

USER MANUAL

ANALOG **LAB** 2

ARTURIA[®]
YOUR EXPERIENCE • YOUR SOUND

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Special Message Section

Specifications Subject to Change:

The information contained in this manual is believed to be correct at the time of printing. However, Arturia reserves the right to change or modify any of the specifications without notice or obligation to update existing software installations.

IMPORTANT:

The product used in combination with an amplifier, headphones or speakers, may be able to produce sound levels that could cause permanent hearing loss. DO NOT

operate for long periods of time at a high level or at a level that is uncomfortable. If you encounter any hearing loss or ringing in the ears, you should consult an audiologist.

NOTICE:

Service charges incurred due to a lack of knowledge relating to how a function or feature works (when the software is operating as designed) are not covered by the manufacturer's warranty, and are therefore the owner's responsibility. Please study this manual carefully and consult your dealer before requesting service.

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1 INTRODUCTION

1.1 History

Early in 2001 Arturia began working on advanced algorithms for the digital emulation of analog circuit audio characteristics. They are known as TAE®, short for True Analog Emulation. In non-technical language, this is an unprecedented way of analyzing and recreating the analog circuits of the original product. Nearly a year after they began work on the algorithms, Arturia was ready for feedback. At the 2002 NAMM show in California, Arturia shared an early version of what would later be the Modular V synthesizer: a recreation of the classic 60's modular synthesizer that set the foundation for all synths to come.

In seeking insight from sound production experts as well as avid synthesizer users, Arturia was able to ensure the quality of the instruments they made. The launch of this sound powerhouse was an instant success, winning awards from several top magazines, and leading to the development of other synth recreations.

Shortly thereafter, Arturia started receiving many requests from musicians, producers and bands. Many of them explained how they were planning to replace their original hardware synthesizers with virtual instruments. Artists around the globe were beginning to see the advantages of a software alternative to hardware-based synthesizers. Arturia was quite happy to oblige, and has responded with a well-rounded list of the most loved synthesizers of all time.

The CS-80V emulated the legendary Yamaha CS-80, considered by many as "the ultimate polyphonic" synthesizer, and was launched at the AES 2003 in New York.

ARP 2600V was launched at the Winter NAMM Show 2005 in Anaheim. This is a faithful reproduction of the ARP 2600 and is great for just about any sound one might wish to create: everything from drum n' bass stabs to Star Wars' R2-D2 sounds have been made with the ARP.

At the Winter NAMM Show 2006, Arturia announced the release of its seventh product: the Prophet V. This powerful hybrid gives you two instruments in one: it combines the warmth of the legendary Prophet 5 programmable analog synth with the unique Vector Synthesis textures of the digital Prophet VS.

At the summer 2007 NAMM Show Arturia launched the Jupiter-8V. The Jupiter-8V was capable of creating very versatile sounds: You could easily make "fat" or "crystal" sounds with it. In fact, Jupiter-8V sounded the way it looked: "sleek and polished".

After Jupiter 8V came Oberheim SEM V. With SEM V Arturia brought forth the unique sound of the constantly variable filter and oscillators the original SEM had. The addition of the 8 Voice Programmer module allowed the user to recreate one of most rare and expensive polysynths of the 70's, the Oberheim 8 voice. As usual, Arturia went beyond the original boundaries of the product and added new sound and modulation capabilities, features that take SEM V far beyond the original while maintaining the classic sound characteristics.

In 2012 Arturia launched its first venture into the classic electric piano products with the release of Wurlitzer V. Based on a physical modeling engine, it recreates the sound used on many of the best albums ever. Once again Arturia went a step beyond and gave the user access to the physical modeling parameters themselves, allowing you to sculpt the sound in ways never before possible.

In 2014 Arturia expanded into recreating the classic Vox Continental transistor organ. The Vox sound was a key part of the early British Invasion sound as well as the Ska and Two-tone label sounds of the 70's and 80's.

Our Vox goes well beyond the original by adding the more drawbars, expanded modulation and percussion sections and a recreation of the extremely rare Jennings J70 voice engine. It is designed to “light your fire”.

Now that we had synths, a classic electric piano and a legendary organ, we decided to expand into the realm of vintage string machines by recreating the Arp/Eminent Solina. The Solina creates lush string sounds that were the staples of many bands in the 70's and 80's. We modeled the original circuits of the Solina so that it stays true to character and has the life that the original had but then brought in many new features to be able to expand the sound pallet.

At the same time that Solina was released we shipped one of the most ambitious and powerful synths ever made; a recreation of the Oberheim Matrix 12. This powerhouse synth stands today as one of the most powerful synths ever made. With its numerous modulation sources and nearly unlimited routing possibilities, the Matrix 12 V is still considered one of the greatest synths ever.

With the release of the V Collection 5 in May 2015 five new legendary instruments were added to the reference collection of virtual keyboards. The Synclavier V, an amazing digital synthesizer and workstation, was initially priced between \$40 000 and \$400 000. It was based on a mix of additive synthesis and FM with the unparalleled possibilities offered by the time slice engine. It was recreated using parts of the code of the original Synclavier in partnership with Cameron Jones, developer of the original instrument. The B-3 V reproduces the most emblematic tonewheel organ and its inescapable rotary speaker. The Farfisa V is an emulation of two transistor organs mixed as one, the Farfisa Compact Deluxe and Duo. The Stage-73 V, bringing the sublime sound of two versions of the iconic fine-based electric piano from the 60s and 70s. Last but not least the Piano V introduces the absolute king of all keyboard instruments, the acoustic piano and more precisely 9 models from the simplest to the most unconventional.

Analog Lab 2 offers a selection of sounds from across the V Collection, providing a powerful but easy way to access a wide spectrum of tones from a single application. The sounds are taken from the following instruments:

- ARP 2600 V
- B-3 V
- CS-80 V
- Farfisa V

- Jup-8 V
- Matrix-12 V
- Mini V
- Modular V
- Piano V
- Prophet V
- SEM V
- Solina V
- Stage-73 V
- Synclavier V
- Vox Continental V
- Wurli V

The Multi system allows you to combine any two patches, layering or splitting them across a key range meaning there is a virtually unlimited potential for sound creation.

1.2 Here and Now

Analog Lab 2 brings all of these classic instruments and more together into one software application. It allows the user access to the sounds of all these great hardware instruments that now are out of reach for most to be able to purchase. With its simple but powerful browser and data filtering, it makes finding the right sound quick and easy.

The MULTI features allow you to create your own splits and layers of these powerhouse synths and keyboards with simple drag and drop functionality. The Playlists area then allows you to organize your sounds and multis so you can recall them quickly via program change messages. Analog Lab 2 is more than just a sound library of the best analog keyboards; it is a powerful sound design tool and live performance instrument that will become an integral part of your everyday workflow.

The software also supports Arturia's many MIDI controller devices natively and will adapt to reflect their physical controls once they are connected. You can of course use generic MIDI controllers as well.

1.3 TAE®

TAE® (True Analog Emulation) is Arturia's outstanding technology dedicated to the digital reproduction of the analog circuits used in vintage synthesizers. Many of the instruments whose sounds are included in Analog Lab 2 use this technology.

TAE®'s software algorithms result in spot-on emulation of analog hardware. This is why Analog Lab 2 and all of Arturia's virtual synthesizers, offer an unparalleled quality of sound.

2 ACTIVATION AND SETUP

2.1 Register and Activate

Analog Lab 2 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 Analog Lab 2 as an Audio Units, AAX, VST2 or VST3 instrument.



Once Analog Lab 2 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>

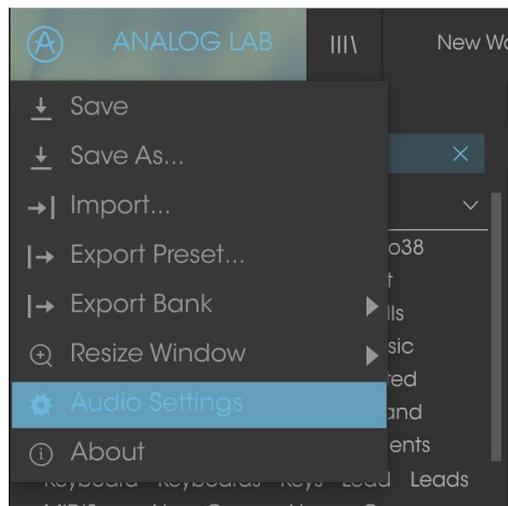
Note: If you don't have an Arturia account yet, you will need to create one. The process is quick, but it does require that you can access your email address during the registration process.

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

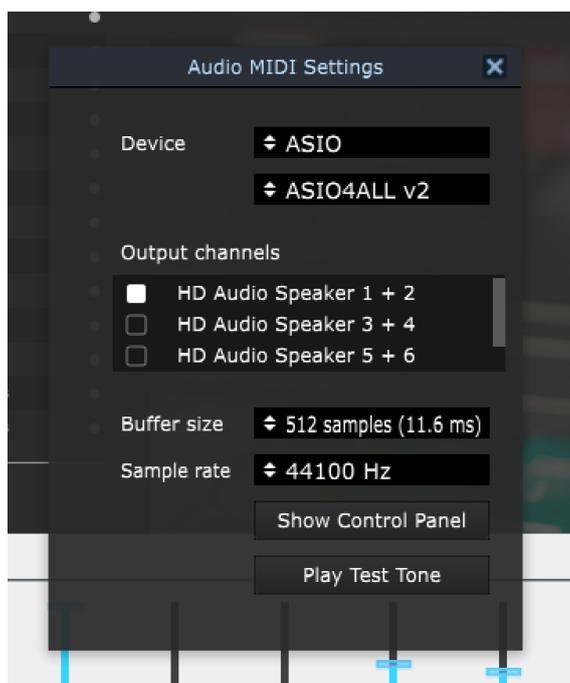
2.2 Initial setup

2.2.1 Audio and MIDI settings : Windows

At the top left of the Analog Lab 2 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.



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.



