USER MANUAL

FARFISA V

ARTURIA®
YOUR EXPERIENCE • YOUR SOUND

Direction

Frédéric Brun
Kevin Molcard

Development

Samuel Limier (project manager)
Theo Niessink (lead)
Stefano D'Angelo
Baptiste Aubry
Corentin Comte
Baptiste Le Goff
Pierre-Lin Laneyrie
Valentin Lepetit
Germain Marzin
Mathieu Nocenti
Pierre Pfister
Benjamin Renard

Design

Glen Darcey
Shaun Ellwood
Sebastien Rochard
Gregory Vezon
Morgan Perrier

Sound Design

Jean-Baptiste Arthus
Boele Gerkes
Theo Niessink
Jean-Michel Blanchet
Stephane Schott

Manual

Hollin Jones

Special Thanks

Alejandro Cajica
Chuck Capsis
Denis Efendic
Ben Eggehorn
David Farmer
Ruary Galbraith
Jeff Haler
Dennis Hurwitz
Clif Johnston
Koshdukai
Joop van der Linden
Sergio Martinez
Shaba Martinez
Miguel Moreno
Ken Flux Pierce
Daniel Saban
Carlos Tejeda
Scot Todd-Coates
Chad Wagner

11, Chemin de la Dhuy
38240 Meylan
FRANCE
http://www.arturia.com

Table of contents

1 INTRODUCTION

Congratulations on purchasing our virtual organ, Farfisa V. We are confident that it will give you many hours of playing and producing pleasure.

Farfisa V 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 and instantly recognizable sound of the Farfisa to your studio, we have added some 21st century features that were never available in the original!

The instrument upon which this virtual model is based was a staple of popular music from its creation in the late 1960s and remains popular today for its unique character. Since finding and maintaining a real Farfisa is both difficult and costly, we're confident Farfisa V will bring you all of the benefits with none of the hassle!

1.1 What is Farfisa V?

The Farfisa V is a software version of the classic Farfisa Compact Deluxe organ. The Farfisa sound was wider ranging than the main competitor of its time, the Vox Continental thanks to having more bass waveforms and an expanded percussion and vibrato section.

Developed using an original hardware organ for reference, Farfisa V accurately simulates the original circuits and sound of the famous Compact series. It 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 in plug-in mode supports automation for greater creative control.

1.2 History of the original instrument

Farfisa is an Italian electronics manufacturer and in fact makes all kinds of products, even if it's best known for the electronic organs it created in the 1960s and 1970s. They predated commercially affordable synthesizers but offered a different sound and a far more portable form factor than Hammonds and other tonewheel organs which were fairly impractical for many bands to transport.

As a result, combo organs like the Farfisa series came to shape much of the popular music of the period. Here was an instrument that had a distinctive and powerful sound and was also very flexible in terms of the way you could alter its settings to get different tones. Best of all, you could actually take it to gigs without too much trouble, which wasn't true of many keyboard instruments at the time.

The Farfisa Compact series had four models that appeared between 1964 and 1969. The Mini Compact was the smallest, and the Combo Compact came in two different versions. The Compact Deluxe – the model recreated by the Farfisa V – added significant features and the Compact Duo had dual keyboards.

Among the notable features of the Compact Deluxe were:

- Two inferior octaves on the keyboard, one black / white and one grey / white that could be switched to extend the range of the bass notes
- Independent percussion controls for both bass and treble manuals
- 16' Bass, Strings
- 8' Flute, Oboe, Trumpet, String
- 4' Flute, Piccolo, Strings
- 2-2/3' with independent brilliant tab
- 4 vibrato settings
- Tube preamp (2 12AX7s) and real spring reverb
- 2 reverb settings
- Multi-Tone Booster
- Swell pedal and knee control for Multi-Tone Booster

There were a number of things that made the Farfisa popular and gave it a unique sound.

- A rudimentary envelope that allowed for and attack and decay that went beyond the typical organ sound.
- The addition of a note repeat function which gave it almost a square wave tremolo type of effect similar to the sound of the Who's "Teenage Wasteland" keyboard part.
- The tone boosters gave it a grungy sound that made it great for the 80's New Wave bands.
- The softer attack made it popular with the indie electro bands and indie rock bands in recent years.
- The knee lever was a type of global filter that added a manual wah type of effect.
- The overall sound is almost more top octave synth like than organ like.

1.3 Appearances in popular music

The Farfisa sound was well suited to the harder-edged garage bands and psychedelic acts that first adopted it. Again, its portability was a big factor in the kinds of bands that first started to use it. It was the kind of organ that studios

and rehearsal rooms would have on hand and as a result, came to be used on more and more productions.

Before too long the Farfisa had grown rapidly in popularity and quite quickly outgrew its niche in 60s garage bands. In fact, it spread into rock and pop and then electronic music, partly because of the unavailability or unaffordability of polysynths at the time, and the fact that the Farfisa could be made to sound more like a synth than an organ. It remains popular today, though the age and scarcity of real hardware models plus the cost of maintaining them means that it's rare to see one in the flesh.

1.3.1 Famous Farfisa users and songs:

1.3.1.1 1960s

- Sam the Sham "Wooly Bully"
- The Swingin' Medallions "Double Shot (Of My Baby's Love)
- Percy Sledge "When a man loves a woman"
- Strawberry Alarm Clock "Incents And Peppermints"

1.3.1.2 1970s

- Jean Michel Jarre
- Sun Ra
- Pink Floyd (many albums up to Dark Side of the Moon)
- Kraftwerk
- Tangerine Dream
- Sly and the Family Stone
- Van Der Graaf Generator
- Led Zeppelin "Dancing Days"
- Herbie Hancock
- Elton John "Crocodile Rock"
- Steve Reich "Four Organs"

1.3.1.3 1980s

- Blondie
- B-52's
- Squeeze
- Talking Heads
- Simple Minds
- REM
- Fleshtones

1.3.1.4 1990s

- Green Day
- Inspiral Carpets

1.3.1.5 2000s

- The Moons
- Stereolab
- Tara Busch
- Paul Weller
- Lords of Altamont
- Caesars

1.4 What does Farfisa V 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 Farfisa V that you wouldn't find on a hardware Farfisa.

- A special USER position that allows the user to create an additive waveform or use the sliders to create a new waveshape based on the graphic look of the sliders.
- We have modeled the built-in spring reverb and add other reverb IRs as well.
- We have added effects units
    - Analog Delay
    - Chorus
    - Phaser
    - Flanger
    - Overdrive
- Easily accessible individual voice tuning
- Paraphonic/Polyphonic mode
- Attack/release envelopes for upper and lower keyboards to expand the sound palette.
- Bass section waveforms selector
- Bass section tone control
- Tremolo sync
- Repeat sync

2 ACTIVATION AND FIRST START

Farfisa V works on computers equipped with Windows 7 or later and Mac OS X 10.8 or later. You can use the stand-alone version or use Farfisa V as an Audio Units, AAX, VST2 or VST3 instrument.

2.1 Register and Activate

Once Farfisa V 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.

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

http://www.arturia.com/register

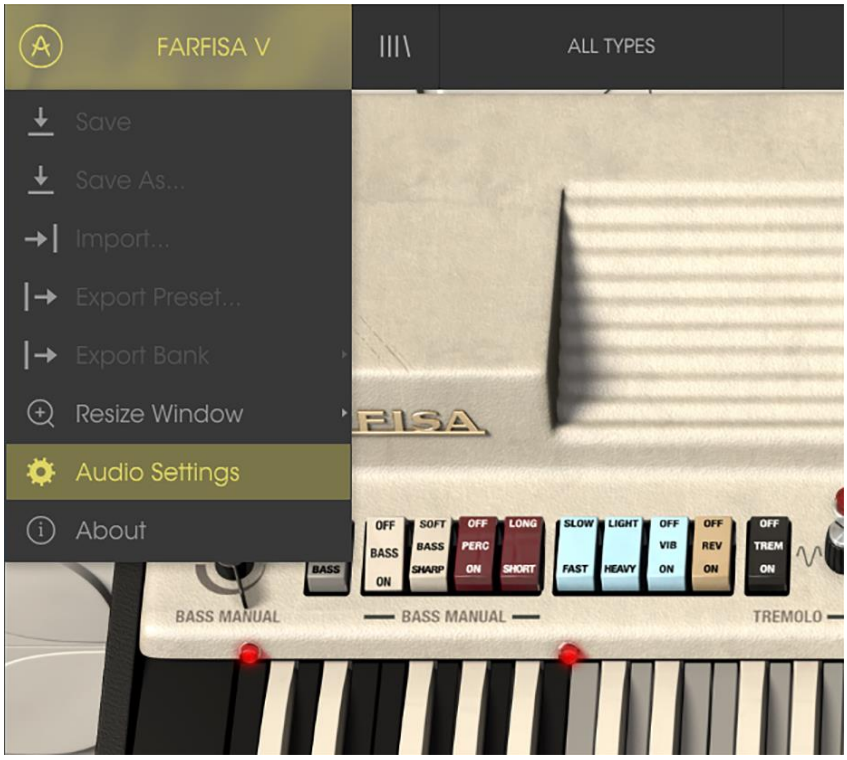
Note: If you don't have an Arturia account yet, you will need to create one. The process is quick, but it does require that you can access your email address during the registration process.

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

2.2 Initial setup

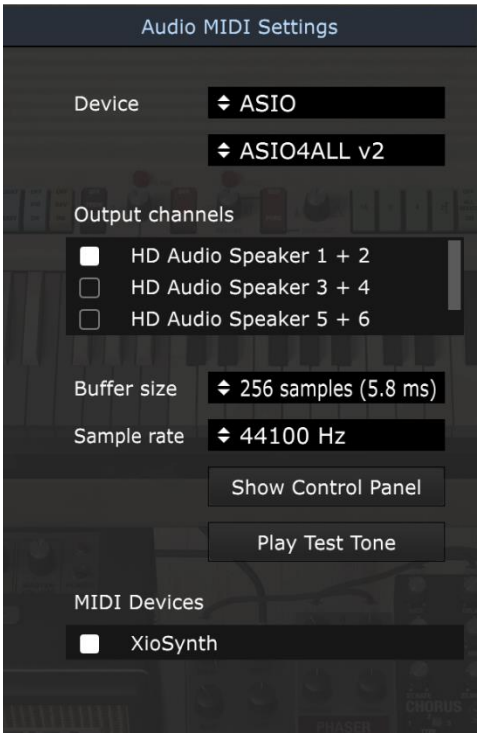
2.2.1 2.2.1 Audio and MIDI settings : Windows

At the top left of the Farfisa V application is a pull-down menu. It contains various setup options. Initially you will need to go to the menu and choose the Audio Settings option to get sound and MIDI flowing in and out.



