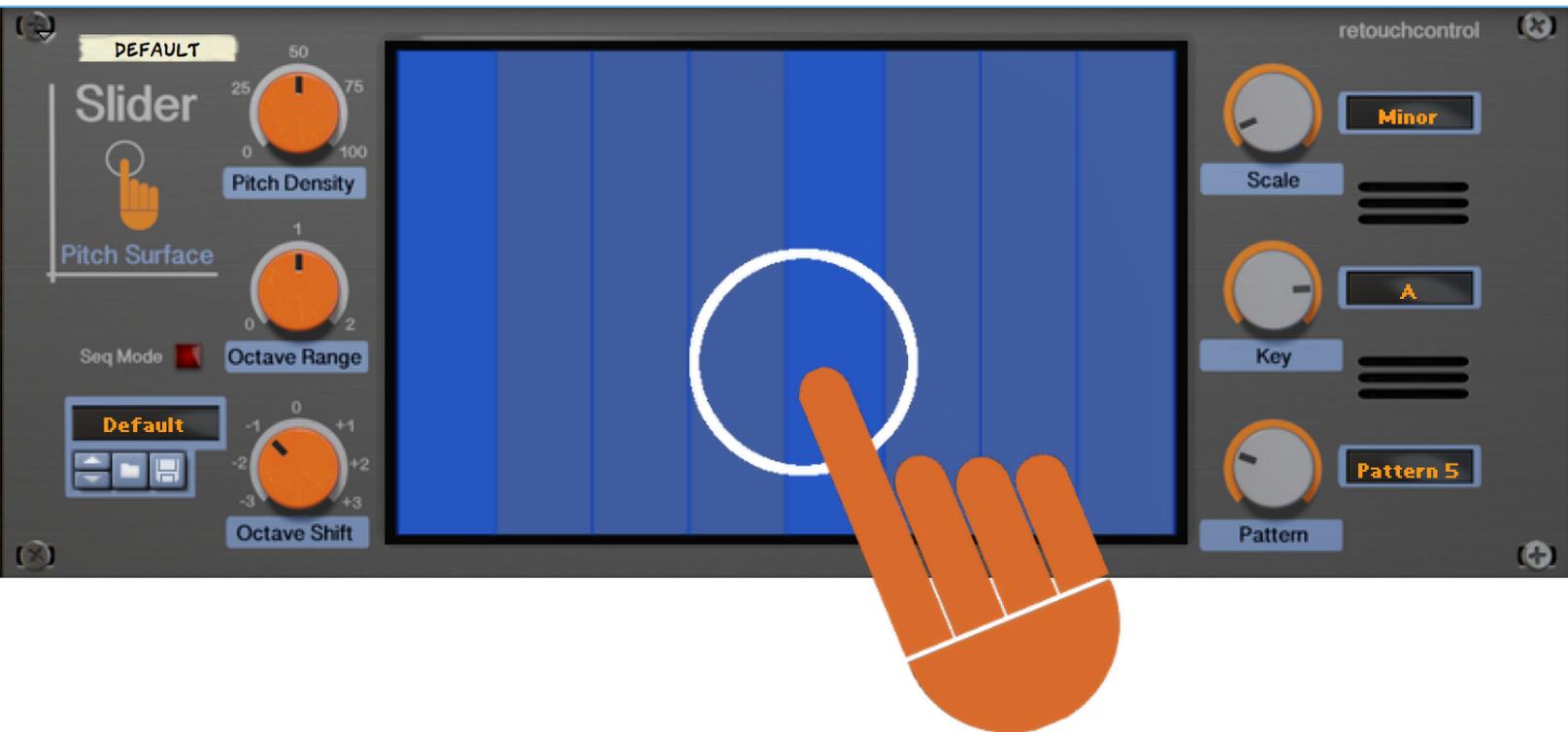# Slider Pitch Surface

Rack Extension for Propellerhead Reason

USER MANUAL
version 1.0.2

Table of Contents

1. Introduction to Slider

Slider is a utility device for the Reason rack which takes inspiration from Propellerhead's Figure iOS app. Just like in the app, you play instruments by moving over a pitch surface which contains a selection of notes from a given scale. This is a fast, intuitive, and fun way to create lead and bass lines.

Instead of your finger, in Slider you use the mouse cursor to move over the pitch surface (unless you have a touch screen or have mapped the device to an external XY pad!).
The rhythm of the lines is chosen from a set of 16 selectable patterns which are identical to the ones found in the Figure app. Additionally, an external Gate input allows you to use your own patterns from other rack devices, like Thor's step sequencer or the Matrix sequencer for example.

The pitch surface can be configured in a variety of ways: you can control the octave range, the scale, the key and the density of the notes. All these parameters can be automated in the Reason sequencer thus expanding the range of musical lines which can be created.

Slider does not produce any sounds on its own. You need to connect its Note and Gate CV outputs to the CV and Gate inputs of an instrument like a synth or sampler.

The device is capable of outputting the horizontal and vertical position of the mouse movements as CV, so that you can alter the parameters of the device you are playing as you slide the cursor over the pitch surface.
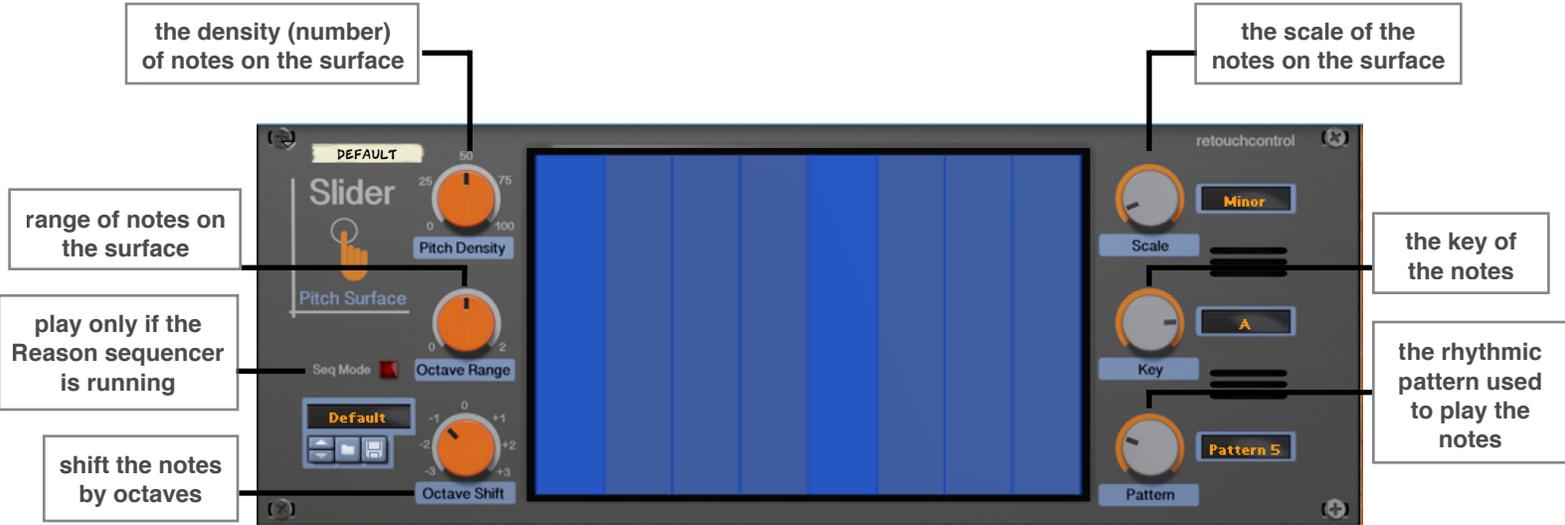
anatomy of the device

