

**User Manual**

## Foreword

Thank you for using the SampleRobot Montage Edition software. You now own an extraordinary product that offers fully automatic sampling of real instruments in definable detail. With SampleRobot Montage Edition you can recreate your favorite instruments and sounds via the Yamaha Montage.

### Why should you read this manual?

Even if you are a professional musician you should read this manual front to back at least once. The basic concept of SampleRobot is totally new and will need some explanation.

Feel free to put this manual back into the package, but in our opinion this is a bad choice.

If you do decide to read the manual we promise you a lot of fun while reading about and working with SampleRobot.

Your SKYLIFE Team

## Hint

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# Introduction

## What can SampleRobot do?

With SampleRobot you can create your own virtual musical instruments as well as sound and loop libraries. SampleRobot offers cutting-edge sampling technology. Building high quality instruments was never easier.

Your complete sound studio in your computer – SampleRobot gives you total mobility!

SampleRobot can capture your instruments and sounds automatically. It was easier to record audio and create multisamples in one go. The program is designed to work completely on its own while the user keep control with full editing options. And, SampleRobot's sampling engine is non-destructive.

Just a few mouse clicks and a fully detailed sampled instrument, e.g. a synthesizer with all internal sound programs is on your hard drive ready to be played with all devices of the Yamaha Montage series. All procedures like sending MIDI note on and off, program change, audio recording, naming, editing, crossfade calculation, loop creation, multisample mapping, and export are executed fully automatically.

You can sample your favorite sounds and instruments very easily and play them instantly within the Yamaha Montage. SampleRobot is not only for sampling MIDI instruments but for sampling acoustic and virtual instruments as well.

## Features

- Fully automated "Cloning" of MIDI instruments
- Fully automated "Cloning" of virtual instruments
- Semi-automated "Cloning" of instruments without MIDI
- Instant access to all instrumental sounds via Yamaha Montage.
- Work in other studios or on stage without carrying equipment
- Instant play: no wiring, no repairs, no loss of sounds
- Perfect "Total Recall" for every session
- Play monophonic instruments polyphonically
- Convert audio sampling tracks into directly playable sample instruments
- Professional loop editing and autoloop processing with WaveRobot

- Including powerful premium multisamples from famous synthesizers
- Easy to use modular graphical user interface
- Compatible with Mac and PC
- Big time saver

### **SampleRobot is designed for**

- Keyboardists
- Film, game and electronic music composers
- Sound designers
- Sound library developers
- DJs
- Beat makers
- Remixers

## Overview

Below you see an overview of SampleRobot's main user interface and its sections.



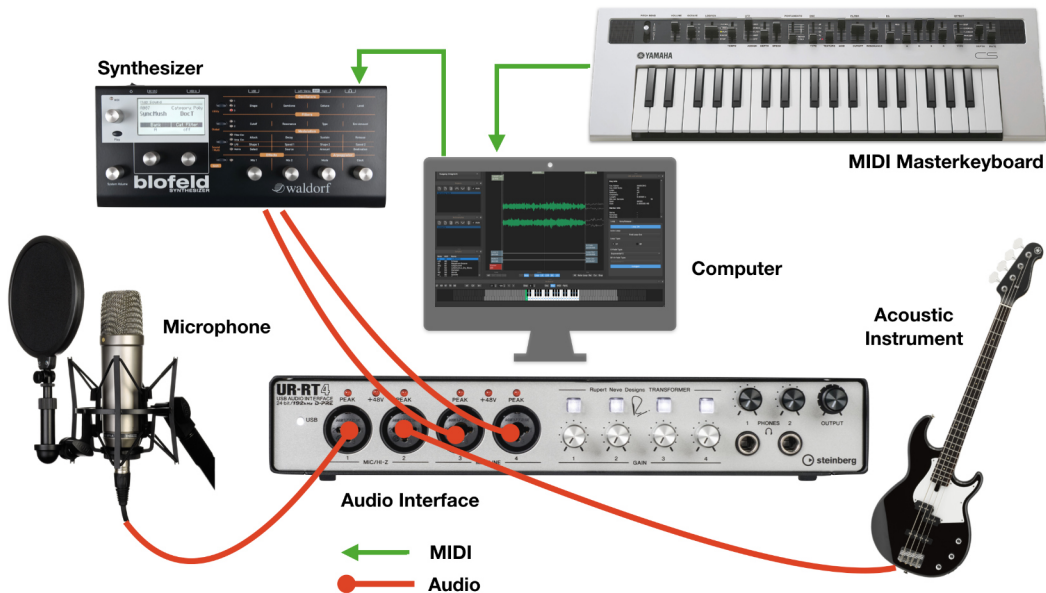
- ❶ WaveRobot Editor Section (see page 40)
- ❷ Midi and Audio Input/Output Settings (see page 18)
- ❸ Projects/Multisamples/Sample Section (see page 20f)
- ❹ Virtual Keyboard with Settings Buttons (see page 38)
- ❺ Peak Meter (see page 22)
- ❻ Info and Settings Section with Information window and Tabs (see page 22f)

Section ❻ is case-sensitive depending on what is selected in Section ❸ (Projects, Samples or Multisamples).



## Connections

Below you find a short overview, how SampleRobot could be integrated in your music production setup:



# Installation

## System Requirements SampleRobot 6

- ☐ Compatible with Windows 7 or newer
- ☐ Compatible with Apple macOS 10.10 or newer
- ☐ Supports all Windows and Apple macOS plug & play MIDI and audio devices
- ☐ min. 8 GB RAM and 200 MB free hard disk space

## Installation of SampleRobot 6

1. Refer to the folder where the downloaded samplerobot.zip archive is located. Double click on the archive file to extract it.
2. Double click on the corresponding Samplerobot installer.
3. Follow the on-screen instructions.

## Included Premium Multisamples

SampleRobot comes with a library of multisamples in Soundfont 2 format sampled from classic synthesizers. The number of instruments included in the pack depends

on which version of SampleRobot you have installed. SampleRobot Pro comes with over 1 GB of multisamples.

## Authorisation

SampleRobot uses a copy protection system based on your email address and a personal serial number. In order to download SampleRobot, you need to create an account on our website. You will receive your personal serial number by email.

After the first program launch you have to enter your personal serial number and the email address that was used for your account. Confirm your data. SampleRobot is now activated without restrictions.

Hint: Please keep in mind that you don't mistake the number 0 (zero) with the letter O. If you are not sure, use the copy & paste function of your clipboard.



**Important:** Once you have activated SampleRobot you can install updates without new activation. Make sure to uninstall earlier versions first. On Windows this can be done via the Settings -> Apps panel (uninstall). Under macOS browse to Applications\SKYLIFE\SampleRobot6 and open the Maintenance tool.

# Ultra Quick Start

For the impatient user we have prepared an "ultra quick start tutorial" which guides you step by step through your first SampleRobot project. Nevertheless we recommend reading the complete manual to learn more about all functions of SampleRobot.

## Start the Software

A double click on the SampleRobot program icon starts the software.

## Project Wizard Settings

The Project Wizards is designed for creating sampling projects easily step by step. In SampleRobot a Project is a kind of container for all the keyboard settings, samples, Multisamples, loop information and additional parameters. You can set up blank projects for automatic recordings (for sampling of MIDI instruments) and semi automatic recordings (for sampling of non-MIDI sound sources, manually key by key). Please connect all instruments and sound sources in the way it is described on page 7 (Connections).

The Project Wizard helps you to set up individual sampling projects to your needs. You can find the Project

Wizard within the File menu. Please follow the checklist for MIDI and audio connections. After that, click on the *Next* button to start.

In the following example we will record a string-pad sound from a connected hardware synthesizer.

- ☐ **Project's Name:** Name your Project first, e.g. "Synth Pad". Click on the *Next* button.
- ☐ **Project's Datapath:** Choose a data path for audio recordings and Project data by clicking the *Browse* button. The predefined datapath is `User/<username>/Documents/SKYLIFE/SampleRobot6`. You can also create your own data folder on any location on your hard disk. Click on the *Next* button.
- ☐ **Audio In Device:** Choose the corresponding audio input of your audio device. Make sure to use it as input connection for your hardware synthesizer. Here, you can also select a desired input channel. Click on the *Next* button.
- ☐ **Sample Format:** Select the desired sampling frequency and the Bit depth (we recommend 44.1 kHz, Stereo, 16bit). Click on the *Next* button.
- ☐ **Recording Mode:** Choose between semiautomatic recording (for sampling acoustic and other non-MIDI

instruments) and automatic recording. If your instrument is controllable via MIDI (as in our case) you should select "automatic recording". Click on the *Next* button.

- **MIDI Out Device** (only for Automatic Recording): Select the MIDI output of your MIDI interface. Connect this output to the MIDI input of your synthesizer.
- **MIDI Out Settings** (only for Automatic Recording): Choose the desired MIDI Channel and the corresponding MIDI Program change to remote-select the desired sound program in your synthesizer. We would like to record sound program number 9 which receives MIDI data on channel 1. Therefore we select MIDI Channel 1 and MIDI Program 9. Click on the *Next* button.
- **Sampling Range**: Select the keyboard range for the recording, e.g. 61 keys. Later on the exported virtual instrument can be played in that range on the keyboard. Click on the *Next* button.
- **Velocity Layers**: Choose the number of velocity layers. The string-pad sounds softer when played with reduced velocity. To capture this specific velocity response, we need to create 2 layers: layer 1 sends

medium velocity (64) and layer 2 maximum velocity (127). Click on the *Next* button.



Please note that the higher the values for Velocity Layer and the lower the Key-Step the more detailed the virtual copy gets, but on the other hand it takes longer to record the instrument and more disk space and more software sampler performance is required. So it is wise to choose a compromise between quality and quantity.

- **Key Step**: Choose the step between the recorded keys. We would like to record every 3rd key, so we choose Key-Step 3. Click on the *Next* button.
- **Note Length** and **Release Length**: Choose the length for the notes to be recorded and the length for the release notes (recording time after a note off). In our examples the values are: 6,00 seconds for note length and 2,00 seconds for release length. Click on the *Next* button.
- **Auto Loop**: Activate the automatic loop function, if desired. This is useful when you would like to sample sustained sounds. It also saves sampling space. Our pad is a sustain sound, so we select Auto-Loop ON. Click on the *Next* button.

- **Auto-Loop Settings 1:** Select the complexity of the recorded sound. This is necessary to automatically calculate optimum loop points in the sample. "Intermediate" is appropriate for our sound program. Click on the *Next* button.
- **Auto-Loop Settings 2:** Select a percentual position in the sample for the loop start. If you would like to record sounds that need some time to reach the sustain phase choose higher percentages. In our example we choose "Loop starts at 50% of the sample's length". Click on the *Next* button.

Click on the *Finish* button to end the Project Wizard. SampleRobot now generates a Project with your settings and calculates the recording duration and the disk space required.

## The Recording Procedure

After finishing the Project Wizard, the recording window opens automatically. Start the recording process by clicking on *Start Recording* button. Small blue squares on each selected key of the virtual keyboard show you the progress during recording. If you have set up a Project in semiautomatic recording mode you have to start and stop the recording manually for each key selected. After the recording procedure, click on the *Close* button. To check

your recorded samples click on the corresponding key from the virtual keyboard. Left-clicking will play the sound as long as you hold the mouse button while right-clicking will show the sample's waveform in WaveRobot for further editing.

## Audio Export

Use the following procedure to save your recorded instrument and automatically transfer it as a virtual instrument preset to your desired software sampler or hardware device for instant playability. In the Import/Export menu choose *Export selected Project as...* -> your desired Yamaha Montage format.

An Export Settings window opens. In most cases you can click directly on the *OK* button. Choose a name and data path for the exported instrument and click on the *Save* button.

## Using the instrument export files in your hardware (e.g. Yamaha Montage)

Use the following procedure to transfer your recorded instrument to the Yamaha Montage. In the Import/Export menu choose *Export selected Project as...* -> *Yamaha Montage (\*.X7U)*. The \*.X7L creates a Library file. Read more on this in the Yamaha Montage user manual.

An Export Settings window opens. In most cases you can click directly on the *OK* button. Choose a name and data path for the exported instrument and click on the *Save* button. After that, proceed as follows:

- Copy the .X7U file on compatible USB stick, that was formatted with your Yamaha Montage.
- Connect the USB stick to the [USB TO DEVICE] of the Montage.
- Press the [UTILITY] button to call up the Utility display and touch the [Contents] tab -> [Load] tab at the left side of the display.
- Set "Content Type" to "User File".
- Select the desired folder of the USB stick. After that, select the SampleRobot export file (extension: .X7U) of the memory to execute the Load operation. Keep in mind that the current User file will be overwritten during this process.
- After importing the file, the sample instrument set is ready to play on your Yamaha Montage.
- For more information about using and playing sounds please read the Yamaha Montage user manual.

## Quick Start

On the following pages you will find instructions for getting started with SampleRobot explaining the most important basic functions step by step. All control elements of the software will be described in detail in the later chapters.

### Connecting Audio of MIDI Sound Sources

To record a MIDI sound source (e.g. synthesizer, tone generator), you have to connect its audio output to the audio input of your audio interface.

### Connection and Set up of MIDI Devices

To send MIDI data to the corresponding MIDI sound source you have to connect its MIDI input to the MIDI output of your computer's MIDI interface.

### Connection of other Sound Sources

If you want to record a music instrument without MIDI connections (e.g. guitar, E-Piano etc.) you have to connect this instrument's output or a microphone to your audio interface.

### Start the SampleRobot Application

A double click on the SampleRobot program icon starts the software.

The Project Wizard opens automatically after launching the program. It is designed for creating sampling projects step by step. We recommend using the Project Wizard everytime when creating a new project. It combines several steps to one workflow that is easy to follow. You can start the Project Wizard also via the File menu. If you want to learn more about the Project Wizard please take a look at our Ultra Quick Start tutorial starting on page 10.

### Basic Settings of SampleRobot

First you should create a new project with the „+“ button in the **Project** section. Then create a new **Multisample** underneath also with „+“ and select it. Choose your Audio In Device and the desired input under **Audio In Device** in the **Info and Settings** section.

Choose your **MIDI In Device** and the desired MIDI channel (**Channel**) in the **Input/Output** section within the **MIDI In** tab. Same is for **MIDI Out Device** which can be chosen within the **Info and Settings** section.

### Choosing the Record Data Path

Select the Project and you can edit the data path in the **Info and Settings** section on the right. It will be stored

with the Project. To use a default data path for all your projects you can open the **Preference Dialog** window in the **Extras** menu. Click on the *Browse* button to select your desired data path for recordings.

### Creating and naming a new Project

Create a new Project by clicking the **Add Project** button in the Project section. During this procedure, you can name your Project. A Project consists of one or more Multisamples.

Hint: You can use the **Preset Manager** in the **File** menu, which offers more than 80 basic sampling presets (Projects) for different sample recording situations (read more on this on page 46).

### Creating and naming Multisamples

Create a new Multisample by clicking the **Add Multisamples** button in the Multisample section. During this procedure, you can name the Multisample.

Important: Selecting a name in one of the sections of the project hierarchy (Project, Multisamples, Samples) opens the Info and Settings sections for that specific type. E.g. you'll see information about your selected sample on the right. Then, if you select your Project, you'll see the data path on the right.

Tip: Just explore the settings for each of the 3 types Projects, Multisamples and Samples by clicking on a name in the dedicated lists. As you can see you can have a lot of different settings for each Multisample in a project, e.g. audio inputs, sample ranges, key steps.

### Change Recording Settings

Within the **Rec** tab in the **Info and Settings** section while a Multisample is selected, you can choose the desired *Note Length* and activate the *Autoloop* function, if desired. Within the I/O tab, you can also set the **Attack Velocity** and the desired sample rate (consider that only sample rates are possible that will be provided by your audio interface).

### Selecting the Sample Range

There are two value entry fields above the virtual keyboard. These are the **Sample Range Selectors**. You can select the sample range (lowest and highest keys that are used for instrument recording and mapping) and enter a desired MIDI note number.

You can choose, if all notes (**All**) or only the adjusted steps (**Step**) will be recorded. Selected keys will be highlighted.



