PolyKB



User Manual

www.xils-lab.com

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1 Introduction

Thank you for choosing the PolyKB!

The **PolyKB** is a virtual instrument based on the architecture of a polyphonic synthesizer with a very unusual waveform-morphing feature.



Waveform morphing allows you to change the sound of your oscillators in a continuous way. Of course this parameter can be modulated with a large amount of sources. This brings very new and special synthesis sound you have never heard before.

This synthesizer provides a wide range of modulation possibilities making it as a great performance instrument. But this goal wouldn't be achieve without the help of an arpeggiator and a polyphonic sequencer.



To bring an ergonomic approach to sound design, the PolyKB's sequencer gets it’s own presets, providing the user with flexible sound management options.

Famous sound designers and artists have already made hundreds of presets for the PolyKB, so you can enjoy this instrument even if you do not have any knowledge of sound design!

2 Features

The **PolyKB** offers:

- Two aliasing-free morphing oscillators: from triangle to pulse, through saw.
- One 4 poles low pass self oscillating filter
- Two envelope generators (ADSR)
- Two MIDI synced LFO
- One MIDI synced Sample and Hold
- One 128 steps polyphonic sequencer
- One arpeggiator
- Chorus and delay effects
- Mono/Unison/Poly playing mode with up to 16 voices of polyphony
- All parameters are MIDI controllable

The **PolyKB** is available in the following formats:

- **Mac OSX 10.3.9 and later**: VST, Audio Unit, RTAS (Pro Tools 7.0 and later)
- **Windows XP and Vista**: VST, RTAS (Pro Tools 7.0 and later)



Minimum system requirements: 1 Gigabyte of RAM and a 2 GHz processor.

The PolyKB is a plug-in and is not available in a standalone application

3 Installation

3.1 eLicenser drivers

The PolyKB uses an eLicenser dongle. You must have this dongle connected to a USB port on your computer to make the PolyKB work.

Please take care of your dongle: you need it to run the PolyKB and it carries your license!

3.1.1 If you already own a eLicenser

Please Note: Even if you have already installed the eLicenser drivers for a previous product, please install the latest version of the eLicenser License Control.

To download the latest eLicenser Control Center (eLC), please go to:

http://www.elicenser.net/en/latest_downloads.html

You need a PolyKB Activation Code to load your license onto the dongle:

First, plug your dongle into a USB port of your computer. Then launch the License Control Center. Launch the **Enter authorization code**. Enter your **Activation Code** in the reserved field, and press Next.

Wait for the license to be downloaded and then check to see if the license is correctly loaded on the dongle in the main section of the License Control Center.

3.1.2 If you have received a eLicenser dongle from XILS-lab

You must first install the eLicenser drivers (eLicenser Control Center, eLC).
To download the latest eLC please go to:

http://www.elicenser.net/en/latest_downloads.html

Then plug your dongle into any free USB port on your computer. Then launch the License Control Center and enter the authorization code you received as explained above.

3.2 iLok drivers

With the iLok version of the PolyKB, you need to plug an iLok USB key into your computer.
After downloading and installing the lastest PACE drivers, please login into you ilok.com account to download your PolyKB license into your iLok USB key.

To download the latest PACE drivers, please go to:
http://www.ilok.com/download-ilok-software.html

3.3 Windows (XP, VISTA, Windows 7)

To install the PolyKB on Windows XP, Vista or Windows 7, launch the PolyKB installer file polykb_syncrosoft_win_setup.exe. Please download the latest version from the XILS-lab website.

Once you have accepted the license agreement, you will be asked to select the installation directory and provided with a default. Presets and various files used by the PolyKB will be stored in this directory.

Once the installation directory is chosen, you will be asked to select the VST plug-in directory, with a suggested default. Keep this default directory if you do not use the VST version.

The RTAS plug-in and its table control management ProTools are directly copied into the following directory: C:\Program Files\Common Files\DDigidesign\DAE\Plug-Ins

3.4 Mac (OSX 10.3.9 and later)

To install the PolyKB on a computer equipped with Mac OSX 10.3.9 or later, double-click the file polykb_syncrosoft_osx_setup.dmg. You will find this on the CD-ROM installer or you can download it from the XILS-lab website to make sure you have the latest version of the software.

Then launch the install program, PolyKB.pkg, and follow the instructions.
Warning: the install program will ask you for your system password.
The various files of the PolyKB will be copied into the following directories:

Library/Application Support/Digidesign/Plug-Ins
Library/Audio/Plug-Ins/Components
Library/Audio/Plug-Ins/VST
Library/Audio/Presets/XILS-lab/PolyKB
Library/Application Support/Documentation/XILS-lab/PolyKB

4 Quick Start

4.1 Launch

When you open the PolyKB in your host sequencer application, the Init preset is loaded. You can directly use this preset, which gives a simple one oscillator standard sound.

