MASCHINE

Manual

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Special thanks to the Beta Test Team, who were invaluable not just in tracking down bugs, but in making this a better product.

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NI **NATIVE INSTRUMENTS**

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1   Welcome to MASCHINE!

Thank you for buying MASCHINE!

MASCHINE is a groove production studio that implements the familiar working style of classical groove boxes along with the advantages of a computer based system. MASCHINE is ideal for making music live, as well as in the studio. It's the hands-on aspect of a dedicated instrument, the MASCHINE hardware controller, united with the advanced editing features of the MASCHINE software.

Creating beats is often not very intuitive with a computer, but using the MASCHINE hardware controller to do it makes it easy and fun. You can tap in freely with the pads or use Note Repeat to jam along. Alternatively, build your beats using the step sequencer just as in classic drum machines.

Patterns can be intuitively combined and rearranged on the fly to form larger ideas. You can try out several different versions of a song without ever having to stop the music.

Since you can integrate it into any sequencer that supports VST, Audio Units, or RTAS plug-ins, you can reap the benefits in almost any software setup, or use it as a stand-alone application. You can sample your own material, slice loops and rearrange them easily.

However, MASCHINE is a lot more than an ordinary groovebox or sampler: it comes with an inspiring 6-gigabyte library, and a sophisticated, yet easy to use tag-based Browser to give you instant access to the sounds you are looking for.

What's more, MASCHINE provides lots of options for manipulating your sounds via internal effects and other sound-shaping possibilities. You can also control external MIDI hardware and 3rd-party software with the MASCHINE hardware controller, while customizing the functions of the pads, knobs and buttons according to your needs utilizing the included Controller Editor application. We hope you enjoy this fantastic instrument as much as we do. Now let's get going!

—The MASCHINE team at Native Instruments.

1.1 Where To Start?

MASCHINE provides you with many information sources. The main documents are meant to be read in the following sequence:

1. **MASCHINE Setup Guide**
2. **MASCHINE Getting Started** and online **video tutorials**
3. **MASCHINE Manual** (this document)

> 💡 The Setup Guide is available in printed form in the product box. The whole documentation set is available in PDF format and located within the MASCHINE installation folder on your hard disk. You can also access these documents from the application's Help menu.

> ⚠️ Please check the Service Center or the Native Instruments website regularly for up-to-date and localized versions of these documents.

Additional documentation sources provide you with details on more specific topics:

- **MASCHINE Hardware Control Reference**
- **Controller Editor Manual**

Hereafter is a quick description of each of these documentation sources.

Your First Stop: the Setup Guide

A printed Setup Guide is included in the product box. It will guide you through the software and hardware installation of MASCHINE, from the very beginning to the first sound coming through your speakers.

First read the Setup Guide. Then proceed with this MASCHINE Getting Started to get more familiar with MASCHINE.

MASCHINE Getting Started

After reading the Setup Guide and following its instructions, your MASCHINE should be up and running. The next step is to read the MASCHINE Getting Started. This gives you a practical approach to MASCHINE via a set of tutorials covering easy and more advanced tasks in order to help you familiarize yourself with MASCHINE.

Video Tutorials

The Native Instruments website provides you with a lot of video tutorials that give you a hands-on approach to many sides of the MASCHINE workflow. To see them, point your favorite browser to following URL: http://native-instruments.com/maschinemedia.

MASCHINE Manual

This MASCHINE Manual provides you with a comprehensive description of all MASCHINE software and hardware features.

MASCHINE Hardware Control Reference

The MASCHINE Hardware Control Reference provides an overview of a MASCHINE Project, the quick access options performed using the MASCHINE hardware controller, and lots of keyboard shortcuts.

Controller Editor Manual

Besides using your MASCHINE hardware controller together with its dedicated MASCHINE software, you can also use it as a powerful and highly versatile MIDI controller to pilot any other MIDI-capable application or device. This is made possible by the Controller Editor software, a little application that allows you to precisely define all MIDI assignments for your MASCHINE controller. The Controller Editor should have been installed during the MASCHINE installation procedure. For more info on this, please refer to the Controller Editor Manual available as a PDF file in the Documentation subfolder of the Controller Editor installation folder on your hard disk.

Other Online Resources

If you are experiencing problems related to your Native Instruments product that the supplied documentation does not cover, there are several ways of getting help:

▪ Knowledge Base

▪ User Forum

▪ Technical Support

▪ Registration Support

You will find more info on these in chapter ↑13, Troubleshooting – Getting Help.

1.2 What's New in MASCHINE 1.8?

Here is a short overview of the new or improved software and hardware features in MA-SCHINE 1.8.

New Features

- **MASCHINE MK2** and **MASCHINE MIKRO MK2** support: MASCHINE 1.8 supports the new MA-SCHINE MK2 and MASCHINE MIKRO MK2 hardware controllers with RGB LEDs.

- **Color support**: You can now choose custom colors for your Sounds, Groups, Patterns, and Scenes. See section ↑4.5.2, Changing the Sound's Color, ↑5.2.2, Changing the Group's Color, ↑7.2.2, Changing the Pattern's Color, and ↑10.3.2, Changing the Scene's Color, respectively.

- **Offline time stretching / pitch shifting**: The new Stretch function allows you to apply time stretching or pitch shifting separately to your Samples. See section ↑11.1.2, Editing a Sample (Hardware) and ↑11.2.2, Editing a Sample (Software).

- **Tape and Tube saturation**: The Saturator Module now offers two additional modes that emulate tape and tube saturation. See section ↑8.6.3, Saturator.

- **Transient Master effect**: The Module collection now includes a new Transient Master effect based on Native Instruments' TRANSIENT MASTER. See section ↑8.1.3, Transient Master.

- **Playhead indicator**: In the Sample Editor and on your controller in Sampling mode, the new Playhead indicator shows you the current play position in the Sample. See chapter ↑10.5, Triggering Scenes via MIDI.

- **Improved missing Samples handling**: If you provide a new path for a missing Sample, the Missing Samples feature automatically reuses this new path to find other missing Samples. See section ↑3.2, Locating Missing Samples.

- **Save Group with Samples**: You can now save a Group together with all Samples used in this Group. This notably allows you to easily transfer the Group to another user or computer. See section ↑5.2.4, Saving a Group with its Samples.

- **Multiple controllers focus choice**: You can now use two or more MASCHINE controllers of different types to control different instances of the MASCHINE software simultaneously, and select which controller is assigned to each software instance. See section ↑2.2.9, Using Two or More Hardware Controllers and ↑2.3.3, Controlling Various Instances with Different Controllers.

Hardware New Features and Workflow Improvements

- **Extended Select mode**: The Select mode on your controller now allows you to select event ranges based on timings instead of event indexes, to faster select individual events, and to quickly change the position, length, pitch and velocity of the selected events. Furthermore, you can now pin the Select mode. See section ↑6.2.1, Selecting, Quick Selecting, and Quick Editing Events/Notes.

- **Host Transport Control**: When MASCHINE is running as a plug-in in a host sequencer, you can split the control elements on your controller so that the transport buttons control your sequencer via MIDI while all other control elements still control the MASCHINE plug-in instance. See section ↑2.3.4, Controlling your Host's Transport Functions in Plug-in Mode.

- **Quick Select Events**: The new shortcut SHIFT + SELECT + pad allows you to quickly select all events linked with that pad (depending on the current Pad mode). See section ↑6.2.1, Selecting, Quick Selecting, and Quick Editing Events/Notes.

- **Quick Erase Events**: The new shortcut ERASE + SELECT + pad allows you to quickly erase all events linked to that pad (depending on the current Pad mode). See section ↑6.2.2, Deleting Events/Notes.

- You can now pin the **Auto Write** mode. See section ↑6.1.9, Recording Automation.

- New **Choke All Notes function**: The shortcut SHIFT + MUTE allows you to choke all playing notes, i.e. kill all audio voices — this, without disabling MASCHINE's audio engine. See section ↑4.7, Choke All Notes.

- The Browser's **Prehear** feature is now also available on the controller. See section ↑3.6.2, Additional Features.

- The **MASTER section** of the controller has been improved with a Control encoder and dedicated VOLUME, SWING and TEMPO buttons. See section ↑12.1.2, Master – Groove Properties (GRV) and ↑12.1.3, Master – Output Properties (OUT).

See also

▤ Master – Mix Properties (MIX) [→ 316]

1.3   Manual Conventions

This section introduces you to the signage and text highlighting used in this manual. This manual uses particular formatting to point out special facts and to warn you of potential issues. The icons introducing these notes let you see what kind of information is to be expected:

> ⚠ Whenever this exclamation mark icon appears, you should read the corresponding note carefully and follow the instructions and hints given there if applicable.

> 💡 This light bulb icon indicates that a note contains useful extra information. This information may often help you to solve a task more efficiently, but does not necessarily apply to the setup or operating system you are using; however, it's always worth a look.

Furthermore, the following formatting is used:

- Text appearing in (drop-down) menus (such as *Open…*, *Save as…* etc.) and paths to locations on your hard disk or other storage devices is printed in *italics*.

- Text appearing elsewhere (labels of buttons, controls, text next to checkboxes etc.) is printed in blue. Whenever you see this formatting applied, you will find the same text appearing somewhere on the screen.

- Text appearing on labels of the MASCHINE controller is printed in orange. Whenever you see this formatting applied, you will find the same text on the controller.

- Important names and concepts are printed in **bold**.

- References to keys on your computer's keyboard you'll find put in square brackets (e.g., "Press [Shift] + [Return]").

► Single instructions are introduced by this play button type arrow.

→ Results of actions are introduced by this smaller arrow.

Naming Convention

Throughout the documentation we will refer to **MASCHINE controller** (or just **controller**) as the hardware controller and **MASCHINE software** as the software installed on your computer.

The term "**effect**" will sometimes be abbreviated as "**FX**" when referring to elements in the MASCHINE software and hardware. These terms have the same meaning.

Unlabeled Buttons and Knobs

The buttons and knobs above and below the displays on your MASCHINE controller do not have labels (all other elements on the controller do).

The unlabeled buttons and knobs on the MASCHINE controller.

For better reference, we applied a special formatting here: throughout the document, the elements are capitalized and numbered, so the buttons are written Button (1–8), while the knobs are written Knob (1–8). E.g., whenever you see an instruction such as "Press Button 2 to open the EDIT page," you'll know it's the second button from the left above the displays.

Button Combinations and Shortcuts on Your Controller

Most instructions will use the "+" sign to indicate buttons (or buttons and pads) that must be pressed **simultaneously**, starting with the button indicated first. E.g., an instruction such as:

"Press SHIFT + PLAY"

means:

1.   Press and hold SHIFT.

2. While holding SHIFT, press PLAY and release it.
3. Release SHIFT.

2 Basic Concepts

This chapter will reintroduce you to MASCHINE's main elements and terminology and explain how they relate to one another. You will also learn how to set up your audio interface and how to connect MIDI devices.

💡 Before reading this chapter it is strongly recommended that you read the MASCHINE Getting Started first.

2.1 Names and Concepts You Should Know

We will start with a list defining the most important concepts and names.

Browser

The Browser is the front end for accessing all the elements of your MASCHINE Projects: Projects, Groups, Sounds, Samples, Patterns, instruments and effect presets. Each of these can be stored and tagged in a way that allows you easy access to all of them. MASCHINE's factory library is already completely tagged, and you can also import your own Samples to the Library and tag them as well. To learn more about the Browser, please read chapter ↑3, Browser.

Projects

A Project contains all data needed for a song: up to eight Groups with their Patterns, 64 Scenes and all settings, automation, effects, routings, Sounds and Samples. It's like a snapshot of the entire state of MASCHINE. Please read the MASCHINE Getting Started for a complete overview of the MASCHINE Project structure.

Sounds

Sounds are the building blocks of all sound content in MASCHINE. A Sound can hold up to four Modules which can be a Sampler, any VST/AU plug-in instrument or effect, any internal MASCHINE effect, as well as an Input or a MIDI Out Module. Each Sound of the selected

Group is mapped to one of the 16 pads on the MASCHINE hardware controller, so you can play the Sounds by pressing the pads. Refer to chapter ↑4, Working with Sounds for more information on Sounds.

Groups

A Group contains 16 Sound slots, each of which can hold one Sound. In addition to the effects applied to an individual Sound, a Group can have up to 4 insert effects. These affect all the Sounds in the Group. A Group can also contain up to 64 Patterns assigned from one of the four Pattern Banks. Refer to chapter ↑5, Working with Groups for more information on Groups.