## Set up of MIDI Controller Data

While a Multisample is selected, within the **Controller** tab in the **Info and Settings** section, the MIDI controller list can be used to specify one or more MIDI controllers and how deep the sound is influenced by this controller. Activate the desired MIDI controller (MSB or LSB) by entering the desired value. Hint: Most value entry field also offer small up and down buttons to increase/decrease the value in steps.

## Testing Audio and MIDI Outputs

Activate the MIDI button above the virtual keyboard to play the sound of your connected MIDI sound source via the virtual keyboard (by left-clicking on a dedicated key) or a connected MIDI keyboard (**MIDI Through** in the **MIDI In** tab section must be activated). As soon as you specify an **Audio In Device** and **Format** in the **I/O section** of a Multisample the Peak Meter will show you all incoming audio of the selected port(s).

## Recording Samples

Click on the Recording button (with the microphone symbol) in the Project section to arm the recording process. A Recording window will open where you can start the recording procedure.

Based on the number and the length of notes the recording process may take a while. After that you will see a small blue square on each selected key on the virtual keyboard.

Switch off the **Auto** function to start the semiautomatic recording (e.g. for non-MIDI instruments).

## Editing Samples

After finishing the recording process you can edit your samples in the WaveRobot section. Right-click the desired key on the virtual keyboard to load it into the WaveRobot Editor. The sample will be displayed in the editor window. Only physical samples (keys that contain a Keysample) can be opened. The key of the actual loaded sample lits green. In the sample editor you can change the note start and end as well as you can work with different automatic loop functions. You find more on that on page 40.

## Playing Samples

To play back recorded samples you first have to set up your audio hardware in the **Audio Out** tab (in the Input/Output section).

Clicking on a key of the virtual keyboard that contains a recorded Keysample plays the sample. Additionally you

can play the corresponding MIDI note via a connected MIDI master keyboard.

In WaveRobot you can also listen to the samples. For more information on this please read the page 45.

### Exporting Samples

You can export your samples in the Yamaha Montage format.

Select the Project you want to export, open the Import/Export menu and select the desired export format from the drop-down menu.

The exported instrument can be loaded into your corresponding hardware device and used directly without any mapping or adjustments.

### Additional Tips

Once you have made all your settings in the SampleRobot main window you can use the function **Set current settings as default** from the **Options/Extras** menu to store them permanently as default. In the Preference dialog window, which can also be found in the **Options/Extras** menu, you can additionally set up all necessary settings for basic operation. These settings will be stored automatically when you quit the application.

## SampleRobot Sections in Detail

In the next chapters, all sections of the SampleRobot user interface will be explained in detail.

### Configuring the SampleRobot Window

You can configure the SampleRobot window to your needs by right-clicking in the upper area of every section.

Use drag & drop to move a desired section into the SampleRobot window or to move it outside the program window and place it on your computer's desktop. A double-click onto the upper area of an undocked window moves it back into the program window. As an alternative you can click on the „D“ in the upper right corner which stands for dock.

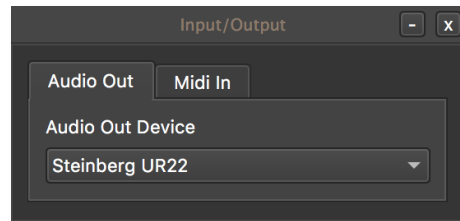
By clicking and dragging the extend symbols between the sections you can enhance or reduce the corresponding section vertically.

Hint: Most of the undocked windows can be modified in size by clicking and dragging the right window edge or lower border.

### The Input/Output Section

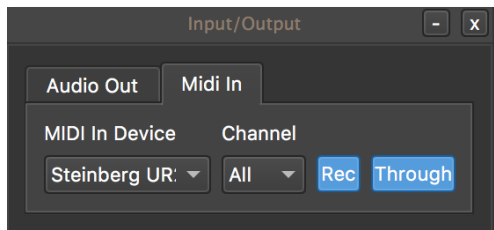
Here you can find settings regarding your audio output devices and your MIDI inputs.

#### Audio Out Tab



In this section you define a monitor audio output for listening to your recorded samples. The **Audio Out Device** list shows all available audio interfaces of your computer system. Choose the desired interface via the drop-down menu.

## Midi In Tab



The **Midi In Device** list shows all available Midi interfaces with their Midi inputs. Choose the desired interface port via the drop-down menu. Make sure to use an input with a connected Midi master keyboard.

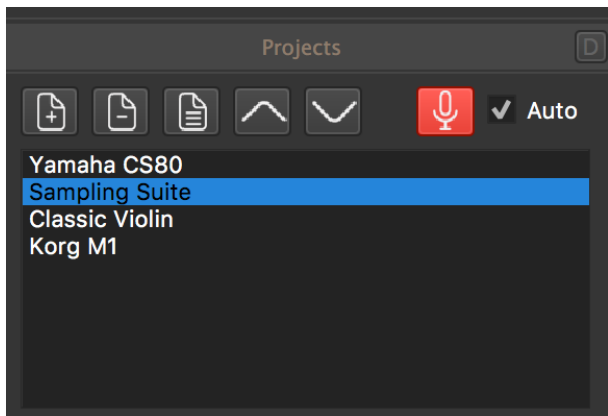
If you play Midi notes and change controllers the Midi Monitor (if open) shows the incoming Midi data. It can be found in SampleRobot's **View** menu. You also see circle-symbols on the virtual keys as a visual feedback.

With **Channel** you can select a desired Midi channel (from 1 to 16, All) that is used for Midi input in SampleRobot. The **Through** button activates the Midi Thru function so that incoming Midi data is automatically routed to the current **Midi Out Device**. This setting can be found in the Info & Settings section of the dedicated multisample. This is useful to play a connected sound module directly via your Midi master keyboard.

With the **Rec** button activated, various Midi data like all played note velocities and all incoming Midi controllers information will be captured automatically in the multisample section allowing perfect Midi remote control of all sound sources during recording.

SampleRobot can capture the following Midi data by using the **Rec** function: Program Change (only when **Program Chg** is active in the I/O tab, Attack Velocity, Release Velocity, After Touch and all Midi controllers.

## The Projects Section



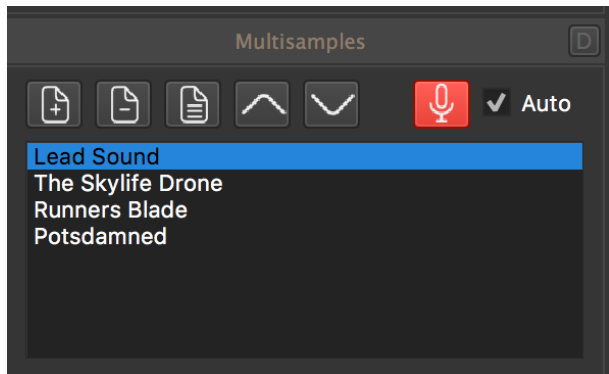
A SampleRobot **Project** holds digitized instrumental sounds. The source of the samples can be acoustic or electronic. If you sample electronic instruments a project represents a single sound program of a synthesizer or sound module with different velocity articulations. The projects section handles all projects. A project can contain one or more multisamples. You should name a project with the name of the corresponding instrument and the sound name (e.g. Yamaha CS 80). Double-click

on the desired project to rename it. If you rename existing projects the audio data (keysamples) will be renamed automatically to avoid name conflicts.

Click on the **Add Project (+)** button to create a new project. The settings will be taken from the Preferences (found in the Extras menu). Of course you can also load and store projects or presets via the File menu. Clicking on **Delete Project (-)** deletes the selected project while **Duplicate Project (=)** will create a copy of the selected project. With the arrow buttons it is possible to move the selected project in the project list up and down. Click on the **Recording** button (with the red microphone symbol on it) to open the recording dialog where you can start the recording process for a selected project.

**Important:** When you uncheck the **Auto** box you switch to semiautomatic recording (e.g. for recording non-Midi instruments). This button is identical to the **Auto** button in the multisample section. Read more in the chapter "Recording" on page 63.

## The Multisamples Section



In the **Multisamples** section all settings for recording samples can be made. Each multisample can be set up individually with parameters like sample's length, program changes and Midi controller settings. This is done in the Info & Settings section. If a multisample is selected, this section automatically displays the available parameters within tabs on the right side of the SampleRobot window. Read more on page 24.

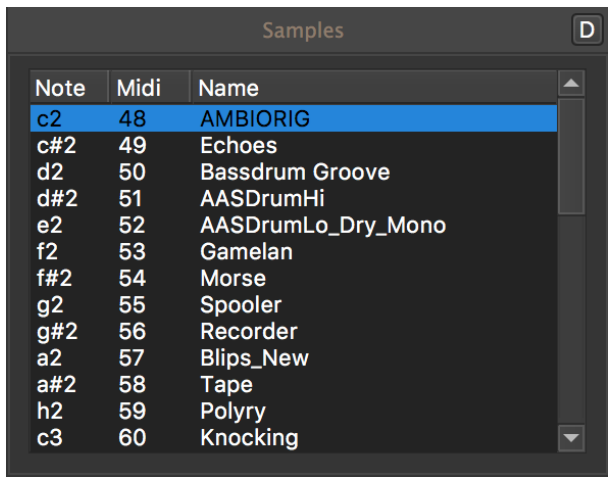
The multisamples section is similar to the projects section.

The multisample section is part of a project. Mostly a multisample represents a specific articulation (e.g. a velocity layer) of a sound program or instrument. E.g. you can name a multisample by describing its characteristic, for example "Velocity 64" or "After Touch 127". Double-click on the desired multisample to rename it. If you rename existing multisamples the audio data (keysamples) will be renamed automatically to avoid name conflicts.

Click on the **Add Multisample (+)** button to create a new multisample. The settings will be taken from the Preferences. Clicking on **Delete Multisample (-)** deletes the selected Multisample while **Duplicate Multisample (=)** will create a copy of the selected multisample. With the arrow buttons it is possible to move the selected multisample in the multisample list up and down. Click on the **Recording** button (with the red microphone symbol on it) to open the recording dialog where you can start the recording process for a selected multisample.

**Important:** When you uncheck the **Auto** box, you switch to semiautomatic recording (e.g. for recording non-Midi instruments). This button is identical to the **Auto** button in the projects section. Read more in the chapter "Recording" on page 63.

## The Samples Section

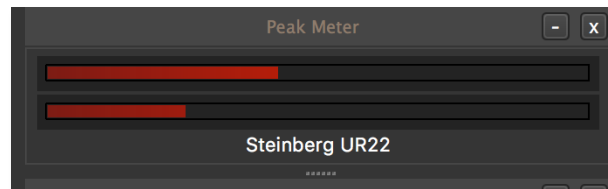


Note	Midi	Name
c2	48	AMBIORIG
c#2	49	Echoes
d2	50	Bassdrum Groove
d#2	51	AASDrumHi
e2	52	AASDrumLo_Dry_Mono
f2	53	Gamelan
f#2	54	Morse
g2	55	Spooler
g#2	56	Recorder
a2	57	Blips_New
a#2	58	Tape
h2	59	Polyry
c3	60	Knocking

In the **Samples** section, all single samples are listed by showing its note, its MIDI note number and its name.

Click on a sample to open it in WaveRobot. You can also right-click on a desired key on the virtual keyboard to perform the same action. Double-click on a sample to rename it.

## The Peak Meter



The **Peak Meter** gives you a graphical overview of the incoming audio signal. The incoming level is shown in dB with an overload control. Use the Peak Meter to set up and to control the audio input level.

## Info & Settings Section

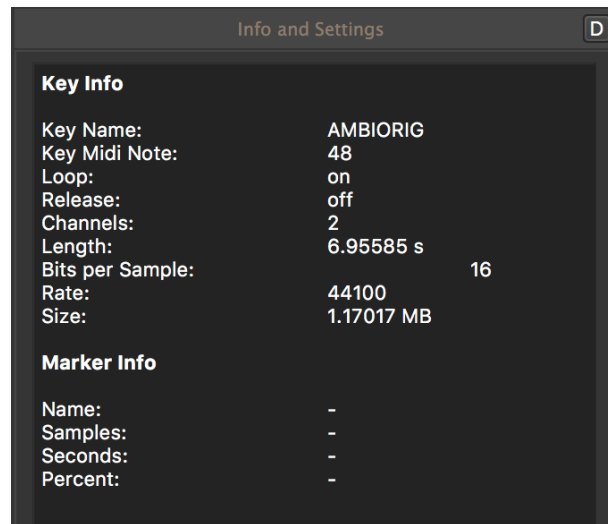
Here you can make the basic settings regarding recordings and editings of your multisamples and samples.

Depending on the selection, this section shows different windows and tabs:

- When a project is selected, the **Info & Settings** section displays the current project's data path which can be edited manually and by using the **Browse** button.

- When a multisample is selected, the **Info & Settings** section shows various tabs with a lot of settings. Read more on page 24.
- When a sample is selected, the Info & Settings section displays information regarding the sample (e.g. bitrate, samplerate and file size). Also, there are 3 tabs below: **Loop**, **Note/Release** and **Key Range**. Read more on page 32.

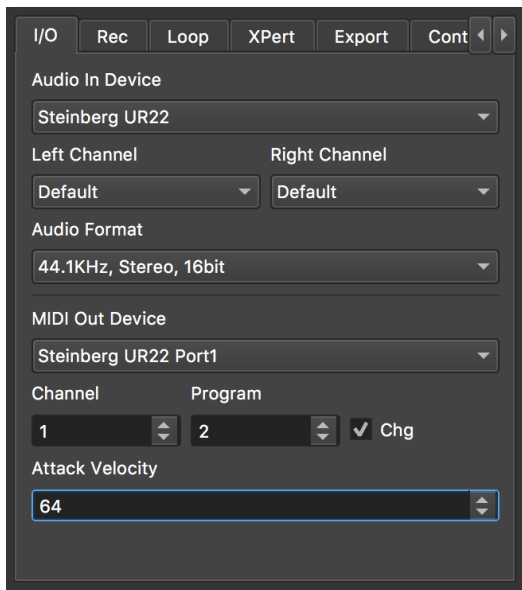
## The Information Window



This is the Info & Settings window when a sample is selected. You can see all important information about the sample, e.g. the name, the number of audio channels, the sample length.



## The I/O Tab (Multisample)



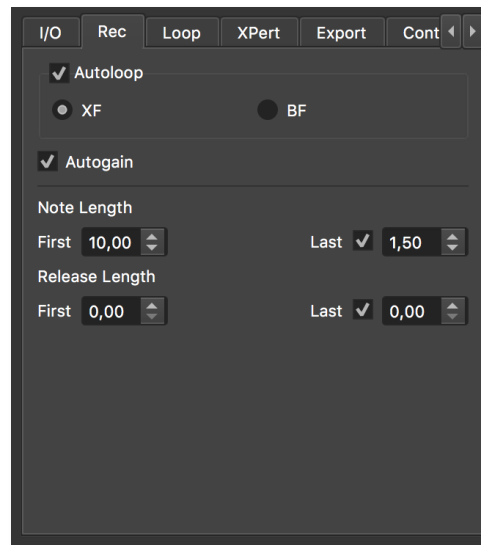
Here you can adjust basic settings for the audio input and Midi output of a selected multisample.

- **Audio In Device** lets you choose an audio interface to record your connected sound source. It is possible to select a different audio input for each multisample. The **Audio In Device** list contains all available audio interfaces. Choose the desired interface, after that you can also select the desired **Left Channel / Right Channel**. SampleRobot will sample all audio coming from these channels.
- **Audio Format** determines the corresponding samplerate and bit depth. Keep in mind that you can only select sample rates and bit depths that are provided by your audio interface and the dedicated drivers. Some drivers do not support 24 bit. In this case choose another driver or another bit depth / samplerate.
- **Midi Out Device** is the connected Midi interface port to trigger Midi notes, send program changes and controllers. The Midi Out Device list contains all available Midi interfaces with their dedicated Midi output ports.
- Within the **Channel** box you can select a dedicated Midi channel (from 1 to 16, all). If **Through** in the MIDI In tab is activated you can play a connected Midi instrument by using a Midi master keyboard. Keep in mind that each multisample can have its own

Midi output port. This enables you to record more than one instrument in one project.