4.2 Toolbar



The toolbar at the top of the interface allows you to load or save presets, make a comparison between settings A and B, or modify the options.

Click on the **PRESET arrow** to show the available presets in the current sorted group. Please note that selecting a new preset without saving your current settings will erase any changes you have made to those settings.

Click on the **sort arrow** button to display the current sorted group and to choose the preset within it.

Click on the sorting label over the sorted group name, to sort your preset according to your preferences. For an easy browsing, you can sort them by Author, Feeling, Type, Style, Bank or projects.

4.3 Adjusting the parameters

To adjust the parameters of the PolyKB, you have two axes: horizontal and vertical which give the same result.

If you right-click on a parameter, or if you hold shift while clicking, you can adjust the parameter with fine precision (the **?** button of the toolbar displays a panel summarizing these shortcuts).

Keyboard shortcut

Win:

CTRL+left click: reset parameter to its default value.
CTRL+right click or CTRL+Shift+left click: initialise the default value of the parameter.
Win+Alt+CTRL + click: open the MIDI Control panel, with the parameter already selected.

OSX:

Apple+left click: reset parameter to its default value.
Apple+Shift+left click: initialise the default value of the parameter
Apple+Alt+CTRL + click : open the MIDI Control panel, with the parameter already selected.

5 Preset Management

5.1 Main Toolbar



In the toolbar you can find two buttons, displaying the category name (Bank, Author, Type, Style, Feeling or Project) which open the sort management menus .

The two first text fields show the current sorting group and the third shows the current preset.

Clicking on the arrow on the left of the category or preset names, opens the corresponding menus.

When a parameter is modified, the name of the preset is followed by a *, indicating that the current settings of the PolyKB no longer match the stored preset.

When you want to save a modified preset, click on the **Save** button. The settings of the PolyKB are then saved in the currently displayed preset, and the * disappears. Clicking on the Dup. button duplicate this preset while changing the preset name will also save it.

Some presets cannot be modified. They are called factory presets (and belong to the factory bank). In their case, the **Save** button is grayed. Clicking on this button won't have any effect.

5.2 Preset menu

Click the **Preset arraw** button to open the preset menu. Here you can choose and load another preset from the current sort groups into the PolyKB.



In this menu, other actions are also available:

Delete Preset: use this to delete the current preset (a popup confirmation window appears). This option is only available if the current preset is not a factory one.
New Preset: use this to create a new preset. A popup window with the following settings appears:

Init settings: a new preset will be created from initial settings values (see Option menu below).

Current settings: a new preset will be created from the current preset settings. The new preset will be created with a default name that can easily be modified by clicking in the preset name field.



Open preset Information: opens the following preset information window:

In this window you can modify the **Name** of the preset, its associated **Bank**, but also the other field use to sort the preset: **Author**, **Type**, **Genre**, **Feeling** and Project. You can also see its creation date and the last update date.

To modify a preset name, click in the preset field and enter the new preset name this will also save all the current settings.



5.3 Sort menus

Click on the **row** of the sorting button to open the menu used to manage this sorting group (or sub group). Here you can directly select and load any preset from any group or subgroup.



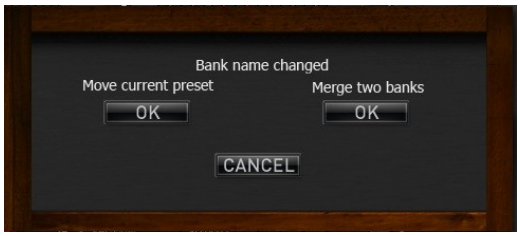
In this menu, other actions are also available:

New Bank: creates a new bank. As for the creation of a new preset, a choice is given concerning the parameter initialization: **Current Settings** or **Init Settings**.

Delete Bank: deletes all of the presets of the current bank that are not factory ones. If the bank does not contain any factory presets, it will completely disappear.

To modify a bank name, click in the bank field and enter the new name. When modifying a bank name (through the bank information window or directly in the toolbar), the following windows appear. The first appears if the bank name you entered doesn't exist, while the second appears if it already exists:





Bank rename: modifies the current bank name.

Preset to new bank: creates a new bank and moves the current preset into it.

Bank duplicate: creates a new bank and moves all of the presets of the current bank into it.

Move current preset: moves the current preset into the existing bank.

Merge the two banks: moves all the presets of the current bank into the existing bank, and deletes the current bank.

Use Factory: enables or disables the display of factory presets.

Sort By: sorts the presets according the bank, author, project, or shows all presets (**Bank Name**, **Author Name**, **Project Name**, **All Presets**). The preset menu will show presets of the same category (same author, same project or same bank).





Export Bank: exports a bank in the PolyKB's proprietary format, Mac and PC cross compatible. This function is available only if presets are classified by bank name because only banks can be exported.

Import Bank: imports a PolyKB bank.

These two choices are not available for the second **sort** menu.