The Audio MIDI Settings on Windows

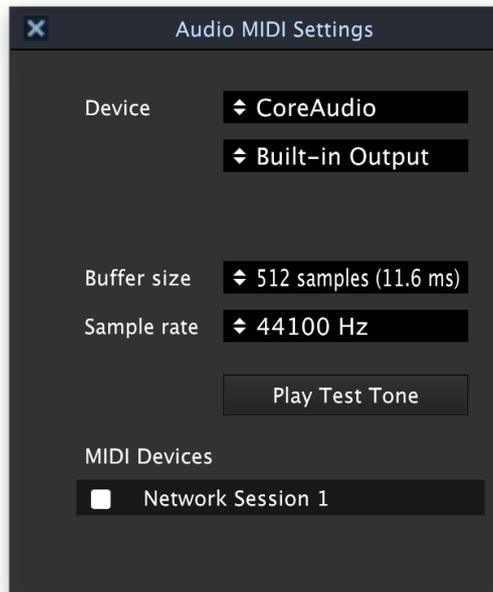
Starting from the top you have the following options:

- 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 higher 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 when they are available. Click the check box to accept MIDI from the device you want to use to trigger the instrument. In standalone mode, Analog Lab 2 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.



The Mac OS X Audio MIDI Settings window

2.2.3 Using Analog Lab 2 in plug-in mode

Analog Lab 2 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 will 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.
- You can automate numerous parameters using your DAW's automation system.
- You can use more than one instance of Analog Lab 2 in a DAW project. In standalone mode you can only use one at once.
- You can route Analog Lab 2's audio outputs more creatively inside your DAW using the DAW's own audio routing system.

3 USING ANALOG LAB

Analog Lab 2 contains thousands of presets taken from Arturia's award-winning emulations of the world's greatest hardware synthesizers, organs, vintage keyboards and pianos.

This chapter will go in-depth into the features Analog Lab offers so you can get the most out of this incredible software.

3.1 The interface

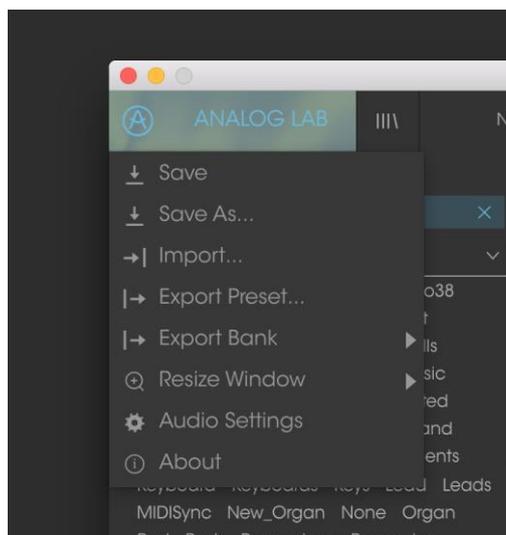
Analog Lab 2 shares a similar core application interface to many other instruments in the V Collection. It has been designed to let you work quickly and intuitively, focusing on finding, loading and tweaking sounds without spending lots of time searching or switching windows or sections.



The main interface

3.2 The 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 Analog Lab 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.

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 or a bank file.

3.2.4 Export preset

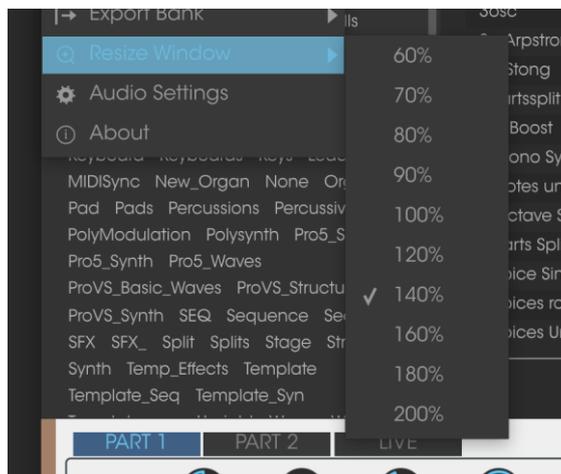
You can export any preset as a file using this command.

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

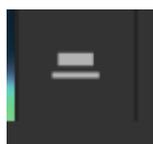
Analog Lab 2's window can be resized from 60% to 200% of its original size without any visual artefacting. On a smaller screen such as a laptop you might want to reduce the interface size so it doesn't dominate the display. On a larger screen or a second monitor you can increase its size to get a better 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.



3.2.7 Audio settings

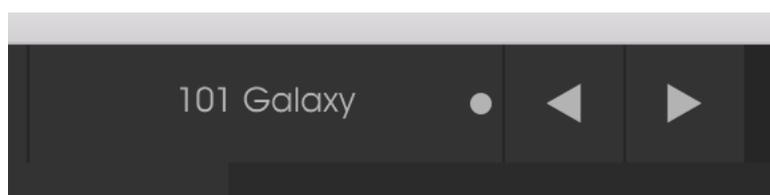
Here you manage the way the instrument transmits sound and receives MIDI. See section 2.2 of the manual for full details on this.

3.2.8 The Studio View



Click on this button to reveal the Studio View. See section 3.4.1 for more on this.

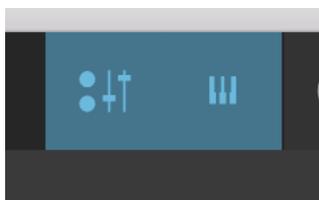
3.2.9 Current preset and navigation arrows



This area of the Toolbar shows the name of the currently selected preset or multi. The white dot displays when a single preset is loaded, and when a multi is loaded

this will be shown by the presence of two white dots side by side. The left and right arrows let you navigate up and down your preset list.

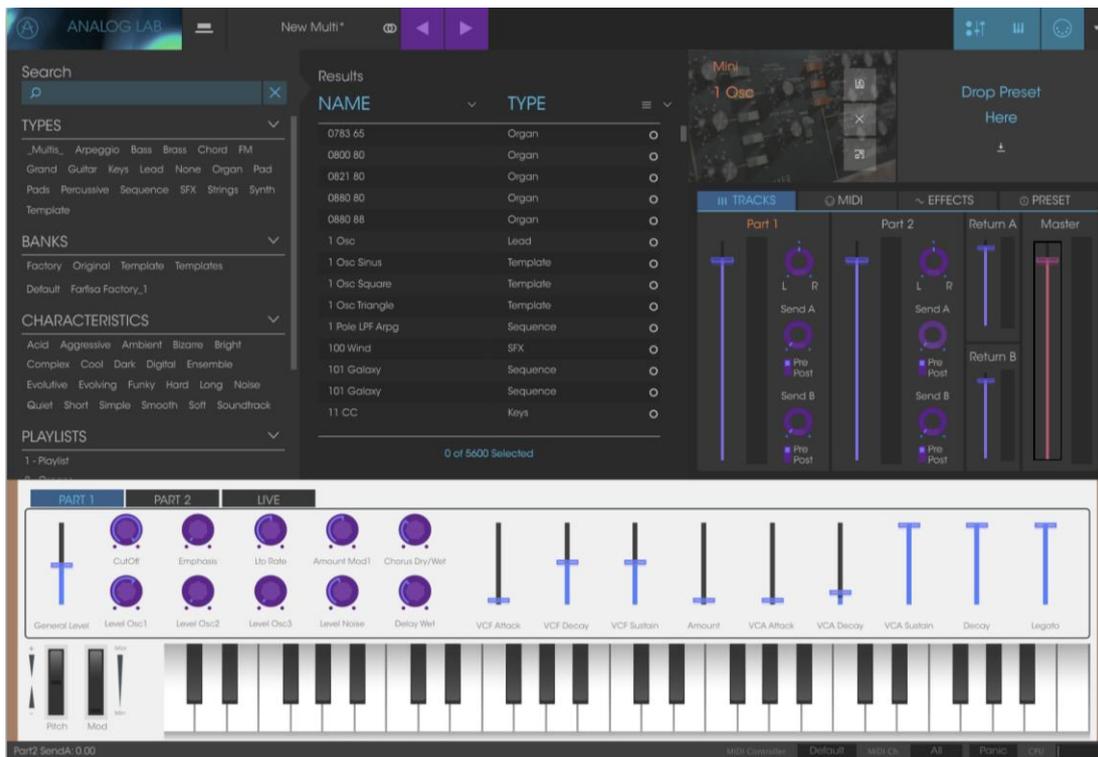
3.2.10 Show Controls and Keyboard



The button with small sliders can be clicked to reveal the controller area where you can make changes to the currently loaded sound. The button with the keyboard icon will reveal a virtual keyboard that you can play with the mouse. Click again on either of these buttons to hide the relevant section of the interface.

3.2.11 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 macro controls so you can change the sound from your hardware keyboard.



Analog Lab 2 in MIDI learn mode

MIDI learn works for Analog Lab's controller areas, mixer and effects sections and patch select buttons. You can't use MIDI learn directly on the parameters of the instruments interfaces, but you can MIDI assign a controller of Analog Lab's controller area and then assign this controller to a parameter of the instrument interface (see Controller assignment in section **3.6.1**).

3.2.11.1 How MIDI assignment works

Placing the instrument into MIDI learn mode using the MIDI plug icon at the top right hand corner of the application activates the application's MIDI learn mode, with assignable parameters shown in purple.

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.



The MIDI Control Setup window

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 these cases the behaviour 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, 33.3/33.3/33.3 (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.

In the case of drawbars which have nine different positions the same rule applies but instead of splitting the controller range into two or three it is split into nine.

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 if 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.



