Renoise Quickstart Guide
http://www.renoise.com/

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Main Screen

A screenshot says a 1000 words, so let's start with this one:
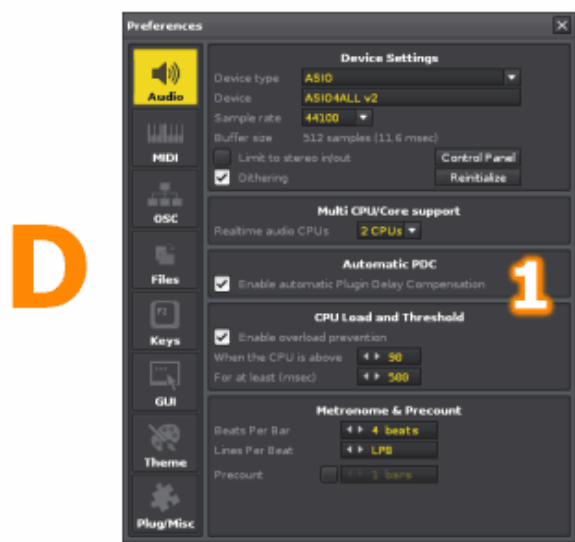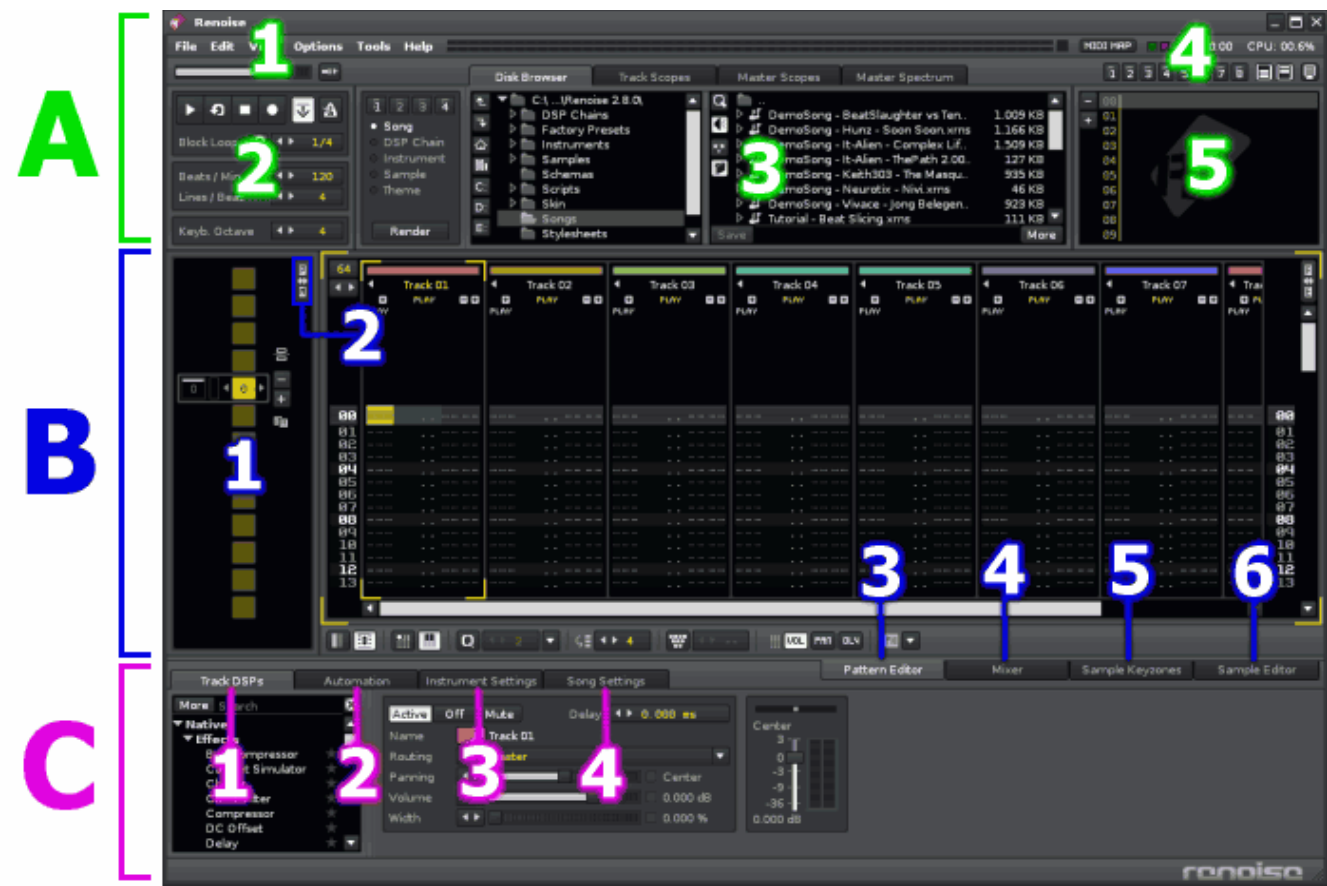
Renoise's main screen is divided into three sections: The top frame **[A]**, the central frame **[B]**, and lower frame **[C]**. The top and lower frames can be hidden by clicking on the Frame icons at **[A4]:**

Upper Frame (A)

1. Main Menu
2. Player Control Panel
3. Disk Browser & Scopes
4. Buttons for Screen Layout Operation
5. Instrument Selector

Middle Frame (B)

1. Pattern Sequencer
2. Pattern Matrix
3. Pattern Editor
4. Mixer
5. Sample Keyzones
6. Sample Editor

Lower Frame (C)

1. Track DSPs
2. Automation
3. Instrument Settings
4. Song Settings

Optional Panels (D)

1. Preferences
2. Render to Disk (for registered users only)
3. Midi Mapping

Keyboard & Mouse

Using the computer keyboard as a musical keyboard

In Renoise, the computer keyboard can be used as a musical keyboard; like a piano. Please familiarize yourself with the following keyboard layout:
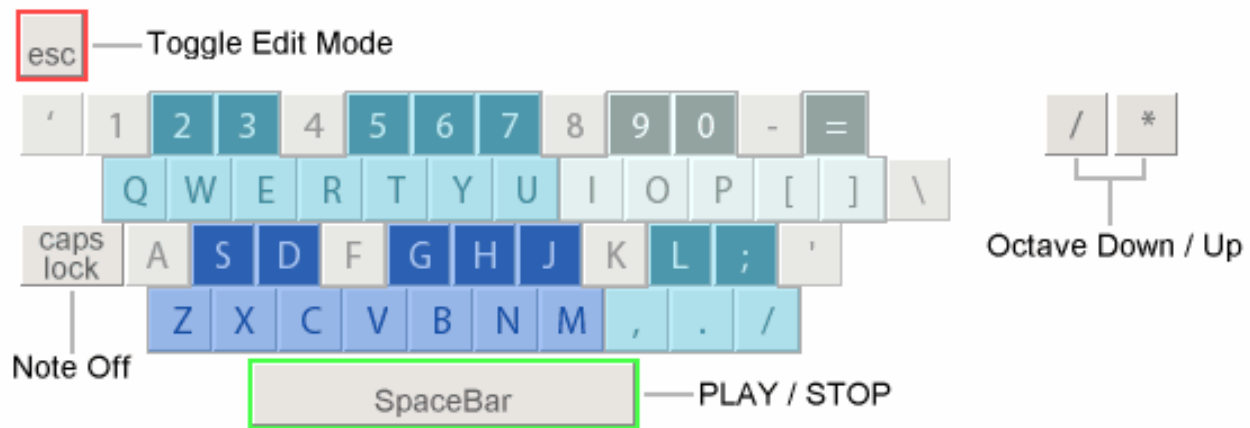
Mouse operations

Using the mouse, you can click buttons and move sliders in the Renoise GUI. You can use the mouse wheel as well. Here are some common mouse operations:
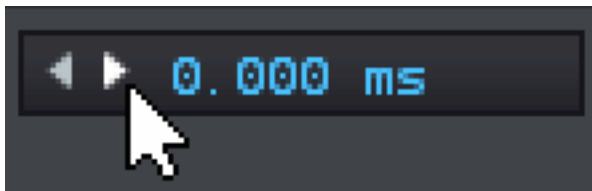
If you click the right/left arrow button, the numerical value goes up and down.

If you **right-click** the arrow button, the numerical value goes up and down in increments of 10.
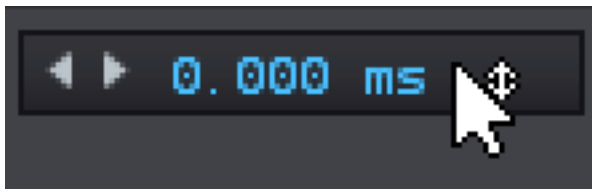
If you drag up or down on the value, the numerical value goes up and down.

If you drag up or down on the value with the **right mouse button**, the numerical value changes in bigger increments.
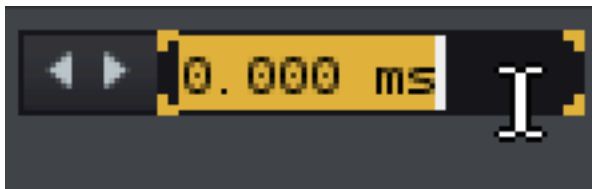
It is also possible to double click a numerical value and input the value directly.

At the top are the view preset buttons. These are used to store your favorite view states.

To store the view, right-click the button.
To recall the preset, left-click the button.

If you right-click on the screen, **a context menu** will open. If you get lost during an operation, try to open the context menu. It's usually very helpful.

Since the **shortcut key** is displayed on the right of each listed item, it's easy to memorize shortcut keys.
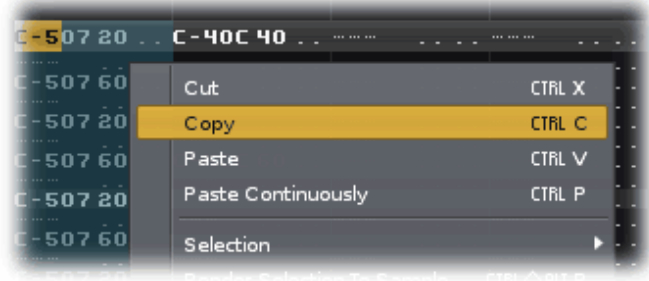
Listening to Demo Songs

How to

1. Start Renoise

When you start Renoise for the first time, you will see this screen:

2. Open the Disk Browser

In the image above, **[A-3]** is called the Disk browser. It's used to load and save files. If any of the "Scopes" are displayed, please click the "Disk Browser" tab:
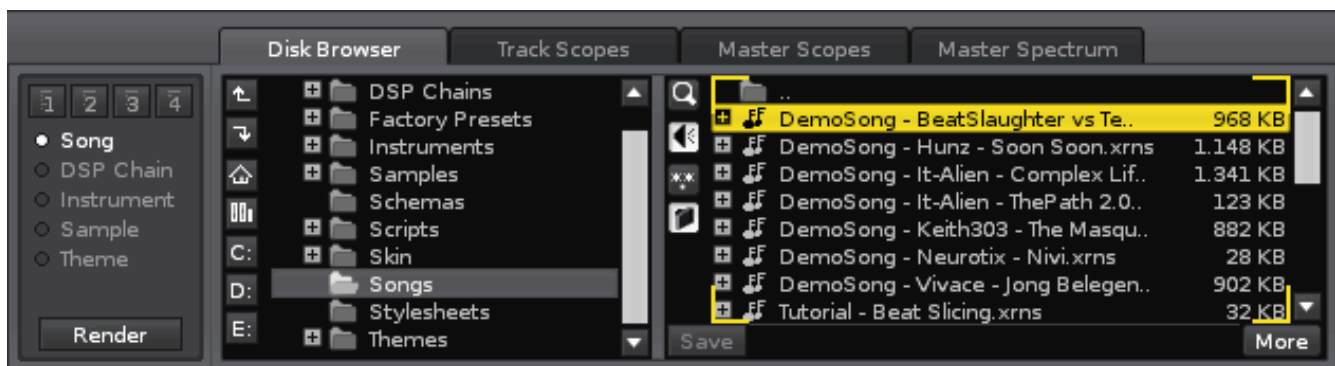
3. Load a Demo Song

If this is the first time you are using Renoise, then you should see the demo songs listed on the right. By double clicking on the demo song of your choice, it will be loaded.

If you don't find any demo songs, see "Locating the Demo Song folder" below.

4. Play

To listen to the tune, press the **[Spacebar]** on your computer keyboard. To stop, press the **[Spacebar]** again. Easy, isn't it?

Locating the Demo Song folder

You may have lost the directory in which the Demo Songs are contained while clicking around profusely. If that's the case, here's how to get back to the Demo Song folder:

1. Open the Disk browser

2. Select "Song" in the category selector on the left

3. Click the **"Library icon:"**

Each category has its own library of defaults. If you click the Library icon there will be instruments, themes, and other goodies for newbies to experiment with.

Optionally, there's the **"Tutorial and Demo Songs"** menu in **"Help"** from the **Main menu**. You can load the Demo Songs from there, too.

