

Thank you for buying Ilya Efimov Nylon Guitar Library!

We exerted much effort to create a really virtual guitar as close as possible to the original. For the samples we recorded the superb hand-made guitar by an Italian maker Giuseppe Guagliardo. Thanks to a great number of layers of velocity you are given wide dynamic range and a maximally possible palette of guitar colors. We hope that creation of music with the help of our library will please you and give you more joy and satisfaction.

## ILYA EFIMOV NYLON GUITAR

- 3500 samples, 44,1 Hz \24 bit, stereo
- 14 velocity layers for each note\17 frets on the each string with a round-robin algorithm.
- Automatic and Manual String Selection
- Automatic and manual Left Hand Playing Position Selection
- 3 modes for automatic search of chord position
- 12 different articulations
- Realistic legato
- Realistic glissando
- Repetition keys
- Different FX and Noises

You cannot use the “Libraries” tab to “Add Library” for this product. Only encoded and locked “Powered-By-Kontakt” libraries are loaded through the “Libraries” window.

In NI KONTAKT browser enter the folder in which you installed IENG and load patch Ilya Efimov Nylon Guitar.nki.

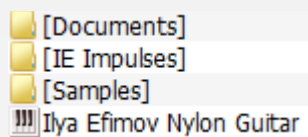
If you use a typical size of the buffer preloading in Kontakt, this library will use 500 MB of RAM.

The installation of Ilya Efimov Nylon Guitar is divided into two steps.

1. Unpack files downloaded files to any folder (for example you can create new folder 'Ilya Efimov Nylon Guitar' on your HDD for data).

(PC users should download UNRAR from <http://www.win-rar.com/download.html>. MAC users should download from <http://www.unrarx.com/>)

**Do not change the structure of folders and files!**



2. Run file IE\_NG\_UI\_Setup\_PC.exe (для PC users) or IE\_NG\_UI\_Setup\_Mac.pkg (для Mac users). Unpack IE\_NG\_data.rar

To make fully use the Library we strongly recommend that you read this Manual.

You will learn about manual and automatic string selection, how the various chord modes operate, how to play open strings voicing's and much more.

We would like to note some important features of the Library:

Most of key switches depend on the sensitivity of velocity and have two ranges – low and high. You can change this threshold of velocity between using the Key Switch tab on the Options page with the help of **Threshold** knob.

Default setting of low velocity is 0 -100 and high velocity is 101 -127.

Any articulation activated manually will work only after holding the key-switch key.

Throughout the Manual we use the following terms:

- **high velo.** The high range of velocity sensitivity .
- **low velo.** The low range of velocity sensitivity.



Top Guitar view

The major part of the graphic interface depicts a guitar fret board. When you use your midi-keyboard the markers display the positions of the guitarist's left hand fingers. The markers change the colors and letterings, depending on the articulation being used. The used articulations are also announced in words under the fret board.

Along the fret board you can see the marker of the left hand position colored in orange. It marks four frets for the most comfortable left hand position (playing position) as if you were playing a real guitar.

The **Quick info panel** at the bottom of the GUI allows you quickly turning on and off options, sound effects and noises.



Quick info panel

The items of this menu allow for quick tuning on and off of this and that sound effect s and noises or to go from one function to another. Look up the description of these functions in the corresponding chapter of this Manual.

**Note:** If you click on an item in the Quick info menu while holding the CTRL-key (control) the corresponding option page will show up.

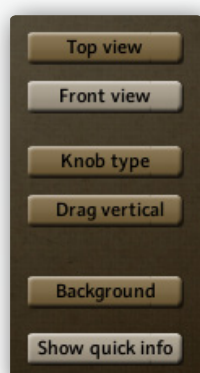
The Options button opens the panel having a few tabs. By switching from one tab to another you can edit the settings of the Library.

Open the **Options** page. Go to **Performance** tab.



Performance Page

In the present chapter we shall discuss the user interface settings.