5.4 A/B comparison

You can store two different settings at the same time and instantly switch from one to the other to compare their settings. These two settings are stored in the **A** and **B** memories.

When you launch the PolyKB, the default-activated memory is A. When you load or modify a preset, this memory is also modified. You can switch to B memory by clicking on the B button.

To copy the current memory to the other one, press the button labelled -> or <-, according the current active memory.

With this A/B comparison system, you can easily have two settings and compare them in a convenient way.

6 PolyKB modules description

The PolyKB contains two cabinets: one is dedicated to the synthesis part, which brings the controls to set oscillators, filters, envelopes and so on; the other used to set the sequencer controls and additional panels.

6.1 Synthesis

6.1.1 Oscillators

Frequency: This knob set the frequency of the oscillator. When tuning with the left mouse button, it sets the frequency by semitone steps. When tuning with the right mouse button, it fine-tunes the frequency with more precision. Depending on a general option (see below, the Option menu), the oscillator frequency can be displayed by semi-tone or in Hz.



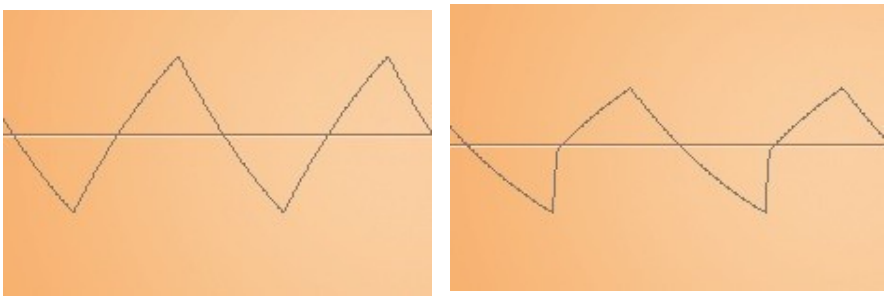
Waveform: This knob sets the Waveform of the oscillator. It can be a pure triangle when turn left to a narrow pulse when turn right, but in a continuous way, you can set it to a saw, double saw or square wave form with all the intermediary settings.

Volume: The knob modifies the output level of the Oscillator 2 in a continuous way while the switches set the level of the oscillator1in three fixed values (1/3, 2/3 or 1).

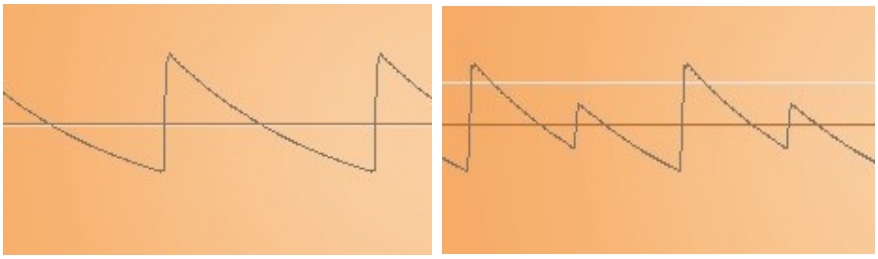
The oscillator's frequency, waveform and level can be modulated with control or audio signal thanks to the modulation section (see below) of the PolyKB.

Below is a view of the various available waveforms through the waveform setting

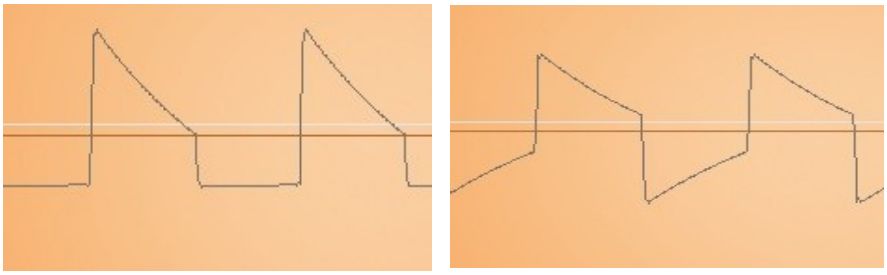
Triangle - Saw



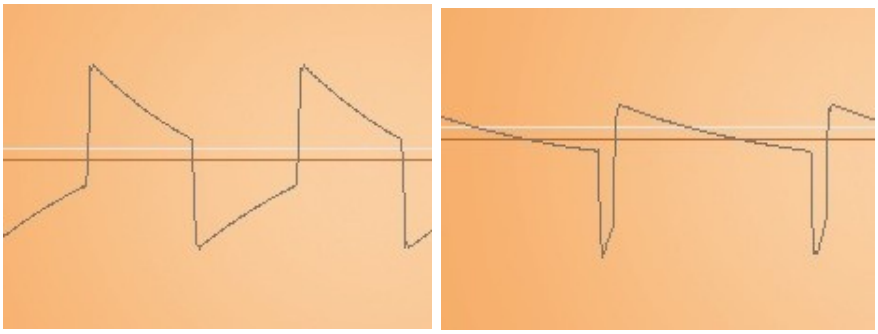
Saw- double Saw



Saw - Square



Square-Pulse



The oscillator 2 can be used in various way according to the following switches:



Synchro : Hard synchronization between oscillator 1 and oscillator 2. Each time the oscillator 1 begin its cycle, it forces the oscillator 2 to begin its cycle too.