3.2.11.2 Reserved MIDI CC numbers

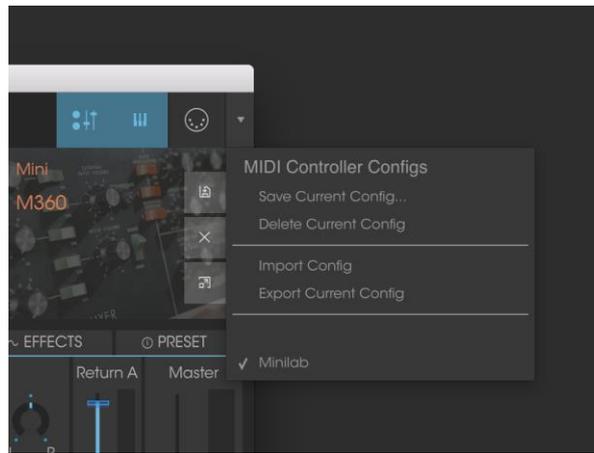
Certain MIDI Continuous Controller (MIDI CC) numbers are reserved and cannot be reassigned to other controls. These are:

- PitchBend
- Ctrl Mod Wheel (CC #1)
- Ctrl Expression (CC #11)
- After Touch
- Ctrl Sustain On/Off (CC #64)
- Ctrl All Notes Off (CC #123)

All other MIDI CC numbers may be used to control any assignable parameter in Analog Lab.

3.2.12 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 save, delete, export or import MIDI configurations. This can be used to quickly set up different hardware MIDI keyboards or controllers with Analog Lab 2 without having to build all the assignments from scratch each time you swap hardware. Files are stored in the format .labmidi.



Here's a breakdown of what each of the features in this section does:

Save current config: Saves the current configuration inside Analog Lab. A window will prompt you to give the new configuration a name, after which it will appear at the bottom of the drop-down list.

Delete current config: Note: Be sure to export a configuration first before deleting it! You may decide you want to use it later after all.

Based on the picture above, if you were to select "Delete" the configuration "My_external_setup" would be deleted from the drop-down list. If you have exported it before deleting it then it will still remain in the folder where you placed it, and you can re-import it later from there.

Import config: Allows you to import a configuration from whatever location you have used as an export destination.

Export current config: Use this to create a backup copy of your configuration outside the Analog Lab program. That way you will be able to re-import it if you accidentally delete it from the configuration list.

The MIDI controller configs will be exported into the format "*.lab2midi" ("*" stands for the name you have given to the file).

Configuration list: Once you have given a name to your new configuration it will appear in the drop-down menu under the Default configuration. You can now select it, export it or delete it from this list.

As you can see, it's easy to set up Analog Lab to work perfectly with whatever controller you are using. This means you'll be able to set up Analog Lab quickly for any situation, whether you will be recording or performing live.

3.2.13 The lower toolbar



At the right hand side of the lower toolbar are four 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. The button shown here displaying 'All' can be clicked to select a specific MIDI channel for Analog Lab to use.

The button shown here displaying 'Minilab' can be used to select which MIDI controller you have connected. If you are using one of Arturia's own MIDI controllers it will be auto-detected and the layout of the software changed automatically. If you select Default Controller you may need to make your own assignments to set up MIDI control maps.



3.3 Virtual keyboard

The virtual keyboard area in Analog Lab gives you access to both a click-and-play keyboard and a slew of controls which you can use to modify the Sounds. Let's work our way through each section.

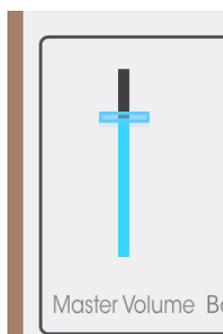
3.3.1 Virtual keyboard options

When Analog Lab detects your Arturia controller it automatically chooses a virtual keyboard that matches that unit's appearance and functionality, so all of your controls are visible on the computer and their assignments match instantly. If you would like to override this assignment, or if you don't have an Arturia keyboard connected to Analog Lab, you can manually select a controller from the button in the lower toolbar.

3.3.2 Virtual keyboards: Common controls and features

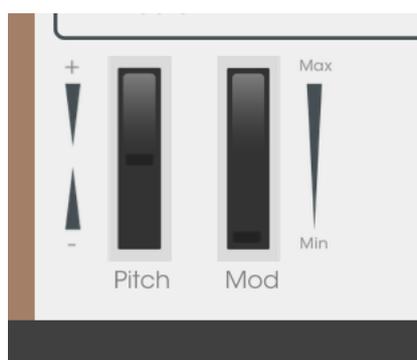
3.3.2.1 Level (master volume)

Each of the virtual keyboard choices has a Level slider in the same location: above the pitch/mod controls. This slider allows you to set the volume of the current part, or the master volume of a Multi if the Live tab is currently selected.



3.3.2.2 Pitchbend and Modulation wheels / touch strips

Depending on the virtual keyboard you have selected their appearance may vary, but you will always have one or the other set of these controls on the left side:



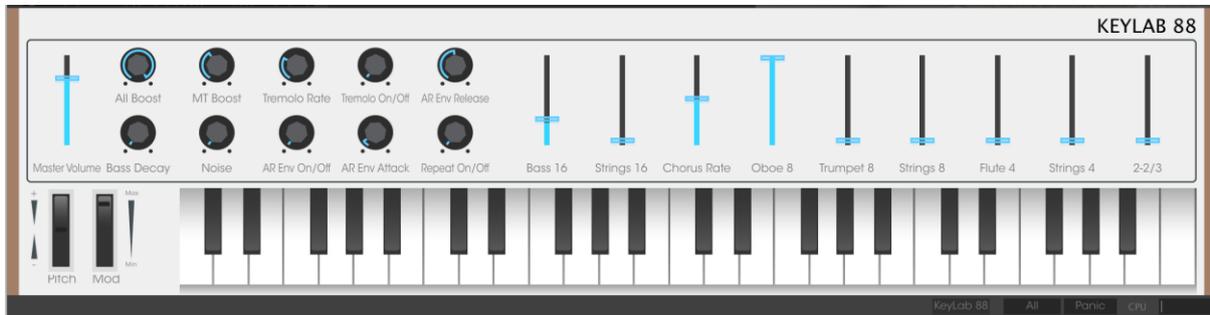
Pitch: Controls the pitch of the sound. Click and drag up or down to alter the pitch of the active Sound.

Mod: Controls the modulation depth (MIDI controller #1). Click and drag upward to increase the modulation, and vice versa.

3.3.2.3 4-octave keyboard

In the absence of an external USB MIDI controller, you can still audition the edits you make to a Sound or Multi by clicking on the virtual keyboard.

3.3.3 Virtual keyboards: To each its own control section



Default controller / Keylab controller

The default virtual controller is basically identical to the Keylab and Laboratory controller. It has the largest number of controls: ten knobs and nine sliders.



Player controller

The Player virtual controller gives you eight knobs.



Factory controller

The Factory virtual controller offers ten knobs and four sliders.



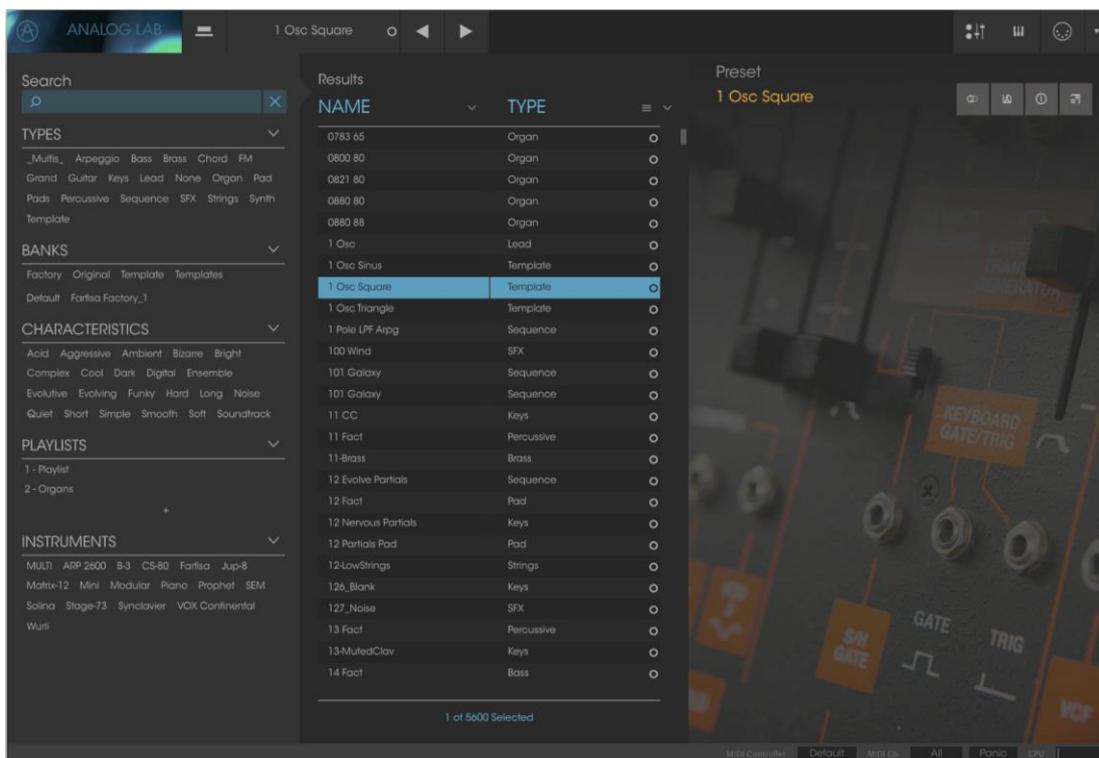
MiniLab controller

The MiniLab virtual controller gives you fourteen knobs.

3.4 Single Sound Mode

A preset contains the memorized settings of the various parameters that are necessary to reproduce a particular sound. The main browser, which is always present on the main page, is where individual presets are located.