Farfisa V main menu

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 that you are using.



Audio and MIDI settings window

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.

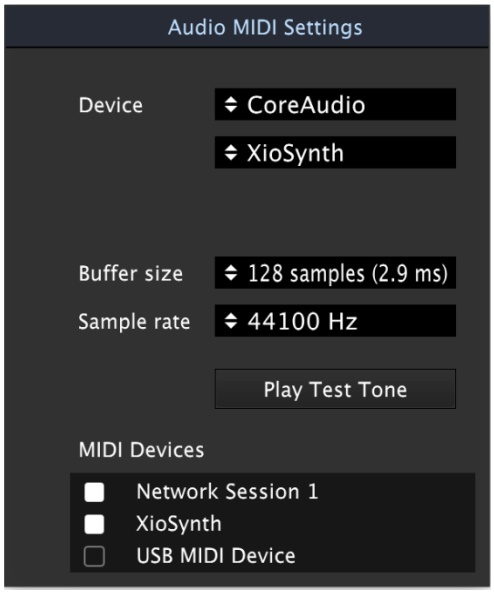
- The Sample Rate menu lets you set the sample rate at which audio is sent out of the instrument. The options here will depend on the capability of your audio interface hardware though even most computers' own hardware can operate at up to 48kHz which is perfectly fine. Higher sample rates use more CPU power so unless you have a good reason to go up to 96kHz, then 44.1 or 48 are usually fine. The Show Control Panel button here will jump to the system control panel for whatever audio device is selected.

- Play Test Tone helps you to troubleshoot audio issues by checking that sound can be heard through the correct device.

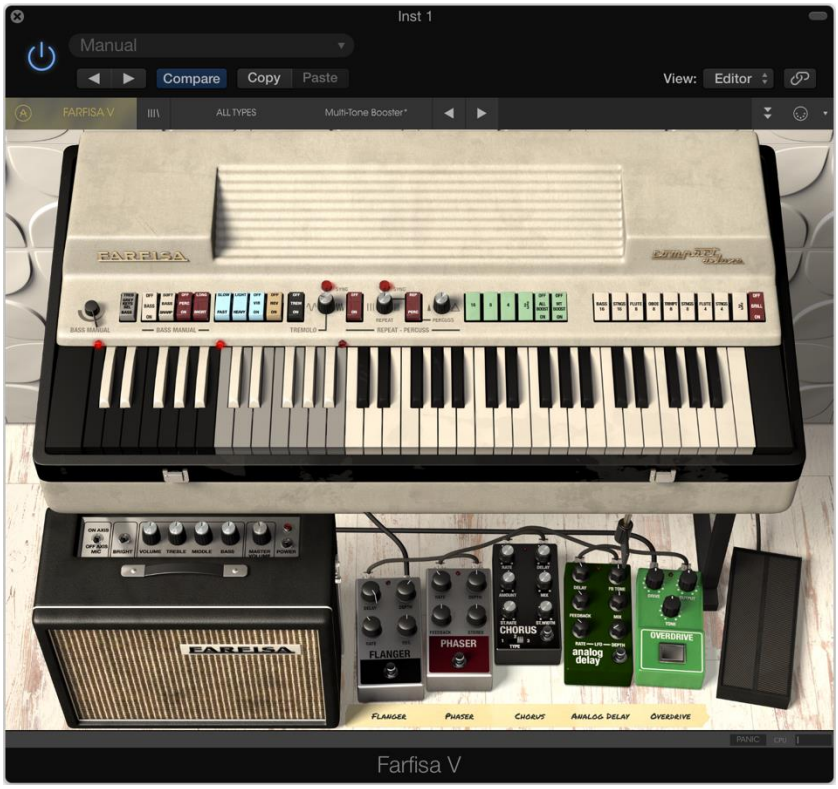
- Your connected MIDI devices will appear in the MIDI Devices area. Click the check box to accept MIDI from the device you want to use to trigger the instrument. In standalone mode, Farfisa V listens for all MIDI channels so there's no need to specify a channel. You can specify more than one MIDI device at once.

2.2.2 Audio and MIDI settings: Mac OS X

The process is very similar to setting up for Windows and the menu is accessed in the same way. The difference here is that OS X uses CoreAudio to handle audio routing and within that, your audio device will be available in the second dropdown menu. Apart from that, the options work the same way as described above in the Windows section.



2.2.3 Using Farfisa V in plug-in mode



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

- The instrument will now sync to your DAW's host tempo, where tempo is a factor like in the tremolo and repeat controls, if you activate the Sync buttons on the organ.

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

3 USER INTERFACE

Farfisa V has many great features, and in this chapter we'll make sure you know what each one does. We think you'll be amazed at how quickly Farfisa V provides you with sounds that are inspiring and perfect for all sorts of projects.

It's also really easy to work with: just a few tweaks here and there and suddenly you're in a new world of sound. That will always be the main focus of every Arturia product: unleashing your creativity while remaining easy to use.

3.1 The virtual keyboard

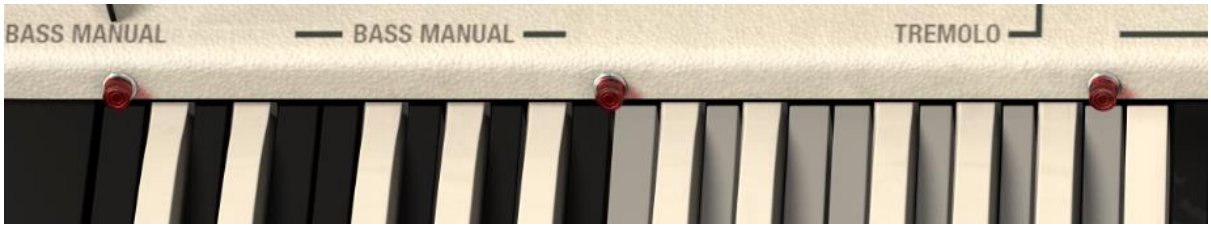
The virtual keyboard allows you to play a sound without the need for an external MIDI device. Simply click on a virtual key to hear the currently selected sound. You can also drag the cursor across the keys to hear a glissando.

The Farfisa is actually velocity sensitive, but in a very particular way. It uses the velocity to vary the speed at which the different key contacts make. There are 5 key contacts for each key (16', 8', 4', 2⅔', percussion). When you press a key very slowly you should be able to (almost) hear the individual key contacts make.

Farfisa V keyboard

The keyboard is divided into sections. The white treble keys always play the upper register. The Black keys on the left hand side can play the bass and the grey keys can be set to either extend the treble or bass ranges.

With the Bass section switched off, the upper register plays across all available keys. You can see this mode is active when none of the small red lights on the keyboard are lit.



If you switch the bass section on using the Bass On / Off switch, the black keys now play the bass tones. The lights show that the bass section is active.

If you switch the Grey Keys Sel switch from Treble to Bass, the grey keys are assigned to extend the range of the bass keys to a second octave. You can tell this is active because the first and third red lights now show the range of the bass part. This gives you more freedom to play bass notes, at the cost of removing the lower part of the treble range.

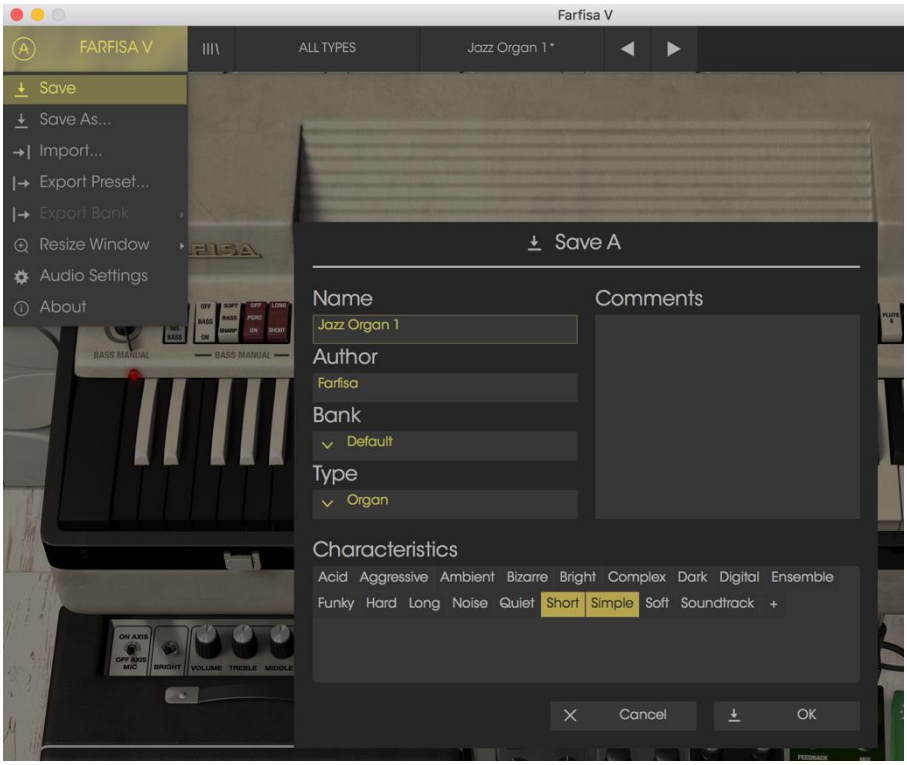
The octave selection lights

3.2 Toolbar

The toolbar that runs along the top edge of the instrument both in standalone and plug-in mode provides access to many useful features. Let's look at them in detail. The first seven of these options can be found by clicking on the Farfisa V section at the very top left hand corner of the instrument window.

3.2.1 Save Preset

The first option lets you save a preset. If you select this, you are presented with a window where you can enter information about the preset. As well as naming it you can enter the author name, select a bank and type and select some tags that describe the sound. This information can be read by the preset browser and is useful for searching presets later. You can also enter freeform text comments in the Comments field which is handy for providing a more detailed description.



