ANALOG **LAB**

ARTURIA®
YOUR EXPERIENCE · YOUR SOUND

Special Thanks

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Thank you for purchasing Arturia's Analog Lab!

This manual covers the features and operation of the Analog Lab.

Be sure to register your software as soon as possible! When you purchased Analog Lab you were sent a serial number and an unlock code by e-mail. These are required during the on-line registration process.

Special Messages

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 or features without notice or obligation.

IMPORTANT:

The software, when 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.

Introduction

Congratulations on your purchase of Arturia's Analog Lab!

We'd like to thank you for purchasing Analog Lab, a virtual instrument.

Arturia has a passion for excellence, and Analog Lab is no exception. Listen to the preset sounds, tweak a few controls, skim through the features, or dive as deep as you like; it is easy to understand and use. We are confident that the Analog Lab will be a valuable addition to your instrument collection, and that you'll have a lot of fun with it.

Be sure to visit the www.arturia.com website for information about all of our other great hardware and software instruments. They have become indispensable, inspiring tools for musicians around the world.

Musically yours,

The Arturia team

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1. WELCOME

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 of the original SEM. 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. The Arturia Vox instrument 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 Arturia had synths, a classic electric piano and a legendary organ, the company 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. The team modeled the original circuits of the Solina so that it stays true to character and has the "life" of the original instrument but also included many new features to be able to expand the sound palette.

At the same time that Solina was released Arturia 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.

In 2015 Arturia added five new illustrious instruments to its arsenal. 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 tine-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.

With the release of the V Collection 6 in November 2017 four new legendary instruments were added to the reference collection of virtual keyboards. The CMI V, one of the earliest music workstation with an embedded digital sampling synthesizer. The Clavinet V, an electrically amplified clavichord, famous for its distinctive bright staccato sound. The DX7 V, the first commercially successful digital synthesizer, based on FM synthesis. Next came the Buchla Easel V, a really well-thought semi-modular instrument with great sound and lots of possibilities.

The release of V Collection 7 in 2019 brought three more fantastic emulations of legendary instruments: Synthi V, Mellotron V and CZ V. 2019 also saw the launch of Pigments, Arturia's first software synthesizer built in-house from scratch. These four instruments serve to reinforce Arturia's continued commitment to building world-class instruments.

Analog Lab 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:

Synths	Pianos	Organs
Arp 2600 V	Clavinet V	B-3 V
Buchla Easel V	Piano V	Farfisa V
CMI V	Stage-73 V	Vox Continental V
CZ V	Wurli V	
CS-80 V		
Jup-8 V		
Matrix-12 V		
Mellotron V		
Mini V		
Modular V		
Prophet V		
SEM V		
Solina V		
Synclavier V		
Synthi 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 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—sadly—are financially out of reach for most people. With its simple but powerful browser and intelligent 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 Concerts area then allows you to organize your sounds and multis so you can recall them quickly via program change messages. Analog Lab 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 use this technology.

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

2. ACTIVATION AND SETUP

2.1. Register and Activate

Analog Lab works on computers equipped with Windows 7 or later and Mac OS X 10.10 or later. You can use the standalone version or use Analog Lab as an Audio Units, AAX, VST2 or VST3 instrument.

Once Analog Lab has been installed, the next step is to register the software.

This is a simple process that involves a different software program: the Arturia Software Center.

2.1.1. The Arturia Software Center (ASC)

If you have not already installed the ASC, please go to this web page: Arturia Updates & Manuals

Look for the Arturia Software Center at the top of the page, and then download the version of the installer that you need for your system (macOS or Windows).

Follow the installation instructions and then:

- Launch the Arturia Software Center (ASC)
- Log into your Arturia account
- Scroll down to the My Products section of the ASC
- Click the Activate button

That's all there is to it!

2.2. Initial setup for Standalone Use

If you would like to use Analog Lab in standalone mode, you will need to set up the software and ensure that MIDI and audio signals are flowing properly through it. You only need to do this one time unless you make major changes to your computer. The setup process is largely the same on both Windows and macOS computers but for the sake of clarity, we'll cover Windows and macOS separately.

> ℹ !: This section only applies to readers that plan to use Analog Lab in standalone mode. If you are only going to use Analog Lab as a plugin inside a host music software, you can safely ignore the rest of this chapter (your host music software will handle these things).

2.2.1. Windows Users: Audio and MIDI settings

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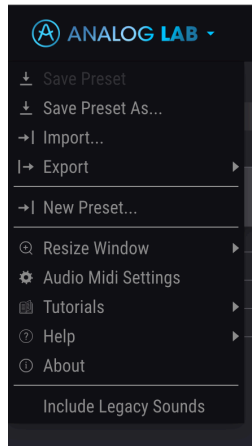
You will then see the Audio MIDI settings window. This works in the same way on both Windows and Mac OS X, although the names of the devices available to you will depend on the hardware that you are using.
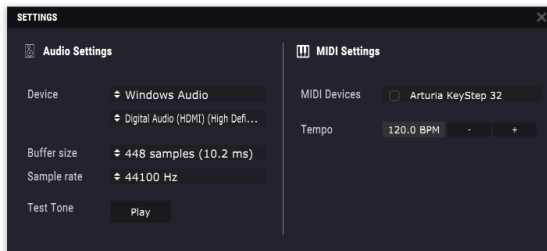
The Audio MIDI Settings on Windows

Starting from the top you have the following options:

- **Device** selects which audio driver and device will handle the playback of Analog Lab. This can be your computer's internal driver like Windows Audio, or an ASIO driver. The name of your hardware interface may appear in the field below depending on your selection.

- **Output Channels** lets you select which of the available outputs will be used to route audio out. If your selected device only has two outputs, then only two options will appear here; If your device has more than two outputs, then 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 larger buffer means a lower CPU load as the computer has longer periods of time to process commands and fewer interruptions, but this can result in a noticeable latency between keypress and hearing a result (an obvious problem when playing an instrument). A smaller buffer means lower latency between pressing a key and hearing the note, but a higher strain on your CPU. A fast, modern computer should easily be able to operate at low sample buffer sizes (256 or 128) without audio glitches. However, if you do hear clicks, pops or other artifacts, try increasing the buffer size until you have smooth playback without any glitches. The latency time is displayed in milliseconds 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 listed here will depend on the capability of your audio interface hardware.

> ♪: Virtually all audio hardware can operate at 44.1 or 48 kHz which is perfectly fine in most applications, including Analog Lab. Higher sample rates place greater loads on the CPU so we recommend staying at 44.1 or 48 kHz unless you have a specific requirements to work at high sample rates.

- **Play Test Tone** plays a simple test tone to help you to troubleshoot audio issues. You can use this feature to confirm if the instrument is routed correctly through your audio interface and audio is playing back where you expect to hear it (your speakers or headphones, for example).

- Your connected MIDI devices will appear in the **MIDI Devices** area. Note that this is only displayed if MIDI devices are present on your computer. Click the check box to accept MIDI data from the device you want to use to trigger the instrument. Note that you can select more than one MIDI device if you wish to play Analog Lab from multiple controllers.

- **Tempo** lets you set the tempo of the Analog Lab sequencer. When using Analog Lab inside a host music software as a plugin, the virtual instrument gets tempo information from your host software.