Loading & Saving

How to load and save various files

Disk Browser

Activate the Disk Browser. If any of the the "Scopes" are displayed, click the tab called "Disk Browser."
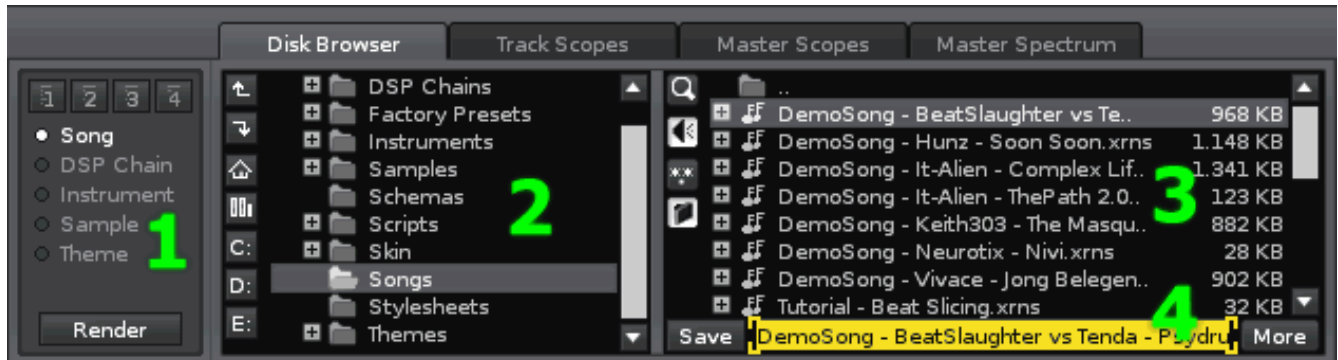
Selecting a category

On the left side in the Disk Browser (**[1]** in the image above) are five categories.

- **Song:**
  The song files made by Renoise (XRNS)
- **DSP Chain:**
  You can save your favorite effect chains (XRNT)
- **Instrument:**
  The instruments made by Renoise (XRNI)
- **Sample:**
  Generic sample files (WAV, AIF, OGG, FLAC, MP3 ...)
- **Theme:**
  You can save your favorite color settings for Renoise

Choose your categories accordingly.

Example) Load a song

Choose the "Song" category at **[1]**, open your song folder at **[2]**, your song files will be listed at **[3]**. Double click the song which you want to load.

Example) Load a sample

First, choose an empty slot in the instrument selector (We have selected 00 in the image below). The sample will be loaded there:

Choose the "Sample" category at **[1]**, open your sample folder at **[2]**, your sample files will be listed at **[3]**. Double click the sample which you want to load. The file will be loaded into the selected instrument slot.

If the Pre-hear icon is turned ON, you can pre-hear samples by clicking once instead of twice.

Hint! It's possible to load a sample while having chosen the "Song" category, and vice versa. It's not always necessary to choose the appropriate category when saving, but you should be aware of what is going on and make sure you aren't saving the wrong types of files in the wrong places.

Example) Save a song

Choose the "Song" category at **[1]**, open your song folder at **[2]**, the contents of the folder will be displayed at **[3]**. Type a file name in **[4]**. Press the **Save button**.

Example) Save a sample

Choose the "Sample" category at **[1]**, open your Sample folder at **[2]**, the contents of the folder will be displayed at **[3]**. Type a file name in **[4]**. Press the **Save button:**

Hint! Renoise's Library directories are write protected and disallow you from overwriting files. You must make your own folder in a separate directory to manage your own songs and samples.

You can also load and save songs via the File menu's "Open Song" and "Save Song" entries.

Drag and Drop

An easy way to load files is to drag and drop them into Renoise. Try it!
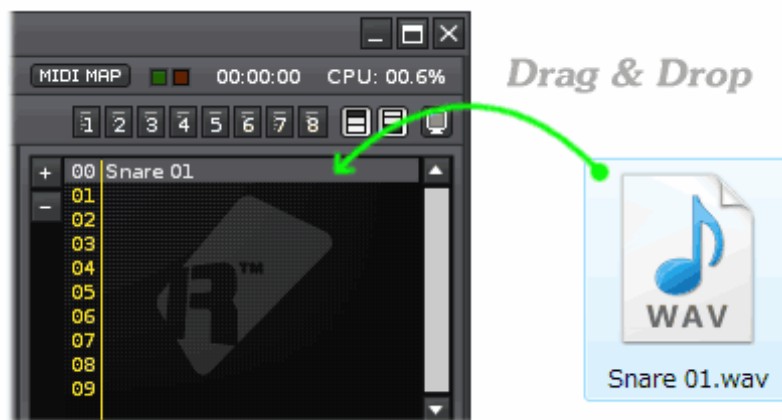
Directory Management

Notice the four buttons at **[1]**. You can assign favorites with these buttons. To do so, right-click on one of the four buttons. You can recall your favorite at any time by left-clicking:
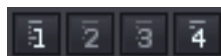
As mentioned previously, newbies can always use the **Library button** to find defaults and presets in order to experiment:

The Pattern Editor

Pattern Editor

The Pattern Editor is probably the first thing you saw when you started Renoise. It's also Renoise's most important and distinguishing feature. It's in this editor that all our sounds are transformed into a song. In-depth information about the Pattern Editor is available in the Renoise Tutorials Wiki. For now, keep reading and randomly punching keys on your keyboard until something makes sense. Just kidding, maybe.

Important things to remember:

- Press the **[Esc]** key to toggle **Edit Mode**;
  You can't type in anything without first pressing **[Esc]**.
- Press it again to exit Edit Mode; and avoid overwriting all your work by accident.
- The **[Caps-Lock]** key is used for **NOTE-OFF**
- Right-clicking in the Pattern Editor brings up a contextual menu.
- The shortcut for **UNDO** is [Ctrl+Z] on Windows, [CMD+Z] on a Mac.
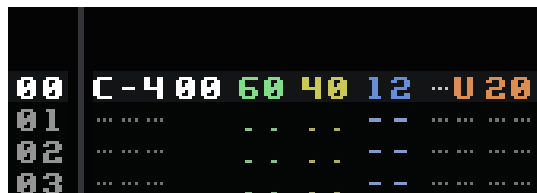- The shortcut for **REDO** is [Ctrl+Y] on Windows, [Shift+CMD+Z] on a Mac.
- The [Tab] key moves the cursor to the right, [Shift+Tab] moves it to the left.
- Yes, it's true, the **[Caps-Lock]** key is used for **NOTE-OFF**.

What do all these numbers mean?

Load up a demo song, stare at a line, let's deconstruct:

Imaginary line, just pretend it exists.

- **C-4** : Note and octave.
- **00** : Instrument number. This number corresponds to a matching Instrument in one of the Instrument slots.
- **60** : Volume (or velocity). A HEX number between 00-80 where 00 is the minimum and 80 the maximum.
- **40** : Panning. A HEX number between 00-80 where 00=Left, 40=Center, and 80=right.
- **12** : Delay. A HEX number between 00-FF.
- **U20** : Effect. In this case U means slide pitch Up and 20 is the amount to slide.

Important: Many numerical values in the pattern editor are in hexadecimal notation, not decimal. If you would like to know more about HEX, please refer to the "About HEX" topic later in this guide.

Multi-column example

To add more note columns, click the left-hand side **[+]** button. Remove columns by clicking the corresponding **[-]** button.

If you can't see either the volume, the panning, or the delay columns, then they're hidden. You can unhide them by clicking on the the corresponding button in the Pattern Editor Toolbar underneath the editor.

Hint! Not every value needs to be input manually. A lot of them can be recorded in real time, or auto generated with the Advanced Edit panel.

Manual input, step sequencing

1. First, **start a new song**. Next, load a sample, instrument, or VSTi. Our example uses the "Kick 01" sample:

2. Press **[Esc]** to turn on Edit Mode, optionally press the Record button in the Control Panel:

Notice the **Red border** when Edit Mode is on? Notice the absence of such a border when Edit Mode is off? Read this line again. It's important to remember.

3. Move the cursor with the arrow keys, the tab keys, or the mouse. Type in some notes and effects by pressing keys on your keyboard.

- [Caps-Lock] is the the key for NOTE-OFF
- To delete data, move the cursor onto the data and press the Delete key.
- To move some notes select them with the mouse, then drag and drop them somewhere else. Optionally, cut [Ctrl+X], copy [Ctrl+C] and paste [Ctrl+V] work too.
- Hundreds of other tricks and commands! Read the tutorials.

4. Press [Spacebar] to hear what you did. Press [Spacebar] again to stop playback. Rinse and repeat.

(Hint!) "Editstep," located in the Pattern Toolbar, provides a helpful way to quickly step sequence your input. See image below:
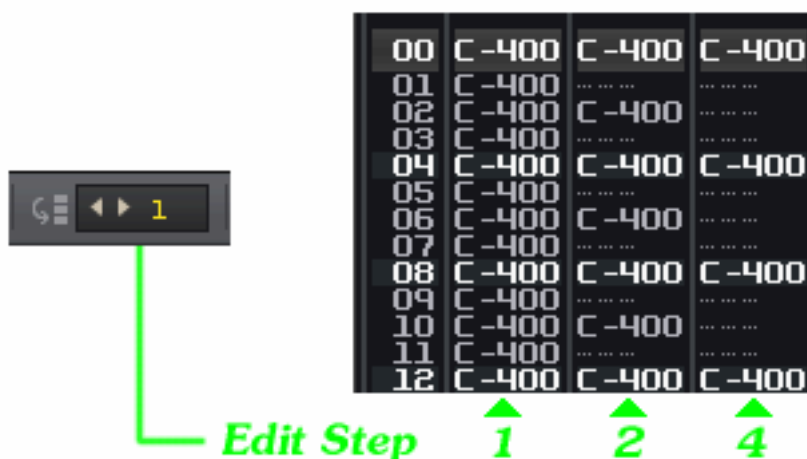
Also, try the "Advanced Edit" panel for even more good times.

Real-time input

1. Load an instrument, anything you like.

2. Turn on the metronome by clicking the Metronome button in the Control panel. Press the [Spacebar] to start the song:

If you don't like the BPM, change it in the Control Panel. LPB means Lines Per Beat. If you don't know what you are doing, then set it to 4 for now:

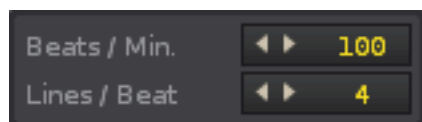3. Press **[Esc]** and turn ON Edit Mode. Optionally, press the Record button located in the Control Panel:

4. Let's jam! Before you start make sure the "Pattern Follow" button is set to ON. If the button is OFF, the cursor line doesn't follow the playback:

Press the [Spacebar] to start playing the tune. Make sure you are in Edit Mode. As this is a new song, the pattern will loop repeatedly because there is currently only one pattern. Press some keys on your keyboard as if you would a piano. When you are done, press [Spacebar] to stop the song. Press [Esc] to exit Edit Mode.

If all went according to plan you should see something like the image on the right:
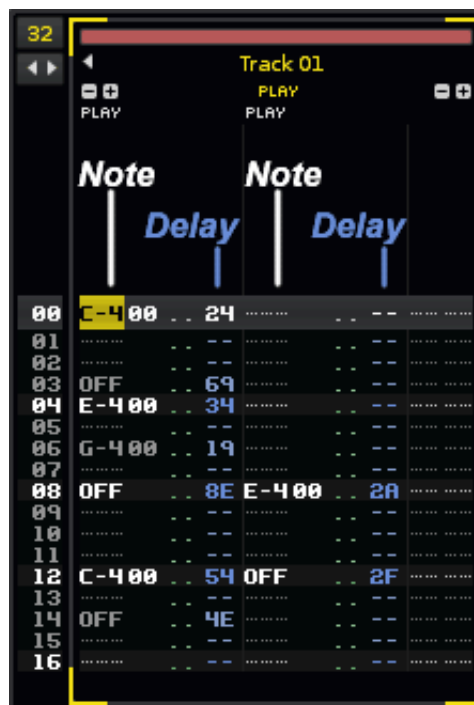
Note: When you don't want to add note columns automatically (i.e. when you want to store all the inputs in a single column), you should toggle the chord button in the Pattern Editor Toolbar to OFF:

5. Let's edit. Press [Esc] and move the cursor to a numerical value with either the arrow keys or by double clicking on it with your mouse.

To delete data, move the cursor to the value and press the [Delete] key.

To move some notes, select them with the mouse, then drag and drop them somewhere else. Optionally, cut [Ctrl/CMD+X], copy [Ctrl/CMD+C] and paste [Ctrl/CMD+V] work too.

[Shift+F3] clears all the data in a pattern track.

Hint! ⟳ "Block Loop" is great for working on short phrases.

Block Loop, in the figure on the right, is set to 1/4. This block represents 16 lines because the initial pattern length is 64. When a pattern is played with Block Loop ON, the playback loops the current block.
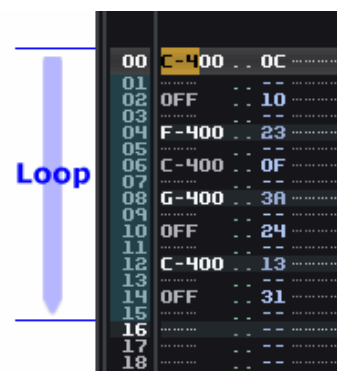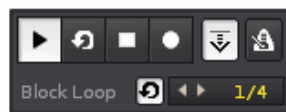
The shortcuts:

- Toggle block Loop ON and OFF is [NumPad Enter],
- Move to the next Block is [Ctrl+NumPad Plus],
- Move to the former Block is [Ctrl+NumPad Minus].

