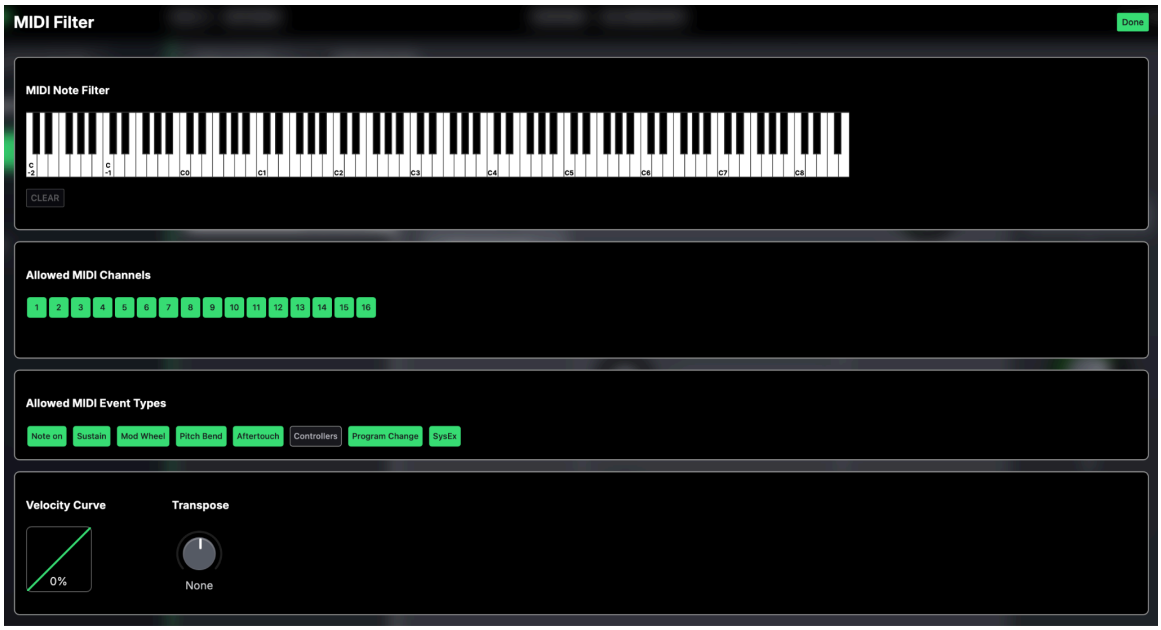
This lighter grey area shows the plugins and routing used for an individual Sound. The first thing in the Sound area is the MIDI Input button. This also has a MIDI activity indicator.

By default it is set to "All MIDI" which means that this Sound will respond to MIDI data from any connected MIDI device. Pressing the button will show a drop down menu of connected and enabled MIDI controllers. You can select from this list in order to 'link' a specific MIDI controller to a Sound. (Please also see the section on Virtual MIDI inputs)

> **Tip:** If you wanted to have two controller keyboards connected and use one controller for one Sound and another controller for a different Sound, you would just create the two sounds, and assign a different MIDI controller to each sound. You can have as many MIDI controllers as you like!

Next to the MIDI input button is the MIDI options button, which also has a MIDI activity indicator. Using the two activity indicators together can help to trouble shoot in complex setups where you might have a combination of different controllers, channels and zones.

Pressing this will open a floating window with MIDI options and filters for this Sound.



You can drag over a selection of notes on the keyboard graphic in order to select a zone or key range for this Sound.

> **Tip:** If you want to create layered Sounds, you don't need to adjust this MIDI note filter, since you want multiple Sounds to respond to the same Note input. If you wanted to create a "split" setup, you would just select (for example) a low range of notes on one Sound and (for example) a high range of notes on another Sound.