**Top View и Front View.** These buttons turn the guitar picture upside down.

**Knob type.** This button changes the colors of control knobs.

**Drag vertical.** This button alters the direction of the mouse movement to change the knob values.

**Background.** This button alters the colors of the Options pages.

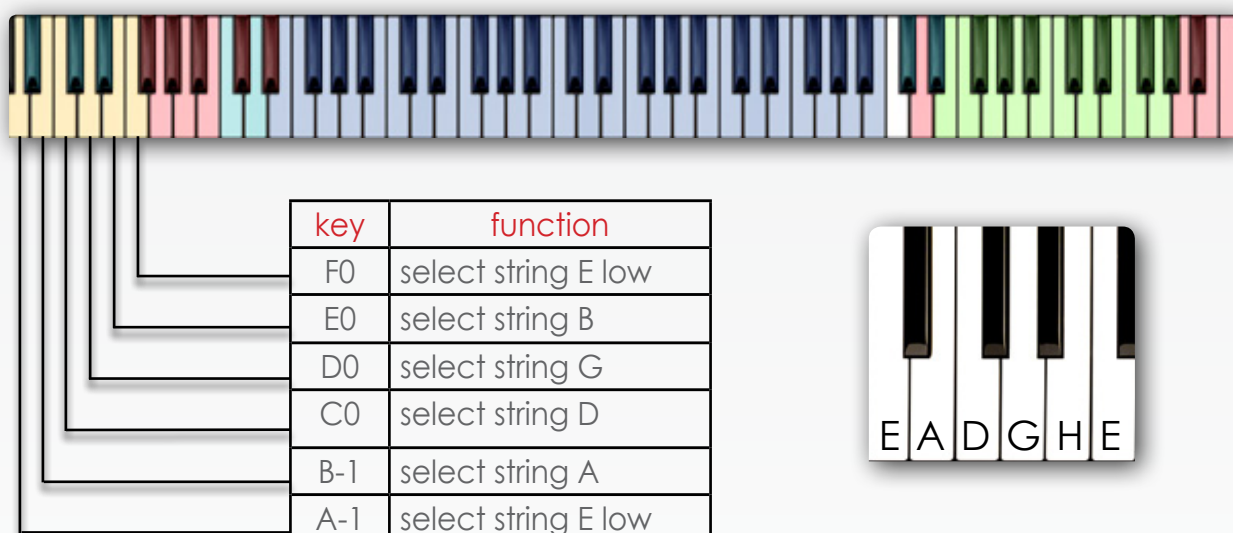
**Show Quick info panel.** This button turns the Quick Info panel off on the Guitar View page.

Any key on a piano keyboard corresponds to a certain musical note. For each note there exists just one key. But the guitar very often allows to take one and the same note on different strings. At this the timbre of notes played on different strings and at different positions will vary. In the majority of guitar samples libraries the user can not choose a string for playing notes. This impoverishes him considerably and hides the richness of the timbre. In the present Library you can use not just the first four frets but all the rest of frets. In this way you will not lose 80% of the instrument's music colors.

To make you task easier we have created a complex script. The string selection and Playing Positions proceeds automatically according to guitar fingering. But quite often the user has to choose this and that string manually or to determine the left hand playing position.

## Select String Keys

You can choose a string by using A-1, B0, C0, D0, E0, F0 keys. On the NI Kontakt virtual keyboard this keys are colored yellow.



The diagram shows a virtual keyboard with keys colored in various shades. A table below the keyboard maps specific keys to string selection functions. Lines connect the keys in the table to their corresponding positions on the keyboard.

key	function
F0	select string E low
E0	select string B
D0	select string G
C0	select string D
B-1	select string A
A-1	select string E low

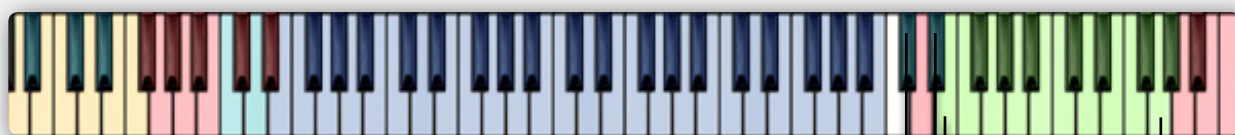
To the right of the table is a small inset showing a close-up of the first six keys of the keyboard, labeled E, A, D, G, H, E from left to right.

If the note you need is not available on the string you selected this note will be played on another string automatically within playing position.

Holding the string selection key you can play one-voice melody line on one string.

## Playing Position

You can at any time set the playing position to a desired fret with the “Set position to fret n” keys (E5 to G#6). On the NI Kontakt virtual keyboard this keys are colored green. The keys correspond to the notes on the E string.



key	function
C#4 (low velo)	shift playing position down + 1 fret
C#4 (high velo)	shift playing position down + 3 frets
D#4 (low velo)	shift playing position up - 1 fret
D#4 (high velo)	shift playing position up - 3 frets
E5 - G#6	select playing position

Alternatively you can use the “Shift position” keys located at C#5 and D#5 to shift the position relative to the current position. Low velocities will shift -1/+1 fret, high velocities -3/+3 frets.



The main range of the playing position has 4 frets (4 semitones). We extended this range by one fret so that the string can be changed correctly while you play chromatic scales. If a note cannot be found in the playing position range the algorithm will look for this note on another string within the playing position range. If the note can still not be found within this range the algorithm will look for it on adjacent frets and the playing position will be shifted. The playing position is crucial for the automatic string selection.

*Example:*

The playing position is at fret 4 and you play a B<sub>2</sub> followed by a D<sub>3</sub>. Both notes are within the playing position and both notes will be played on the G string. If you want the D<sub>3</sub> to be played on the B string you have to use the select string feature or set the playing position to fret 3.