- **Program:** If you have activated the **Chg** function, you can select a Midi program change number for the corresponding sound program. Keep in mind that the connected Midi source must be able to recognize Midi program changes (refer to the manual of your Midi instrument). With this function you can sample different sound programs in one project. To send Midi bank changes you have to set the Midi controller 0 (MSB) and 32 (LSB) in the **Controller** tab. There are different bank change message formats defined by different manufacturers. Please refer to your instrument's Midi chart to find out which messages are supported.
- **Attack Velocity** determines the Midi attack velocity for each note played in the current multisample layer (from 0 to 127).

## The Rec Tab (Multisamples)



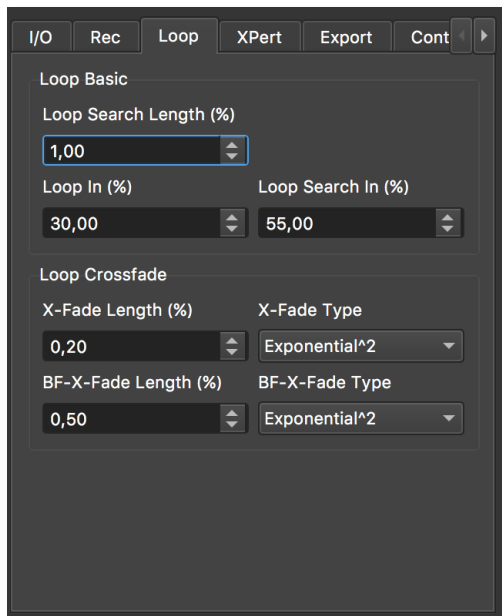
Here you can adjust settings regarding the Autoloop and note length.

- **Autoloop** activates the automatic loop search and loop set function of SampleRobot.

- **XF (Crossfade)** activates the automatic crossfade loop which calculates fades in the sample. This creates fading overlaps for smooth loop transitions.
- **BF (Backward / Forward)** activates the automatic backward / forward loop. It is recommended when you would like to loop samples that contain large volume or tone shifts in the sample. When BF is active the loop area will play forward and backward alternately containing two crossfades (see page 34).
- **Autogain** compensates phase problems (dropping or gaining of volume during crossfade) in the crossfade area automatically. Activate this function if you notice a change in volume during crossfade.
- **Note Length** offers a field for entering the (First) length of the single note / sample in seconds. If **Last** is activated, you can add an additional value for sample length. SampleRobot will use the **First** length for the first sample recording and last for the last sample recording. The sample length between these values will be gradually adjusted for each key recorded. This is useful since lower notes need to be sampled mostly longer than higher notes.
- **Release Length** offers a field for entering the length of an additional sample release time in seconds. The

releasesample is a separate sample recording that starts playback after the regular sample ends playing. It can be triggered automatically after a note off message. A releasesample can "catch" the release phase of a note. Similar to Note Length you can set the **First** and **Last** parameters. Use **Release Length** for sounds with a release phase or a release effect like reverb, delay etc.

## The Loop Tab (Multisample)



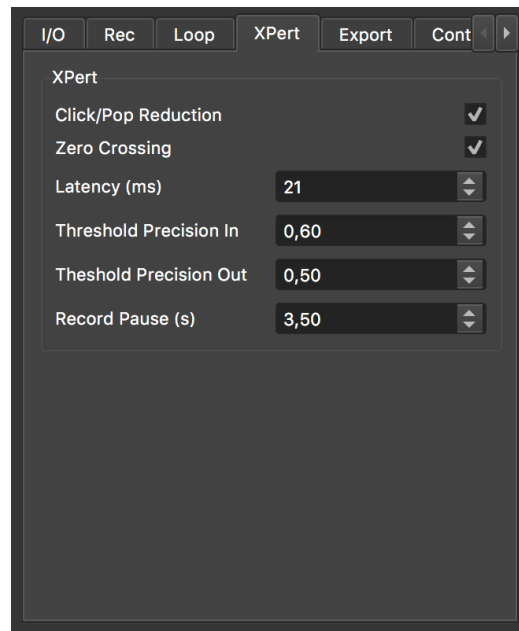
Here you can find all settings regarding loop functions for the momentary selected multisample.

- **Loop Search Length** defines a search pattern length that is used for the **Autoloop** search process. This search pattern is defined by the Loop In marker to the left side and the Loop Search Length (LoopS Len marker in WaveRobot) marker to the right side. SampleRobot searches a similar area in the rest of the waveform from Loop Search In (LoopS In marker) marker to Loop Search Out marker (LoopS Out marker) for a smooth loop transition. The Loop Search Length value can be entered as a percentage of the loop length. Higher values give a better result but cause also a longer loop search time. The value ranges from 0.00 to 99.99 (default: 1.0).
- **Loop In / Loop Search In** define percentage values for the autoloop function. **Loop In** determines the position (in % of the sample length) where the the Loop In marker shall be placed (default 30.0 %) during recording, **Loop Search In** defines the starting position (in % of the sample length) for the autoloop search and sets the LoopS In marker in WaveRobot (default 55.0 %) accordingly.
- **X-Fade Length / Type** for smoother loop transitions define the crossfade's length as a percentage value of the corresponding loop length and the curve of the

crossfade (linear, sinus, a couple of exponential and logarithmic functions).

- **BF-X-Fade Length / Type:** You can enter a length value as a percentage of the corresponding loop length. Choose the desired crossfade curve type (linear, sinus, a couple of exponential and logarithmic functions) from the dropdown.

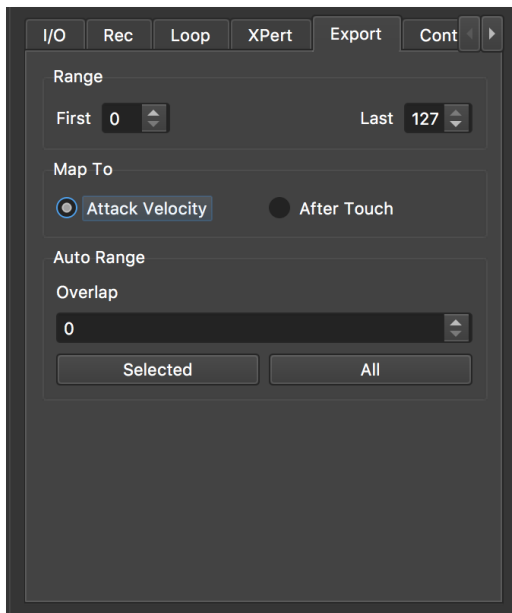
## The XPert Tab (Multisample)



These are additional settings for recording and sample truncation.

- **Click/Pop Reduction** can be activated to suppress typical clicks and pops during the attack and release phase of a sample. The default setting is "active". When activated SampleRobot will render "micro-fades" at the beginnings and ends into exported samples. The length of the fades can be adjusted in the **Preferences Dialog** window.
- **Zero Crossing** should be activated when markers snap automatically to waveform zero crossings (positions in the audio where the amplitude is zero) while dragging. This helps you to avoid pops and clicks. Especially when editing loops this function should always be active. If activated the Autoloop process will work a lot faster.
- **Latency** compensates the latency of your audio interface. The latency is important during Note Out recognition. In most cases you can work with the predefined setting of 21 ms.
- With **Threshold Precision In** you can predefine a value for the precision of the Note-In recognition. A precision value between 0.01 (less precise) and 1.0 (more precise) is possible (default setting: 0.90). Smaller values are recommended when using onboard or non-professional soundcards or when recording sounds with background noise. Higher values are recommended when using professional audio cards.
- With **Threshold Precision Out** you can predefine a value for the precision of the Note-Out recognition. A precision value between 0.01 (less precise) and 1.0 (more precise) is possible (default setting: 0.50).
- With **Record Pause (s)** you can define a time out in seconds between two sampling processes. This function is perfect for letting the release tail fade to zero in between two recordings. It is also designed to avoid clipping problems caused by program change messages. Use Record Pause for older sound modules that need some time for program changing.

## The Export Tab (Multisample)

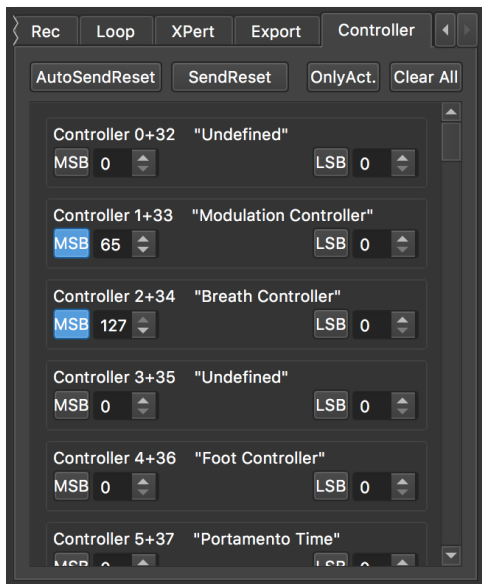


Here you can make export settings for the selected Multisample.

- **Range** defines the velocity mapping of the selected Multisample for the **First** and the **Last** layer (between 0 and 127). This is very useful when importing the exported Project into a software sampler. All sampled will be mapped automatically according to the dedicated range. It es very easy to create multi-velocity layer sounds because every Multisample can have its own ranges.
- It is possible to map the Range settings to **Attack Velocity** or **After Touch**.
- **Auto Range** can be used to adjust the ranges for the **Selected** or for **All** Multisamples automatically. An additional **Overlap** parameter for adjustable overlappings of sample layers is also available.

Tip: If you have recorded some Multisamples with different velocity layers, you can activate the **Auto Range All** function to map all velocity layers automatically. This mapping information is also included in all Multisample files exported from SampleRobot. Then the information will be used in software samplers for dynamic response of the Multisample layers.

## The Controller Tab (Multisample)



In the **Controller** tab you can select the MIDI controllers that will be sent automatically with the note data. You can set up different MIDI controllers for each Multisample.

This enables you to record very living sound programs with different modulation wheel settings, filter cutoff settings or envelope phases. An example can be found on page 71.

- ☐ **Auto Send Reset** resets all MIDI controllers after each sampling process. We recommend not to change the default setting. If you should experience recording problems like MIDI hang-ups or delayed MIDI playback you should deactivate **Auto Send Reset**.
- ☐ **Send Reset** resets all MIDI controllers manually. Keep in mind that some MIDI instruments do not support this reset request.
- ☐ **Only Active** masks unused MIDI Controller to give you a better overview.
- ☐ **Clear All** resets all entries and settings in the MIDI controllers list.

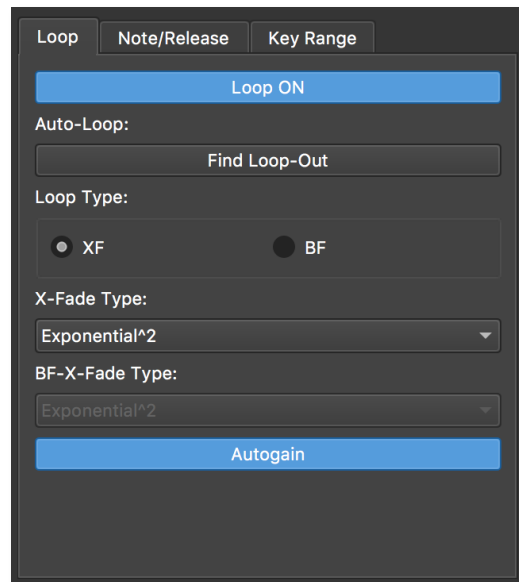
In the MIDI Controller list you have access to all MIDI controllers. Use the scroll bar on the right side of the list window to scroll through all 120 MIDI controllers input fields. The values and settings are almost the same for each controller.

The standard MIDI controllers are numbered from 0 to 120. The corresponding name is also displayed (e.g. Controller 0 "Undefined" or Controller 1 "Modulation").



You can activate and set up MSB (Most Significant Byte) and LSB (Last Significant Byte) independently. The current MIDI controller activation state is displayed by a blue MSB/LSB button. Read more information about MIDI controllers and about the practical usage on page 72.

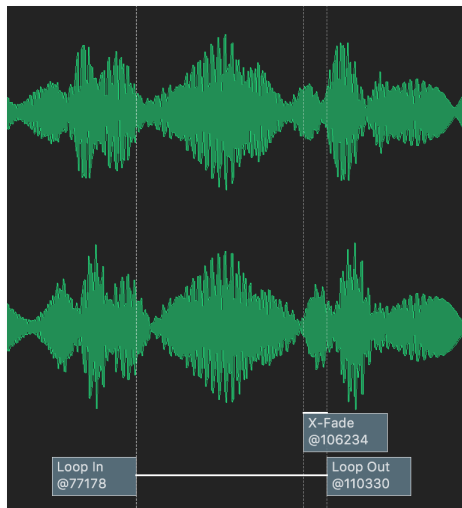
### The Loop Tab (Sample)



Here you can make settings regarding the loop functions for a selected Sample. Keep in mind that this tab is only available when a sample in the Sample section is selected.

- **Loop ON:** Click on this button to activate the loop function (button lits blue). Only when activated, the loop markers and the crossfade markers can be edited.
- **Find Loop-Out** helps you to find perfect loop points in a sample. Click on this button to set the Loop-Out marker automatically to a suited loop position. Please note that the loop search algorithm uses the following markers to calculate the results: **Loop-In**, **Loop-Search-In**, **Loop-Search-Out** and **Loop-Search-Length**. Changing the position of one or more of these markers probably causes different results for the Autoloop process. Try this if the result of the Autoloop function does not meet your needs. The Autoloop function can take some time to find an ideal Loop-Out point, e.g. higher values for **Loop Search Length** cause longer calculation times. For more tips and tricks about loop editing please read page 72.
- **Loop Type XF (Crossfade)** activates the automatic crossfade loop. The function copies the sample area before the Loop-In marker and fades it gradually and in real time into the area before the Loop-Out marker. Before the Loop-Out marker there is the crossfade area where those two parts melt together. The X-Fade function creates an overlap for a smoother loop transition. The X-Fade marker (drag to the left) marks

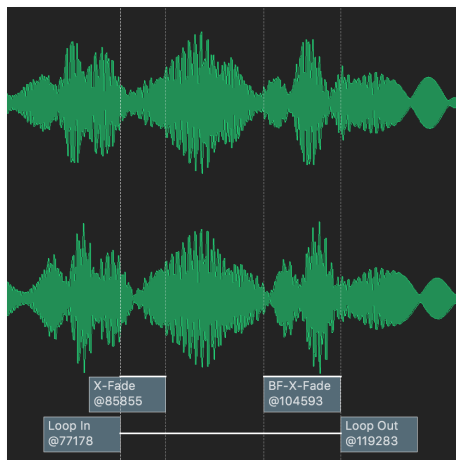
the crossover area before the Loop-Out. The graphic below shows the crossfade loop with highlighted crossfade areas. The loop runs as follows: Loop-In -> X-Fade marker -> begin of crossover with the copied Crossfade loop with crossover areasample area before Loop-In -> Loop-Out -> Loop-In and so on. Only when activated the additional crossfade marker is displayed. Please use the playback cursor (see page 42) to get an impression how the X-Fade works. The cursor visualizes the audio playback position and furthermore it gives a visual feedback in all crossfade areas since the cursor can fade the color intensity during playback.



*Crossfade loop with crossover area*

- **Loop Type BF (Backward/ Forward)** activates the automatic backward/forward loop. The loop area between Loop-In and Loop-Out plays forward and backward alternately. Only with activated BF function the additional crossfade marker (X-Fade) and the BF crossfade marker (BF-X-Fade) are displayed. The

graphics below show the loop process. The X-Fade marker has changed its position in contrast to the X-Fade loop. The Loop Out marker now defines the point of loop playback turnaround. The area between BF-X-Fade and Loop-Out marker is used as a crossfade area for a smoother transition at the turnaround position. The X-Fade marker now defines the normal crossfade area (between X-Fade marker and Loop-In marker) at the end of the first cycle of the backward/forward loop (as described under X-Fade). With this function you can create very interesting loops and it can also be used if the X-Fade loop gives bad results (e.g. decaying sounds). This loop type is completely unique and it is important that you understand how it works. Please use the playback cursor (see page 42) to get an impression how the BF-X-Fade works. The cursor visualizes the audio playback position and furthermore it gives a visual feedback in all crossfade areas since the cursor can fade the color intensity during playback.