2. Set Up

In order to play Slider, you will need to connect its CV outlets to the gate and note CV inlets of the sound module which you intend to trigger. The image below shows the connections between Slider and the Subtractor synthesizer (see the yellow squares).
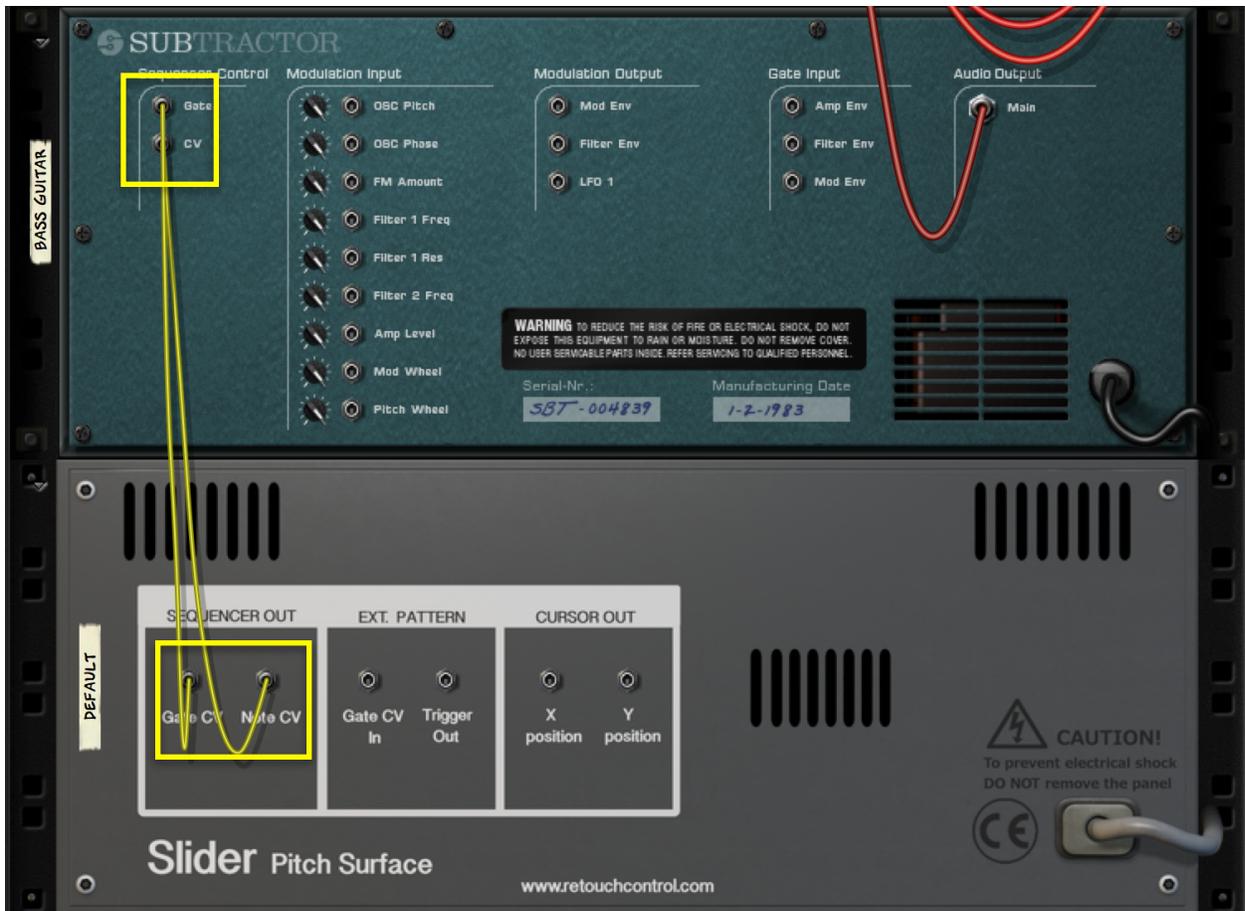
connecting Slider to a sound module (Subtractor)

3. Usage

In the following sections we will investigate how to use Slider.

3.1 Setting up the pitch surface

There are multiple controls to customize the pitch surface. Let's take a look at each one.

3.1.1 Pitch Density

Adjusting the pitch density will increase or decrease the number of notes on the pitch surface. If you turn the pitch density all the way to zero, only the tonic note of the chosen scale will be present. Gradually increasing the pitch density will add more notes in this order:

<div align="center">1 -> 5 -> 6 -> 3 -> 2 -> 4 -> 7 -> 8 -> 9 -> 10 -> 11 -> 12</div>

Here the numbers represent the order of the note in the chosen scale.

For example, let's assume we are working in the key of C major. The first note of the scale is obviously C. The second note in the sequence indicated as "5" will be the 5th note in the scale, that is G. The third note indicated as "6" will be A, the fourth note indicated as "3" will be E, and so on.
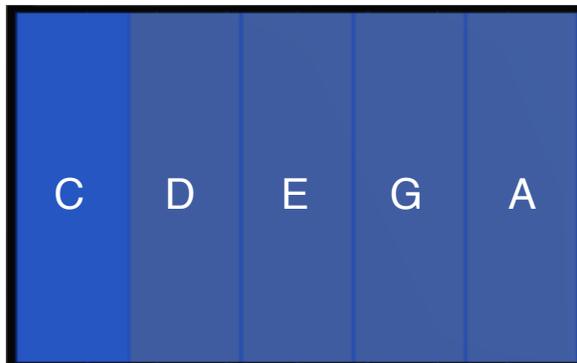
Obviously, in the case of a diatonic scale like C major, there are only 7 notes so the sequence above will stop at the number "7". For scales with only 5 notes, like the pentatonic scale, the sequence above gets modified as follows:

<div align="center">1 -> 5 -> 3 -> 2 -> 4</div>

The tonic notes of the chosen scale are shown in a darker shade of blue.
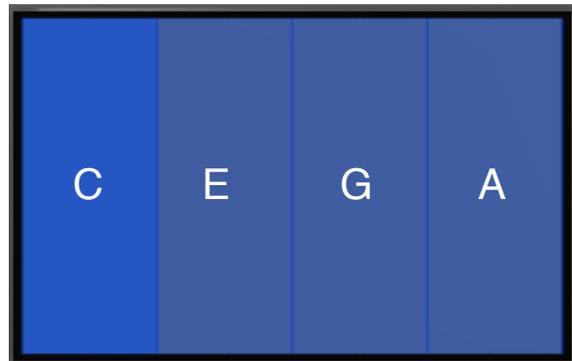
C major scale notes at 50% pitch density

C major scale notes at 75% pitch density

C major scale notes at 100% pitch density

3.1.2 Octave Range

So far we have talked about changing the number of notes with the pitch density knob. This seems to be affecting only the notes in one octave. What if we want notes from more than one octave? That's what the Octave Range knob is for.

If we turn the knob to position 1, an additional octave will be added to the display. The notes in this new octave are the same ones as in the original one, but one octave higher.