The shifting of the playing position is accompanied by the sound of fingers scratching the strings. You can set the volume and frequency of this effect on the **Options \ Noise** page. The **Fret.Noise** knob.

In the regular mode (Guitar Mode) you cannot play more than six notes simultaneously. Nor can you play more than one note on a string at the same time.

## Automatic String Selection for chord

If you play chords there are several algorithms helping you to minimize the use of the select string or set playing position functions.

There are two main modes - **Chord A** and **Chord B**. Let us discuss each of them more thoroughly.

**Chord mode A. Chord notes played (more or less) simultaneously.**

This mode is for the identification of chords or of a few notes in the range of four frets playing position. No computer can guess the next ongoing actions of man one step further. Neither can any computer guess what the next note to come is. That is why, to correctly find a playing position algorithm the computer must know the whole chord. Besides you can hardly play a chord so that all notes

could be played ideally at the same time. It is this discrepancy among notes by a few milliseconds that makes it necessary to set up a small delay to look for the chord. The less discrepancies among the notes you play there are the



less is the value of the delay that you can set. To set the time of delays can be done in the Options\Performance\Chord Mode A. By default there is an optimal delay time – 20 ms. Within this time span it is quite easy to play chords. This delay time also does not interfere with your playing on the midi-keyboard. In case that you do not like using that

mode you can turn it off using the button **Chord A** in **Quick info panel** or on the **Option\Performance** tab.

## Chord Mode B. Strum Chord Mode

This mode can be activated in two ways:

### *Automatically*

In this case Chord Mode B must be activated on the Option\Performance tab or on the Quick info panel. In this case the algorithm will try to play each next note on the adjacent string. This mode is handy while strumming fast. This algorithm can only work when the time interval between notes fits this set parameters, between time - X and time Y. By default this takes from 20 to 70 ms. If the time span between notes is more than time Y or less than time X the Chord Mode A comes into action (if it is turn on manually).

Automatic activation of the Chord Mode B adds still more naturalness and simplicity in using the Library.

### *Example:*

Position marker at fret 5. Chord mode B active, time set to 70ms. If you play a C<sub>3</sub> followed by a D<sub>3</sub> slower than the 70ms the algorithm will play both notes on the G string. If you play a C<sub>3</sub> followed by a D<sub>3</sub> within the 70ms the algorithm will play the C on the G string and the D on the B string

## Manually

The Chord Mode B is switched on and off by the keyswitch A#-1

key	function
A#-1 (high velo)	Turn on Chord Mode B
A#-1 (low velo)	Turn off Chord Mode B

In this case depending on the time span between the notes i.e. at any time, the algorithm will try to find any following note on the adjacent string.

When the mode is activated you can see the label **Chord** in the Guitar view.

**Notice, this mode will not do for playing melodic lines!**

## Open Strings Chord Mode

The aim of this mode is to use open strings to play chords without changing the playing position. The Chord Mode B is switched on and off by the keyswitch C#0.

key	function
C#0 (high velo)	Turn on Open Strings Chord Mode B
C#0 (low velo)	Turn off Open Strings Chord Mode B

When the mode is activated you can see the label **Open chord** in the Guitar view.

When this mode is activated you can engage white keys from A-1 to F0 to use them as open strings.

Sometimes it is very comfortable. For example, if some note is in unison with an open string.

If the velocity of these keys equals 127, you can use to choose strings (Manual String Selection). In this case no sound will be produced.

We do not recommended you to turn off Chord Mode-A and Chord Mode-B. If you are going to use chords or even intervals. Notice that when the modes of chords position identification are turned off the simple algorithm of string selection cannot always find the correct layout of notes for a desirable chord or an interval. Some notes can be lost.

## Open Strings Mode

You can play on the open strings without changing the playing position. To do this turn on Open String Mode.

When the mode is activated you can see the label **Open String** in the Guitar view.

In this mode you can use white keys from A-1 to F0 as open strings.

This mode operates like **Open Strings Chord Mode** but it is not the same. In the **Open Strings** mode the strings will change depending on the playing position. In the **Chord Open Strings Mode** the algorithm which tries to find each following note on the adjacent string and this interferes with the logical determination on the playing position for playing melody lines.

This Open String Mode will not influence the playing position when you use white keys as open string

The **Open String** is switched on and off by the keyswitch D#0

key	function
D#0 (high velo)	Turn On Open String Mode
D#0 (low velo)	Turn Off Open String Mode

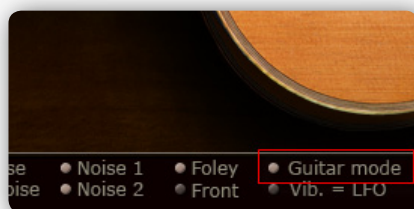
Please, do not play a melody line when you manually turn on Chord Mode B or Open Strings Chord Mode (with the help of the keyswitch). In this case your playing position most probably will be wrong. You may hear all the notes that you play but you will feel that they sound unnaturally because of the incorrect determination of the playing position for the melody line in the chord mode.

