

USER'S MANUAL

KEYLAB SERIES

UNIVERSAL MIDI CONTROLLER

ARTURIA®
YOUR EXPERIENCE • YOUR SOUND

INDUSTRIALIZATION:

Nicolas Dubois

MANUAL:

Randy Lee
Sebastien Rochard
Tomoya Fukushi
Jerome Parrod

DESIGN:

Glen Darcey
Axel Hartmann
Morgan Perrier

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11, chemin de la Dhuy
38240 Meylan
FRANCE
<http://www.arturia.com>

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Thank you for purchasing the Arturia KeyLab!

This manual covers the features and operation of the Arturia **KeyLab**, a full-featured MIDI controller designed to work with any DAW software or plug-in you own.

Note: While the KeyLab is part of a package which includes our Analog Lab software, this manual will focus only on the KeyLab controller hardware. Please refer to the Analog Lab user manual in order to learn about the features of the software.

In this package you will find:

- One KeyLab keyboard controller
- One USB cable
- The Quick Start Guide for the KeyLab. This document has a sticker on the inside of its front cover providing the serial number and registration code you will need in order to register your KeyLab online and authorize the Analog Lab software.

Be sure to store your registration information carefully! It contains the serial number that is required during the online registration process. Registering your KeyLab provides the following benefits:

- It enables you to download the Analog Lab software installer and user manual, the KeyLab user manual, and the KeyLab MIDI Control Center software
- It provides by e-mail the unlock code you will need to authorize the Analog Lab software on your computer. See Chapter 3 of the Analog Lab user manual for more information about its authorization procedure.

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 the hardware that has been purchased.

IMPORTANT:

The product and its 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 product 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.

PRECAUTIONS INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

1. Read and understand all the instructions.
2. Always follow the instructions on the instrument.
3. Before cleaning the instrument, always remove the USB cable. When cleaning, use a soft and dry cloth. Do not use gasoline, alcohol, acetone, turpentine or any other organic solutions; do not use a liquid cleaner, spray or cloth that's too wet.
4. Do not use the instrument near water or moisture, such as a bathtub, sink, swimming pool or similar place.
5. Do not place the instrument in an unstable position where it might accidentally fall over.
6. Do not place heavy objects on the instrument. Do not block openings or vents of the instrument; these locations are used for air circulation to prevent the instrument from overheating. Do not place the instrument near a heat vent or at any location with poor air circulation.
7. Do not open or insert anything into the instrument that may cause a fire or electrical shock.
8. Do not spill any kind of liquid onto the instrument.
9. Always take the instrument to a qualified service center. You will invalidate your warranty if you open and remove the cover, and improper assembly may cause electrical shock or other malfunctions.
10. Do not use the instrument with thunder and lightning present; otherwise it may cause long distance electrical shock.
11. Do not expose the instrument to hot sunlight.
12. Do not use the instrument when there is a gas leak nearby.
13. Arturia is not responsible for any damage or data loss caused by improper operation of the instrument.

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1 INTRODUCTION

KeyLab is Arturia's newest series of USB MIDI Keyboards. The KeyLab 25, KeyLab 49, KeyLab 61 and KeyLab 88 all feature a velocity and aftertouch sensitive keyboard. They offer a control surface designed for perfect integration with our software synthesizers. The attention to detail poured into KeyLab also makes it perfect for working with any other software plug-in or DAW you have available.

Beyond being a great MIDI controller, KeyLab comes with our Analog Lab software which includes an astounding arsenal of classic synth and keyboard sounds. The integration of these two products results in a powerful hybrid synthesizer with excellent functionality and great sound.

The 2 clickable encoders, 11 encoders, 9 faders, 13 switches, 6 transport switches, and the modulation and pitch bend wheels give you the control you need to exploit the full potential of any USB audio product you encounter. The 49-, 61- and 88-note versions also offer 16 velocity- and pressure-sensitive pads that can be configured as pads, MIDI CC buttons, or program change switches.

You will also find MIDI In and Out connectors; Expression, Sustain and Aux pedal inputs; as well as a breath controller input.

On top of that, the included MIDI Control Center software lets you map parameters to the controllers and pads simply and easily, directly from your computer, and then save them as presets. Those presets then can be stored in the physical KeyLab unit for instant recall.

Your music is important, and we are honored that you have chosen KeyLab and Analog Lab as the hardware and software tools that will help you each step of the way. May they inspire you to new heights of creativity!

Musically yours,

The Arturia team

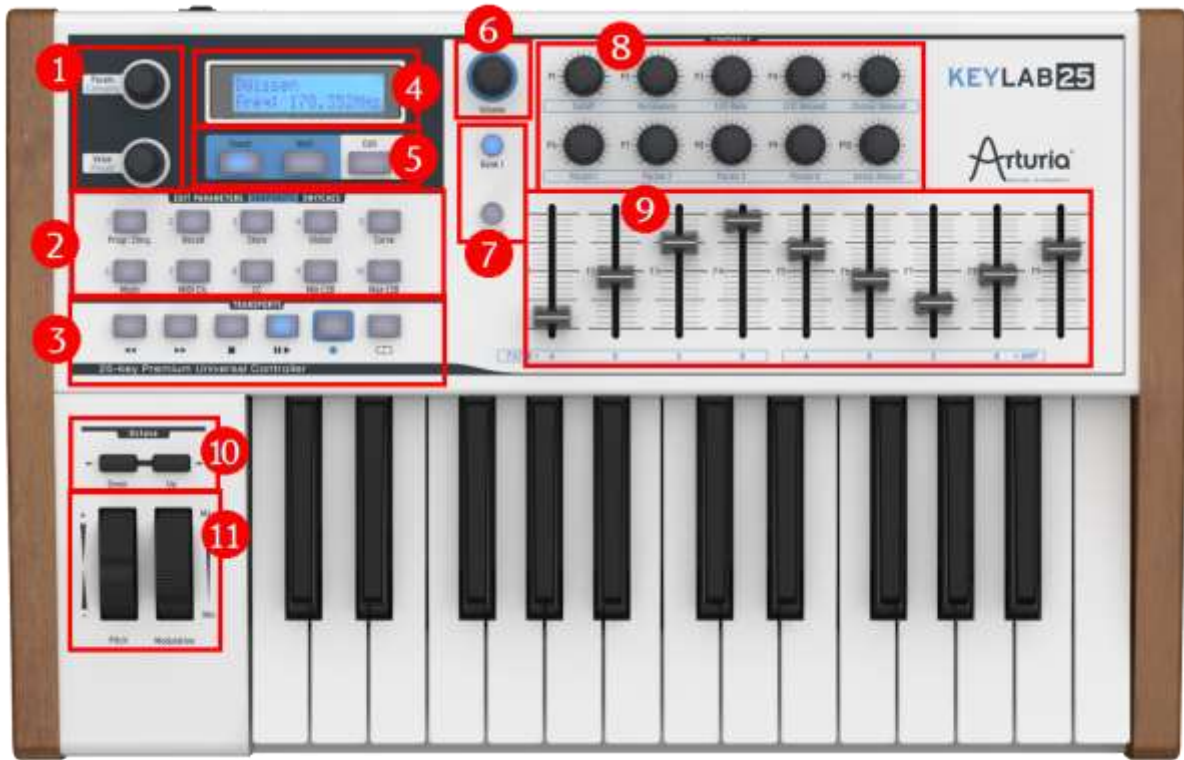
2 KEYLAB OVERVIEW

2.1 First step: Making the connections

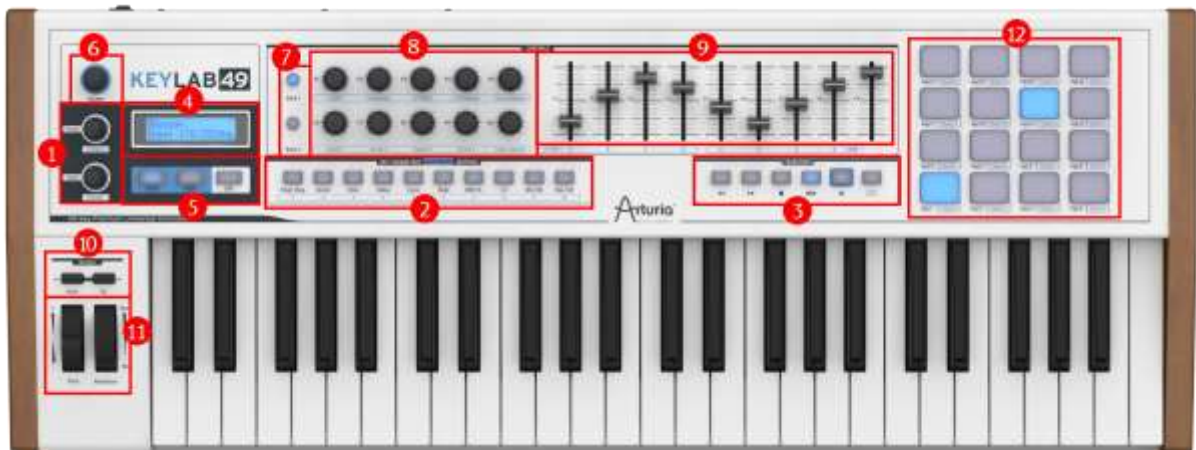
Setting up the KeyLab keyboard for use with Analog Lab is fast and simple:

- 1) First install the Analog Lab program on your computer and be sure to register and authorize it (see Chapters 2 and 3 of the Analog Lab user manual).
- 2) Connect the KeyLab keyboard to the computer. KeyLab is powered by its USB connection, so all you have to do is connect a USB cable from your computer to the KeyLab controller.
- 3) KeyLab is a class-compliant USB device, so its driver will be automatically installed when you connect KeyLab to your computer.
- 4) Fire up the Analog Lab software and read on!

2.2 Front panel overview



KeyLab 25 front panel



KeyLab 49 front panel

Note: the front panels for the KeyLab 49, -61 and -88 are basically identical, so only the KeyLab 49 is pictured here.