If we then turn the knob to position 2, one more octave is added, and the notes are two octaves higher than the original ones. This is shown in the pictures below for the key of C Major:

C major scale notes with Octave Range at 0

C major scale notes with Octave Range at 1

C3 E3 G3 A3 C4 E4 G4 A4 C5 E5 G5 A5
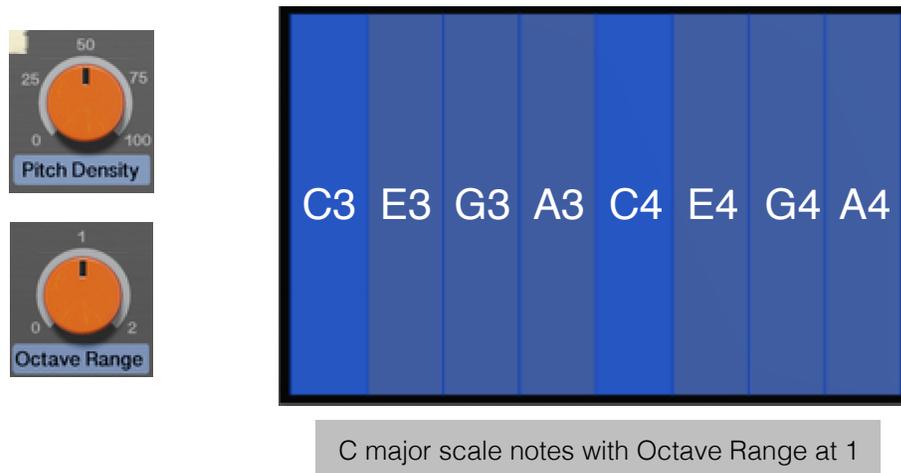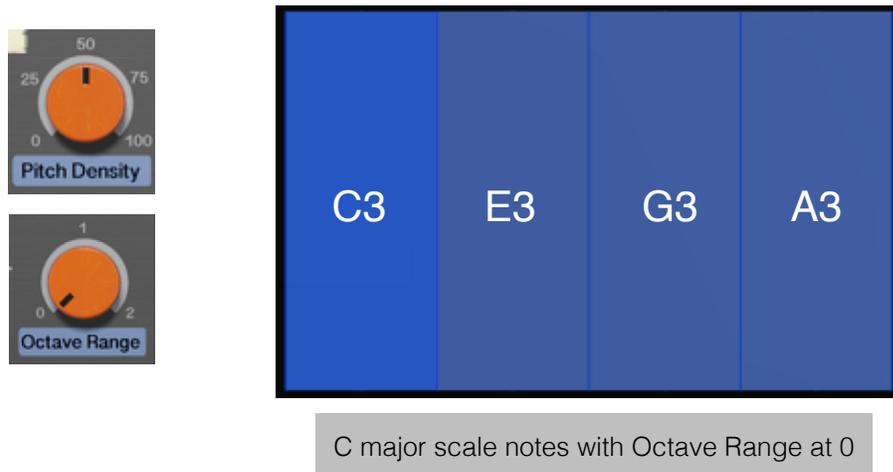
C major scale notes with Octave Range at 2

3.1.3 Octave Shift

By default, the starting octave is set to be the third octave (C3 to A3). You use the Octave Shift knob to shift the octave up or down, as desired. All notes currently present on the pitch surface will be affected. The illustration below shows few examples of this.


C2   E2   G2   A2

C major scale notes with Octave Shift at -1

3.1.4 Scale and Key Settings

It is possible to quantize the notes on the pitch surface to a specific scale and key. This is done with the Scale and Key knobs. There are a total of 25 selectable scale types which can be set with the Scale knob, and these include:

Chromatic, Major, Minor, Harmonic Minor, Melodic Minor, Dorian, Mixolydian, Lydian, Phrygian, Locrian, Super Locrian, Bhairav, Hungarian Minor, Minor Gypsy, Whole Tone, Minor Blues, Pelog, Minor Pentatonic, Major Pentatonic, Hirojoshi, In-Sen, Iwato, Kumoi, Diminished, Whole Half, Spanish

Once you have selected a scale type, you set the tonic note with the Key knob.
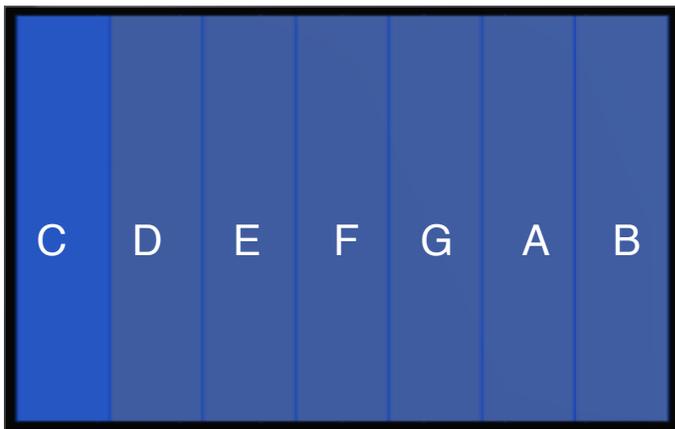

C major scale notes
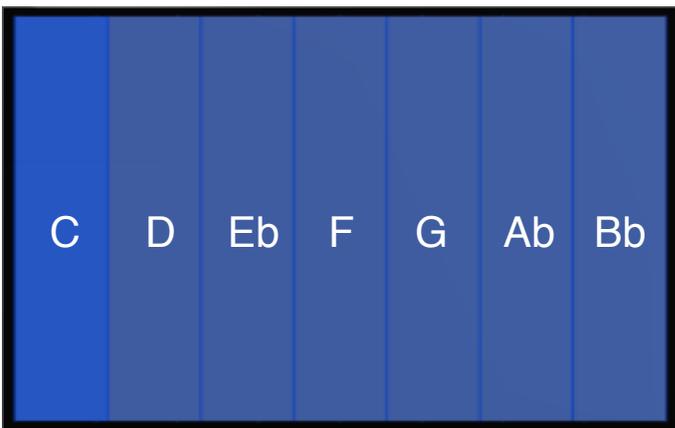
C minor scale notes

3.2 Choosing a Pattern

It's time now to choose a pattern. Basically, a pattern will dictate the rhythm used to play back the notes as the cursor moves over the pitch surface. You use the Pattern knob to select which pattern to play.

- The first 16 patterns are the same ones found in the Figure iOS app. Please note, these patterns are 1-bar long and work best in a 4/4 time signature. They are illustrated below:
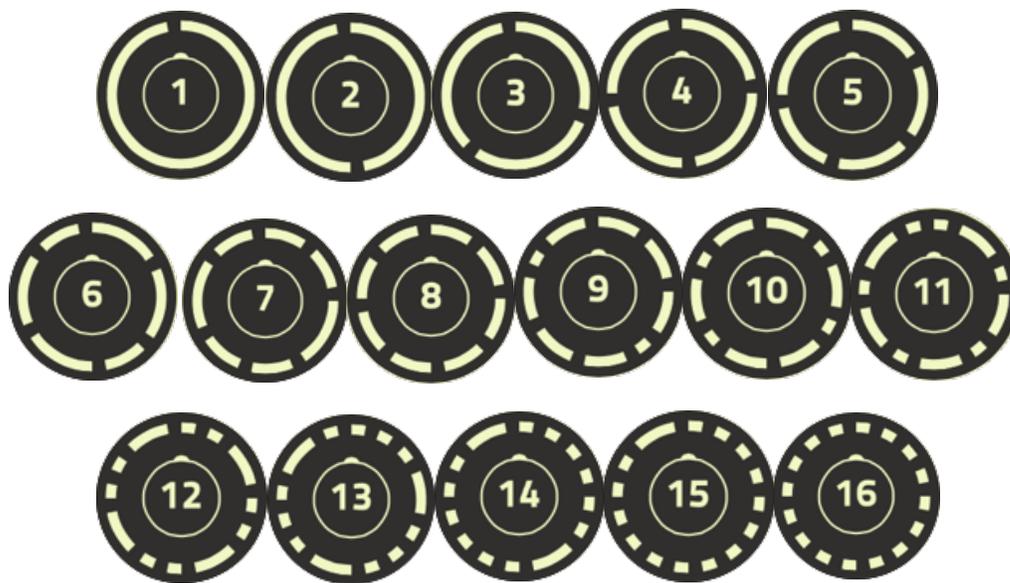

Stock Patterns 1-16

- The next selection "External" will allow you to use a gate input from other rack devices. You can use any pattern that you create with the Thor's step sequencer or the Matrix sequencer for example. Please refer to the "ExternalGate_Thor" and "ExternalGate_Matrix [RUN]" patches in the Combinator folder of the factory presets to see examples of how to set up the device for external gate input. This is also shown on the next page.