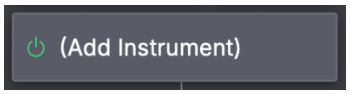
By default all MIDI channels are allowed, but you can turn channels off by clicking the relevant green channel buttons.
Allowing of Note, Sustain, Mod wheel, Pitch Bend, Aftertouch, Controllers, Program Change and Sysex can be done by selecting the relevant button.
By default, Controllers is set to Off, and this is explained in the MIDI Mapping chapter.

The velocity curve of the Sound can be changed by dragging the green velocity curve, and the MIDI input for the Sound can be transposed using the Transpose value.

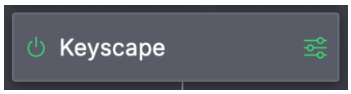
> **Tip:** you can double click on a knob to reset to its default value, or double click on the value field to enter a specific text value.

You can leave the MIDI options window by either clicking Done at the top, or by clicking anywhere in the blurry background area.

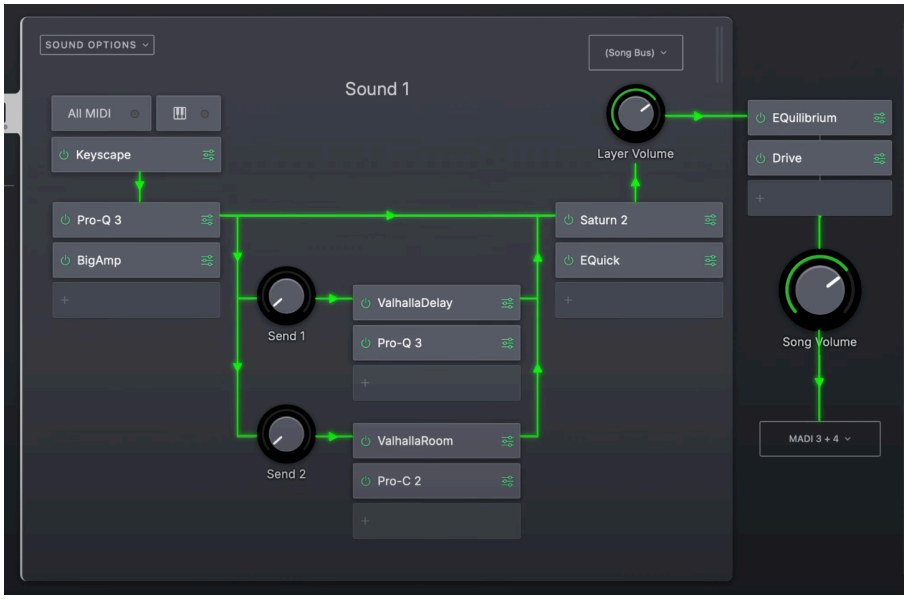
Below the MIDI input and MIDI options buttons is the Instrument slot. By default this will say “Add Instrument”



Clicking here will show a dropdown of installed plugins listed by manufacturer. Once an instrument is added, the instrument name will be displayed with a bypass button and an ‘open plugin window’ icon.



The arrows show the audio signal flow of the Sound (highlighted green here)



The audio from the instrument flows to the first set of Inserts. 3 FX are allowed in this section.

Then the audio goes to two sets of Send FX (which are identical to the Insert FX, but allow for a signal to be sent in parallel rather than in serial - this is useful for things like reverbs and delays). Three FX are allowed per send.

After the send FX, three more Insert FX are allowed. This enables you to add FX after your reverb sends, and finally the audio goes to a volume adjustment for the Sound, and then out of the *Sound* section, and into the *Song* section. The insert FX in the Song area processes *all* Sounds within that Song.

By default, the audio from a Sound will go to the 'Song Bus'. This just means that the audio is processed though the Song Insert FX and routed to whatever output is selected as the main Song output (please see Song section). However, it can sometimes be useful to send the audio from individual Sounds within a Song to separate audio outputs, and you can do this by selecting a different output above the Song Volume. . .

. . . and in doing so the audio 'arrow' will now show that it goes directly from the Sound volume adjustment to the selected audio interface output, and does NOT go through the Song processing FX or Song volume.