These modes are for chord playing. When the chord modes are turned on manually this will be always indicated in the Guitar view. Please, watch this!

## Keyboard Mode

You can use the Library in the easier mode. This mode is called **Keyboard Mode**. The algorithm Automatic String Selection is turn off in this mode. The first four guitar frets are used in this mode as it is done in the majority of other famous libraries.

The switching from the Keyboard mode to the **Guitar mode** is made on the **Quick info panel** or on the **Options\Performances** page. **Perform.Mode** menu.



## Legato Mode

Legato on the guitar it is first and foremost the technique of playing notes by the left hand. Up legato is called hammer-on, down legato is called pull-off. In the **Legato Mode** with overlapped notes either *hammer-on* or *pull-off* articulations will be activated depending on the direction of the movement.



The range for the legato detection can be set on the **Options \ Performance** page

key	function
D#1 (high velo)	Turn On Legato Mode
D#1 (low velo)	Turn Off Legato Mode
G0 (high velo)	временная отмена Legato Mode

If you do not hear legato then the algorithm has changed a string. To avoid this you can alter the playing position or select a string with the help of select strings keys.

If Auto legato is on but you want a series of notes to be played with the non vibrato articulation: instead of turning off auto legato simply hold the non vibrato key switch while you play these notes.

When Legato mode is on you will see it indicated by **Legato** in the Guitar view.

## Glissando

Glissando articulation on a guitar is played quite often not only like an effect but first of all as melody ornaments. We have recorded all possible versions for each string starting from each fret within an octave range up and down the fretboard and in different tempo. You do not have to switch among glissando versions. The algorithm will do it for you when you wish.

Gliss Mode is on when you hold the key **C#1** (Gliss key).

It is obvious, that glissando can be played only on a single separate string. If you do not hear glissando while holding the GlissKey it means that glissando impossible, i.e. on that string there could not exist your target note.

Glissando speed depends on the velocity of the target note to which glissando is heading. The lower the velocity value is, the slower is the speed.

min – 60 BPM, max – 200 BMP

The target note can sound in two ways.

1. If you would like to hear a target note with an active attack (as if the guitarist picked the string after glissando was over) – release the starting note of glissando before it is over.
2. If you would like to hear a target note without any attack (as if the guitarist did not play with his right hand) – hold the starting note of glissando until it reaches the target note.

The volume of glissando depends on the volume of the starting note and is connected with how long the starting note lasts before glissando starts.

For controlling the volume of glissando (or any other articulations) see **Options\Art. Volume** page.

## Repetition Keys

Repetition Keys **C0** and **D0** repeat the last played note or the chord. If before pressing Repetition Key to hold keyswitch, which turns on this or that articulation, Repetition Key will repeat corresponding articulation. Repetition Key repeats any articulation when keyswitch is held.

When a chord is repeated you hear a small delay between notes. This simulates strumming playing guitar technique.



The delay time (strum time) can be controlled on the page **Options\Performances**, the **Strum time** knob. By default the strum

key	function
C1	simulates down strum
D1	simulates un strum



We tried to automate most of playing techniques so that you could be less distracted by control functions. But the computer is just your helper and a lot of articulations you should choose yourself depending on the set task.

Not to tire you, we will not describe each of articulations in detail. Surely, you will know most of them, so we will just enumerate all the articulations and tell you how to use them.

All the articulations described in this Chapter are active  
 only when you hold keyswitch!

As soon as you release keyswitch this sustain articulation is on. The selection of this or that articulation is indicated by a written prompt, which appears a little below the fretboard. Each articulation has its own graphic marker depicted on the fretboard while playing the midi-keyboard.

## Vibrato

The Vibrato articulation is the only one that we will discuss in more detail.

The activation of vibrato can be done in two ways. With the help of Modulation Whell (CC1) and with the help of the keyswitch G0 (low velo)

key	function
G1 (low velo)	Turn on natural vibrato
CC1 (Modulation)	X-Fade between realistic vibrato and sustain
CC1 (Modulation)	LFO vibrato

We made two versions of vibrato. We can choose any one of them beforehand, the one you like more. Switching between the versions is done in the **Options \ Performance. Vibrato Mode** menu. You can also change a version of vibrato by the button **Vib=LFO** in the Quick info panel (When the button is on, the LFO Mode is on).

**Realistic vibrato.** You can get live vibrato in two ways.

🎵 Before playing the note press and hold G0 (low velo). Using key-switch you can hear live vibrato in dependently of what mode you have chosen. This is a typical way of activation of this of that articulation for this Library.

This way will not do if you want to use vibrato after some articulation.