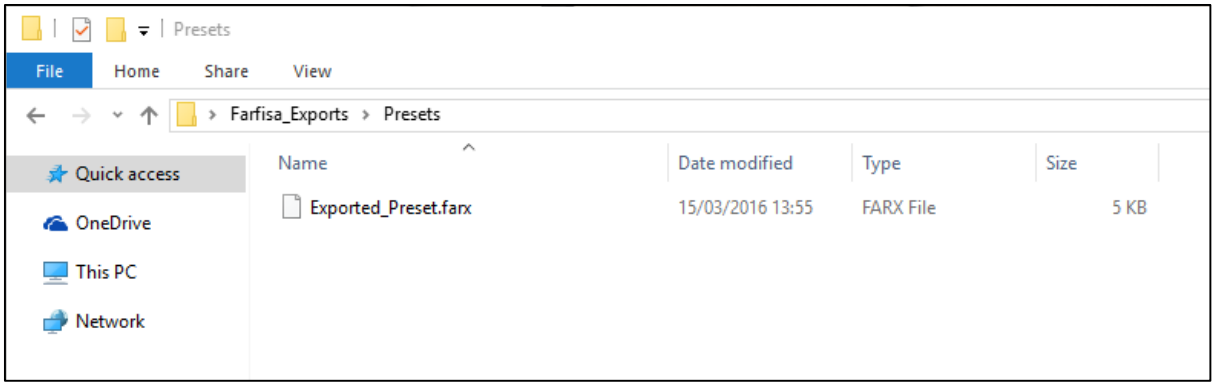
The Save Preset window

3.2.2 Save Preset As…

This works in the same way as the Save command, but lets you save a copy of the preset instead of saving over the original. It's useful for creating variations on patches but still keeping individual copies of each one.

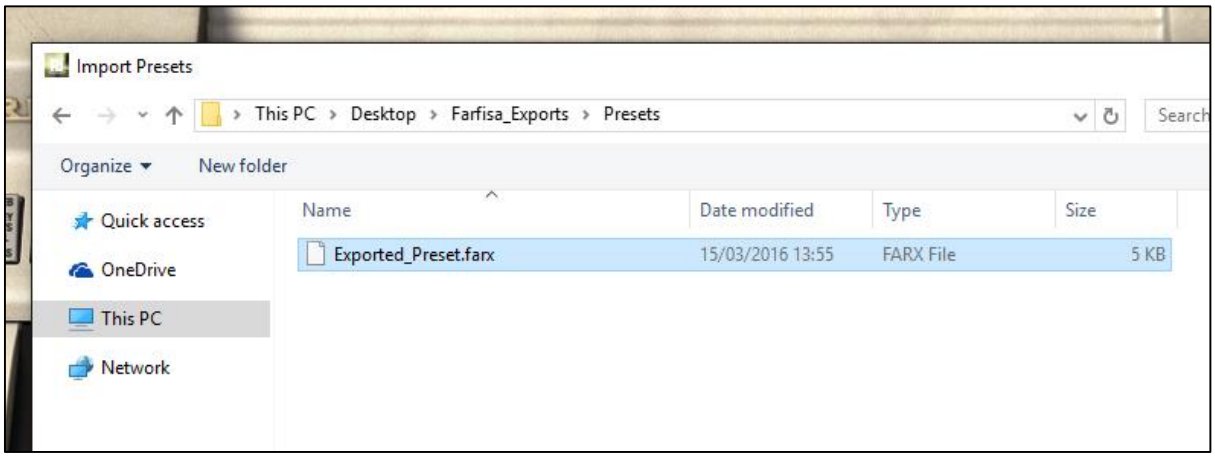
3.2.3 Import preset

This command lets you import a preset file. Presets are stored in the .farx format.



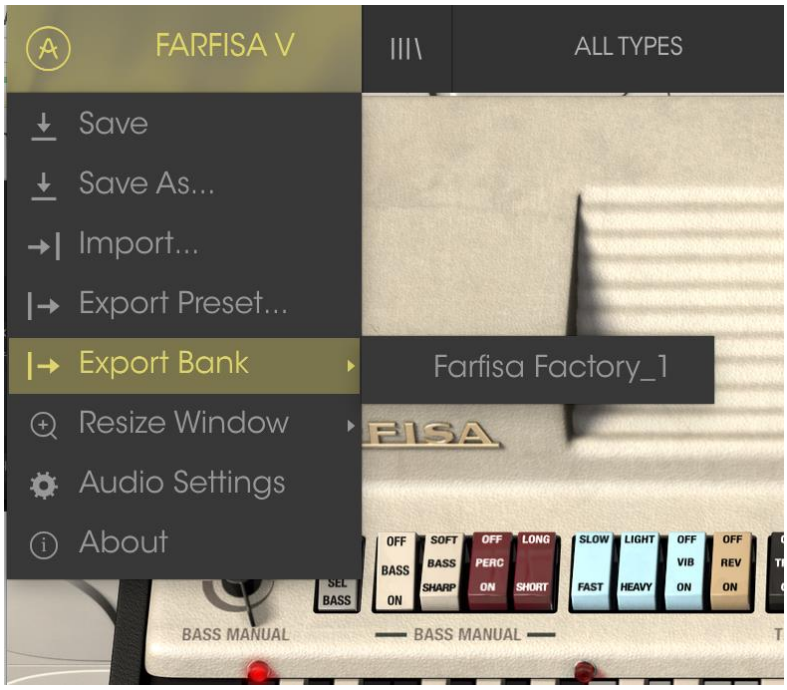
3.2.4 Export preset

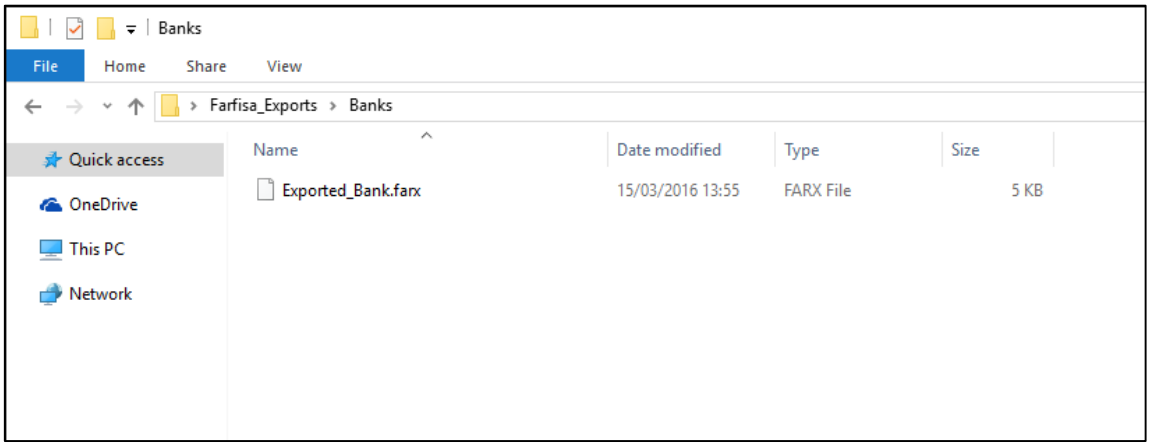
You can export any preset as a file using this command.



3.2.5 Export bank

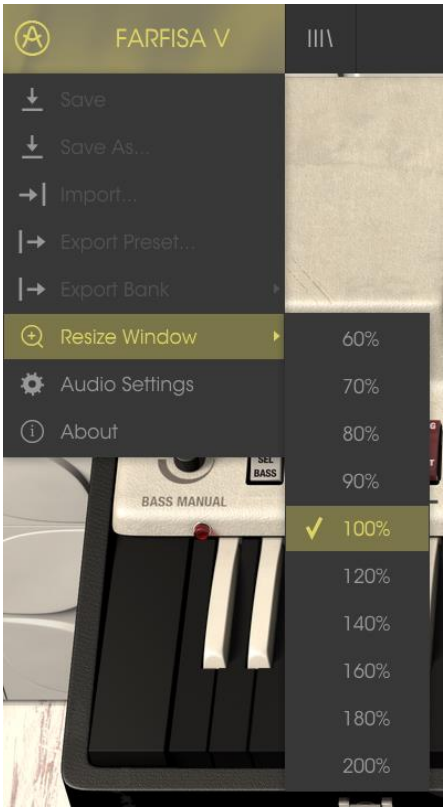
This option can be used to export the entire bank of sounds from the instrument which is useful for backing up or sharing presets.





3.2.6 Resize window options

Farfisa V's window can be resized from 60% to 200% of its original size without any visual artefacting. On a smaller screen such as a laptop you might want to reduce the interface size so it doesn't dominate the display. On a larger screen or a second monitor you can increase its size to get a better view of the controls. The controls all work the same at any zoom level but the smaller ones can be harder to see if you have shrunk the window down.



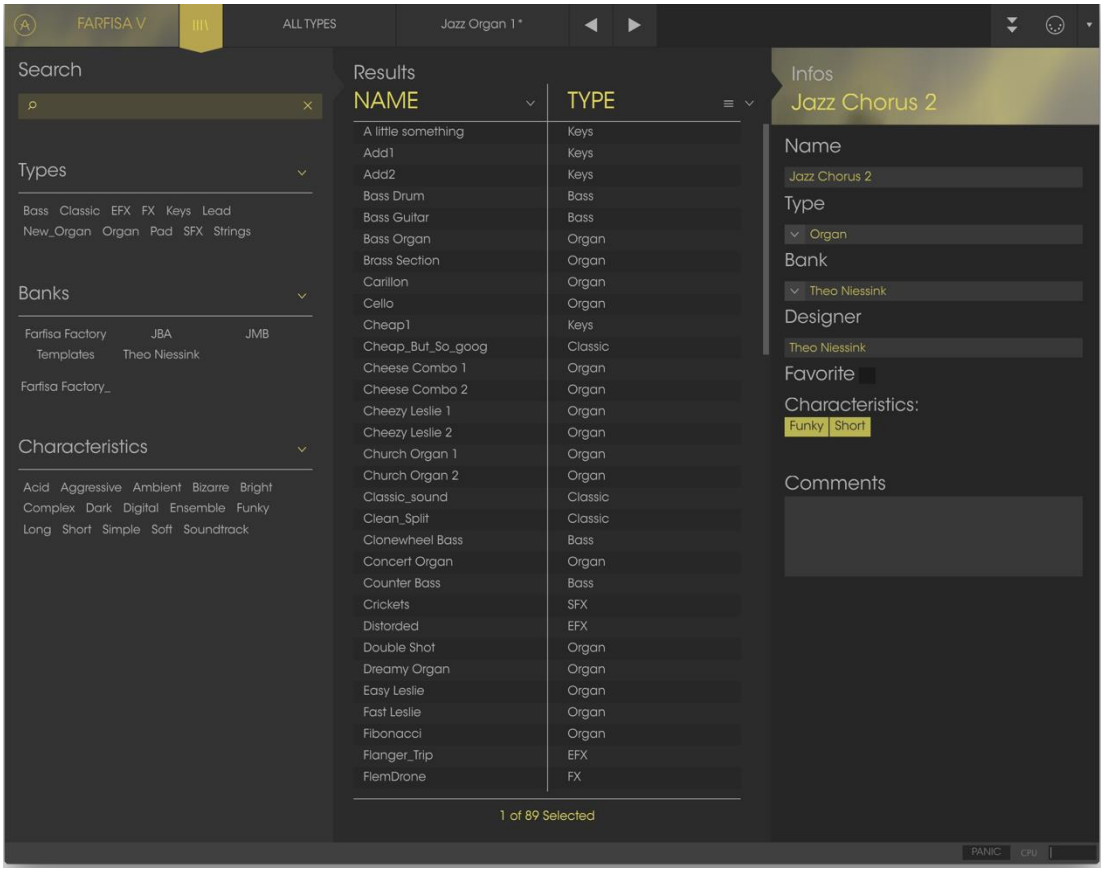
The Resize Window menu

3.2.7 3.2.7 Audio settings

Here you manage the way the instrument transmits sound and receives MIDI. See section 2.2 of the manual for full details on this.