Recording and quantization

"Quantize" is a function that tries to correct human playback errors. It deactivates the Delay column when recording and, instead, tries to place the notes directly on the desired lines. Let's try it:

Repeat steps 1 to 3 from the previous example.

Toggle the "Q" icon in Pattern Editor Toolbar and turn it ON . Change the numerical value the number of lines you want to quantize to. For example, 2 or 4.
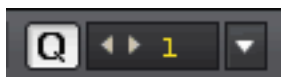
Press [Esc] and turn Edit Mode ON, press [Spacebar] to start playback, play your keyboard like you would a piano.

Try several numerical values and see if you can figure out what's going on. More simply, if you do not want to record values into a Delay column, the set the quantization value to 1 and you're good to go.
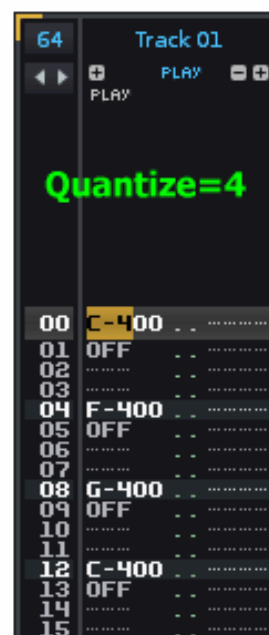
Track grouping and collapsing

You can tidy up your workspace by grouping similar tracks together, and collapsing them. Furthermore, commands used in the effect column of the parent track will affect all the group's member tracks.

To group tracks, insert a new group with Edit > Insert Group and then drag tracks to it to add them. Alternatively, hold down [Alt] while dragging a standard track onto another and both will be added to a new group. To collapse a track, press the small arrow to the left of the track's name.

Arranging Patterns

Pattern Matrix

[B-1] is the Pattern Sequencer and **[B-2]** is the Pattern Matrix.

If you've never seen the "Pattern Matrix", click the PM button at the upper left of the Pattern Editor and open the Matrix window:

The Matrix is a "bird's eye view" for the patterns which you make in the Pattern Editor. Patterns and Tracks are divided into Blocks that can be moved, copied & pasted, providing the ability to manage the flow of the music instantly and easily.

Matrix Slot

If you input some data in the Pattern Editor, a colored slot automatically appears in the Pattern Matrix.
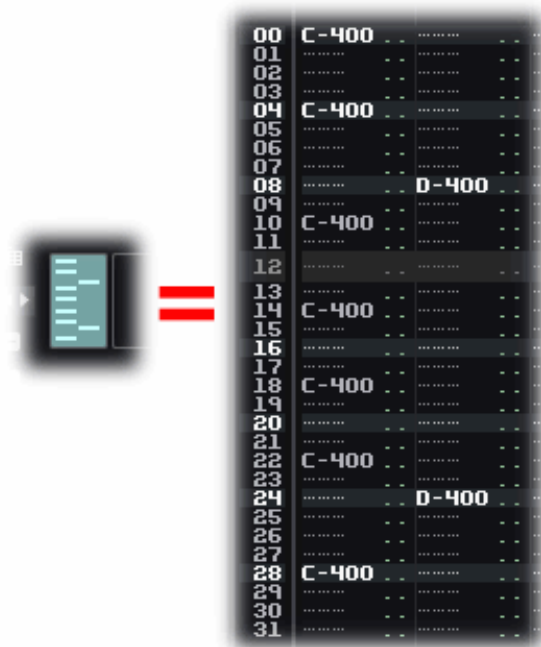
The slots are resizable by clicking the square icons under the PM button:

If you left-click these icons, the slot height is changed.
If you right-click these icons, the slot width is changed.

Editing in the Matrix

You can do common operations both in the Pattern Matrix and the Pattern Editor.

Moving a block means moving all the note data from one pattern track to another, and is accomplished by left dragging. To make a copy instead, hold down [Control/CMD] while dragging. An identical clone of the pattern data will then be created in the new location. Holding down [Control/CMD+Shift] while dragging will insert a new pattern into the sequence at the dropped location and copy the pattern data to there.
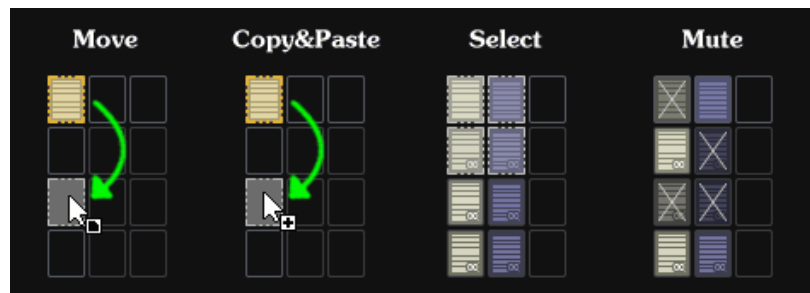
In addition to these operations, you can also alias blocks. An alias works just like a copy, but with the crucial difference that its content is linked to the original block from which it's aliased. This means that when you edit the original (or one of the aliases), all the other slots will get updated too. To create an alias of a block, hold down [Alt] while dragging.

You can also position the mouse over the bottom edge and drag downwards while holding down [Alt] to alias. Dragging without [Alt] clones.

Useful tips & tricks for the Pattern Matrix

Selection & mouse:

To select multiple blocks at once, hold down [Shift] before clicking.
[Control/CMD+Click] allows removing/adding single slots from an existing selection.
With these key combinations you can select everything from Track 1 to Track 5, then exclude a single slot in Track 2, for example.

Muting slots:

Click with the Middle Mouse Button or with the [ALT] key on slots to mute/unmute them quickly.
Muting/Unmuting also works for multiple selected slots with [ALT] or the Middle Mouse Button.
This key and mouse combination also works in the Track Scopes.

Shortcuts:

Things to try:
- Clone and Add with [Control/CMD+K] to quickly duplicate parts
- [Control/CMD+I] instead of [Control/CMD+V] to Insert Paste instead of Paste.
- [Control/CMD+Shift+Arrow Up/Down Keys] to quickly select multiple rows
- [Alt+P] and [Alt+T] to select the whole Pattern or Track
- To Focus Pattern Editor, hit [Esc]. To get focus back to the Pattern Matrix, hit [Shift+Esc]

Visualization options

Right-clicking in the header section brings up a context menu that lets you choose to show or hide the Track Names, the colors and the VU Meters. Change the options to whatever you feel is best.

Also, if you activate "Visualize Repeating Slots" in the main context menu, a tiny icon indicating repeating content will be shown in the slot(s).

When the repeating content spans many slots, a gradation will be applied to the color of the slots.

Pattern Sequencer

The answer to "How do I make more than one pattern?" is the Pattern Sequencer. You can drag and drop sequences and re-order them vertically. You can do a lot more than what is explained in the Quickstart Guide. Please see the Renoise Tutorials Wiki for more information.

For now, here are the basics:

Create a new empty pattern

In the left image, clicking the circled button creates a new empty pattern below the selected one.

Right-clicking this button inserts the same pattern again, essentially creating an aliased pattern (cf aliased blocks in the matrix).

Clone the current pattern

Clicking the circled button will create a new pattern below the selected one which duplicates the data from pattern 1.

Cloning is the same as copying & pasting all contents from pattern 1 to a new pattern. This button is a great time saver.
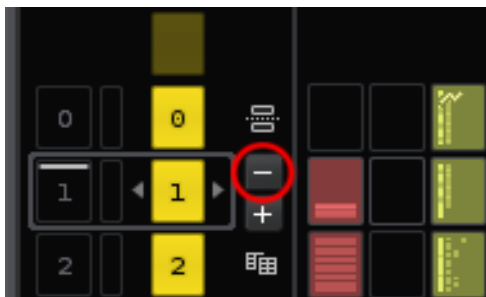
Delete the current pattern

Clicking the circled button will remove the current pattern from the sequence.

Insert section heading

Clicking the circled button will insert a section break in the song and let you give it a name.

(Hint!) When dealing with patterns it's the numbers that are most important, not words like clone, copy or whatever. Don't get caught up in semantics. Just look at the numbers. If you modify #1, all Patterns labeled #1 will be affected. If you modify Pattern #0, all #0 will be affected. Simple.

Decoupled sequencer playback

You can detach the current playback position from the edit position. This lets you edit a pattern while other patterns are playing:

To decouple the sequencer, simply turn OFF the "Pattern Follow" option (located in the Control Panel), which will then decouple the pattern editor & sequencer.

Patterns can be "scheduled" for playback via the leftmost column in the Pattern Sequencer. Without stopping playback you can queue new sequences in the song "in real-time." This lets you freely change the order of playback to sketch and improvise new ideas. This button will change into a play button when hovering over it:

Left-click the button to queue a single pattern. [Shift+Click] to queue multiple patterns. Right-click the button to immediately change to the new Pattern. Double-click to immediately jump to and play that pattern from the top.

DSP Effects

The basics

Renoise has many built-in native effects, as well as support for 3rd party plug-ins such as VST, AudioUnits, and LADSPA.
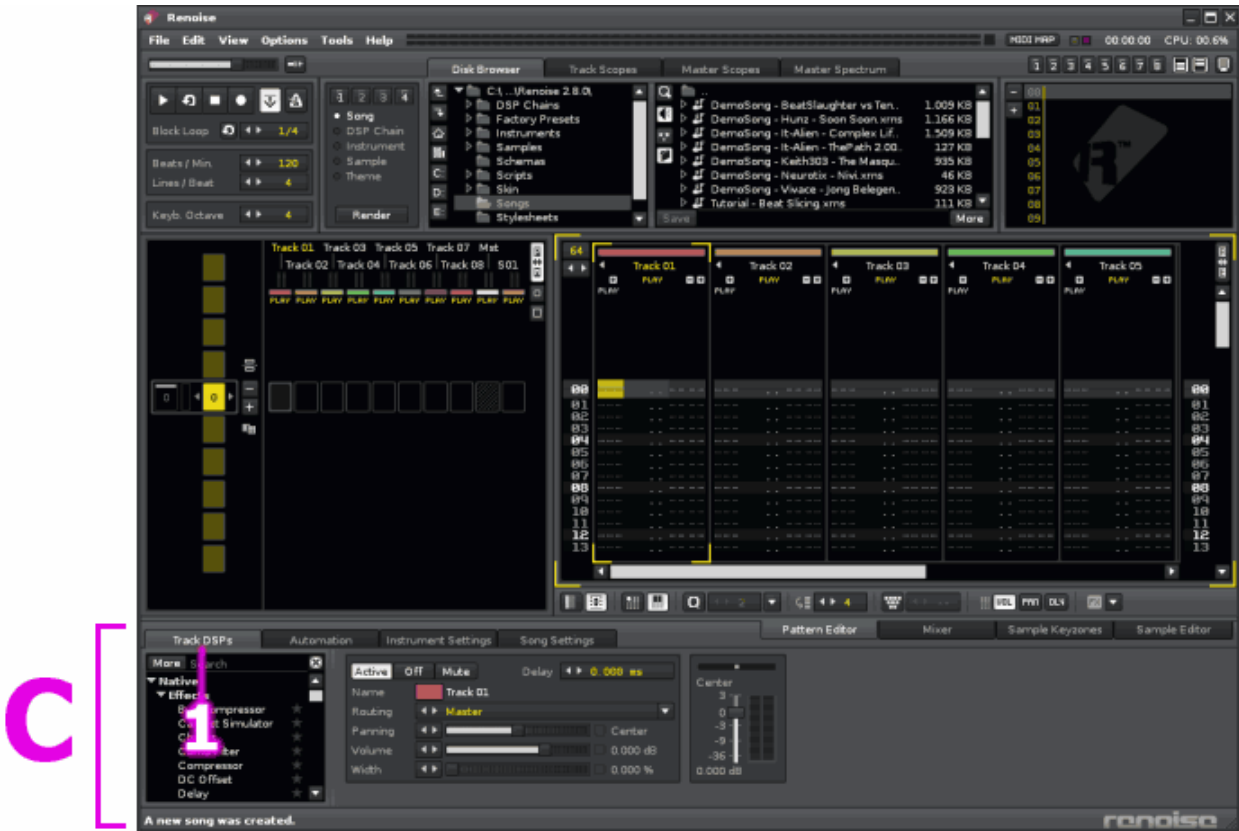
[C-1] is the tab that activates the Track DSPs panel

How to load an effect

First, activate "Track DSPs" in the lower frame. This part of the screen works like an effects rack. The location of the cursor in the Pattern Editor determines which track's DSP chain we are working with. If the cursor is moved to another track, the DSP chain will also change.

Effects can be chosen from a list in the small window on the left. By scrolling down, you'll see several categories such as Native, Routing, Automation, Modulation, and VST. By pressing the "More" button, the list is expanded. There's also a "Search" field which allows you to look for effects by name. Right-click in this window for more options.