🎵 Cross-fade Mode. At any time you want change the value of Modulation wheel (CC1). Using Modulation wheel (CC1) you can hear live vibrato but only if Cross-fade Mode is selected and button Vib=LFO in the Quick info panel is off.

*This mode is helpful when you need to add vibrato not immediately.*

**LFO vibrato.**

Is activated with the Modulation wheel (CC1) if Vibrato mode is set to LFO.

## Slide-up

The Library has 4 versions of this articulation. You can choose one of the two intervals, each of which was recorded in two various tempos.

key	function
G#0 (low velo)	Slow slide up on the 1 semitone
G#0 (high velo)	Fast slide up on the 1 semitone
A#0 (low velo)	Slow slide up on the 2 semitone
A#0 (high velo)	Fast slide up on the 2 semitone

## Mute and X-Note

The Mute articulation has 6 layers of velocity for each note and a Round-Robin function.

key	function
B0 (low velo)	Mute
B0 (high velo)	X-Note

## Hammer-on and Pull-off

Sometimes it may turn out to be comfortable to use legato articulations for one or a few notes. We predicted that opportunity.

key	function
A0 (low velo)	Pull-off
A0 (high velo)	Hammer-on

## Flageolets

Flageolets are divided into natural flageolets and artificial ones. You can choose any one of them.

The **natural flageolet** has 2 layers of velocity. It has 4 sounds for each string.

The **artificial flageolet** can be playing on any fret. Not a sound will be lost.

key	function
F#0 (low velo)	Natural flageolet
F#0 (high velo)	Artificial flageolet

## Articulations volume

By default there are most acceptable values of volume for each articulation. But you can change the volume of each articulation. Go to page **Options \ Art.Vol.** In the left side of this page you see dropout articulation menu. Beside it there is the only control knob there in this window. Choose the articulation with you the volume of which you would like to change and set the volume you need. By default optimal values of volume are already set.

In the right side of the **Options \ Art.Vol** page you see a table with information about volumes of articulations.



Articulations Volume

To make a live sound and maximally truthfully simulate live performance the Library has a few FX sounds. Some of them are automated, the others FX sounds can be added at your wish. Read on about it further.

## Noises switched automatically

Some noises somehow accompany playing. You can never produce ideally clean sound while recording from the mic. The guitarist may puff, shuffle his clothes or touch the guitar body with his hand, or creak the chair. When you are recording live guitar with a mics you try to get rid of noises as much as possible. We, on the contrary, add this artifacts for more realistic perception. Certainly, you can control them at your consideration.

There are a few types of noises.

### Release

Mutation of string with a right hand fingers. This sound comes out every time when you release the key or the sustain pedal (CC64)

### Noise 1

Noises appearing when the guitar is touched.

### Noise 2

Noises made by the performer (breathing, puffing, creaking etc.)

### Fret Noise

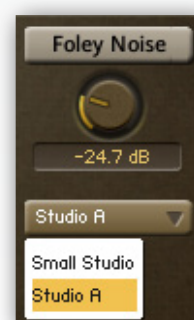
Scratching of the left hand fingers of the guitarists along strings. This FX come out when playing position is changed. The Scratch Noise are recorded from every string. You can also control the volume of this noise and the frequency of its appearance with the help of controlling knobs which were mentioned above. To add fret. Noise manually using keyswitch, press and hold **A6**.

### Foley Noise. Mic noise.

This noise adds breathing to the sound. It comes out all the time while you are playing. If you use sustain pedal the noise goes on sounding until the pedal is on. From drop-down menu on

**Options\Preference. Foley Noise** one of the two given versions of the noise can be selected.

You can control the volume and frequency of its appearance of any noise. You can also control the dependence of noise volume on the duration of the last note. The more durable the note is, the quieter is the noise. You may turn the noise off if you want.



The control of the noises is done on the **Options \ Noise**.

The buttons carrying the names of noises turn them on and off. The control knobs are below this buttons.

**Volume.** Noise volume control

**Frequency.** Frequency of random noises appearances.

**Time.** Counts the time from the attack of the last produced note during which the level of noise decreases.

**Decrease.** This parameter determines the number of dBs by which the noise level decreases during the time determined in the time parameter. This parameter depends on Time linearly.



## Manually added FXs

To make use of other FXs activated keyswitch manually. When you turn on FX velocity values can be ignored.

key	function	range
A6	Scratch \ Fret. Noise	E1 – A2
A#6	String`s Resonance	E1 – G4
H6	FX1	E1 – D2
C7	FX2 \ Chord FX	E1 - C2

## Effects

You can control a sound of the Library according to your taste, using 4 effects - Reverb, Delay, Equalizer and Compressor.

You can control effects on the **Options\Effects**.

The quick turning on of this or that effect is done on the **Quick info panel** by pressing the corresponding button.