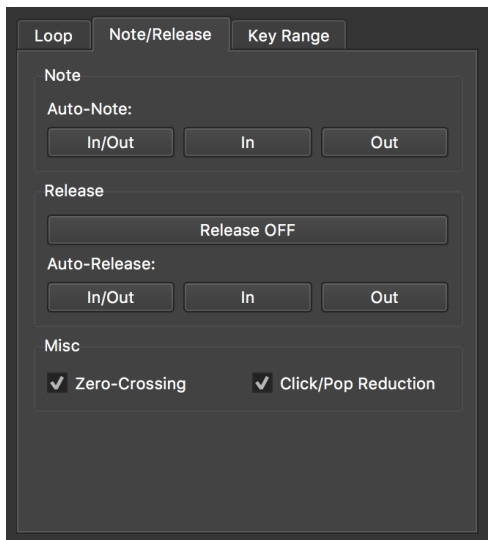
*BF-X-Loop settings*

The loop runs as follows: Loop-In forwards -> BF-X-Fade (with smoothening in the area of loop playback turnaround) -> backwards to X-Fade marker -> X-Fade crossover (copied area before Loop-In fades in) backwards to Loop-In -> again forwards and so on. Hint: If you move the BF-X-Fade marker to the left, the rendered loop will be shorter because normal and reversed waveforms will overlap in the crossfade area.

- **X-Fade Type:** Click on the pop-up menu to select the crossfade curve characteristic for the X-Fade loop (Linear, Sinus, a couple of exponential or logarithmic curves).
- **BF-X-Fade Type:** Click on the pop-up menu to select the crossfade curve characteristic for the BF-X-Fade loop (Linear, Sinus, a couple of exponential or logarithmic curves).
- **Autogain:** Click on this button to activate the automatic gain adaption for all crossfade characteristics (only available for XF loop types). Autogain is a unique function that offers an automatic volume equilibration in the crossfade area (e.g. necessary if phase eliminations in the crossfade area occur) to get smoother transitions without audible volume changes.

Tip: If you want to execute an automatic Loop-In and Loop-Out recognition for a couple of Keysamples in a Project or a Multisample at the same time please use the **Auto-Note/Auto-Loop for all** function which can be found in the Edit menu. Please read also page 52. Under certain circumstances the results of the automatic functions can be inappropriate. In this case you should set the markers manually

## The Note/Release Tab (Sample)



Here you can make settings regarding the marker settings for a selected Sample. Keep in mind that this tab is only available when a sample in the Sample section is selected.

- **Auto-Note In & Out:** Click on this button to activate the automatic Note-In / Note-Out markers positioning. SampleRobot places the Note-In / Note-Out markers to the "audible" start/end of the sample. If the automatic process causes unwanted results you can try to change the **Threshold Precision In** and the **Threshold Precision Out** parameter in the **Preferences**. The Note markers allow you to cut unwanted silence at the beginning and at the end of your audio file (Silence Truncate). For more information about the Threshold parameters please read also page 29.
- **Auto-Note In:** Click on this button to set only the Note-In marker automatically to the "audible" start of the sample.
- **Auto-Note Out:** Click on this button to set only the Note-Out marker automatically to the "audible" end of the sample.

When **Click/Pop-Reduction** is active, SampleRobot will render "micro-fades" at the beginnings and ends into all exported samples.

Tip: You can use the **"Auto-Note/Auto-Loop for all"** function (Edit menu) to start the automatical Note-In and

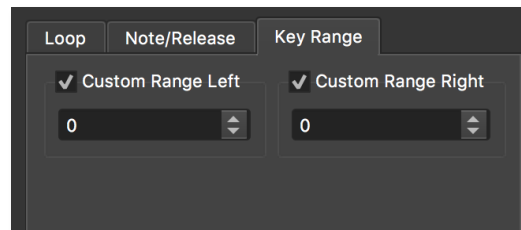
Note-Out recognition for all Keysamples of a Project or Multisample. Please read also page 52.

- **Release OFF:** Click on this button to activate or deactivate the Release-Sample functionality (used for release trigger in a software sampler).
- **Auto-Release In & Out:** Click on this button to set the Release-In und Release-Out markers automatically to the perfect position.
- **Auto-Release In:** Click on this button to set only the Release-In marker.
- **Auto-Release Out:** Click on this button to set only the Release-Out marker.

When **Click/Pop-Reduction** is active, SampleRobot will render "micro-fades" at the beginnings and ends into all exported Release-Samples.

- **Zero Crossing** is normally activated. All loop, size and marker operations will be executed at zero crossings (positions in the audio where the amplitude is zero) then. This helps you to avoid pops and clicks.

## The Key Range Tab (Sample)



Keep in mind that this tab is only available when a sample in the Sample section is selected.

The Key Range determines in which area the dedicated sample will be transposed later when playing it in a software sampler. Smaller Key-Ranges ranges provide more natural playback in a software sampler. The Key-Range is affected by the Key-Step parameter when creating new Projects.

This operation can only be performed when no other Keysamples lie directly next to the current sample.

Keep in mind that the borders can only be moved until they touch the next Key-Sample. Use this function for individual mapping of your samples.

## The Virtual Keyboard Section

In the lower area of SampleRobot you find the virtual keyboard for selecting the sample range. All settings can be made separately for each Multisample.

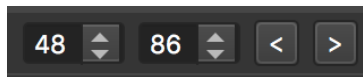


### Control Elements

Click on the corresponding preset buttons on the left to choose a standard sample range (37, 49, 61, 76 or 88 keys).



You can also use the MIDI note number buttons to select the lowest and highest key. Double-click on the MIDI note number to enter a value.



Important hint: You can play your connected MIDI sound generator via the virtual keyboard or via a MIDI master keyboard (**Through** has to be active) when the **MIDI**

button above the virtual keyboard is active. The MIDI Out device in the **I/O** tab must be defined.

### Selection of Keysamples

Keysamples are defined by the selected notes on the virtual keyboard. Those Keysamples will be recorded by SampleRobot. Keysamples can be empty (before recording) or filled by a recorded sample. There is more than one possibility to select Keysamples:

- If you want to record all keys between lowest and highest selected MIDI note number simply press the **All** button. All keys will be selected.
- Press the **Step** button to select keys according to a fix step width. For example: if the lowest MIDI note number is set to the note C1 and the step value is 3, every third key from C1 on will be selected: C1, D#1, F#1, A1, C2, D#2 and so on. You can set step values from 1 to 64.



Another selection type can be activated by pushing the **Inv** button: Click it to inverse the current selection of Keysamples. The **Clr** button deselects all selected keys.



The arrow buttons right beside the MIDI note number buttons enable you to move all selected keys one semitone up or down.

### Settings for the Keysample Range

The Keysample range determines in which area the dedicated sample will be transposed later when playing it in a software sampler. Smaller Keysample ranges provide more natural playback in a software sampler. The Keysample range is affected by the Key Step parameter when creating new Projects.

### Utility Buttons

These buttons control the audio and MIDI playback options:



Click on the **Osc** button to activate an tuning oscillator. The oscillator can be played via the virtual keyboard or by your MIDI master keyboard. Use the tuning oscillator to tune an instrument (e.g. a guitar). When the **MIDI** button is also activated you can play a connected MIDI sound generator simulataneously. This is perfect to tune vintage synthesizers.

Keep in mind that you have to set up an **Audio Out Device** to listen to the tuning oscillator.

Click on the **Wav** button to activate the playback of sounds via the virtual keyboard or via a connected MIDI master keyboard. Only recorded samples can be played.

Please note that SampleRobot can only playback one Keysample at a time. The **Wav** button and the **Osc** button can not be activated at the same time.

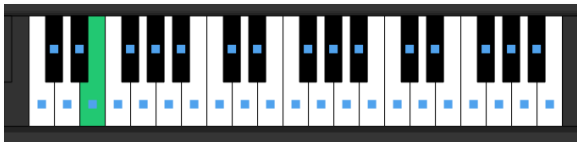
Click on the **MIDI** button to activate the MIDI playback for the virtual keyboard and also for MIDI Thru events. MIDI notes are sent to the MIDI interface output that is selected in **MIDI Out Devices**. You can see a visual feedback on the virtual keyboard when playing MIDI notes via an external MIDI keyboard.

Click on the **Panic** button to send an all-notes off command. Use this button if you should experience a MIDI note hang-up. Check your MIDI settings when MIDI note hang-ups occur all too often. In this case it might be useful to deactivate the **Auto Send Reset** function in the MIDI controllers list.

If you want to listen to recorded samples only, you should deactivate the **MIDI** button. It is possible to playback more than one signal. Therefore you have to decide which button should be activated or deactivated. Don't forget to activate the MIDI button when you want to play your MIDI sound source via the virtual keyboard.



## Virtual Keyboard after Sampling Process

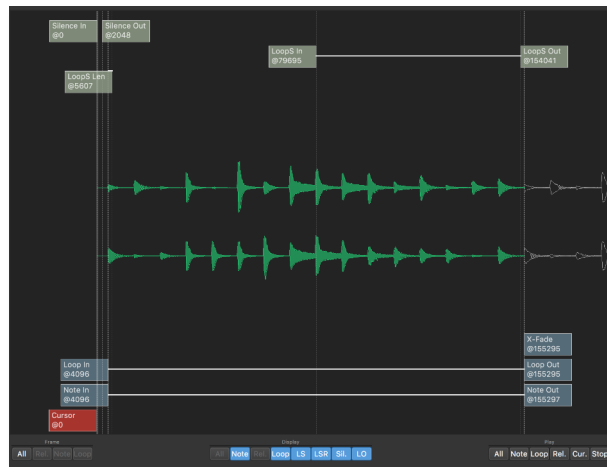


After a successful sampling process you can see blue dots on all selected virtual keys. The Keysamples are now recorded. When the **WAV** button is activated you can playback a Keysample by triggering the corresponding virtual key or the dedicated key on your MIDI keyboard. If you do not hear the playback please check the selected audio output under **Audio Out device** and check also system level and connections.

Right-click on a key to load it into the WaveRobot sample editor. The key of a current loaded sample is lit green.

## WaveRobot Section

SampleRobot offers a professional audio loop editor which is called WaveRobot.



The WaveRobot editor can automatically recognize optimum loop points and alternatives within a wave file. Due to the fact that the graphic engine is based on videogame technology, all editing procedures can be done extremely fast. The editor offers a lot of directly

accessible screen views and stepless waveform zoom levels. It is capable to do amazing and helpful things like finding perfect loops for a couple of wave files simultaneously.

All features and functions of the Audio Wave Editor will be described in detail on the following pages.

To open a sample in the editor, please do the following:

- Right-click on the desired virtual key containing a recorded sample to load a sample into the Wave Editor. The corresponding key lights green.

In the central area the sample is displayed as a waveform containing all available markers (depending on the view options).

### Basic Operations

The sample waveform can be scaled and moved for comfortable editing:

- Click in the waveform and drag it to the left or right, if you would like to move the whole waveform. If you move the sample to the leftmost position you see a display with additional sample information.
- Right-click in the sample waveform to display a centered zoom point. Hold the right mouse button

and move the mouse to zoom the waveform vertically or horizontally.

- When you zoom a waveform, the right and left side of a stereo sample can drift away. Press and hold the SHIFT key, click and move the mouse up or down to graphically move both sample channels closer together. You can also create a graphical overlap of both channels to see differences and common zero-crossings in the sample channels.

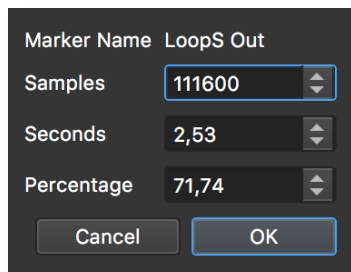
With the operations above you can easily optimize the waveform display for your own needs. If you have lost the overview during editing press the button **All** in the **Frames** section to reset the view and to display the whole waveform.

### The Markers

A marker is a special label for an exact time position within a sample. All markers can be edited the same way:

- Click and hold a marker and move it to the left or right. Markers always show the current sample position within the marker flag. You can also see time information about the dedicated marker in the **Info & Settings** display on the left side of the WaveRobot window.

- Another way to set markers is entering a direct value (as desired in Samples, seconds or as a Percentage). Right-click on the marker flag to open a pop-up window where you easily can enter the desired value. Click OK to close the window.



Marker Name LoopS Out	
Samples	111600
Seconds	2,53
Percentage	71,74
<div>Cancel OK</div>	

- Press **N** (Note markers), **L** (Loop markers) or **R** (Release markers) on your computer keyboard and click in the waveform for positioning the corresponding markers directly. **N** + click sets the **Note-In** marker, **N** + right-click sets the **Note-Out** marker. **L** + click sets the **Loop-In** marker, **L** + right-click sets the **Loop-Out** marker. **R** + click sets the **Release-In** marker, **R** + right-click sets the **Release-Out** marker. Impossible markers positions (like Loop-In before Note-In) will be ignored automatically.

Under certain circumstances some markers can not be moved freely. A crossfade area for example can have at

most the same length as the length from sample start to Loop-In.

The next points describe the marker types in detail:

- The red **Cursor** marks a position within the sample. Its position can be freely defined by moving the cursor to the left or to the right. The cursor is used as a start point for audio playback.
- **Note In** and **Note Out** markers define the sample start and end. The **Auto-Note** (attack and release) recognition (**Auto-Note** and **Auto-Release**) sets the note markers automatically during recording. You can also move the markers manually to adjust note start and end points.
- **Release In** and **Release Out** markers define the release area of a sample. The **Auto-Release** recognition sets these markers automatically during recording. You can also move the markers manually to adjust release start and end points. The release markers are only available when **Release ON** is activated.
- **Loop In** and **Loop Out** markers define the loop area of a sample. The **Autoloop** recognition of WaveRobot sets the markers automatically during recording. You can also move the markers manually to find the perfect loop start and end points. Loop markers are

only available when the **Loop ON** function is activated.

- **X-Fade (Crossfade-Loop)** and **BF-X-Fade (Crossfade Backward-Forward)** markers define the loop transitions of a sample. The X-Fade area can be adjusted in the waveform region before the Loop-Out point. BFX defines two crossfade areas: the area around the alternation point and the X-Fade area. These special loop markers are only available when the corresponding loop function (**XF** or **BF**) is activated. Tip: To understand the complex loop functions of WaveRobot it is important to use the Play cursor from time to time. It visualizes the audio playback position and furthermore it gives a visual feedback in all crossfade areas since the cursor can fade the color intensity during playback. Try different loop types and crossfades. The cursor always informs you what area is played at that moment.
- **LoopS In (Loop Search In)** and **LoopS Out (Loop Search Out)** and the **LoopS Len (Loop Search Length)** markers are used for the automatic loop recognition and have influence on the length and positions of the loop area. WaveRobot finds the optimal loop position and duration. This search function can be controlled by moving the search markers. **Loop Search In** defines

the starting position for the Autoloop search and **Loop Search Out** defines the end position for the search process. **Loop Search Length** defines a search pattern length that is used for the Autoloop search process. This search pattern is defined by the Loop-In marker to the left side and the Loop-Search-Length marker to the right side. WaveRobot searches a similar area in the rest of the waveform (from Loop-Search-In marker to Loop-Search-Out marker) for a smooth loop transition. The Loop-Search-Length value can be entered as a percentage of the loop length. Higher values give a better result but cause also a longer loop search time. This parameter is identical to the Loop-Search-Length marker. In general WaveRobot finds the optimal loop position and also good alternative **Loop Search Results**. Use different search markers settings to experiment with the Autoloop function. Together with SampleRobot the Loop-Search-In and Loop-Search-Out marker are identical to the values in the **Multisample Record & Autoloop Settings**.

- **Loop Search Results** markers can't be moved. They mark alternative positions for the Loop-Out marker after an Autoloop process. Loop Search Results are displayed as double arrows that mark the exact alternative loop position in the waveform.