You can activate effects by double-clicking or by drag & dropping. Moreover, when the "Mixer" panel is active you can drag effects directly into the mixer

In the TrackDSPs panel, audio flows from left to right. In the Mixer view, it's top to bottom. These two views are different representations of the same thing. Changing the order of the effects changes the sound.
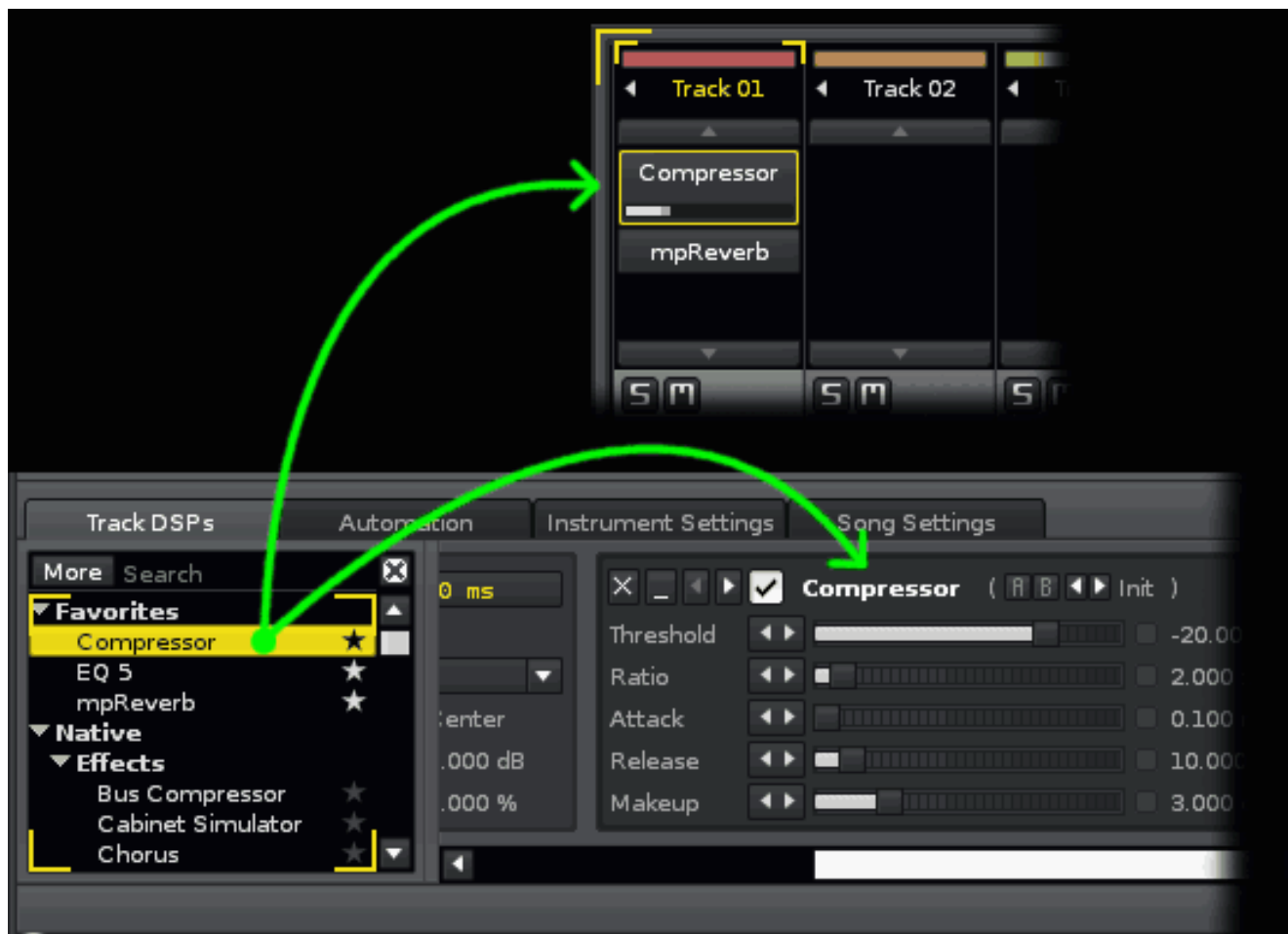
Toggling ON/OFF

Once an effect is loaded, it is possible to bypass it by ticking its on/off checkbox in the top left corner. The mixer shortcut to toggle this behavior is the [Enter] key.

Additionally, you can automate the on/off toggling using commands in the Pattern Editor in the track the effect belongs to. [x000] means bypass and [x001] means activate, where x is a number representing the position of the effect in the DSP chain. You can record this action to the pattern by right clicking on the effect's checkbox. Try it!

This also works for any other parameter in a DSP effect. Right-clicking and dragging will record the value change to the pattern.

Audio routing

In addition to normal tracks, Renoise has two special types of tracks: Send tracks and a Master track. These special tracks are always located to the right of normal tracks.

Master track and Send tracks

Placing effects on the Master track affects an entire song. There is one Master track per song. It's visually located between the normal tracks and the Send tracks.

A Send track receives audio from other tracks. It's used for advanced audio routing and is modeled on the behavior of a traditional mixing console.

Let's do an example to explain:

Load mpReverb to Send Track 01 [S01]. Change Wet Mix to 100%. Change Dry Mix to 0% :
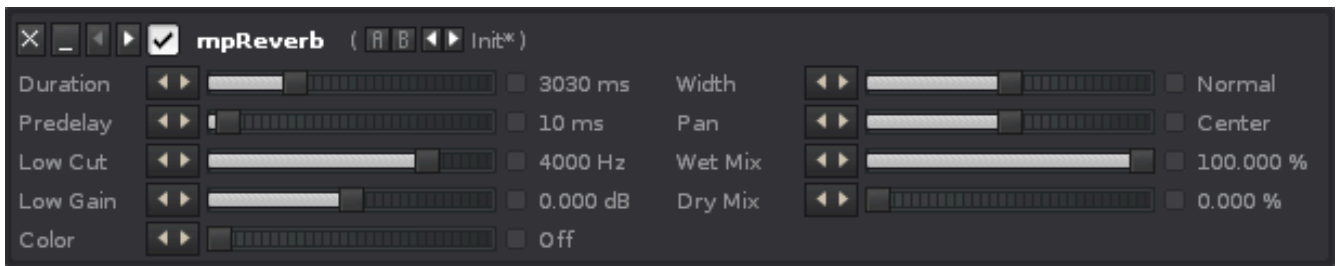
Next, load the "# Send Device" Routing Device to a normal track that has some audio in it. Repeat this for another track and change "Mute Source" to "Keep Source:"
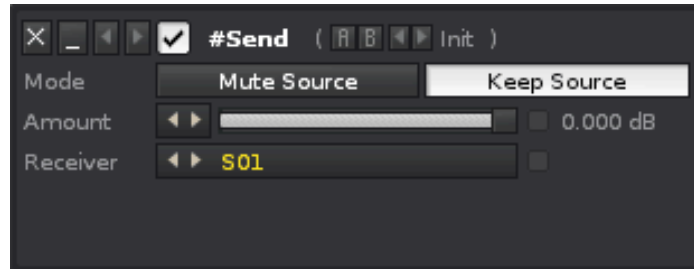
You should now have something like:
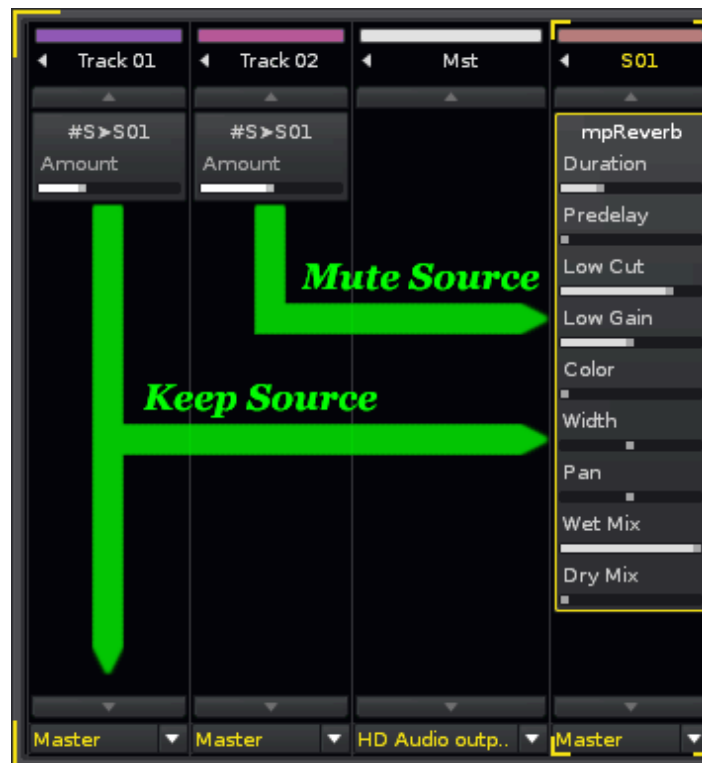
Play around with the Amount slider on the #Send Device. If you want to see more mpReverb sliders, right-click it in the Mixer panel and choose Show Sliders -> All.

Try other effects. Try other combinations. The possibilities are endless. For now, let's move on.

Automation

In Renoise, you can automate effects in a variety of ways. The most straight-forward way is using envelope automation.

[C-2] is the tab that activates the Automation panel

How to

Drawing an envelope using point and click

An effect must be instantiated before it can be automated. If no effects are present in the DSP chain, only Mixer will be listed.

Let's draw a Volume automation curve:

Double-click "Volume" from the list on the left, a straight line appears on the right. Double-click on the line to make a new point, drag points to adjust the volume envelope, double-click on a point to erase it. Also, you can use "DRAW" & "LINE" tools for drawing automation curves easily.

The Lock button allows you to keep the zoom level locked to an even number of patterns. Choose the zoom level in the adjacent menu or use the mouse wheel to zoom in/out in even steps.

With Lock disabled, you can zoom freely around the entire song's automation.

Note that since Renoise is based on patterns, the automation for each pattern is a separate entity and will move around with the pattern rather than stay locked to a particular song position.
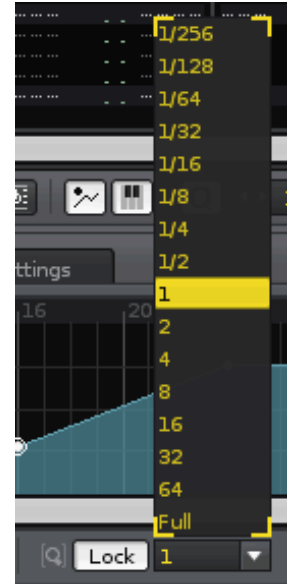
Recording effect automation

During playback

It is possible to record automation during song playback. First, have a look at the buttons in the lower left of the Pattern Editor:

Turn this button to ON:

With this button active, slider manipulation is recorded in the Automation panel. Conversely, automation is recorded in the Pattern Editor if it's set to OFF:

Next, load Filter into the DSP Chain:
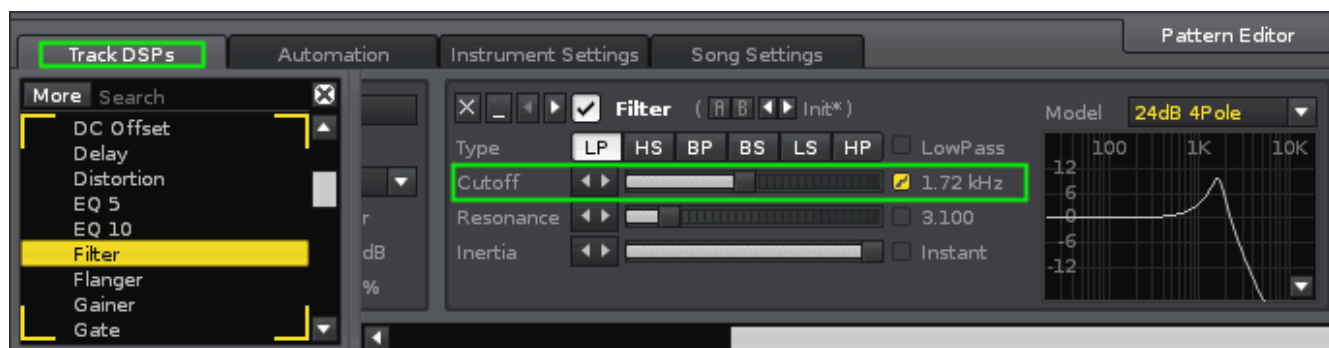
Now, let's automate the Cutoff slider of the filter. Let's boost the Resonance slider, too. Start playing a pattern, i.e. [Spacebar].

Right-click and hold down the Cutoff slider, drag it to the left and/or right. Right-clicking and moving a slider records it.