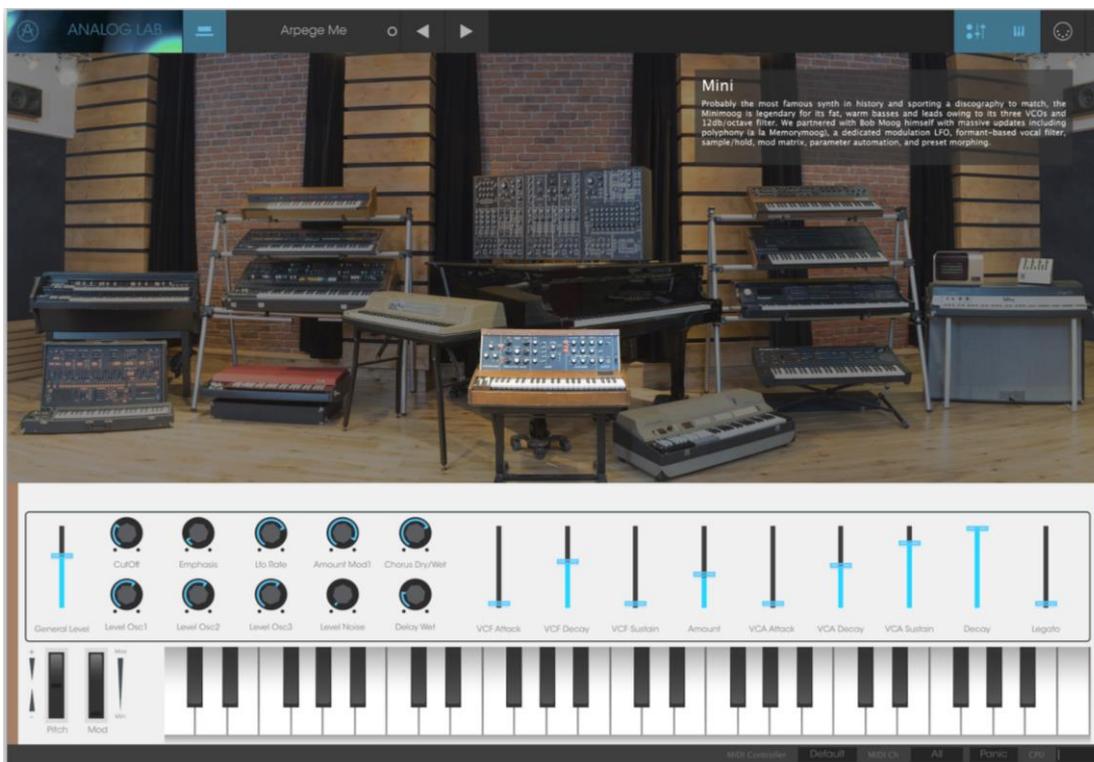
Click on any preset in the Results > Name column to load it. The preset name is displayed to the right, along with an image of the instrument to which the preset belongs.



The main sound browser

3.4.1 Browsing for presets

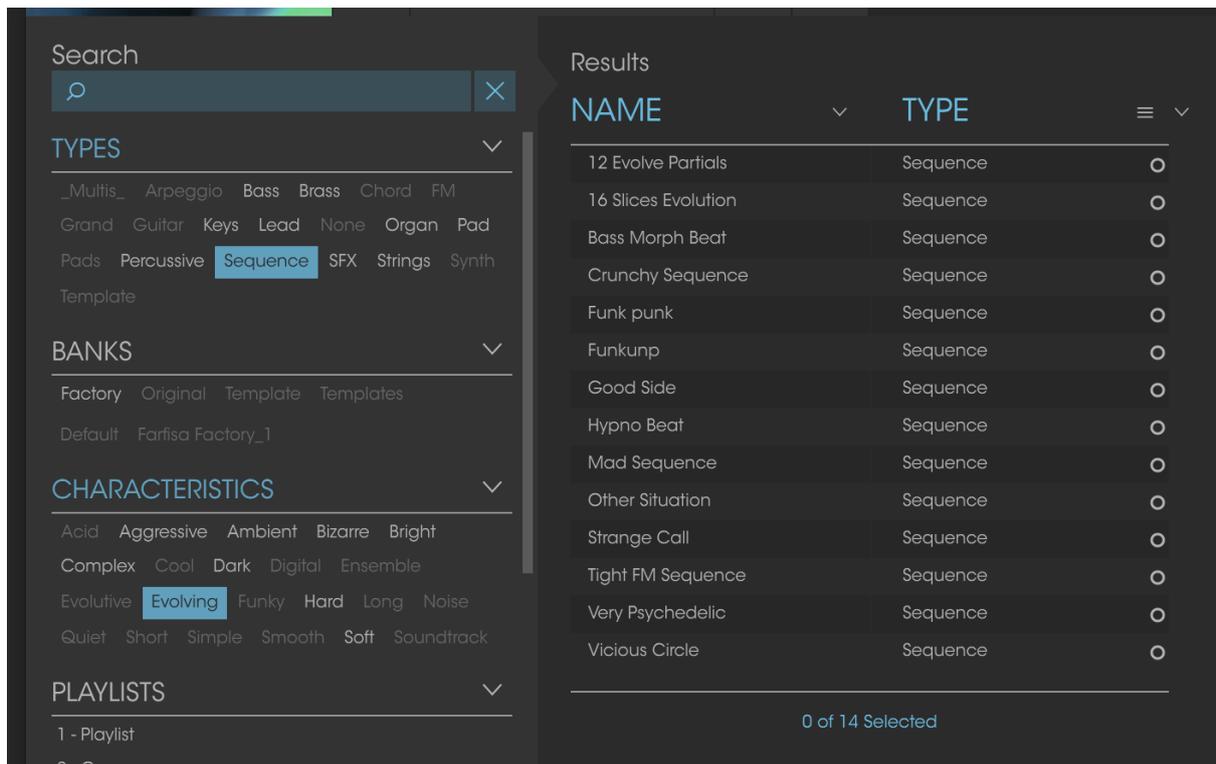
The Browser is always available on the left hand side of Analog Lab's window when you are in the main screen. A quick way to load a sound is to click on the Studio button just above the Search field, which will load the Studio View.



- In Studio View you can click on any of the instruments to select it
- Clicking on an instrument selects the first preset for that instrument in the Arturia Picks playlist, which is a selection of the best presets for each individual instrument.
- The previous and next options let you move between these presets
- When you reach the end of one instrument's playlist, you move automatically on to the next instrument

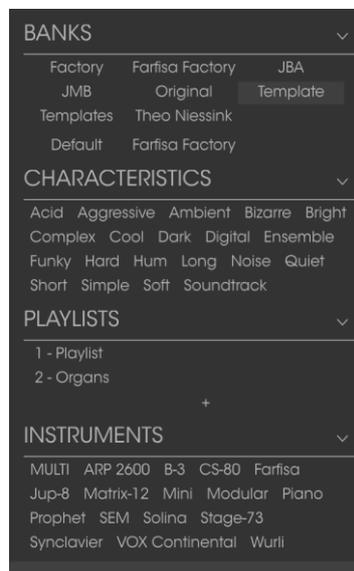
Analog Lab 2, like other instruments in the V Collection, makes extensive use of tagging to make it quicker and easier for you to find the sounds you want. The leftmost column contains all the tags available and clicking on one or more of these will filter the results list to show only patches containing those tags. You can also create your own tags when saving presets and these will be added to the pool.

To select more than one tag, hold the cmd (Mac) or ctrl (Windows) key while clicking on tag names. Typing text into the Search field will quickly reveal any presets matching your search term.



Selecting tags in the Browser

There are four further sections in this column and you can keep clicking on tags to refine your search even further. Each section can be minimized using the arrow by its header, if you don't wish to use it.



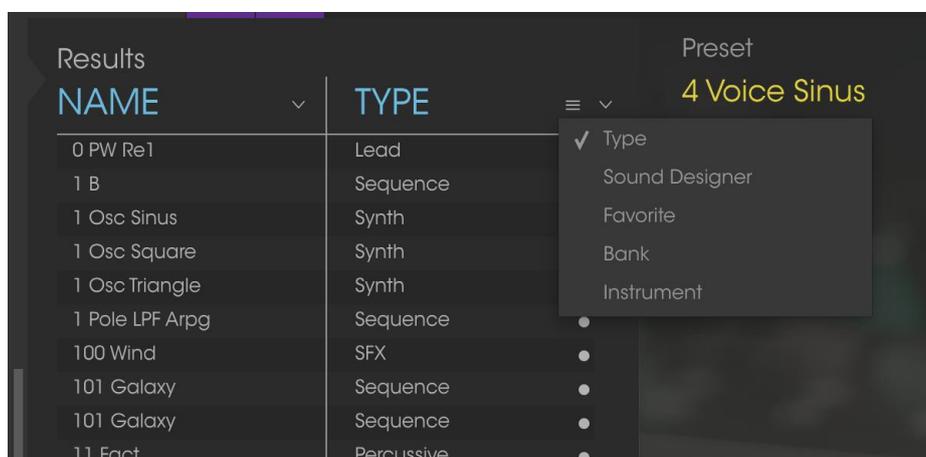
Banks lets you focus in on presets based on the bank they belong to. You can also export whole banks from the main application menu.

Characteristics lets you search using descriptive tags, to find all presets marked with “soundtrack”, for example.

Playlists lets you create your own lists of presets which are useful for live performance when you don't want to have to start searching for sounds in the middle of a gig. You can click the plus arrow to add a new playlist, give it a name and then drag any preset from the Results column into the playlist to assign it to that playlist. You can assign a MIDI controller to move through the items in a playlist which is useful for switching presets during a live performance without having to touch the computer.

Instruments lets you filter results based on the source instrument used to generate the sound.