- **Silence** markers define an area within the sample where only silence or background noise is located. **Auto-Note-In** uses this area for its attack-transition search to specify where the usable sample material starts. The **Silence** markers are located at the beginning of a sample. The Note-In search starts at the **Silence-Out** marker. Since WaveRobot does an automatic silence markers adjustment, under normal circumstances it is recommended not to move silence markers. If you have recorded a sample that contains some background noise and/or clicks it might make sense to move the silence markers manually to let WaveRobot know where the silence is and how loud the silence is.

### WaveRobot Edit Buttons

Below the WaveRobot section, a lot of display symbols and functions are available for editing markers and loops.

The **Frame** section offers buttons for scaling and centering the waveform or parts of it to the current window size. The sample data and markers positions won't be affected since this function is only a display option.

- **All:** Click on this button to display the complete sample in an optimized window overview.

- **Release:** Click on this button to display the complete release area of the sample.
- **Note:** Click on this button to display the complete note area from the Note-In marker to the Note-Out marker.
- **Loop:** Click on this button to display the complete loop area. The **In** and **Out** buttons (in the **Center Loop** area) are used to flip the display between the Loop-In and the Loop-Out marker. When using this function you can specify if you want to see the waveform automatically horizontally scaled or not (see function **Set x-Zoom when toggling** on page 178).

The **Display** section offers several buttons to show or hide markers. The sample data, markers positions and the activation status won't be affected since this function is only a display option. An active button lights blue while an deactivated button is greyed out.

- **All:** Click on this button to show all available markers.
- **Note:** Click on this button to show or hide the note markers.
- **Release (Rel):** Click on this button to show or hide the release markers.

- **Loop:** Click on this button to show or hide the loop markers. These markers will be displayed only when **Loop On** is activated.
- **Loop-Search (LS):** Click on this button to show or hide the loop search markers. These markers will be displayed only when **Loop On** is activated.
- **Loop-Search-Results (LSR):** Click on this button to show or hide the results of the automatic loop. These markers will be displayed only when **Loop ON** is activated.
- **Silence (Sil.):** Click on this button to show or hide the Silence markers.
- **Loop Overlay (LO):** Click on this button to activate or deactivate the Loop Overlay function. Wouldn't it be great to see how the regions around the loop points in a sample match each other when moving loop markers? WaveRobot can overlay the dedicated regions in all zoom settings. If you do not trust SampleRobot's automatic loop search (☺) or if you prefer to do loop editing manually, this function is perfect for you. If you move the loop markers you will recognize that the overlay area also moves. If the original waveform matches the overlayed waveform while moving loop points, the loop result could be

perfect. You can use the Loop Overlay function within all zoom settings and even during playback. Keep in mind: Loop Overlay is only available when using the crossfade loop type (XF).

The **Play** section offers several buttons for playback desired areas within the sample. Keep in mind that you have to define an audio interface to listen to the plkayback

- **All:** Click on the All play button to playback the complete Keysample. All markers will be ignored.
- **Note:** Click on the Note play button to playback the sample from the Note-In marker. When the loop function is active, the playback of the loop area will be repeated until you push **Stop**. A faster alternative to stop/ start the playback is to hit the space bar on your computer keyboard. After stopping the playback of the release area (if used) will start.
- **Loop:** Click on the Loop play button to playback the loop area between the loop markers. The playback of the loop area will be repeated until you push the **Stop** button.
- **Rel. (Release):** Click on the Release button to playback only the release phase of the sample.

- **Cur. (Cursor):** Click on the Cursor button to playback the sample from the current cursor position.
- **Stop:** Click on the stop button to stop the playback. When **Release ON** is active the release phase will start playing automatically after pressing the **Stop** button. Press **Stop** again to end the playback of the release area.

## The Menus

Tip: Keep in mind that all important menu functions can also be accessed via keyboard shortcuts. The corresponding shortcut is displayed next to the menu function's entry. Take use of the shortcuts to work more efficiently with SampleRobot. Hint: the Ctrl button is valid for Windows, in macOS please use instead CMD.

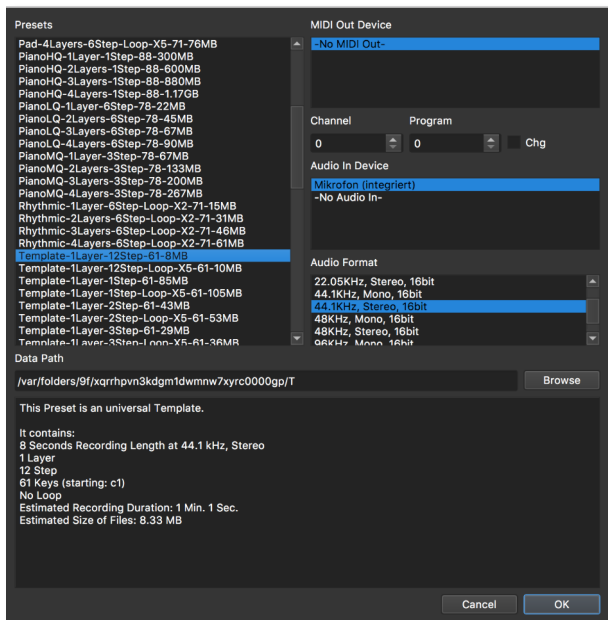
## The File Menu

The file menu contains all menu entries regarding storing and opening SampleRobot data.

- **Open Project [Ctrl+O]** opens a window for loading SampleRobot Projects.
- **Save selected Project [Ctrl+S]** opens a window for saving the selected Project.

- **Save selected Project as [Shift+Ctrl+S]** opens a window for saving the selected Project with another name or to another location.
- **Preset Manager [Ctrl+P]** contains and manages over 80 basic presets for different sampling situations and different instruments. This helps to start quickly without having to know SampleRobot in detail. You can create your own Presets by saving Projects to the Presets folder. A description of the selected preset can be found in the lower section. Select your desired MIDI settings (**MIDI Out Device, Channel and Program**) and audio settings (**Audio In Device and Audio Format**), before you click on the **Load selected Project** button. The data path for presets can be changed by clicking on the *Browse* button.

Hint: (Not only) beginners should work frequently with the **Preset Manager** to find out how SampleRobot works. You should also create your own presets.



- The **Project Wizard** allows you to create new Projects easily. It guides you step by step through all relevant parameters. Use the **Next** and **Back** buttons to navigate between the different pages for the sampling

settings. **Cancel** closes the Project Wizard. You can activate/deactivate the Project Wizard at startup in the Preferences dialogue (see page 61).

Overview of the Project Wizard's pages:

- Project Name
- Project's Data Path
- Audio In Device
- Sample Format
- Recording Mode (Automatic or Semiautomatic)
- MIDI Out Devices
- MIDI Out Settings (MIDI Channel and MIDI Program)
- Sampling Range
- Velocity Layers
- Key Step
- MIDI Out Settings (Note Length and Release Length)
- Auto Loop On or OFF



- Auto-Loop Settings 1 (Simple, Intermediate, Complex)
- Auto-Loop Settings 2 (Starting Point of Loop)
- Finish

For more information about the different pages of the Project Wizard please refer to our Ultra Quick Start on page 10.

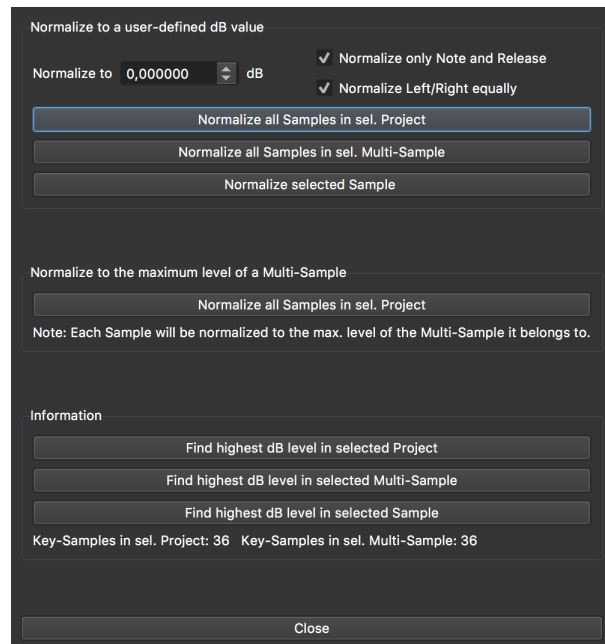
- **Quit SampleRobot** closes the SampleRobot application (for macOS: located in the SampleRobot menu). SampleRobot doesn't like this command. ☺

## The Edit Menu

Here you find the edit functions for recorded samples.

### Normalize

This function rises the level of one or more samples to maximum (0 dB) without causing distortion. You can also enter a specific maximum level like normalize to -3 dB. This function automatically searches the maximum peak level in a sample and raises this level to the selected value. All the rest of the sample will be adjusted accordingly. In general this results in a higher overall volume of the sample.



- **Normalize to** allows to set the normalize level. This value should be set to 0 dB or below 0 dB to avoid distortion (for example -2 dB).

- **Normalize only Note and Release** is an option to normalize the area between the note markers and the area between the release markers only.
- **Normalize Left/Right equally** is an option to normalize both channels simultaneously if you have recorded samples in stereo. When deactivating this function, both channels of a stereo sample will be normalized independently.
- **Normalize all Samples in the selected Project** normalizes all Keysamples of the selected Project (batch processing).
- **Normalize all Samples in the selected Multisample** normalizes all Keysamples of the selected Multisample (batch processing).
- **Normalize selected Sample** normalizes the current Keysample in the editor.
- **Normalize all Samples in selected Project:** Each Sample will be normalized to the maximum Level of the Multisample it belongs to normalizes all Multisamples of a Project. Therefore each Keysample will be normalized to the absolute peak level which was found in the associated Multisample. Every Multisample layer will be analyzed separately resulting in a perfect

Multisample normalization. In other words: For each Multisample all dedicated Keysamples will be normalized to the corresponding peak level of that Multisample.

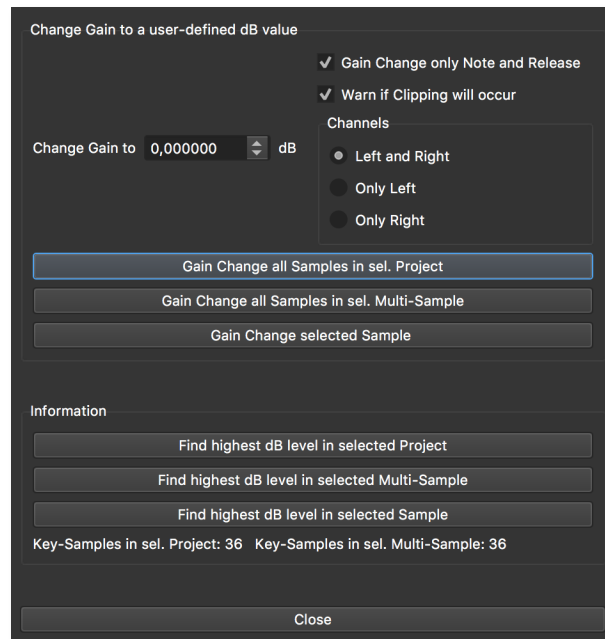
- **Find highest dB Level in selected Project** is an automatic function to find the absolute peak level in the selected Project. Therefore all Keysamples of the dedicated Project will be analyzed.
- **Find highest dB level in selected Multisample** is an automatic function to find the absolute peak level in the selected Multisample. Therefore all Keysamples of the dedicated Multisample will be analyzed.
- **Find highest dB level in selected Sample** is an automatic function to find the absolute peak level of the current loaded Keysample.
- **Keysamples in selected Project/Multisample** shows the number of all available Keysamples in the selected Project and the selected Multisample.
- **Close** closes the Normalize window.

Please keep in mind that the **Normalize** function is working destructively. The original samples on your hard disk will be altered by these functions. So use the gain

and normalize functions carefully to avoid losing sample dynamics and to avoid unwanted distortions.

## Gain Change

Gain change works similar to the normalize function except that the adjustments of the samples' levels can be defined by a relative value. Use this function to change the level of all samples equally (e.g. gain all samples + 3dB). With this function you can boost or lower the level of Multisamples and Projects without losing the individual level nuances between different Key-Samples. Tip: Use **Gain Change** instead of **Normalize** if you want to keep these level nuances.



- **Gain Change to** allows setting a volume change value in dB. It is possible to enter positive and negative values.

- **Gain Change only Note and Release** changes the volume for the area between the note markers and the release markers only.
- **Warn if Clipping will occur** displays a warning message if the gain change process would cause a digital clipping. If clipping would occur you have the option to cancel the operation or to continue. It is strongly recommended not to continue since this operation can not be undone. Continue would cause digital distortion in your original samples. As long as you click **Cancel** no Keysample will be affected.
- **Left and Right** changes the volume for both channels of a stereo sample.
- **Only Left** changes the volume only for the left channel of a stereo sample.
- **Only Right** changes the volume for only the right channel of a stereo sample.
- **Gain Change all Samples in selected Project** changes the volume for all Keysamples of the selected Project (batch processing).
- **Gain Change all Samples in the selected Multisample** changes the volume for all

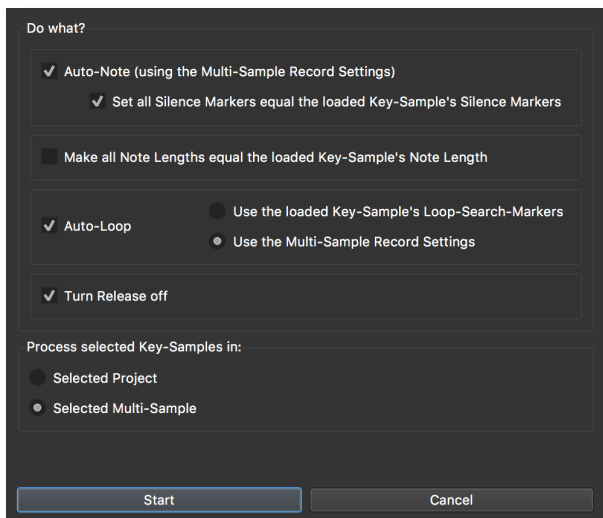
Keysamples of the selected Multisample (batch processing).

- **Gain Change selected Sample** changes the volume for the current selected Keysample.
- **Find highest dB level in selected Project** is an automatic function to find the absolute peak level in the selected Project.
- **Find highest dB level in selected Multisample** is an automatic function to find the absolute peak level in the selected Multisample.
- **Find highest dB level in selected Sample** is an automatic function to find the absolute peak level of the current selected Keysample.
- **Keysamples in selected Project/Multisample** displays the number of all available Keysamples in the selected Project and in the Multisample.
- **Close** closes the Gain Change window.

Please keep in mind that the **Gain Change** function works destructively. The original samples on your hard disk will be altered by these functions. So use the gain and normalize functions carefully to avoid losing sample dynamics and to debar unwanted distortions.

## Auto-Note/Auto-Loop for all

With **Auto-Note/Auto-Loop for all** you can apply loop marker settings and/ or note marker settings from one Keysample to all other selected Keysamples in a Multisample or in a Project. This is a very powerful function e.g. to apply similar loops to a bunch of Keysamples at the same time.



- **Auto-Note (using the Multisample Record Settings)** moves the Note-In markers for all Keysamples except the loaded one based on the adjustments in the Multisample Record Settings.
- **Set all Silence Markers equal the loaded Keysample's Silence Markers** moves all silence markers in all Keysamples to the same absolute sample positions as the loaded Keysample's silence markers. Use this function when the automatic transient recognition (Note-In, Note-Out) does not work precisely for determining the attack-transient of a sample. This could happen if there are background noises or some other volume peaks recorded before the beginning of the sample. With this function you can exemplarily define an area in a Keysample that contains the background noise or other volume peaks. SampleRobot will treat the area between the silence markers as "silence". If you execute the function "Auto-Note for all" after that, SampleRobot will then search again all Keysamples for transients that have got higher volumes than the maximal volume found between the silence markers. In other words you can specify a threshold with the silence markers. The maximum peak between the silence markers is the

maximum background noise level. The first peak found in the sample that is higher than that maximum silence level will be chosen by SampleRobot as the Note-In position.