Types of envelopes

If we switch to the Automation panel, we see that our Cutoff curve was recorded in "Points" mode.
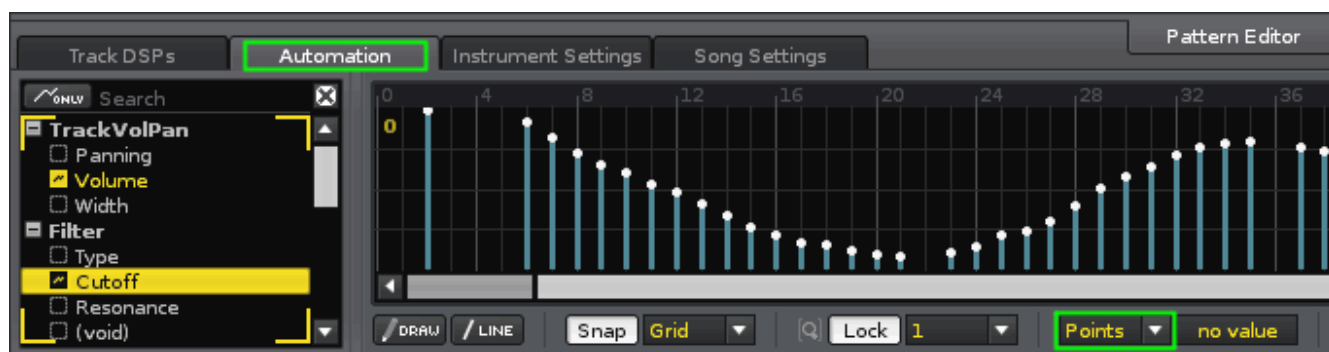
By changing "Points" to "Cubic" we smooth out our points to an interpolated curve. A third choice is "Linear." It's up to you to use the kind of curve you want, and edit the points accordingly.
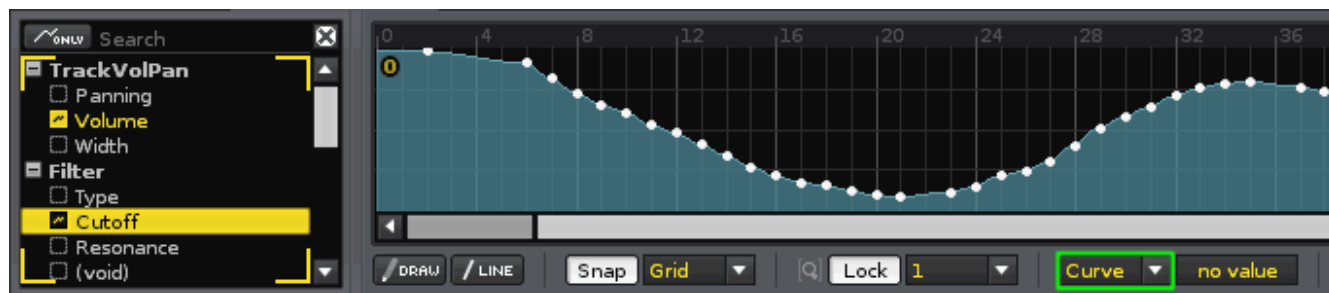
When using VST/AU effects, automation works the same as above. Furthermore, if you want to know about "VSTi/AU instrument automation", please read VSTi/AU instrument topic in Chapter 2.

Audio Recording

Renoise's Sample Editor can record audio.

[B-6] is the tab that activates the Sample Editor.

How to

Open the "Preferences" panel. Once open, click the "Audio" tab. Verify that your audio device is selected and properly configured:
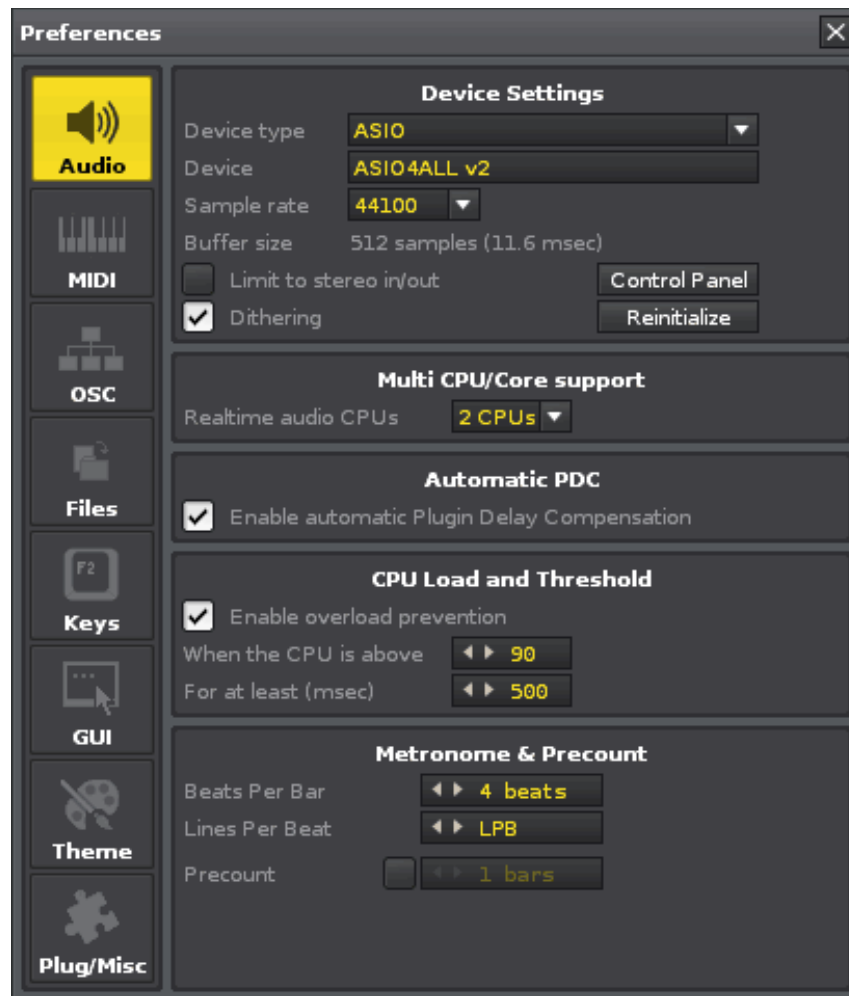
A Renoise recording is slotted into the Instrument selector. Choose an empty slot:

Click the "Sample Editor" tab and look for the Recording Panel button near the lower right. Click it. The Recording Panel opens:

A detailed explanation of each part of the Recording Panel can be read in the Renoise Tutorials Wiki. As this is the Quickstart guide, let's pretend we know what we're doing and skip it.

The VU meter is pumping, let's do this!

To start recording, click **[11]** in the figure above; optionally press the [Enter] key. To stop recording, click **[11]** or press [Enter] again. To exit the Recording panel, click **[12]**.

When you want to use effects, you must load them on a track and select the corresponding track number at **[5]**. If you want to hear your recording in real-time, set the speaker icon at **[1]** to ON.

When we exit the Recording Panel, our session gets saved as a sample and the wave shape is displayed in the Sample Editor. To listen to the result, hit Enter on your computer keyboard or click the play button near the lower right .
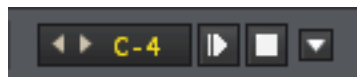
If you want to normalize the sound, click on the middle button:
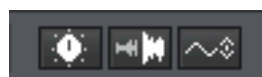
Troubleshooting

Not getting any sound?

- Is the microphone on? Is it plugged in? Do you need a preamp?
- Are your audio settings correct?
- Verify that the audio is working with the OS Mixer, or using the software included with your soundcard (or USB microphone).
- Check the input device in the recording panel (In the above image at [4]). Did you select the right one?
- Update your soundcard (or USB microphone) drivers.
- Restart Renoise to re-initialize the device.

About HEX

Many values input into Renoise's pattern editor are hexadecimal (HEX). Because many beginners have problems with this fundamental concept, we will address that here.

Most people are familiar with decimal because most people have 10 fingers. Instead, let's imagine we have 16 fingers - which, conveniently enough, comes in very handy for many musical concepts ;-)
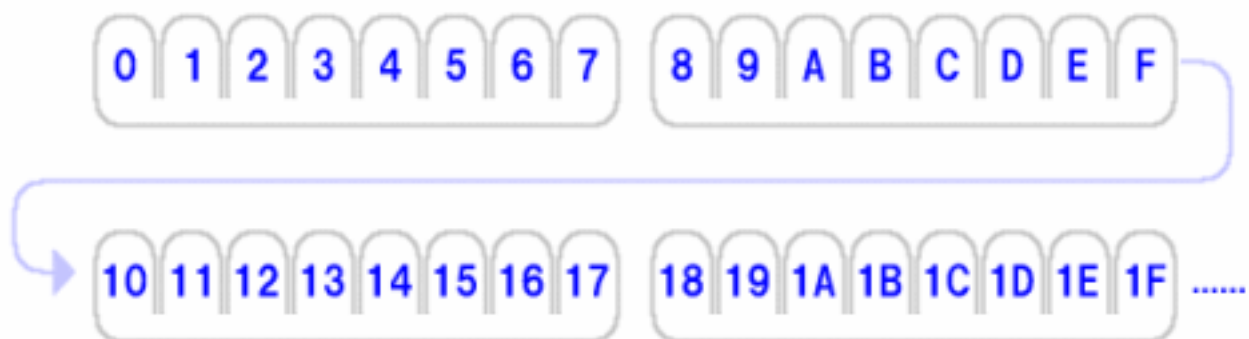
Notice that we start counting from 0 (instead of 1). So, 0-7 are counted on your "left" hand and 8-F on your "right" hand. This is the foundation of hexadecimal. When compared to decimal we get:

0(HEX)=0(DEC), 1=1, 2=2, 3=3 [...], 9=9, A=10 , B=11, C=12, D=13, E=14, F=15, 10=16, 11(HEX)=17(DEC), […]

After F, you loop back to 10-17 on your imaginary left hand, 18-1F on the imaginary right hand. Repeating in loops until you count up to F8, F9, FA, FB, FC, FD, FE, FF, and eventually reach 100 HEX. By converting 100 HEX back to decimal you get 256. e.g. *16(DEC)*16(DEC)=256(DEC)*.

(Hint!) At first, you may think all of this is difficult. Especially if you're not used to it. The most important thing to get out of all this is a rough feeling. It's like a "brain workout". The more you do it, the easier it gets. For example, when you wish to make volume into half of it's maximum value:
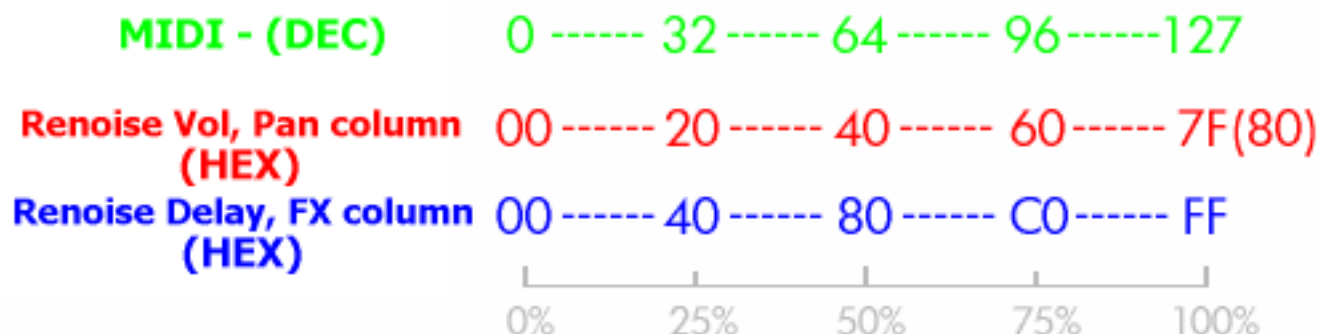
Hexadecimal conversion

Honestly, there's nothing to worry about. The more you mess around with Renoise the more you will get it. But let's run through the idea one more time for good measure.

Decimal to Hexadecimal

Let's convert 60 DEC to HEX. First, divide by 16. 60÷16=[3] with a remainder of 12. Place the [3] to the left and the remainder of 12 to the right. 12 means [C] in hexadecimal, so it the answer is [3C].

Hexadecimal to Decimal

Let's convert [2F] HEX to DEC. First, multiply the leftmost number by 16, and add the right number to it i.e. [2]*16+[F]. So that means 32+15=47, and the answer is 47.

When all else fails, use a calculator:

- http://www.statman.info/conversions/hexadecimal.html

And now, back to your regularly scheduled program...

Samples and Renoise Instruments

In this section, some basics of samples and Renoise instruments are explained.

Understanding samples and XRNI

In order to get a feeling for several concepts at once, we're going to load an XRNI (Renoise Instrument) from the presets Library and play around with it.

An XRNI is an ordinary sample (sometimes two, sometimes more) wrapped in a special "information container." The fundamental difference between a sample and and an instrument is this special container. When working with Renoise, we often load samples, manipulate them, then save them as XRNI if we want to use them in other songs.

Everything that follows also applies to samples, but for purposes of this demonstration, we're working with an XRNI from the presets Library instead of an actual sample.