<p>1: Category / Param and Preset / Value encoders</p>	<p>The Category/Param encoder selects filter options for the Analog Lab preset list. In Edit mode it selects an item parameter.</p> <p>The Preset/Value encoder selects the preset from the filtered Presets list. In Edit mode it adjusts the value of the parameter that has been selected in the display.</p> <p>After making a selection with one of those encoders, click it to confirm your selection.</p>
<p>2:Edit Parameters / Snapshots / Switches</p>	<p>In Edit mode these select parameter groups. Use the Param / Value encoders to edit them.</p> <p>Use with Analog Lab to recall favorite presets (Snapshots).</p> <p>Use the MIDI Control Center software to alter the buttons' assignments for other MIDI applications.</p>
<p>3: Transport buttons</p>	<p>These buttons are used to control an external hardware or software sequencer through standard MMC messages: Start, Stop, Record, Rewind, Fast Forward and Loop on/off.</p>
<p>4: LCD screen</p>	<p>32-character LCD screen.</p>
<p>5: Sound/Multi/Edit buttons</p>	<p>The Sound/Multi buttons allow selection of those modes in Analog Lab.</p> <p>The Edit button places the KeyLab in edit mode for advanced editing of the controls.</p>
<p>6: Volume encoder</p>	<p>The Volume encoder controls the master volume of Analog Lab.</p>
<p>7: Bank buttons</p>	<p>The Bank buttons will toggle between two sets of controller assignments for both the Encoders and the Faders.</p>
<p>8: Encoders</p>	<p>These encoders are pre-assigned to control the synthesis parameters in Analog Lab, and may be configured to control any other device.</p>
<p>9: Faders</p>	<p>These are pre-assigned to control the synthesis parameters in Analog Lab, and may be configured to control any other device.</p>
<p>10: Octave up/down buttons</p>	<p>Will transpose the KeyLab in octave increments. The LED rate indicates the distance from middle C. For chromatic transposition, see section 2.2.3.2.</p>
<p>11: Pitch bend/Mod wheel</p>	<p>These are used to alter the pitch bend and modulation amounts in real time.</p>
<p>12: Pads (KeyLab 49/61/88 only)</p>	<p>In Analog Lab these are used to trigger chords, which are defined in Chord mode. They are velocity- and pressure-sensitive, and can be assigned to handle a number of other functions using the MIDI Control Center software.</p>

2.2.1 Keyboard


The Arturia KeyLab series offers four different sizes of velocity- and aftertouch-sensitive keyboards (25-, 49-, 61- and 88-keys). Each is equipped with a control surface designed for perfect integration with the Analog Lab software.

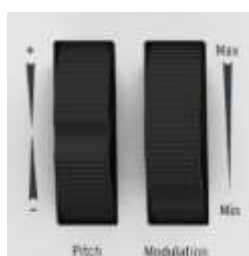
2.2.2 Pitch and Modulation Wheels

These controls are used to add pitch bend and modulation during performance.

Moving the Pitch Wheel up or down alters the pitch of the selected sound. The bend range depends on the selected preset.

Moving the Modulation (Mod) Wheel up or down adds or reduces the modulation of the sound. The amount and type of modulation depends on which preset is selected.

 *The modulation wheel may not be assigned to modulate a parameter in some presets.*



Pitch and Modulation Wheels

2.2.3 Octave buttons

2.2.3.1 Octave transposition

Pushing one of the Up or Down buttons will transpose the KeyLab in octave increments. The maximum amount of transposition depends on which model you have: -/+ 3 octaves (KeyLab 25/49/61), or -/+ 2 octaves (KeyLab 88).

The appropriate LED will blink faster the further you are from middle C.


2.2.3.2 Chromatic transposition

When you press the Octave buttons you also have the option to transpose chromatically (i.e., in semitones). To jump from the Oct field to the Semi field in the Transposition window, press the Down and Up buttons at the same time. Then use those buttons one at a time to shift the keyboard chromatically. Press again them simultaneously to jump back to the Oct field.



Octave buttons

2.2.3.3 Factory Reset (Erase All Presets)

 The following instructions will replace all KeyLab presets with the factory settings. Back up anything you do not want to lose! See [section 5.8](#) for information about using the MIDI Control Center to save your presets.

If you want to start with a completely blank slate, the quickest way to do that is hold down both Octave buttons when you plug in the USB cable or the optional power supply. This will restore the factory presets on your KeyLab.

After this, Preset 0 sets the encoders to transmit in absolute mode, while presets 1-10 set the encoders to transmit in relative mode. See section 6.2.b of the built-in MIDI Control Center manual for descriptions of these modes.

2.2.4 Volume encoder

The Volume encoder functions as the master volume control for Analog Lab. It is probably best to leave this at the default setting (MIDI CC #7), although you can assign it to any MIDI CC using the MIDI Control Center software.



Volume encoder

2.2.5 Sound/Multi/Edit section



Sound/Multi/Edit buttons

2.2.5.1 Sound/Multi buttons

The Sound and Multi buttons allow you to switch between these modes in Analog Lab.

2.2.5.2 Edit button

Press the Edit button when you want to edit the parameters of the current preset.

When Edit mode is activated, the Edit button LED will light and the display will show the current parameters and their values. Use the Edit Parameter buttons to select the parameter group you wish to edit (Progr. Chng., Global, CC, etc.). See [Chapter 3](#) for an explanation of each of these parameter groups and the parameters they contain.

When KeyLab is in Edit mode the two encoders to the left of the LCD change their functions:

- The Category encoder becomes the Parameter selector
- The Preset encoder becomes the Value editor for the selected parameter. Click this encoder to confirm the new value.

2.2.6 Edit Parameters/Snapshots/Switches

Commonly referred to as the Snapshot buttons, these ten buttons serve multiple functions depending on the current mode:

2.2.6.1 Edit Parameters

When in Edit mode the silkscreened text above the buttons lists the parameter groups that are available: Progr.Chng., Recall, Store, Global, Curve, Mode, MIDI Ch., CC, Min LSB and Max MSB. Most of these contain multiple parameters which are accessed with the Param encoder and edited with the Value encoder.

For a full description of each Edit mode parameter, see [Chapter 3](#).

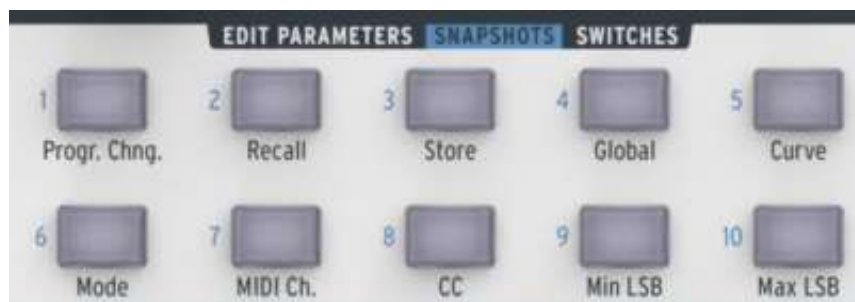
2.2.6.2 Snapshots

When using Analog Lab with a KeyLab controller, the default function of the “Snapshots” button group is to provide instant access to your favorite Sounds and Multis.

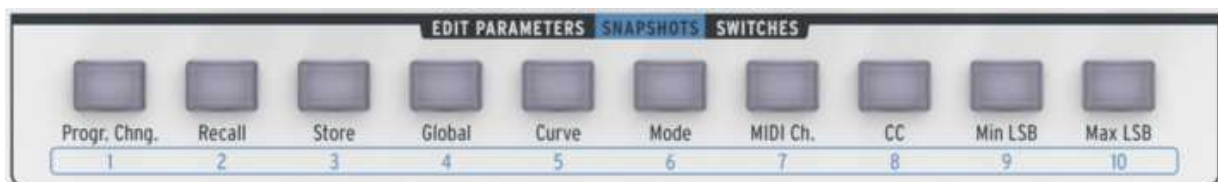
For information about saving and recalling Snapshots, see [section 4.6](#).

2.2.6.3 Switches

This is a simple term for the top-level functionality of these 10 buttons. In other words, when KeyLab isn’t in Edit mode or connected to Analog Lab, these 10 buttons function as Switches: they execute whatever function was determined for them in Edit mode or with the MIDI Control Center. They might transmit a MIDI note, toggle between two MIDI CC values, send a program change command, or even select one of the KeyLab presets.



Snapshot buttons, KeyLab 25



Snapshot buttons, KeyLab 49/61/88

2.2.7 Transport Controls

The KeyLab controllers provide standard sequencer transport functions, which allow you to control an external hardware or software sequencer without distracting yourself by reaching away from the center of your creative session.

The buttons send standard MMC messages by default: Start, Stop, Record, Rewind, Fast Forward and Loop On/Off. However, they may be reassigned to other functions if you like, either in Edit mode or by using the MIDI Control Center software.



Transport section

2.2.8 Synthesis controls

The majority of the front panel is dedicated to the most common synthesis parameters found in Analog Lab.

Note: Detailed information about the parameters themselves can be found in the corresponding sections of the Analog Lab manual.

2.2.8.1 Filter

These two encoders govern the main filter settings of any preset: Cutoff and Resonance.



Filter encoders

2.2.8.2 LFO

Two encoders control the main LFO settings of the selected preset: Rate and Amount, which set the LFO speed and depth, respectively.



LFO encoders

2.2.8.3 FX mix

The FX Mix encoders control the dry/wet level of the Chorus and Delay.



FX Mix encoders

2.2.8.4 Parameters 1-4

The four "Param" encoders will affect the sound in various ways depending on which parameters are active in the selected preset.