- The last selection is "Off". This will trigger notes when you click with the mouse and it will sustain the notes as long as you keep the mouse depressed without any patterns being played. An interesting application of this mode is to trigger and "strum" chords as you move the mouse over different pitches. Make sure to give it a try!
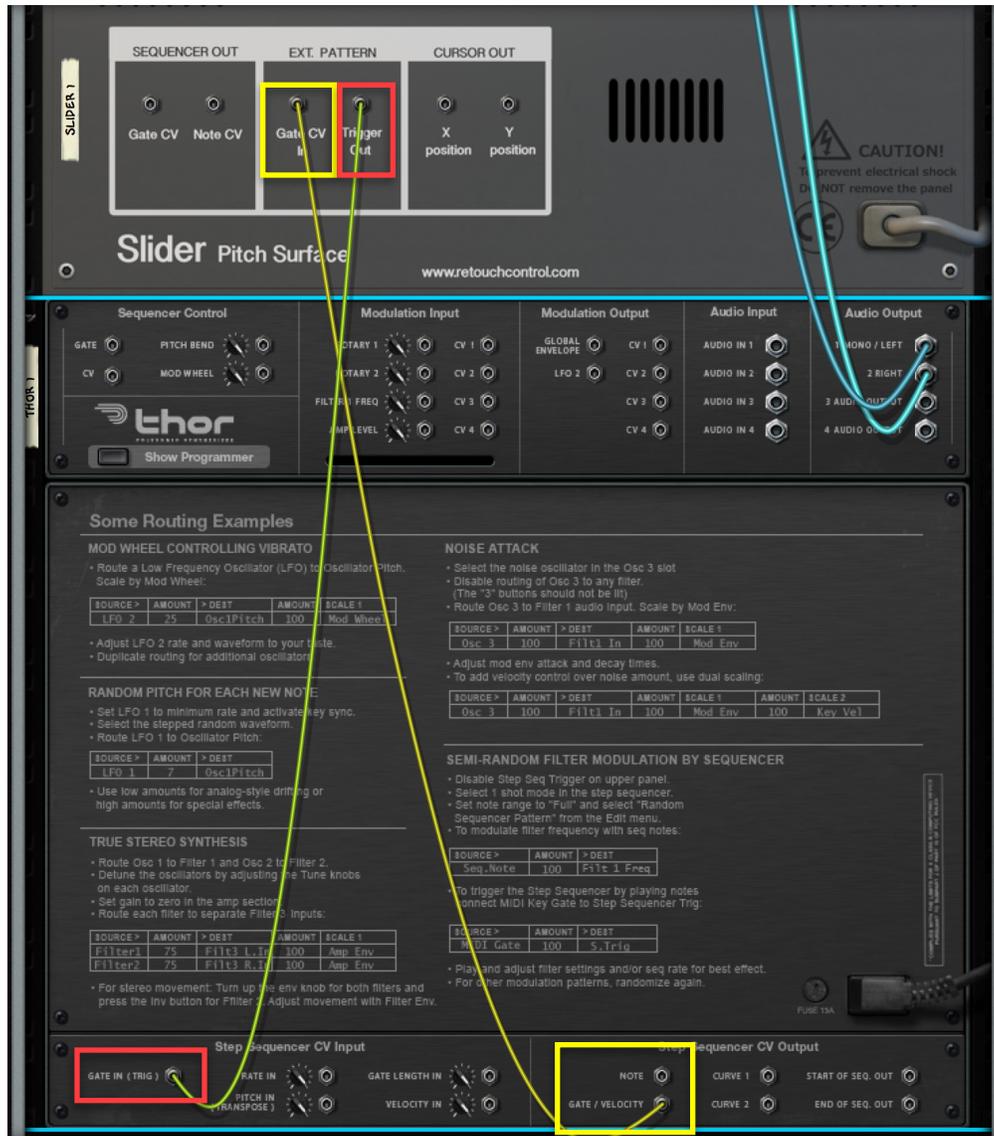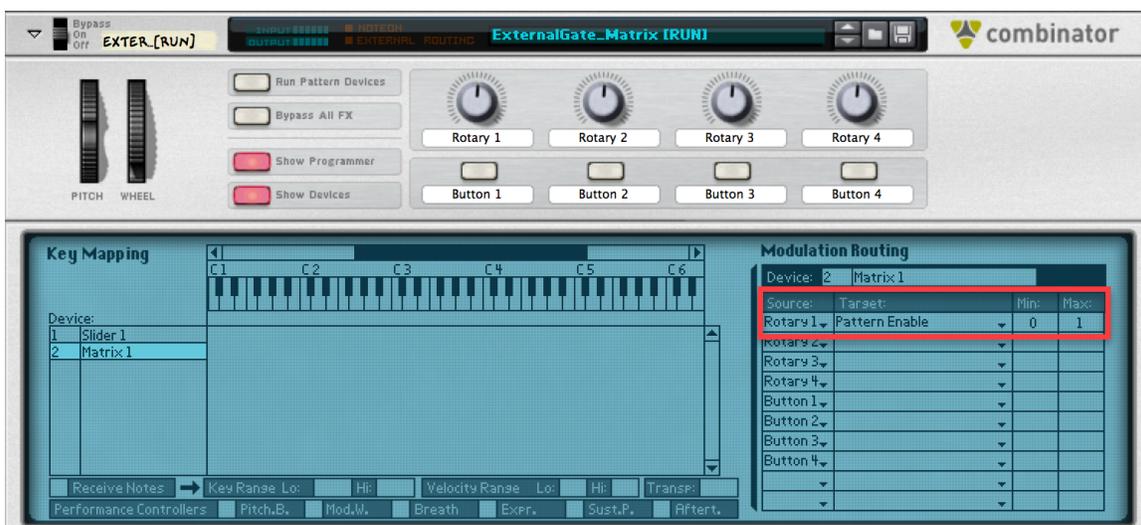
External Gate Input with Thor (back)


External Gate Input with Thor (front)
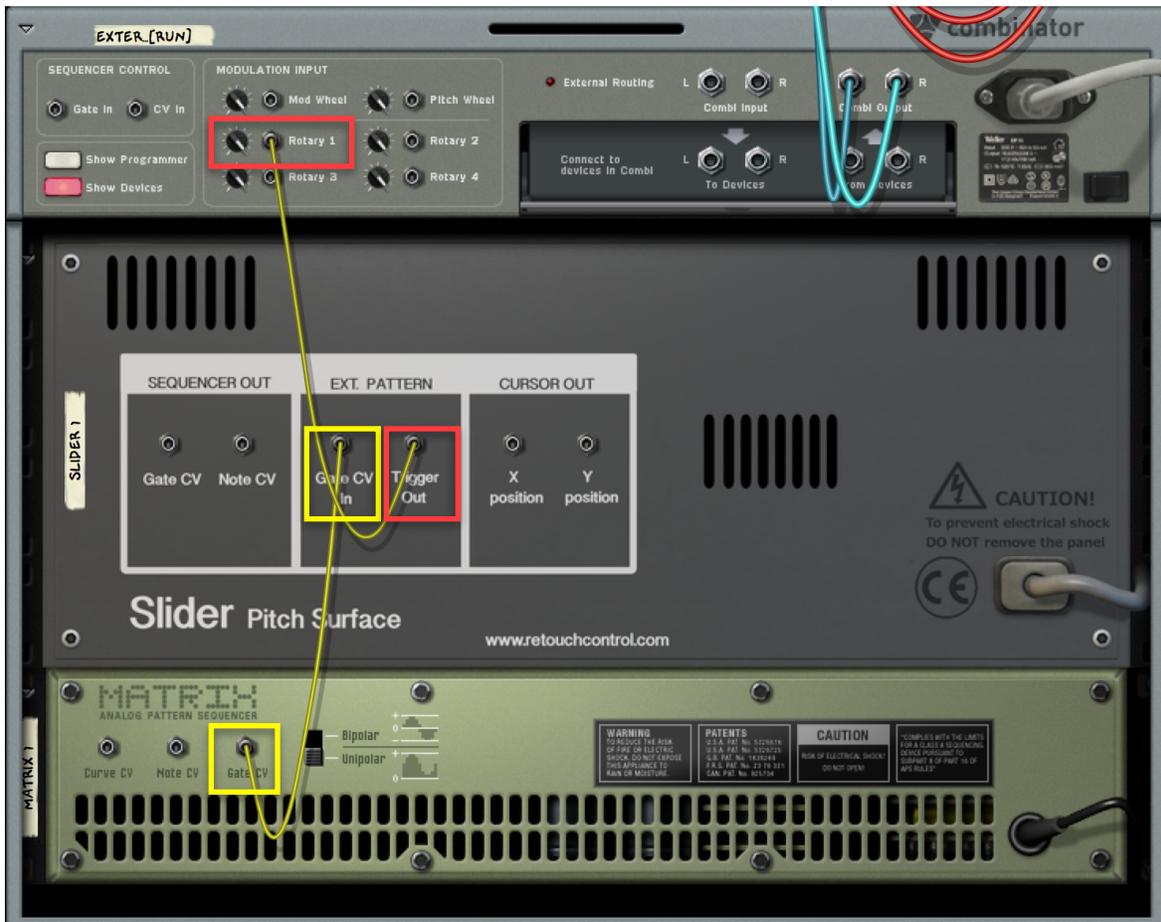
External Gate Input with Matrix (back)