Remember that the fast access to the **Options** page is possible if click on the needed button holding Ctrl \Control on the **Quick info panel**.

Go to **Option\Effects** page.



To switch among effects to set them is done by Reverb, Delay, EQ and Compressor buttons.

To turn on the effect you need on the **Options\Effects** page press one of the round buttons situated to the left from the buttons that switch among effects.

You can change all the accessible parameters of each the effects.



## Reverb

To simulate the ambiences we use Convolution Reverb. We created our own Impulses.

You see 10 reverberation control knobs.



**Drop-down menu** situated to the right from the reverb button <sup>Reverb</sup> allows to choose

**Send.** Controls the level of the signal being sent to be processed to the reverb.

**Return.** the level of the signal being returned from the reverb.

**Pre Delay.** Introduces a small delay between the direct signal and reverbed signal.

**IR Size (Early).** Artificially squeezes or widens the impulse sample in time for early reverberations.

**IR Size (Late).** Artificially squeezes or widens the impulse sample in time for late reverberations.

**High Pass (Early).** Determines cutoff frequency below which the value of signal frequency will be diminished for early reverberations.

**High Pass (Late).** Determines cutoff frequency below which the value of signal frequency will be diminished for late reverberations.

**Low Pass (Early).** Determines cutoff frequency above which the value of signal frequency will be diminished for early reverberations.

**Low Pass (Late).** Determines cutoff frequency above which the value of signal frequency will be diminished for early reverberations. частоты сиг-



## Delay

Delay effect has 6 means of control.



**Time.** Delay time in milliseconds

**Damp.** Damps high frequencies of the delayed signal

**Pan.** 3If more then 0 there is a pan effect, which ping-pongs repetition signal between left and right channels.

**Feedback.** Sends a portion of the output back into the input of the delay line, which created repeating echoes

**Send.** Controls the level of the signal being sent to be processed to the delay.

**Return.** Controls the level of the signal being returned from the reverb.

## Equalizer

Using a 3-band equalizer you can change the frequency range of the guitar sound within 18 dB.

Three control parameters are available for each frequency band



EQ

**Band 1, Band2, Band3.** This are the 3 bands available for being changed.  
**Frequency.** Chooses the frequency to be changed.  
**Bandwith.** Sets the bandwidth to be boosted or cutoff.  
**Gain.** Controls the amount of boost or cutoff.

## Compressor

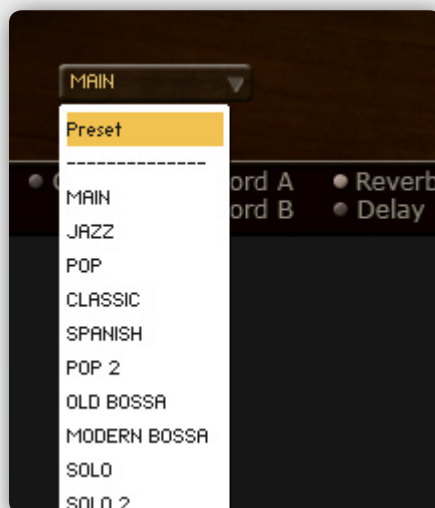
Delay effect has 5 means of control.



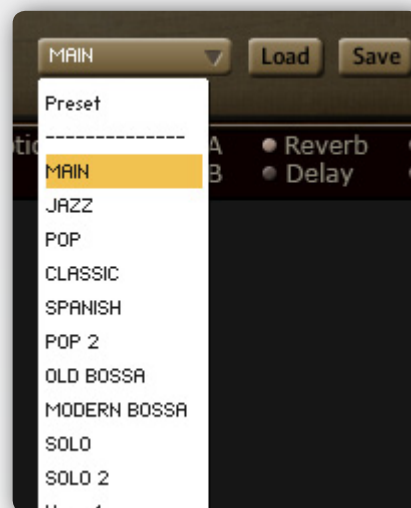
Compressor

**Threshold.** Level at wich the compression start.  
**Ratio.** Intensity of the compression  
**Attack.** Starttime of the compression.  
**Release.** Time of the release after compression.  
**Output.** Volume of the compressed signal.

The drop-down menu is visible in the Guitar view, the Options\Effects page, the Options\Performance page and the Options\Noise page. It consists of 10 factory presets and 10 empty presets.



Preset's menu on the Guitar view



Preset's menu on the Option page

If you are on the Guitar view page a selected preset will be loaded immediately.

If you are on the Options\Effects page to load the presets choose some Preset on the drop-down menu and press the LOAD button.

To save presets on the Options\Effects, Options\Performance, pages choose some preset on the drop-down menu and press the SAVE button.

Only performance mode, legato range, strum time and velocity sensitivity will not be saved in the global presets

## Controllers and KeySwitches reassignments

### Controllers reassignments

Your sequencer can control any function of the Library. The whole list of keyswitches and controllers set by default sits in the table which is in the end of this Manual. It is also replicated in one document.