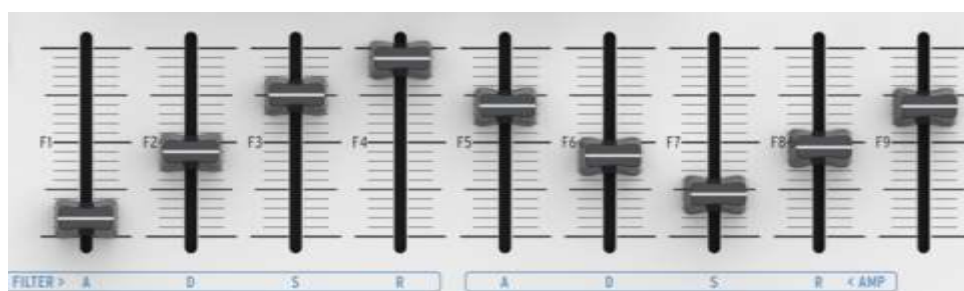
Key Parameter encoders

2.2.8.5 Envelopes

The nine faders on the front panel address the envelope generators in Analog Lab.

There are two sets of four faders each, corresponding to the Attack, Decay, Sustain and Release stages of two envelopes (ADSR, in synthesizer parlance). These envelopes can control VCAs or VCFs within the preset; their assignments depend on which preset is selected.

As with other controls, though, the nine faders may be freely assigned to any other parameter. For instance, they function well as organ drawbars.

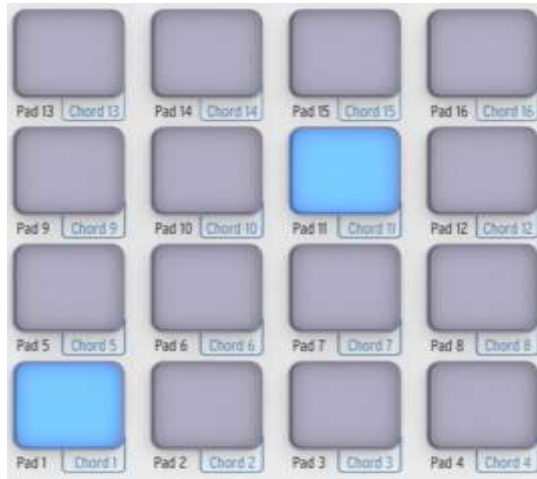


Envelope faders

2.2.9 Pads (KeyLab 49/61/88 only)

The 16 velocity- and pressure sensitive pads can be used to play drum parts, of course. Since this is a common usage they are set to MIDI Channel 10 by default (the General MIDI standard for drum parts).

The main function of the pads when using Analog Lab is to trigger chords. But they can also be assigned to do lots of other things using the MIDI Control Center software (sending program changes, for example).

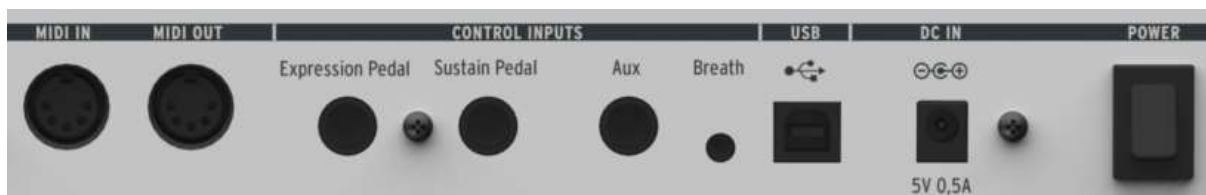


The pads

2.3 Rear panel overview

Here's a list of the connectors found on the rear panel the KeyLab:

- MIDI In
- MIDI Out
- Expression pedal
- Sustain pedal
- Auxiliary pedal
- Breath controller
- USB
- DC In (optional, 5V 500mA)
- Power on/off switch



Back panel

2.3.1 MIDI connections

The KeyLab controller uses its USB port to pass MIDI data to and from your computer. Its dedicated MIDI In and MIDI Out connectors also allow KeyLab to function as a MIDI interface between your computer and the outside world.

⚠ Tech tip: if you have a "tower-style" PC, plug the KeyLab controller into the USB ports on the back, not the ports in the front. The supplied power is more likely to be sufficient when using the back ports. See [section 2.3.6](#) for more information about power requirements.

KeyLab can also serve as a standalone MIDI controller for external devices such as synthesizers, sound modules, sequencers or drum machines, with or without a computer attached. In this case you would need to provide an external power supply (5V, 500mA).

2.3.2 Expression pedal

This input is designed to work with a volume pedal such as Roland's EV-5, and transmits MIDI CC #11 by default. It can be assigned to another MIDI CC or one of several other types of data using the MIDI Control Center software.

2.3.3 Sustain pedal

Plug in a momentary footswitch here. It is pre-assigned to control the sustain parameter (MIDI CC #64), but the MIDI Control Center software allows you to specify other behaviors if you like. You could use it to transmit a MIDI note, for example.

2.3.4 Auxiliary (Aux) pedal

This also works with a momentary footswitch. It is pre-assigned to control MIDI CC #12 by default, but with the MIDI Control Center software you can alter its MIDI assignment easily.


2.3.5 Breath controller input

There is nothing better for realistic woodwind and brass performances than a breath controller, the kind that were sold alongside the FM synthesizers of yesteryear. There are still innovative companies like Kelfar Technologies that make breath controllers today.

2.3.6 USB connector (powering the KeyLab)

Use this port to connect the KeyLab to your computer. That sounds simple, but there are two very important things to remember:

- If you have a “tower-style” PC, be sure to use the USB ports on the back, not the front, as noted in the Tech Tip in [section 2.3.1](#).
- If you plan to use a USB hub, **use a powered USB hub only**. A non-powered USB hub will not supply enough power for reliable operation, and you could damage your computer and the USB hub if you try.

 *Seriously, read the previous two bullet points! Not all USB ports supply the same amount of electricity.*

2.3.7 DC In (optional power supply)

Although the KeyLab series is powered by its USB port, you can also use a DC adapter if you don't want to take your computer to the gig. That being the case, simply connect an optional 5V DC 500mA adapter to the DC IN connector.

3 EDIT MODE

Edit mode is useful on several levels, the first being that it allows you to adapt the function of each control as needed for use with Analog Lab. But it also greatly enhances the ability of the KeyLab to function as a standalone MIDI controller, whether a computer is present or not. In either case you can specify the type of MIDI data sent by a given control and what its operational range will be: full, limited, or even inverted.

To enter Edit mode, press the Edit button. After this the ten buttons in the middle of the front panel become the Edit Parameters buttons, and are used to access the one of the parameter groups for editing. The currently selected parameter group will be lit in blue.

Remember, once the parameter group has been selected, the two encoders to the left of the display take on new roles: the Param encoder selects the parameter in the top line of the display, which is then edited by the Value encoder.

Naturally, you can select the parameter group you want by pressing any one of the 10 Edit Parameters buttons. But another option is simply to click the Param encoder. If you do this repeatedly you'll see the next Edit Parameters button light up, then the next, etc.

What follows is a description of each parameter group and the parameters it contains.

3.1 Progr. Chng

Sometimes a situation will arise when you need to send a program change command to an external device or a software synth. Simply select the desired values using the encoders, and then push the Value encoder to transmit the command.

The available messages are as follows:

- Program: Program Change, from 1 to 128.
- Bank MSB: Most Significant Byte for the Bank number (0 to 127).
- Bank LSB: Least Significant Byte for the Bank number (0 to 127).
- Reset: you can choose to reset a GM1, GM2, GS, or XG devices, or send an All Notes Off command.

3.2 Recall

Use these pages to recall a KeyLab preset from memory. The Value encoder makes the selection and confirms it; there isn't another parameter for the Param encoder to select, so it gets to sit this one out.

P.S.: Whenever you start up your Keylab88, the latest memory preset that has been stored or recalled (One of the 10 memories presets of the Keylab 88) will be loaded into your working memory.

3.3 Store

After you've configured a preset exactly the way you want it, you'll want to lock it into memory so it'll be there next time you need it. This is the page to select in order to make this happen.

Use the Value encoder to select one of the ten preset memory locations and then click the encoder. A confirmation screen will pop up: if you are not sure, turn the Value encoder so the word "No" appears and click the encoder to cancel the operation. But if you are sure, click the encoder to confirm the value of "Yes".

As with the Recall page, there is nothing for the Param encoder to do on this page. So that's what it does (nothing).

P.S.: Whenever you start up your Keylab88, the latest memory preset that has been stored or recalled (One of the 10 memories presets of the Keylab 88) will be loaded into your working memory.

3.4 Global

This page is actually more flexible than the word "Global" would imply. Instead of determining the status of the KeyLab in a way that affects all presets, this mode is used to set the global parameters of each preset individually. The settings can be entirely different from one preset to the next.

Here are the parameters you'll find on this page:

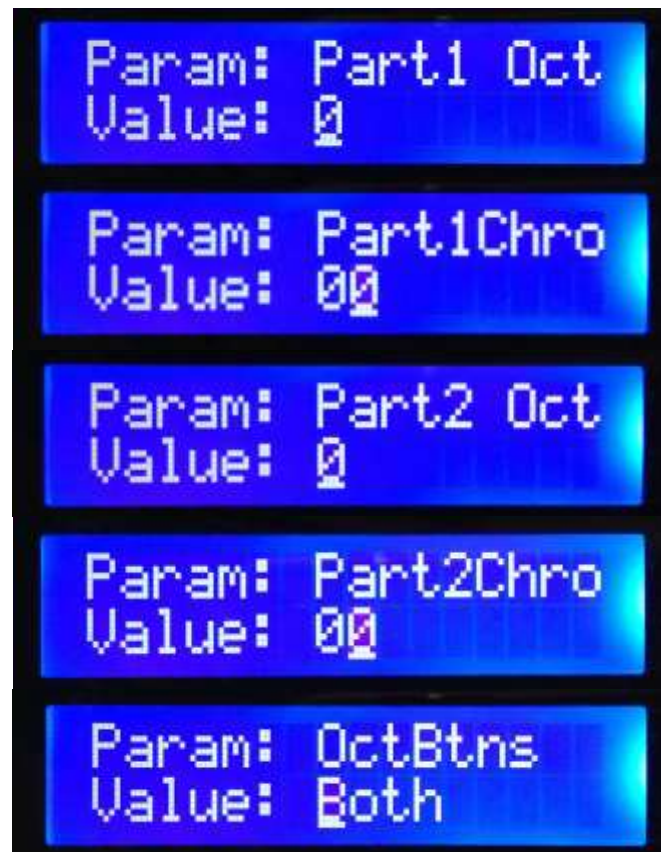
- FaderMod: the operational direction of the faders: Normal (0-127) or Drawbar (127-0, also known as "inverted").
- KnobMode: Absolute or Relative modes are available. See section 6.2.b of the built-in MIDI Control Center manual for descriptions of these modes.
- OctTrans: octave transposition, from -3 to +3 octaves (KeyLab 25/49/61) or -2 to +2 octaves (KeyLab 88).
- ChroTrns: chromatic transposition, from -12 to +12 semitones.
- LowerCh: sets the MIDI Channel of the lower half of the keyboard. Values range from 1 to 16.
- UpperCh: sets the MIDI Channel of the upper half of the keyboard to a value between 1 and 16.
- SplitMod: Toggles Split mode On or Off. When Split mode is On, all settings pertaining to Part 1 will be to the right of the split; all settings to the left of the split are for Part 2.
- SplitPnt: Use this to set the keyboard split point to any MIDI note from C-2 to G8.
- MMCDDevID: MIDI Machine Control device ID, from 0 to 127.
- DeviceID: MIDI device ID, from 16 to 127.