> **Tip:** You will notice there is also an option to send the audio to the same output as selected for the Song output, but *not* have it go through the 'Song Bus'. This allows you to send a Sounds audio output directly to the 'main' output, but *without* going through the Song FX processing.

Under the Sound Options button you will see that you can Copy the Sound to the clipboard. Once Copied, there are also options to "Paste as Duplicate" if you are in the

same song, or “Paste a Shared Copy” if you are in a different Song. Please see Shared Instances
You can also Duplicate or Remove a Sound from this menu.

The tabs to the left of the Sound area show the different Sounds within a Song, and you can navigate to each Sound by clicking on the relevant tab. This will then show all MIDI settings, Inserts, Sends and volumes for that Sound.

Audio Mute and Solo buttons for each sound are also on this tab, as well as a MIDI input mute for the Sound, and a level meter. Double clicking the text field in the tab allows you to rename the Sound.
Hitting the “+” icon lets you add a new Sound to the Song.

> **Tip:** Mapping a MIDI controller the MIDI input mutes can be a really useful way to set up a ‘mega patch’, where several Sounds are active in a Song, but can be brought in and out of the performance using the mapped MIDI mutes. You can also do this by mapping the Sound volumes, but depending on the performance situation, MIDI mutes might be more useful.

Important note about MIDI FX Plugins

If you want to use a MIDI FX plugin such as an arpeggiator, this needs to be placed in the ‘Instrument’ slot, and then the Instrument that will be controlled by the MIDI FX plugin needs to be placed in the first ‘Insert FX’ slot below it

3.2 Song

The Darker grey Song area contains all the information that is related to the whole Song; for example, FX processing that happens in the Song section will affect all Sounds within that Song. Inserting FX at the Song level is done in the same way as in the Sound area. The output selection under ‘Song Volume’ is a global setting. Changing it will affect all songs in the setlist.

You can change the tempo for each Song in the tempo field. This will make any tempo based FX or delays clock at a specific rate. You can also click where it says “BPM / Tap” in order to tap a tempo into this field. (Please see the section on Global MIDI mappings to learn how to map a controller button to this parameter.)

Under “Song Options” you will see options to Create a New Song, Duplicate the Song with Shared Instances (please see the section on Shared Instances), Duplicate the Song with Independent Copies, and Export the Song.

Exporting a Song will create a file with all Sounds, FX and MIDI mappings for that Song, which can be imported into another Project if desired.

> **Tip:** Creating and Exporting Songs can be an efficient way to make templates for often used Songs and Sounds, with all relevant MIDI mapping data and FX included!

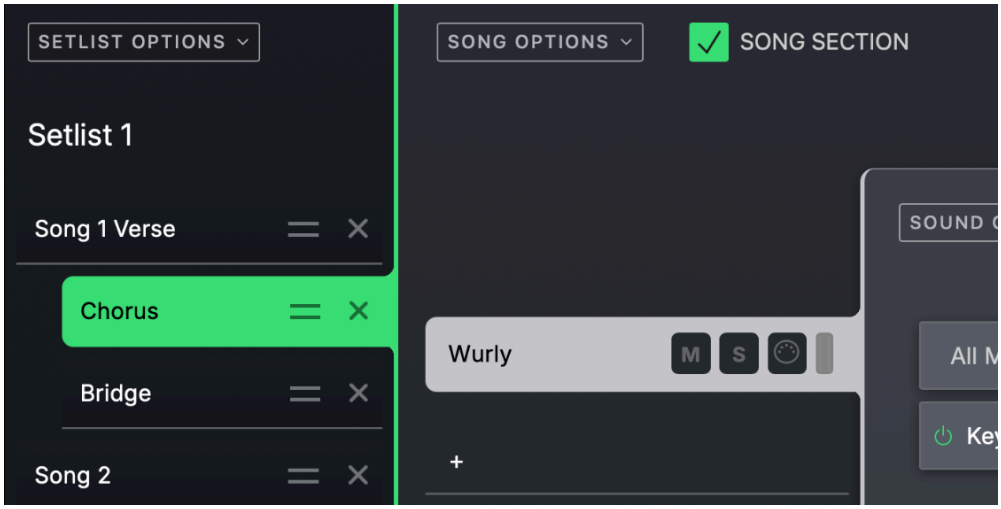
Also in this menu you will see options to Remove or Delete the Song.