External Gate Input with Matrix (front)

3.3 Playing Notes

To play notes, you simply position the cursor over the desired note in the pitch surface and then click with the mouse. A white circle will be drawn on the display to show that the note is active. To play another note while the pattern is still running, just slide the cursor to the new note. You can move this way up or down the octave(s) range. If you want the new note to restart the pattern, then you will have to release the mouse and click it again on the new note.
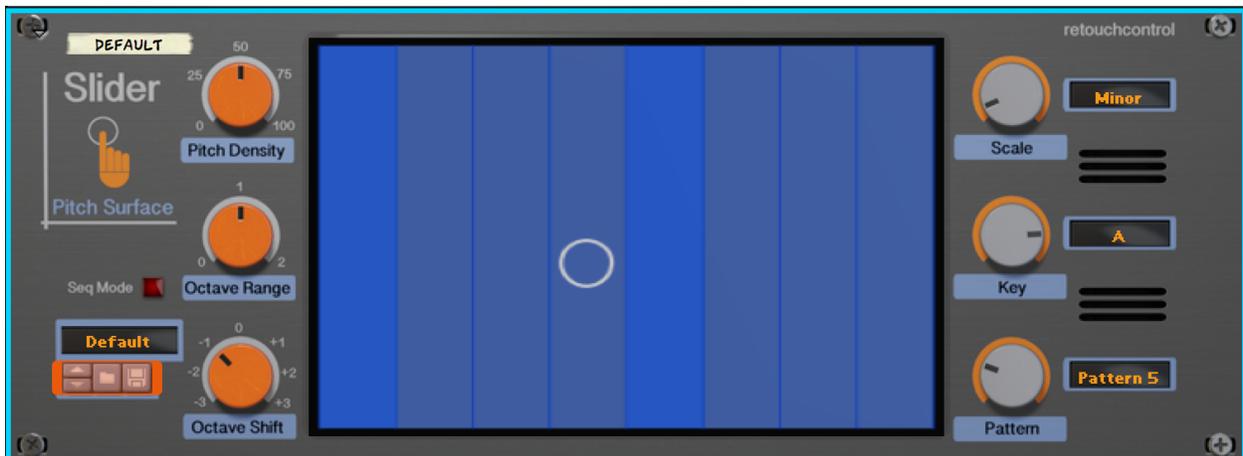

White circle when triggering notes
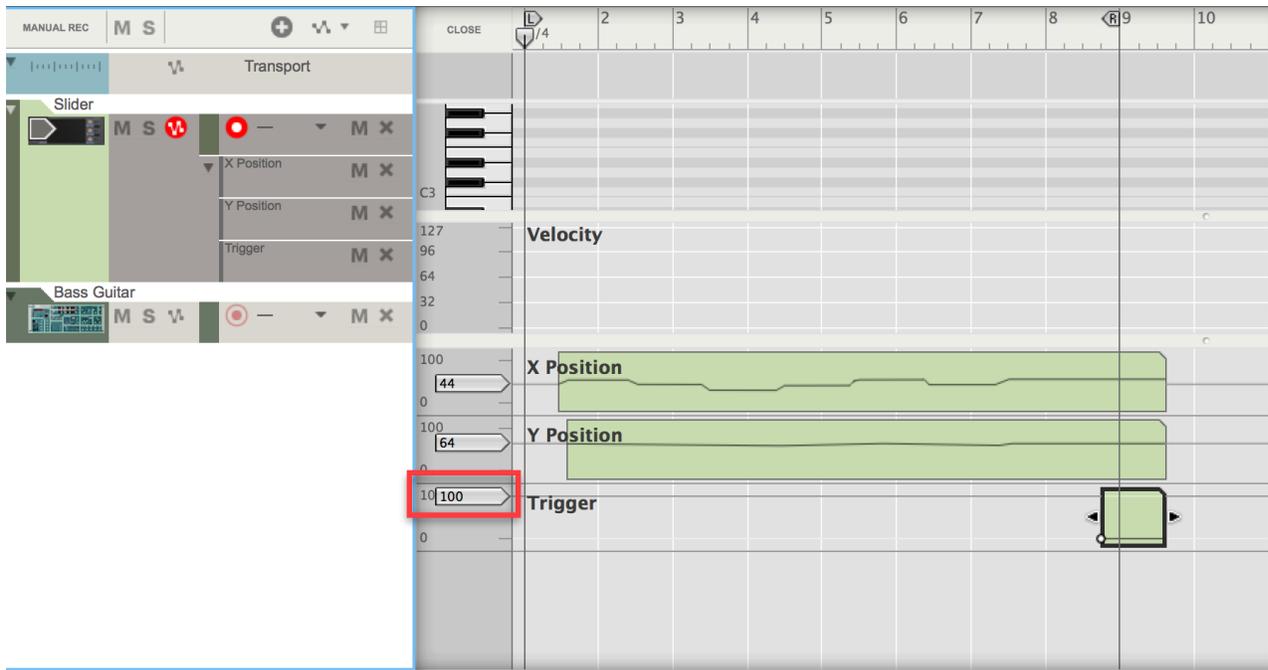
3.4 Recording your Performance

Every move you make on Slider can be recorded in the Reason sequencer. Just like for any other device, you need to engage the record button on Reason's transport to record your movements.

As you move the mouse cursor on the pitch surface, three things will be automated: 1) Trigger On/Off, 2) X position and 3) Y position. The first one is a recording of your mouse clicks, the other two are recordings of your cursor position over the display.