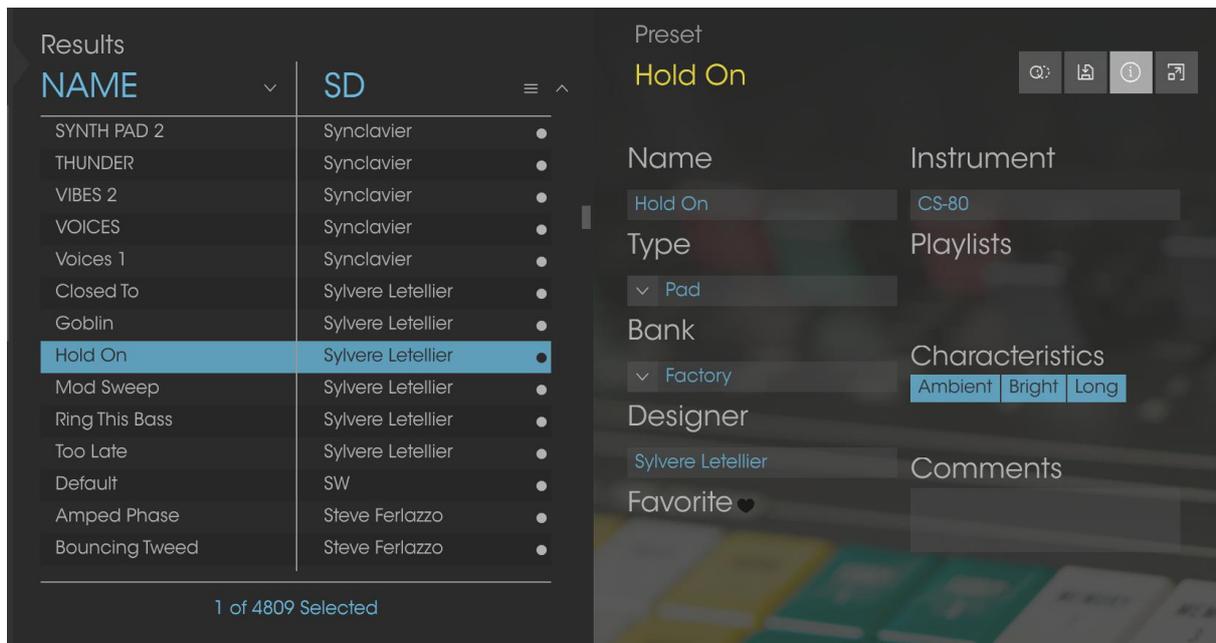
The Results column shows the results of your search or if you have not entered any search text or selected any tags, it displays all available presets.



You can reverse the alphabetical display order of either column by clicking on the small arrow at the top of each one. You can also click the display menu button on the Type column to choose what information is shown in that column. You may prefer for example to see sounds displayed with the associated instrument type rather than the sound designer's name.

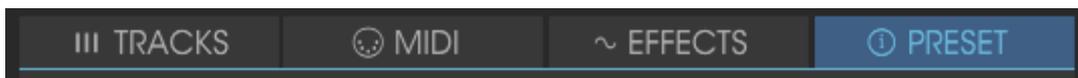
3.4.2 Preset details

When a Single preset is selected, the part on the right of the Preset list is a window showing essential details about the selected Preset.

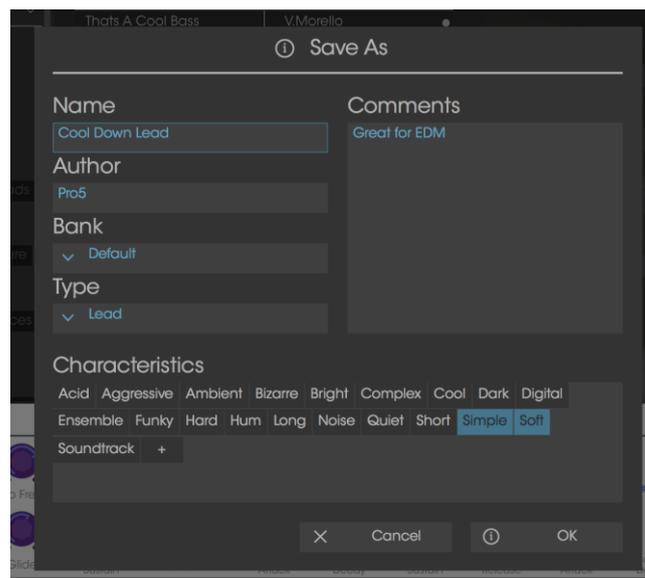


The preset Info window

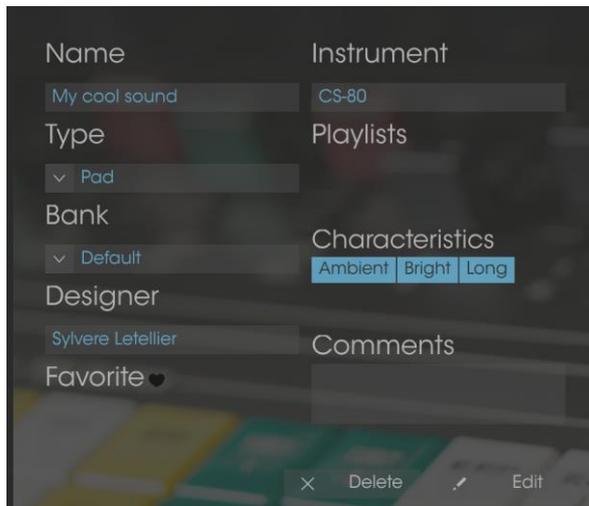
When a Multi preset is selected, this window might not be visible. You can select the 'Preset' tab to show it.



Factory presets cannot have their information edited unless you re-save the preset as a user preset using the Save button at the top right corner here. If you choose to do this you can then edit any information about the preset such as its name, characteristics and any comments you want to add.



A user preset can be edited directly from the Info window without needing to be re-saved. You can tell a preset is a user preset because it will display Delete and Edit buttons in the Info window.

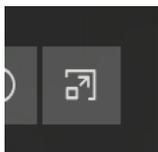


A user preset

3.4.3 Editing a preset

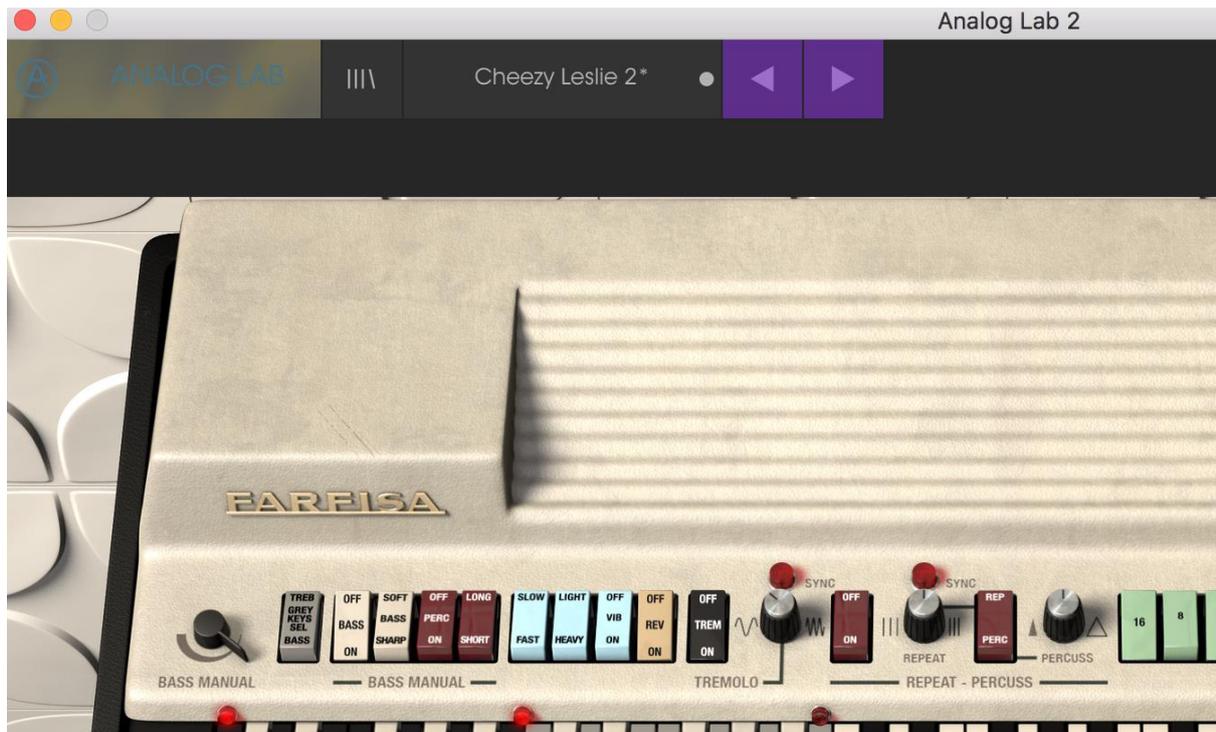
One of the great features of Analog Lab is that it is possible for any of its presets to be opened and edited using the original Arturia instrument on which it was created, as long as you have purchased and installed a copy of that instrument on your computer. Presets created using individual instruments will also be available inside Analog Lab. Similarly when you save a Single preset inside Analog Lab for a specific instrument, that preset can be opened in the standalone version of the instrument if you have it installed and activated.

That being the case, clicking on the Edit button inside the Preset details window will open the current preset inside that synth.



For instance, if you own a copy of Farfisa V you can open any of the Farfisa V presets you find by clicking on the Edit button.

Next, the instrument's editing window will open. All available instrument interfaces open inside Analog Lab's window.