Master

This is where all audio signals from each of the Groups and Sounds come together and get mixed. The Master bus can also host up to four insert effects of its own, these effects are applied to all Groups and the Sounds within them. More information on the Master can be found in chapter ↑12, The Master.

Patterns

A Pattern is a sequence that plays Sounds from the current Group. A Pattern is therefore usually linked to a Group since it is a part of the Group; however you can also save it independently from the Group. This is useful if you want to try out different drum kits with the same Pattern or different Sounds with a given melody. More information on Patterns can be found in chapter ↑5.3.2, Importing MPC Program Files and chapter ↑7, Working with Patterns (Software).

Scene

A Scene is a combination of Clips for your different Groups. Each Clip references a specific Pattern of a Group. In a Scene you can create one Clip for each Group. Scenes are located in the Arranger. They can be used to build up a finished arrangement or to trigger different parts of a song during a live performance.

Events

Events are the individual drum hits or notes that make up a Pattern. In the Pattern Editor, events are visually represented by rectangles in the Step Grid. Depending on the current view in the Pattern Editor, you can see events for all Sounds slots (Group view) or for the select Sound slots only (Keyboard view).

Modules

MASCHINE contains four Module slots on each of the three MASCHINE Project levels Sound, Group, and Master. MASCHINE Modules are the MASCHINE Sampler, VST/AU plug-in instruments or effects, internal MASCHINE effects, as well as the Input Module and the MIDI Out Module.

Effects (FX)

MASCHINE comes with many different effects. You may also use VST/AU effect plug-ins too. Up to four effects can be directly applied as insert effects to each Sound, Group or Master level. With the routing system you can also create send effects and multi-effects. Refer to chapter ↑4, Working with Sounds.

> Please refer to chapter ↑15, Glossary at the end of this Manual for more definitions!

2.2 Common Operations

2.2.1 Switching Views

From the Main menu and the Plug-in menu you can select one of four different sizes to display MASCHINE's software GUI:
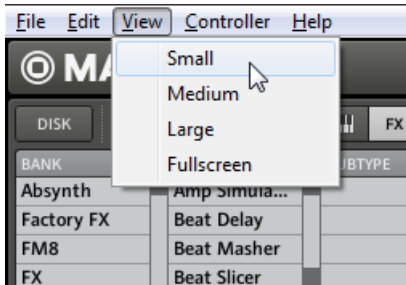
The View menu in the Application Menu Bar (Windows depicted).

The View submenu in the Plug-in menu.

> Full screen view is also available from your computer keyboard via the [F5] function key.

2.2.2 Hiding the Browser

Hardware

► Press and hold NAVIGATE; now press Button 5 to hide the Browser.

To bring it back, press Button 5 again.
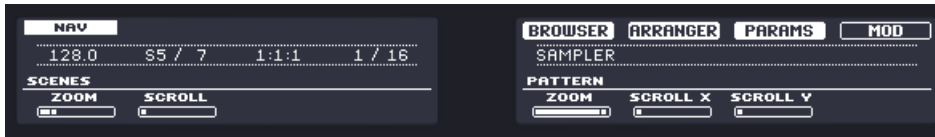
The Navigate mode on the displays of the MASCHINE controller. Press Button 5 to show/hide the Browser.

Software

► Click the Browser button (with the magnifier symbol) in the Header to show and hide the Browser.
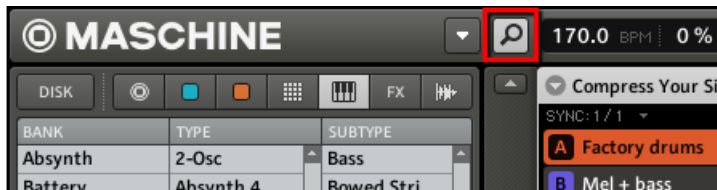
The Browser button in the Header.

> You can also show/hide the Browser from your computer keyboard via the [F10] function key.

2.2.3 Minimizing the Arranger

Hardware

Press NAVIGATE + Button 6 to minimize the Arranger to the currently selected Group slot and again to show all Group slots.

Software

► Click the Minimize button (showing an arrow) on the left of the Arranger to minimize the Arranger to the currently selected Group slot and again to show all Group slots.
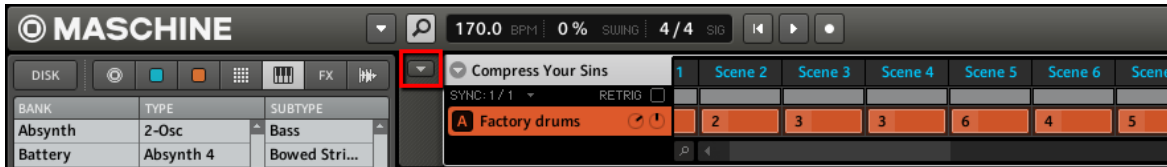
The Arranger in minimized view showing the Group slot in focus.

💡 You can also show/hide the Arranger from your computer keyboard via the [F10] function key.

2.2.4 Minimizing the Control Area

Hardware

► Press NAVIGATE + Button 7 to minimize the Control area to its topmost row containing the MASTER, GROUP, and SOUND tabs along with the Module slot tabs.

Software

► Click the Minimize button (showing an arrow) to the left of the Control area to minimize/maximize it.

The Control area in full size.

💡 You can also show/hide the Control area from your computer keyboard via the [F11] function key.

2.2.5 Hiding the Automation Lane

Hardware

► Press NAVIGATE + Button 8 to show and hide the Automation Lane.

Software

► Click the Automation Lane button on the bottom left of the Pattern Editor to show and hide it.
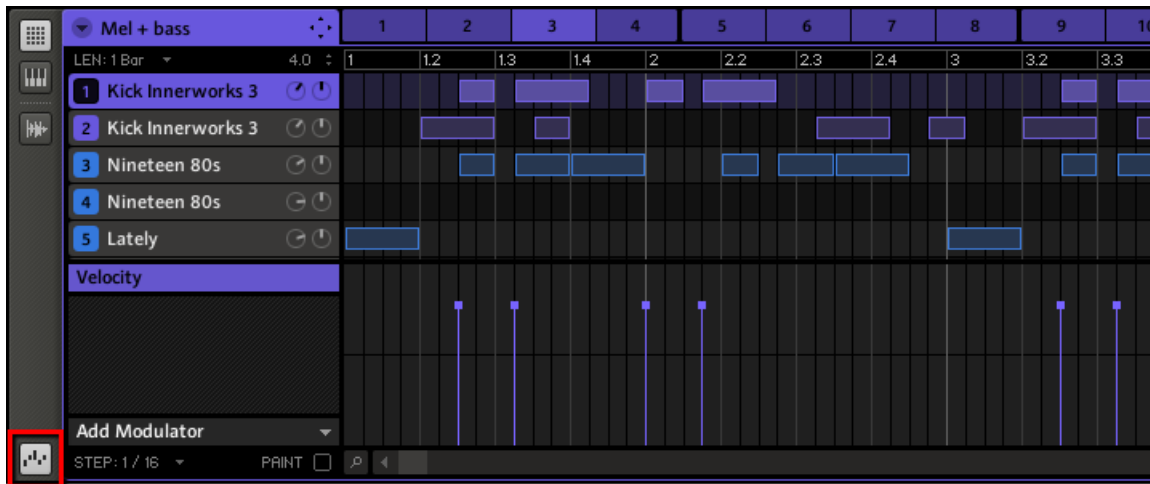
The Automation Lane button.

> You can also show/hide the Automation Lane from your computer keyboard via the [F12] function key.

2.2.6   Navigating Parameter Pages in the Parameter Area

In some situations, the selected Module or Properties provide more parameters than the displays on your controller and the Parameter area in the software can show at once. Examples of this are the parameters for the Groups' or Sounds' Output Properties (OUT tab on the controller, OUT button in the software) and those for the Sampler Module. In these cases, the number of parameters is divided into several **Parameter pages** that you can easily navigate with the hardware and software.

Hardware

On the MASCHINE hardware controller you can use the Page buttons to navigate through the Parameter pages. Whenever there is more than one page, it will be shown on the right side of the right display like this:
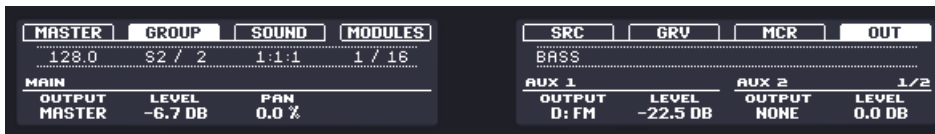
The display showing page 1 of 2 from the Group's Output Properties (OUT tab).

Moreover, if there is another page available to the left or to the right of the current page, the corresponding Page button will be dim lit on your MASCHINE hardware controller.

Software

In the software you click the Page menu at the top left corner of the Parameter area to navigate through the pages:
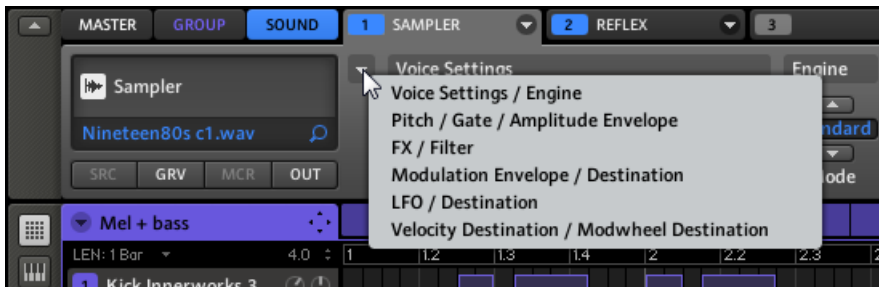
The Page menu in the Parameter area: first page of parameters for the Sampler Module.

2.2.7 Undo and Redo

Undo and Redo are useful to cancel operations you have performed or to compare two versions before and after a change. You can undo nearly everything you did after loading or creating your Project.

> ⚠ Note: If you save your Project, you will no longer be able to undo or redo any actions performed before saving!

Hardware

► On the MASCHINE hardware controller, perform the Undo operation by pressing SHIFT + pad 1. To perform the Redo operation, press SHIFT + pad 2.

Software

In the software, use the common keyboard shortcuts for the Undo and Redo functions. For Undo, press [Ctrl]+[Z] ([Cmd]+[Z] on Mac OS X). For Redo, press [Ctrl]+[Y] ([Cmd]+[Y] on Mac OS X). You can also select *Undo* and *Redo* from the Edit menu.

2.2.8 Pinning a Mode

You can pin a mode on your controller by pressing the relevant mode button (SCENE, PATTERN, etc.) + Button 1 above the left display.

Now the mode is always pinned when you select this mode. To make it a temporary mode, press the mode button + Button 1 again. Now the mode will only be active as long as you hold the mode button.

Here is a list of all buttons on your controller that you can pin by pressing Button 1 simultaneously:

- All buttons in the column at the left of the pads (SCENE, PATTERN, …, SOLO, MUTE)

- GRID button

- NOTE REPEAT button

- AUTO WRITE button: Instead of using Button 1, press SHIFT + AUTO WRITE to pin the AUTO WRITE button.

2.2.9 Using Two or More Hardware Controllers

If two or more MASCHINE controllers of different types (MASCHINE MK2, MASCHINE MIKRO MK2, MASCHINE, and MASCHINE MIKRO) are connected to your computer, only one controller can be used to control the MASCHINE software at a time.

> If you have more than one instance of the MASCHINE software running on your computer, you can control each instance with a different controller. See ↑2.3.3, Controlling Various Instances with Different Controllers for more info.

> A controller not connected to any MASCHINE software instance can be used in MIDI mode (i.e. as a MIDI controller) at the same time as the other controller(s). See the Controller Editor Manual for more info on MIDI mode.

You can choose which controller you want to use with the MASCHINE software. This can be done both from your controller and in the software.

Hardware

On the controller you want to use with the MASCHINE software, do the following:

- MASCHINE (MK2) controller: Press SHIFT + STEP, turn Knob 5 to select the desired instance, and press Button 8 to load it.

- MASCHINE MIKRO (MK2) controller: Press SHIFT + F2, turn the Control encoder to select the desired instance, and press the Control encoder to load it.

Software

You can select the desired controller from the Controller menu (in the Application Menu Bar or in the Plug-in menu):
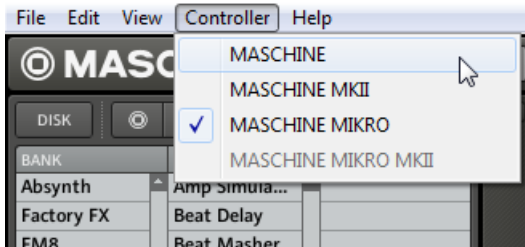
Click the Controller menu and select the controller you want to use (Windows depicted).