Removing a Song will just remove the Song from the current Setlist, but leave it in the Project for use in other Setlists. *Deleting* a Song will delete it from the Project, and free up any DSP it was using.

On the right of the Song section are the level meters.These turn yellow when the level reaches -12 dBFs, and turn red when they get to -3 dBFs. In general, keeping the levels in the green (ie less than -12 dBFs) means you always have plenty of headroom.

Song Sections

The Song Section button can be used to organise Songs into groups or parts.



In the example above, there are effectively three Songs, but the Chorus and Bridge ‘songs’ have the Song Section button ticked. Doing this will display those ‘songs’ with a small indent. As far as StageBox is concerned, they are still individual Songs that can be navigated through in the usual way, but from a user perspective, when you reorder the Songs, you will only have to drag the top level Song around, and the ‘sections’ will follow. This just makes it slightly easier to organise Setlists which contain Songs with multiple Sections such as Verse / Chorus / Bridge.

There is an option to assign a MIDI program change number to a Song. You can do this by clicking the PGM Change button and selecting a number from the dropdown menu.

> **Tip:** This can be useful in situations where a ‘master playback rig’ is being used (maybe for backing tracks) and you want that master rig to be able to select Songs in the StageBox rig automatically.

You may find that when selecting a Song with a MIDI program change that the preset on a plug-in in that Song changes. This is because some plug-ins allow MIDI program change messages to change their presets by default. If you can’t turn this functionality off within the plug-in itself, you can filter MIDI program change messages from the affected Sound by changing the “Allowed MIDI events” settings. Please see the Sound section.

The MIDI mapping button is in the Song section, but please see the separate chapter on MIDI mapping for details.

3.3 Setlist

The Setlist on the left shows all the Songs in the current Setlist. By default, any newly created Song is added to the current Setlist. You can reorder the Songs by dragging them up and down using the double line grabber icon. You can remove a Song from the Setlist by clicking the “X” icon. (Note, this will remove the Song from the Setlist, but NOT from the Project.) Double clicking the Song field allows you to rename the Song.

Under “Setlist Options” you are able to create alternate setlists, which can be the same Songs in a different order, or just a smaller selection of Songs in the Project. Once an alternate Setlist is created, you will see it appear in the dropdown list of available Setlists.

The “All Songs” Setlist will always display all the Songs in the current Project.

Clicking the “+” icon in the Setlist will create a New Song.

The Up / Down arrows in the Setlist can be used to navigate through the Setlist, and these actions are also assigned to the Up/Down and Left/Right arrows on your computer keyboard.

(Please see the section on Global MIDI mappings to learn how to map a controller button to these parameters)

> **Tip:** It’s important to understand that removing a Song from a Setlist will not remove it from the Project, and so it will still use system resources even though it may not be in the current Setlist. Alt Setlists are designed to be used mainly for situations where the same songs might be played in a different order, rather than a repository for all the Sounds and Songs you might create.

3.4 Global

The bar along the top of the interface shows the current Project name, the File Management options, Settings Menu, Perform Mode, All Notes Off and current DSP use.