2.2.2. MacOS Users: Audio and MIDI settings

The process is very similar to setting up for Windows (described above) 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.
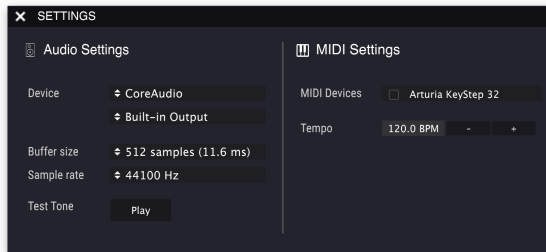
The Mac OS X Audio MIDI Settings window

2.2.3. Using Analog Lab in plug-in mode

Analog Lab comes in VST, AU and AAX plug-in formats for use in all major digital audio workstation (DAW) host 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 few small 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 in a DAW project (in standalone mode you can only run one instance of Analog Lab).
- You can route Analog Lab's audio outputs more creatively inside your DAW using the DAW's own audio routing system.

3. USING ANALOG LAB

Analog Lab 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 goes 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 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 user interface neatly subdivides into three parts:

- **The Toolbar (top):** This is where you handle administrative tasks such as saving, loading and browsing presets, accessing the Studio and Stage modes and the Arturia Store. We will go over the Toolbar in the next section of this guide.

- **The Panel (middle):** Here is where you will likely spend most of your time when working with Analog Lab. It contains a powerful preset browsing system to help you find sounds quickly. At the bottom of the Panel, you will find various controls (knobs, sliders, wheels) and a six-octave keyboard. Note that this section can vary depending on what kind of MIDI keyboard you have connected to your computer.

- **The Lower Toolbar:** This section provides quick access to a number of important parameters and useful bits of information such as showing/hiding sections of the user interface, selecting your MIDI controller and monitoring CPU usage. We will go over the Lower Toolbar in the following section of this guide.

3.2. The Upper Toolbar

The Upper Toolbar that runs along the top of the instrument provides access to many useful features including the Analog Lab menu, preset browsing and the Arturia Sound Store.

3.2.1. The Analog Lab Menu

Clicking the Analog Lab box at the top-left corner opens a pull-down menu and lets you access several important features. Let's look at them in detail.
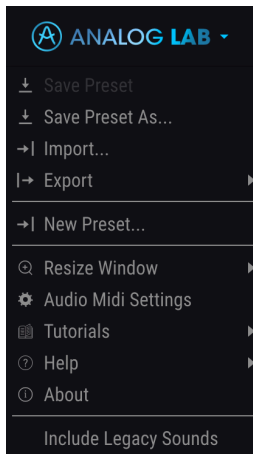
- **Save Preset:** This option will overwrite the currently loaded preset with any changes you have made. If you would like to save the current preset under a different name, use the "Save As..." option below.

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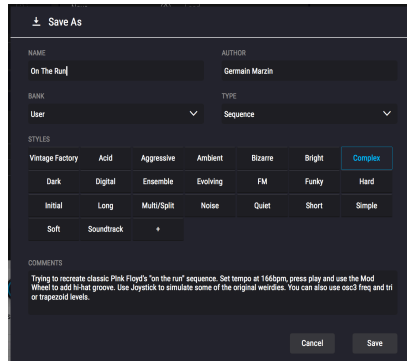
> ♪: Arturia's powerful browsing system lets you save much more than just a preset name. For example, you can enter the Author's name, select a Bank and Type, select tags that describe the sound, and even create your own Bank, Type, and Characteristics. This information can be read by the preset browser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

- **Import:** This command lets you import a preset file, an entire bank or a set of playlists exported from another Arturia instrument. When importing a playlist file (.aplplaylist), the playlists will be imported as new songs in the current concert (please refer to the Concerts chapter of this user guide to learn more).
- **Export:** You can export presets in two ways: as a single preset or as a bank.
    - ◦ Export Preset: Exporting a single preset is handy when you want to share a preset with someone else. The default path to these files will appear in the "save" window, but you can create a folder at another location if you like. The saved preset can be reloaded using the *Import Preset* menu option.
    - ◦ Export Bank: This option can be used to export an entire bank of sounds from the instrument, which is useful for backing up or sharing presets. Saved banks can be reloaded using the *Import Preset* menu option.
- **New Preset:** This option creates a new preset with default settings on all parameters. It is a good place to start if you would like to create a new preset.
- **Resize Window:** The Analog Lab window can be resized from 50% to 200% of its original size without any visual artifacts. On a smaller screen such as a laptop you may wish to reduce the interface size so it doesn't dominate the display. On a larger screen or a second monitor you can increase the size to get a better view of the controls. The controls work the same at any zoom level but smaller controls can be easier to see at higher magnification levels. The *Zoom In* and *Zoom Out* options let you increase or decrease the zoom amount by stepping up and down the zoom settings. The Zoom options can also be accessed with keyboard shortcuts displayed in parenthesis next to each option.

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

> ℹ️ **!:** The Audio Settings menu is only available in when using Analog Lab in Standalone mode. When using Analog Lab as a plugin, the host software handles all of the parameters in this menu including audio and MIDI routing, buffer size settings, and more.

- **Tutorials:** Analog Lab comes with tutorials that walk you through different features of the instrument. Select one of the tutorials to get step-by-step descriptions of how to make the most of the software's features.
- **Help:** This section provides handy links to the Analog Lab User Guide and the Analog Lab's Frequently Asked Questions page on Arturia's website. Note that accessing these pages will require an Internet connection.
- **About:** Here you can view the software version and developer credits. Click the About window again to close it.
- **Include Legacy Sounds:** This menu only appears if you have installed version 1 of Piano V or B-3 V. Certain presets from older versions of instruments are not added by default as these presets have been superseded by newer, improved versions. This option lets you include the original presets in case you have used the older versions in your recordings and need to recall the exact presets that came with the original (v1) instruments.

3.2.2. Current preset and navigation arrows

This area of the Toolbar shows the name of the currently selected preset or multi. The left and right arrows let you load the previous and next preset from your filtered list of presets.

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

3.2.3. The Sound Store
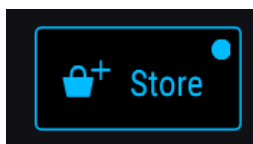
Click on this button to reveal the InApp Store. From there, you can browse and purchase any of the amazing sound banks created by our talented sound designers.

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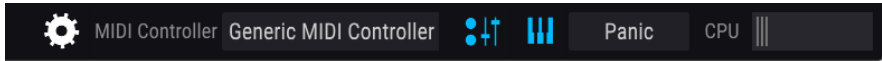
The Lower Toolbar runs along the bottom of the Analog Lab user interface and provides quick access to several important parameters and useful information.

As you move the mouse over various on-screen controls of Analog Lab, the name of the parameter will be listed at the far left of the Lower Toolbar. The current value of the control is listed in a tooltip that appears next to the control.

The rest of the controls are grouped together on the right side of the Lower Toolbar. They are as follows:

3.3.1. Lower Toolbar Options

- **MIDI Settings: (gear icon)** This button brings up a menu containing many MIDI-related parameters. This menu is detailed in the next section of this guide.