Key Off: The oscillator 2 is no longer connected to the keyboard and its pitch doesn't follow it any more.

LowF : the oscillator 2 works in a very low frequency mode (from to Hz)

Audio Noise: Adds white noise to the audio path with three fixed levels (1/3 , 2/3 , 1)

[White Noise] : clicking on the noise label will change its type, white or pink.

6.1.2 Filter

The PolyKB's filter is an accurate dynamic 4 poles self-oscillating low pass filter.

Frequency: This knob sets the cut-off frequency of the filter.

Response: This knob sets the resonance (or quality factor) of the filter. When set to the maximum the filter oscillates alone. That means that it outputs a sort of sine wave without any audio signal at its input.

Keyb Ctrl: set the amount of the keyboard follow frequency modulation.

Adsr2 Ctrl: Set the amount of the second envelope (ADSR2) to the frequency modulation.

Drive: Set the level of the overdrive emulation circuit. Turning totally left disables it while turning totally right allow a strong driving effect. Depending where this stage is placed, pre or post filtering you can get a subtle low-end enhancement or a sort of saturation effect.

[DRV Pre/Post]: Clicking on the label [DRV PRE] or [DRV POST] selects where the driving stage will stand, before or after the filter.



6.1.3 Envelopes

The PolyKB features two envelope generators (EG). The first one is dedicated to the output level stage (VCA) and the second is dedicated to the filter. But thanks to the modulation section, they can be used for a wide range of other purposes.

An envelope generator is a module that outputs a command signal built on four parts. When the envelope is trigged (generally by hitting a note on the keyboard, but also from the output of a sequencer or an arpeggiator) it begins with the "attack" part: From zero to the maximum level, the EG outputs a signal which increases in a time depending on the **Attack** setting. Then follows the "decay" part, while the output decreases to a level depending on the **Sustain** setting, in a time depending on the **Decay** setting. It stays to this "sustain" part as long as the EG is gated (as long as the note is hold). Then when the note in off, it ends with the "release" part, while the output decreases to zero depending to the **Release** setting.

Attack: set the time over which the output increases.

Decay: set the time the output decreases to the sustain level.

Sustain: set the sustain level, maintains while the EG is gated (the note is hold)

Release: set the time the output decrease to zero after the note is released.

Key track: Connect keyboard follow to the EG's parameter modulation. This allows the attack to be shorter as long as the note is high.

Loop2: set the ADSR 2 in a loop mode. This means that as long as the note is held, the EG cycles from attack to release without staying at the sustain level.



6.1.4 LFO1/2

The PolyKB brings two Low Frequency Oscillators, used as a modulation source, to display the settings of one or the other LFO, just click on the label [LFO1] or [LFO2] to change it.

Rate: set the frequency of the LFO

The various switches select the waveform to be added to the output. The LFO 1 provide the triangle while the LFO 2 provide the sine wave.

Noise: noise sample and hold at the LFO rate

Delay: set the delay time between a note ON and the beginning of the fade in.

Fade in: set the time for the output to rise from zero to the maximum level.

Midi S: synchronize the LFO rate to the tempo of the application host.

Mono: the LFO is the same for all the voices.



6.1.5 Modulation section

The PolyKB features a complete modulation section allowing a wide range of sounds.
This section has five fixed modulation sources, the LFO1, the Noise, the ADSR2, the VCO2 and Velocity. Added to these fixed sources, two user selectable sources are available. Thanks to the menu, a very wide range of sources can be chosen (ADSR1, LFO2, pink noise, sequencer outputs and much more). Each source can modulate five fixed destinations, VCO1 and VCO2 levels, VCO1 and VCO2 wave and the filter frequency. Added to these fixed destinations, there are four user selectable destinations. Thanks to the menu, a wide range of destinations can be chosen (VCO 1 and 2 levels, Filter resonance, ADSR parameters, LFO1 and 2 rates, and much more).

Programming the modulation is very easy: a switch connects a source to a destination, while a knob sets the level of the source signal.

Modulating the wave parameter of the oscillators is very specific to the PolyKB. A large amount of modulation can act as a morphing between waveforms (from triangle to pulse). While a small amount, of modulation is quite close to the standard pulse width modulation, depending on the wave setting.

LFO: set the level of the LFO1 output used for the modulation

Noise/SH: set the level of the noise output used for the modulation

ADSR2: set the level of the ADSR2 used for the modulation

VCO2: set the level of the VCO2 used for the modulation

Source Menu: set the level of the source 1 or 2 selected within the menu. The source can be chosen from a wide range of modules (ADSR1/2, LFO1/2, sequencer outputs, noise.)