3.4.1 Independent transpose for part 1 and part 2 (only for Keylab 88):

Whenever you are in Split mode with the KeyLab 88, you are separating the keyboard in 2 parts: Part 1 and Part 2 (see chapter 3.4 GLOBAL)

You can change independently the transposition for part 1 and part 2 directly from your KeyLab 88, by accessing the parameters of the EDIT/Global Menu

You can then select the parameters with the "PARAM KNOB" and change the values with the "Value" knob.



- Part1 Oct: You can choose to only transpose Part 1 by octaves, from a range of -2 octaves up to +2 octaves.
- Part1Chro: You can choose to only transpose Part 1 by semitones, from a range of -12 semitones up to +12 semitones
- Part2 Oct: You can choose to only transpose Part 2 by octaves, from a range of -2 octaves up to +2 octaves.
- Part2Chro: You can choose to only transpose Part 2 by octaves, from a range of -2 octaves up to +2 octaves.
- OctBtns: You can assign the Keylab 88 Octave Transpose buttons only to one section of the keyboard (Part 1 or Part 2) so you can modify only the desired part. You can also select the "Both" option so you can control octaves of both parts simultaneously.

3.5 Curve

This is where to set the various velocity curves for the current preset. For example, the keyboard can have one setting and the pads can have another. But this also allows you

to adjust the keyboard aftertouch sensitivity and set minimum and maximum ranges for pad pressure and keyboard aftertouch.

You can even specify the encoder response (i.e., the Knob Acceleration), which allows you to tell the KeyLab how many turns of the encoders you want it to take to get from the minimum value to the maximum value.

The following curve options are available:

- Velocity: the keyboard velocity curve, from 0 to 10
- Aftertch: the Aftertouch curve, from 0 to 10
- PadVeloc: the Pad velocity curve, from 0 to 10
- KnobAccl: the Knob acceleration, from 0 to 10
- KeyATmin: the Minimum Key aftertouch, from 0 to 127
- KeyATMax: the Maximum Key aftertouch, from 0 to 127
- PadATmin: the Minimum Pad aftertouch, from 0 to 127
- PadATMax: the Maximum Pad aftertouch, from 0 to 127

3.5.1 User Velocity Curve (Only for Keylab 88)

The idea of having a “user curve” is for you to have complete and precise control over the velocity curve of your KeyLab 88. You can have a very “hard” or “soft” keybed or even have an experimental reaction depending on how you adjust the response of your keys.

The curve is made-up with 5 points. Each of the 5 points of the curve have their 'x' fixed, so you can only set the 'y' of each point. The 'x' axis is the input velocity, the 'y' axis is the output velocity.

We have added to the EDIT/CURVE section inside the KEYLAB 88 new items which control the 5 points of the USER curve.

You can select the points to set with the “param” knob, then set the point value (y) by turning the “value” knob (this will increase or decrease the value). Once you consider the value to be OK, press the “value” knob. This will save the value to working memory and build the user velocity curve.

1) USER CURVE MIN (x=1)

In this example y=1



2) USER CURVE PIANO (x=32)

In this example y=60



3) USER CURVE MEZZO FORTE (x=64)

In this example y =100



4) USER CURVE FORTE FORTE (x=96)

In this example y=122

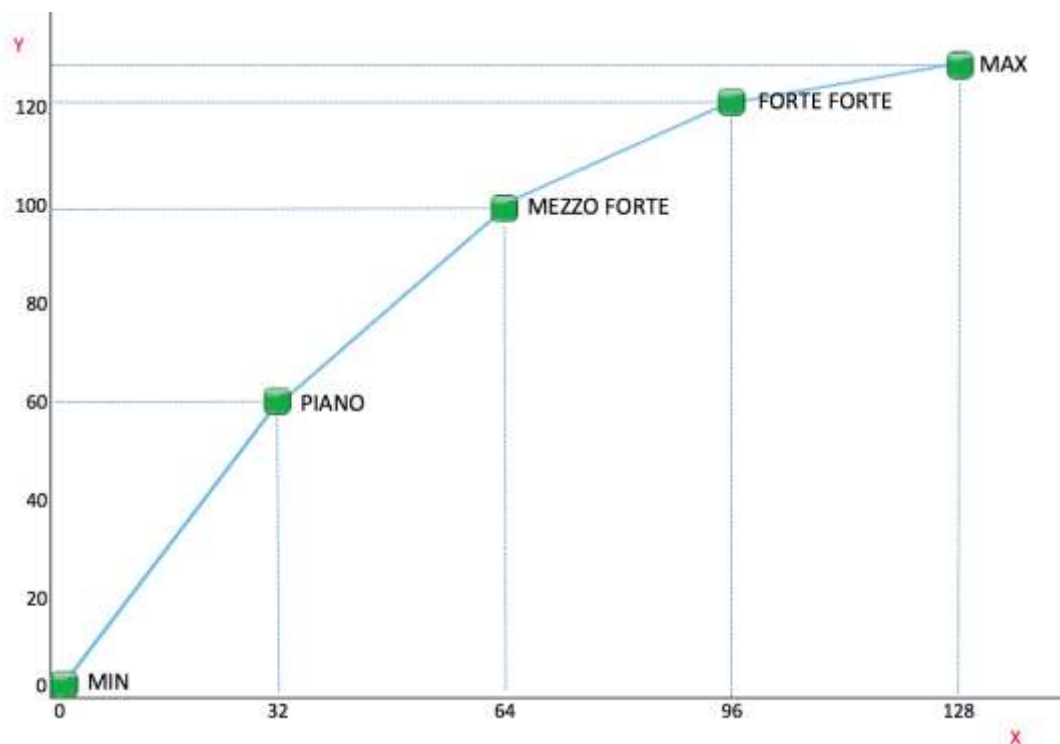


5) USER CURVE MAX (x=127)

In this example y=127



The graphic representation of the Velocity curve with these parameters would be this one:



This means that when you hit a key with a raw velocity of 64 it will play a note with a velocity of 100. Then between the point a linear interpolation is made which means that we build a straight line for joining the points, so in our example, when you hit a key with a raw velocity of 80 it will play a note with a velocity of 111.

On the KeyLab 88 there are no global parameters. There is only a working memory (volatile memory where the modifications are made in live mode) and 10 preset memories where you can store your own set-up (you can save the working memory to one of the 10 presets). So once you enter the value of the 5 points and validate them by pressing the value knob (this in the working memory), you have to store these modifications to one of the 10 preset to not lose your work (edit/store, select a memory, press the value knob). So this means you can make up to 10 User curves (one by preset).

To select the user curve, a new value has been added to the curve selection items. Until now there were only 10 curves - displayed by their numbers - Now there is one more curve called "USER". Once it's selected, the USER curve is the one applied. Again don't forget to make a "store to" into one of the memory presets to save your changes.



When the "USER" curve is selected and when you change a user curve point, once the value knob is pressed (clicked) the USER curve will be recalculated and then you can "hear" the result of its change in live mode.

3.6 Mode

Here you are able to select the MIDI message type for a specific control. Listed below are all available message types, but be aware that the list changes depending on the type of control you've selected:

- Off-Disabled: the controller is disabled, and no message is sent whatsoever.
- Control: this is when you want the control to transmit "standard" MIDI Continuous Controller messages. For knobs, a virtual position is maintained internally.
- Ctrl Toggle: set the min/max range, and then each time this control is activated it will transmit one value, then the other, etc.
- Duration Ctl: one value will be sent while the switch is held and the next value will be sent when it is released.
- Kbd Preset: pressing the switch will load the KeyLab preset of your choice. Keep in mind that the switch may have a different function within other presets, so if you always want that to happen you'll need to set it up that way for each preset.
- Midi Note: the note will be held as long as the switch is held. When the switch is released a note off command will be transmitted.
- MMC: MIDI Machine Control messages, which may be selected only for the switches in the Transport section.
- Note Toggle: the first press of the switch will turn the note on and the second press will turn the note off.

- Patch Chg: the switch will send a pre-defined program change command, complete with the Bank MSB and LSB.
- Relative Control: the encoders will send relative increment/decrement values. Be aware, though, that relative control modes are supported in some software applications and not in others.
- RPN/NRPN: the control will transmit Registered Parameter Number or Non-Registered Parameter Number messages. The target parameter is defined by the Max/MSB and Min/LSB parameters. Refer to the documentation of the receiving device for information about how to address specific parameters.

For most of the above options you will move from selecting the Mode for the control (button 6) to defining its MIDI channel (button 7), selecting its MIDI CC# (button 8), and defining its minimum and maximum ranges (buttons 9 and 10, respectively).