- ☐ **Make all Note Lengths equal the loaded Keysample's Note Length** sets all Note-Out markers of all Keysamples so that each note length is equal the current Keysample. E.g. this function is useful if you have generated different sample lengths during the semiautomatic recording process and would like to shorten several samples at the same time. Please note that only markers are affected by this operation, no sample data.
- ☐ With the **Auto-Loop** check-box you can choose, whether the Loop-Search-Markers of the current Keysample (**Use the loaded Keysamples's Loop-Search-Markers**) will be used for the **Auto-Loop for all** operation or if WaveRobot should use the settings made in the Multisample Record Settings (**Use the Multisample Record Settings**). If you did manual loop editing in WaveRobot for the current Keysample, including working with the loop-search markers and you would like to apply your manually found loop to all other Keysamples, than this function is the ideal tool. In this case you

should select the option **Use the loaded Keysamples's Loop-Search-Markers**.

- ☐ **Turn Release off** sets the release Function to Release OFF for all Keysamples in one go. In this case no Release-Samples will be generated during export
- ☐ **Process selected Keysamples in:** With this check-boxes you can decide, if you want to apply the settings to all Keysamples of the current Project (**Selected Project**) or to all Keysamples of the selected Multisamples (**Selected Multisample**).

Finally, click on the **Start** button to initiate the process. Click on **Cancel** to close the window without making any settings.

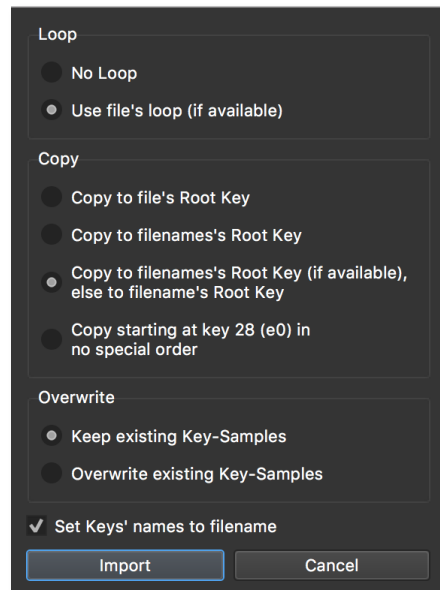
Please note that you can abort this function during processing at any time by pressing the "ESC" key on your computer keyboard. This does not affect the current loaded Keysample in the WaveRobot Editor.

## The Import/Export Menu

Here you can handle the import and export of audio files. To use your created Projects for music production you have to load them into a Yamaha Montage. Therefore, the audio samples will be rendered during export on base of all markers and loop settings. Sample information before the Note-In marker will not be exported. Crossfades will also be rendered to the file to save CPU power when using a software sampler. The original recordings (the Keysamples in SampleRobot) will not be changed or deleted during this process. Of course SampleRobot will render all loops (also the complex forward/backward combinations) to the export files so that they are compatible with all available software samplers.

### Import Audio Files

Use this function to import audio files from your hard disk into SampleRobot for further editing.



SampleRobot can read information from the audio file. If desired, existing loop points can also be imported (Function: **Use File's Loop**) or ignored (Function: **No Loop**). **Copy** allows you choosing the current key where the imported sample was dropped to. You can use the

original Rootkey of the sample (**Copy to File's Root Key**) if this information is included in the file. **Copy to filename's Root Key** allows you to use the file name as the Keysample's name. If you import more than one audio files simultaneously, you can **Copy to filename's Root Key (if available) also to filename's Root Key or Copy starting at Key xy in no special order**. Just select the desired option to map your imported samples. In both dialogues existing Keysamples can be kept (**Keep existing Keysamples**) or overwritten (**Overwrite existing Keys-Samples**) during import. **Set Key's names to filename** allows you to use the file name as the Keysample's name.

Please note that there is no Undo function when existing Keysamples were overwritten after import.

### Export selected project as...

Enables you to export the selected Project in both Yamaha Montage formats. If selected, a dropdown menu will open. Each export file contains all single samples with the dedicated Rootkey and, if available, also with mapping information. Keep in mind: Export doesn't affect your original recorded samples.

The following export formats are supported for the Yamaha Montage:

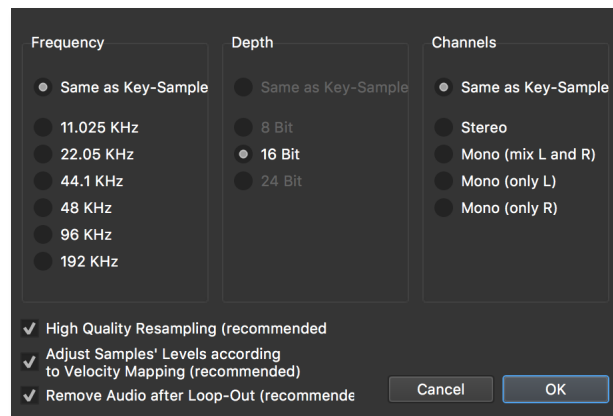
☐ **Yamaha Montage (\*.X7U)**

☐ **Yamaha Montage (\*.X7L)**

Use this function as follows:

☐ Select the desired Project in SampleRobot.

☐ Select **Export selected Project as...** from the Import/Export menu.



☐ A dialog window opens: **Export Settings**. Here you can change sampling rate (**Frequency**), bit depth



(**Depth**) and stereo settings (**Channels**) for the export process. Unavailable options are greyed out. The functions are useful to change the exported instruments' sample quality for different reasons like economize CPU power when loading the instrument into your software sampler. The option **High Quality Resampling** (recommended) should always be turned on for best sound quality. **Adjust Samples' Levels according to Velocity Mapping** increases the volume of samples in lower velocity layers automatically. This function is useful because most software samplers reduce the volume of samples at lower velocities automatically. So this function prevents from an unwanted double loss of volume in lower velocity ranges by gaining low velocity samples during export. We recommend to leave this function activated, otherwise all samples will be exported with the originally recorded volume. If the option **Remove Audio after Loop-Out** is activated SampleRobot exports all samples without rendering the area between Loop-Out and Note-Out to reduce the file size of exported data. This part of the sample will not be played anyway in most cases. The export option "Cakewalk Dimension Preset" and all "\*.sfz" export formats offer additional settings and direct mapping of

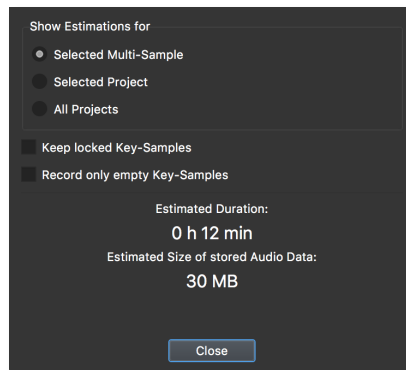
Release-Samples. Those samples are mapped automatically for natural instrument's behaviour in the software sampler. Often the transitions between note area and release phase sound unnatural because of different volumes. Therefore SampleRobot can include crossfade information to the exported instrument.

- Click on the *OK* button to continue with the export operation. *Cancel* aborts the export process operation and returns to main window.
- In the following window you can enter the name and select a data path for the files to be exported.
- Click on *OK* to finalize the export operation.
- Read more on page 12, how to load the export file into a Yamaha Montage.

## The Recording Menu

Here you can start your recordings. Some functions of this menu are identical to the **Recording** buttons in the Project window and in the Multisample window.

- **Estimated Time and Size [Ctrl+E]** gives you an overview of the recording duration and the required memory space on your hard disk that will be used for recording Projects and Multisamples. This function is perfect for planning recording procedures and for your next coffee break while SampleRobot is working. **Show Estimations for** is an option to calculate the forecast for the selected Multisample (**Selected Multisample**), for the selected Project (**Selected Project**) or for all Projects (**All Projects**). If you have already made partial recordings for Projects or Multisamples you can use the **Keep locked Keysamples** option to improve the estimation. In this case all locked Keysamples (that are already recorded) will be excluded from the calculation. **Record only empty Keysamples** offers an option to correct the estimation for recording time and hard disk space so that already recorded Keysamples are excluded from the calculation causing better estimations.



- **Record selected Multisample [Ctrl+R]** starts the automatic recording procedure for the selected Multisample. It is designed for fully automated recording of MIDI sound sources. This function is identical to the *Recording* button in the Multisample section when Auto is active. Keep in mind that the status Auto is irrelevant when you start recording by selecting this menu entry. The status is also irrelevant for all other selections in the **Recording** menu.
- **Record selected Project [Alt+R]** starts the automatic recording procedure for the selected Project. It is designed for fully automated recording of

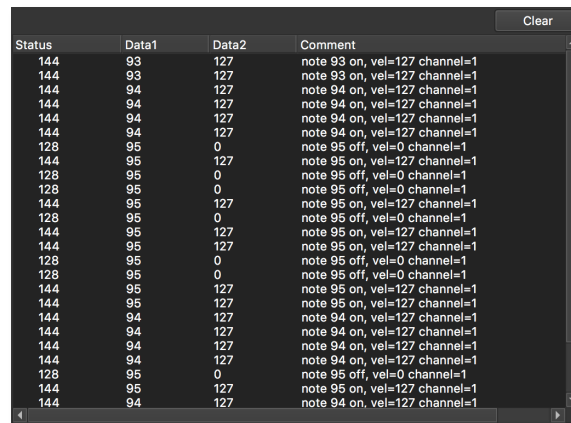
MIDI sound sources. This function is identical to the *Recording* button in in the Project window.

- **Record all Projects [Ctrl+Alt+R]** starts the automatic recording procedure for all Projects. It is designed for fully automatic recording of MIDI sound sources.
- **Semiautomatic Record selected Multisample [Shift+Ctrl+R]** starts the semiautomatic recording procedure for the selected Multisample. It is designed to record non-MIDI sound sources key by key. This function is identical to the *Recording* button in the Multisample section when *Auto* is deactivated.
- **Semiautomatic Record selected Project [Shift+Alt+R]** starts the semiautomatic recording procedure for the selected Project. It is designed to record non-MIDI sound sources key by key. This function is identical to the *Recording* button in the Project window *Auto* is deactivated.
- **Semiautomatic Record all Projects [Shift+Ctrl+Alt+R]** starts the semiautomatic recording procedure for all Projects. It is designed to record non-MIDI sound sources key by key.

You will find more information in the chapter "Recording" on page 63.

## The View Menu

Here you can open a MIDI monitor window.



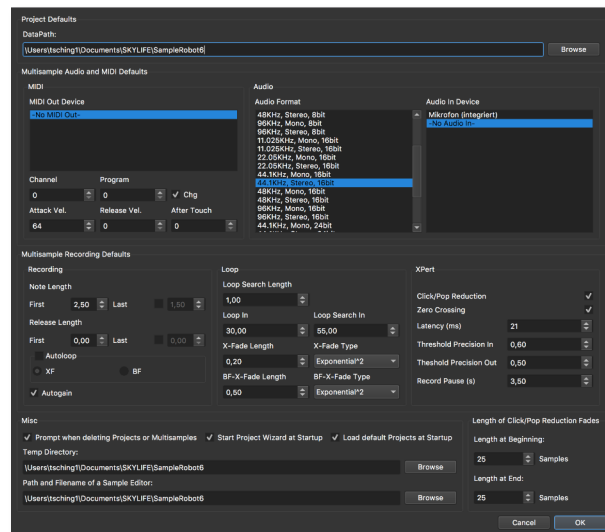
Status	Data1	Data2	Comment
144	93	127	note 93 on, vel=127 channel=1
144	93	127	note 93 on, vel=127 channel=1
144	94	127	note 94 on, vel=127 channel=1
144	94	127	note 94 on, vel=127 channel=1
144	94	127	note 94 on, vel=127 channel=1
144	94	127	note 94 on, vel=127 channel=1
128	95	0	note 95 off, vel=0 channel=1
144	95	127	note 95 on, vel=127 channel=1
128	95	0	note 95 off, vel=0 channel=1
128	95	0	note 95 off, vel=0 channel=1
144	95	127	note 95 on, vel=127 channel=1
128	95	0	note 95 off, vel=0 channel=1
144	95	127	note 95 on, vel=127 channel=1
128	95	0	note 95 off, vel=0 channel=1
144	95	127	note 95 on, vel=127 channel=1
144	95	127	note 95 on, vel=127 channel=1
144	94	127	note 94 on, vel=127 channel=1
144	94	127	note 94 on, vel=127 channel=1
144	94	127	note 94 on, vel=127 channel=1
128	95	0	note 95 off, vel=0 channel=1
144	95	127	note 95 on, vel=127 channel=1
144	94	127	note 94 on, vel=127 channel=1

The MIDI Monitor display shows all incoming MIDI data in decimal and hexadecimal numbers. Next to the status byte also first and second data values are shown. The comment row gives you more information about the MIDI data type. The last four entries are displayed permanently until you press the *Clear* button. Use the MIDI Monitor to analyze your incoming MIDI data, for example to specify

a MIDI controller or to recognize a program or bank change message.

## The Extras Menu

- **Midi Monitor [Cmd+M]** opens a window that will show incoming midi signals with their data packs.
- **VST Host** opens a window for loading VST2 instruments. Browse to your VST2 folder and load the plugin you would like to sample. There is an offline bounce option available in the recording dialog.
- **Open Preference Dialog [Alt+P]** opens a window with a couple of basic settings. These settings will be saved automatically when you quit the SampleRobot application. The preferences will be used as default settings (e.g. when you create a new Multisample).



- **Data Path** is a field to enter a default data path for all SampleRobot recordings. You can also use the *Browse* button on the right to specify the data path.
- **Multisample Audio and MIDI Defaults** allows you to set up all default parameters regarding the Multisample Record section. Please read also page 21

for more information. These settings will be used as default settings when creating new Multisamples.

- **Multisamples Recording Defaults** allows you to set up all parameters regarding the **Multisample Record & Loop Settings**. Please read also page 24 for more information. These settings will be used as default settings when creating new Multisamples.
- On the right, you will find some **Xpert** settings for advanced users:
  - **Click/Pop Reduction** can be activated to suppress typical clicks and pops during the attack and release phase of a sample. The default setting is active. When activated SampleRobot will render "micro-fades" at the beginnings and ends into exported samples.
  - **Zero Crossing** should normally be activated. All loop, size and markers operations will be executed at zero crossings (positions in the audio where the amplitude is zero) then. This helps you to avoid pops and clicks.
  - **Latency** compensates the latency of your audio interface or sound card. The latency is important during Note Out recognition. In most cases you can work with the predefined setting of 21 ms.

- **Threshold Precision In** determines a predefined value for the precision of the Note-In recognition. A precision value between 0.01 (less precise) and 1.0 (more precise) is possible (default setting: 0.90). Smaller values are recommended when using onboard or non-professional soundcards or when recording sounds with background noise. Higher values are recommended when using professional audio cards.

- **Threshold Precision Out** determines a predefined value for the precision of the Note-Out recognition. A precision value between 0.01 (less precise) and 1.0 (more precise) is possible (default setting: 0.50).

- **Record Pause (s)** determines a time out in seconds between two sampling processes. This function is perfect for letting the release tail fade to zero in between two recordings. It is also designed to avoid clipping problems caused by program change messages. Use this function for older sound modules that need some time for program changes.

- In the **Misc** section you can select a data path (**Path and Filename of a Sample Editor**) to an external sample editor (e.g. Steinberg Wavelab) which opens

automatically if you click on the **Edit** button. You should also define a **Temp Directory** which will be used for internal copy processes. **Prompt when deleting Projects or Multisamples** activates/deactivates the safety dialog when deleting Projects or Multisamples. Beginners should leave this option active. **Start Project Wizard at Startup** is an option to automatically open the Project Wizard when the SampleRobot application is started. You can also **Load default Projects at Startup** as an option.