3.2.8 3.2.8 Preset browsing quick look

The Preset browser is invoked by clicking on the browser button which contains four vertical lines. See section 3.3 of the manual for full details on this. The All Types, name field and left / right arrows in the toolbar all deal with preset selection.



The Preset Browser

3.2.9 Open and Close Advanced section

The Advanced section can be revealed by clicking on the button showing two downward pointing arrows at the right of the toolbar. This lets you access the more advanced features of the instrument like tuning of individual notes, user waves and envelopes. See section 3.5 of the manual for more detail on these controls. Click this button once to reveal the inside of the organ and again to hide it. You can also click once on the closed lid of the organ to open it, and then on the button to close it.

3.2.10 MIDI Learn assignment

The MIDI plug icon at the right hand end of the toolbar places the instrument into MIDI learn mode. Parameters that can be assigned to MIDI controls will be shown in purple and the idea is that you map physical MIDI dials, faders or pedals from your hardware units like Beatstep or Keystep to specific destinations inside the instrument. A typical example might be to map a real expression pedal to the virtual swell pedal, or buttons on a controller to the tone select switches so you can change the sound from your hardware keyboard.

If you click on a purple area, you'll put that control into learning mode. Move a physical dial or fader and the target goes red to show that a link has been made between the hardware control and the software parameter. There's a popup window that displays which two things are being linked and a button to unassign the two from each other.

There's also a minimum and maximum value slider that you can use to restrict the parameter change range to something other than 0%-100%. For example, you might want the amp's master volume to be controllable via hardware from 30% to 90%. If you made this setting (Min set to 0.30 and Max set to 0.90), your physical dial would not alter the volume any lower than 30% or any higher than 90% no matter how far you turned it. This is very useful for making sure you can't accidentally make the sound too quiet or too loud when performing.

In the case of switches which only have two positions (up or down) you can still use minimum and maximum values in the MIDI learn popup window, but in this case the behavior is a little different.

It's about what values the controller sends and whether those are high or low enough to trigger the state change in a switch - which is always 0.5 or in the case of the three stage switch, 0.33/0.33/0.33 (or near enough). You can set the minimum and maximum values of the hardware MIDI control but whether it affects the software parameter depends on whether it crosses the threshold required to make the change.

Let's take an example. We want to control a 2-position switch with a hardware fader. The fader value goes from 0.0 to 1.0 and the switch state will always change when 0.5 is crossed.

The min value in the MIDI learn window corresponds with the value that will be sent (from the controller to the engine) when the fader is at its min position (same goes for the max value).

To explain this you can try these 5 use cases:

- Set min value to 0.0 and max value to 0.49 ➔ the switch cannot be switched on because the 0.5 value can never be crossed
- Set min value to 0.51 and max value to 1.0 ➔ the switch cannot be switched off because the 0.5 value can never be crossed
- Set min value to 0.0 and max value to 1.0 ➔ the switch state changes when the fader crosses its central position
- Set min value to 0.49 and max value to 1.0 ➔ the switch state changes when the fader is very low
- Set min value to 0.0 and max value to 0.51 ➔ the switch state changes when the fader is very high

The same goes for the three-stage switches, where instead of 0.5 being the state change value, it is divided into three thirds.

MIDI Learn mode

The final option in this window is a button labelled "Is relative". If you switch this on for any MIDI assignment, the movement you make with the physical control (such as a knob) will pick up the software parameter at its current setting and change it from there rather than being an "absolute" control and snapping it back to zero as soon as you start to move it. This can be a good idea when assigning controls to things like volume or effect pedal controls, since you won't usually want them to jump massively out of their current setting as soon as you start to modify them.

3.2.10.1 Reserved MIDI CC numbers

Certain MIDI Continuous Controller (MIDI CC) numbers are reserved and cannot be reassigned to other controls. These are:

- Ctrl All Notes Off (CC #123)
- PitchBend
- AfterTouch

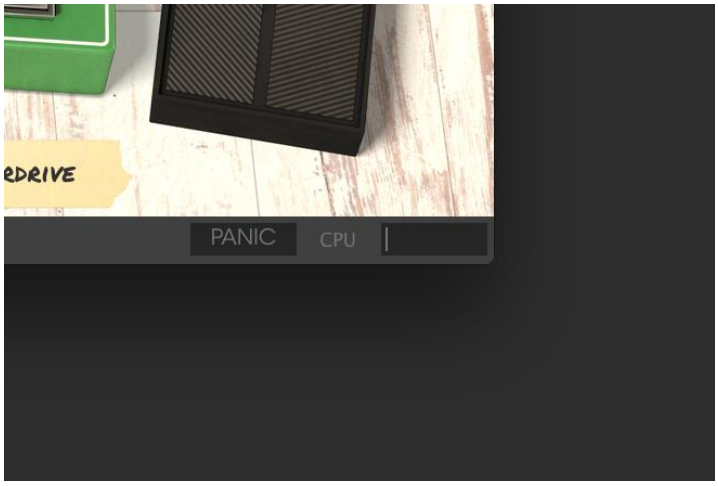
All other MIDI CC numbers may be used to control any assignable parameter in Farfisa V.

3.2.11 MIDI controller configuration

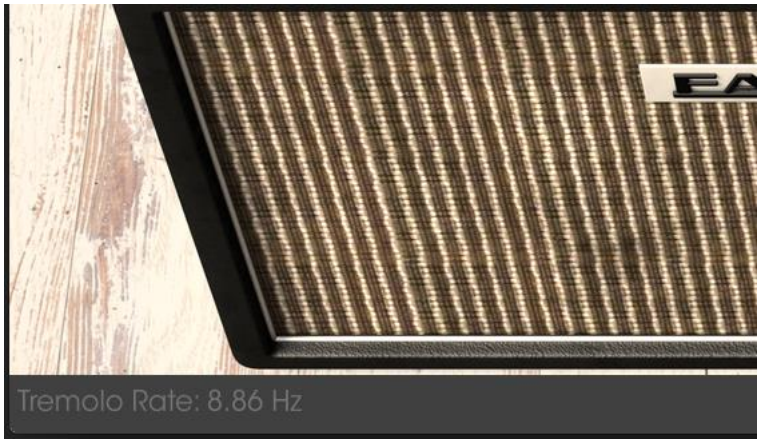
There's a small arrow at the far right hand side of the toolbar that deals with MIDI controller configurations. This allows you to manage different sets of MIDI maps that you may have set up for controlling the instrument's parameters from MIDI hardware. You can copy the current MIDI assignment setup or delete it, import a configuration file or export the currently active one. This can be used to quickly set up different hardware MIDI keyboards or controllers with Farfisa V without having to build all the assignments from scratch each time you swap hardware.

3.2.12 The lower toolbar

At the right hand side of the lower toolbar are two small items. The Panic button can be pressed to reset all MIDI signal in the event of stuck notes, and stop sounds being generated. The CPU meter is used to monitor how much of your computer's CPU is being used by the instrument.



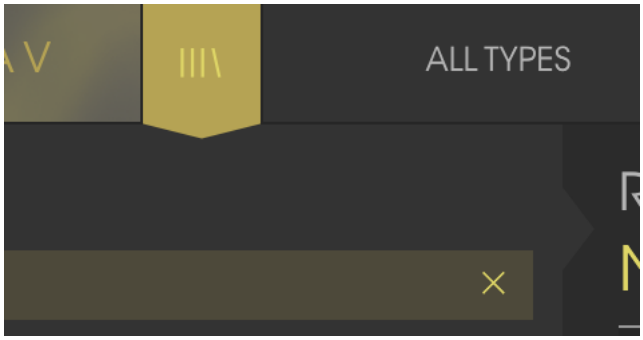
At the left hand side of the lower toolbar you will see a readout showing the value or state of whatever control you are modifying.



Displaying the current control's value

3.3 The Preset Browser

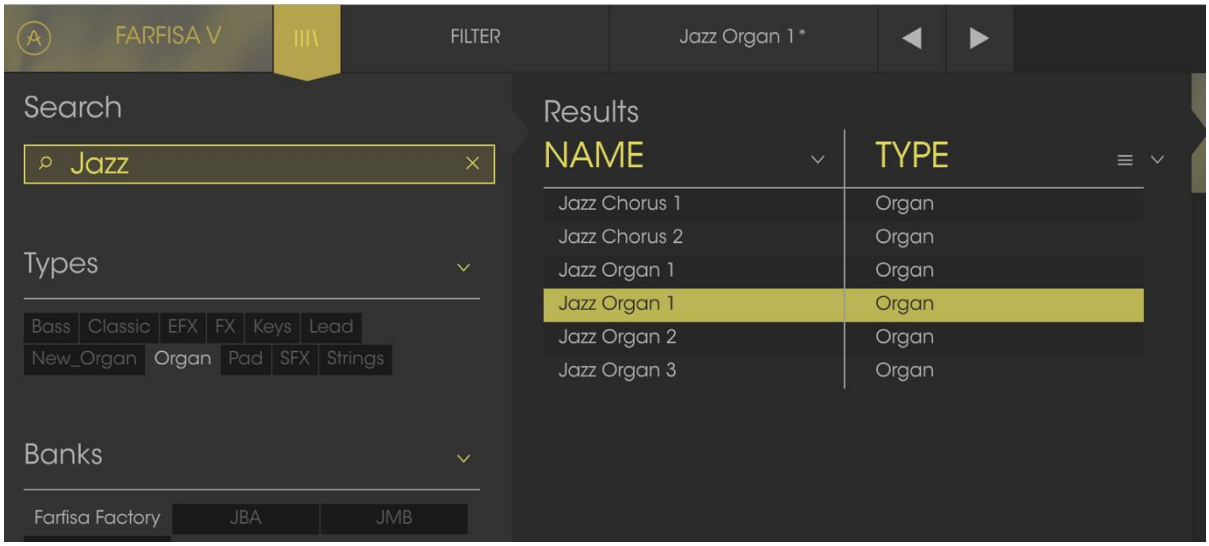
The preset browser is how you search, load and manage sounds in Farfisa V. It has a couple of different views but they all access the same banks of presets. Click on the browser button (three lines and a slanted line) to access the search view.