3.7 MIDI Ch

Defines the MIDI channel on which the selected control will transmit its data:

- 1-16: always send the data on a fixed MIDI channel number as opposed to one that might change, such as Lwr or Upr. Read on...
- Lwr: send the data on the current lower channel.
- Upr: send the data on the current upper channel.
- Pnl: send the data on either the upper or lower channel, as determined by the status of the "Panel" buttons.
- All: sends the data on both the upper and lower channels.

3.8 CC

Allows you to specify the exact value for the selected control:

- For a pad or button in Note mode, this is the MIDI note number it will send.
- If the transport buttons are in MMC mode, this determines which command will be transmitted.
- For an encoder or fader in NRPN/RPN mode, this is the parameter number that will be sent to the target device when the control is activated.
- For a switch in Patch Chg mode, this defines the program change number.

3.9 Min LSB

This parameter serves various functions depending on the selected control and its mode:


- For a knob, pad or fader in Ctrl mode, this is the minimum value it will send.
- For a knob or fader in NRPN/RPN mode, contains the NRPN/RPN controller number LSB (Least Significant Byte).
- For a switch in Control mode, this holds the value sent upon release.

- If the switch is set to Ctrl Toggle, this is the second of two alternating values sent when the switch is pressed.
- For a switch in Patch Chg mode, this defines the bank LSB.
- For a switch in one of the Note modes, this is the velocity value sent with the Note Off command.

3.10 **Max MSB**

As with the Min LSB parameter, this serves various functions depending on the selected control and its mode:

- For a knob, pad or fader in Ctrl mode, contains the maximum value sent.
- For a knob or fader in NRPN/RPN mode, contains the NRPN/RPN controller number MSB (Most Significant Byte).
- For a switch in Control mode, this value will be sent when the switch is pressed.
- If the switch is set to Ctrl Toggle, this is the first of two alternating values sent when the switch is pressed.
- For a switch in Patch Chg mode, this defines the bank MSB.
- For a switch in one of the Note modes, this is the velocity value sent with the Note On command.

 *It can be useful to set Min to a greater value than Max. This allows a single control to be inverted, as opposed to putting all of the Faders into Drawbar mode, for example.*

4 USING KEYLAB WITH ANALOG LAB

The information in this chapter will focus mostly on the KeyLab controller and how it interacts with the Analog Lab software. As a result we will touch only briefly here on the various Analog Lab parameters controlled by the KeyLab. For more details about Analog Lab, please refer to the Analog Lab user manual.

4.1 Audio & MIDI Setup

The first thing to do after launching Analog Lab is to make sure the software is set to output Audio correctly and that it will receive MIDI data from the KeyLab.

4.1.1 Audio setup

In order to check the audio driver settings for Analog Lab, open the Preferences window by pressing [Command] + [,] or by selecting it from the Analog Lab drop-down menu.

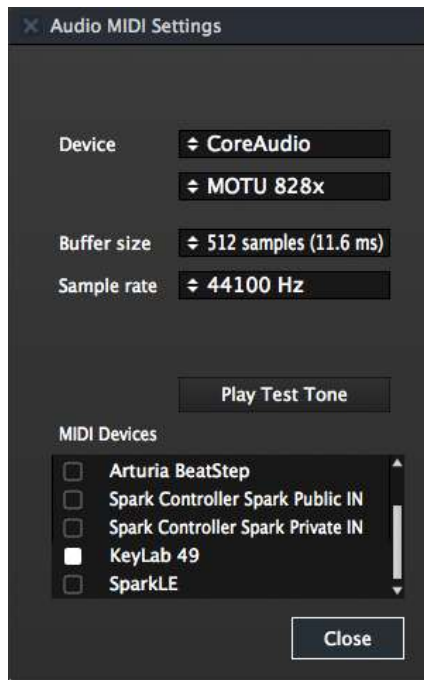


The Preferences menu item for Mac OS X...



...and for Windows

This will open the Audio & MIDI Settings window, which is where the preferred audio output device will be selected. Now click the Test button: If you hear a short sine wave, then your audio is set up correctly. If not, make sure the correct audio driver is selected and that your headphones or speakers are properly connected and turned on.



Audio and MIDI Settings window

4.1.2 MIDI setup

Connecting a USB MIDI keyboard controller with Analog Lab is very simple. As shown in section 4.1.1, navigate to the Audio & MIDI Settings window (pictured above). This is where the preferred MIDI controller(s) will be selected.

The Audio & MIDI Settings window has a section labeled “MIDI Devices”. Simply click on the box next to the KeyLab name, close the window, and your KeyLab controller will be connected to Analog Lab.

4.2 Selecting Presets

4.2.1 Upon starting KeyLab

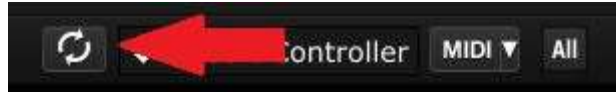
KeyLab has ten user-definable preset memory locations (1-10). But in its initial power-up state it will load settings that are specifically configured to work with Analog Lab. Each of the control assignments will correspond to particular parameters within Arturia’s soft-synthesizers, so that with this hardware/software combination there will be very little setup for you to do. It’s one of the fastest ways imaginable to get the exact sound you want and start making music with it.

4.2.2 Selecting KeyLab Presets 1-10

Each of KeyLab’s ten presets can be configured to work with other software applications such as a DAW or a plug-in. To select one of the preset locations from 1-10, click the Edit button, press the “Recall” button, and then choose the preset you want with the Value encoder. Remember to click the encoder to confirm your selection.

4.3 Setup

In section 4.1 we described how to get audio out of Analog Lab into the world and how to get MIDI from the KeyLab into Analog Lab. There's only one other preliminary detail of which you need to be aware: the "Sync" button in the tool bar.



If you already have KeyLab connected to your computer, then when you launch Analog Lab this connection will be established automatically. But if you've started Analog Lab and then realized your KeyLab was still in its case from last night's gig, there's no need to shut down Analog Lab; just go ahead and connect the KeyLab, wait a second for the computer to recognize its presence, and then click the "Sync" button. The connection will be established immediately and the virtual keyboard will be automatically configured to look and act like the KeyLab.

4.4 Using and reassigning the controls

Once you have started Analog Lab and configured the Audio and MIDI settings correctly, all you need to do is select a Sound or Multi from the preset list and start playing. Each of the controls on the KeyLab will assume their assigned parameters immediately and you can begin experimenting by making your first edits inside that preset.

It is possible to change the parameter assignments for every control by using the pull-down menu under each of those controls inside the Analog Lab screen.

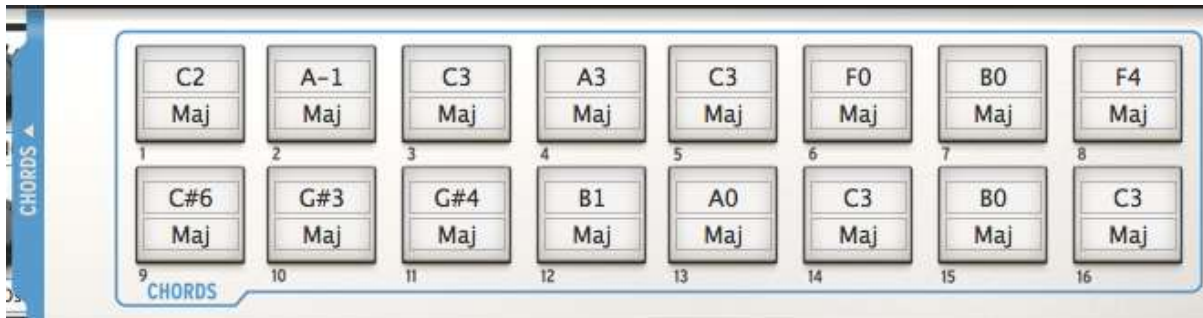


Note: Each time you select a new preset it is possible the control assignments will change. This is partly because there may be different parameters available for the synthesizer on which that preset is based.

For more details on editing a preset, see the Analog Lab user manual.

4.5 Using the Pads (KeyLab 49/61/88)

With Analog Lab active and a Sound selected, play one of the KeyLab pads. You will hear a note or chord played on the selected synthesizer. The exact chord can be defined inside Analog Lab by clicking on the blue tab on the **right** side of the virtual keyboard (the one labeled CHORDS). A virtual panel will slide out to the left and allow you to specify a different CHORD per pad.



4.6 Using the Snapshots

When a Snapshot button is pressed, the KeyLab will select either a new Sound or a new Multi, depending on which item you place there.

The exact preset chosen by these buttons is defined inside Analog Lab by clicking on the blue tab on the **left** side of the virtual keyboard (the one labeled SNAPSHOTS). A virtual panel will slide out to the right and allow access to the settings for the Snapshot buttons.



Simply click and drag a Sound or a Multi and drop it onto one of the buttons. Then grab another and drop it onto the next button, and so on.

An alternate (and very quick) method of assigning an item to a Snapshot button is to press and hold the desired button on the KeyLab for a little over 1 second.

Whichever method you use, before you know it your most inspiring sounds will be at your fingertips and instantly accessible.

Note: In the picture above, a letter "S" before a name indicates that a Sound will be selected by that Snapshot. A letter "M" before the preset name means a Multi is there.

5 MIDI CONTROL CENTER

The MIDI Control Center is a separate utility you can use to specify the MIDI settings of each control on the KeyLab. Be sure to download it from our web site after you register, because it will help you take full advantage of the power of your KeyLab when using non-Arturia plugins and DAWs.

5.1 System requirements


PC: 2 GB RAM; CPU 2 GHz (Windows 7 or higher)

Mac: 2 GB RAM; CPU 2 GHz (OS X 10.7 or higher)

5.2 Downloading the software

On our website (www.arturia.com) we have dedicated pages for each of our products. Each KeyLab page contains a tab labeled "Resources." Navigate to this tab, look for the "Unified Midi Control Center Update", and download the one designed for your computer platform (PC or Mac).