Destination Menu: select which parameter source 1 or source 2 will modulate. The available destinations can be chosen from a wide range of module (VCO1/2 level, frequency...)

WHEEL: when on, the level of the selected modulation is set according to the modulation wheel.

Pressure ON: When on, the level of the polyphonic after touch is added to the modulation wheel.

ATTK: When on, the velocity modulates the attack of the envelope generators. The level of the velocity is set in the output section.

Dec/Release: When on, the velocity modulates the decay and the release of the envelope generators. The level of the velocity is set in the output section.



6.1.6 Main level and keyboard settings

OUTPUTS: The knob **Outputs** beneath the arpeggiator controls the general output level of the PolyKB,



Stereo ON: This switch enables or disables the voice spacing effect (see below).

Bend: set the amount of the pitch bend in semi-tone.

Velocity: set the level of the velocity used by the modulation section.

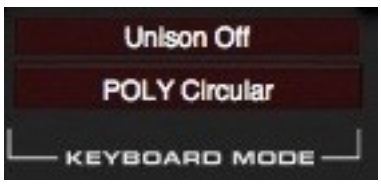
Pressure: Set the level of the polyphonic after touch used by the modulation section.

Drift: Each voice gets differences in their settings depending to this knob: Turn left, all the voices are set with the same values. Turned right, the voices are set with a random noise, emulating what we might find in an analogue synthesizer where voices are built with different components.

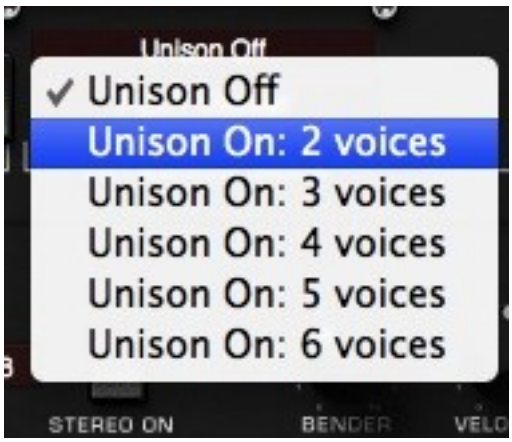
The available number of voices can be set thanks to the menu displayed on the right of the OUPUTS knob. This number, form 1 to 16 is useful to limit the CPU usage when long decay is needed.



The keyboard playing mode is set, thanks to the two display menus over this section



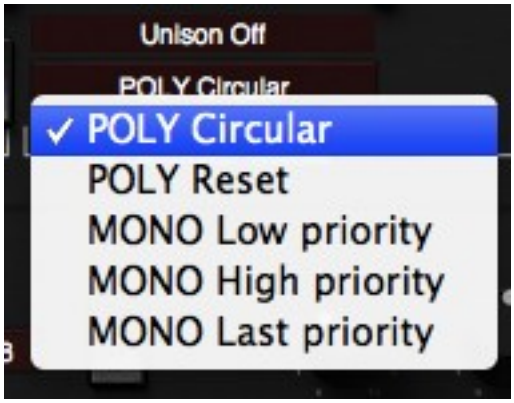
The first menu allows the user to choose the number of unison voices. This means that each time a note is ON (from a MIDI message or from the virtual keyboard) the corresponding number of voices will be trigged. Of course, for a correct effect of this setting, the available number of voices must be greater than this number (an available number of voice multiple of the unison number should be the correct value).



Notice: This setting, added to long release and a high available voice number is very CPU intensive.

The second menu allows choosing between playing in polyphonic or monophonic mode.

POLY circular: polyphonic, each voices are selected one after each other



POLY reset: polyphonic mode, each voices are selected from the voice number 1.

MONO low priority: Monophonic mode with low priority (when two notes are ON at the same time, the lower is played)

MONO high priority: Monophonic with high priority (when two notes are ON at the same time, the higher is played)

MONO last priority: Monophonic with last priority (when two notes are ON at the same time the first which was activated is played)

6.2 Arpeggiator

The PolyKB features a simple but very useful arpeggiator.
When on, this module reads the note hold on the keyboard and, instead playing them at the same time, it will play each note after the other. There are three modes available: **Up**, the notes are played from the lower to the higher. **Down**, the note are played from the higher to the lower and **Up/Down** for which they are played backward and forward. If none of these there modes are selected, then the notes are played in a random order. The cycle can also play through another octave before restarting when the **Oct** switch is selected.



ON: enable or disable the arpeggiator
Up : play notes ascending mode
Down: play notes descending mode
Oct: enable octave cycles before restart.

6.3 Sequencer

The PolyKB has a powerful polyphonic sequencer that can help you to create complex sequences and incredible special effects.

As the output values of the PolyKB's sequencer are hidden, it can perhaps be a little confusing at first. But the power and versatility of this concept, in contrast to most other analogue sequencers of the time, is a good reason to get to know it!