- **Length of Click/Pop Reduction Fades** allows you setting fade values (in samples) for the automatic reduction of clicks at the beginnings and ends of samples during export. The value **Length at Beginning** is used for the fade-in rendering ("Micro fade") regarding the samples' and Release-Samples' start point (Note-In, Release-In). The value **Length at End** is used during the export for the fade-out rendering (Note-Out, Release-Out). Please keep in mind that the Click/Pop Reduction function must be activated before exporting the audio files. It only affects exported samples.
- **Set current Settings as Default** copies the current settings from the SampleRobot window automatically

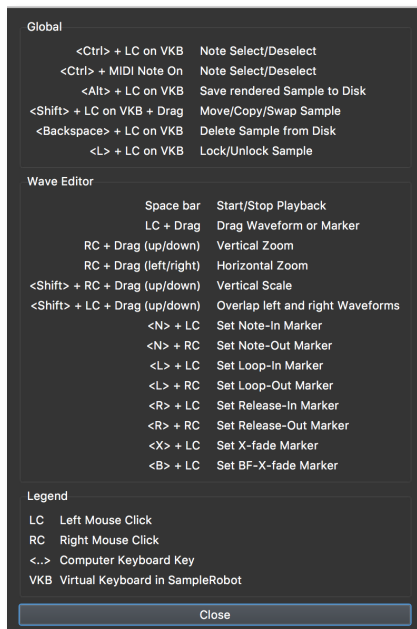
to the **Preferences**. So you do not have to adjust settings twice.

## The Help Menu

Here you find additional SampleRobot information. Take use of the help functions – they are worth it!

- **About SampleRobot** opens a window with information about the SampleRobot application (for macOS -> you'll find this window in the **SampleRobot** menu)
- **Support** navigates to the SampleRobot support website SampleRobot and WaveRobot. To use this function, you need an active internet connection.
- **Manuals** opens the latest PDF manual for your SampleRobot. To use this function, you need an active internet connection.
- **Premium Instruments** opens a website with optional downloadable instruments for registered users. To use this function, you need an active internet connection.
- **Version History** opens a website with the version and function overview of the latest SampleRobot software releases.

- **Quick Help: Key Commands** opens a window with a list of common key commands in SampleRobot. All other key commands are displayed next to the function name in the dedicated menu entry.

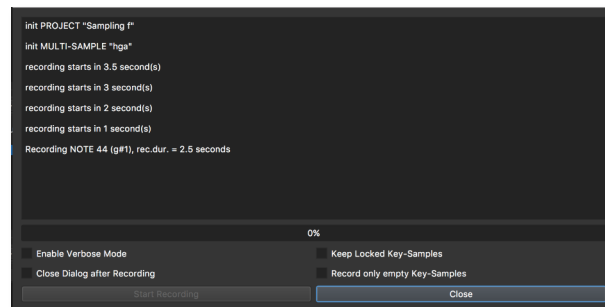


# Recording

## The Automatic Recording Process

The automatic recording process is designed for fully automated recording of MIDI sound sources. Below you find a complete description of the automatic recording process:

- Set up one or more Projects with corresponding Multisamples. Check all MIDI and audio connections by using the **MIDI Monitor** and the **Peak Meter**.
- The **Auto** button besides the **Recording** button must be activated for automatic recording.
- Click on the **Recording** button in the Multisample section if you want to record one Multisample. Click on the **Recording** button in the Project window if you want to record one Project. In addition you can start recording by using the recording function in the **Recording** menu. There you will also find a function to record all Projects.
- A recording window opens.



- Click on **Start Recording** to start the recording process directly. **Close** cancels the procedure. After the record dialog is closed SampleRobot will be ready for editing again. During the recording process the **Start Recording** button is greyed out. Click on Close to interrupt the recording process.
- By activating **Enable Verbose Mode** you can monitor all recording actions in detail during the recording process. **Close Dialog after Recording** is an option to close the record window automatically after the last recording.
- **Keep locked Keysamples** is an option to protect locked Keysamples against overwriting by a new recording.



Please read also page 57 for more information on how to lock samples.

- **Record only empty Keysamples** is an option to record only selected keys which do not contain a recorded Keysample. All previous recordings are preserved.

During the recording procedure you can monitor important actions in the record window.

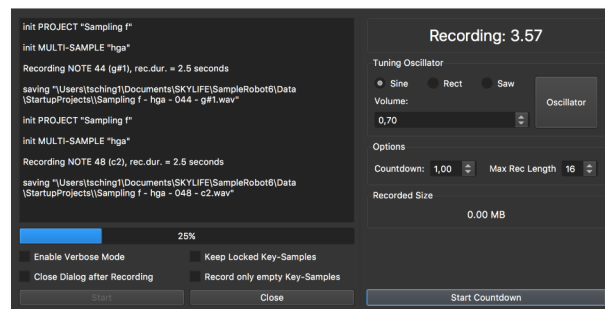
## The Semi Automatic Recording Process

The semiautomatic recording process is designed to record non-MIDI sound sources key by key. Below you find a description of the complete semiautomatic recording process.

- Set up one or more Projects with corresponding Multi-Samples. For recording of acoustic instruments use an appropriate microphone with pre-amp. Check all audio connections by using the **Audio Input Monitor** and the **Peak Meter**.
- Deactivate the **Auto** button beside the **Recording** button in the Project or the Multisample section to switch to semiautomatic recording.

- Click on the **REC** button in the Multisample section if you want to record the selected Multisample. Click on the **REC** button in the Project window if you want to record the selected Project. In addition you can start recording by using the semiautomatic recording functions in the **Recording** menu. There you will also find a function to record all Projects.

- A recording window opens.

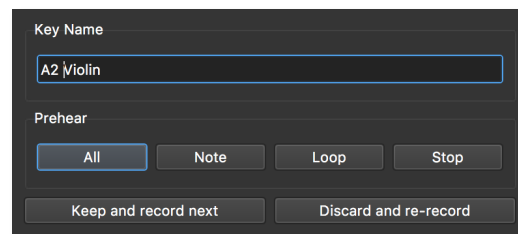


- The left area of the window is similar to the window for the automatic recording. Please read page 63 for more information about the check-boxes.
- On the right area of the window you find an information display, the **Tuning Oscillator** (see also

page 39) and the **Countdown** function. Click on the **START** button to begin the semiautomatic recording process.

- The recording process is similar for each note:
  - The information display shows the first selected note that will be recorded. Click on the **Oscillator** button to start a permanent test tone for checking the tuning/ pitch of your instrument. If necessary, tune your instrument accordingly. Click the button again to stop the test tone. You can change the test tone's colour (click one of the check-boxes for the waveforms sine, square or sawtooth). To adjust the **Volume** of the test tone use the arrow buttons or enter a desired value directly. The audio device that is selected in the **Audio Out Device** display is used for the oscillator's playback.
  - In the **Countdown** field you can enter a countdown for the delayed recording start. This is helpful if you need a little time to get to your instrument. The default setting is 3.5 seconds. Here, you can also set the maximum recording length (**Max Rec Length**) in seconds.

- Click on **Start Countdown**. SampleRobot counts backwards to zero and starts the recording for the first note.
- Keep in mind that the **Note Length** settings in the Multisample section do not have any effect when recording in semiautomatic mode. The duration of the recording is defined by pressing **Stop Recording**.
- The following window (**Check recorded Keysample**) appears:



- With the help of the options in this window you can check your recording: Click on the **All** button in the **Preview** section to display the complete waveform of the current recording in the **WaveRobot Editor**. **Note** displays the waveform between the note markers, **Loop** displays the

automatically established loop area (when active) while **Info** displays detailed information about the recorded sample (like data path, sample length etc.). The buttons in the **Prehear** section are designed for prelistening to the recorded sample. Click on **All (Raw)** to playback the complete sample, **Note** plays the area between the note markers, while **Loop** only plays the loop area. **Stop** ends the playback.

- Click on **Keep and record next** to save the recorded sample and to continue with the next note recording.
- If you dislike what you have recorded you can select **Discard and re-record** to delete the last recorded sample and to repeat the note recording. You can re-record the Keysample as many times as you like.
- You can also name a recorded take with the **Name Key** button. The name that you enter is the Keysample's name. The name can be used during export.
- After the last successful recording process SampleRobot will close the recording dialog to allow editing in the main window.

# Appendix

## Tips & Tricks for the daily work with SampleRobot

Below you find practical hints and how-to-do examples.

Please follow this link for the support website of SampleRobot:

**<http://www.samplerobot.com/support.php>**

Here you will find additional tutorials and FAQ lists to help you to get started quickly with SampleRobot and also give you loads of advanced tips and tricks.

### Selection of appropriate audio drivers

Important: Keep in mind that there are mostly more than one audio driver for your audio hardware installed on your computer (for example ASIO and MME). Some recording formats might be greyed out in SampleRobot's **Audio In** pop-up menus giving you the information that this format is not supported either by your audio interface or by SampleRobot. If you want to sample with 24 bit resolution you should prefer an ASIO driver. Some ASIO drivers support only 24 bit recording mode. If you want to record in 16 bit format you can use the MME driver. An

alternative is recording in 24 bit and then changing the bit rate during the sample export.

### Testing the MIDI Ports and Audio Inputs

To make sure that your MIDI setup is fully operational and prepared for SampleRobot you should perform the following test:

- ☐ Select the **MIDI In Device** to which a MIDI master keyboard is connected.
- ☐ Switch on the **MIDI Through** function in the **MIDI In** tab.
- ☐ Select a **MIDI Out Device** in I/O tab to which your sound source/synthesizer is connected. Make sure that the audio outputs of your sound source are connected to the inputs of your audio interface (directly or via a mixer) so that SampleRobot receives an audio signal.
- ☐ Select an **Audio In Device** in the I/O tab to which your sound source is connected.
- ☐ Make sure that the **Channel** in the I/O tab is the same as the MIDI receive channel of your sound source.
- ☐ Make also sure that the **MIDI** button above the virtual keyboard is activated.

- Play a few notes on your master keyboard. You should see the MIDI notes in SampleRobot's **MIDI Monitor** (if the window is opened). The sound source should receive the MIDI notes from SampleRobot. Monitor the sound signal via an audio mixer or directly via headphones.
- The **Peak Meter** shows the audio input signal. Monitor the overall input volume so that no clipping occurs.
- Now SampleRobot is ready to rumble...

Hint: All MIDI and audio devices that are used by SampleRobot will be released if the SampleRobot application is not in the foreground window. This enables you to use another audio application simultaneously.

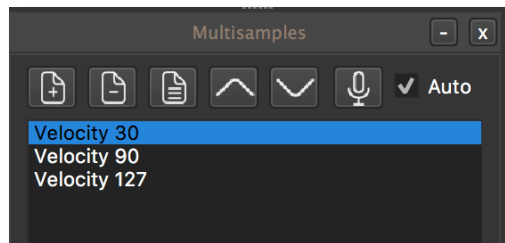
## Working with Projects and Multisamples

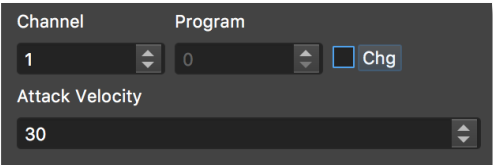
We recommend working with SampleRobot as follows:

- Use the **Preset Manager** and select your desired Project template. For more information about the Preset Manager please read page 46.
- If you would like to start from scratch: Create a new Project for each sound program of your sound module and name it accordingly to the sound program name.
- Create a new Multisample for each layer (velocity range) of your sound program. Below you find some practical examples

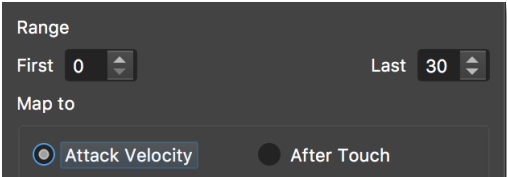
### Example 1: Project with three different velocity layers:

- Multisample 1: Sound with attack velocity 30

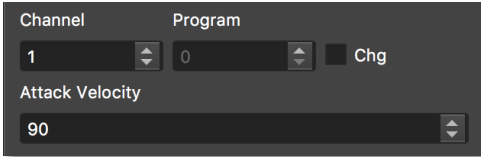
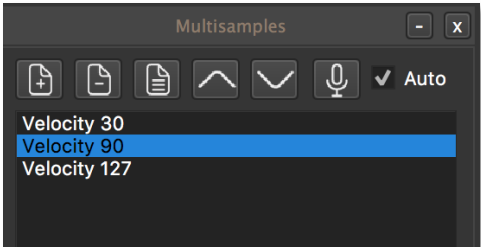




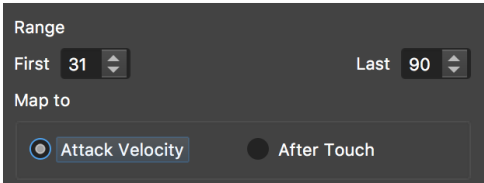
- For appropriate velocity mappings you should set up the velocity range in the **Export** tab:



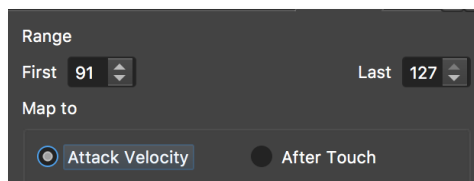
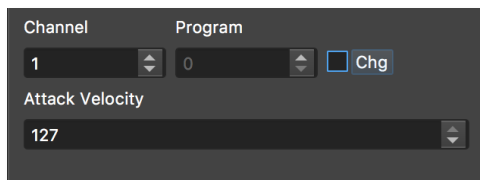
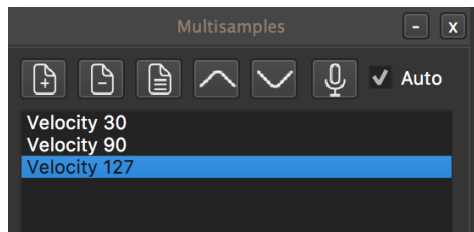
- Multisample 2: Sound with attack velocity 90.



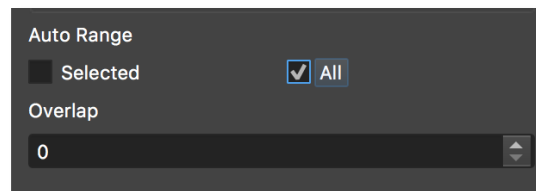
- Do not forget to adjust the export range settings:



### □ Multisample 3: Sound with attack velocity 127

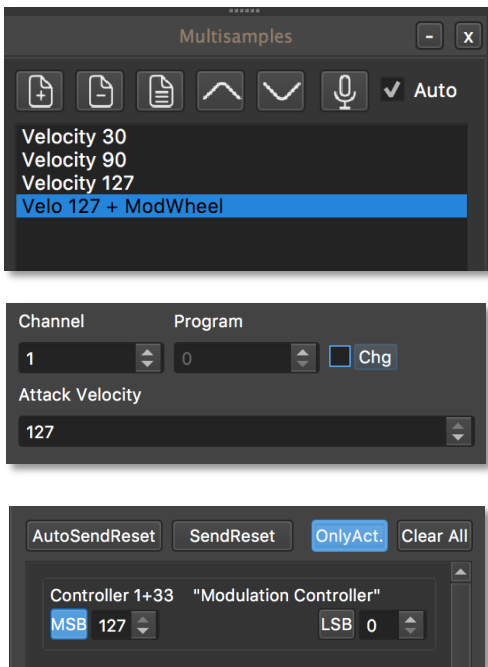


Please note that you do not have to make adjustments in the Multisample Export Setting for each layer. As an alternative you can activate **Auto-Range: All** to adjust the velocity range mappings for all Multisamples at the same time.



After recording this Project this technique enables you to reproduce the velocity sensitivity of the original sound in a software sampler. SampleRobot will automatically set the right velocity mappings in the dedicated software sampler format. In other words with this multi-layer technique it is very easy to create dynamically playable instruments.

**Example 2: Project with three different velocity layers and one layer with modulation wheel set to maximum (MIDI Controller 1 set to 127):**



- You can also add an **Overlap** in the **Export** tab to create velocity overlaps.
- As shown in these examples the multi layer concept of SampleRobot is designed to capture all sound articulations in different Multisample layers allowing you to play the sampled sounds dynamically in every software sampler.
- Keep in mind that every MIDI sound generator reacts differently to incoming MIDI controllers and that the same MIDI controller can cause different sound changes on different sound programs. For example the mod wheel can change the sound in many ways.
- When working with several Multisamples in one Project you should use the **Duplicate** function to create identical layers. So you only have to make a few parameter changes for each layer, all other settings are copied.
- If a Project fits your demands you should save it as a Preset.