Loading an Instrument from the presets Library

First, let's load "Synth-Flute.xrni" from the presets Library. If you don't know how to do this then you should review the previous topics. Here's a reminder: Choose the "Instrument" category in the Disk Browser, click the Library button, a list of XRNI files will be displayed, chose an Instrument slot, double-click "Synth-Flute.xrni"
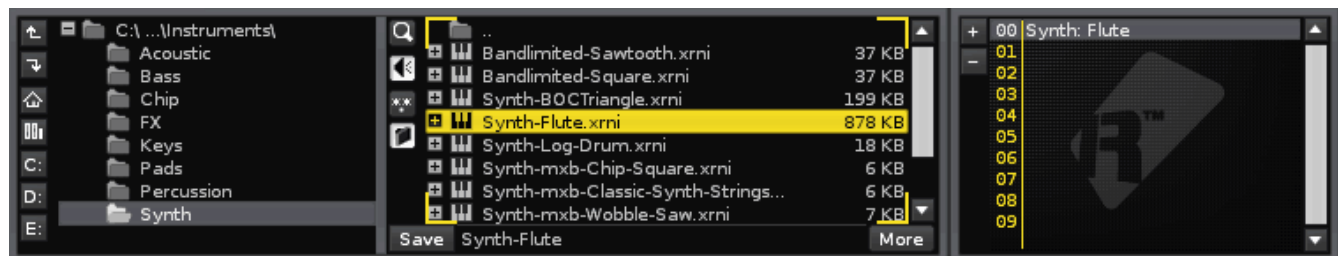
The Sample Editor
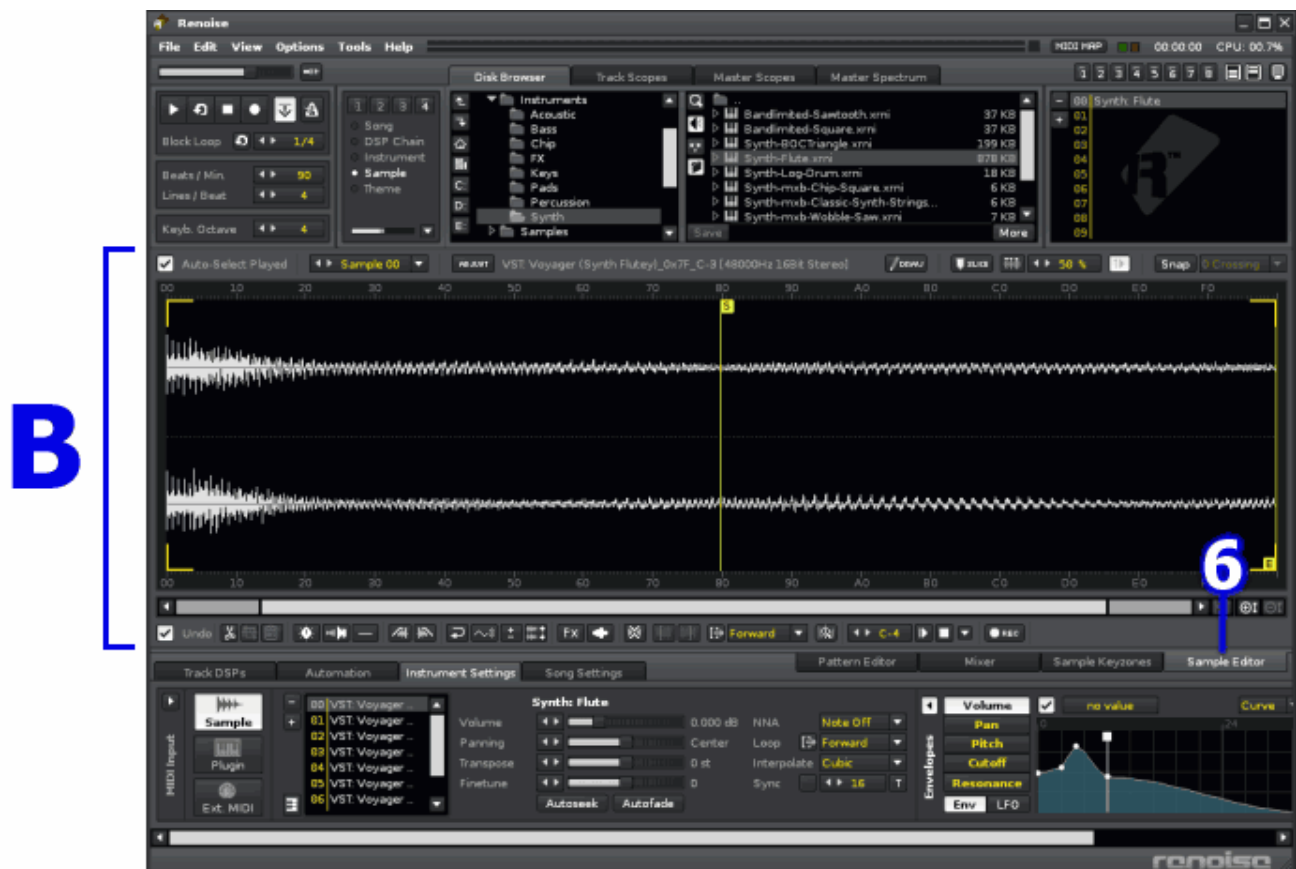
To activate the Sample Editor, click the "Sample Editor" tab located at **[B-6]** in the image above. If you have *Synth-Flute* selected in the Instrument selector, then the corresponding waveform will be displayed.

Now, press and hold down the **Z** key (**Y** on a German keyboard, **W** on a French) on your computer keyboard. By default Z is mapped to DO of DO-RE-MI, also known as C-4. By pressing Z, you should hear a beautiful sound. Press other keys such as X, C, V, to hear different notes.

Setting up loop points

There are two yellow lines. The left line is a loop start point and the right is a loop end point.

Under the waveform there is a row of buttons. One of them near the middle is a dropdown menu with "Forward". This menu controls our loop type. Click "Forward" and change it to another loop type, to confirm the difference of the loop behavior. Try pressing the **Z** key again and notice the difference.

In most cases, it's usually necessary to adjust these points ourselves. The lines can be moved by clicking on the lettered flags and dragging them to the left or right.

Moreover, by clicking on the magnifying glass icon we activate the "Loop Fine Editor." This editor appears on the right-hand side of the screen and allows for very precise loop manipulation:

Instrument Settings
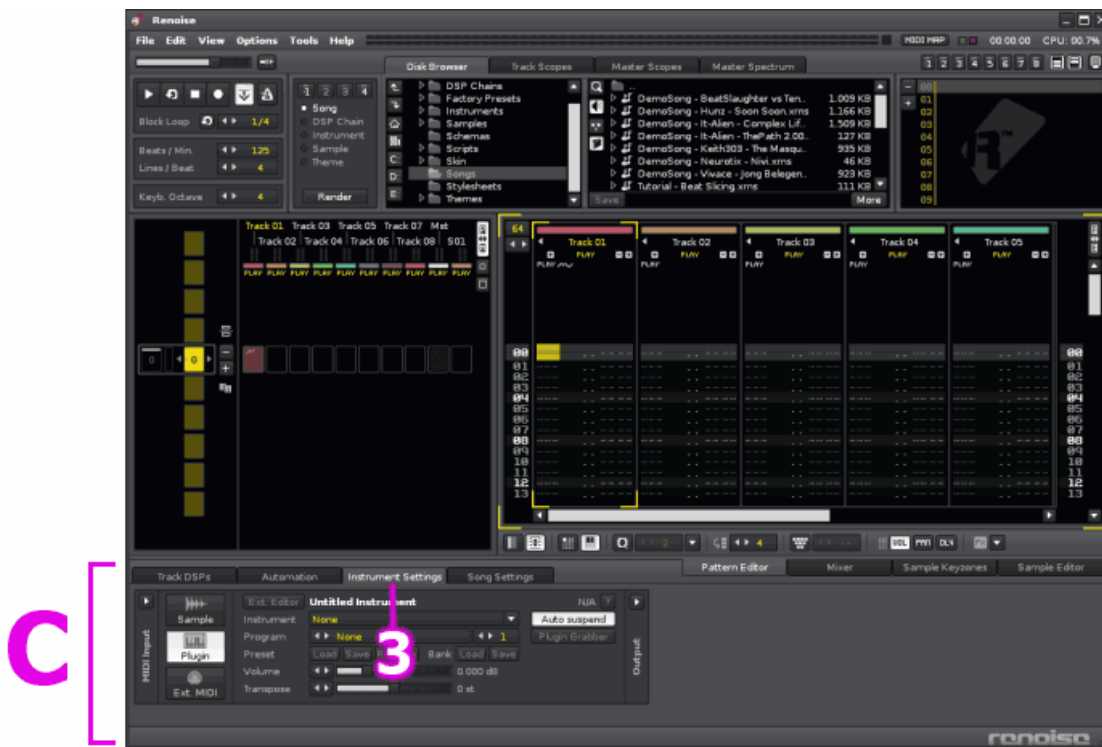
Next up, we want to set the volume envelope. Please click the tab located at **[C-3]** in the image above, i.e. the "Instrument Settings".
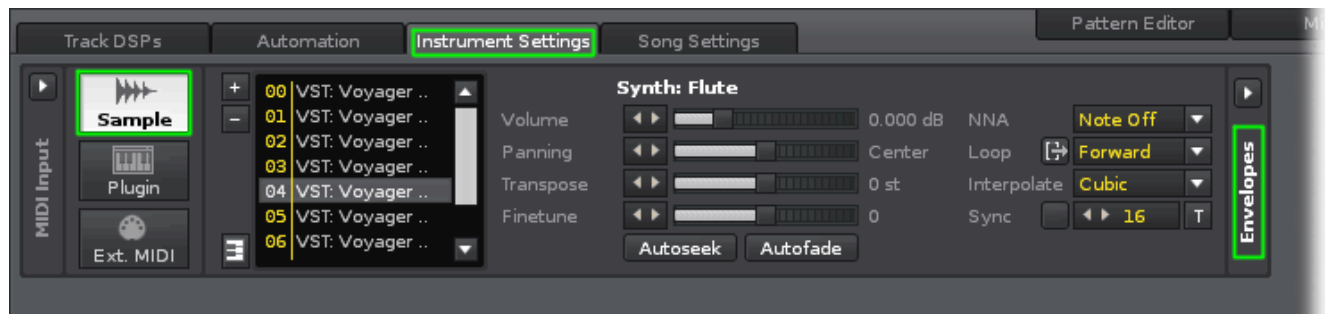
This is the Sample Properties panel. Volume adjustment, panning, tuning, and other such properties can be adjusted here:

Two favorites:

NNA stands for New Note Action. This function sets up how the sound interacts with previously triggered versions of itself.

Sync is a function that pitches a sample in proportion to pattern lines. Sync is usually unsuitable for melodic samples, but works quite well with breakbeats and drum loops. Also known as BEATSYNC.

Envelopes

To the right of the instrument settings are the envelopes.

You probably guessed it, but yes, the volume envelope is also already set up in the "Synth-Flute.xrni" preset. Press the Z key and see what happens on the screen. You can see that the declining graph (envelope) becomes animated from the moment you let go of the key.

What happens when we turn this OFF? Let's try. Turn OFF the envelope by clicking the checkbox in the upper left of the following image. Press the Z key. Turn it back ON and set "Sustain" to OFF as illustrated below. Again, the Z key. Press it a bunch of times.
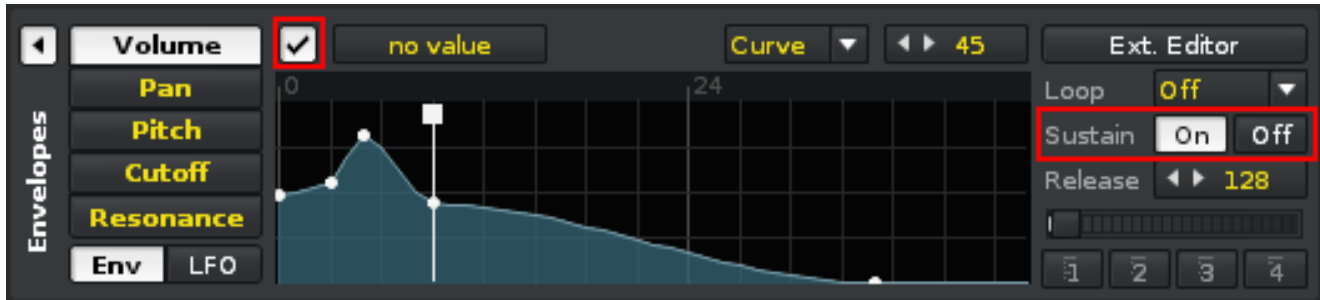
What's happening here?

When the checkmark is ON and Sustain is ON: The sound is sustained when you press the Z key, and released when you let go.

When the checkmark is ON and Sustain is OFF: The sound just plays through, ignoring whether or not you let go of the Z key.

When the checkmark is OFF: the envelope is ignored altogether.

Additionally, when Sustain is ON, a vertical white line appears. This line can be moved in the same way we moved the previous loop points lines.

Play around with the other tabs and settings. See what happens.

As this is a Quickstart guide, we will stop here. Yes, there's a lot more to learn. Yes, we obviously skipped over a lot of options and additional panels. A more thorough understanding will come later. Practice, try new things, and read the tutorials. For now, lets move on.