All Notes Off

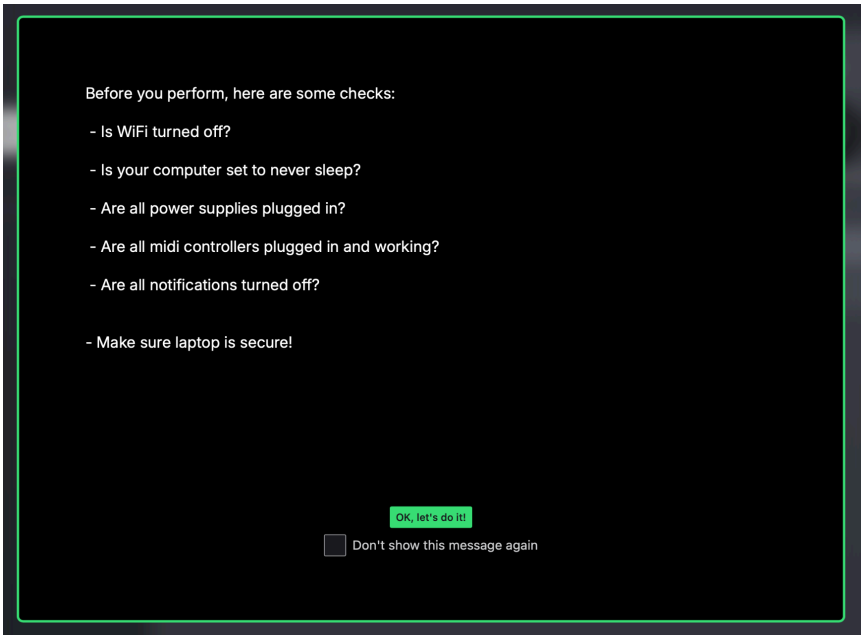
Clicking this just sends a note off message to all instruments.

Perform Mode

Clicking this button will hide all the plugin and audio routing graphics and only show the Setlist, Song name, and Tap Tempo. Once in Perform Mode, you can return to the main interface by clicking “Edit Mode”.

> **Tip:** A user editable text field is also displayed under the Song name in Perform Mode, and this can be useful to add notes about the Song!

When entering Perform Mode, you will see that a “pre performance checklist” appears. This allows you to make a list of anything you might want to be sure of before a gig! Just double click the text list in order to customise it for your own use. If you don’t need this, just click “Don't show this again”. If you change your mind you can re-enable the checklist in Settings.



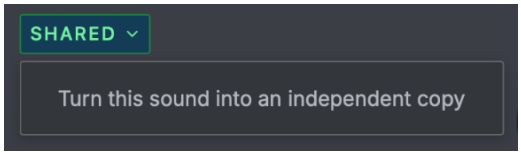
4 Shared Instances

Shared Instances can be really useful if you want to use the same Sound multiple times in a Setlist, and can also help to reduce RAM usage if you are using instruments with large sample sets.

There are two ways to create a Shared Instance of a Sound.

1 - In the Song Menu, “Duplicate with Shared Instances” - this will create Shared Instances of any Sounds within that Song.
2 - Copy a Sound, and then “Paste as Shared Instance” into a new Song.

When a Shared Instance is used, any resources associated with that Sound are shared between the Songs. This includes the Instrument and any FX and Sends that are part of that Sound. It’s also important to know that changing any parameter of a Shared Sound will also change that same parameter in any other instance of that Shared Sound within the Setlist. If you do NOT want this to happen, you first need to “un-share’ any instances that you don't want to be adjusted, and this is done by clicking on the “Shared” button and selecting “Turn this sound into an independent copy”



Tip: Shared Instances can be really useful if you have, for example, a main piano sound that you want to use in multiple Songs in a Setlist. Just use Shared Instances of the piano sound in all your Songs, and only use the resources (DSP and RAM) of one song! If at some point you decide that the piano sound needs tweaking, you can just make the tweak in any of the Shared Instances of that piano sound, and that tweak will be reflected in any other Song that uses the Shared piano sound.