- **MIDI Controller Select:** This menu lets you select MIDI controller you have connected. If you are using one of Arturia's own MIDI controllers it will be auto-detected, it will be automatically MIDI mapped and the layout of the on-screen keyboard controls will update automatically. If you do not own an Arturia controller, you can select "Generic MIDI Controller" and make your own MIDI assignments.
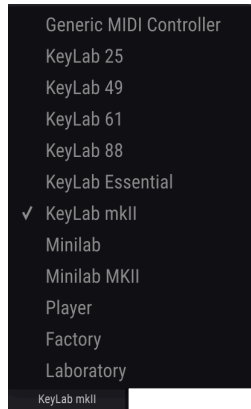
- **Show/Hide Controls and Keyboard:** These two buttons are used to show and hide various parts of the Analog Lab user interface. The "knobs and sliders" icons shows/hides the controller area where you can modify the currently loaded preset. The keyboard icon shows/hides a virtual keyboard that you can play with the mouse.
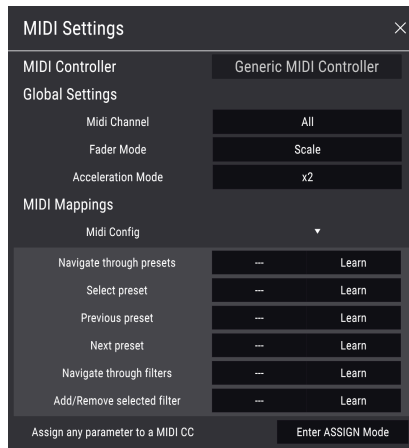
- **Panic Button:** Press the Panic button to reset all MIDI signals in the event of "stuck" notes or other issues.
- **CPU Meter:** The CPU meter is used to monitor how much of your computer's CPU is being used by the instrument.

3.3.2. The MIDI Settings Menu

Clicking the gear icon in the Lower Toolbar opens the MIDI Settings window as shown below:

MIDI Settings	✕
MIDI Controller	Generic MIDI Controller
Global Settings	
Midi Channel	All
Fader Mode	Scale
Acceleration Mode	x2
MIDI Mappings	
Midi Config	▼
Navigate through presets	--- Learn
Select preset	--- Learn
Previous preset	--- Learn
Next preset	--- Learn
Navigate through filters	--- Learn
Add/Remove selected filter	--- Learn
Assign any parameter to a MIDI CC	Enter ASSIGN Mode

Here you can configure a variety of MIDI-related parameters. Note that the *MIDI Mappings* section of this menu is only visible when "Generic MIDI Controller" is selected under *MIDI Controller.* Arturia Controllers are automatically MIDI-mapped and ready to go, so no MIDI mapping is necessary.

- **MIDI Controller:** This button lets you select what MIDI Controller you are using to control Analog Lab. This is the same as the "MIDI Controller Select" in the Lower Toolbar described in the previous section of this manual.

3.3.2.1. MIDI Global Settings Options

- **MIDI Channel:** This window indicates the current MIDI Channel setting. Click on it and it will expand to show the full range of values you can select (All, 1-16).

> ♪: By default, Analog Lab will receive MIDI data on all 16 MIDI channels. You can change this by selecting a specific channel in this menu. You will need to do this if, for example, you want to use an external controller to use a number of instances of Analog Lab.

- **Fader Mode:** This menu determines the MIDI "pickup" behavior. Pickup is what happens in scenarios where your hardware controller (a slider, for example) is out-of-sync with an on-screen control. For example, if you load a new preset and the controller's sliders are not synchronized to the new on-screen positions. The *None* option simply snaps the on-screen control to the physical position of your control when you push, turn or move the control. This is the simplest approach but can potentially result in sudden, abrupt jumps. The *Hook* option means the on-screen knob is not affected at all until the physical control reaches the on-screen position. This helps you avoid sudden jumps but it means that knobs may not immediately have an effect on an on-screen control until they are "hooked" together. The *Scale* option provides the "best of both worlds" by moves the on-screen control even if the physical knob is out-of-sync until the two controls become synchronized. This helps avoid sudden jumps and non-reactive knobs by providing an elegant third option.
- **Acceleration Mode:** This option sets the sensitivity of encoder knobs by adjusting the "ballistics" of encoder knobs. You can adjust this parameter to your personal taste if on-screen knobs feel too-slow or too-quick. Note that this option is only available for certain controllers that support it, it is hidden for controllers that do not support it.

3.3.2.2. MIDI Mapping Options

This section is used when configuring generic MIDI controllers. Note that these menu options are only listed when using non-Arturia controllers, or when selecting "Generic MIDI Controller" in the MIDI controller menu.

- **MIDI Config** This pull-down menu lets you manage different setups of MIDI mappings for controlling Analog Lab. For example, if you have multiple hardware controllers (small "live performance" keyboard, large "studio" keyboard, pad based controller, etc.), you can create a profile for each of them one time and then quickly load it here. This saves you from having to redo the MIDI mapping assignments from scratch each time you swap hardware. Once you have created a profile, you can save, delete, import or export it using the options in this menu. Your MIDI Mapping profiles are listed at the bottom of this pull-down menu and the currently active profile has a checkmark next to it.

- **Function Learn:** These options provide quick-access to MIDI learning of preset navigation and preset filtering features. To use these, simply click Learn of your desired function and push, turn or move any control on your hardware controller. Doing so will map your hardware control to the desired software parameter.

- **Enter Assign Mode Button:** This button places Analog Lab into MIDI learn mode. In this mode, all MIDI-assignable parameters are shown highlighted and you can map physical controls (on your MIDI Controller) to those on-screen controls inside the instrument. A typical example might be to map a real expression pedal to the Master Volume control, or a physical knob on the MIDI controller to the Frequency knob of the Filter Oscillator module.
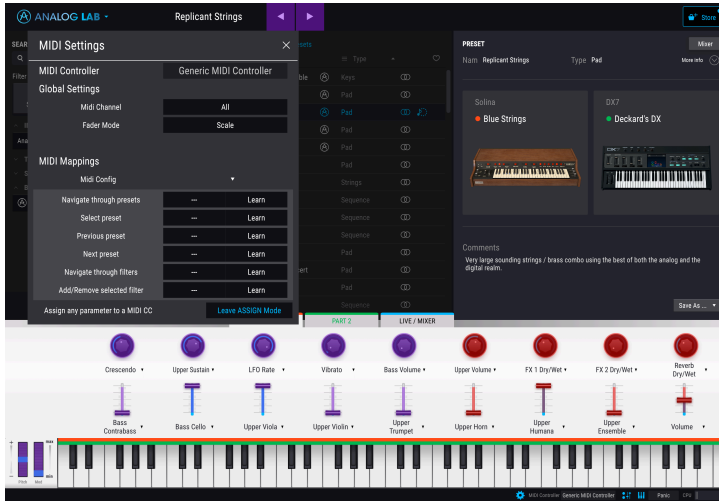
MIDI learn works for Analog Lab's controller areas, mixer and effects sections and patch select buttons. You can't use MIDI learn directly on the parameters of the instruments interfaces, but you can MIDI assign a controller of Analog Lab's controller area and then assign this controller to a parameter of the instrument interface.

♪: Notice in the image above that some of the assignable controls appear in red whereas others are in purple. Purple controls are unassigned whereas red ones have already been assigned to an external MIDI control.