Please note, Reason only records changes to a parameter. So if you have the mouse clicked and Slider is playing before the record button becomes active, the Trigger ON will not be recorded, instead a Trigger OFF event will be recorded once you release the mouse. This is shown in the second image below.
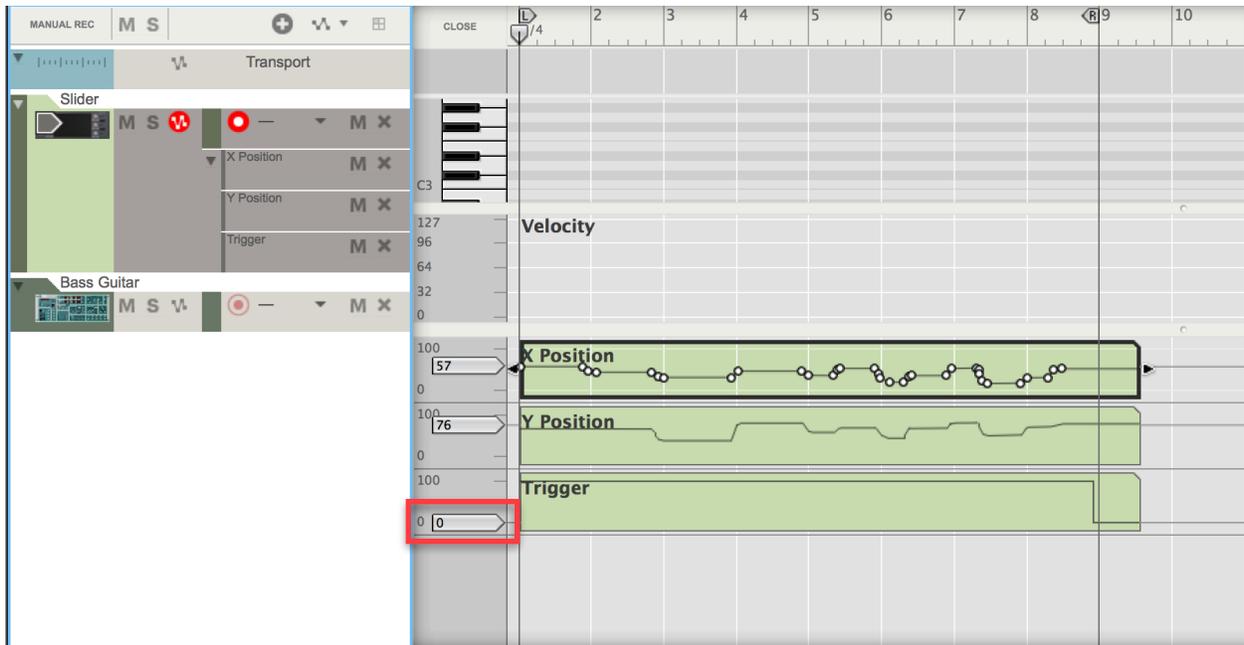

Trigger ON recorded with default value set to 0 (red square)
The mouse clicked at the same time as recording started

Trigger OFF recorded with default value set to 100 (red square)
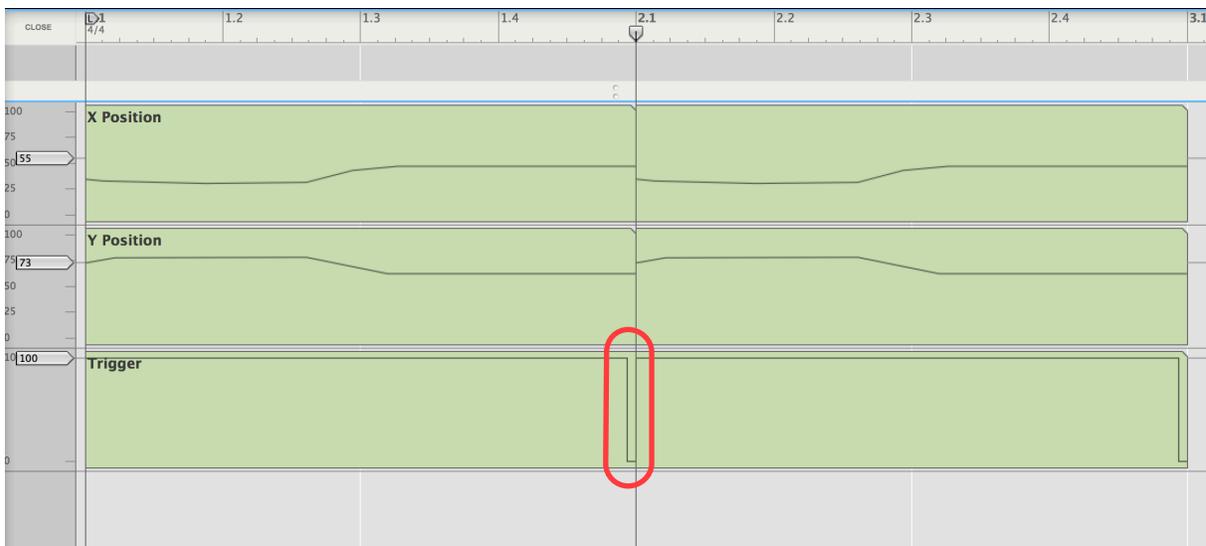The mouse clicked slightly before recording started

Once you have recorded your performance, it is important to note that if you move the playhead over a region in the sequencer where there is a Trigger automation clip with the value set to "100", Slider will play even if the Reason sequencer is stopped. This can be annoying especially when editing. In order to stop Slider from playing, engage the "Seq Mode" button. In this mode, Slider will play only when the Reason sequencer is running.
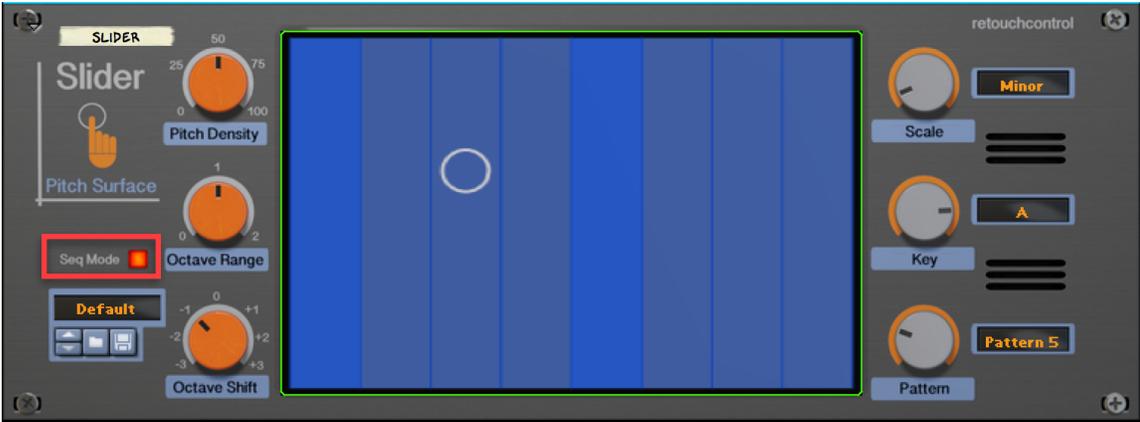
Seq Mode button engaged

For the best result when recording and then playing back your performance, here are some important things to keep in mind:

1) the internal sequencer in Slider starts running as soon as there is a Trigger ON event. Let's say that you have recorded a performance which is 2 bars long and the pattern starts playing right at the beginning of the first bar. If you move the play bar halfway in bar one, and then start playback from that position, the pattern will sound wrong because it now starts from halfway in bar one, and not from the beginning of the bar. In order to avoid these sorts of problems, please always start the playback before the Trigger ON event!