2.3 Stand-alone and Plug-in Mode

You can run the MASCHINE software as a stand-alone application or integrate it into your favorite Digital Audio Workstation (or DAW, in short) by loading it as a plug-in. The MASCHINE software is available in the VST, Audio Unit and RTAS plug-in formats. For further information on plug-in compatibility and for a detailed description of how to use plug-ins in your host, please refer to the documentation included with your host software. If you did not install the plug-ins when installing the MASCHINE software, please refer to the printed Setup Guide or the PDF version of this document available from the documentation folder in the MASCHINE software installation folder.

2.3.1 Differences between Stand-alone and Plug-in Mode

When MASCHINE is used in stand-alone mode, it directly communicates with your audio and MIDI interface. You can select which physical audio/MIDI ports have to be used on your interface, and configure crucial audio settings like the sample rate. All this is done via the Audio and MIDI Settings window (for more info on this, please refer to ↑2.5, Audio and MIDI Settings).

On the contrary, When MASCHINE is used as plug-in within a host application (i.e., sequencer software like Cubase or Pro Tools), the communication with your audio and MIDI interfaces is managed by the host — the MASCHINE plug-in only communicates with the host. Please refer to your host documentation to know how to configure audio and MIDI.

When you are using MASCHINE as a plug-in within a host application, you can open multiple MASCHINE instances. Actually, you can load as many instances of MASCHINE as your computer and your host application can handle CPU-wise. In contrast to the stand-alone application, they are always synced to the host. In plug-in mode you can also send a MIDI Program Change message from your host to switch between MASCHINE's Scenes or record automation using the Macro Controls. To learn more about these, have a look at chapter ↑10.5, Triggering Scenes via MIDI and ↑5.1.3, Group – Macro Properties (MCR) and Macro Controls.

2.3.2 Switching Instances in Plug-in Mode

When two or more instances of the MASCHINE software are running, you must choose which instance you want to control from your hardware controller. You can do this both from your controller and in the software.

Hardware

To switch from one instance to another in plug-in mode, press SHIFT + STEP; using Knob 5 you can now select the desired instance and load it by pressing Button 8.

Software

Click the Connect button to connect the controller to that instance.

You can select the controller from an instance by clicking the Connect button in the MASCHINE Header.

2.3.3 Controlling Various Instances with Different Controllers

You can use two or more MASCHINE controllers of different types (MASCHINE MK2, MA-SCHINE MIKRO MK2, MASCHINE, and MASCHINE MIKRO) simultaneously with different instances of the MASCHINE software (possibly with one instance in stand-alone mode). In doing so, the following applies:

▪ Only one MASCHINE controller of any type can be connected to an instance at a time. You can choose which instance you want to control from each controller as described in ↑2.2.9, Using Two or More Hardware Controllers.

▪ When you start a new instance of the MASCHINE software, it connects to one of the MA-SCHINE controllers according to following precedence rules:

  ◦ Rule 1: MK2 controllers (MASCHINE MK2 and MASCHINE MIKRO MK2) get focus before legacy controllers (MASCHINE and MASCHINE MIKRO).

  ◦ Rule 2: MASCHINE controllers (legacy and MK2) get focus before MASCHINE MIKRO controllers (legacy and MK2).

  ◦ Rule 1 has priority over rule 2.

2.3.4 Controlling your Host's Transport Functions in Plug-in Mode

When you are using MASCHINE as a plug-in within a host application, the Host Transport Control feature allows you to split the control elements of your controller into two groups:

▪ The PLAY, RESTART, Step Backwards, Step Forwards, and ERASE buttons of the TRANSPORT section control your host application via MIDI.

▪ All other elements control the MASCHINE plug-in instance.

You can activate the Host Transport Control feature in the Controller Editor. For more info, please refer to the Controller Editor Manual.

2.4 Preferences

You can find the Preferences window in the Maschine menu (Mac OS X) or File menu (Windows) of the Application Menu Bar, as well as in the *File* submenu of the Plug-in menu:
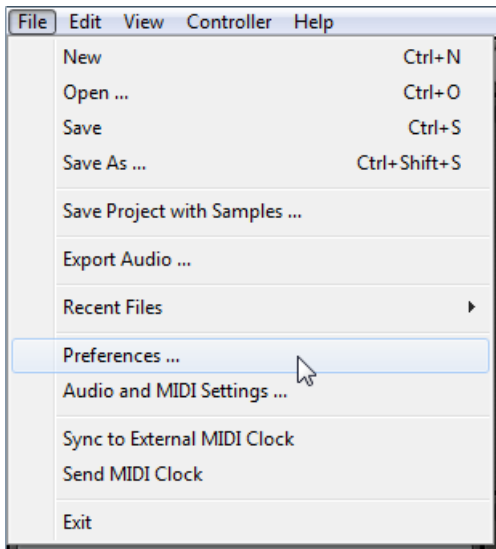
Preferences… in the File menu of the Application Menu Bar (Windows depicted).
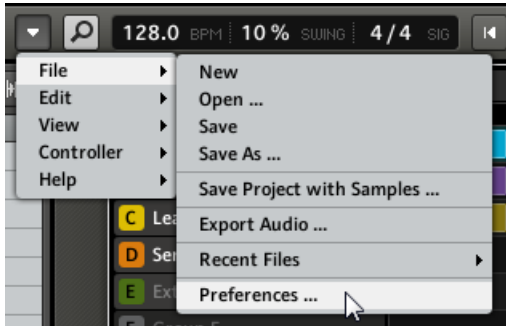
Preferences… in the Plug-in menu.

2.4.1   Preferences – General Page

The General page holds a few global settings. To display the General page click the General tab on the left.
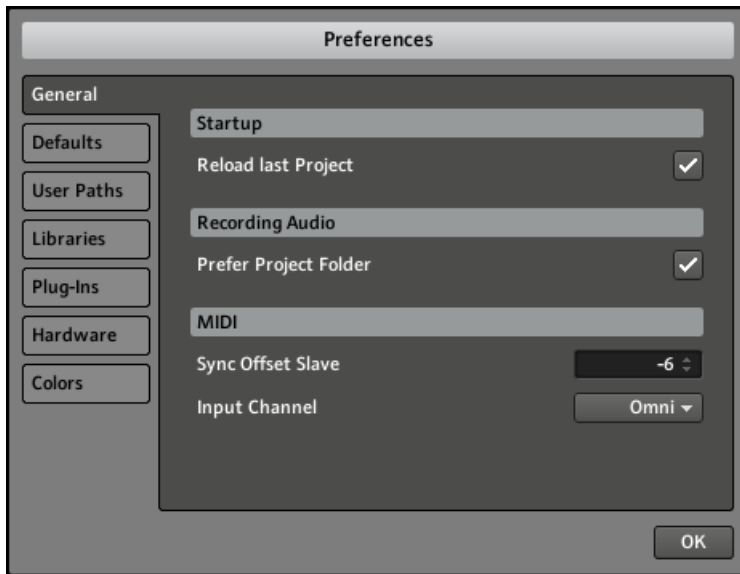
The Preferences – General page.

Setting	Description
Startup	
Reload last Project	If this option is checked, the last Project you worked on when quitting MA-SCHINE will be loaded as soon as you start MASCHINE again.
Recording Audio	
Prefer Project Folder	If this checkbox is marked, the Samples you record will be put in a subdirectory of the folder where your Project is saved. If not, your recordings will be saved in the generic Recordings folder in your standard user directory (see section ↑2.4.2, Preferences – Defaults Page).
MIDI	

Setting	Description
Sync Offset Slave	Depending on variables such as the speed of your CPU, your audio interface, your MIDI interface and the Latency value you selected in the Audio and MIDI Settings window (see ↑2.5, Audio and MIDI Settings), you may experience a lack of synchronization between MASCHINE and the external MIDI Master. To compensate, you can adjust this Sync Offset Slave value in milliseconds. An easy way to do that is to play a 4/4 kick drum pattern or a metronome sound on both MASCHINE (see chapter ↑6.1.5, Using the Metronome and the Count-in on how to activate the metronome) and the external MIDI Master and mix them together moving the slider until they are played at exactly the same time. As soon as you can hear a flanger-like effect, you know you are close to the correct Sync Offset Slave value. Keep on adjusting the Sync Offset Slave control until you can neither hear the flanging effect nor two separate signals.
Input Channel	Use this to select the MIDI channel you want MASCHINE to receive MIDI messages on. This can be used to limit MIDI input sent by the external sync master device. The *Omni* setting will allow the MASCHINE software to receive messages on all 16 channels at one.

2.4.2 Preferences – Defaults Page

The Defaults page allows you to define a few default settings that will be used for every new Project. To display the Defaults page click the Defaults tab on the left.
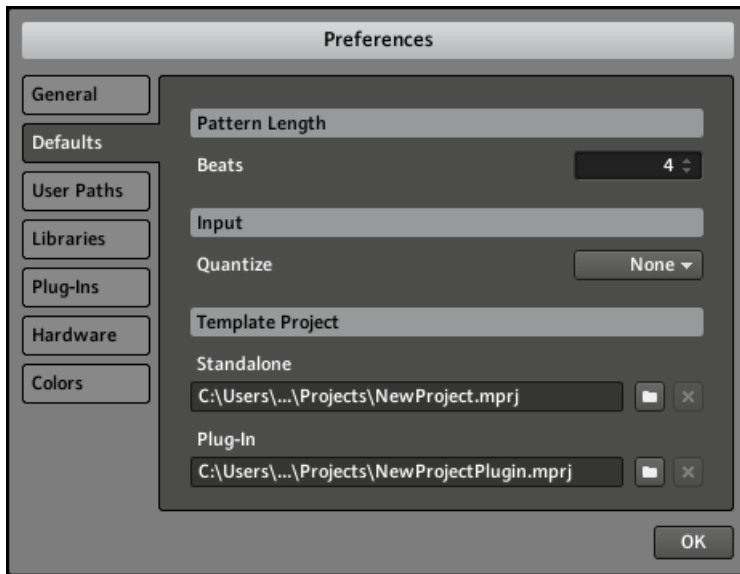
The Preferences – Defaults page.

Setting	Description
Pattern Length	
Beats	Here you can define the default length of new Patterns. Select a value by pressing your mouse button and dragging up or down.
Input	
Quantize	This allows you to select one of the three quantization options when playing live on the pads:
	None (no quantization),
	Record (quantization only in Record mode) or
	Play/Rec (quantization in Play and Record mode).
Template Project	

Setting	Description
Standalone	Here you can select a Project to load automatically when you start a new Project. The field displays the location of the Template Project currently selected for use. Click the folder icon to select the Template Project you would like MASCHINE to load when used as a stand-alone application. Any Project file can be used as a template, this can be from the MASCHINE Library or you could create a file, for example with your preferred instruments and effects loaded into the Module slots. If you have already set a Template Project, click the cross icon to unset it and start new Projects from scratch instead.
Plug-in	Here you can select a Project to load automatically when you start a new Project within a Digital Audio Workstation. The field displays the location of the Template Project currently selected for use. Click the folder icon to select the Template Project you would like MASCHINE to load when it is used as a plug-in. Any Project file can be used as a template, this can be from the MASCHINE Library or you could create a file, for example with your preferred instruments and effects loaded into the Module slots. If you have already set a Template Project, click the cross icon to unset it and start new Projects from scratch instead.

2.4.3   Preferences – User Paths Page

The User Paths page shows the locations of all MASCHINE files you have added to the user library. To display the User Paths page click the User Paths tab on the left.
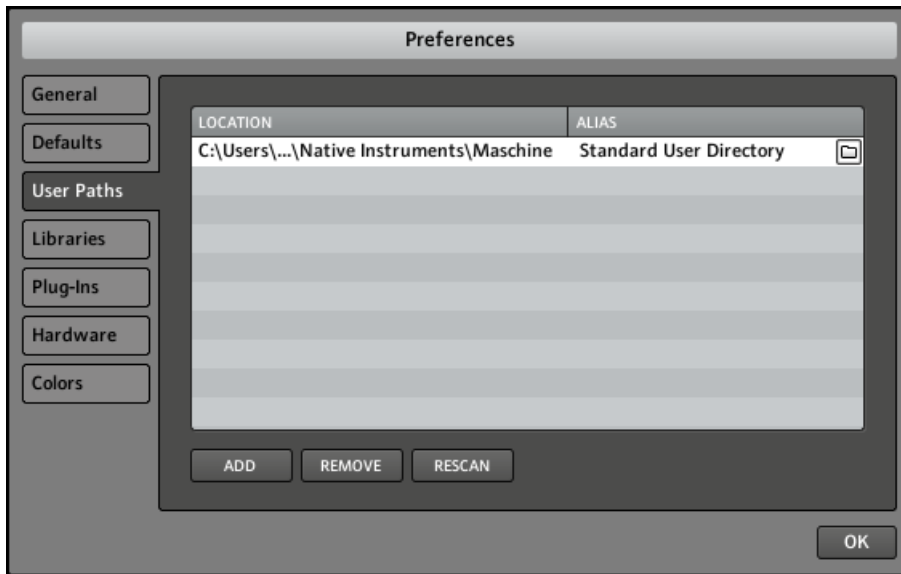
The Preferences – User Paths page.