3.3.2.3. How MIDI assignment works

Placing Analog Lab into MIDI learn mode (using the Enter Assign Mode button in the MIDI Settings menu) activates MIDI Learn mode. When this mode is engaged, all assignable controls are highlighted in either red or purple.

If you click on a purple area, you'll place that control into learning mode. Move a physical dial or fader and the target turns 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.


The popup also features a **minimum** and **maximum 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.

If you have assigned a control accidentally or would like to re-assign it, click the **Unassign** button to unlink the hardware and on-screen controls.

In the case of on-screen controls (like switches) that only have two positions (up or down) you can still use minimum and maximum values in the MIDI learn popup window. The behavior is slightly different in such a case. In short, it's about what values the controller sends and whether those are high or low enough to trigger the state change in a switch. The threshold values are always 0.5 or in the case of two-state switches, .33/.66 in three-state switches and so on. 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 same principle applies for the three-stage switches, where instead of 0.5 being the state change value, it is divided into 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.
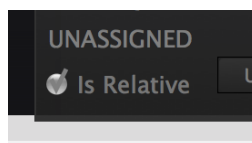
Finally, there is a checkbox labelled **"Is Relative".** Check this box if your hardware MIDI control is sending "relative" MIDI messages. Leave this box unchecked if the MIDI controller is sending out "absolute" messages (this is the more common behavior).

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

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

3.3.2.4. Reserved MIDI CC numbers

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

- 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.

3.4. The Virtual Keyboard(s)

The virtual keyboard area in Analog Lab gives you access to both a click-and-play keyboard and many controls that you can use to modify the presets. These can vary in appearance depending on your connected hardware. Let's work our way through each section.

3.4.1. Virtual keyboard options

When Analog Lab detects an Arturia MIDI 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. For example a larger KeyLab MKII hardware controller will have many more on-screen controls than The Player portable keyboard controller. If an Arturia MIDI controller is not detected, a generic MIDI controller is displayed on screen.
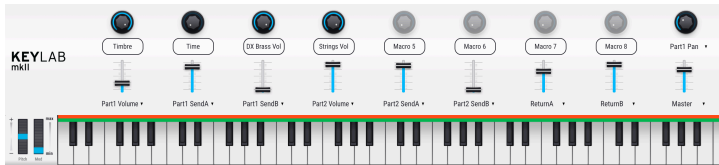
KeyLab MKII keyboard controller
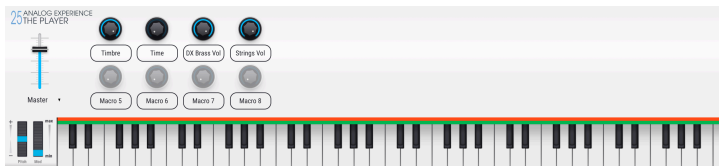
The Player keyboard controller
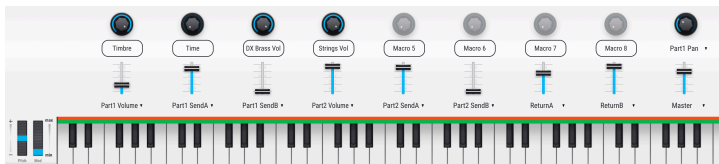
*Analog Lab's Generic MIDI controller*

♪: 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.

3.4.2. Common on-screen keyboard features

While the knobs and sliders will vary depending on the type of MIDI controller you are using, some controls remain constant across all keyboards. They are as follows:

3.4.2.1. Level (master volume)

Each of the virtual keyboard choices has a Level slider in the same location: above the pitch/ mod controls (except on Keylab Essential and Keylab MKII where it is the last fader on the right). 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.
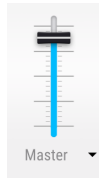
3.4.2.2. Pitchbend and Modulation wheels

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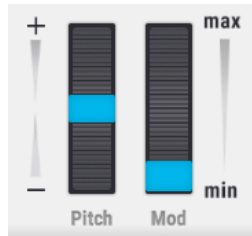
**Pitch:** Controls the pitch of the sound. Click and drag up or down to alter the pitch of the active Sound.

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

3.4.2.3. 6-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. When using Analog Lab in standalone mode, you can use your computer's keyboard to play the on-screen keys.

3.5. Single Sound Mode
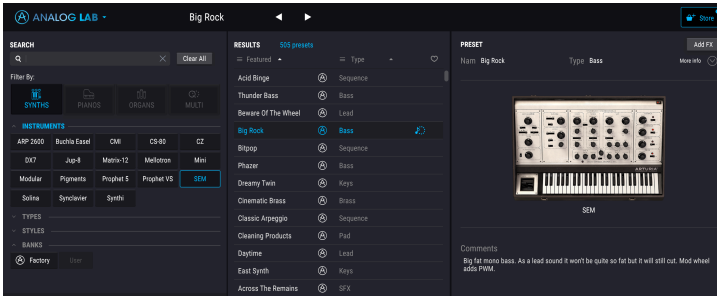
We believe one of the great joys of using Analog Lab is the over 6500 incredible presets that come with the software. A preset contains all the settings that produce a particular sound. The main browser—which is always present and takes up much of the screen—is where you find your presets.

To load sounds, just click on any preset in the middle "Results" column to load it. The preset's details are displayed in the right column. As you scroll through the list, you may realize there are a *lot* of presets. To prevent you from feeling lost or overwhelmed, we have developed a powerful set of search features to help you find the perfect sound quickly.

3.5.1. Preset Browsing in Detail
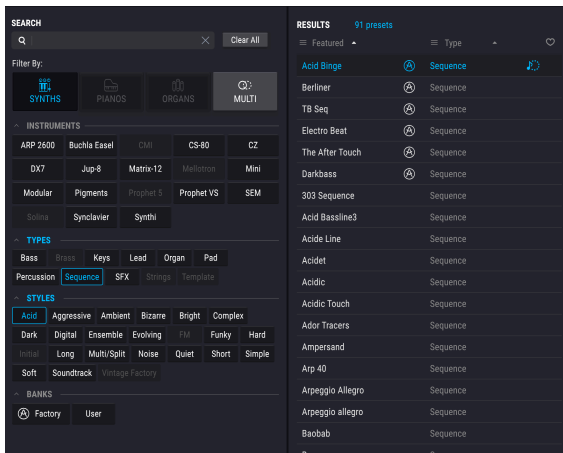
Analog Lab, like other instruments in the V Collection, makes extensive use of tagging to make it quicker and easier for you to find the sounds you want. The leftmost "Search" column contains all the tags available and clicking on one or more of these will filter the results list to show only patches containing those tags. You can also use keywords or even create your own new tags when saving presets. Newly created tags will be added to the pool and you will be able to search by them.

> ♪: To select more than one tag, hold the cmd (Mac) or ctrl (Windows) key while clicking on tag names.
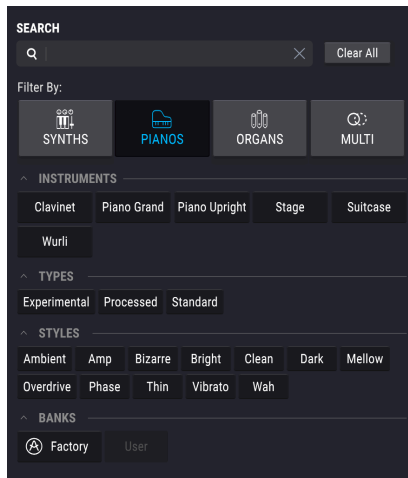
3.5.2. Using Tags

There are four sections in this column (Instruments, Types, Styles and Banks) containing tags and you can click these 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.