Incorrect Start Position for Playback: pattern will not playback as recorded

Correct Start Position for Playback: pattern will playback as recorded
Please note the Trigger OFF event before the playhead position
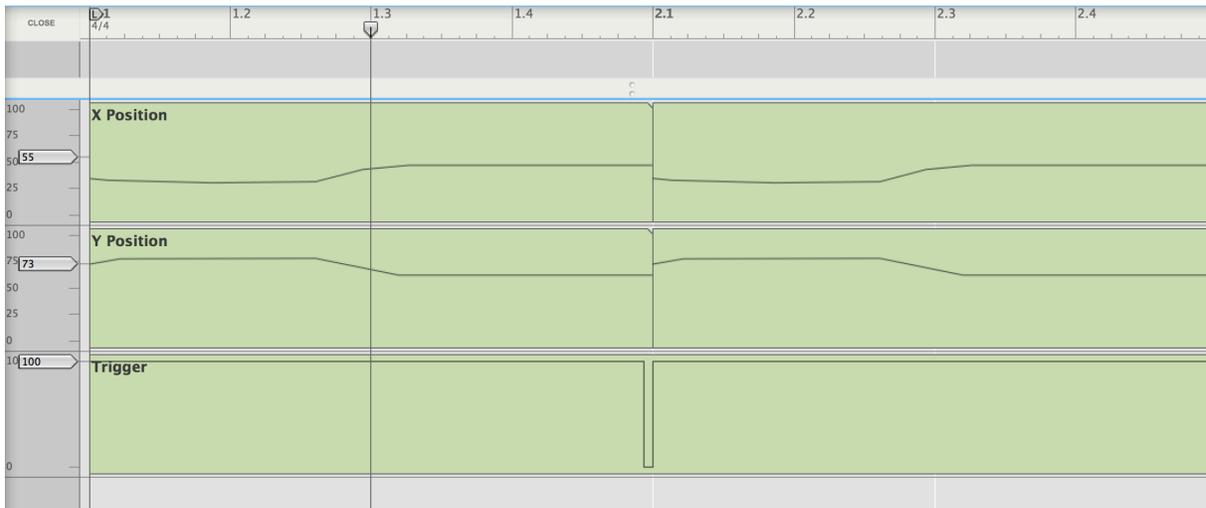
2) If you want to tie the pattern to the Reason timeline, the solution is to use a Matrix sequencer as the gate input for the pattern. This will eliminate any of the issues described in 1). Check the "Combinators" folder in the device factory patches. Here you will find combinators which use Matrix to reproduce the internal patterns 1-16.
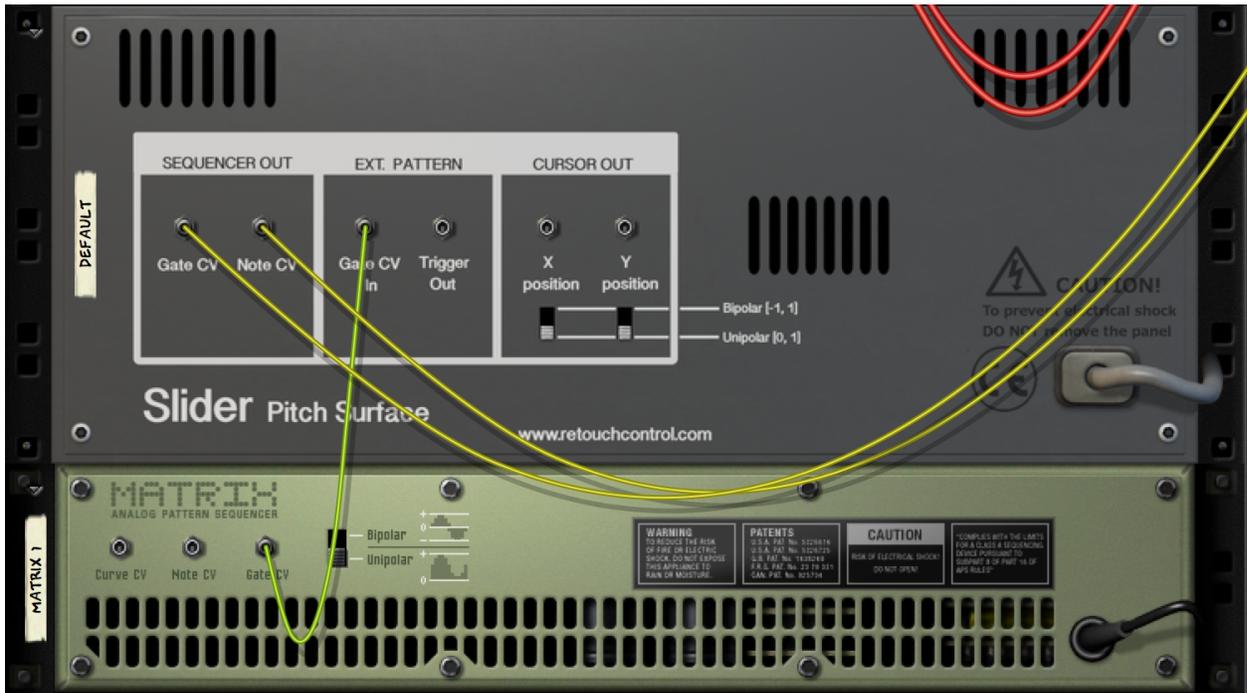

Use the gate input from Matrix this way for best sync with the Reason sequencer

3.5 Parameter Automation

All the knobs on the device can be automated in the Reason sequencer. Once you record your performance, try automating the various parameters to create variations. For example, try automating the Pattern selection, the Pitch Density, the Octave Range and Shift.
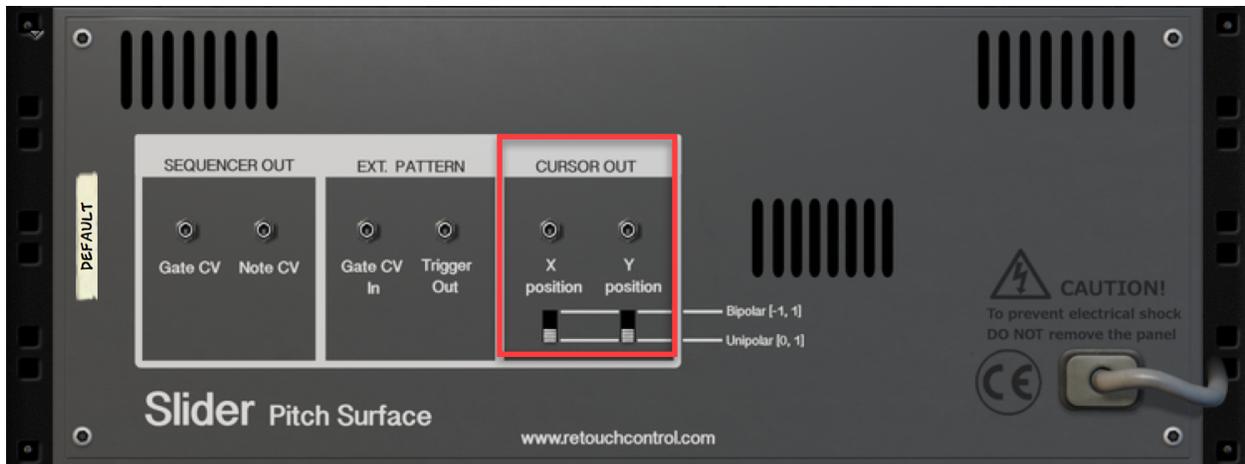
3.6 X and Y position CV outs