First to know, this sequencer is polyphonic. That means that you can record/play up to 8 voices with different sequences. The switch **Voices Select** allow you to choose which voices will be recorded or played. When both record and play are selected, then you will hear all the already recorded voices while record only the selected voice.

Voices select: select the voices to be recorded or played.

Voice delete: delete all the selected voice. A confirmation panel opens, but be careful, there is no undo.

Step del.: delete the current step of the voices selected. Be careful, there is no confirmation panel.

Triggered: When on, this switch will start the sequencer (in play mode only) when a note is held. It stops when the note in released.

Tuned: When on, this switch allows the tuning of the sequences according to the lowest note played on the keyboard.

Step/Run: When on, this switch allows the sequencer to run step by step (record or play). Each note recorded increments the step by one.

Next: go to the next step

Prev: go to the previous step

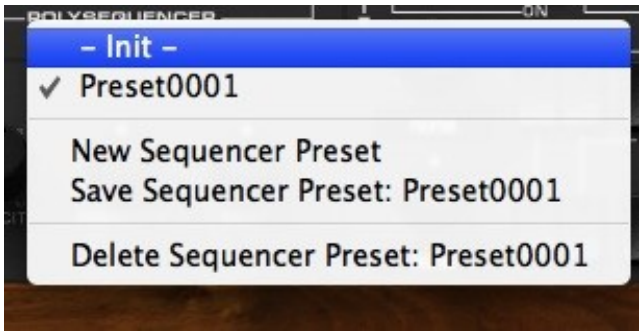


Max/Current display: The digital display beneath the Max current label shows the current number of steps and the maximum number the sequencer will reach before looping. Click on the label to see the sequencer's preset name. In this mode you can click into the display to edit and change the name.

Clicking on the maximum step number will increase (left click) or decrease (right click). Clicking on the current step number will increase or decrease it which means that the sequence will begin from that point.

To help with your creative workflow, independent sequencer presets can be saved and recalled.

Preset: This button opens a menu that shows you the available sequencer presets for recall:



6.3.1 Sequencer display module

The PolyKB's sequencer display panel makes it easy to create, verify and modify your sequences.

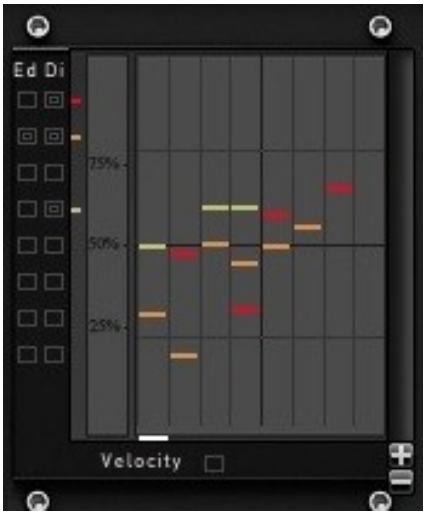
Three zoom modes can be used to display the internal values, selected by the '+' and '–' buttons. Zoom 1 shows the entire range of values, useful when using the sequencer to modulate parameters such as filter frequency, oscillator level or shape. Zoom 2 and Zoom 3 show four and two octaves respectively. The slider allows you to move the displayed part inside the whole range.

The current time slot is shown as a white cursor line at the bottom of the view.

Each of the current sequences is displayed in a different color. The sequences can be highlighted or hidden by checking or un-checking the corresponding colored boxes to the left of the event display.

You can also modify the sequencer with the mouse: select the sequence you want to adjust (**Ed** check boxes) with the left button, click on the panel to add or modify a step, with the right button, click to erase a step.

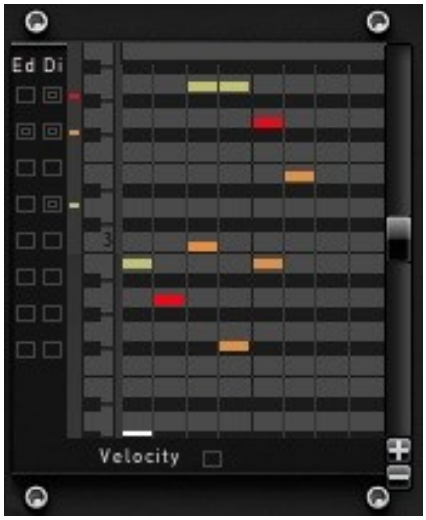
Zoom 1



Zoom 2



Zoom 3

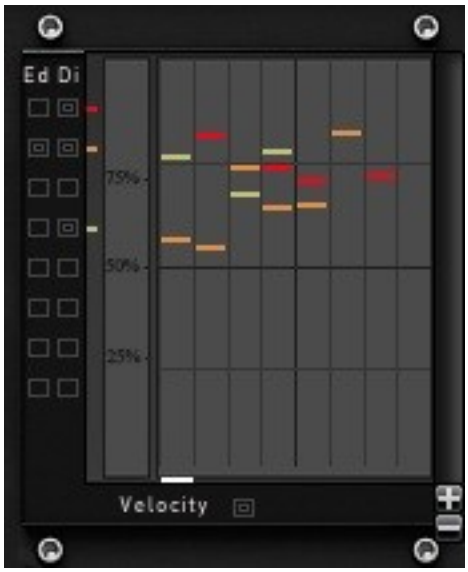


Clicking on the + or – changes the display view, wile the slider on the right allows you to browse inside this view.