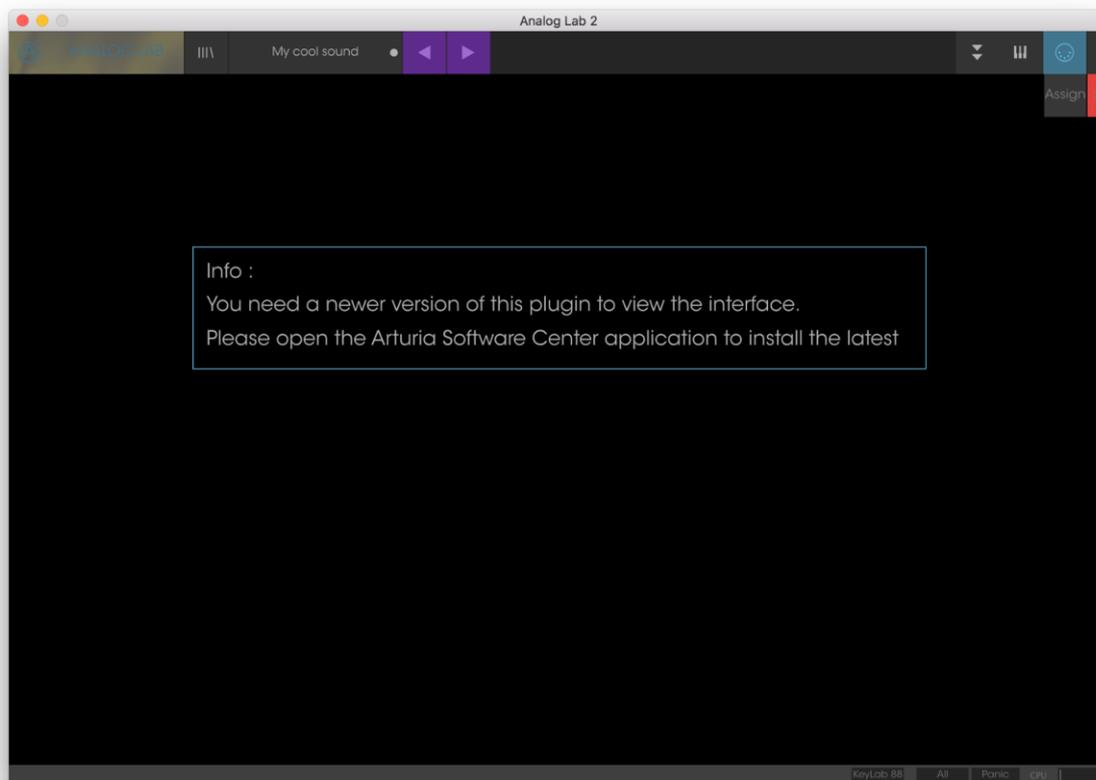


An open Farfisa V preset being edited from within Analog Lab

After this you can edit the preset however you like with the instrument's controls and then save the edited preset as new User preset. Note that when a preset has been edited, it gains a small star icon by its name.

⚠ Factory presets cannot be overwritten; they can only be modified and saved as User presets.

If you do not have the relevant instrument activated on your computer or the version is not up to date, you will see the following message.



You will still be able to play the sounds and edit them using Analog Lab's controls, but not view and edit using the instrument's original interface unless you have an up to date and activated version installed.

3.5 Multi Mode

Single sound mode is phenomenal, because our synth models and sound designers are absolutely top-notch. But Multi mode is where Analog Lab really starts to shine. It allows you to take two sounds and combine them in a layer or split them across your controller keyboard for simultaneous playability.

We've also added quite a bit of flexibility in the ability to enable or disable various MIDI controls for each sound independently.

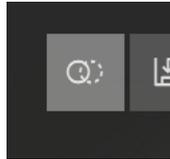
But Multi mode is much, much more than just adding two sounds together! You can also add independent effects to each sound such as delay, flanger, reverb, bitcrusher and overdrive, to name a few. We've provided a variety of ultra-high quality digital effects that will take your combined synthesizer programs and make them positively *formidable*.

And of course you can open the editing panel for any Arturia plug-in synth you have installed and authorized, so it is possible to adjust any parameter of either Sound and dial in the exact combination you're looking for.

We've included plenty of Multis already so you can get a feel for what's possible. When you're ready to learn more about what a Multi can do, please read on.

3.5.1 Multi Mode: an introduction

To convert any single sound to a Multi, click on the Convert To Multi button in the Preset window on the right.



This changes the view to display the Multi area. You will also see that the preset name field gets two white dots to denote a Multi, instead of the single dot for single sounds. Your first sound will be in the slot on the left and you can drag and drop any sound from the Browser into the empty slot on the right.



The two individual parts have shortcut buttons in this view. From top to bottom they are:

- Save As Single, which saves that sound individually
- Remove Part, which removes that sound from the Multi
- Edit, which opens the plug-in's full interface if it is activated on your system

You will also see that in Multi mode, the control area at the base of the window gains two extra sections. Part 1 and Part 2 contain all the relevant controls for modifying parts 1 and 2 in the Multi. The Live section lets you assign macros to control multiple parameters for live performance. See section 3.6 for more on this.

When working in Multi mode, a virtual copy of each Single preset in use in the Multi is made and stored inside the Multi patch. So even if you go back to Single mode and change the original Single patch, the version that exists inside the Multi is unaffected. Therefore you don't have to worry about changes to Single patches affecting Multis : they won't.

3.5.2 The Multi control section

The area beneath the Multi patch slots contains four sections that you can use to control various aspects of multi patches. These are Tracks, MIDI, Effects and Preset. This section is only visible when in Multi mode, though you can have a Multi containing only one patch and still take advantage of the tools in this section. You don't need to have two sounds loaded, although you do have to be working in Multi mode.

3.5.3 The Tracks section



The Tracks control section

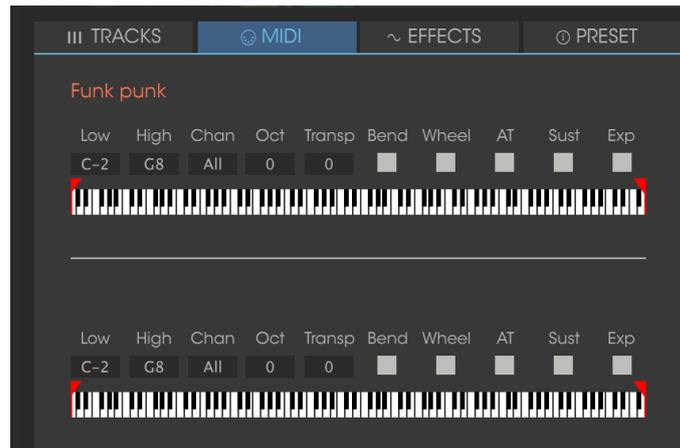
The first tab in the Multi window is the Tracks tab. There are two identical sections, one for each part in the Multi. The controls available here are as follows:

- Each part has a volume slider that can be used to set its volume within the Multi. You can use these to submix two sounds, for example to have a prominent piano sound and a much quieter pad sound in the background.
- Each part has a stereo panner that can be set centrally or anywhere to the left or right of the centre. This is useful for creating more stereo width and separation in a Multi. For example you might want to have one synth lead panned slightly to the left and a different sound panned slightly to the right. This would give you a more dynamic and interesting effect. Remember that panning away from the centre can reduce the impact of a sound.
- Each part has an effect send level that sends signal to the two effects sections. You can send a little signal to an effect send for a subtle colouration of the sound, or send a lot for a richer and more effected sound. The Pre / post switches here determine whether the effect is sent pre or post-fader.
- Each of the effect returns, A and B, has a level slider in this section. These can be used to set how much of the effected signal is fed back into the main mix.

Using the Send A and B dials and the two Return sliders you can get precise control over how much effect is introduced into the signal.

- The Master slider controls the overall output volume of Analog Lab. It is the same as the fader on the control area at the base of the instrument and you will find that moving one of these sliders moves the other one by the same amount.

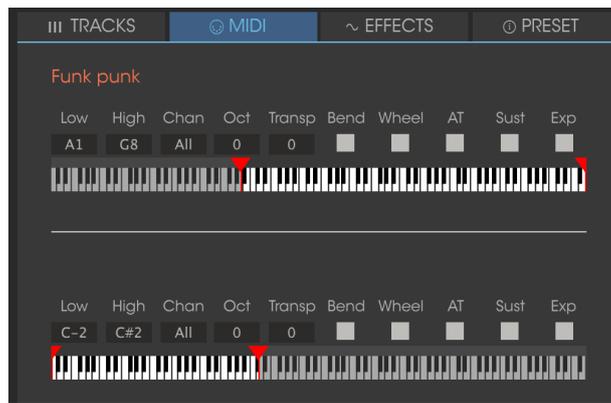
3.5.4 The MIDI section



The MIDI section

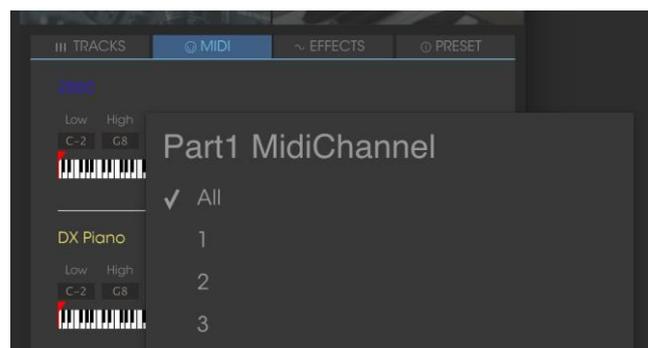
Analog Lab lets you get creative with the way your sounds are mapped across your MIDI keyboard and how they respond to various types of MIDI input. Each of the two parts has an identical MIDI settings section that you can use to create performance patches that are more interesting than simply two sounds layered together. Here is how it works, beginning with the controls on the left and working right.

- The Low and High boxes determine the key range that will trigger that particular part. By default, both parts are mapped across the whole keyboard and all notes are shown as lit. However if you change the low and high note values either by clicking and dragging with the mouse in their value boxes or by dragging the red note markers at either end of the small keyboard display, you can restrict MIDI response to a specific key range. Unassigned key zones will be greyed out. A typical use for this might be to map a bass sound to the lower end of the keyboard and a lead sound to the middle and upper key zone. Of course when key zones overlap, pressing MIDI notes in that zone will trigger both sounds.