All the keyswitches can be reassigned according to your will. You can also assign any midi-controller to every parameter of the Library.

To see the list of the set controllers for this or that parameter or to reassign them go to the page **Options\CC**.



In the left side of the page you see two drop-down menus – **Function** and **CC**. Having chosen the needed function determine the controller's number, with the help of which you would like to control the given function. In the right side of the page there is a table with the list of the controllers having assign already. All the changes that you make will be displayed in this table.

## KeySwitches reassignments

The reassignment of keyswitches is like controller`s reassignment. To reassign keyswitches as you like go to page **Option\KeySwitch**.



In the **Function** menu choose an articulation or other function which is available in this menu and reassign it a new keyswitch from the **Key** menu

In the right side of the **Options\Keyswitch** page there is a table displaying the keyswitches already assigned and all the changed that you have done.

To save your changes and use them in the future you have to resave Patch.

You can return all the by default controller`s settings even if you resaved Patch. Press the **Reset** button which is in the **Options\CC**.

There is a similar Reset button in the **Option\Keyswitch**.

## Attack\Nail

To change the attack in a sound use CC4 controller. By increasing the value of CC4, you will get the note's attack rid of the long nail's pick of the string. You can also set a value of the CC4 (Attack\Nail) on the **Option\Performance** page.

The sound remain in its unchanged when the value of this parameter equals 0.



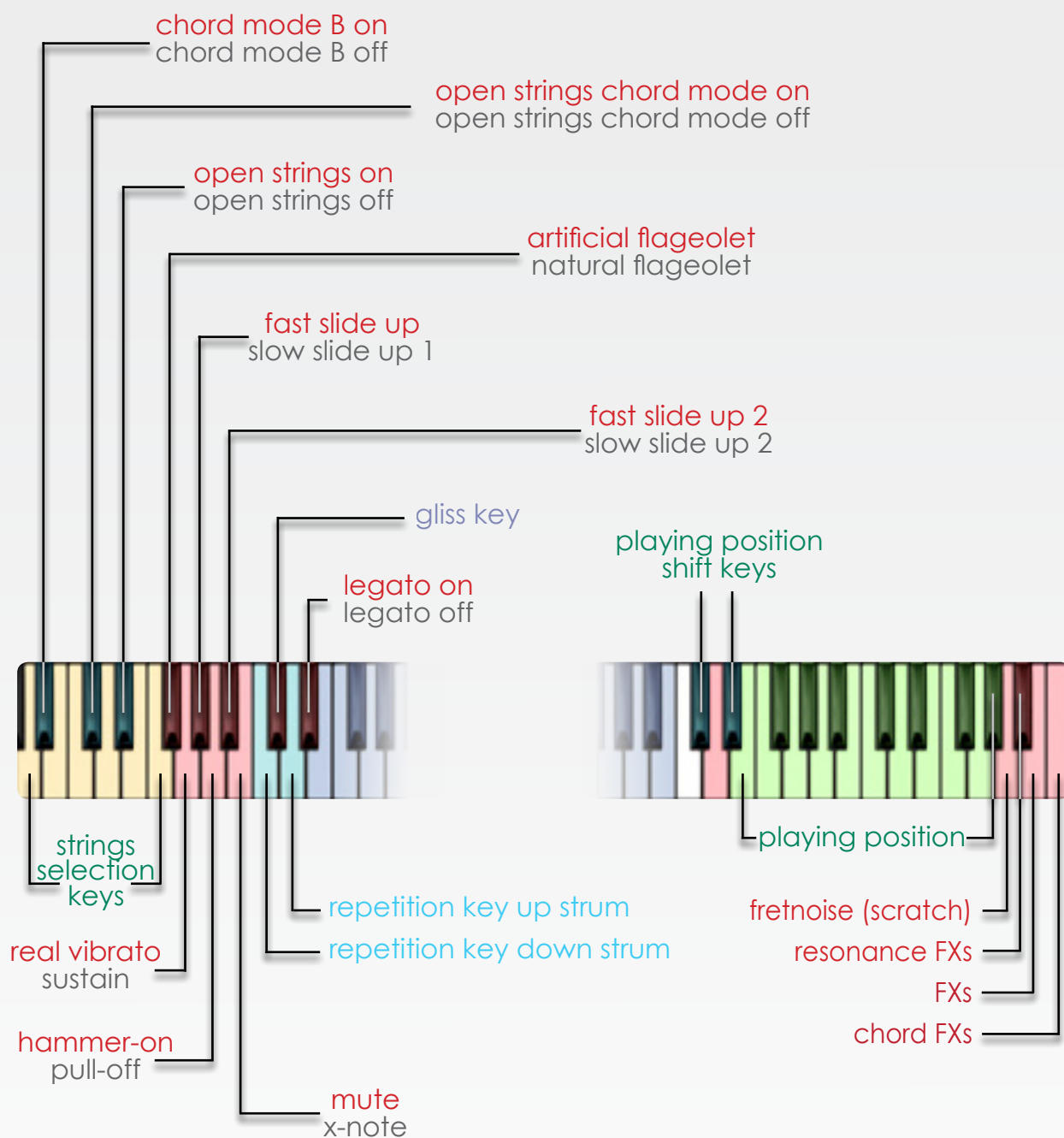
## Velocity intensity

Go to the **Options\Performance** page. The **Velo intensity** knob. This parameter changes the velocity sensitivity threshold of the whole Library.