VSTi/AU Instruments

VST and AudioUnits (AU) are third party plug-ins that can be used with Renoise.

Although we use a VST instrument (VSTi) for the explanation below, the same principles also apply to AudioUnits.

Important: Not all plug-ins are instruments. In fact, most of them are DSP effects.

Setting up our VST/AU plug-ins

The VST/AU folders

VST/AU plug-ins can be used by many music applications, not just Renoise. Because of this we want to place all our plug-ins in the same directory.

Windows and Linux users are free to put these plug-ins wherever they want. On Macintosh, the plug-ins should go in either **~/Library/Audio/Plug-ins/** or **/Library/Audio/Plug-ins/**.

In a lot of cases, VSTs/AUs come with an installer so you won't have to worry about this. But in the cases where there is no installer, or in the case where you want to control where the plug-ins are going, remember that you are responsible for correctly managing their location on your hard drive.

Setup

First, we need to tell Renoise where our plug-ins are located. Click "Edit" on the main menu and then click "Preferences". On a Mac, "Preferences" is under the Renoise menu. Optionally, the shortcut is [Ctrl+,] (or [CMD+,] on Mac.)
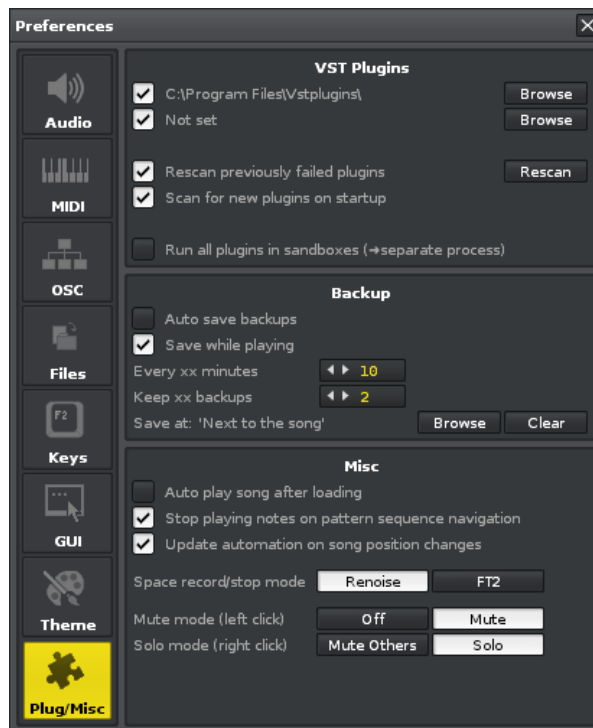
Click the "Plugs/Misc" button. At the top will be several options. These options will vary depending on whether you are on Windows, Macintosh or Linux. We want to make sure the checkmarks are enabled and that the paths lead to the correct folders. Adjust these settings accordingly. Rescan as needed.

How to use a VSTi/AU Instrument

Instrument Selector

First, choose an empty slot in the Instrument selector. This is where the VSTi/AU Instrument will be loaded:

VSTi/AU Instrument Properties Panel

As seen in **[C-3]** in the above figure, click the "Instrument Settings" tab. Click the "Plugin" button, then the Plugin properties window appear:
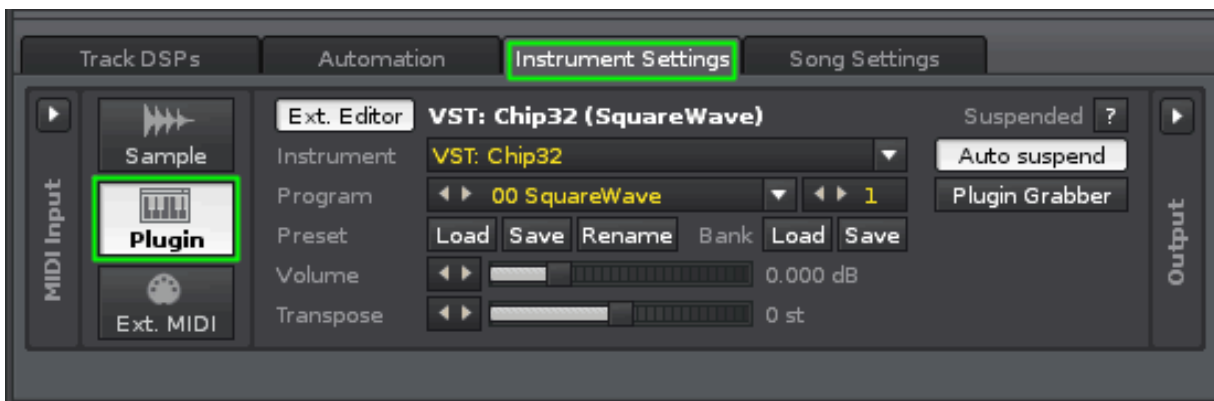
Click the dropdown menu where it says "Instrument: None" to display a list of VSTi/AU Instruments.

As previously mentioned, not all plug-ins are instruments. In fact, most of them are DSP effects. If nothing appears in this list then maybe you don't have any instruments installed?

Choose the instrument that you want to use. In our example we are using the free VSTi: Chip32. When selected, it appears in the Instrument selector. Press the Z key to hear the instrument.
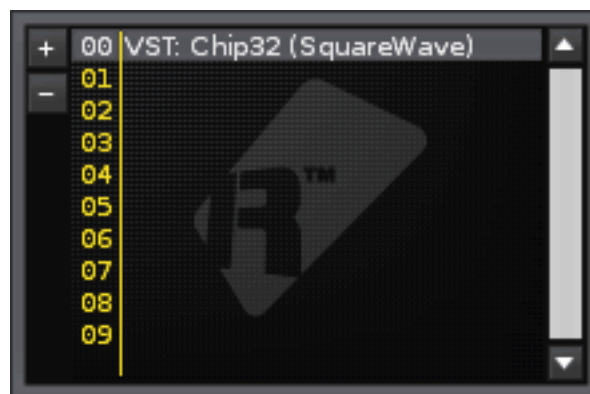
As this instrument has some presets, we can select them by clicking on the "Program" dropdown in the VSTi/AU Instrument Properties panel. Other properties such as "Volume" can also be adjusted.

When the "Ext. Editor" button is clicked, the GUI panel of the VSTi/AU is displayed:
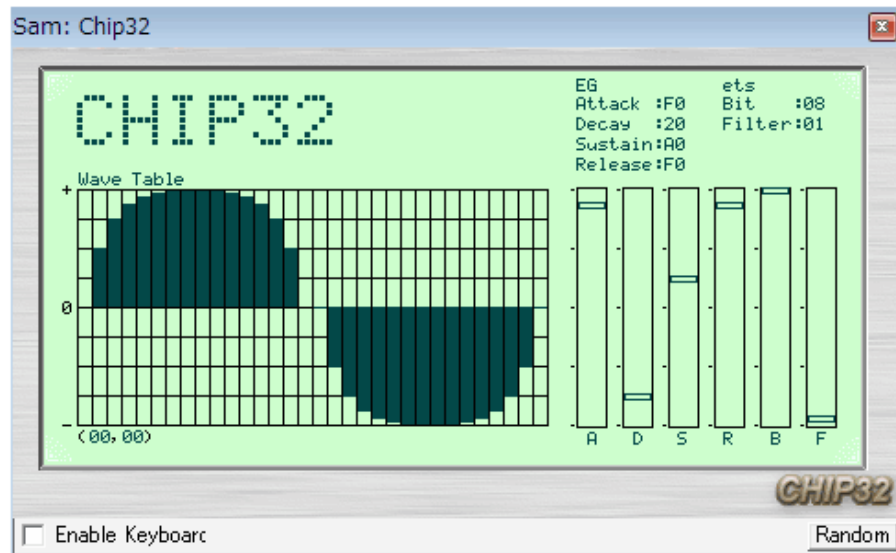
You can adjust these switches like you would a separate audio application with its own particular interface.

Recording VSTi/AU instrument automation

With a meta device

When using VST/AU effects, automation works the same as Renoise native effects. But in the case of a VSTi/AU instrument, you need to take a slightly different approach.

First, load a VSTi/AU instrument. Here, we're using "Chip 32" as explained above.
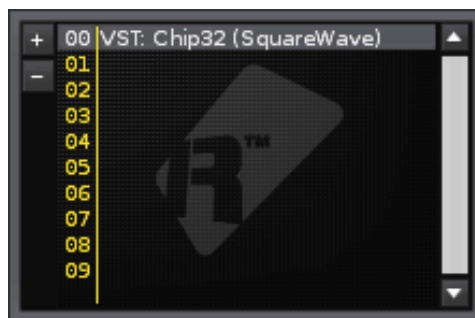
Next, activate the Track DSPs panel and load "*Instr. Automation" from the effects list:
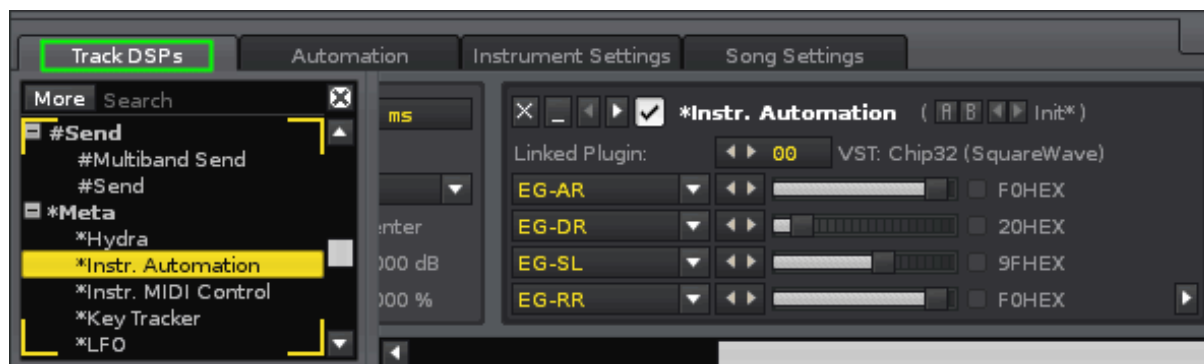
Link the Automation Device to the desired plug-in by clicking on the arrows next to "Linked Plugin."

The available dropdown choices change according to the selected VSTi/AU Instrument. From the dropdown, choose the parameter that you want to automate. Here, Chip32's "FILTER" was chosen:

As previously explained in the Automation topic, play the pattern and record the automation by right-clicking and dragging the Automation Device slider. The results are stored in in the Automation panel:

If you want to automate the "Pitch Bend" parameter, you can find it in the "*Instr. MIDI Control".
Please refer the VSTi/AU/MIDI Input in the "Pattern Editor Examples" topic for more information about this device.

Pattern Editor Examples

In this topic we explore a few Pattern Editor examples. Because many commands only work with sample based instruments, some of the examples will be unsuitable for VSTi/AU instruments. For in-depth information and commands, please refer to the Renoise Tutorials Wiki.

Pay attention to the status bar at the bottom of the Renoise window when inputting pattern commands. It will give you useful info at a glance about the command just typed. See also the [FX ▼] dropdown menu in the toolbar below the pattern editor for a quick overview of all the available pattern commands.

Pitch slide

| 1 | 2 |

1. Pitch slide up [0Uxx] : Sound file (mp3)

From line 00 to 07, the sample is pitched up at a constant rate of 28 (hexadecimal notation); where 00 means "repeat the previous value."

2. Glide to note [0Gxx] : Sound file (mp3)

The first note is played at C-4. At line 04 the pitch rises a constant rate of 20 (hexadecimal notation) towards A-4. Once the glide reaches reaches the desired pitch of A-4, subsequent 0G commands are ignored.

> *Hint!* ⊙ In many cases, using 00 in a command means "repeat the previous value." This allows for quicker editing.

Breakbeat tricks

0. Original Loop : Sound file (mp3)

1. Sample offset [0Sxx] : Sound file (mp3)

The offset command works by splitting a sample into 256 equal parts. The larger the sample, the more inaccurate this command. As the range of values is 00 to FF, 0S80 plays the sample from halfway through and 0S40 plays the sample from 1/4 of the way through. (For more precise control over the offsets, you can add slice markers to the sample in the sample editor.)

2. Retrigger note [Rx] : Sound file (mp3)

Also known as Retrig. This effect resets and replays the sample very quickly; like a machine gun. x sets how many ticks to count before retriggering the sample again. By default, there are 12 ticks per line. Setting R4 will retrig a sample 3 times per line (12÷4=3).

3. Reverse sample [B0, B1] : Sound file (mp3)

B0 plays the sample backwards from where the playback head is currently located; like playing a record backwards. B1 resumes normal playback.