The Preset Browser button

3.3.1 Searching presets

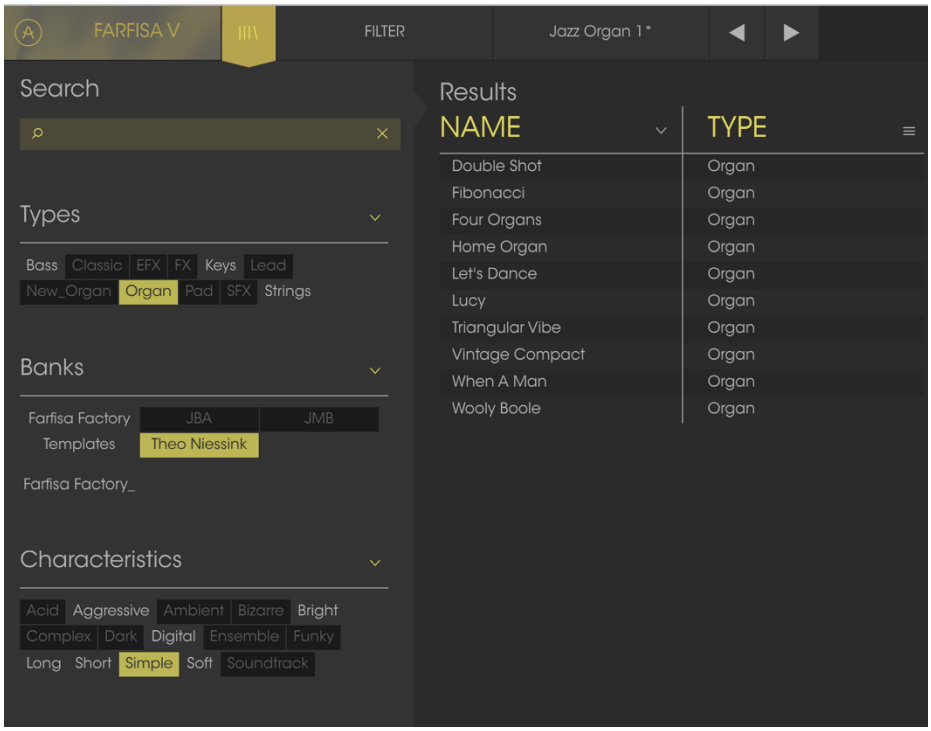
The Search screen has a number of sections. By clicking on the Search field at the top left you can quickly enter any search term to filter the preset list by patch name. The Results column is updated to show the results of your search. Press the X button in the search field to clear the search.



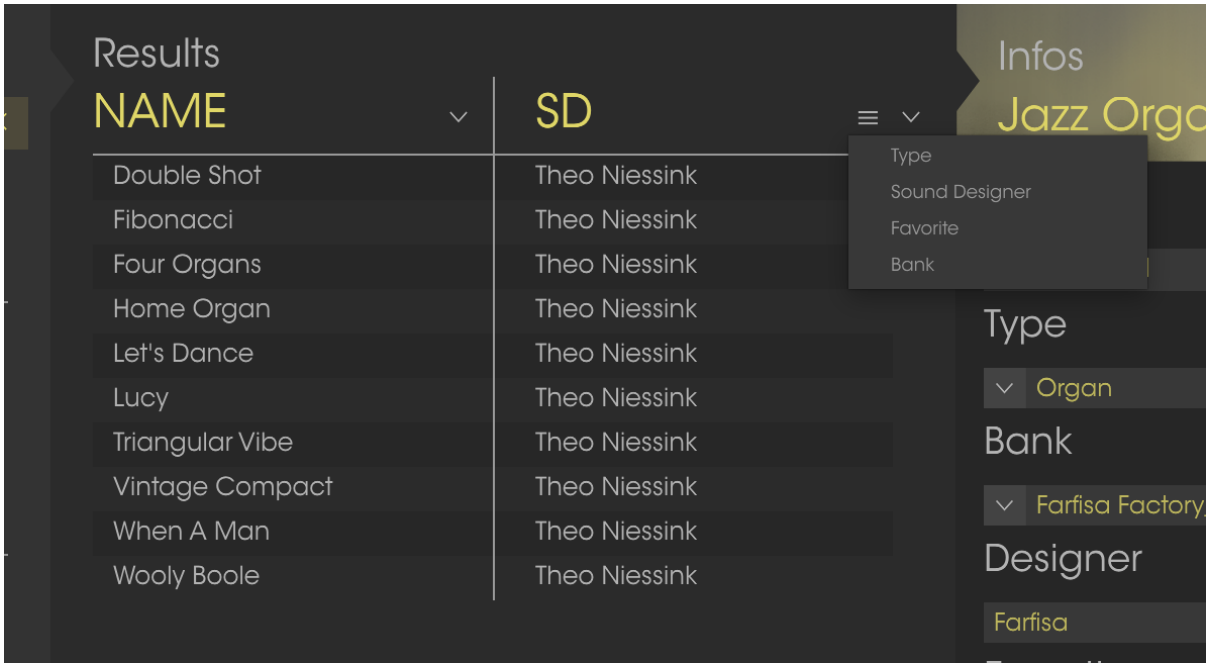
3.3.2 Filtering using tags

You can also search using different tags. So for example by clicking on the Lead and Organ options in the Types field you can show only presets that match those tags. The tag fields can be shown or hidden by using the small down arrow buttons in their title fields. Results columns can be sorted by clicking the same arrow button in their own section.

You can use multiple search fields to perform narrower searches. So by entering a text search and also specifying type, bank and characteristics options you could see only the presets that match those exact criteria. Deselect any tag in any area to remove that criteria and widen the search without having to go back and start again. Using "Ctrl + click" (Windows) or "Cmd + click" (Mac) will allow you to select multiple elements in the same area.



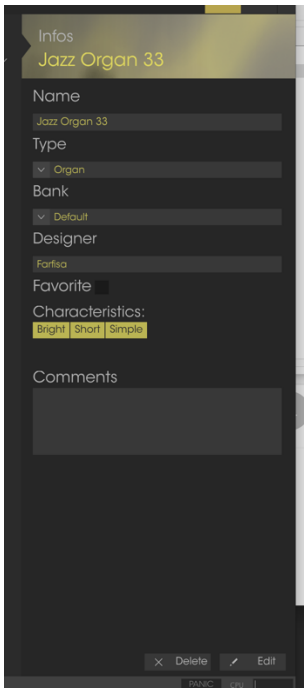
The second Results column can be switched to show Type, Sound Designer, Favourite or Bank tags depending on how you like to search. Click on its options menu button just next to its sort arrow.



3.3.3 The Preset Info section

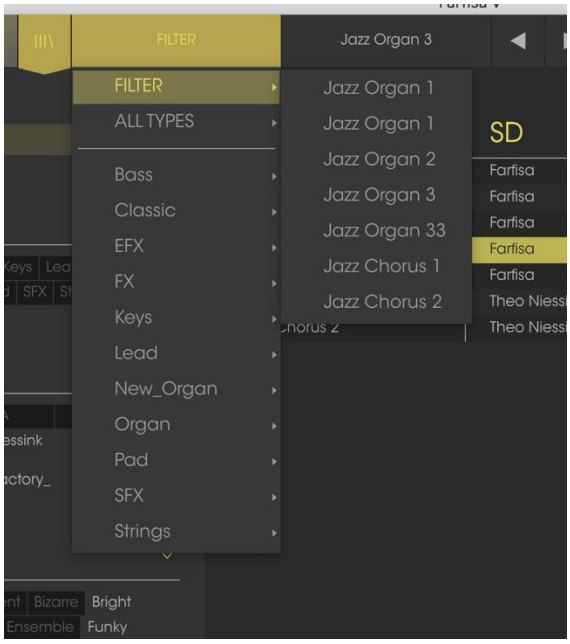
The Preset Info column on the right of the search field shows you information about any preset. If you want to make changes to a factory preset such as changing its name, adding comments or tags, you have to re-save it as a user preset using the Save As command in the main menu. When you have done

this, the Info section will gain Edit and Delete buttons that you can use to change the information stored inside the preset. Factory presets can't be overwritten.



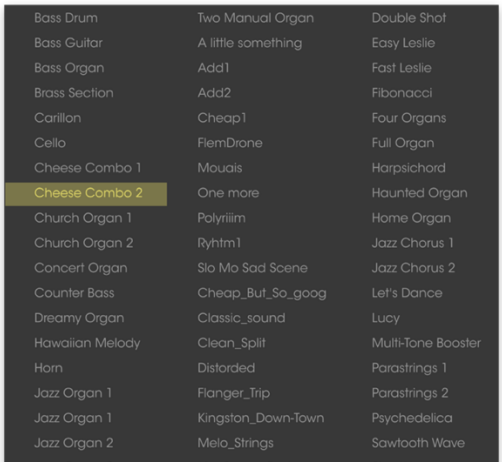
3.3.4 The second preset view

The menu next to the Search menu shows you a different view. The first option in this menu is called Filter and will hold a record of whatever you have currently searched for in the Search field. So if you searched for Jazz in the main search area, those results will appear here.



Selecting the All Types option in this column on the other hand will provide a list of all patches. The Categories shown beneath group sounds based on their Type like keys, pads, bass and so on.

Clicking on the name field in the centre of the toolbar will show you a list of all available presets and will also change based on what you have entered in the Search field. So again if you have searched for "jazz", this shortcut menu will only show you patches that match that tag. The left and right arrows in the toolbar cycle up and down through the preset list : either the full list, or the filtered list if you have entered a search term.