The MIDI Control Center works with most of Arturia's devices, so if you already have the software you'll want the Unified version. It will work with those products as well.

 *The MIDI Control Center is designed for Arturia hardware products; it will not work with other MIDI devices.*

5.3 Installation and location

After downloading the appropriate MIDI Control Center installer for your computer from the Arturia website, double-click on the file. Then all you have to do is start the installer and follow the instructions. The process should be trouble-free.

The installer puts MIDI Control Center with the other Arturia applications you have. In Windows, check the Start menu. In Mac OS X, you'll find it inside the Applications/Arturia folder.

During installation it's a good idea to place a shortcut on the desktop. That will be the easiest way to launch the MIDI Control Center.

5.4 Connection

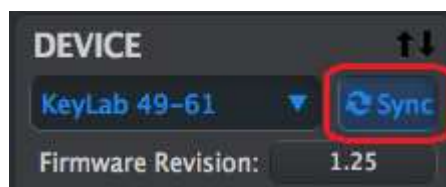
Connect the KeyLab to your computer using the included USB cable. It'll be ready to go after its LEDs go through the startup cycle.

Now launch the MIDI Control Center. KeyLab will be in the list of connected devices:



5.5 The Sync button

The first thing to do each time you launch the MIDI Control Center software is click the Sync button:



This will connect the KeyLab to your computer and grab whatever is in its edit buffer, giving it the current date/time stamp for a name. You can rename this file if you like.

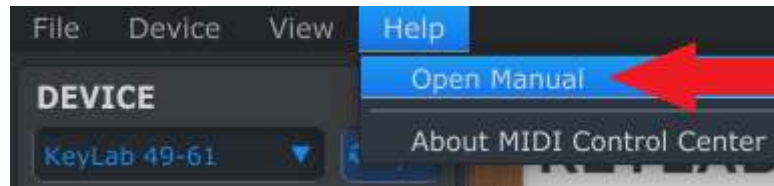
After this, every change made in the software will also be made inside the KeyLab controller's edit buffer. And any time you use one of the hardware controls it will be selected automatically inside the MIDI Control Center.

Another cool thing is that the MIDI Control Center graphics have changed match the connected KeyLab controller, if they didn't before. Both the front and rear panels are visible and their controls may be edited.

Note: the functions of the Edit, Octave, and Pitch Bend controls cannot be changed, and as a result they are not selectable in the MIDI Control Center window.

5.6 The Help file

There is a built-in help file for the MIDI Control Center that can be accessed using the Help menu, as shown below:



It is a good introduction to the MIDI Control Center, describing each section of the software window and defining important concepts and terms you will need to know while using the MIDI Control Center, such as 'Working Memory' and 'Template'.

The following sections will explain how to use the MIDI Control Center software to configure the KeyLab presets so they match your system and enhance your workflow.

5.7 Creating presets

5.7.1 Overview: What is a KeyLab Preset?

The MIDI Control Center software makes it easy to configure the KeyLab controls to work with practically any device or software capable of responding to MIDI information.

Here are some examples of what you can assign a KeyLab control to do using the MIDI Control Center:

- Configure pads to transmit MIDI notes
- Set a pad to switch between two values of any MIDI CC# each time it is played
- Assign an encoder to control any MIDI CC# and define its operational range
- Send the new control preset and its sequence to matching locations in the KeyLab's onboard memory
- Recall any of your personalized presets easily and immediately.

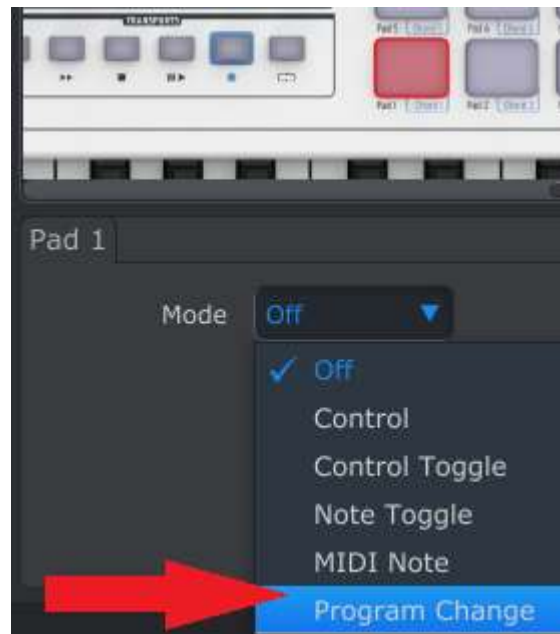
We'll take you through two examples of those scenarios in this chapter. For more detailed information please refer to the MIDI Control Center manual, which is located inside the Help menu as shown in section [5.6](#).

5.7.2 Assign a pad to send a MIDI program change command

With sixteen pads you have the ability to dedicate some to one purpose and some to another, if you like, and have the next KeyLab preset configure the pads completely differently. For example, for preset 1 you could assign the first 12 pads to particular MIDI notes and use them to trigger samples, and then use pads 13-16 to set up your external MIDI devices by sending them program changes. For preset 2 you could trigger a sample with pad 1, pan it left, right or center with pads 2-4, etc., while still preserving pads 13-16 for the purpose of sending program changes to the MIDI slaves.

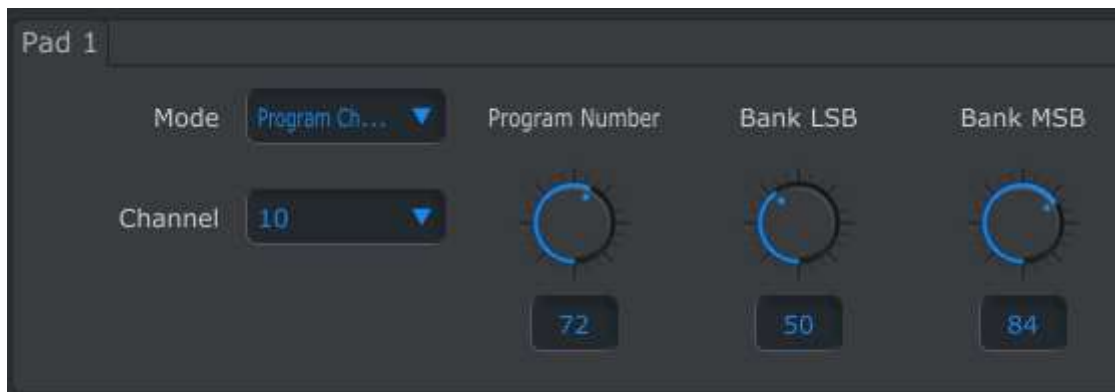
Let's focus on just one of those features so you can get a feel for how it works, and then you can experiment with those ideas and more once you're ready.

We'll use Pad 1 for this example. Select it and notice that its graphic has turned red as a visual confirmation. Then use the pull-down Mode menu to select "Program Change":

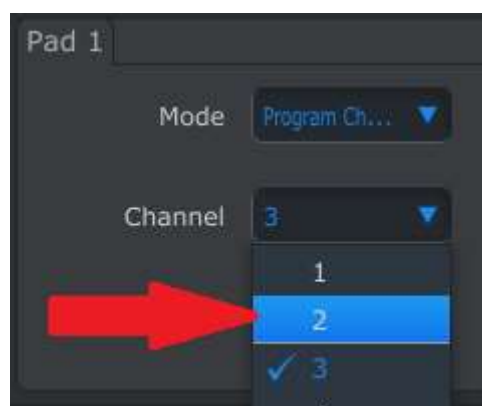


This setting will allow you to send a particular MIDI program change command on the MIDI channel of your choice, along with MSB and LSB values for Bank Select, the instant you press the pad.

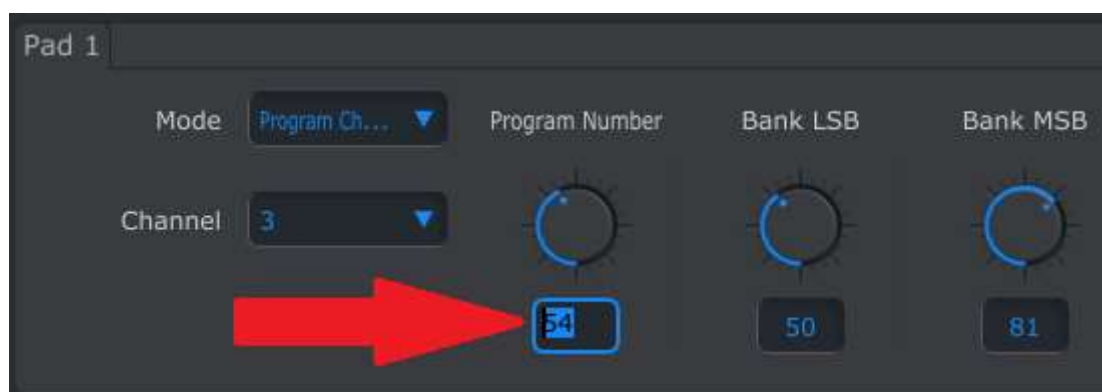
The lower part of the MIDI Control Center window will display the new editing options: MIDI Channel, Program Number, Bank LSB and Bank MSB.



Use the Channel field to specify the MIDI channel of the receiving device:



Enter the values for Program Number and Bank Select LSB/MSB by clicking in their respective fields and typing the numbers:



As an alternative, you can click the virtual knobs and drag them up or down until they reach the desired values.

After this, when Pad 1 is pressed the KeyLab will send a program change command with a value of 54, accompanied by a Bank LSB value of 50 and a Bank MSB value of 81.

Note: Be sure to check the documentation of the receiving device so you can enter the correct Bank Select values.

5.7.3 Assign an Encoder to control a MIDI CC # within a limited range

The faders and encoders are assignable using the same techniques described for the pads. Let's give a quick example of an interesting use: setting the rate of an LFO so it operates only within a certain range.