By clicking on the folder icon to the right, you can change the path for example if you moved your sample folder to another location.

Please consult chapter ↑3, Browser for more information on adding your own samples.

Setting	Description
LOCATION	Shows the path(s) of your user content. Click the folder icon to change the path.
ALIAS	ALIAS acts as a reference to the path in the LOCATION column. This is a stand-in for any folder on your computer or removable drive and provides a dynamic link to it. The path in the LOCATION column may be changed, but the ALIAS column will still provide the link therefore avoiding the possibility of missing Samples. The Alias notably allows you to use a Project on different computers even if the Samples are stored in different locations. After adding a location (see ADD below), double-click the area in the new row and in the ALIAS column to set the Alias for the new location. The Alias of the first location in the list, Standard User Directory, cannot be edited.
ADD	Click ADD to manually add directories to the user library; keep in mind that any MASCHINE-compatible files in those directories will not be tagged if you add them like this (see chapter ↑3, Browser for more information on importing and tagging your files). Paths to Samples that you added via the import function from the Browser will also show up here.
REMOVE	Click REMOVE to remove directories from the user library. Files will only be removed from the MASCHINE Browser, not from your hard disk.
RESCAN	If you have changed the content of the selected directory (such as added or removed files), you should rescan it in order to let MASCHINE know which files have been removed and/or added so that they show up in the MASCHINE Library.

> You can resize the Preferences window at your convenience using the usual method on your operating system. You can also resize each column by clicking and dragging the limit between both column headers.

2.4.4   Preferences – Libraries Page

The Libraries page shows the locations of all MASCHINE factory files. These include libraries imported from other NI products as well as MASCHINE EXPANSION packs. To display the Libraries page click the Libraries tab on the left.
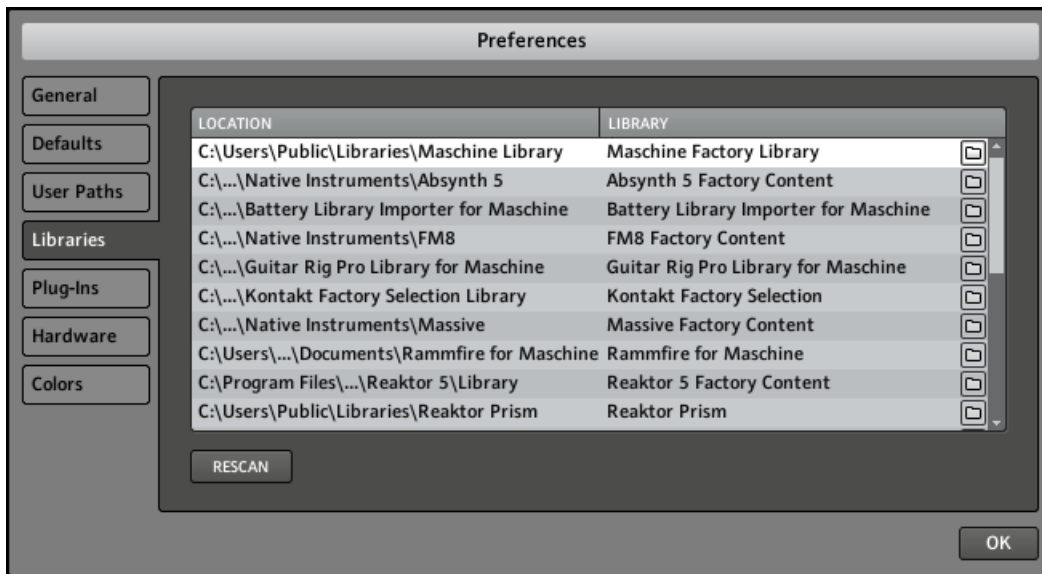
The Preferences – Libraries page.

Setting	Description
LOCATION	Shows the path of each library.
LIBRARY	Shows the name of each library. Click the folder icon on the right to change the path for that library.
RESCAN	Click this button to rescan all the listed libraries. This is useful if you have moved any library to another hard disk or to another location on the same hard disk.

> You can resize the Preferences window at your convenience using the usual method on your operating system. You can also resize each column by clicking and dragging the limit between both column headers.

2.4.5   Preferences – Plug-ins Page

The Plug-ins page allows you to manage the VST/AU plug-ins you want to use in MASCHINE. To display the Plug-ins page click the Plug-ins tab on the left.

At the top of the page, the LOCATIONS, MANAGER, and 64 BIT (or 32 BIT) buttons allow you to display various sections on that page.

LOCATIONS Section

In the LOCATIONS section of the Plug-ins page, you can manage the storage folders of all the plug-ins available. Click the folder icon to the right of an entry to change the path of that plug-in directory.
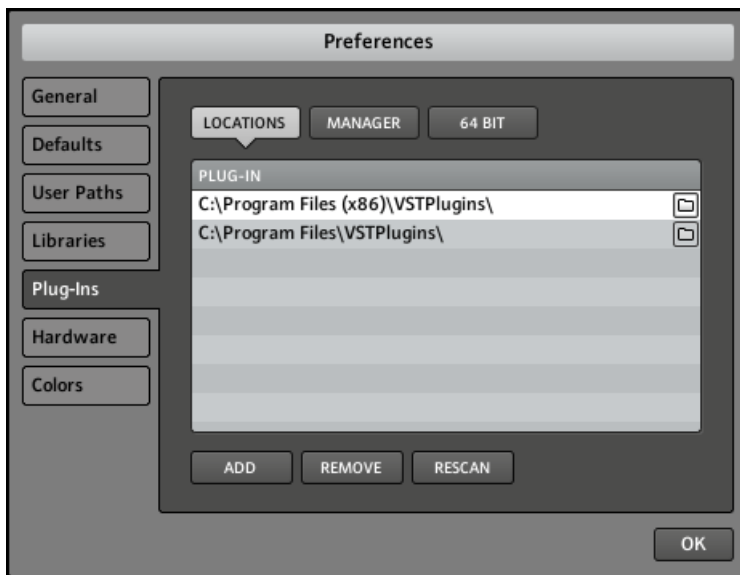
The Plug-Ins page's LOCATIONS section.

The LOCATIONS section also contains the following controls:

Command	Description
ADD	Click ADD to manually add plug-in directories.
REMOVE	Click REMOVE to remove the selected directory.
RESCAN	If you have changed the content of the selected directory (such as installed or re-moved plug-ins), you should rescan your plug-in directories in order to keep the list of available plug-ins up to date. Clicking RESCAN will check the integrity of your plug-ins and allow you to automatically detect plug-ins that are added or re-moved, or deselect any plug-ins that are not working correctly for any reason.

MANAGER Section

In the MANAGER section of the Plug-ins page, you can enable or disable plug-ins, rescan plug-in directories, and set default Module presets for plug-ins.

When a plug-in is disabled, it will not appear in the Module menus. If, for example, you do not use VST plug-ins on a Mac, it could be useful to disable them so that these VSTs do not appear in the list of loadable Modules.
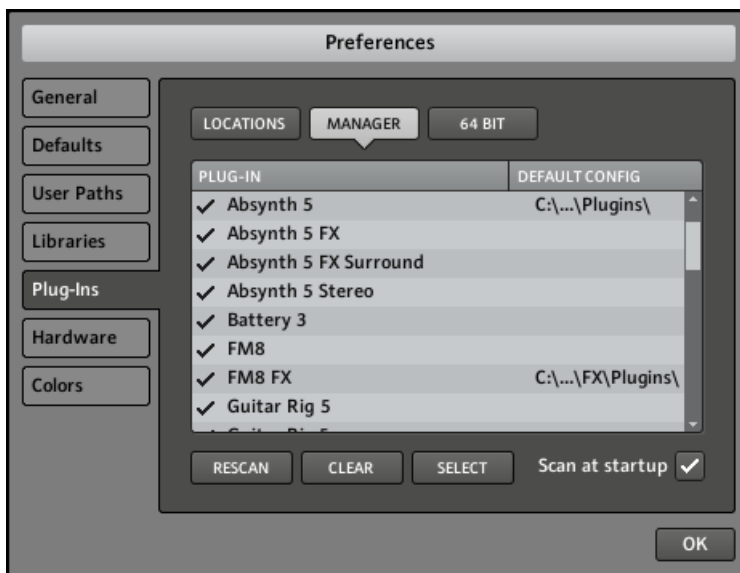
The Plug-Ins page's MANAGER section.

Setting or command	Description
PLUG-IN	Lists all available plug-ins from the directories specified in the LOCATIONS section (see above). This includes all enabled or disabled 32-bit plug-ins, when MASCHINE is running in 32-bit mode or otherwise all enabled or disabled 64-bit plug-ins, when MASCHINE is running in 64-bit mode.
DEFAULT CONFIG	For each plug-in you can set a default Module preset, which will be loaded with this plug-in when you load it from the Module list on the controller or the Module menu of a Module slot. Use the SELECT button to set the default Module preset. The default Module preset can also be set via the Module menu (*Save As Default…*). If no default is set here, the parameters of this plug-in will be auto-mapped when loading it into a Module slot.
RESCAN	If you have changed the content of the selected directory (such as installed or removed plug-ins), you should rescan your plug-in directories in order to keep the list of available plug-ins up to date. Clicking RESCAN will check the integrity of your plug-ins and allow you to automatically detect plug-ins that were added or removed, or deselect any plug-ins that are not working correctly for any reason.
CLEAR	This removes the default Module preset for the selected plug-in.
SELECT	This allows you to select a default Module preset for the selected plug-in, which will be loaded with this plug-in when you load it from the Module list on the controller or the Module menu of a Module slot..
Scan at startup	Check this box to let MASCHINE automatically scan for new plug-ins on startup. Please be aware these scans increase startup times. If you leave this box unchecked, be sure to perform a manual scan using the RESCAN button when new plug-ins are installed or plug-ins are removed.

64 BIT / 32 BIT Section

Displays 32-bit/64-bit plug-ins that are identified by MASCHINE but cannot be used in the current bit mode.

To check which bit mode you are currently running, open the About screen from MASCHINE's Help menu and see the Mode section in the upper right.
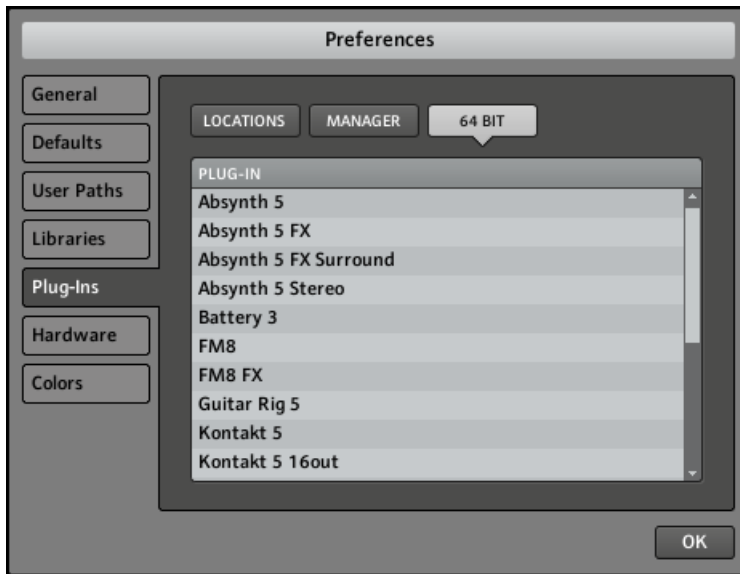
The Plug-Ins page's 64 BIT / 32 BIT section (depending on the current MASCHINE bit mode).

Element	Description
PLUG-IN	The plug-ins listed here are known to MASCHINE, but cannot be used in the current bit mode. This section is provided for information only. If MASCHINE is used in 64-bit mode, only 32-bit plug-ins will be listed here and vice versa. If you only have 32-bit or 64-bit plug-ins installed then no 64 BIT or 32 BIT tab will be shown respectively.