An example of a split Multi

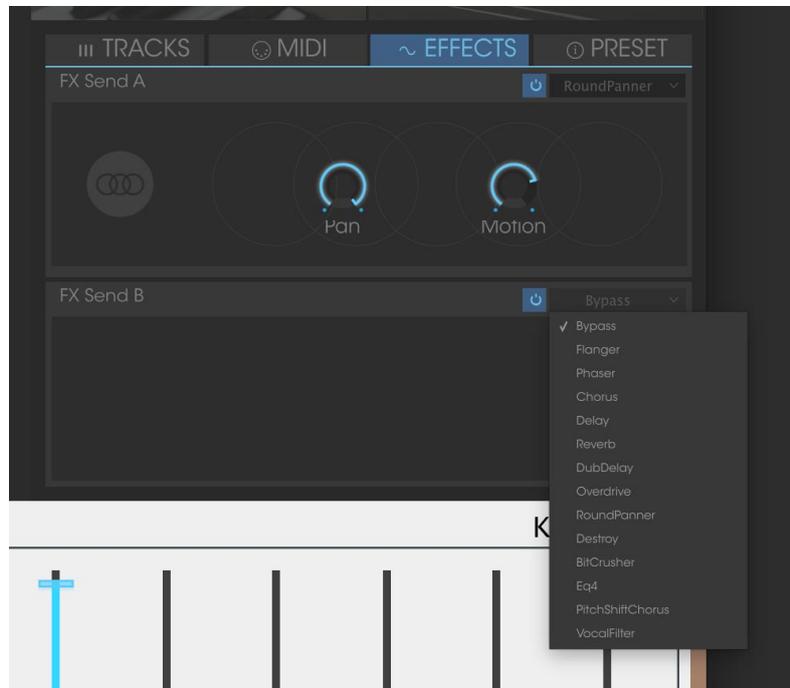
- The “Chan” section lets you assign a specific MIDI channel to each part. Clicking on this option brings up a menu where you can choose an alternative channel, or leave it set to All to listen on all channels. This can be useful when playing live, to have two MIDI keyboards or a split keyboard playing two different sounds. It can also be used inside your DAW to send two different MIDI tracks into Analog Lab, one to play each part.



- The “Oct” and “Trans” sections let you shift playback of a part up or down by one or more notes or octaves. Click, hold and drag up or down with the mouse to make settings here, and double click on the number display to return the setting to zero. Whatever MIDI notes you play on your keyboard, Analog Lab will reinterpret that input based on the settings you have made in the octave and transpose sections and immediately convert the input in realtime. It’s a good way for example to assign one sound up a fifth, or down an octave so that as you play you get a much more advanced sound, almost as if two people were playing in unison.
- The remaining boxes determine whether each part responds to certain MIDI control messages: pitch bend, mod wheel, aftertouch, sustain and expression pedal data. When these boxes are shown in white, they are set to receive data. When they are shown in dark grey they are set to ignore it. There are situations when you might want one part to respond to sustain data for example, but not the other. Or you might want one part to be modified by an expression pedal, but the other part to ignore it. These are ways in which you can make Multis more dynamic and interesting to play.

3.5.5 The Effects section

This section is where you can load and modify two send effects per Multi. Each section can be turned on or off using its power button, and you can click on the effect name field to select from the available effects.



The effects are:

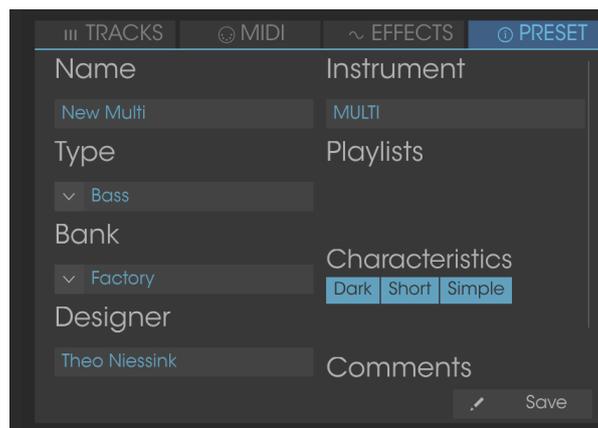
- Flanger
- Phaser
- Chorus
- Delay
- Reverb
- DubDelay
- Overdrive
- RoundPanner
- Destroy
- BitCrusher
- EQ4
- PitchShiftChorus
- VocalFilter

The effects section also responds to MIDI input and if you put Analog Lab into MIDI learn mode you will see that some of the parameters here are shown in purple, meaning that they can have MIDI controls assigned to them.

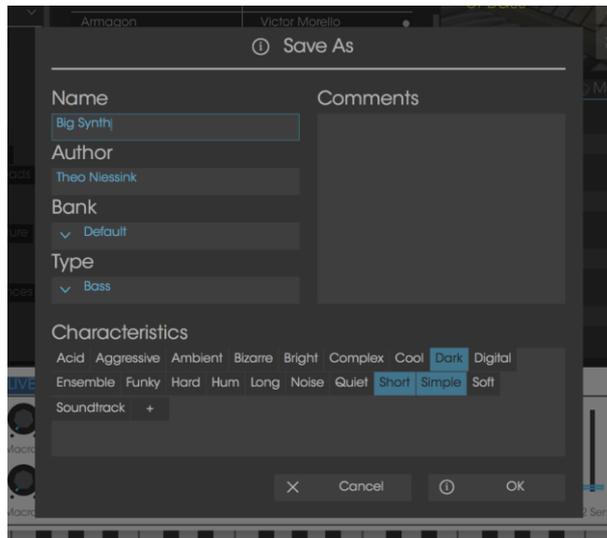


The Effects section in MIDI learn mode

3.5.6 The Preset Information section



The fourth section is the Preset Information section which displays information about the preset and its tags. Factory presets can't be directly edited from this window but if you click on the Save button you will be taken to the Save As window where you can change this information. This will create a new user preset, and user presets can have their information edited from the Preset Information window, as well as being deleted from there.

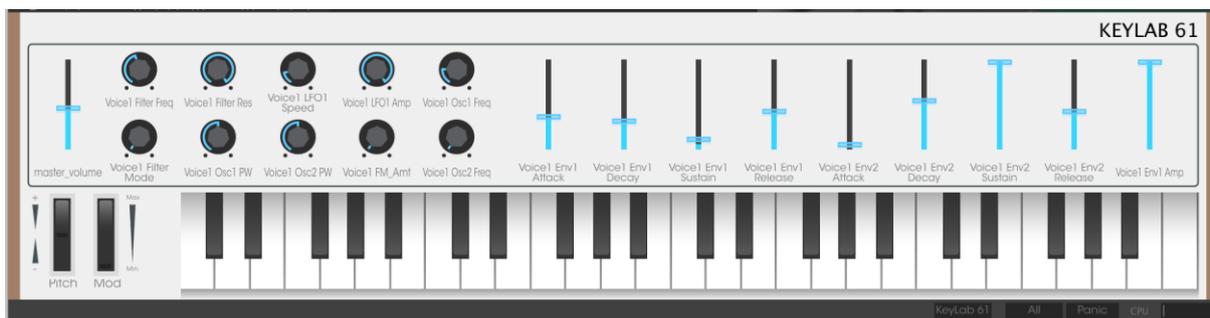


Saving a user preset

3.6 Macros and Controller Assignments

3.6.1 Controller Assignment

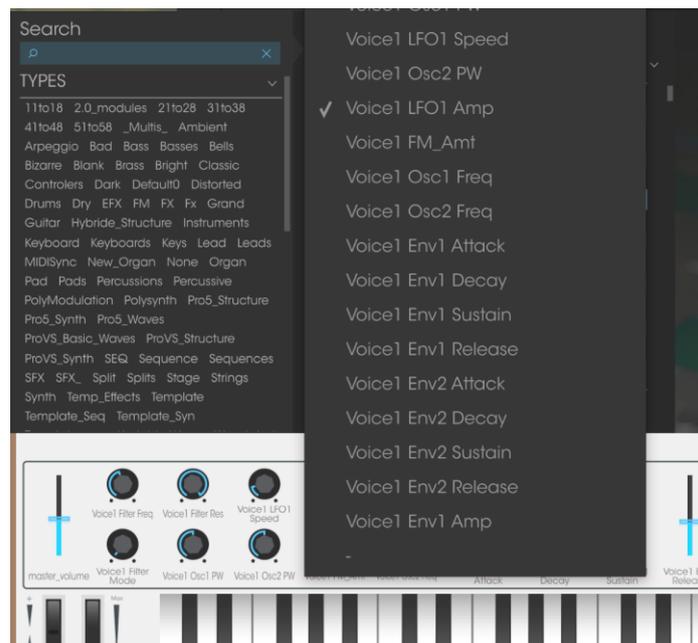
When you load a preset in Analog Lab, the controller area at the base of the window will switch to reflect the controller assignments stored in that preset. In the case of factory presets, these will be those controls the developers have judged most useful for that preset. Additionally, if you are using one of the directly supported Arturia controllers like Keylab or Minilab, the relevant set of controls will be loaded to suit that controller. So when your controller has more physical controls, they will be available in the controller section and pre-mapped. If your controller has fewer physical controls, a more simplified set will be displayed.



The controller section displaying a Keylab controller layout

For any of the controls shown in this area you can click on the name of the controller to see a popup menu of all other available parameters to which that controller can be directed. This list will depend on the sound you have loaded. So

for a synth you will see destinations like oscillators and envelopes, and for an organ, things like swell or drawbar controls.

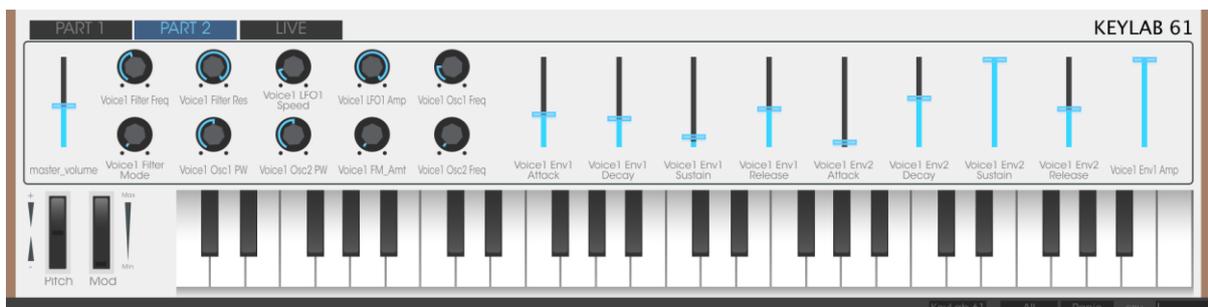


Reassigning controllers

If you wish you can unassign a controller by choosing the menu option which is a small dash, meaning no parameters is assigned.