Looking at the picture above we see familiar information:

- Knob 6 in Bank 1 has been selected, so it is shown in red. Its tab has been selected in the window below the front panel graphic.
- Its Mode is set to Control, which means it will transmit a value for a particular MIDI Continuous Controller number (CC#) when it is turned.

- Its channel setting is "All", which means it will transmit on the MIDI channels for Part 1 and Part 2 when it is turned. You can specify any MIDI channel from 1-16 or leave it set to All.
- The CC number field shows CC# 76, the MIDI CC# that has been assigned to control Vibrato Rate.
- The Min Value and Max Value fields are set to values that will cause Knob 6 to transmit data only within a certain range.

To summarize, the settings seen above mean that Encoder 6 will control the Vibrato Rate of the target device, sweeping it between the values of 10 and 32 only. The vibrato will not become too fast, nor will it become too slow.

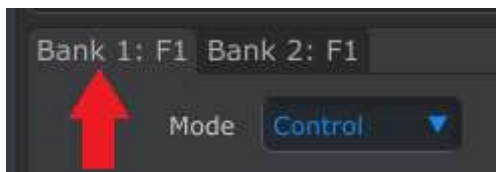
Naturally you can choose settings that are appropriate for the MIDI device you are using. Just remember that you can have a different setting or a matching one for Knob 6 in Bank 2 (see [section 5.7.4](#) below for more information about Bank 1 and Bank 2).

Note: Some devices may not use standard MIDI controller assignments. Refer to the documentation for your device to determine what settings to use for each purpose.

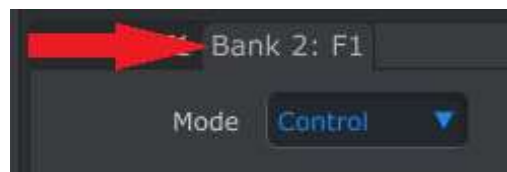
5.7.4 Faders and Encoders: Bank 1 and Bank 2

As you can see from the examples, the KeyLab faders and encoders are easy to set up and can meet a variety of needs. But there's another great thing about them: there are two complete sets of faders and encoders available in each preset (Bank 1 and Bank 2).

Select fader 1 and look again at the bottom of the application window. There are two tabs that read Bank 1: F1 and Bank 2: F1. To select a particular Bank, click on its tab:



Bank 1 selected for Fader 1



Bank 2 selected for Fader 1

Whichever tab you click, the editing process remains the same: select the Mode, Channel, LSB/MSB, etc. The values for both banks will be stored with the preset.

Another method of switching between the tabs is this: make sure the KeyLab is not in Edit mode (if that button is lit, press it to exit Edit mode). Then simply press the front panel button for the desired bank and activate a fader or encoder. The MIDI Control Center will select the Bank 2 tab for that control.

After you have each bank of faders and encoders set the way you want them, simply use the Bank 1 / Bank 2 buttons on the front panel to switch between them during a live performance.

Note: All settings for the faders and encoders will change when a new Bank is selected. So if you need a particular setting on a particular fader no matter which Bank is active, for example, just duplicate the settings for the same fader in the other Bank.

5.7.5 The clickable encoders

There are also two tabs available for the encoders on the left side of the display (Param/Category and Value/Preset). The tabs have unusual names, though: Category Search / Category Select and Preset Search / Preset Select. What does that mean?



Category encoder tab options



Preset encoder tab options

It's simple, and pretty cool: The "Search" option defines what MIDI data is sent while the encoder is turned; the "Select" option is what MIDI data the encoder will send when it is clicked.

And as with the Bank 1 / Bank 2 tabs for the faders and encoders, the editing process remains the same whichever tab you click: select the Mode, Channel, LSB/MSB, etc. The values for both actions will be stored with the preset.

5.8 Storing and Recalling Presets

The next three sub-sections will cover the basics of KeyLab preset management. Please refer to section 7.1 of the MIDI Control Center manual for information on other procedures such as Save, Save As..., New, Delete, Import and Export. This manual is available through the software Help menu.

5.8.1 Store the new settings to a KeyLab Preset

As we went through [section 5.7](#) we set up a pad to toggle filter settings and instructed one of the encoders to control the vibrato rate. There's a lot more the KeyLab controls can do, but that's a great start.

Next we need to make sure this configuration is available when you want it. To do that you must save these settings as a group to the internal memory KeyLab has available.

The upper left-hand section of the MIDI Control Center has a button called "Store". Right above that is a list that allows you to specify which of the ten KeyLab memory locations will contain the Preset you've created.

Important: Remember that when you follow the steps below you will overwrite the contents of the target preset location (preset 2 in this case). If this is not what you want to do, please use the KeyLab front panel to store the current preset #2 to another location for later use.

We'll assume that memory location #2 is available for this example:



First select "Memory 2" in the list as pictured above.

Next, click the Store button at the bottom of that section.

That's all there is to it! The preset you created in the Working Memory of MIDI Control Center has been stored to the KeyLab controller at memory location #2. It may be recalled at any time by entering Edit mode and using the Recall feature as described in section [3.2](#).

5.8.2 Recalling a KeyLab front panel edit into the MIDI Control Center

If you've made changes to a preset using Edit mode on the KeyLab front panel you need to pull those changes into the MIDI Control Center to back them up. They could be lost very easily at this point. For example, if you were to select another preset or disconnect the unit from your computer, your edits would be gone.

To keep this from happening you should do one of two things:

- Pull the contents of this edit buffer into the MIDI Control Center Working Memory and save it as a Template
- Use the Store button on the KeyLab front panel to save the changes to one of the internal presets. This is covered in section [3.3](#).

The instructions for backing up this edit buffer are found in section 7.2 of the MIDI Control Center manual, which is available through the software Help menu.

Important: When you hover the cursor over the MCC Recall button and you will see both a description and a warning. It is telling you that when you recall the selected Memory **it will replace the current contents** of the MIDI Control Center Working Memory and the KeyLab edit buffer at the same time. Be careful not to lose a preset you've been working on. Store it somewhere first, if you need to!



5.8.3 Recalling a KeyLab preset into the Working Memory

Since you can use KeyLab without a computer attached you might well make some edits at the gig and store them to an internal preset for later use. You'll be glad to know you can grab any of the internal presets from KeyLab and store them as a Template in the MIDI Control Center. This is covered in section 7.2 of the MIDI Control Center manual, which is available through the software Help menu.

5.9 Global Parameters: an overview

The right side of the MIDI Control Center window contains essential parameters you can use to optimize KeyLab for your setup and your working style. The majority of these are covered in the built-in MIDI Control Center help file, so we'll just point out the basics here.

5.9.1 Keyboard MIDI Channels

Use the pull-down menus to select the MIDI Channels for the KeyLab keyboard. There are separate MIDI Channels available for Part 1 and Part 2, which becomes active when the Split Mode parameter is set to On. When Split Mode is set to Off, Part 1 becomes the main keyboard MIDI channel.

5.9.2 Independent transpose for part 1 and part 2 (only for Keylab 88):

Whenever you are in Split mode with the KeyLab 88, you are separating the keyboard in 2 parts: Part 1 and Part 2 (see chapter 3.4 GLOBAL)

Inside the Midi Control Center, you have the option to adjust the transposition of each part independently:



- Part 1 Octave transposition: You can choose to only transpose Part 1 by octaves, from a range of -2 octaves up to +2 octaves.
- Part 1 Chromatic transposition: You can choose to only transpose Part 1 by semitones, from a range of -12 semitones up to +12 semitones
- Part 2 Octave transposition: You can choose to only transpose Part 2 by octaves, from a range of -2 octaves up to +2 octaves.

- Part 2 Chromatic transposition: You can choose to only transpose Part 2 by octaves, from a range of -2 octaves up to +2 octaves.
- Octave Buttons assignment: You can assign the Keylab 88 Octave Transpose buttons only to one section of the Keybed (Part 1 or Part 2) so you can modify only the desired part. You can also select the "Both" option so you can control octaves of both parts simultaneously.
- Both Octave transposition: With this option you have control over the transposition of both parts from a range of -2 octaves up to +2 octaves.
- Both Chromatic transposition: With this option you are in control of semitone transposition for both parts simultaneously from a range of -12 semitones up to +12 semitones

Don't forget that you can save your changes. You can save them inside your Keylab 88 memory with the "Store To" option:



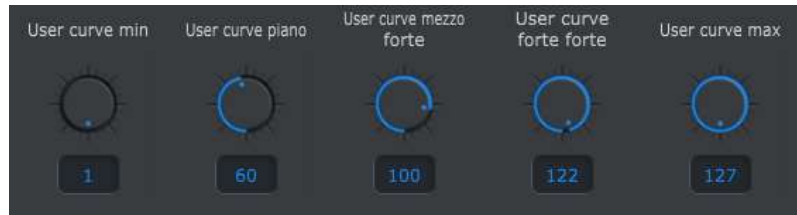
5.9.3 Velocity Curve (Key or Pad)

The amount of force it should take to trigger a MIDI event softly, loudly, or at all is a certainly a matter of personal taste. KeyLab gives you ten choices, which you can set independently for the keyboard and the pads using the MIDI Control Center.