> If you plug a MASCHINE instance into your DAW, keep in mind that a 64-bit MASCHINE plug-in will host 64-bit plug-ins only, as well as a 32-bit instance will allow only hosting of 32-bit plug-ins.

2.4.6 Preferences – Hardware Page

The Hardware page enables you to customize how the pads react to your playing, and the brightness/contrast of the MASCHINE controller displays. To display the Hardware page click the Hardware tab on the left.
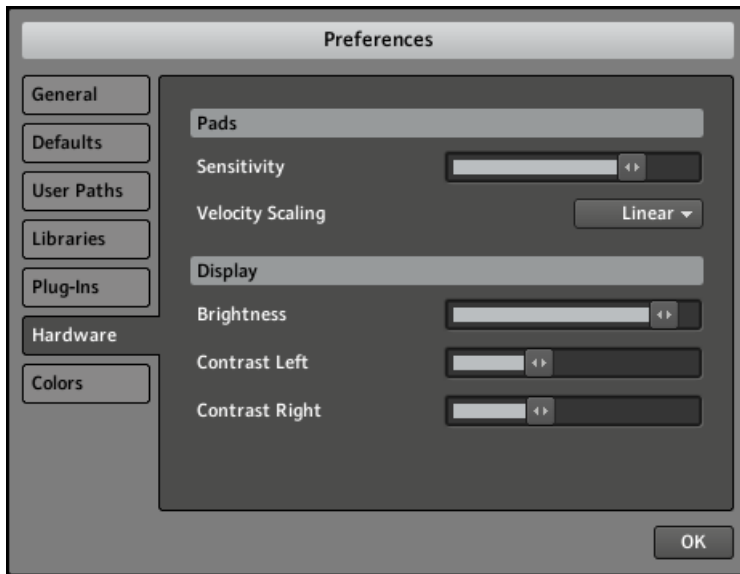
The Preferences – Hardware page.

Setting	Description
Pads	
Sensitivity	Use the Sensitivity slider to adjust how sensitive the pads respond to your touch. This sets the minimum threshold at which the MASCHINE controller will register a "hit."
Velocity Scaling	Velocity Scaling determines how your playing is translated into velocity values: starting from *Soft 3* (a soft touch is enough to get a big velocity value) through *Linear* to *Hard 3* (you really have to hit the pad hard to get a big velocity value).
Display	
Brightness	The Brightness slider allows you to adjust the brightness of both left and right displays of the MASCHINE controller.
Contrast Left & Right	With these sliders you can adjust the contrast of the left and right displays separately.

Adjusting the Settings from the Hardware

You also have access to these settings from your controller. To do this, you first have to enter MIDI mode by pressing SHIFT + CONTROL. In MIDI mode, press SHIFT + Button 4 to show the Settings Display mode. In this mode, the left display gives you access to all of the settings described above, with the exception of the Velocity Scaling. The Knobs 1–4 allow you to adjust the Brightness, Pad Sensitivity, Contrast Left and Contrast Right, respectively.

When you're done, press SHIFT + CONTROL again to quit the MIDI mode and get back to MA-SCHINE mode.

> For more info on the MIDI mode, please refer to the Controller Editor Manual.

2.4.7   Preferences – Colors Page

The Colors page enables you to choose default colors for your Scenes, Groups, and Sounds. To display the Colors page click the Colors tab on the left.
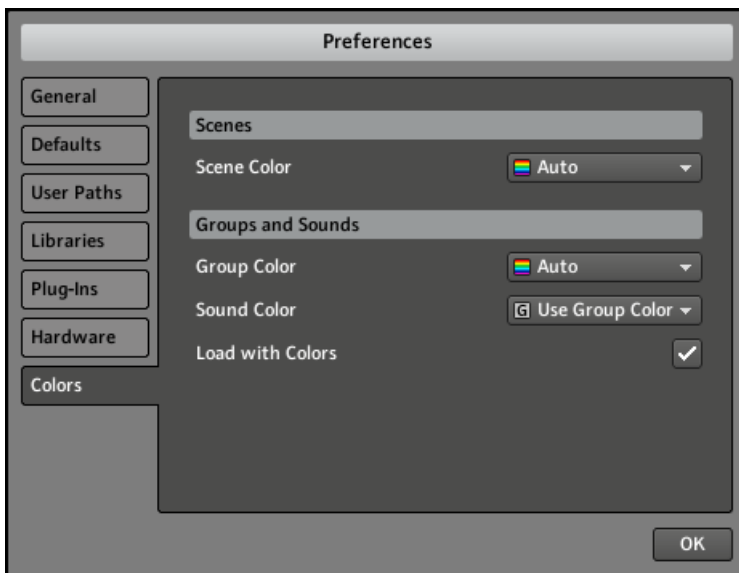
The Preferences – Colors page.

Setting	Description
Scenes	
Scene Color	Selects a default color for your Scenes. In the menu you can choose the desired color from the 16-color palette. The color currently selected as default is highlighted in the menu. If you select *Auto* (default setting) each Scene will have a different default color.
Groups and Sounds	
Group Color	Selects a default color for your Groups. In the menu you can choose the desired color from the 16-color palette. The color currently selected as default is highlighted in the menu. If you select *Auto* (default setting) each Group will have a different default color.
Sound Color	Selects a default color for your Sounds. In the menu you can choose the desired color from the 16-color palette. The color currently selected as default is highlighted in the menu. If you select *Auto* each Sound will have a different default color. If you select *Use Group Color* (default setting) Sounds will by default mirror the color of the Group they are belonging to.
Load with Colors	Color settings are saved with your MASCHINE files (Projects, Groups, Sounds, etc.). If you uncheck Load with Colors (checked by default), the saved colors won't be used next time you load the files — the loaded files will use the default colors set in this Colors page instead.

Please note that the menus in this Preferences page define *default* colors: These colors will only be used when creating a new Project, resetting a Group/Sound, or when Load with Colors is unchecked (see above). To change the color of particular objects (Scenes, Groups, Patterns, Sounds) in your Project, use the *Color* submenu in the object's context menu in the software. See ↑4.4.4, Sound – Output Properties (OUT), ↑5.2.2, Changing the Group's Color, ↑7.2.2, Changing the Pattern's Color, and ↑10.3.2, Changing the Scene's Color for more info, respectively.

2.5 Audio and MIDI Settings

The Audio and MIDI Settings window allows you to configure the audio and MIDI hardware device(s) to use with MASCHINE along with the audio routing between your audio device and MASCHINE.

► To open the Audio and MIDI Settings window, select the *Audio and MIDI Settings…* entry from the File menu (in the Application Menu Bar or in the Plug-in menu).

The Audio and MIDI Settings window contains three pages. Each page can be displayed by clicking the corresponding tab at the top.

2.5.1 Audio Page

The Audio page holds settings related to your audio interface.
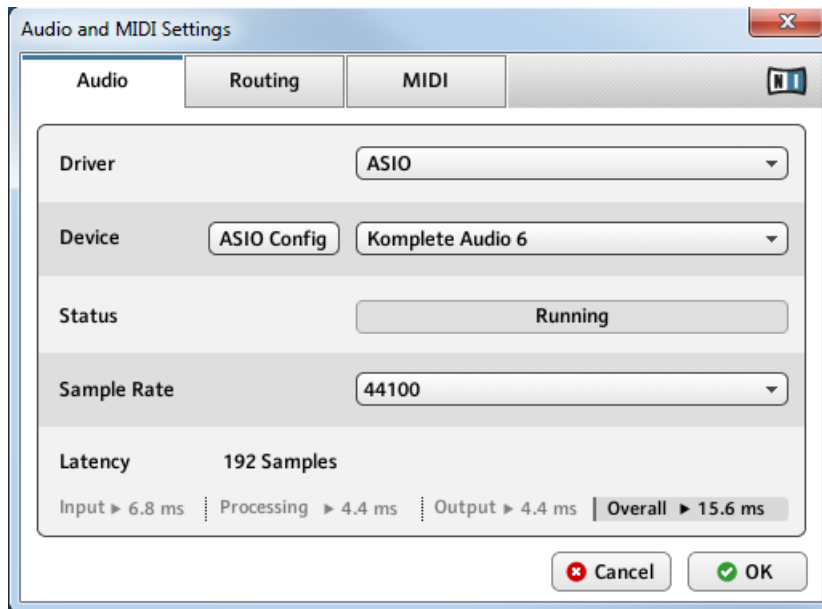
The Audio page of the Audio and MIDI Settings window.

Setting	Description
Driver	Select your audio driver here.
Device	This allows you to choose from the available devices if you have connected more than one audio interface.
Status	This shows you whether your audio interface is currently running.

Setting	Description
Sample Rate	The currently selected sample rate of your audio interface. Please restart MASCHINE after changing the sample rate.
Latency	**Mac OS X:** This slider allows you to adjust the latency of your audio interface in samples. Lower values result in a more immediate playing response but are heavier on both the CPU and the audio driver, and may result in audible clicks and pops. Larger values are easier on the CPU, but introduce a larger latency (i.e., there may be a very small delay between when you hit a pad and when you actually hear it). You should therefore experiment with this setting so that it is as low as possible without overloading your CPU or introducing any audio artifacts. **Windows:** When using an ASIO driver, the Audio and MIDI Settings window shows an ASIO Config button instead of the Latency slider. Click this button to open the settings window of the selected ASIO driver.

2.5.2   Routing Page

The Routing page allows you to configure the connections between the virtual inputs/outputs of MASCHINE and the physical inputs/outputs of your audio interface.
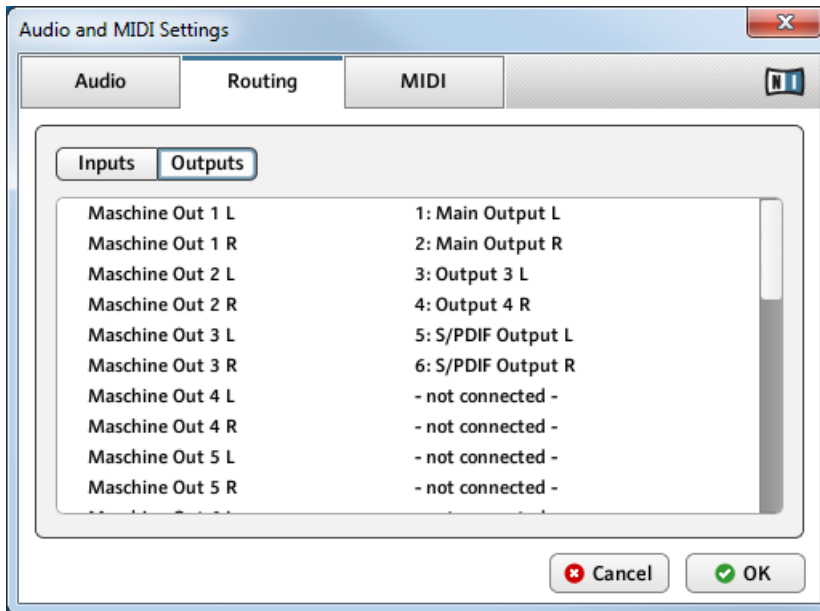
The Routing page of the Audio and MIDI Settings window.

Element	Description
Inputs	By clicking Inputs, you can define which inputs on your audio interface should be used for the four stereo inputs of MASCHINE. Select the inputs of your audio interface on the right column by clicking the fields: you will be presented with a drop-down menu with all the available Inputs. The choices made here will determine which inputs can be used when sampling external sources, for example.
Outputs	By clicking Outputs, you will be presented with a list of the 16 stereo outputs from MASCHINE: in the right column, you can assign them to the outputs of your audio interface. Click the fields in the right column to select the desired outputs via a drop-down menu.