3.3.1 Playlists

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

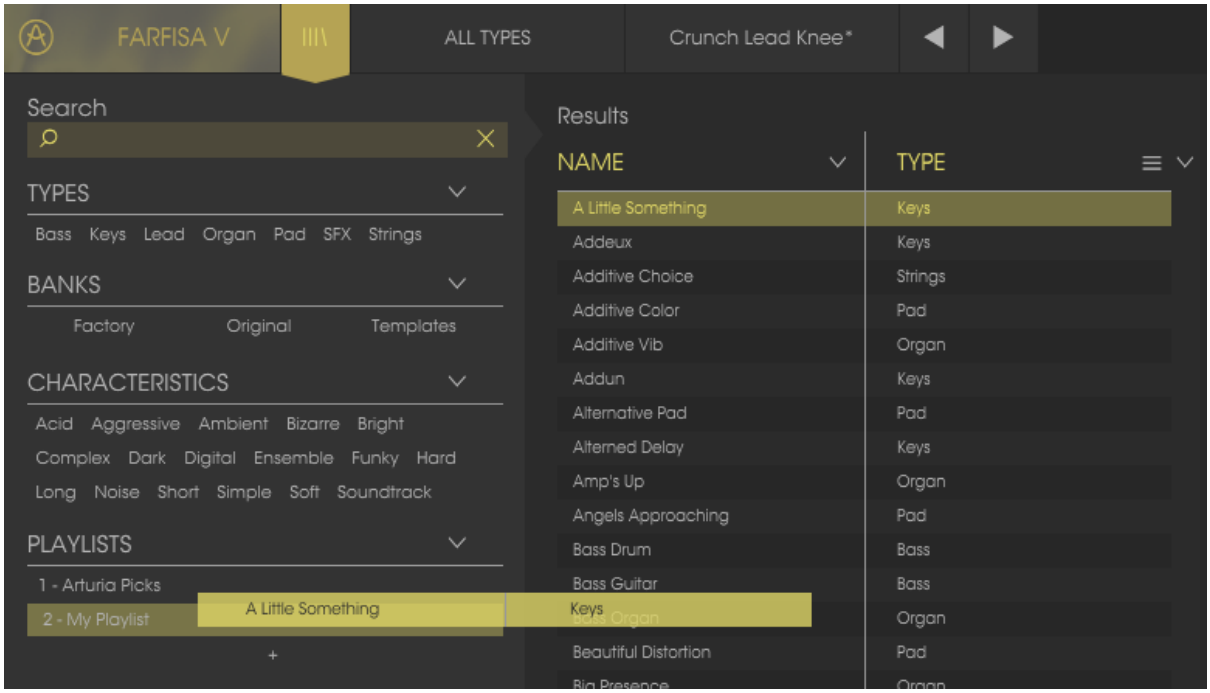
3.3.1.1 Add a playlist

To create a playlist, click the plus sign at the bottom:

Give the playlist a name and it will appear in the Playlists menu. You can rename the playlist at any time; just click the pencil icon at the end of its row.

3.3.1.2 *Add a preset*

You can use all of the options in the Search window to locate the presets you want to have in your playlist. Once you have found the right preset, click and drag it onto the playlist name.



Click and drag from the Search Results list onto one of the playlists

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

3.3.1.3 *Re-order the presets*

Presets may be reorganized within a playlist. For example, to move a preset from slot 2 to slot 4, drag and drop the preset to the desired location.

This will move the preset into the new location.

3.3.1.4 *Remove a preset*

To delete a preset from a playlist, click the x at the end of the preset row.

Click the X to remove a preset from a playlist

3.3.1.5 *Delete a playlist*

To delete a playlist, click the x directly to the right of the playlist name.

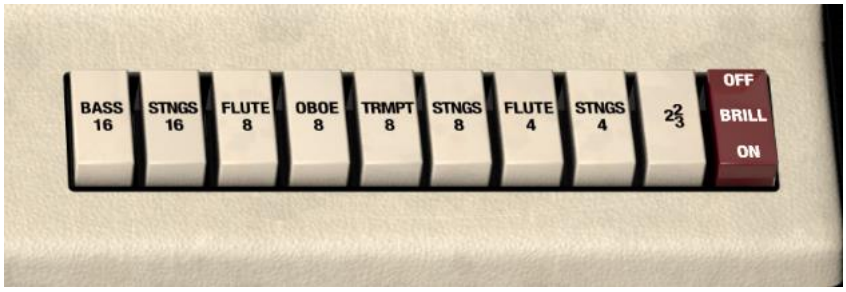
Click the X to delete a playlist.

3.4 Front panel

The front panel of Farfisa V is where you make settings to control how the keyboard generates sound and how its effects operate. The virtual instrument is modelled on a mix of the original Compact Deluxe and Compact Duo models in terms of its front panel, and has some additional features that can be found by opening the Advanced section.

Using the original schematics we first created a mathematical model of the raw tone generators (oscillators, dividers), the voice filters (Multi-Tone Booster, treble, bass), the built-in effects (vibrato, repeat/percussion, tremolo), and the preamps (including noise/mains hum). We then compared this with the real deal (our own Farfisa Compact Duo, as well as audio recordings from several other models), and adjusted the model somewhat to make it "more vintage". We also recorded an IR (impulse response) of the spring reverb of our Compact Duo so the end result is incredibly authentic.

3.4.1 The treble section



The Treble section

The white voices tabs are like the stops on a pipe organ and have two functions.

1. Select one or more pitches (16', 8', 4', 2⅔) for each key.
2. Select the filters (Flute, Strings, etc.) to send the pitches through.

The more switches you activate, the more harmonically rich and full the generated sound will be. Conversely, using fewer pitches results in a sound that's more stripped-back. You can also turn these switches on or off during playback either physically or using MIDI controllers to change the sound of the organ on the fly. This is a common technique used by players of real organs who know which voices to bring in and out to make different sounds, say for the verse and chorus of a song for example. With a bit of practice, you will figure this out too!

If you select Bass 16 and Strings 4, then both 16' and 4' pitches are sent through the Bass and the Strings voice filters. Note that the filters are not isolated so they

interact a lot, hence each combination will sound slightly different (e.g. Flute 8 + Strings 8 will not sound exactly like Flute 4 + Strings 4).

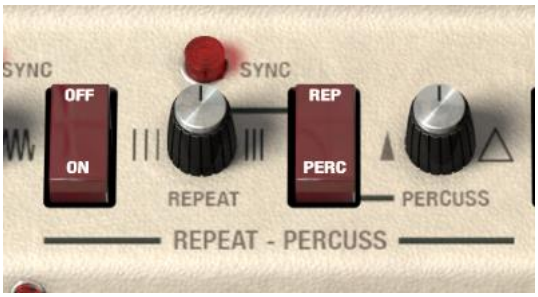
The Bass 16 and Flute 8/4 voices (the "round tones") are based on the MTB voices, while the other white tab voices (the "sharp tones") have their own, global voice filter circuitry.

The Brilliant tab makes the white 2-2/3' tab brighter. Without the white 2-2/3' tab the Brilliant tab is ignored.

The Multi Tone Booster section

The Multi-Tone Booster (MTB) selects between Multi-Tone Booster (green tabs) or treble voices (white tabs). In MTB mode you can select the pitches for each key (16', 8', 4', 2⅔; these are pipe organ lengths). You can use the Knee Lever to mix in high frequencies, or enable All Booster to mix in as much high-frequency content as possible (i.e. as if the Knee Lever is at 100%). In Multi-Tone Booster mode each octave has its own series of low-pass filters. If you are not getting any sound from the organ and your audio I/O is correctly set up, check that it's not the case that all of your tone switches are off.

3.4.2 The percussion and repeat controls



Just as on the original Compact Deluxe you are able to control the percussion and repeat characteristics of the way the organ generates sound. The controls work like this:

- Repeat On/Off (the left hand switch) –enables or disables the repeat function.
- Repeat Sync – allows for having tremolo match your host computer tempo. Press the red light to activate or deactivate this. In non-sync mode the repeat rate dial operates in Hz not note values.

Repeat rate dial – The rate knob can be set between 2 whole notes, 1 whole note, half note, ¼ triplet, ¼ note, 1/8 triplet, 1/8th, 1/16 triplet, 1/16 values.

- Repeat/Percuss mode chooses either the REPEAT or the PERCUSS mode for the upper keyboard.
- Percuss envelope – allows the user to create longer or shorter decay times on the percuss section.

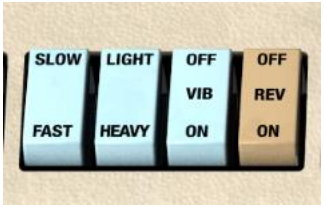
3.4.3 The tremolo control

The tremolo control can be used to add some modulation into the signal just like on a real Farfisa.

- Trem On/Off: enables or disables the tremolo.
- Rate Control: controls the speed of the tremolo.
- Sync: matches tremolo to your host computer tempo. The rate knob can be set from 2 whole notes, 1 whole note, half note, ¼ triplet, ¼ note, 1/8 triplet, 1/8th, 1/16triplet, 1/16. In non-sync mode the remolo rate dial operates in Hz not note values.

3.4.4 3.4.4 Reverb and vibrato controls

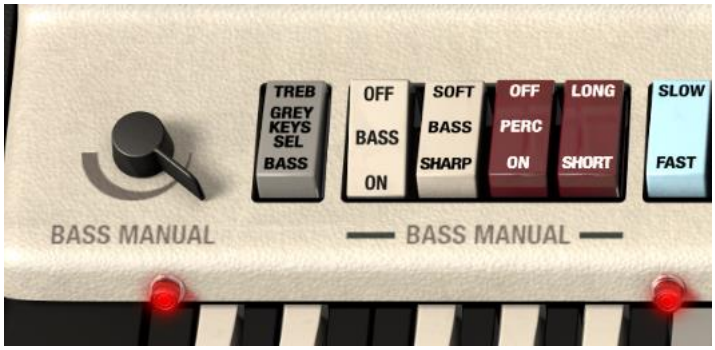
The reverb section is linked to the reverb type controls that you can read about in detail in section 3.5.7. The controls work in the following way.



- Slow / Fast: toggles between the two vibrato speeds.
- Light / Heavy: lets you set a smaller or greater amount of vibrato.
- Vibrato On / Off: switches the vibrato effect on or off.
- Reverb On / Off: enables or disables the reverb effect. The reverb type and level are set in the Advanced section.

3.4.5 The Bass Manual section

One of the great things about the Compact Deluxe is that it contains bass and treble sections in the same instrument, meaning you can play both parts from a single keyboard if you like. Or you can disable the bass section and play the upper register across the whole keyboard. The bass tones can be used instead of having a bass guitar player since they can be made to sound big and heavy, or they can be used as a secondary organ part to add weight to the overall organ part. You can make detailed bass settings in the Advanced section: see section 3.5.2 for more on this.



Starting from the left hand side the controls are as follows:

- The Bass Manual control lets you set the level of the bass part. Turned all the way to the right its volume is zero and to the left, it is at maximum volume. This is a useful control because the bass part has a different character to the treble and so you may not want them to be at the same volume. This control is a good candidate for mapping to a hardware MIDI controller so you can alter it from your MIDI keyboard during performance.