Tip: When Duplicating a Song with Shared Instances, the Sounds within that Song are created as Shared Instances. If you do NOT want them to be Shared, you can "Duplicate with Independent Copies”. This will create independent copies of all Sounds within a Song

5 MIDI Mapping

MIDI mapping is an important part of StageBox, and there are some features that make it particularly suited to Live performance.

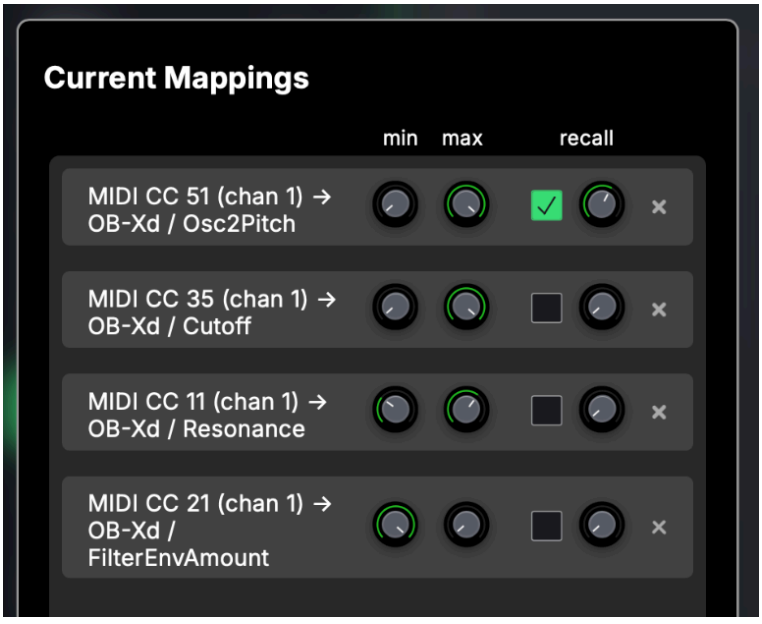
You can map a physical MIDI controller to any parameter in StageBox by clicking the MIDI Map button at the bottom of the Song area. This will open a floating window with all the MIDI mapping parameters.

- Move the controller you want to use
- Move the StageBox parameter or plugin parameter that you want to map
- Click Add Mapping
- Click Done

Now you should see that the physical controller has been mapped to the software parameter!

> **Tip:** the parameter wont follow the physical MIDI controllers until you hit Done and the floating MIDI window is closed!

If you go back into the MIDI Map window, you will see some additional options.



- Min value - this lets you set a minimum value of the parameter which is reflected when the physical controller is at its minimum position

- Max value - this lets you set a maximum value of the parameter which is reflected when the physical controller is at its maximum position

- Recall check box - checking this box will make the parameter go to a predefined value when the Song is launched

- Recall value - determines what the predefined parameter value is when a Song is launched

> **Tip:** Setting the Minimum value higher than the Maximum value will invert the behaviour of the controller, which can sometimes be useful for things like Hammond Organ Instruments.

Important note about ‘built in’ MIDI mappings

You may find that some Instruments have MIDI mappings already assigned, without having to do anything in StageBox. This can lead to problems!

Let’s say you want to map MIDI cc 55 to the filter cutoff of a synth plugin. But let’s also say that there is a predefined MIDI map within that instrument where MIDI cc 55 is assigned to the envelope Decay.

When you try to map cc55 to cutoff, the decay will move (automatically) and this can cause problems for the internal mapping of StageBox.

Also, using the built in maps of instruments doesn’t allow you to utilise any of the features like Minimum / Maximum / invert / Recall that StageBox provides.

For this reason, MIDI cc data is filtered in the MIDI options window for each Sound by default.

If you are expecting ‘built in’ MIDI’ maps to work in StageBox and they are not, this is the reason!

If you still *do* want to use the ‘built in’ maps, you can just ‘allow’ MIDI cc control in the MIDI options for that Sound.

Not allowing the MIDI cc control for a Sound only prevents cc's from being sent *directly* to the instrument, it *doesn't* stop you from using MIDI cc's to control parameters in that sound via the StageBox mapping.