- **Instruments** lets you filter results based on the source instrument used to generate the sound.
- **Types** lets you filter by descriptive tags like "experimental" or "processed"
- **Styles** lets you search using descriptive tags, to find all presets marked with "mellow", for example.
- **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.

3.5.3. Using the Search Field
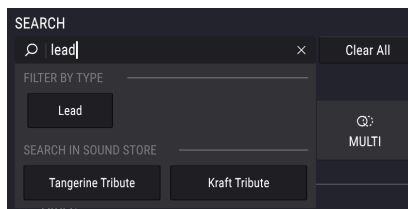

Typing text into the Search field will further narrow down your tagged search in a number of ways:

- It narrows down the list of presets presented in the Results column by only including Presets that contain the exact word(s) you have typed.
- It locates any filter tags that match your search term
- It searches in the Arturia Sound Store for options that apply to your search terms

3.5.4. Results Column

The center "Results" column shows the results of your search. If you have not entered any search text or selected any tags, it displays all available Analog Lab presets (which can be a lot!)
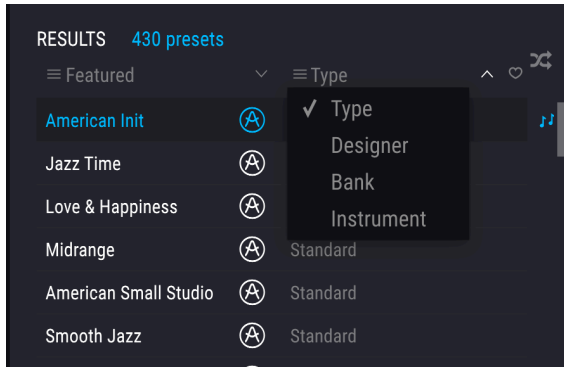
You can reverse the alphabetical display order of either column by clicking on the small arrow at the top of each one. You can also click the display menu button on the Type column to choose what information is shown in that column. For example, you may prefer to see sounds displayed with the associated instrument type rather than the sound designer's name.

3.5.4.1. Shuffle Presets

If you would like to mix up your filtered results so that they are not always displayed in the same order, press the Shuffle Presets List icon. This function helps preset browsing more spontaneous and can help you find sounds that you might not otherwise find if you step through filtered preset lists from the top.

> !: Note that the Shuffle Presets button only appears after Analog Lab is launched five times.

3.5.4.2. A.I. based preset searching

One of the most amazing features introduced into Analog Lab is its ability to recommend similar sounds using an artificial intelligence (AI) technology. This system analyzes all of the sounds in your Analog Lab collection and makes recommendations based on sonic similarity. If you have found a sound you like but would like to audition other sounds that are similar to your chosen sound, simply click the double notes icon in the search results.
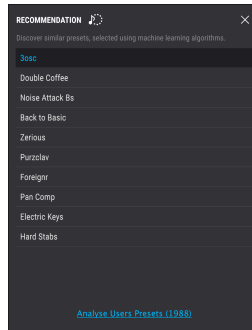
Clicking the double notes icon brings up the prompt above. The AI recommended presets always include your originally chosen preset at the top of the list with similar options listed below. You can audition any of the presets in the list by clicking on them. When you have found a sound that you like, click the X at the top-right. If you would like to keep searching, click the double notes icon to continue the search based on that new preset.

The **Analyze Users Presets** button analyses user-generated or imported presets that have not been added to the database of the AI system.

Finally, the **Analyze Current Preset** button analyses the currently selected preset if it is not yet in the database of the AI System. This can be faster than the above option because it lets you analyze a single preset instead of analyzing all presets.

3.5.5. Preset Details Column

When a preset is selected, the part on the right of the Preset list is a window showing details about the selected Preset.
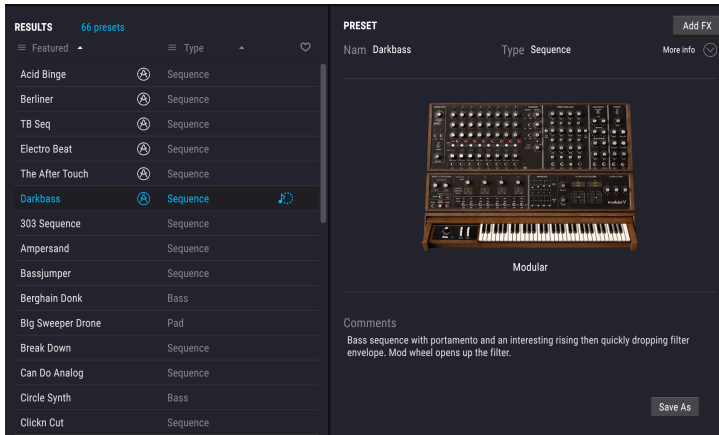
Use the **Save As** button on the right bottom side of the Info Panel to edit any information about the preset such as its name, styles and any comments you want to add.
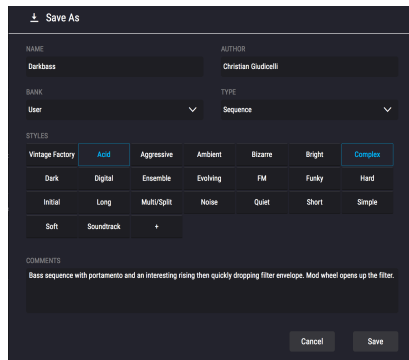
A Delete button is available for User preset on the right bottom side of the Info Panel. This button is only available when editing user presets (factory presets cannot be deleted).

3.5.6. 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 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 Modular V you can open any of the Modular 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 Modular 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.

> ℹ !: 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 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.

3.5.7. Adding Effects to your sound
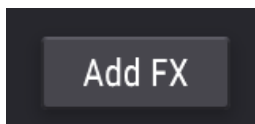
Analog Lab lets you impart additional color and life to a preset by adding effects to a preset. This is done by pressing the Add FX button at the top right of the Preset Details column.

Clicking this button opens up the Mixer page and lets you add various effects. This section is described in detail later in the manual. To exit this section, click the *Quit Mixer* button at the top right.

> ♪: There is a Save As button that lets you save your preset with the added effects from Analog Lab. Note that when you save a preset with any of the Analog Lab FX, the preset is saved in the Analog Lab format and cannot be loaded with the Analog Lab FX into the individual instrument.

3.6. Multi Mode

Single sound mode is phenomenal, because our synth models and sound designers are absolutely top-notch. However, we feel Multi mode is where Analog Lab really goes above and beyond. 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 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 extraordinary.

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 preset 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 but we hope you'll make many more of your own.