- The Grey Keys Sel button has two positions. In the upper position it is set to Treble. This means that the grey keys on the keyboard will operate the treble notes and not the bass notes, extending the range of the treble part. The third octave light (the one to the furthest right) will go out and the other two will be lit, showing that only the lowest octave is set to trigger the bass notes.

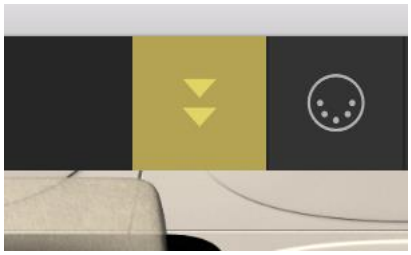
- In the Bass position, this switch causes the grey notes to play the bass tones, and the middle red light will go out to show that the black and grey notes are now assigned to the bass part – two octaves. Again you may want to assign a MIDI control to this switch as it can help you to dynamically reassign zones of the keyboard while performing.

- Bass On / Off simply lets you activate or deactivate the whole bass section. When deactivated, the treble section occupies the whole keyboard range.

- Bass Sharp / Soft changes the decay on the bass section to either a sharper or softer character.
- Perc On / Off turns the percussive attack of the bass section on or off.
- The Long / Short switch toggles between a shorter or longer percussive element to the bass tone.

3.5 Inside the case

The Advanced section can be accessed by clicking on the Advanced button or by clicking on the organ's cream coloured hood area.



Click to open the Advanced section

It provides some controls that were extremely hard to access on the original hardware instrument like tuning controls for individual notes, and also features that were not available such as:

- A special USER position that allows the user to create an additive waveform or use the sliders to create a new waveshape based on the graphic look of the sliders.
- Additional reverb impulse responses.
- Paraphonic/Polyphonic mode.
- Attack/release envelopes for upper and lower keyboards to expand the sound palette.
- Bass section waveforms selector.
- Bass section tone control.
- Tremolo sync.
- Repeat sync.

The Advanced section

3.5.1 The Voice Tune section

The Farfisa has 12 independent master oscillators, which each drive 5 dividers, plus there's 1 extra divider for the low "C" note, so there are a total of (1+5)*12+1=73 frequencies being generated all the time (even more in Farfisa V, because of its extended key range). This system of oscillators and dividers also accounts for the fact that the same notes in different octaves (e.g. all "C" notes) are phase-locked.

You can use these controls to individually tune any of the 12 oscillators. You can reset any one to its central position by double clicking on it. If you reset all 12 tuning pots to 0 cents, then Farfisa V will be tuned to exactly A4=440 Hz equal temperament although this is not representative of the sound of a real Farfisa. As such, many of the organ templates feature certain notes that are tuned slightly off centre, giving it that classic organ sound. These controls can be mapped to a MIDI controller to let you tweak note tuning in realtime.

3.5.2 The bass tone section

The Bass Tone section expands on the original Farfisa by letting you select and modify different bass waves.

The Bass Wave dial allows selection of seven different bass waveforms:0. The original Farfisa waveform as generated by the tone generators (i.e. the same waveform as in the treble section when User Wave is off).

1. Saw - Sawtooth wave.
2. Sync - Hard-sync sawtooth wave.
3. Mod - Modified square wave.
4. Square - Square wave.
5. Pulse - Pulse wave (15% duty cycle).
6. Additive - Additive user wave.
7. Shape - Shape user wave.

The Bass Tone icons represent the moon (dark i.e. 20 Hz) and the sun (bright i.e. 20000 Hz). When the Bass Tone is at bright/20000 Hz this bypasses the 24 dB bass tone ladder filter. When the Bass Tone is at any other value (including 20 Hz/dark) this sets the filter to the selected cutoff.

The Reso section lets you change the resonance of the tone filter.

3.5.3 Noise control

The Noise Level dial lets you add a variable amount of noise to the output. At maximum setting this simulates a high degree of electrical buzz and hum.

3.5.4 Voice mode

When AR Env (attack / release envelope) is on the Voice Mode switch lets you toggle between two modes:

- **Polyphonic**: Each key has its own attack and release envelope, just like on a true polyphonic synth.
- **Paraphonic**: Each key still has its own release envelope, but the attack envelope is now global, and it won't retrigger until all (treble) keys have been released. This is more or less like some string synths (e.g. the ARP Solina / Arturia Solina V).

Note that this applies only to the treble voices (green/white tabs on the right), not the bass. The bass does have attack, but only up to 3 ms (so you can still use it to prevent pops/clicks). The bass doesn't affect the global paraphonic envelope at all. The idea behind this is to be able to play hard bass notes combined with slow treble chords such as pads/strings for more flexibility.

When AR Env is off the Voice Mode switch is ignored.

3.5.5 The Envelope section

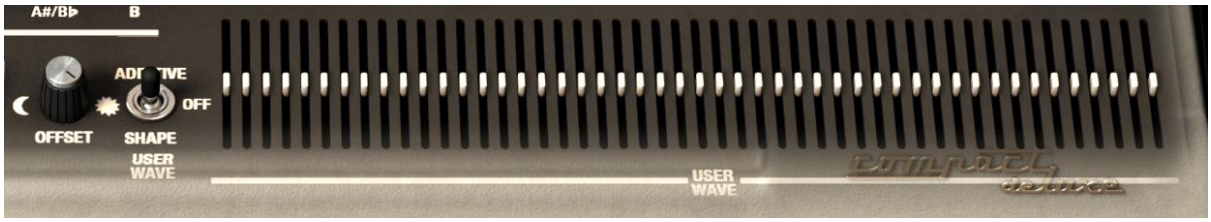
By switching the attack / release switch on you activate the AR Env section. You will then be able to create a slower or faster attack and release setting using the two dials.

With faster attack (dial turned to the left), the sound comes in more quickly and has a sharper fee. With slower attack the sound takes a little time to fade in, which is better for string and pad style sounds.

A lower release value (dial turned to the left) means the sound stops being generated almost as soon as you release a note. Turned to the right, the release is slower and the note sill sustain and fade out over time. Again this is better for pad or string style sounds.

3.5.6 The User Wave section

This is something that's a special addition in the software version of the Farfisa, a way for you to draw in your own waveform to use for generating sound.



The User Wave switch lets you choose between

- **Off**: The original Farfisa Compact waveform, which is like a blend between a sawtooth and a pulse wave and which is slightly different for each note (i.e. oscillator/divider output). In this mode the sliders do nothing (unless you have selected Additive/Shape for the bass).
- **Additive**: In Additive mode you can mix harmonics (sine waves) using the 48 sliders. If you use only the first few you will get classic tonewheel

organ-like sounds (because its drawbars also mix in harmonics/sine waves). As you mix in more harmonics you will get increasingly harsher sounds. Note that to hear all harmonics you will have to select a voice filter that passes lots of high frequencies, e.g. All Booster or the Strings voices.

- **Shape**: In Shape mode you can use the 48 sliders to freely draw a waveform (see e.g. the Templates > Square Wave preset). In Additive/Shape mode the waveform is the same for all notes (although its output level does still vary per note), so it's much more like a synth.

Note that when you switch User Wave modes the sliders are saved, i.e. if you draw a nice shape while in Shape mode, and then temporarily switch to Additive mode, and then switch back to Shape again, your shape will still be there.

Also note that the bass can also use the Additive/Shape waveforms. However, the bass doesn't have its own set of User Wave sliders, so it reuses the treble User Wave sliders.

The Offset dial is a 12 dB/octave low-pass filter that is applied only when User Wave is set to either Additive or Shape. When the Offset dial is at 100% you hear all harmonics, at 50% you only hear about half of them, and at 0% you only hear the first harmonic.

3.5.7 Master volume and EQ

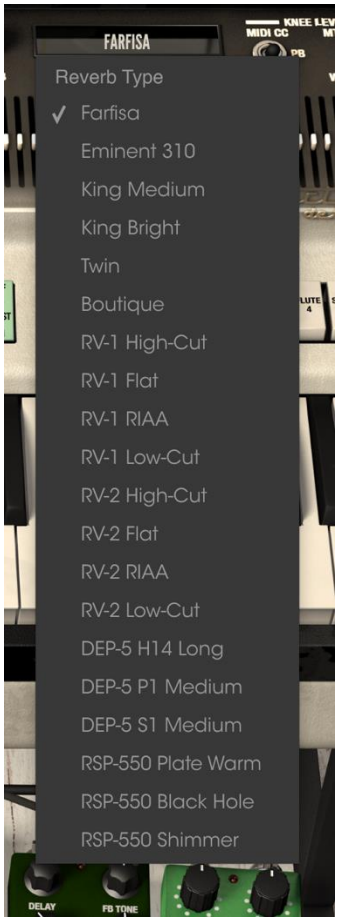
Here you can control the master output level of the whole organ before it is passed to the amp, if the amp is active. Note that if the amp is powered on it also has a Master Volume control. If the organ is switched on but the amp is on with its volume turned down, you will hear quiet sound or no sound. If you have the amp switched off, the volume control in the Advanced section controls the instrument's whole output. If you have both volume controls turned up high, you will generate a very hot signal.

The Bass and Treble dials work to shape the organ's output. Use them to add or remove bass or treble frequencies from the sound. The reverb dial controls the amount of reverb applied to the signal. All the way to the left, the signal is dry and turned all the way to the right, 100% of the reverb is being applied.

3.5.8 Reverb type

In the Advanced section you can access different kinds of reverb types. Click on this menu option to select one and then use the reverb level dial as well as the reverb on / off switch on the front panel to manage its behaviour. The models of reverb are:

- Farfisa - Farfisa Compact Duo F/AR spring reverb.
- Eminent 310 - Eminent 310 Unique organ spring reverb.
- King Medium/Bright - Danelectro DSR-1 Spring King spring reverb.
- Twin - Fender Twin Reverb guitar amp spring reverb.
- Boutique - Boutique guitar amp spring reverb.
- RV-1 - Furman RV-1 spring reverb.
- RV-2 - Two Furman RV-1 spring reverbs in a stereo configuration.
- DEP-5 - Roland DEP-5 digital effects processor.
- RSP-550 - Roland RSP-550 stereo signal processor.



3.5.9 The Knee Lever section

The Knee Lever is a physical lever on a Farfisa that is controlled with the knee and affects the tone boost feature. Here it can also be used to activate a wah filter if you choose that switch position.