To add nuances to your performance, try using the X and Y position CV outs. These can be connected to the CV ins of a connected instrument or effect. The position CV is sent out as either a unipolar value between 0 and 1, or as a bipolar value between -1 and 1. This is controlled from polarity switches in the back of the device and can be conly for
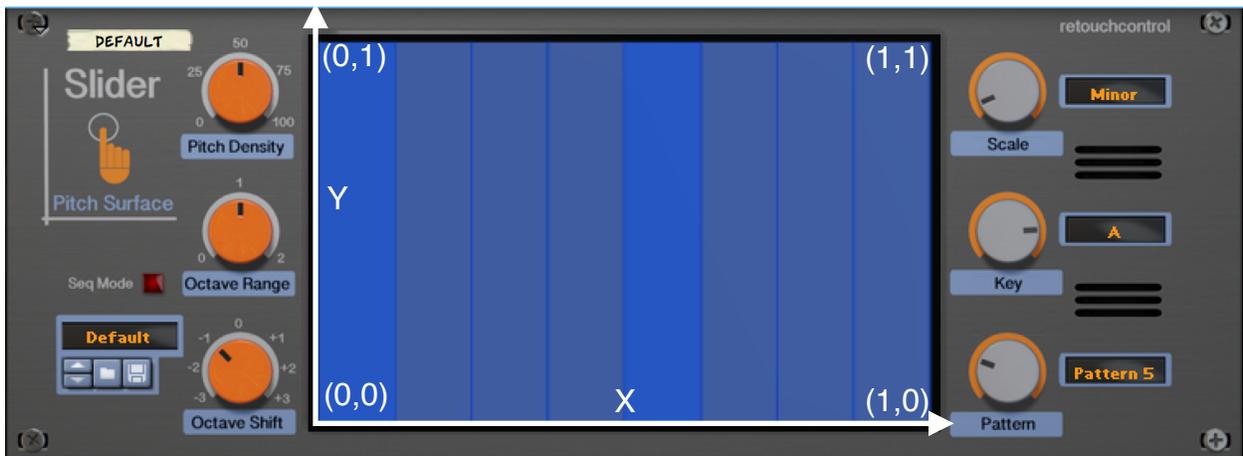
X and Y position CV values - Unipolar
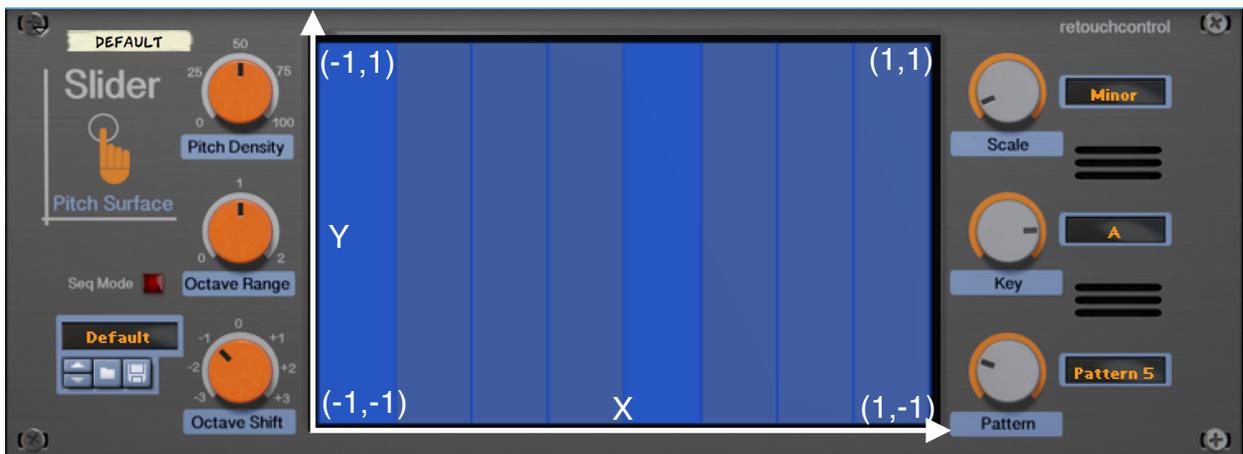

X and Y position CV values - Bipolar

X and Y position CV outlets & polarity switches

3.7 Remote control

It is possible to play Slider with a midi controller via Remote overrides. You will need to assign the Trigger, the X and Y positions to your midi controller, ideally a touch pad which can send MIDI when pressed, and when you slide your finger in the x and y directions.

To Midi learn the parameters, enable "Remote Override" mode from the Options menu in Reason. Once you select Slider, you will see several arrows on the top left corner of the display area. To make an assignment, select an arrow and right click on it.

If you are learning a touch pad, it might difficult to separate the different midi messages for pressed, the x and y positions. Therefore it is probably best when you learn the parameters that you uncheck the "Learn from Control Surface Input" box. Then you can manually select from the top menus the control surface and the specific CC control message for the press, the x and y positions separately.

Remote overrides

assign your midi controller from here

uncheck this box
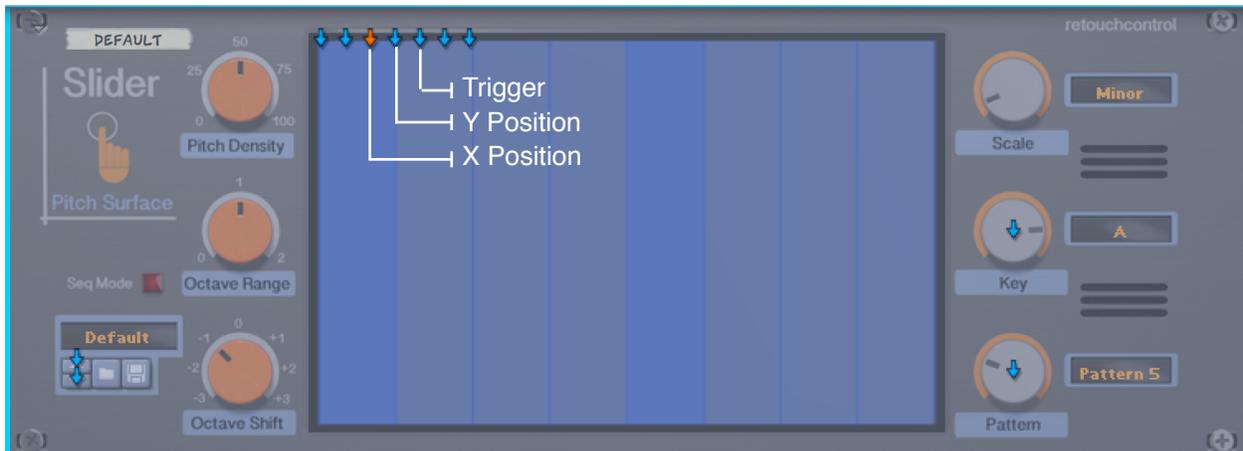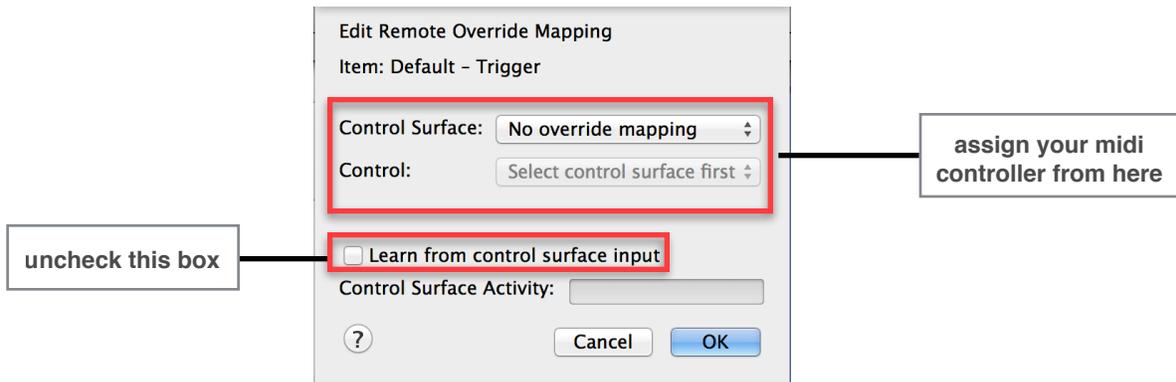
4. Remotable Items

Slider can be fully controlled from an external MIDI controller via Remote. The remotable items and their names are listed below.

//**
//Start of Remote Map for Slider by Retouch Control

Scope Retouch Control   com.retouchcontrol.Slider

//Map _control_   Trigger
//Map _control_   X Position
//Map _control_   Y Position
//Map _control_   Pitch Density
//Map _control_   Octave Range
//Map _control_   Octave Shift
//Map _control_   Scale Type
//Map _control_   Key
//Map _control_   Pattern

//End of Remote Map
//**

5. MIDI Implementation Chart

CC   Parameter

[12] = "Trigger",
[13] = "X position",
[14] = "Y position",
[15] = "Pitch Density",
[16] = "Octave Range",
[17] = "Octave Shift",
[18] = "Scale Type",
[19] = "Key",
[20] = "Pattern",