3.6.1. 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.
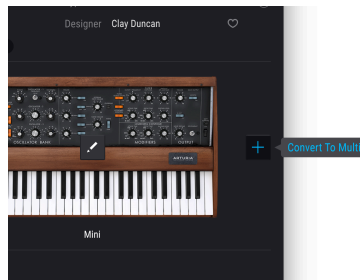
This changes the view to display the Multi area. Your first sound will be in the slot on the left and you can drag and drop any sound from the Browser into the empty slot on the right.
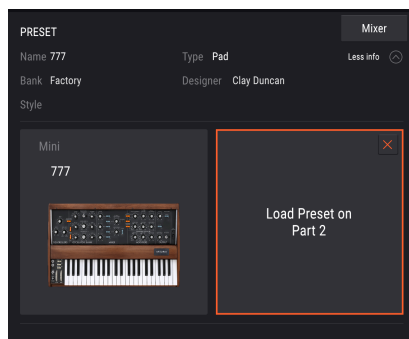
You will also see that in Multi mode, the control area at the base of the window gains two extra sections. Part 1 and Part 2 contain all the relevant controls for modifying parts 1 and 2 in the Multi. The Live / Mixer section lets you assign macros to control multiple parameters for live performance. See section macros and controller assignments [p.40] 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.

3.6.2. The Swap Mode

When creating a New Multi, you enter in the Swap Mode : the Part 2 is selected, and loading a preset will load it into the part 2. You can easily switch to the other part by clicking on the slot area. When in Swap Mode, the preset loaded will be loaded into the swapped part. To exit the multi and load another preset, exit swap mode first.

> ♪: Notice that a color is associated for each part (green for part 1, orange for part 2) in order to make things visually clear to users.

3.7. The Mixer Section

At the top-right of the Preset section, you will find button that takes you to the Analog Lab mixer section. This button is called *Add FX* when working with single presets and *Mixer* when working with Multis, but in both cases, it opens up the mixing and effects section.
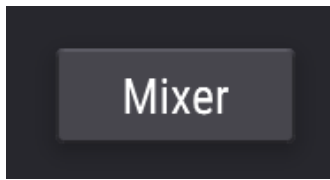
To leave the mixer section and return to the Preset column, click the *Quit Mixer* button at the top-right.

3.7.1. The Main Mixer screen

When you open the mixer, you will see the following by default:

The Tracks control section

Here you will see five channel strips:

1. Preset 1
2. Preset 2 (if one is loaded)
3. Effects A
4. Effects B
5. Master

The available controls are as follows:

- All channel strips feature a volume slider that can be used to set volume of the preset(s), the effect(s) or the overall output. You can use these to submix two sounds, blend in the returning "effected" signals or set the overall output level.

- Each preset channel strip has a stereo panner that sets the position of the preset in the stereo field. This is useful for creating more stereo width and separation in a Multi. Each preset channel strip also has two effect send knobs that let you determine how much of the preset is sent to an effect to be processed. 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. Finally, the Pre / Post switch here determine whether the effect is sent pre or post-fader. Note that the Pre/Post is hidden by default and is only revealed when you hover over send knob.

- The effect return channel strips include pull-down menus that let you select your desired effect(s). Clicking on a selected effect's icon brings up the effect on screen so that you can dial in its various parameters. Each loaded effect also has a on/off switch so that you can quickly disable an effect if you wish. The volume sliders determine 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 channel strip includes two additional "master" effects that can be selected by clicking on the pulldown menu and function the same way as the effect return channel strips described above. Finally, this channel strip includes a master volume control of the Analog Lab.

3.7.2. The Effects section

This section is where you can load and modify two effects per preset and two "master" effects 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:

- MultiFilter
- ParamEQ
- Compressor
- Distortion
- Chorus
- Flanger
- Phaser
- StereoPan
- Delay
- Reverb

3.7.3. Editing Effects

To edit a loaded effect, simply click its thumbnail icon. Doing so will bring up a larger version of the effect so that you can dial in the various controls of that effect. When you are satisfied with your edits click the "X" button at the top-right to close this large editor and return you to the main mixer page.


3.7.4. The Mixer and Effects are MIDI-learnable

The Mixer and all of the effects can respond to MIDI and are MIDI-learnable. This means that if you put Analog Lab into MIDI learn mode you will be able to control any of the highlighted parameters with your hardware MIDI controller.

3.7.5. The MIDI Settings Button

Clicking the MIDI Settings button at the lower-left of the screen brings up the following section:
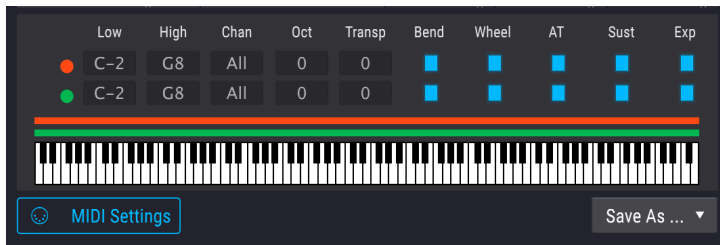
Analog Lab lets you get creative with the way your sounds are mapped across your MIDI keyboard and how they respond to various types of MIDI input. Each of the two parts has an identical MIDI settings section that you can use to create performance patches that are more interesting than simply two sounds 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.
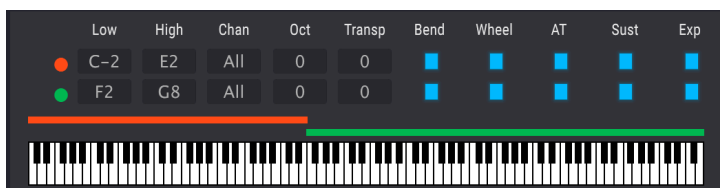
An example of a split Multi

- The **Chan** setting 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.
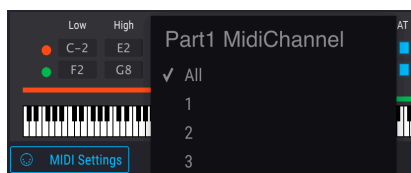
- The "Oct" and "Trans" sections let you shift playback of a part up or down by one or more notes or octaves. Click, hold and drag up or down with the mouse to make settings here, and double click on the number display to return the setting to zero. Whatever MIDI notes you play on your keyboard, Analog 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.

3.8. Concerts

Concerts are a concept created by Arturia to make live performance easier. A concert is a collection of any number of "songs" and each song can contain up to 128 presets. The idea here is that you can organize your presets and songs before a concert so that you can quickly find presets when you're on stage.
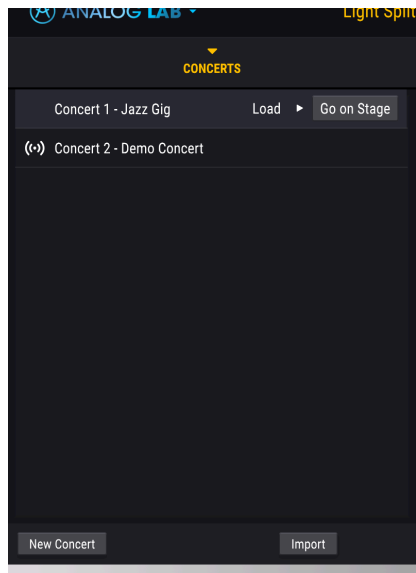
To open and close the concerts tab, simply click on the Concerts button in the Preset Search column.
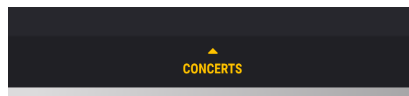
The Concerts section has two pages: *Concerts List* and the *Current Concert.* We'll discuss each one separately below.

3.8.1. Concerts List

The Concerts List page is where all of your Concerts are displayed.