The sequencer memorize the pitch but also the velocity on the entered note.

So you can use the sequencer just for creating pitched sequences, but using the velocity (or the pitch) through the modulation section gives you endless design possibilities.

To display or edit the velocity instead of the recorded pitch click into the check box **Velocity**



6.4 Virtual keyboard

The PolyKB's keyboard lets you play notes that are sent to synthesizer. The keyboard also highlights the MIDI note information that the PolyKB receives. To the left of the keyboard are two dedicated wheels, one for the modulation and the other for the pitch bend.



The output of the modulation wheel and details of which modules it modulates are set in the modulation section of the PolyKB

The pitch bend wheel is directly connected to the keyboard follow circuits and modifies the pitch they calculate when connected to the oscillators. The pitch bend range can be set from one semi-tone to four octaves in the output section.

6.5 Special display modules

By clicking on the label [close] you can access to some very fun and useful display and modulations modules. We have already seen the sequencer display module where you can see and edit the sequences, but you will find a stereo space and a modulation space positioning modules.

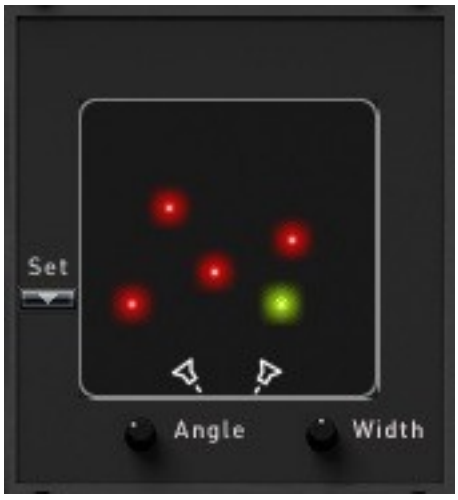


6.5.1 Sequencer display module

See above

6.5.2 Stereo space positioning module

This module allows you to position each available voice inside the stereo space. Click on a voice inside the 2-D positioning screen and move it. You can put it left, right, but also far or close to the two simulated microphones. These microphones have a cardioid pick-up pattern and can be oriented thanks to the **Mic** knob. They can also be moved to get a wider or narrower stereo effect.



Width: Change the stereo field width. Turn left to get a very wide filed, right a smaller. Notice that with a wide field, there is a noticeable time for the sound to go from its source to the microphone. It could be annoying, but can be a good way to add some groove to your sequences.

Set: This button opens a menu to put voices in pre-recorded places. “Random Wide” puts them randomly within all the available space while “Random Tiny” in a smaller space, keeping the voices close to each other.

Some rules explaining how this effect works:

In this effect, voices are placed in the “room” (for the moment this room as no effect on the sound, that means no reverb, no phasing effect). There are two microphones to record what happens in the room. There is a correction in order to remove the level and the delay for the shorter path between a voice and a microphone.

In that way, there is no delay for the shorter path.

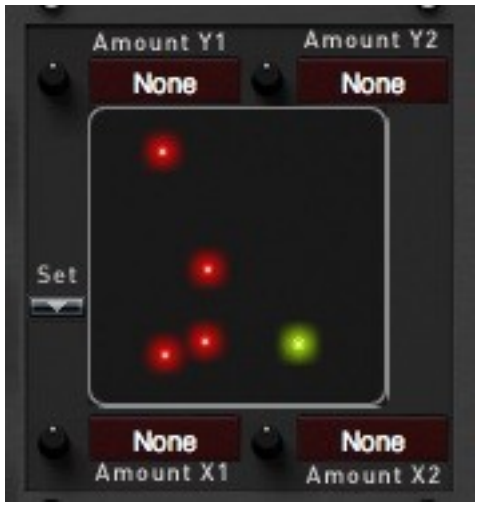
This means that:

- If the microphones are at the same place, there is no Left/right difference between voices; the level of the voice only is affected.
- If all the voices are at the same place, there are no differences betweens voices: The stereo effect takes CPU without any effects.

6.5.3 Modulation space positioning module

This module allows you to position each available voice inside the modulation space. Click on a voice inside the 2-D positioning screen and move it. You can put it left, right, but also up or down. The X or Y axis are used to modulate two destinations according to their dedicated amount level.

Set: This button opens a menu to put voices in pre-recorded places. “Random Wide” puts them randomly within all the available space while “Random Tiny” in a smaller space, keeping voices close to each other.