2.5.3   MIDI Page

The MIDI page allows you to set up the MIDI input and ouput ports that you want to use with MASCHINE.
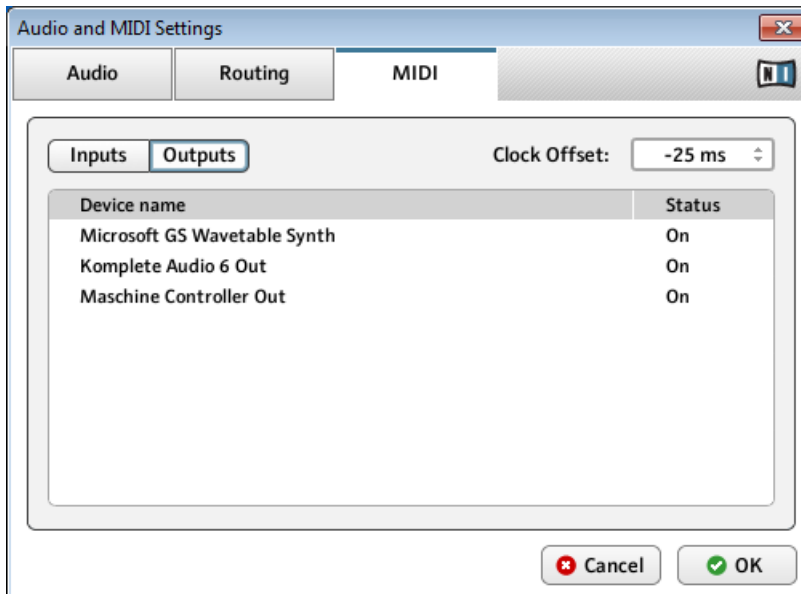
The MIDI page of the Audio and MIDI Settings window (entries may vary on your computer).

Element	Description
Inputs	Clicking Inputs displays a list of all the available MIDI inputs of your system. You can activate/deactivate each input by clicking the fields in the Status column, which displays the current status of the corresponding port.
Outputs	Clicking Outputs displays a list of all the available MIDI outputs of your system. You can activate/deactivate each output by clicking the fields in the Status column, which displays the current status of the corresponding port.
Clock Offset	Use the Clock Offset control to compensate delay that may occur during MIDI data transmission. Delayed MIDI Clock data will cause external devices to respond too late, thus making your track sound out of sync. By adjusting the Clock Offset value you can set an amount of latency to be compensated (in milliseconds). MASCHINE will then send MIDI Clock events ahead of time as defined.

2.6 Connecting External MIDI Equipment

MASCHINE's rear panel.

To connect your external MIDI equipment, hook it up to the MASCHINE hardware controller's MIDI IN or MIDI OUT socket on the rear panel. If you connect a MIDI keyboard to the MIDI IN, you can directly play the currently selected Sound with it without having to set anything up. You can also switch Scenes remotely by sending MIDI Program Change messages to MA-SCHINE. More on this in section ↑10.5, Triggering Scenes via MIDI.

2.6.1 Sync to External MIDI Clock

MASCHINE can be controlled externally via MIDI Clock by any device that is capable of sending MIDI Clock. This could be hardware such as a drum machine, another groovebox or sequencer, or even another software sequencer. To enable this, select the *Sync to External MIDI Clock* entry from the File menu:
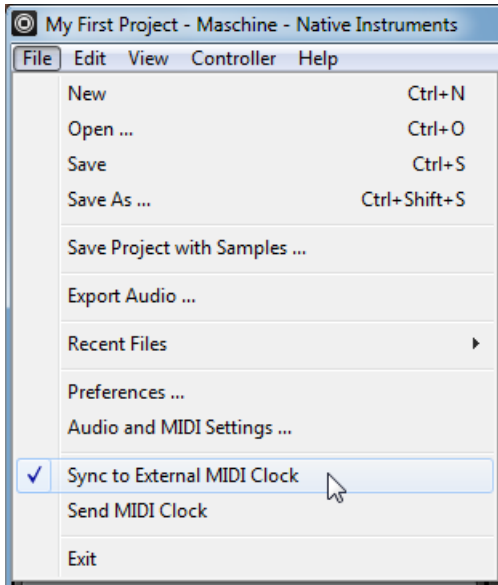
Sync to External MIDI Clock activated.

> ⚠ If you use MASCHINE as a plug-in, it is automatically synced to the host application so you don't have to activate external MIDI sync!

> ⚠ You have to define at least one input in the Audio and MIDI Settings' MIDI page to enable *Sync to External MIDI Clock*.

> ⚠ If *Sync to External MIDI Clock* is checked, the Play button in the MASCHINE Header and on the MASCHINE controller are deactivated.

2.6.2 Send MIDI Clock

MASCHINE can also send a MIDI Clock signal to any device that is capable of receiving MIDI Clock. This could be hardware such as a drum machine, another groovebox, or even another software sequencer. To enable it, select *Send MIDI Clock* from the File menu:
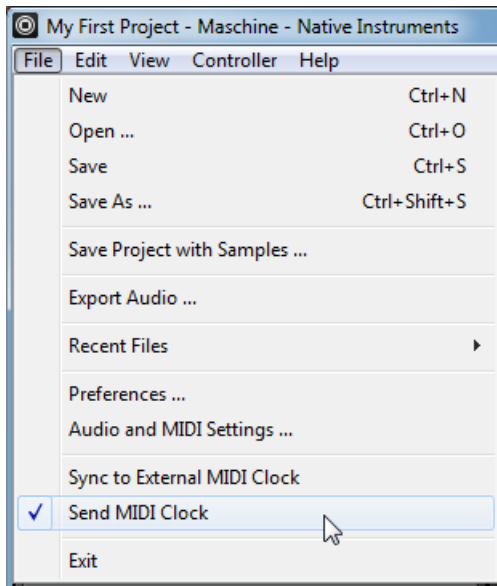
Send MIDI Clock activated.

3   Browser

The Browser is the place where you can organize and categorize all of your Samples, Sounds, Groups, Projects, Patterns, instruments and effect presets. This is done by tagging them, which means categorizing them by using keywords. Given that the MASCHINE software has some advantages over the hardware in this case, such as a very big screen and a QWERTY-keyboard, we will start with the software first.

3.1 Elements of the Browser

The elements of the Browser.

(**1**) **DISK button**: Use the DISK button to switch between the Browser and access to your computer hard disks.

(**2**) **File Type selector**: This contains seven icons, each representing the different files types of MASCHINE. From the left to right the file types are Project, Group, Sound, Pattern, instrument preset, effect preset, and Sample. By clicking one of them it causes only the files of the selected type to be displayed in the RESULTS list.

(**3**) **Tag Filter**: The Tag Filter allows you to search for file types based on tags that have been applied to them. You can quickly find files based on the Bank, Type and Subtype categories.

(**4**) **Search field**: Use the Search field to quickly find files based on their name or tagged attributes. Select the type of file you are looking for from the File Type selector (**2**) and enter the name or category of a file into the Search field to perform a search. Results are displayed in the search result list below.

(**5**) **RESULTS list**: The RESULTS list displays all files that match your query.

(**6**) **Tag Editor**: The Tag Editor allows you to edit tags applied to files and add tags to new files from the three available categories.

(**7**) **Audition Controls**: These controls allow you to prehear Samples directly from the Browser in order to make a quick selection, and to automatically load the selected file to hear it in context with the rest of your Project while it is playing.

3.1.1 DISK Button

DISK button off: The Browser shows you the MASCHINE Library.

DISK button on: The Browser shows you the content of your hard drives.

In the Browser , you can choose whether you want to browse the Library or access your hard disks. Press the DISK button to toggle between the Library and the hard disk content.

3.1.2 File Type Selector
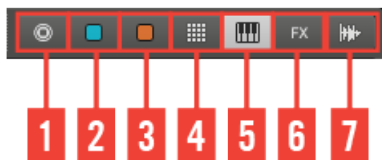
The File Type selector.

(**1**) **Project**: (.mprj)

(**2**) **Groups**: (.mgrp)

(**3**) **Sounds**: (.msnd)

(**4**) **Patterns**: (.mpat)

(**5**) **Instrument presets**: (.mfxp)

(**6**) **Effect presets**: (.mfxp)

(**7**) **Samples**: (.wav, .aiff)

The File Type selector only appears by when you browse the Library (DISK button off). On the File Type selector you will find 7 icons representing the different file types of MASCHINE: Projects (**1**), Groups (**2**), Sounds (**3**), Patterns (**4**), instruments presets (**5**), effect presets (**6**), and Samples (**7**). Clicking one of them will cause only the files of the selected type to be displayed in the RESULTS list. You may also deactivate all of them to perform your search on all file types at once.

3.1.3 Tag Filter

As with the File Type selector, the Tag Filter only shows up when you have disabled the DISK button above. Then it turns into the three category columns BANK, TYPE, and SUBTYPE.
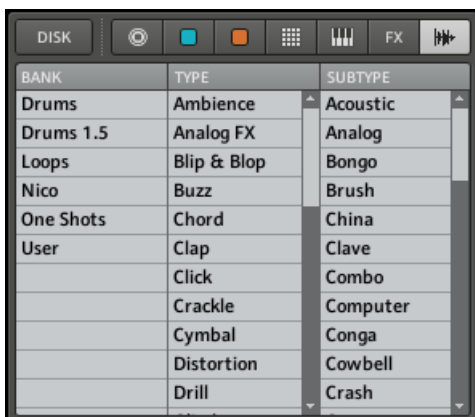
The Tag Filter with the file type Sample selected.

Element	Description
BANK	The BANK category is meant to define a basic structure. If you add a large library with many types of Samples, this might be the place to put its name.
TYPE	The TYPE category is the first in the tag hierarchy of MASCHINE, and should be used to categorize your file in a general way.
SUBTYPE	With the SUBTYPE, you can narrow down the description of your file even further.

If the tags don't fit in the Tag Filter display, use the scroll bars to show the remaining tags. You can also resize the Tag Filter by hovering over its lower limit, clicking then and dragging your mouse vertically.

Resizing the Tag Filter.

3.1.4   Search Field

In the Search field you can enter your search query.

The Search field.

The search will be performed on the file paths, the file names and the tags. If you want to search for a combination of two words (e.g. "bass" and "analog") just enter both words in the Search field with a space in between. As you start typing, the list of matches will start narrowing in the RESULTS list below. To the right of the Search field, the Reset button (showing a little cross) resets both text search and tag search.

3.1.5 RESULTS List

The RESULTS list shows all the files that match your query. From the list you can load the desired file into your Project or load another Project.

The RESULTS list showing kicks from the MASCHINE Library.

If the list is too long to fit in the display, use the scroll bar on the right to show the remaining items. You can also extend the RESULTS list's size by shrinking the Tag Filter above (see section ↑3.1.3, Tag Filter).

Loading Files via Double-click

Double-clicking one of the matches will load the respective file. Depending on what file type you have selected, the file will be loaded to different locations within MASCHINE:

- If it is a Project it will load all associated files replacing all files currently in memory. A dialog will appear asking you if you want to save changes to the current Project. This is to prevent you from losing changes by accidentally loading a new Project without saving the old one.

- If it is a Group, it will be loaded into the Group slot currently in focus.

- If it is a Sound, it will be loaded into the Sound slot currently in focus.

- If it is a Pattern, it will be loaded into the Pattern slot currently in focus.

- If it is an instrument preset, it will be loaded into Module slot 1 of the selected Sound slot.

- If it is an effect preset, it will be loaded into the selected Module slot.

- If it is a Sample, it will be loaded into the Sound slot currently in focus. The Sampler Module will be automatically loaded in Module slot 1 in order to play the Sample. The Sample will spread over the entire velocity and note range.

> ⚠ The file loaded into the Group/Pattern/Sound/Module slot will replace the slot's current content, if any! If needed, you can undo/redo your action via the shortcuts [Ctrl] + [Z]/[Y] (Windows) or [Cmd] + [Z]/[Y] (Mac OS X).

Loading Files via Drag and Drop

Except for Projects, you can also load files from the RESULTS list into the desired location via drag and drop. This notably has the following benefits:

- You can load a file into a Group, Sound, Module or Pattern slot that is not currently selected.

- You can load a Sample into its own Zone in the MAP page of the Sample Editor: A new Zone will be created for that Sample. See section ↑11.2.4, Mapping a Sample (Software) for more info.

3.1.6 Audition Controls

At the bottom of the Browser, the Audition Controls allow you to quickly hear how the file selected in the RESULTS list fits your needs.
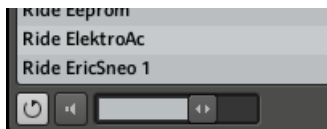
The Audition Controls, from left to right: Autoload button (enabled), Prehear button (disabled) and Prehear Volume slider.

Two features are at your disposal: Autoload and Prehear.

Autoload

Click the Autoload button to enable/disable Autoload.

When Autoload is enabled, any item that you select in the RESULTS list is automatically loaded into the Group/Sound/Pattern/Module slot, replacing the current content of the slot. This allows you to listen to this item in context with the rest of your Project while it is playing.

> ⚠ Autoload is not available when browsing Projects.

> 💡 Autoload is not only useful to look for an appropriate Sound, Group, effect or Sample, but can also be very inspiring: with a Pattern playing, browse through your Library with Autoload activated and listen to Sounds and Samples you normally would not use in that context.