The currently loaded concert features the following icon.
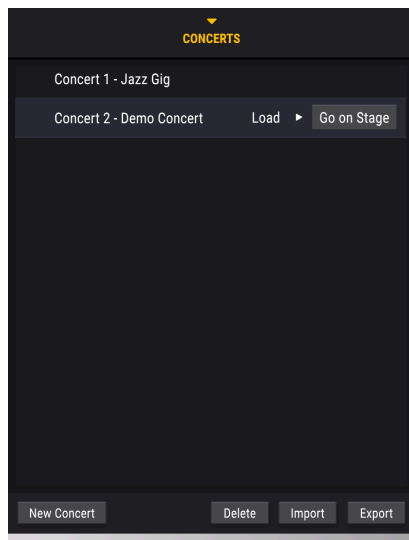
Hovering over any of the Concerts in this list lets reveals the word *Load* or *Edit*. If you are hovering over an un-loaded concert, the word Load will appear so that you can load the Concert. Note that you must first load a concert before you can edit its contents.

If you are hovering over the currently loaded Concert, the word Edit will appear and clicking it will take you to the Current Concert page (described in the next section of this guide).

Hovering over any Concert in this list also reveals a **_Go on Stage_** button. This button immediately loads the selected concert and takes you into Stage Mode (described later in this User Guide). Note that clicking this button will automatically load the first preset of your selected concert if no preset is selected.

You can create new Concerts by clicking the **New Concert** button. The **Import** button lets you import Analog Lab playlists. Once a project is selected, you can **Delete** or **Export** it using the buttons that appear below (these buttons only appear when a Concert is selected).

3.8.2. Current Concert

Clicking _Edit_ on the currently loaded concert brings you to the Current Concert page, as shown below.
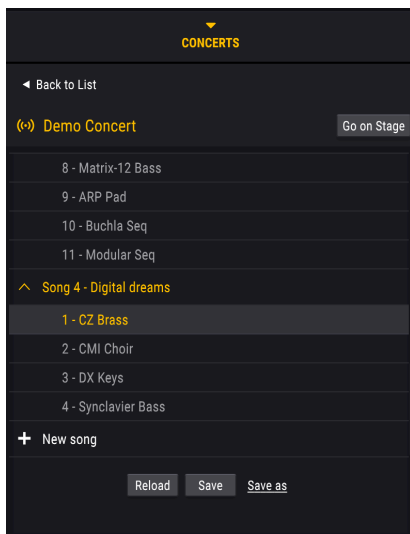
This page lets you see each song and all of its presets. You can also edit the order of songs and other administrative tasks like saving and re-loading Concerts.

A Concert can feature any number of songs and each song can contain up to 128 presets. To load a preset, simply click on it.

To create a new song, click **+ New Song** icon at the bottom of the song list. Drag and drop presets from the Results list to add presets to a song. Click and drag to reorder presets in a song or to move them to a different song. To delete a preset from a song, highlight the preset and click the trashcan icon to the right of the name.

> ♪: Note that presets in concerts are automatically saved when a change is made and also when saving the Concert (explained below). This is why the save menu in the Analog Lab toolbar is disabled.

The **Reload** button lets you reload the current concert from the saved file. This is useful if you try making changes to the order of songs or presets but change your mind and would like to go back to the original (saved) version.

The **Save** button immediately saves the current concert under the same name.

The **Save As** option lets you save the current concert under a different name. This is useful if you want to make alternative versions of concerts (for example, with different order or with extra songs).

3.9. Stage Mode

Stage Mode is a special mode introduced in Analog Lab 4 designed to help musicians performing live on stage. This mode removes features that performing musicians don't need on stage (such as preset browsing tags, modulation routing destinations or other sound design-related controls). Doing this makes the remaining important on-screen features bigger and easier to see. The idea here is to provide a focused mode for performing that minimizes distracting/unnecessary features, reduces chances of making a mistake due to a mis-click and to generally help musicians perform at their best!

♪: Note that Stage Mode is *read-only* meaning that you cannot modify things like FX, MIDI split-points or other "setup" parameters. The only parameters that can be modified in this mode are the performance knobs and faders. This is done to simplify life when you are on stage. If you would like to modify other parameters click the *Exit Stage Mode* button at the top of the screen to leave this mode.

3.9.1. Entering and Exiting Stage Mode

Stage Mode can be accessed by clicking the *Go on Stage* button under the Concerts section. All of the songs and presets that you have selected will now be visible for easy access.
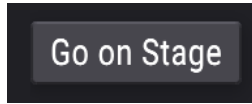
To exit Stage Mode, simply click the Quit Stage button at the top of the screen.

3.9.2. Song and Preset Selection
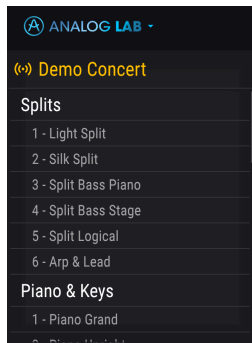
The top-left part of the screen shows the currently loaded concert (with its songs and presets) in large, easy to read text. A concert can feature any number of songs and each song can have up to 128 presets underneath it.

To load a preset, simply click on it.

> ♪: You can also use MIDI Program Change messages to change your presets. When working in this way, the MIDI Bank Select MSB selects the song while Program Change selects the Presets within that song.

3.9.3. Part Selection
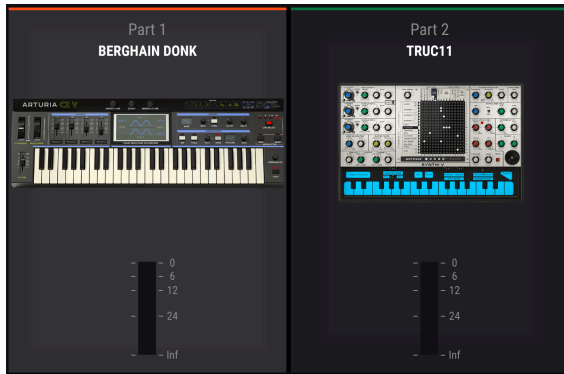
A preset can contain one or two parts. Those parts are shown in the middle of the screen. If your preset contains two parts, you can select either part by clicking it. The currently selected part is highlighted and VU meters below each part give you a visual indication of what is happening. The controls for the currently selected part are listed along the bottom of the Stage Mode window (see below).

> ♪: If you own KeyLab Mk. II or Keylab Essential, you can easily select parts directly from the controller by clicking the *Part 1*, *Part 2*, or *Live* buttons. If you own a MiniLab, you can select Part 1, Part 2 or Live by pressing Shift + pad 1, 2 or 3 respectively.

3.9.4. Stage Mode Effects
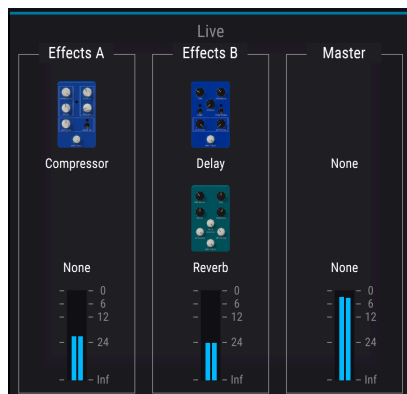
The various effects used in the preset are shown to the right of the parts with VU meters to indicate signal levels.