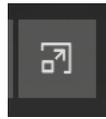
When you are in Multi mode, you get two controller sections, one for each part. If you are using an Arturia controller that is integrated with Analog Lab, your hardware controller will by default map its physical controls to the same area on each part. So for example a hardware knob that's assigned to the second virtual knob in part 1 will also change the second virtual knob in part 2. You can of course reassign parameters as mentioned above, or unassign a parameter from any controller in either part so the knob will only change one parameter.

If you are using a generic MIDI controller, you will map single parameters to the Part 1, Part 2 or Live sections regardless of the page you are currently viewing. It's only when using an integrated Arturia controller that you get default mapping of hardware controls directly to the software.

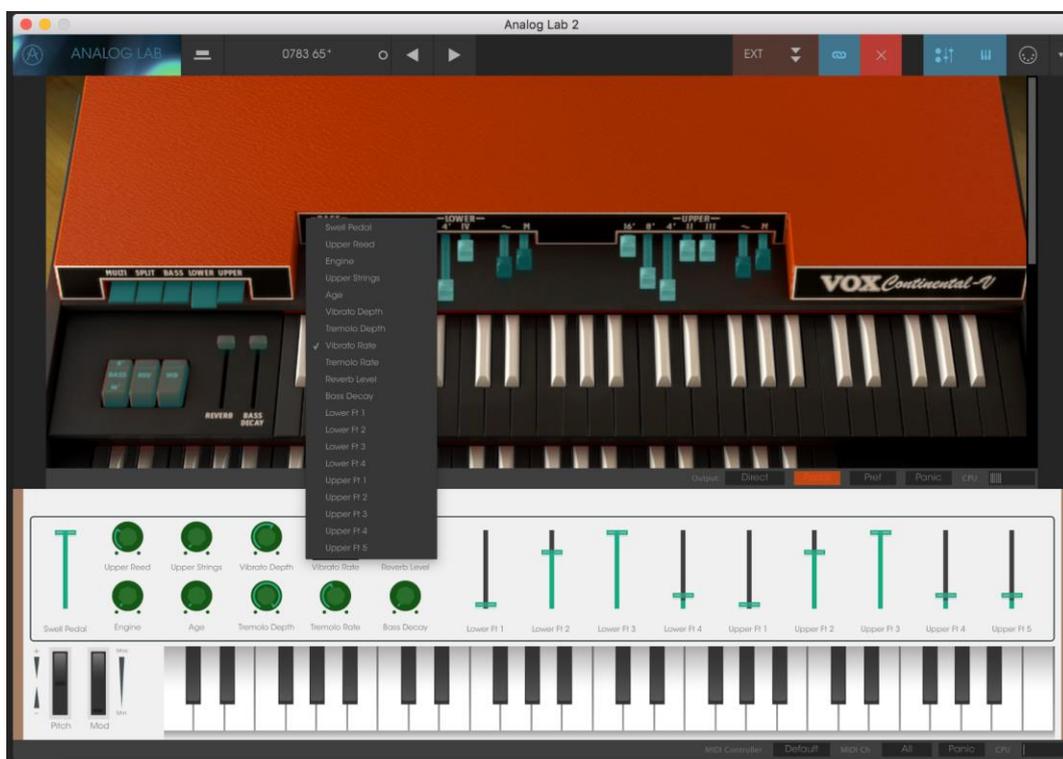


Changing parameters in Multi mode

When you have an instrument installed and activated (Vox V, in the below example), you can view its full interface by clicking the Show Interface button.



When you then click the Assign button at the top right hand corner (with the Link icon). You activate Analog Lab's internal assignment features, which are shown in green. This allows you to assign the controls in the lower part of the window to controls within an instrument's interface. If you don't own this instrument, you can click on the name of any control to show a list of the most common destination parameters for this instrument.



Assigning controls to parameters inside an instrument

Note that it is possible to use the controller assign modes in conjunction with the MIDI assign. By assigning a hardware MIDI knob or fader to one of Analog Lab's controls (purple) and then assigning that control to an instrument parameter (green) you can map the hardware directly through to the instrument's controls.

3.6.2 The Live section

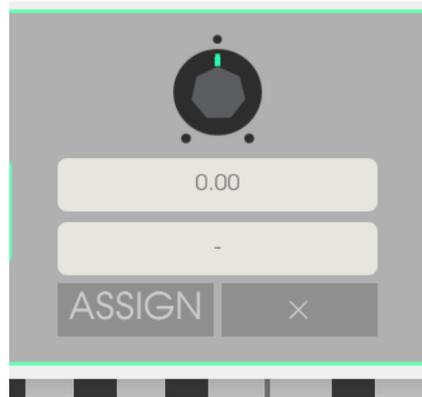
This section contains eight Macro knobs and nine sliders that can be customised to control many different parameters within either part and also in the effects section. The idea is that by assigning Macro controls to one or more parameters and

modifying them in realtime, you can create more interesting sounds and performances. If you click on the name field of any of the eight Macro knobs you will open the Edit area for that Macro.



Each Macro knob can be assigned to up to four destinations so it's possible to quickly create some powerful controller setups. These assignments are saved as part of a Multi patch. If you click in the green Name field you can enter a name for the Macro, which is useful for keeping track of what it is assigned to from the main interface.

Each of the four destination slots has a number of elements.



- The knob at the top is the Macro amount control and runs from -100 to 100.
- The numerical field beneath the knob displays the Macro amount.
- Clicking on the assign menu in the centre of this area will reveal a menu of all available Macro assign destinations. This will vary depending on what instruments are currently loaded inside the Multi. It contains all the parameters for Parts 1 and 2 plus the mixer and effect sections.
- Pressing the Assign button lets you direct the Macro quickly to the mixer or effects sections. With one of those sections visible, click on the required target parameter to assign the Macro to it. If you own any of the full versions of the plug-ins that Analog Lab uses to generate its sounds, you will be able to use the Assign function to map a Macro through to the parameters inside that particular instrument.
- The X button clears the Macro assignment.

So after making some assignments and entering some custom Macro names, your Live section might begin to look something like this.



It's important to understand the relationship between a Macro knob from the main section on the left and the four related knobs associated with each of them. The four knobs attached to a main knob can have variable amounts assigned to them.

In the above screenshot, you can see that each of the four knobs has some positive or negative data range entered. When the first main Macro knob is turned (here called "Organ Swell"), the four sub-controls will modify their values within the confines of the data ranges shown using the green range areas. Turning the main knob back to zero removes the effects of the Macro across all connected sub controls.

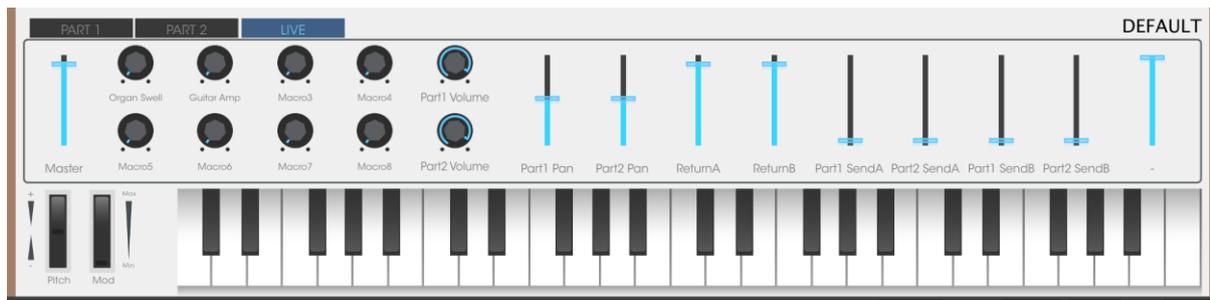
To take a practical example, imagine you have the following setup.

- Macro 1 is linked to its four sub controls, each with an assignment to an instrument, effect or mixer parameter.
- Sub control 1 is assigned to delay amount in the effect section with a range of 0-75, so delay can be set from Off to 75%.
- Sub control 2 is assigned to delay return level in the mixer with a range of 0-100.
- Sub control 3 is assigned to LFO Rate within one of the Parts with a range of -100 to 100
- Sub control 4 is assigned to Cutoff within one of the Parts with a range of -70 to +70

With this setup, moving Macro knob 1 would have the result of changing all of those four parameters at the same time, but by different amounts, governed by the data ranges you had set for each one. So you could change the delay amount by a little, but the cutoff filter by a lot, using a single Macro control. By thinking about the assignments inside each Macro section, you can create powerful shortcuts that modify multiple parameters at the same time.

3.6.2.1 Other controls

The main Live section also contains some other useful controls for live performance, all of which can have MIDI commands assigned to them for better hands-on tweaking.



In addition to the Macro knobs in the Live section you also get:

- Master volume slider
- Part 1 and 2 volume controls
- Part 1 and 2 pan controls
- Effect send level controls
- Effect return level controls

3.6.3 Interaction with hardware

As well as automatically mapping hardware controls directly to Parts 1 and 2 and the Live section, the Arturia hardware models directly integrated with Analog Lab also have a number of other shortcuts built in. The key commands are as follows, where the action is carried out on the hardware and the results seen in the software.

3.6.3.1 Player and Factory hardware

- Shift + Octave Plus : Next Preset
- Shift + Octave Minus : Previous Preset
- Shift + Turn Level knob : Browse Presets in a list
- Shift + Press Level knob : Load the selected preset in a list
- Snapshot 1 : Select Slot 1 tab
- Snapshot 2 : Select Slot 2 tab
- Snapshot 2 : Select Live tab

3.6.3.2 Laboratory and Keylab hardware

- Turn Preset Knob: Browse Presets in the list
- Press Preset Knob : Load the selected Preset in the list
- Turn Category Knob : Browse Filters
- Press Category Knob : Toggle the selected Filter
- Snapshot 1 : Select Slot 1 tab
- Snapshot 2 : Select Slot 2 tab

- Snapshot 2 : Select Live tab

3.6.3.3 *Minilab hardware*

- Turn Knob 1: Change Volume
- Turn Knob 2: Select Preset in the list, and load it after 1 second
- Pad 9 : Select Slot 1 tab
- Pad 10 : Select Slot 2 tab
- Pad 11 : Select Live tab

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