6.6 Effects modules



By clicking on the labels, the corresponding effect is displayed. But to be more user-friendly, four switches are available on the main interface to enable or disable each this these effects.

6.6.1 Delay



Dry/Wet: set the mix level between the initial signal and the processed signal

Time: set the time delay (right or left)

Feedback: set the amount of the delayed signal which is reused (left and right)

Sync: set the time delay according to the tempo (the time will change each time the current tempo of the host application changes)

6.6.2 Chorus



Dry/Wet: set the mix level between the initial signal and the processed signal

Rate: set the rate of the internal low frequency oscillator of the chorus.

Amount: set the amount of the effect.

Type: select the type of the chorus within three different treatments.

7 Option menu

This menu allows to choosing the global settings. These settings are defined for all the instances of the PolyKB. Each time an option is changed, the related option file is saved.

7.1.1 Main

In the toolbar, the **Options** button opens a menu for selecting various options for the PolyKB. This menu shows the following options settings:

PolyKB About: displays information about the XILS 3 (version, build date and credits).

Open MIDI settings panel: opens a popup where you can assign MIDI controllers for each of the PolyKB's parameters. Click on the parameter label to select the parameter you want assign, then enter the MIDI controller number (from 0 to 127), or switch on the learning switch and send a MIDI command with the correct MIDI controller number. The PolyKB will memorize it. This setting popup can also be opened by CTRL+ALT+Apple+Left-click (Mac) or CTRL+Win+ALT+Left-click (Win) on the desired PolyKB parameter.

7.1.2 Display

Display low frequency as BPM: allows displaying the low frequency (LFO, oscillator 2 in low mode, clock rate in BPM instead of Hz)

GUI follows presets: When checked, this option allows the GUI to follow the presets. That means that the special display modules are refreshed following the preset settings. Otherwise it keeps the same view.

Output level follows presets: When checked, this option allows the output level to follow the presets. That means that the output level is programmed with the value saved in the preset. Otherwise it keeps its value.

Popup On: shows a popup window while modifying a value.

Popup Name On: the name of the current modified parameter is displayed.

GUI update: low: slow refresh rate for the GUI. Useful when it is necessary to save CPU power.

GUI update: middle: standard refresh rate for GUI.

GUI update: fast: fast refresh rate for GUI. Useful when it is necessary to precisely follow the sequencer's led for instance.

Reduced GUI: 1200 LowQ: Select the reduced size the GUI will take upon the next launch of the PolyKB. Please note that with 1200 pixel width, the graphic quality will be less than with the 1400 pixel original size. But for some screen size or resolution only this size can be displayed entirely.

7.1.3 Misc

Init settings from current settings: initializes the default values of the PolyKB from the current settings. All the new presets will be created from these settings, when the **init settings** choice is selected. These parameters will also be used when setting a control to its default value. (Win: CTRL+click, OSX: ALT+Apple+Click).

Wheel Incr: 0.01: parameter increment of 0.01 when using of the mouse wheel.

Wheel Incr: 0.05: parameter increment of 0.05 when using of the mouse wheel.

Wheel Incr: 0.1: parameter increment of 0.1 when using of the mouse wheel.

8 Special tips

Her are some rules about the voices management, which could change the sound without understanding why.

Available voices number: This is the number of voice the synthesizer can manage. But the sequence always gets priority. This means that if this number is 1 and there are 3 selected voices within the sequencer, three voices will be play. But no voices will be assigned to the keyboard.
On the other hand, if this number is 5, then there will be 2 available voices for the keyboard.

The unison is managed as if there was another note activated. That means that if there are not enough available voices, then the unison won't be done as wanted (see examples below).

The Arpeggio is managed as if the keyboard did the Note ON/Note OFF.

For instance:

Polyphony Number: 3
Sequencer selected voices: 1
Unison: 1
Available voices for the keyboard: 2

When using the keyboard in polyphonic circular mode, the note ON will be assigned to voice 2, then 3, then 2, the 3, while the sequencer is playing on voice 1.

Example:

Polyphony Number: 6
Sequencer selected voices: 2
Unison: 2
Available voices for the keyboard: 2

There are 4 voices for the keyboard. When using the keyboard in polyphonic circular mode, the note ON will be assigned to voice 3 and 4 (for the unison), then 5 and 6, then 3 and 4, the 5 and 6, while the sequencer is playing on voice 1 and 2.

Example:

Polyphony Number: 3
Sequencer selected voices: 0
Unison: 2
Available voices for the keyboard: 3

There are 3 voices for the keyboard. When using the keyboard in polyphonic circular mode, the note ON will be assigned to voice 1 and 2 (for the unison), then 3 and 1, then 2 and 3, the 1 and 2, The unison is not correctly done because there are not enough voices available.

9 Credits

Thanks to the artists and musician who help us a lot during the PolyKB development:

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