Prehear

When you are browsing Samples, a Prehear button and Prehear Volume slider appear next to the Autoload button. Click the Prehear button to enable/disable Prehear. When Prehear is enabled, you can directly hear Samples as you select them in the RESULTS list. Use the Prehear Volume slider next to it to adjust the volume of the Samples you are prelistening.

> 💡 Prehear and Autoload are mutually exclusive: Only one of them can be active at a time.

3.1.7 Loading Groups with their Patterns

Every Group from the factory library includes a set of Patterns that illustrate possible uses of that Group. Similarly, when you save a Group of your own to the Library for later use, all Patterns you have created for that Group will be saved with the Group.

When browsing Groups (blue icon selected in the File Type selector at the Browser's top), you can choose to load each Group with or without its Patterns. This is done by clicking the Load Patterns checkbox at the bottom of the Browser:
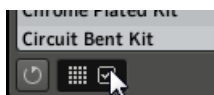
The Load Patterns checkbox.

- ▪ Load Patterns checkbox enabled (default): Groups will be loaded together with their Patterns. This allows you to use the Patterns you have saved with the Groups. Upon loading, all Patterns of the Group slot in which you load the Group will be replaced.

- ▪ Load Patterns checkbox disabled: Groups will be loaded without their Patterns. This allows you to load another set of Sounds while keeping your current Patterns. Notably, this can be very useful to try another drum kit with your current Patterns!

3.2 Locating Missing Samples

If you are loading a MASCHINE Project and one or more referenced Sample(s) cannot be found for any reason, a dialog in which you can locate the missing Samples will appear.
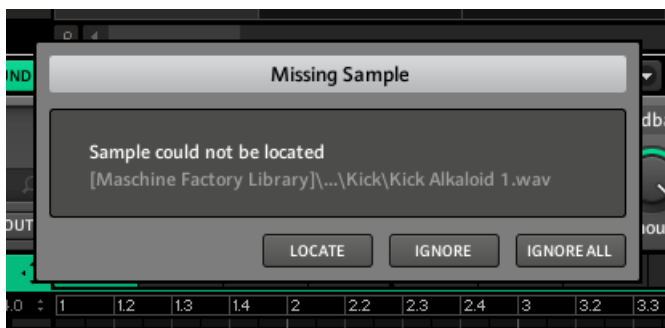
The Missing Sample dialog allows you to locate missing samples.

Sounds referencing missing Samples are marked with an exclamation mark. Additionally, their Groups are also marked with an exclamation mark when selected.

The Missing Sample dialog shows you which Sample cannot be found. Three buttons at the bottom let you choose between following actions:

- LOCATE: Clicking this button opens a Locate Missing Sample dialog in which you can manually locate the missing Sample. Navigate to the desired Sample in your file system and click Open. Consequently, your Project uses the newly selected Sample in place of the missing one. If other Samples are missing, MASCHINE tries to guess their path starting from the path you just indicated.

- IGNORE: Click this button to continue loading your Project without locating the missing Sample. You will be able to locate it at a later time (see below).

- IGNORE ALL: Click this button to ignore the missing Sample as well as all other missing Samples, if any. You will be able to locate them at a later time (see below).

Locating Missing Samples at a Later Time

You can open the Missing Sample dialog manually from the Plug-in menu. The *Purge Missing Samples* and the *Find Missing Samples…* menu entries only show up in the *File* submenu when Sample references cannot be resolved. They also show up in the Group and Sound context menus of the affected Group(s)/Sound(s).

The Purge Missing Samples and the Find Missing Samples... entries in the File submenu of the Plug-in menu.

► Select *Purge Missing Samples* to remove all Sounds with missing Samples from your Project.

► Select *Find Missing Samples...* to open the Missing Sample dialog again and locate missing Samples.

3.3 Importing Your Own Files

Apart from the huge MASCHINE Library, you might want to use your own samples or any MASCHINE files you received from other users. To be able to find them in the Browser from the hardware (see section ↑3.6, The Browser on the Hardware), you will have to import them into the Library. Importing files does not mean they will be moved from the directory they currently reside in, they will only be referenced by the Browser. That's why whenever you move files, make sure to update the paths to their respective directories as described in chapter ↑2.4.2, Preferences – Defaults Page.

> This section describes how to import files into the MASCHINE Library. When working on a Project, you can also save individual objects (Project, Groups, Patterns, Sounds, Module presets, or Samples) of the Project to the Library for later use. This will be described in each object-specific chapter, later in this Manual.

▶ Click the DISK button in the Browser to activate it and click the menu on its right to se-lect a volume from the list of your hard disks:
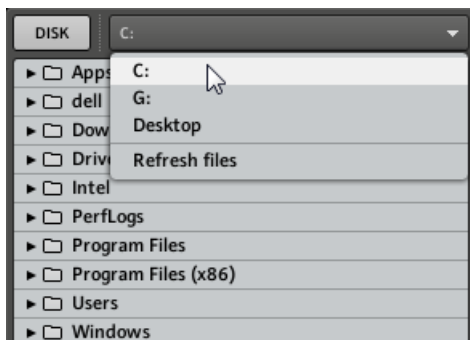
The Browser with DISK enabled showing the available volumes.

In the tree view, navigate to the directory that contains your files. To expand/close a folder, double-click its name or click the folder icon at its left. The Browser only displays files that MASCHINE supports.

> ⚠ MASCHINE supports only WAVE and AIFF sample formats.
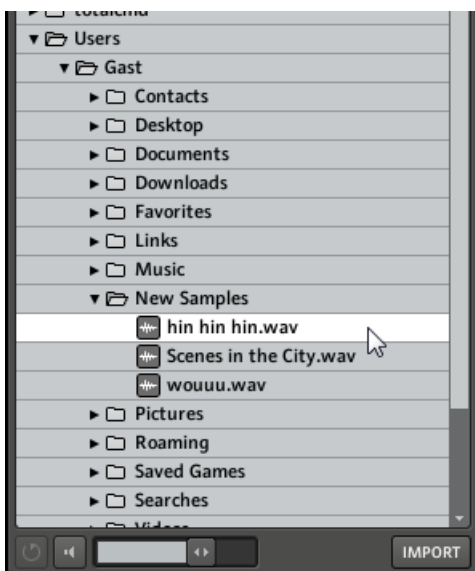
Selecting a Sample on your hard disk.

To select a file to import, click it in the tree view.

You can also select multiple files via the usual methods on your operating system:

▪ To select a group of contiguous files, hold [Shift] on your computer keyboard, click the first file then click the last file.

▪ To select a group of non-contiguous files, hold [Ctrl] (Windows) or [Cmd] (Mac OS X) while clicking the files.

▪ To select all files in a folder, simply click the folder.

After you have selected the desired file(s), add it/them to the Library by clicking the IMPORT button at the bottom right of the Browser. You will be presented with the Tag Editor to tag the file(s) you are about to import to the Library. See section ↑3.4, Tagging your Files below for a description of the Tag Editor.

> You can also apply/remove tags at any time, after they are imported. However, it may be best to tag files on import, since it will make it easier to find them later.

> ⚠ Please be aware there is no undo/redo commands available for Tagging.

3.4 Tagging your Files

The Tag Editor allows you to assign tags to your MASCHINE files to make it easier to find them in the Browser. The Tag Editor is used in the following situations:

- When importing files to the Library, clicking IMPORT at the bottom right of the Browser automatically opens the Tag Editor to tag the file(s) being imported.

- At any time you can edit the tags of files already in the Library by selecting them in the RESULTS list while browsing the Library and clicking the EDIT button at the bottom right of the Browser.

> 💡 If multiple files are selected, all files will be tagged at once.

In the three category columns of the Tag Editor (BANK, TYPE, and SUBTYPE), select the tags you want to apply to the file(s) by clicking them:

The Tag Editor with selected tags (highlighted and checkmarked).

> ⚠ Be as precise as possible when tagging your files in order to be able to find what you are looking for later.

You can add as many tags to a file as you want by clicking them. A checkmark will appear next to the selected tags. To remove a tag from the file, click it again.

When importing files, after you have finished tagging click OK to import the file(s) to the Library and apply the selected tags. You can cancel the import by clicking CANCEL.

When editing files from the Library, after you have finished tagging click APPLY to confirm your changes and apply the selected tags. You can cancel your edits by clicking the lit EDIT button.

Creating New Tags

You can also create your own tags. On the bottom of each of the three category columns in the Tag Editor, there is an *add new…* entry:
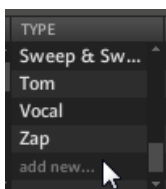
Adding a new tag in the TYPE column.

To add a new tag, click on this entry, enter the tag name with your computer keyboard and press [Enter]. The new tag will then be available in that tag category.

Deleting Tags

To delete a tag from the Tag Editor, right-click (on Mac OS X: [Ctrl]-click) the tag and select *Delete Bank* (for Banks) or *Delete Attribute* (for Types and Subtypes) in the context menu. It is possible to delete multiple tags by selecting them in the Tag Filter and then right-click (on Mac OS X: [Ctrl]-click) the selection select the entry in the context menu.

> ⚠ A deleted tag will not appear in the Browser anymore and will be removed from all files. Once a tag is deleted it is not possible to undo it!

3.5   Quick Browse

Quick Browse is a feature that allows you to quickly recall a search query you performed to get to a given file. Let's say you have loaded a kick Sound after browsing the Library, then loaded a snare Sound to another Sound slot and now you realize you are not satisfied with that kick Sound, but you heard a nice kick Sound just before you chose the current one. Normally you would now have to try to remember the name or the tags you used to find it, or browse all kick Sounds (given that the MASCHINE Library already has around 700 kick Sounds, this may take a considerable amount of time). With Quick Browse you can restore the query with just one click. Quick Browse is available for Modules (instruments and effects), Sounds, and Groups.

The Quick Browse function for the MASSIVE Module in a Sound.

The Quick Browse function is activated by clicking the magnifying glass next to the file name in the left part of the Control area. If you click the magnifying glass, the search query for the currently selected file will be restored in the Browser, thus allowing you to choose other results for that query from the RESULTS list.

If a Module, Sound or Group was not loaded using a search query in the Browser, the Quick Browse function and the magnifying glass are disabled.

Choosing the Right File to Use with Quick Browse

The Quick Browse function always relates to the MASCHINE object selected in the Control area:

▪ If a Module slot at the Master, Group, or Sound level is selected, the Quick Browse function relates to the Module loaded in that Module slot.

▪ If Properties of the Sound or Group are selected, the Quick Browse function relates to that Sound or Group, respectively.

> The Browser on the MASCHINE controller always restores the search query you performed to get a given file.

3.6 The Browser on the Hardware

In contrast to the software, the Browser on the controller can only load files that have already been added to the Library. You cannot directly access specific directories on your hard disks with the Browser using the controller. This is why you should always import all your files to the Library and tag them using the software beforehand.

3.6.1 Browsing Your Library

► To enter the Browser on the MASCHINE controller press BROWSE.

The Browser on the MASCHINE controller, here with the MASTER tab in focus.

On the displays of your controller, the Browser is organized as follows:

- The left display allows you to select the file type and the desired tags for narrowing your search.
- The right display shows you the corresponding search result list. It allows you to select and load the desired file.

Left Display – FILTER Field

At the bottom left of the left display, the FILTER field is the hardware equivalent of the File Type selector in the software (see section ↑3.1.2, File Type Selector). Dial Knob 1 to select a file type you are looking for. Depending on which of the Buttons 1–3 is selected (the picture above shows the Browser with Button 3, i.e. the SOUND tab selected), the FILTER field will allow you to select compatible file types only:

Selected Tab	File Types Available in FILTER Field	Place of Loading
MASTER (Button 1)	Project	Replaces current Project
	Effect preset (FX)	Selected Module slot
GROUP (Button 2)	Group	Selected Group slot
	Pattern	Selected Pattern slot
	Effect preset (FX)	Selected Module slot
SOUND (Button 3)	Sound	Selected Sound slot
	Instrument preset	Module slot 1 only
	Effect preset (FX)	Selected Module slot

Check that the desired Group, Pattern, Sound and/or Module slot is selected before loading the file from the Browser to avoid loading it at the wrong place! To do this, you might need to temporarily leave the Browser and select the right slot. In any case, don't hesitate to use SHIFT + pad 1 / SHIFT + pad 2 to undo/redo your actions.

Left Display – BANK, TYPE, and SUBTYPE Fields

The three other fields at the bottom of the left display allow you to select tags in the three categories of the Tag Filter (see section ↑3.1.3, Tag Filter). Dial Knob 2–4 under the left display to select the desired tag in the Bank, Type, and Subtype category, respectively.