6 Memory Usage

StageBox will allow you to keep adding Instruments past the amount of physical RAM you have installed. This is a feature of the OS and cant be changed. However, this can lead to some potential issues with virtual RAM.

If you continue to load instruments into StageBox and exceed the amount of Physical RAM you have installed, virtual memory will start to be used. In some cases, when virtual memory is used, you may hear a glitch in the sound when you first access a Song which uses an Instrument that has been loaded into Virtual Memory. Once that data has been moved back into 'real' memory, the glitch will go, but how long this takes will depend on your system. (Usually it less than a second)

In a Live environment this is not desirable, so it's best practice to make sure that you are not exceeding the amount of Physical RAM as you load more Instruments.

This should not be an issue if you are mainly using DSP based synths, or modelling plugins, but can be an issue if you are trying to use large numbers of RAM heavy Instruments.

There are utilities available (Activity Monitor on Mac, under Memory, or Task Manager on a PC, under performance and Memory) which can show you how much of your physical RAM you have used, and as long as you are within these limits, you wont get any glitches when changing Songs.

7 Settings in detail

Press the Settings button to get to StageBox settings. To go back to the main page, either scroll to the top of Settings and hit Done, or click anywhere in the blurry background area.

7.1 Audio

Audio Output - this is where you select the audio interface that you want to use.

Play/Stop test tone - this button will play a test tone of 440 Hz (A) from all outputs of the selected audio interface. This can be useful for line checking and a quick way to make sure your audio interface is working and connected to StageBox.

Sample Rate - I usually use 48k unless there's a good reason not to. Using higher sample rates can mean less overall latency in the system, but at the expense of higher DSP use.

Buffer Size - lower buffer sizes will mean lower overall system latency, but at the expense of higher DSP usage.

7.2 MIDI

All connected MIDI devices will be displayed in this section, and you can enable / disable them with the button. Disabling a MIDI input will just stop it from appearing in the dropdown of available MIDI inputs when you are creating Sounds, which can be convenient if you have multiple connected devices that you don't want to see in this list.

Create New Virtual MIDI input - Virtual MIDI inputs are a powerful way to manage MIDI input devices within StageBox.
Let's say you have created 50 songs all with 'MIDI controller A' as the input device.
Now let's say you want to change 'MIDI controller A' to 'MIDI controller B'.
In order to do this, you would have to go through all of those 50 songs and change the MIDI input from controller A to controller B.
This is very tedious!
The way around this problem is to first create a virtual MIDI input and use that as the controlling device for all of your sounds. (Once a virtual MIDI input is created, it will show up in the list of available MIDI inputs to you Sound)

Then, if you want to change that physical MIDI controller, all you need to do is change the MIDI device connected to the *virtual* input, and that physical controller will be connected to all 50 of your songs in one go!

Auto Detect when MIDI devices are connected - this is on by default, and means that as soon as a new MIDI device is connected, it will appear in the list. However, in some rare circumstances dependent on the exact MIDI driver used for certain hardware, this auto connection can cause an audio glitch, and so there is the option to turn off auto detection. If auto detection is turned off, you can manually scan for new MIDI devices using the ‘Refresh MIDI devices now” button.

7.3 Global MIDI mappings

Most MIDI mappings in StageBox are at the Song level - which means that totally new MIDI mappings can be made for each Song. However, certain functions like Song navigation and Tap Tempo are more usefully mapped globally. You can assign a MIDI cc to perform the actions of Next Song, Previous Song and Tap Tempo.
Actions will respond to a value of 127 of the selected MIDI cc, using any MIDI channel.

> **Tip:** Usually the MIDI controller needs to be set up so that a button sends a CC in momentary mode for this to work.