The Knee Lever MIDI switch lets you choose between:

- **MIDI CC**: The Knee Lever is controlled by Control Change (CC). You can use MIDI Assign from the toolbar to select which CC number to use. In this mode the Knee Lever works just like any other knob, and it doesn't automatically return to 0%.
- **PB**: The Knee Lever is controlled by Pitch Bend i.e. the Pitch Wheel. In this mode the Knee Lever automatically returns to 0%.

- **AT**: The Knee Lever is controlled by Channel Aftertouch. Again it automatically returns to 0%.

Note that the position of the Knee Lever in MIDI CC mode is saved when switching Knee Lever MIDI modes.

The Knee Lever Wah switch lets you toggle between:

- **MTB**: When the Multi-Tone Booster (MTB) tab is activated the Knee Lever can be used to mix in high frequencies.
- **Wah**: The Knee Lever no longer controls the MTB frequency mix, but can be used as a wah.

Note that in MTB mode the Knee Lever only affect the MTB voices (green tabs), not the other treble voices (white tabs), and also not the bass. In Wah mode the Knee Lever affects all treble voices (green and white tabs), but again not the bass.

3.6 The amp and effects

3.6.1 How this section works

The original Farfisa like many organs was often played through a guitar amp and / or guitar effects to enhance its sound and provide a harder or more psychedelic edge. The effects come between the organ and the guitar amp in Farfisa V and when the effects and amp are all switched off, what you hear is the pure output of the organ.

When you activate any of the effects or the amp, they begin to process the sound. You can swap the order of any of the effects by clicking on their name text and choosing a new model to go into that slot.

Note that when you do this the pedal will swap positions. So if you swap an Overdrive for a Chorus in slot 2, the Overdrive will take the position the Chorus pedal was just in. All five pedals must be present in the pedalboard, though none of them has to be active. There is no option to have an empty pedal slot. The effect pedals are taken from Arturia's other vintage keyboard models. Switch any effect on by pressing its virtual footswitch. All effects, the amp and swell pedal can be MIDI controlled by using MIDI learn mode.

3.6.2 The amp

The amp is based around a Fender Twin and can be switched off to leave either the output of the organ or the organ plus effects, or switched on to lend a more vintage, amped sound to the signal.

Starting from right and moving left the controls are as follows:

- The Power switch activates or deactivates the amp.

- The Master Volume knob acts as a volume control for the output of the whole instrument when the amp is switched on.
- The Treble, Middle and Bass dials let you sculpt the EQ of the amp's output just like on a real guitar amp.
- The Volume dial acts as a channel volume control.
- The Bright switch can be used to add more presence and brightness to the sound. It is only active at low volumes.
- The Axis switch lets you alter the virtual microphone between On Axis, which gives a more direct sound with the mic pointing straight at the amp, and Off Axis which uses a mic pointed at an angle which gives a slightly less direct character.

3.6.3 The flanger

Flanging works by mixing two identical signals together, one signal delayed by a small and gradually changing period. This produces a swept comb filter effect. Here, the controls are:

- Flanger Rate
- Delay amount
- Effect Depth
- Resonance

3.6.4 The phaser

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 particularly well on organ sounds like Farfisa. The controls are:

- Modulation Rate
- Feedback amount
- Phaser depth
- Stereo spread

3.6.5 Chorus pedal

Chorus works by adding a second voice to the signal and in the process making it harmonically richer and adding a sense of movement. The controls are:

- A three-position chorus type switch
- Stereo Chorus Rate
- Stereo Width
- Rate
- Delay amount
- Chorus Amount
- Dry / Wet Mix

3.6.6 Analog Delay pedal

Delay is a great effect to use on organs as it can really increase the sense of depth and space without becoming "splashy" and adding to much air and high end like reverbs sometimes do. The controls are:

- Delay Rate
- Delay Feedback Tone
- Feedback Amount
- Dry / Wet Mix
- LFO Rate
- LFO Depth

3.6.7 Overdrive pedal

Overdrive is great for adding drive, crunch and grit to organ sounds. The controls are:

- Drive Amount
- Output Level
- Drive Tone

3.6.8 The Swell pedal

The swell pedal is pre-amplified and connected directly to the organ. It controls the volume of the organ before sound is passed to the effects pedals or the amplifier. It acts as a volume pedal for changing the volume during performance. As such it's a perfect candidate for MIDI assigning to a real hardware expression or volume pedal so you can get a much more authentic playing experience when triggering Farfisa V from your MIDI keyboard.

4 END USER LICENSE AGREEMENT

1. General

1.1 In consideration of payment of the Licensee fee, which is a portion of the price you paid, Arturia, as Licensor, grants to you (hereinafter termed "Licensee") a nonexclusive right for the use of software including related media, documentation (for example program descriptions, manuals) and other documents and materials manufactured by Arturia SA ("Product(s)").

All intellectual property rights in the software belong to Arturia SA (hereinafter: "Arturia").

1.2 The following editions of the Product are available: "**Demo**", "**Standard**", "**EDU"** and "**NFR**". Whilst each edition equips the User with the same software, the editions vary as regards both the scope of functions activated in the Product, and the rights of use granted under this EULA.

1.3 By installing the software on your computer you agree to these terms and conditions. If you do not approve these terms and conditions, you must not install this software.

1.4 If you do not approve these terms and conditions, please return the complete Product (including all written matter, packaging and similar material) to the dealer from whom it was originally bought within 14 (fourteen) days after the day of purchase. For purchases from the Arturia Online Store, please contact Arturia on the internet website: www.arturia.com/support/askforhelp/purchase.

1.5 Arturia reserves all rights not expressly granted in the EULA.

2. Right of use

2.1 The Product is protected by copyright. The Licensee may not lease, loan or sub-license the software. The Licensee is not authorized to modify the software.

2.2 Owning any product provided to the Licensee as **"Standard"** version grants the Licensee a non-exclusive right to use the Product in perpetuity including commercial purposes. The Licensee can activate the Product on up to five computers, as long as only one installation is used at any given time. The Licensee must register the Product to Arturia to get access to client support, and to activate his Product. (An internet connection is required to register and activate the Product, either on the computer on which the Product is installed, either on another device able to exchange files with the computer on which the Product is installed). Owning a license of the Products entitles the Licensee to get access to the future updates of this Product.

2.3 Any Products provided to you as **"NFR"** (Not For Resale) version grants the Licensee a non-exclusive right to use the Product for a limited period of time. The Product shall only be used for demonstration, testing and evaluation purposes. NFR Products must not be used for commercial purposes, and must

not be resold or transferred. The Licensee can activate the Product on up to five computers, as long as only one installation is used at any given time. The Licensee must register the Product to Arturia to get access to client support, and to activate his Product. (An internet connection is required to register and activate the Product, either on the computer on which the Product is installed, either on another device able to exchange files with the computer on which the Product is installed). NFR Products are exempt from update, upgrade or crossgrade offers, and cannot be purchased with or exchanged for vouchers or coupons. Furthermore, as an owner of a NFR Product, you are not entitled to any vouchers that ship with the standard version of the Product.

2.4 Any Products labelled or otherwise provided to you as an "**Educational**" version grants the Licensee a non-exclusive right to use the Product in perpetuity. The Product shall only be used by students or those working in educational institutions. This definition includes students, faculty, staff and administration attending and / or working at an educational institutional facility: private / public schools, colleges, universities and similar. These Products must not be used for commercial purposes, and must not be resold or transferred. The Licensee can activate the Product on up to five computers, as long as only one installation is used at any given time. The Licensee must register the Product to Arturia to get access to client support, and to activate his Product. (An internet connection is required to register and activate the Product, either on the computer on which the Product is installed, either on another device able to exchange files with the computer on which the Product is installed). These Products are exempt from upgrade or crossgrade offers, and cannot be purchased with or exchanged for vouchers or coupons. Furthermore, as an owner of an educational Product, you are not entitled to any vouchers that ship with the standard version of the Product.

2.5 Any Products labelled or otherwise provided to you as a "**Demo**" version grants the Licensee a right to use the Product only for demonstration and evaluation purposes. These Products must not be used for commercial purposes, and must not be resold or transferred. These Products are exempt from upgrade or crossgrade offers, and cannot be exchanged for vouchers or coupons.

3. No Unbundling

Bundles (product bundles are an association of software and hardware or software-only products) can only be resold / transferred as a whole. The individual components of a bundle must not be resold / transferred separately.

4. Resell

4.1 Renting or lending the licensed Software to a third party is expressly forbidden. Apart from that and if not provided otherwise within this EULA.

4.2 Except if otherwise stated within this EULA, Licensee may resell the software to a third party or transfer the software permanently free of charge, provided

the third party agrees in writing with this EULA and Licensee ceases all use of the software, completely removes all installed copies of the software from his computers and – if the software was not purchased via download – deletes or transfers the original media delivered with the software to the third party. In addition, Licensee is required to de-register the purchased software with Arturia (more information available on www.arturia.com).

5. In case a sound library is part of the purchased Product the following shall apply in addition to the EULA

The provided samples, instruments and presets can be used for commercial or non-commercial music and audio Productions without the prior permission from Arturia under the terms of this Agreement. The usage of this Product (in particular samples, instruments and presets) for the creation of a sound library or as a sound library for any kind of synthesizer, virtual instrument, sample library, sample-based Product or other musical instrument is strictly prohibited. Individual samples, sound sets or audio loops may not be distributed (commercially or otherwise) standalone. Furthermore, these samples, sound sets or audio may not be repackaged in whole or in part as audio samples, sound libraries or sound effects.

6. Data Protection

Arturia attaches great importance to compliance with legislation on data protection. The User data collected are used exclusively for performing its contractual obligations. No data is passed on to third parties. Further information can be obtained from our Privacy Policy at

www.arturia.com/privacy.

7. Limited Warranty

Arturia warrants that the physical media on which the software is provided is free from defects in materials and workmanship under normal use for a period of thirty (30) days from the date of purchase. The Licensee's invoice shall be evidence of the date of purchase. Any implied warranties on the software are limited to thirty (30) days from the date of purchase. Some states do not allow limitations on duration of an implied warranty, so the above limitation may not apply to the Licensee in this case. All programs and accompanying materials are provided "as is".

8. No Liability for Consequential Damages

Neither Arturia nor anyone else involved in the creation, production, or delivery of this Product shall be liable for any direct, indirect, consequential, or incidental damages arising out of the use of, or inability to use this Product (including without limitation, damages for loss of business profits, business

interruption, loss of business information and the like) even if Arturia was previously advised of the possibility of such damages. Some states do not allow limitations on the length of an implied warranty or the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusions may not apply to the Licensee in this case. This warranty gives the Licensee specific legal rights, and the Licensee may also have other rights which vary from state to state.

Sample rate converter designed by Aleksey Vaneev of Voxengo