## ILYA EFIMOV NYLON GUITAR



key	function
A-1	select string E low
A#-1 (high velo)	chord mode B ON
A#-1 (low velo)	chord mode B OFF
B0	select string A
C0	select string G
C#0 (high velo)	open strings chord mode ON
C#0 (low velo)	open strings chord mode OFF
D0	select string D
D#0 (high velo)	open strings ON
D#0 (low velo)	open strings OFF
E0	select string B
F0	select string E high
F#0 (high velo)	artificial flageolet
F#0 (low velo)	natural flageolet
G0 (high velo)	realistic vibrato
G0 (low velo)	sustain
G#0 (high velo)	slow slide-up 1 semitone
G#0 (low velo)	fast slide-up 1 semitone
A0 (high velo)	hammer-on
A0 (low velo)	pull-off
A#0 (high velo)	slow slide-up 2 semitone
A#0 (low velo)	fast slide-up 2 semitone
B0 (high velo)	x-note
B0 (low velo)	mute
C1	repetition key down strum
C#1	gliss key
D1	repetition key down strum
D#1 (high velo)	legato mode ON
D#1 (low velo)	legato mode OFF
C#5	down shift playing position
D#5	up shift playing position
E5 - G#6	select playing position
A6	fretnoise FX
A#6	resonance FX
B6	FX
C7	Chord FX



cc number	function
cc1	vibrato
cc2	vibrato mode
cc3	keyswitch threshold
cc4	attack \ nail
cc7	channel volume
cc10	pan
cc11	expression
cc14	open string mode on\off
cc15	legato mode on\off
cc16	reverb on\off
cc17	delay on\off
cc18	EQ on\off
cc19	compressor on\off
cc20	performance mode
cc21	chord mode A on\off
cc22	chord mode A time
cc23	chord mode B on\off
cc24	chord mode B time
cc25	chord mode on\off
cc26	open chord mode on\off
cc27	fret noise on\off
cc28	fret noisy frequency
cc29	legato range
cc30	strum time
cc31	velocity sensitivity
cc33	IR select
cc34	reverb send
cc35	reverb pre-delay
cc36	reverb return
cc37	IR size early
cc38	IR size late
cc39	IR low pass early
cc40	IR low pass late
cc41	IR high pass early
cc42	IR high pass late
cc43	delay time

cc number	function
cc44	delay damp
cc45	delay send
cc46	delay pan
cc47	delay feedback
cc48	delay return
cc49	EQ frequency band 1
cc50	EQ frequency band 2
cc51	EQ frequency band 3
cc52	EQ bandwidth band 1
cc53	EQ bandwidth band 2
cc54	EQ bandwidth band 3
cc55	EQ gain band 1
cc56	EQ gain band 2
cc57	EQ gain band 2
cc58	compressor threshold
cc59	compressor ratio
cc60	compressor output
cc61	compressor attack
cc62	compressor release
cc70	release on\off
cc71	release volume
cc72	release frequency
cc73	release time
cc74	release decrease
cc75	noise 1 on\off
cc76	noise 1 volume
cc77	noise 1 frequency
cc78	noise 1 time
cc79	noise 1 decrease
cc80	noise 1 on\off
cc81	noise 1 volume
cc82	noise 1 frequency
cc83	noise 1 time
cc84	noise 1 decrease
cc85	foley noise on\off

## Credits

Producer by Ilya Efimov  
Recorded at Alexandr Rusanov Studio  
Recording engineer by Ilya Efimov  
Script and design by Günter Hirscher  
Mix and Presets: Ilya Efimov and Mark Erman Production  
Guitar by Maxim Kartashov  
Manual design by Ilya Efimov

## Special thanks to:

Gunter Hirscher  
Alexandr Rusanov  
Maxim Kartashov  
Dmitry Kalyabin  
Anton Schwarz  
Sergey Grigoriev  
Mark Erman Production  
Vera Salnikova  
Helene Kolpakova (aka Elle)  
Sergey Pervov (aka Vosk)  
Eduardo Tarilonte  
Sergey Avilov  
Maxim Rybakov  
Igor Durachkin (aka Slade)  
Elena Moiseeva