7.4 Misc

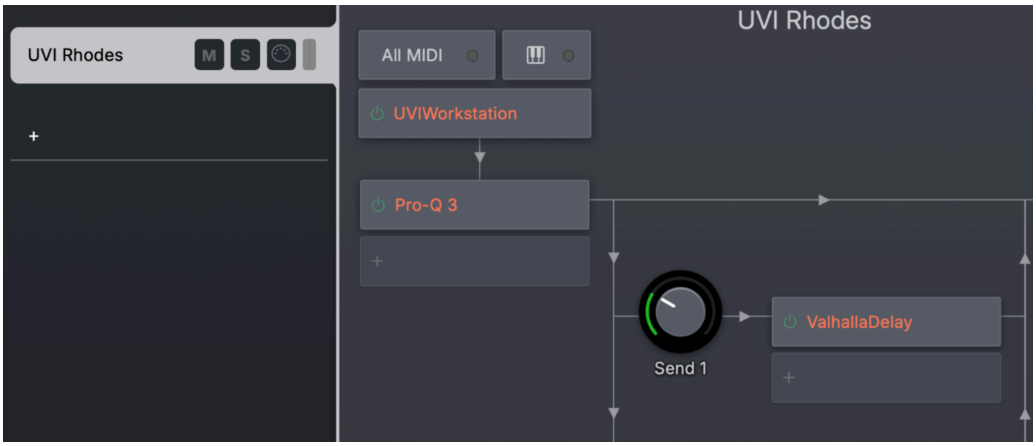
StageBox lets you make a list of pre-performance checks before you go into Perform mode. This list is customisable and is nothing more than a text list. If you don’t want to see this list appear when you go into Perform mode, you can check a box that says “don’t display this message”. If you then change your mind, you can make the message appear again by checking the box in this Misc section.

7.5 Plugins

This is where you can scan for plugins installed on your system. You can scan for VST3s, AUs, or both. How long this process takes will depend on how many plug-ins you have installed on your system.

> **Tip:** scanning for both types of plugins will mean that both the VST3 and AU versions will show up one after the other in the plug-in list, and this can make the dropdown menus cumbersome, so I suggest that you scan for *either* VST3 *or* AU.

> **Tip:** If you open a Project that uses plugins that are not installed on your system, those 'missing' plugins will be displayed in Red as you navigate to effected Songs.



Note: StageBox does not support VST2 plugins because VST2 licences are no longer available for developers.

8 Keyboard Shortcuts

Global	PC	Mac
Start New Project	Ctrl ⇧ N	⌘ ⇧ N
Open Project	Ctrl O	⌘ O
Save project	Ctrl S	⌘ S
Save project as	Ctrl ⇧ S	⌘ ⇧ S
Undo	Ctrl Z	⌘ Z
Redo	Ctrl ⇧ Z	⌘ ⇧ Z
Quit	Ctrl Q	⌘ Q
Settings	Ctrl ,	⌘ ,
Close Plugin Window	Ctrl W	⌘ W
Perform Mode toggle	Ctrl P	⌘ P
All Notes Off	Esc	Esc
Next Song	Arrow Right	Arrow Right
Previous Song	Arrow Left	Arrow Left
Song		
Remove Song from Setlist	⌫	⌫
Delete Song from Project	Ctrl ⇧ ⌫	⌘ ⇧ ⌫
Create New Song	Ctrl N	⌘ N
Duplicate Song (Independent)	Ctrl D	⌘ D
Sound		
Copy Sound to Clipboard	Ctrl C	⌘ C
Paste duplicate from Clipboard	Ctrl V	⌘V
Paste shared instance from Clipboard	Ctrl Alt V	⌥ ⌘ V
Duplicate Sound	Ctrl ⇧ D	⌘ ⇧ D

9 Product Support

If you have any questions, feedback, or find something in StageBox that doesn't work as expected, please reach out to info@stageboxsoftware.com

10 Credits

StageBox is the brainchild of Matt Robertson, was coded by Jules Storer, and help with the graphic design was given by Sasha Radojevic.