## Working with MIDI Controllers

To get a more realistic and a more versatile acoustic duplicate of your MIDI sound source on a sample base you should record several Multisample layers of a sound program with different sound settings. The **Controller** tab is designed for remote control of your MIDI gear to get exciting sampling results:

- Keep in mind that every sound source reacts differently to incoming MIDI controllers. The same MIDI controller can cause different sound changes on different sound programs. The corresponding user manual of your MIDI gear will give you an overview over all MIDI controllers and the dedicated sound changes.
- If your sound generator is equipped with knobs, faders or switches that send out MIDI controller data you can use the **MIDI Monitor** in SampleRobot to identify the desired controller.

## Tips for Looping Samples

The loop functions of SampleRobot are designed to help you creating smooth sample loops as fast and as easy as possible.

- If you want to loop a recorded sample you should try the **Autoloop** function to find a smooth loop and some alternatives automatically. The results' quality depends on the Loop-Search markers.
- Use **Crossfade Loop** as default when recording sustained sounds.
- The **Backward/Forward Crossfade Loop** should be used when the normal crossfade loop does not meet your needs, e.g. when looping decaying sounds.
- Of course you can use all loop functions not for sustaining sounds but also for creative sound design. Especially the unique **Backward/Forward Crossfade Loop** will give interestingly new results. Try it on drum loops, FX sounds or drums.
- The **Loop Search** markers can be used to tell SampleRobot how they should search for the best loop result. For example when you know the area where the **Loop Out** should be, you can define the search area with **Loop Search In** and **Loop Search Out** markers. The Loop Out marker is set on base of the search markers. So all search markers influence the length and position of the resulting loop area during an Autoloop process. In general

SampleRobot finds the optimal loop position and also good alternative **Loop Search Results**. Use different search marker settings to experiment with the Autoloop function. **Loop Search Length** defines a search pattern length that is used for the Autoloop search process. This search pattern is defined by the Loop-In marker to the leftside and the Loop-Search-Length marker to the right side. SampleRobot searches for a similar area in the waveform (from Loop Search In marker to Loop Search Out marker) for a smooth loop transition. The Loop Search Length value can be entered as a percentage of the loop length. For example: To find loop points in drum loops you should use higher values for **Loop Search Length**. Higher values give a better result but cause also a longer loop search time.

- With **Autoloop for all** it is possible to apply loop markers' settings from one Keysample to all other selected Keysamples in a Multisample or in a Project. This is a very powerful function e.g. to apply similar loops to a bunch of Keysamples at the same time. An example for **Autoloop for all**: Once you have found optimum loop points in one Keysample you can apply those settings to all other recorded Keysamples in the Project or

Multisample. This is done very cleverly. SampleRobot does not transfer absolute marker values but it does an automatic loop-search for each Keysample.

### Tips for editing Markers

Since editing sample lengths and loops is non-destructive in SampleRobot, markers are designed to help you shaping your sounds easily for export. You can show or hide markers, change the positions and prelisten to the results directly.

- **Auto-Note for all** is useful e.g. if you have dragged WAV-files (that contain silence at the beginnings and at the ends) to SampleRobot's Virtual Keyboard. With this option you can correct all sample-starts (**Note-In** markers) and sample-ends (**Note-Out** markers) at the same time.
- If you are using Release-Samples in your Project and you would like to switch off the Release-Sample functionality for all Keysamples of the selected Project/Multisample at the same time you can use the option **Turn Release off** found in the **Auto-Note/Auto-Loop** for all dialog.

## SampleRobot Updates

On the SampleRobot website there will be new program updates available from time to time. The fastest way to get the latest update installer is by downloading it from our web site:

<http://www.samplerobot.com/support.php>

For more information about the new features please read the included “version History” text file and follow the instructions in the installer.

## Errors Messages and Troubleshooting

- The error message **The Notes Length is equal 0** appears, when you try to play a Keysample (by clicking on the key or via MIDI note) that has an invalid sample length. This is caused by the Note-In and the Note-Out markers that have the same position so that the current note length is 0. For this reason you should change the note marker positions or use the **Auto-Note** function or **Auto-Note for all** function. This message will also be displayed when you play a note after a recording process with very low input signal or no input at all. Check your connections and volumes in this case. If you do not save your Project when you

exit the program, SampleRobot has stored the recorded samples but it has not stored marker settings so that this error message can occur the next time you try to play a previously recorded sample. In this case use the Auto-Note functions and save your Project.

- The warning dialogs **You cannot have 0 Multisamples** and **You cannot have 0 Projects** appear when you try to delete the last Multisample or the last Project in SampleRobot. There has to be at least one Project and one Multisample in the lists.
- If your audio or MIDI connections do not work in combination with SampleRobot please check the following points:
  - Have you established all MIDI and audio connections the right way (cables, connectors)? Is your instrument switched on?
  - Have you selected **MIDI In Device, MIDI Out Device, Audio In Device** and **Audio Out Device** properly?
  - The audio input of some audio interfaces must be activated additionally in a dedicated audio interface control panel to enable audio

recording. Please read the manufacturer's user manual (keyword: input monitoring).

- Is **MIDI Through** activated? MIDI Through activation is necessary if you want to play a MIDI sound generator with your MIDI master keyboard thru SampleRobot?
- Is the **MIDI** button above the virtual keyboard is activated? Activation is necessary to use the Virtual Keyboard for playing external MIDI sound sources.
- Is the volume of the external sound source turned up? Maybe MIDI controller 7 (for MIDIvolume) is set to 0. In this case set controller number 7 to 127 and/or turn up the volume of your sound generator.
- Make sure that your velocity setting in the Multisample section is unequal 0.
- Is MIDI send-channel of SampleRobot and MIDI receive-channel of your MIDI sound source identical?
- If you cannot establish MIDI or audio playback despite correct MIDI and audio connections it is possible that another audio or MIDI application is

blocking your MIDI or audio interface. In this case quit the other application to work with SampleRobot.

- If you work with MIDI controllers in SampleRobot you might experience unwanted results. Please read the following article to avoid errors. If you have created two Multisamples in a Project, one using a MIDI controller and the other one not using the same MIDI controller, you should set the MIDI controller in the second Multisample to value zero. Some MIDI sound generators do not reset the controllers if they receive a "Reset All Controllers" message because they simply do not support this command. To avoid sample recording while unwanted controllers are active please make.
- If you should experience recording problems like MIDI hang-ups or delayed MIDI playback you should deactivate **Auto Send Reset** in the **Controller** tab and also Program Change in the I/O tab. Some older synthesizers and MIDI sound generators need some time to process these commands causing timing errors and MIDI hang-ups.

- **Error copying the File** is a message that warns you when an invalid or write-protected data path is chosen in the Preferences. Please change the data path and start SampleRobot again.
- **Errors during file import** can occur when the file is provided in an unsupported data format. SampleRobot supports WAV files up to 24 bit and up to 192 kHz. If necessary, convert the data format with another audio application before importing.

## Useful Weblinks

- Official international SampleRobot website: <http://www.samplerobot.com>
- Official German SampleRobot website: <http://www.samplerobot.de>
- Official international website of SampleRobot manufacturer SKYLIFE: <http://www.skylife.de>
- official international website of Yamaha company: <https://de.yamaha.com>
- International website of the music software company Steinberg (Cubase, HALion software sampler): <http://www.steinberg.net>
- International soundfont website: <http://www.soundfont.com/>
- International website for audio software and plugins: <http://www.kvraudio.com>
- International web portal for music hardware and software: <http://www.harmony-central.com>
- International web portal for music hardware and software: <http://www.sonicstate.com>

## Glossary

### After Touch

The majority of contemporary keyboards are capable of generating after touch messages. When you press harder on an after touch capable keyboard's key that you are already holding down, a MIDI after touch message is generated. This feature enables you to play the musical performance even more expressively (e.g. after touch adds vibrato). SampleRobot supports after touch messages. You can use different Multisamples to capture the sound changes caused by an after touch message.

### Aliasing

Aliasing is an audible side effect occurring in digital systems as soon as a signal contains harmonics higher than half of the sampling frequency.

### Attack

Attack is an envelope parameter. Attack is a term that describes the ascent rate of an envelope from its starting point to the point where it reaches its highest value. The attack phase is initiated immediately after a trigger signal has been received, e.g. after you play a note on the keyboard. SampleRobot recognizes the attack phase of a sample automatically and sets the Note-In marker to the starting point.

### Attack Velocity

The attack velocity is a value that defines how fast a key is triggered. This value is generated by the speed and not by intensity of a key trigger.

### Bit-Rate

Bit-rate, also known as "Word Length", is the number of bits used to store the audio information in a single sample. The higher the number, the more precise information contains each sample resulting in higher dynamic's resolution. Normal CD audio uses 16 bit. SampleRobot supports full 24 bit resolution (depending on the audio hardware).

### Clipping

Clipping is a sort of distortion that occurs when a signal exceeds its maximum value. The curve of a clipped signal depends on the system where the clipping takes place. In the analog domain clipping limits the signal to its maximum level. In the digital domain clipping means a numerical overflow and so the polarity of the signal's part above the maximum level is reversed causing uncomfortably noises.

## Control Change (Controllers)

Normally MIDI controller messages enable you to manipulate the sound characteristics of MIDI sound generator to a significant degree.

This message essentially consists of two components:

- The controller number which defines the “address”, the parameter that should be changed. In SampleRobot controllers from 1 to 120 are supported.
- The controller’s value which determines the extent of modification (0 to 127).

Controllers can be used for adding effects to a sound such as slowly swelling vibrato, changing the stereo panorama position and influencing the filter’s frequency.

SampleRobot offers complete remote control of your MIDI gear to create dynamically playable Multisamples.

## Keysample

A Keysample in SampleRobot is a recorded sample that belongs to a selected key. All Keysamples are displayed as little waveforms underneath the Virtual Keyboard.

## Layer

A layer is normally a part of a sound program or a different articulation. Most synthesizers’ sounds contain

up to four layers (oscillators, parts, etc.) and use different velocity layers for each sound. A sampler can have different sample velocity layers for each key, which are triggered by pressing a key with different velocities. SampleRobot can rebuild the dynamics of a recorded sound by using several Multisamples (see chapter Working with Projects and Multisamples on page 208).

## MIDI

The acronym MIDI stands for “Musical Instrument Digital Interface”. MIDI was developed in the early eighties. As a result various types of electronic musical instruments developed by different manufacturers could interact. Before that time a communication standard for heterogeneous sound devices did not exist (except voltage control), so MIDI was a significant advance. It makes it possible to link devices together via simple, uniform connections. Basically, this is how MIDI works: One sender is connected to one or several receivers. For instance, if you want to use a computer to play a synthesizer then the computer is the sender and the synthesizer is the receiver. With a few exceptions the majority of MIDI devices is equipped with two or three ports: MIDI In, MIDI Out and in some cases MIDI Thru. The sender transfers data to the receiver via the MIDI Out jack. Data is sent via a cable to the receiver’s MIDI In jack. MIDI Thru has a special function. It allows the

sender to transmit to several receivers. It routes the incoming signal to the next device without modifying it. Another device is simply connected “thru” this unit. So it is possible to create a chain of receivers, which can be addressed by the sender. Of course it makes sense that the sender is able to address each device individually. Consequently there are additional rules so that a sender can reach each device individually. With the MIDI Thru function in SampleRobot you can control external sound sources “thru” SampleRobot via a MIDI master keyboard.

### **MIDI Channel**

This is a very important element of most messages. A receiver can only respond to incoming messages if its receive channel is set to the same channel as the one that the sender is using to transmit data (exception: MIDI Omni Mode). Consequently the sender can address specific receivers individually by using different MIDI channels. MIDI channels 1 through 16 are available for this purpose.

### **Modulation**

A modulation changes a sound-shaping component via a modulation source. Modulation sources include envelopes, LFOs or MIDI messages. The modulation's destinations are sound-shaping components such as filter or VCA.

### **Multisample**

A Multisample is a bunch of different recordings of the same single sound in different pitch ranges or with different articulations. Since harmonics' characteristics of most sounds change enormously over the tone ranges and when played differently, Multisamples are the only way to capture all nuances of the entire sound. SampleRobot uses Multisamples to create very detailed recordings of the original sound.

### **Normalize**

Normalize is a function to rise the level of a sample to its maximum (0 dB) without causing distortion. This function automatically searches for the maximum peak level in the sample and adjusts this level to the maximum. All the rest of the audio waveform is gained accordingly. In general this results in a higher overall volume of the sample. SampleRobot is equipped with comprehensive normalize functions.

### **Note on/ Note off**

This is the most important MIDI message. It determines the pitch and the velocity of every generated note. The time of arrival defines the start time of the note. Its pitch information is the note number, which ranges between 0 and 127. The velocity ranges between 1 and 127. Zero velocity is often used as the “Note Off” event. Of course



SampleRobot allows you to use all these messages for complete remote control during sampling processes.

### **Pitch Bend**

Pitch bend is a MIDI message. Although a pitch bend message is similar in function to control change messages, it is a distinct type of message. The difference is that the resolution of a pitchbend message is substantially higher (14 bit) than the 7 bit precision of a conventional control change message. The human ear is exceptionally sensitive to altering in pitch so the higher resolution is necessary to electronically simulate realistic pitch bendings.

### **Program Change/ Bank Select**

These events are MIDI messages that switch sound programs and banks. Program numbers 1 through 128 can be changed via program change messages. The optional bank select operation (supported only by some MIDI devices) can be accessed by using the MIDI controller 0 (MSB) and 32 (LSB). There is no manufacturers' convention for using the bank change messages. So please refer to your manufacturer's manual to find out how the bank change operation can be executed.

### **Release**

Release is an envelope parameter. The term "Release" describes the descent rate of an envelope to its minimum value after a trigger is terminated or alternatively a "Note

Off" event is received. The release phase begins immediately after Note Off, regardless of the envelope's current status. For instance the release phase might be initiated during the attack phase. SampleRobot uses own markers to define the release phase of a sample. While exporting, these releases will be saved as separate Release-Samples.

### **Release-Sample Trigger**

SampleRobot can record the release phase of a sound to create a separate Release-Sample that can be triggered sampler and then release the dedicated key. As soon as you are releasing the key the normal sample playback stops and the Release-Sample starts playing. A lot of software sampler feature release triggers. Use this function in SampleRobot to record the depth and room information of the original instrument.

### **Release Velocity**

MIDI release velocity can generated by some MIDI keyboards when you are releasing a key. Not many keyboards support release velocity. Release velocity can be transmitted in SampleRobot.

### **Rootkey**

The rootkey defines the original pitch of a recorded instrument or of a sample. Each rootkey represents a specific key on the keyboard. Keysamples in SampleRobot

contain the dedicated root key information. This information will be created automatically during recording and is also available in exported files.

### **Sample Rate**

This is the frequency representing the amount of individual digital sample scans per second that are taken to capture the original signal digitally. For normal CD audio recordings 44100 samples per second are used mostly indicated as a frequency of 44.1 kHz. SampleRobot offers sampling rates up to 192 kHz depending on audio hardware and drivers.

### **System exclusive Data**

In some MIDI sound generators MIDI system exclusive messages give access to the heart of the device. Mostly you can access data and functions that no other MIDI messages are able to address. "Exclusive" in this context means that these messages can be understood only by a special device type or model. Every device that supports SysEx has got unique system exclusive data. The most common applications for SysEx data include editors and libraries to transfer sounds and global data. In some cases SysEx can be used to control and program a specific device via MIDI.

### **Threshold**

Threshold is a value used to denote specific levels, such as those belonging to volume. The threshold marks the level for a specific action. Values under the threshold are ignored while values above it cause certain actions. Thresholds are used within compressors and limiters. In SampleRobot special thresholds are used to determine the Note-In and the Note-Out markers.

### **Trigger**

A trigger is a signal that activates events. Trigger signals can be very diverse. For instance a MIDI note or an audio signal can be used as a trigger. Various events and actions can be triggered. A common application for triggering is to start an envelope by hitting a key. SampleRobot supports release sample triggers to create authentic Multisamples.