Modulation effects

Here are some techniques for modulating a note as it's playing:

1	2	3	4

```
00 C-5 00 .. ···A 37   C-4 00 .. ···V 84   C-3 00 .. ···T 6F   C-6 00 .. .. ···N 3F
01 ··· ··· ···    .. ···A 37   ··· ··· ···    .. ···V 00   ··· ···    .. ···T 00   ··· ···    .. .. ···N 00
02 ··· ··· ···    .. ···A 37   ··· ··· ···    .. ···V 00   ··· ···    .. ···T 00   ··· ···    .. .. ···N 00
03 ··· ··· ···    .. ···A 37   ··· ··· ···    .. ···V 00   ··· ···    .. ···T 00   ··· ···    .. .. ···N 00
04 ··· ··· ···    .. ···A 37   ··· ··· ···    .. ···V 00   ··· ··· ···    .. ···T 00   ··· ··· ···    .. .. ···N 00
05 ··· ··· ···    .. ···A 37   ··· ··· ···    .. ···V 00   ··· ···    .. ···T 00   ··· ···    .. .. ···N 00
06 ··· ··· ···    .. ···A 37   ··· ··· ···    .. ···V 00   ··· ···    .. ···T 00   ··· ···    .. .. ···N 00
07 ··· ··· ···    .. ···A 37   ··· ··· ···    .. ···V 00   ··· ···    .. ···T 00   ··· ···    .. .. ···N 00
08 ··· ··· ···    .. ···A 37   ··· ··· ···    .. ···V 00   ··· ··· ···    .. ···T 00   ··· ··· ···    .. .. ···N 00
09 OFF          .. ··· ··· ··· ···   OFF          .. ··· ··· ··· ···   OFF          .. ··· ··· ··· ···   OFF          .. .. ··· ··· ··· ···
```

1. Arpeggio [0Axy]

Plays a fast Cm arpeggio starting from the base note C-5, then moving 3 semitones up to D#, then 7 semitones up to G. Works best with simple pitched sounds. The speed of the arpeggio is dependent on the song's tempo and the number of lines per beat.

2. Vibrato [0Vxy]

Modulates the pitch around the triggered note with a speed of 8 and a depth of 4.

3. Tremolo [0Txy]

Modulates the volume of the triggered note with a speed of 6 and the maximum depth of F.

4. Auto Pan [0Nxy]

Modulates the panning of the channel with a speed of 3 and the maximum depth of F.

Ghost notes

With this feature, you can trigger a new note without retriggering the instrument's envelope. To keep the envelope running from the previous note, just remove the instrument number on the new note.
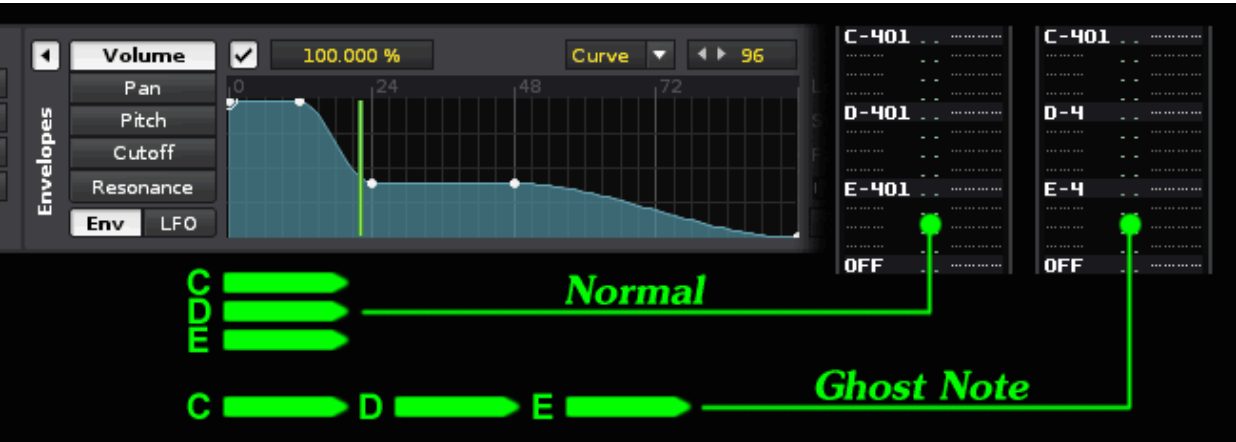
You can check out the demo song **"Tutorial - Ghost Notes"** for a better example of how this works.

VSTi/AU/MIDI input

Portamento

This is not a command, but rather a cool technique that can be used with some VSTi/AU/MIDI instruments. Check it out:

1. Without Portamento : [Sound file (mp3)](#)

Each new note cuts the previous note.

2. With Portamento : [Sound file (mp3)](#)

By using two note columns, and allowing some overlap, the sound becomes continuous, and portamento becomes possible.

Special MIDI messages

Sending special MIDI messages (control change, pitch bend, program change, and channel pressure) from the pattern is a bit trickier.

To signify that it's a MIDI message, we put a special control code beginning with M in the panning column. Then all four positions in the effect column will be used for the data to send.

Here's an example:

Sending MIDI pitch bend

M1 in the panning column stands for pitch bend and the values in the effect column represent the pitch offset at that line. Note that we also have to specify the Instrument number ([00] here) for each line of MIDI data. Moreover, we have put a numerical value of [4000] after the OFF note to reset the pitch bend to its center value.

> _Hint!_ It's probably easier to input pitch bend using "*Instr. MIDI Control ". You can automate pitch bend (and channel pressure, control change, program change as well) via it. Please also see the DSP Effects & Automation topic.

ReWire (Windows/Mac Only)

What Is ReWire?

ReWire allows you to connect and synchronize multiple software applications, so that you can run them side by side while passing Audio/MIDI information between them.

For example, you could connect Renoise to Logic, program your drums in Renoise, while arranging the bulk of your song in Logic. Or you could connect both Reason and Ableton Live to Renoise, arrange your track in Renoise, control Reason's built-in synthesizers, and play around with clips in Live. All it takes is some ReWire-enabled software and you are good to go.

ReWire has two modes, both of which are fully supported by Renoise:

ReWire Master

Commonly known as a Mixer application, the master controls other ReWire slaves. A ReWire master has exclusive control of the sound-card. ReWire slaves must route audio through the master application. There can be many slaves, but only one master.

ReWire Slave

Also known as a Synth application. Slaves are controlled by a ReWire master. They feed audio into the Master. They receive MIDI from the master. But can also send MIDI to the master and ask the master to reposition itself.

Because Renoise can be both Master or Slave, you can use it with *any* application that supports ReWire.

Start / Stop procedure for ReWire applications

Starting

The ReWire master application should be started first, then the slave application(s).

Closing

Close the ReWire slave application(s) first, then close the master application.

Important! When working on songs, you must save your songs separately in both applications. Also you must load them up individually when continuing a session. ReWire only handles Audio and MIDI routing. It will not automatically exchange/restore songs/patches.

So, basic workflow is:

1) Start ReWire master (and load a pre-saved session)
2) Start ReWire slave (and load a pre-saved session)
   ===*Track making*===
3) Save the session and close ReWire slave
4) Save the session and close ReWire master

How to use ReWire Master?

First, make sure that no other ReWire Master application is open. Then, start Renoise; this will automatically make Renoise the master.

In "Track DSPs" select a "#ReWire Input" and add it anywhere in the song. Send Tracks are the ideal place to use this meta device.
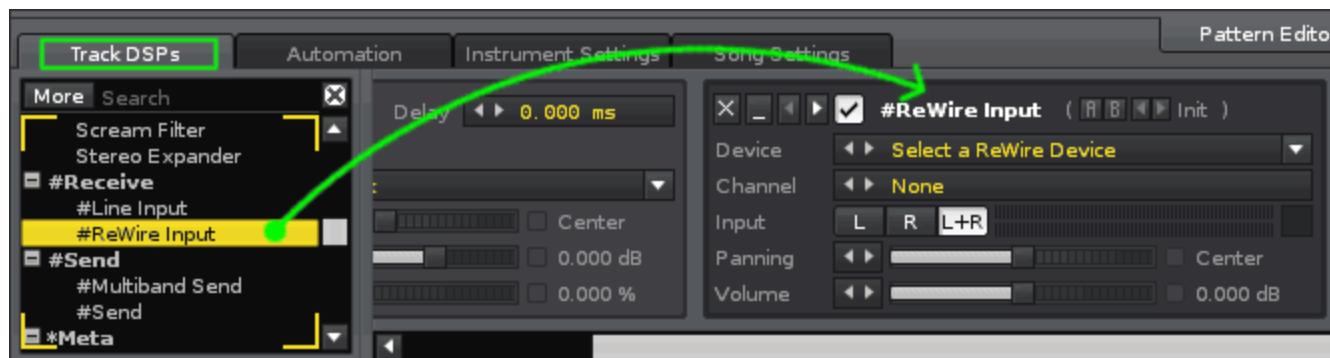

In the "#ReWire Input" will be a drop-down with a list of installed slaves. Select one. In most cases the slave will automatically launch. If not, then launch the application manually.

That's it! The audio signal from the slave gets routed into Renoise via the "#ReWire Input". If you hit play in Renoise, the slave will start playing too. If you navigate around in the song, the slave will follow. If you change the playback in the slave, Renoise will follow. Both apps are now bound together.

If you want to capture another audio bus from the same slave, simply add another "#ReWire Input", select the same slave but select a different bus. This will allow you to stream multiple buses form the same application.

If a slave has MIDI inputs, you will find them listed as regular MIDI devices in Renoises MIDI Instrument Settings. This way you could, for example, use Reason synths from within Renoise.
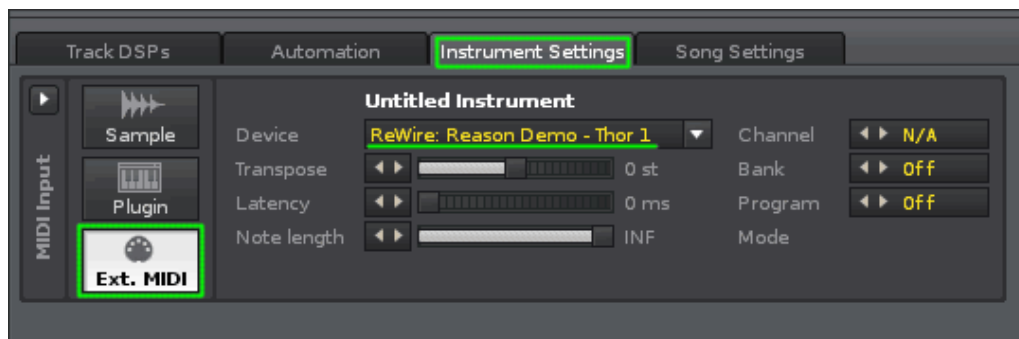
Automating ReWired synths like Reason:

As soon as you've created a ReWire MIDI instrument, you can use the "*Instr. MIDI Control" in Renoise to automate it. If the synth supports this, the mapped parameters will show up there so you know which CC number automates which parameter in the synth.

How to use ReWire Slave?

First, start the music application that will be designated master. After the master application has launched, start Renoise. Renoise will ask you if it should run as slave. Click "Yes".
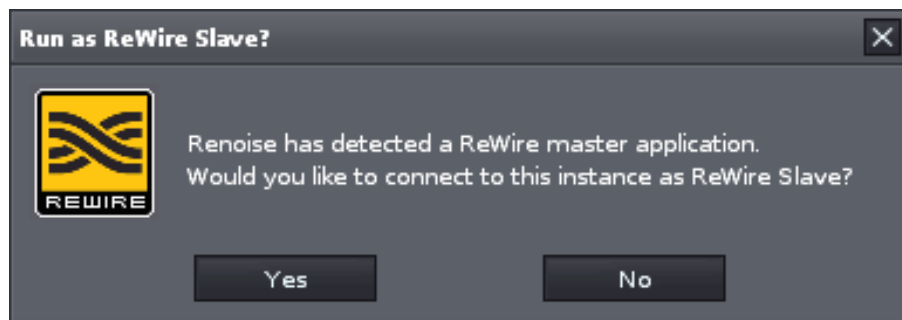
In many cases you will then have to explicitly tell the master to use Renoise as a slave. In most multi-track sequencers this is done by selecting Renoise as "Audio Input". Please refer to the master's documentation for more details.

Once you have routed Renoise into the master mixer, you are ready to go. Renoises audio signal will be routed into the host. Starting, stopping, and navigating though the song will be synchronized in both apps!

IMPORTANT notes about Renoise as Master or Slave

Some ReWire slaves might have limited control over the transport. It's up to the ReWire master to allow transport changes (or not).

For example, some ReWire masters might ignore tempo changes, loop changes or position changes.

This is not the fault of Renoise, but rather a limited ReWire implementation in the designated master.

ReWire demo restrictions

If you purchased Renoise and are a registered user, then there are of course no restrictions whatsoever. If you are using the free demo, then ReWire has some limitations. These are:

1) When Renoise is Master, only the first stereo pair is used.

2) When Renoise is Slave, the demo version will occasionally generate a small subtle hiss.

3) That's it, no time limitations, no silence, you are free to explore and use the demo for as long as you need, and get a decent impression of how ReWire can improve your workflow.

Conclusion

This concludes the Renoise Quickstart Guide.

As you may have guessed, this guide is only meant to get you started. Renoise is a very capable and deep music program. More in-depth information is available on our website:

- http://tutorials.renoise.com/
- http://www.renoise.com/

If you haven't already done so, we appreciate your support and encourage you to register:

- http://www.renoise.com/order/benefits/
- http://www.renoise.com/order/

Track on!