5.9.4 User Velocity Curve (Only for Keylab 88)

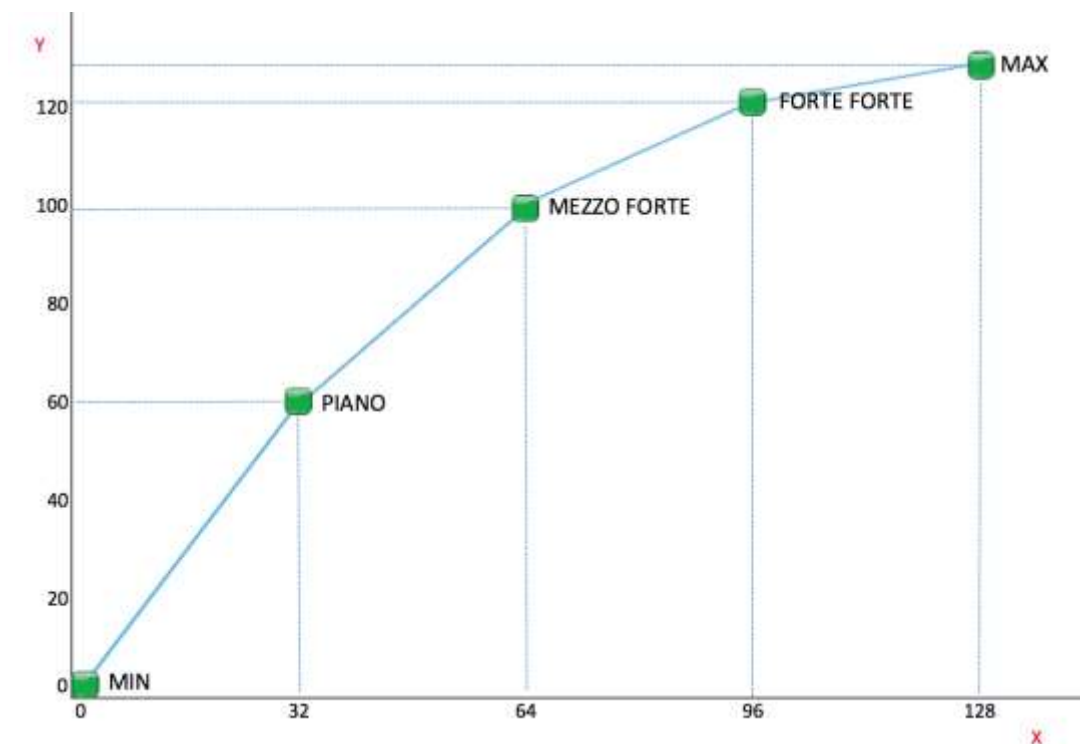
The idea of having a “user curve” is for you to have complete and precise control over the velocity curve of your KeyLab 88. You can have a very “hard” or “soft” keyed or even have an experimental reaction depending on how you adjust the response of your keys.

The curve is made-up with 5 points. Each of the 5 points of the curve have their 'x' fixed, so you can only set the 'y' of each point. The 'x' axis is the input velocity, the 'y' axis is the output velocity. The points are :



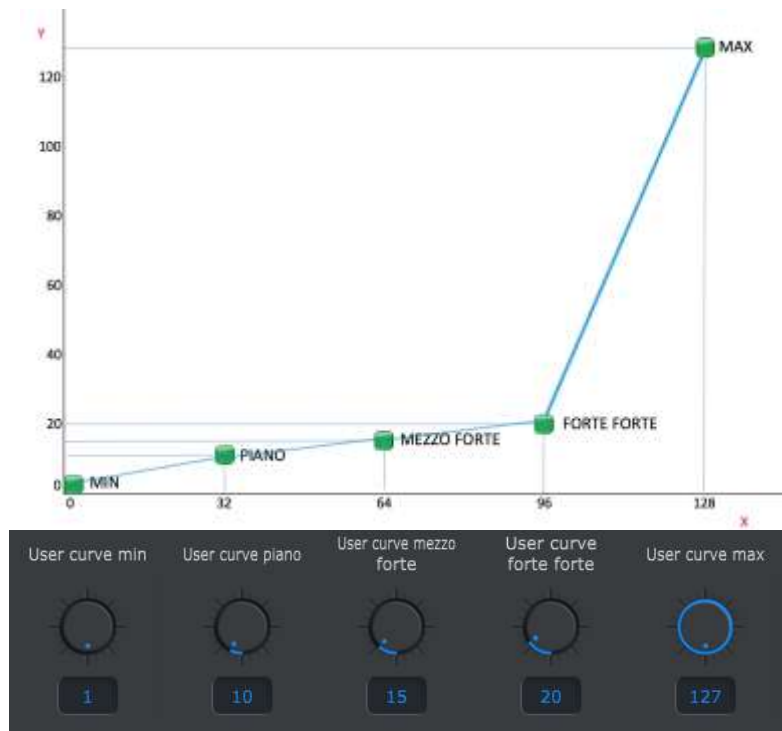
- | | |
|----------------------------------|------------------------|
| 1) USER CURVE MIN (x=1) | In this example y=1 |
| 2) USER CURVE PIANO (x=32) | In this example y=60 |
| 3) USER CURVE MEZZO FORTE (x=64) | In this example y =100 |
| 4) USER CURVE FORTE FORTE (x=96) | In this example y=122 |
| 5) USER CURVE MAX (x=127) | In this example y=127 |

The graphic representation of the Velocity curve with these parameters would be this one:

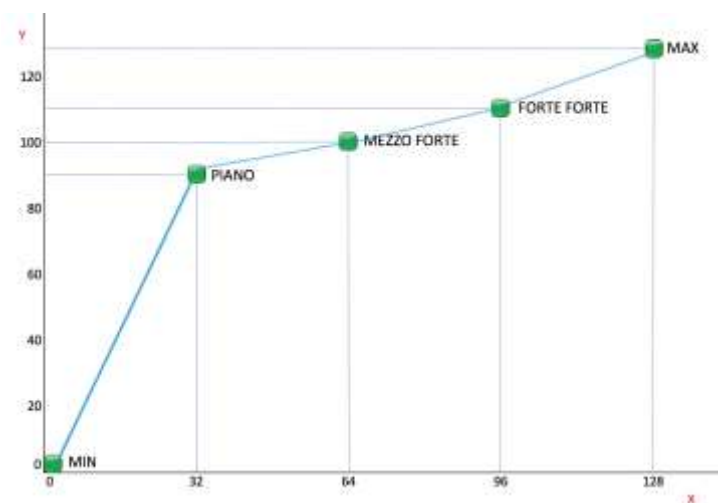


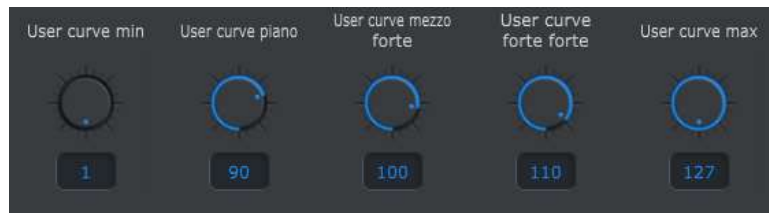
This means that when you hit a key with a raw velocity of 64 it will play a note with a velocity of 100. Then between the point a linear interpolation is made which means that we build a straight line for joining the points, so in our example, when you hit a key with a raw velocity of 80 it will play a note with a velocity of 111.

If you use these next parameters for creating your user curve, as a result we will have a very "hard" keyboard. You will have to press the keys really hard so the instrument controlled by the KeyLab 88 can be heard with a lot of volume.

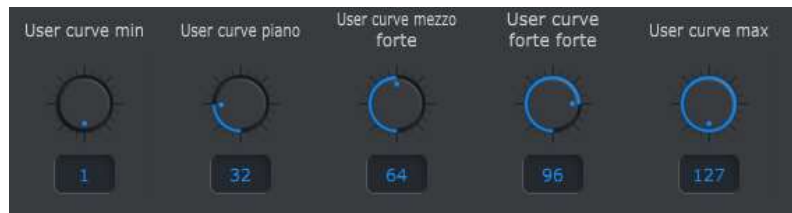


If you use these next parameters for the user curve, you will get a very "soft" keybed. You will barely place some pressure on the keys and in result get a very loud volume from the instrument you are controlling with the KeyLab88.





As these 5 points are new parameters, when you recall a preset (made with a former FW version - not including this 5 points curve) default values are loaded for user curve. These default values implement the equation $y = x$. So:



5.9.5 Knob Acceleration

With this parameter you are able to try ten different response curves for the encoders and see which one works best for you. We'll define three of them here:

- x1 (Slow): no acceleration. The encoders will transmit every allowable value, so it will take more turns to move from minimum to maximum. This is a necessary tradeoff when greater precision is desired.
- Up to x3: moderate acceleration. When turned quickly the encoders will skip a few values, so it will take fewer turns to move from minimum to maximum.
- Up to x17 (Fast): maximum acceleration. When turned quickly the encoders will skip more values, so they can change from minimum to maximum in the least number of encoder turns (usually only one). But there could be less precision when the encoder is turned at a moderate speed.

5.9.6 Aftertouch Min and Max (Key or Pad)

The introduction of some form of modulation into a sound can be a highly emotive performance technique. But to overdo it can completely spoil the moment! So we've made it possible for each KeyLab preset to store independent minimum and maximum aftertouch settings for both the keyboard and the pads.

5.10 Templates: Save, Delete, Import, Export, etc.

These important features have been documented in the MIDI Control Center manual, which you will find in the software Help menu. Look in section 7.1 there for information about Save, Save As..., New, Delete, Import and Export.

6 ARTURIA KEYLAB – LEGAL INFORMATION

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IMPORTANT: When connecting this product to accessories and/or another product, use only high quality shielded cables. Cable (s) supplied with this product MUST be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.

NOTE: This product has been tested and found to comply with the limit for a Class B Digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide a reasonable protection against harmful interference in a residential environment. This equipment generate, use and radiate radio frequency energy and, if not installed and used according to the instructions found in the users manual, may cause interferences harmful to the operation to other electronic devices. Compliance with FCC regulations does not guarantee that interferences will not occur in all the installations. If this product is found to be the source of interferences, witch can be determined by turning the unit "OFF" and "ON", please try to eliminate the problem by using one of the following measures:

- Relocate either this product or the device that is affected by the interference.
- Use power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter(s).
- In the case of radio or TV interferences, relocate/ reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to coaxial cable.
- If these corrective measures do not bring any satisfied results, please the local retailer authorized to distribute this type of product. If you cannot locate the appropriate retailer, please contact Arturia.

The above statements apply ONLY to those products distributed in the USA.

6.3 CANADA

NOTICE: This class B digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulation.

AVIS: Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

6.4 EUROPE

CE This product complies with the requirements of European Directive 89/336/EEC
This product may not work correctly by the influence of electro-static discharge; if it happens, simply restart the product.