3.9.5. Stage Mode Controls

Your selected part's controls are shown using enlarged sliders and knobs that are easy to see and manipulate.

3.10. Macros and Controller Assignments

3.10.1. Controller Assignment

When you load a preset in Analog Lab, the controller area at the base of the window changes to reflect the controller assignments stored in that preset. In the case of factory presets, these will be those controls the sound designers 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. If your hardware controller has lots of 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.
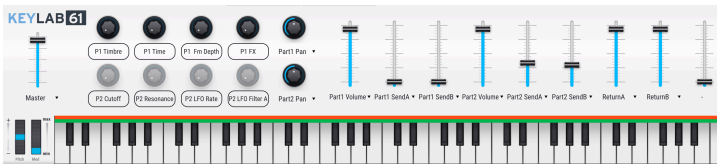
The controller section displaying a Keylab controller layout

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 preset 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.
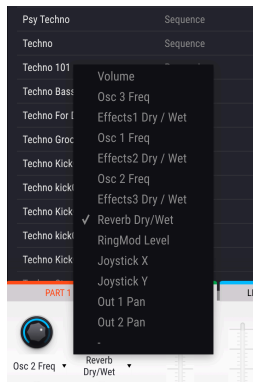
Reassigning controllers

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 / Mixer 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.
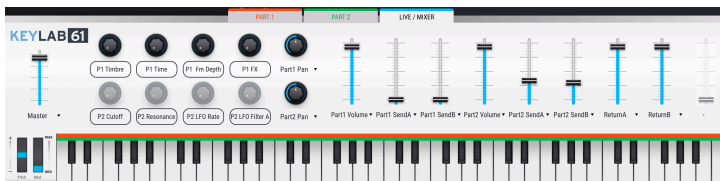
Changing parameters in Multi mode

When you have an instrument installed and activated (Modular 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 (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.

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.

3.10.2. The Live / Mixer section

This section contains eight Macro knobs and nine sliders that can be customized 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.
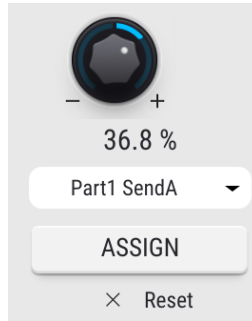
- The knob at the top is the Macro amount control and runs from -100 to 100.
- The numerical field beneath the knob displays the Macro amount.
- Clicking on the assign menu in the centre of this area will reveal a menu of all available Macro assign destinations. This will vary depending on what instruments 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 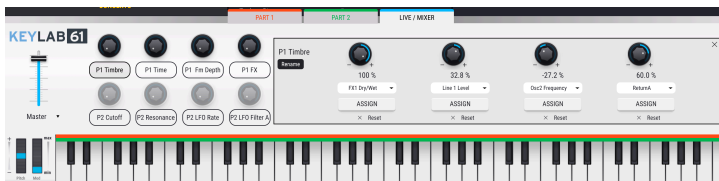plug-ins that Analog Lab uses to generate its sounds, you will be able to use the Assign function to map a Macro through to the parameters inside that particular instrument.
- The X button clears the Macro assignment.

So after making some assignments and entering some custom Macro names, your Live / Mixer 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 "Timbre"), 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.

3.10.2.1. Other controls

The main Live / Mixer 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.
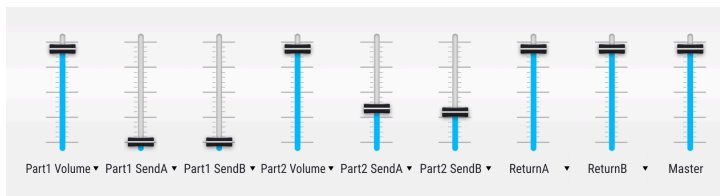
In addition to the Macro knobs in the Live / Mixer section you also get:

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

3.10.3. Interaction with hardware

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

3.10.3.1. 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 Part 1 (Active Swap Mode, Select Tab Part 1)
- Snapshot 2 : Select Part 2 (Active Swap Mode, Select Tab Part 2)
- Snapshot 3 : Select Live (Exit Swap Mode, Select Tab Live)
- Snapshot 1+ Snapshot 2 + Press Keys : Set the note as split point

3.10.3.2. 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 Part 1 (Active Swap Mode, Select Tab Part 1)
- Snapshot 2 : Select Part 2 (Active Swap Mode, Select Tab Part 2)
- Snapshot 3 : Select Live (Exit Swap Mode, Select Tab Live)
- Snapshot 1+ Snapshot 2 + Press Keys : Set the note as split point

3.10.3.3. Minilab hardware

- Turn Knob 1: Change Volume
- Turn Knob 2: Select Preset in the list, and load it after 1 second
- Pad 9 : Select Part 1 (Active Swap Mode, Select Tab Part 1)
- Pad 10 : Select Part 2 (Active Swap Mode, Select Tab Part 2)
- Pad 11 : Select Live (Exit Swap Mode, Select Tab Live)
- Pad 9 + Pad 10 + Press Keys : Set the note as split point

3.10.3.4. Minilab MKII

- Shift + Turn Knob 1: Change Volume
- Knob 1: Navigate through filters and active/inactive on push
- Knob 2 : Navigate through presets and load on push
- Pad 9 : Select Part 1 (Active Swap Mode, Select Tab Part 1)
- Pad 10 : Select Part 2 (Active Swap Mode, Select Tab Part 2)
- Pad 11 : Select Live (Exit Swap Mode, Select Tab Live)
- Pad 9 + Pad 10 + Press Keys : Set the note as split point

3.10.3.5. Keylab Essential

- Map Select + Pad Analog Lab : Enter in Analog Lab control mode
- Press Cat/Char : Enable navigation into the browser filters
- Press Preset : Enable navigation into the presets result list
- Turn Central Knob : Navigate through filters/result list
- Press Central Knob on Result List: Load the selected preset in a list
- Press Central Knob on Filter: Active/Unactive Filters
- Part 1 : Select Part 1 (Active Swap Mode, Select Tab Part 1)
- Part 2 : Select Part 2 (Active Swap Mode, Select Tab Part 2)
- Live : Select Live (Exit Swap Mode, Select Tab Live)
- Live + Press Keys : Set the note as split point

3.10.3.6. Keylab MKII

- Map Select + Pad Analog Lab : Enter in Analog Lab control mode
- Press Category : Enable navigation into the browser filters
- Press Preset : Enable navigation into the presets result list
- Turn Central Knob : Navigate through filters/result list
- Press Central Knob on Result List: Load the selected preset in a list
- Press Central Knob on Filter: Active/Unactive Filters
- Part 1 : Select Part 1 (Active Swap Mode, Select Tab Part 1)
- Part 2 : Select Part 2 (Active Swap Mode, Select Tab Part 2)
- Live : Select Live (Exit Swap Mode, Select Tab Live)
- Live + Press Keys : Set the note as split point
- Fader Buttons : Select filters (when in studio view) and load first nine presets (when in stage mode)
- (When in Concert Mode) Press Left/Right Arrow Buttons to select preset when *Preset* button is illuminated
- (When in Concert Mode) Press Left/Right Arrow Buttons select Song when *Category* button is illuminated

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