Tag Category	Description
BANK	The BANK category should be used to define a basic structure. Examples for the BANK category from the factory library are DRUMS or ONE SHOTS or FACTORY FX.
TYPE	The TYPE category is the first in the tag hierarchy of MASCHINE and categorizes the file in a general way. Examples for the TYPE category from the factory library are BRASS, ANALOG FX or KICK.
SUBTYPE	With the SUBTYPE, you can narrow down the description of your file even further. Examples for the SUBTYPE category are DJEMBE, GLITCH or ANALOG.

Right Display – Selecting a File for Loading

The right display showing a search result list.

> If you want to use your hardware a lot make sure to tag all the files you want to use extensively! This makes it a lot easier to access them using the hardware.

You can browse through the result list by turning Knob 5; once you want to load a file, press Button 8 (LOAD). You can also browse the result list and load files by turning and pressing the Control encoder in the MASTER section. The file will be loaded in the selected Group, Pattern, Sound or Module slot.

3.6.2 Additional Features

You will find on your controller most of the browsing aids available in the MASCHINE software.

Autoload

Buttons 5 (PREV) and 6 (NEXT) above the right display allow you to directly load the next or the previous file from the search result list in order to be able to compare them easily, just like Autoload in the software. See section ↑3.1.6, Audition Controls for more info on Autoload.

Prehearing Samples

When browsing Samples (SOUND tab selected at the top of the left display, and SAMPLE selected in the FILTER field), you can enable/disable the Prehear function by pressing Button 4. See section ↑3.1.6, Audition Controls for more info on Prehear.

Loading Groups with Patterns

When browsing Groups (GROUP selected at the top of the left display, and GROUP selected in the FILTER field), you can choose to load the selected Group with or without its Patterns by pressing Button 7 (PATT.). This is the hardware equivalent of the Load Patterns checkbox in the software. See section ↑3.1.7, Loading Groups with their Patterns for more info on this.

Loading Samples: Replacing or Keeping Existing Samples

When browsing Samples (SOUND tab selected at the top of the left display, and SAMPLE selected in the FILTER field), you can choose how the selected Sample will be loaded by pressing Button 7 (ADD):

- If ADD is disabled, the new Sample will replace the current Sample, if any.

- If ADD is enabled, the current Sample will stay in place and the new Sample will be loaded in its own Zone in the Sample Map of the Sound. See section ↑11.1.3, Slicing a Sample (Hardware) for more info.

4 Working with Sounds

4.1 Sound Basics

Sounds are the building blocks of all sound content in MASCHINE. Sounds are organized into Groups: each Group offers 16 Sound slots, and each Sound slot can hold one Sound. In the software, Sound slots are displayed in the column at the left of the Pattern Editor and you can select them by clicking each slot:
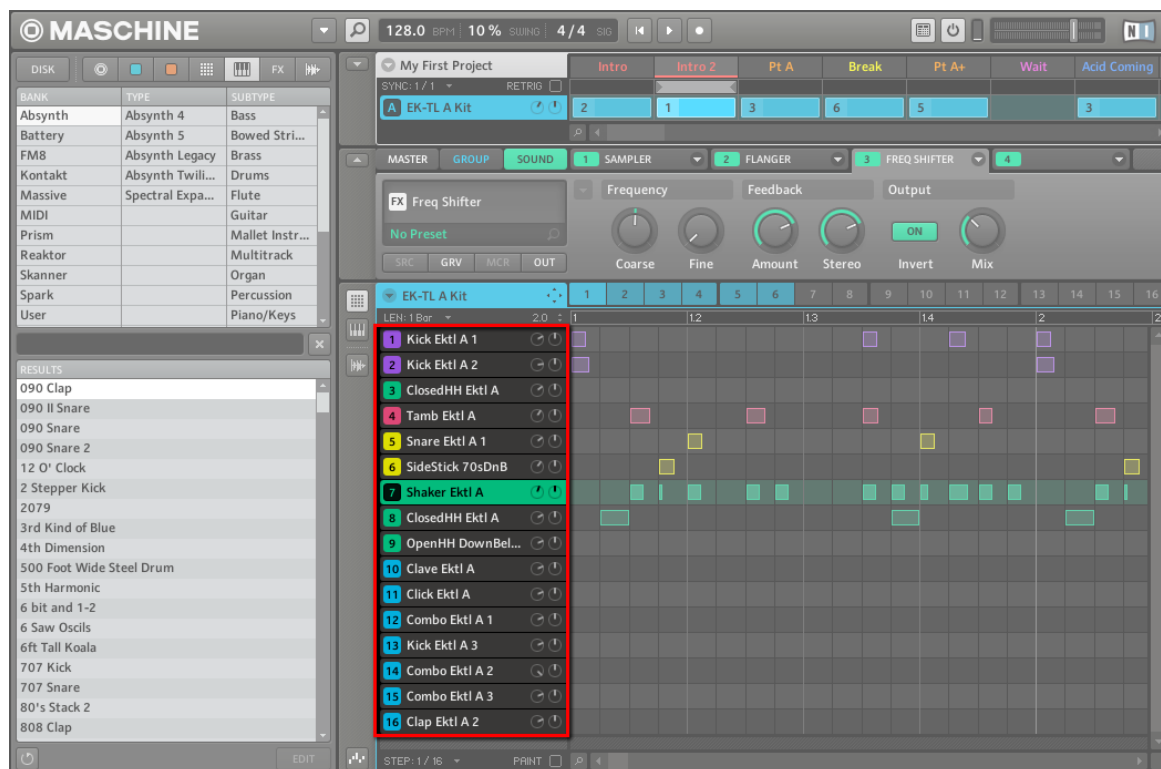
Sound slots in MASCHINE, with Sound slot 7 is selected.

Each Sound of the selected Group is by default mapped to one of the 16 pads on the MA-SCHINE hardware controller, so you can play the Sounds by pressing the pads.

4.1.1 The Modules

The content and settings of the selected Sound are displayed in the **Control area** (in the middle of the software window) when the SOUND tab is selected:
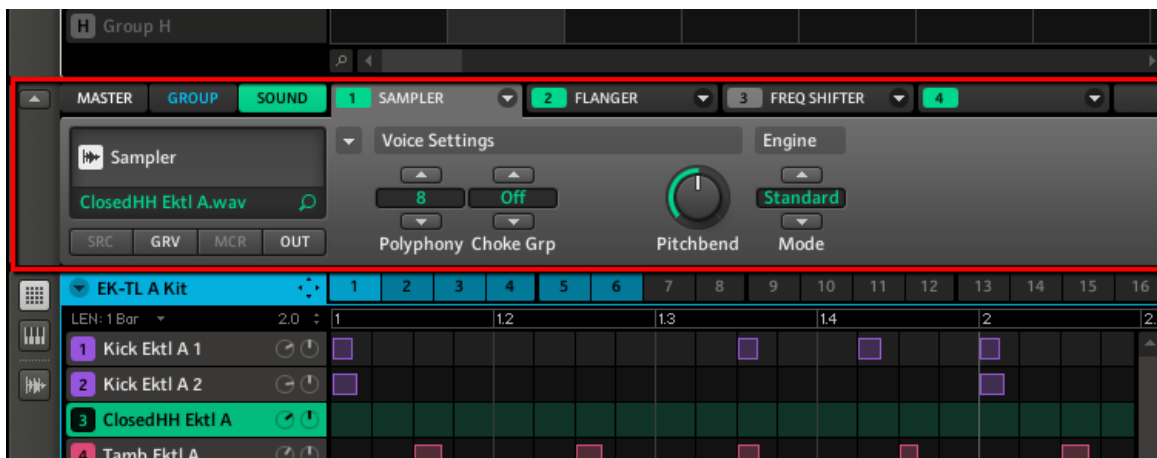
The Control area displaying the content of the Sound ClosedHH Ektl A of the selected Sound slot 2.

Each Sound can hold up to four **Modules** in its four dedicated **Module slots**. The Modules loaded in a Sound will define its role and sonic characteristics. For example, in the picture above the Control area displays the content of Module slot 1, in which a Sampler Module is loaded; by looking at the tabs in the Control area's top row, we also see that Module slot 2 holds a Flanger Module and Module slot 3 a Freq Shifter Module (both Modules are from the MA-SCHINE internal effects).

The processing order is always from left to right (from Module slot 1 to Module slot 4).

> In addition to Modules, each Sound also provides a set of global settings called Properties. We will describe them in section ↑4.4, The Sound Properties.

Different Types of Modules

Modules can be of different types:

	Instrument Modules	Effect Modules
Internal Modules	Sampler, Input, MIDI Out	MASCHINE internal effects
External Modules	VST/AU instrument plug-ins	VST/AU effect plug-ins

▪ **Instruments**: Most of these Modules generate sound. They can only be used in Module slot 1. Instrument Modules can be internal (included with MASCHINE) or external (VST/AU plug-ins). The following Modules are available:

  ◦ **Sampler**: The Sampler Module allows the selected Sound to play back Samples. This is the most common sound source, as adding a Sample to the Sound slot will automatically load the Sampler in the first Module slot of the Sound.

  ◦ **Input**: The Input Module allows you to insert into the MASCHINE signal flow external signals coming from your audio interface's inputs, thus turning the Sound slot into a bussing point for other signals.

  ◦ **MIDI Out**: The MIDI Out Module allows you to use a Sound to send MIDI notes to your host application or your external MIDI equipment.

  ◦ **VST/AU instrument plug-ins**: You can use any VST/AU instrument plug-in from Native Instruments and third-party manufacturers.

▪ **Effects**: These Modules modify the audio coming from the previous Module slot (or from the incoming audio if they are loaded in Module slot 1). They can be used in all four Module slots. Effect Modules can be internal (included with MASCHINE) or external (VST/AU plug-ins). Following Modules are available:

  ◦ **MASCHINE internal effects**. Chapter ↑4, Working with Sounds will give you all details about every MASCHINE internal effect.

  ◦ **VST/AU effect plug-ins**: You can use any VST/AU effect plug-in from Native Instruments and third-party manufacturers.

At the Sound level, the four Module slots can host following types of Modules:

▪ Module slot 1 can host all types of Modules (instruments and effects).

▪ Module slots 2, 3, and 4 can only host effects (MASCHINE internal effects and VST/AU effect plug-ins).

4.1.2 Module Slot 1: Choosing the Sound's Role

The Module loaded in Module slot 1 will determine the general role of the Sound:

- If Module slot 1 holds a Sampler or VST/AU instrument plug-in, the Sound will generate its own audio.

- If Module slot 1 holds an effect Module (internal effect or VST/AU effect plug-in), the Sound will be available as bussing point for other signals within MASCHINE. This notably allows you to build up send effects. See section ↑9.4, Creating a Send Effect for more info.

- If Module slot 1 holds an Input Module, the Sound will be available as bussing point for external audio signals. See section ↑9.3, Applying Effects to an External Instrument for more info.

- If Module slot 1 holds a MIDI Out Module, the Sound will send MIDI notes instead of generating sound. Slots 2–4 will not be effective. See section ↑4.9.3, MIDI Output from Sounds for more info.

> You can also sample directly to a Sound slot. This will automatically load a Sampler in Module slot 1. Read chapter ↑10.5, Triggering Scenes via MIDI for more details on this.

4.1.3 Loading a Module

The procedure to load a Module is common to all levels (Sound, Group, and Master). As an example, we will load an instrument Module in the slot 1 of a Sound.

Hardware

1. Press the CONTROL button to enter the Control mode.
2. Press SELECT + the pad you want to load the instrument to.
3. Press Button 3 to put the focus on the SOUND tab.
4. Make sure MODULES (Button 4) is activated to show Module slots 1 to 4.
5. Press Button 5 to select Module slot 1.
6. Press SHIFT + BROWSE to browse the available Modules.
7. On the left display, use Knob 1 to change the TYPE to INTERNAL.
   The right display now shows the list of the available internal Modules.

8.   Using Knob 2, set the SUBTYPE field to INSTRUMENT.
9.   Turn Knob 5 to browse the available internal instrument Modules.
10. If you want to load an instrument plug-in instead, turn Knob 1 to set the TYPE to PLUG-IN, and turn Knob 2 to set the SUBTYPE to INSTRUMENT.
     The right display now shows the list of available plug-in instruments.
11. Turn Knob 5 to browse the available Modules.
12. When you have found the Module you want to use, press Button 8 to load it.
13. To remove the Module currently loaded in the Module slot, select (NONE) at the top of the list on the right display.

Software

1.   Click the Sound slot in which you want to load a Module.
     At the top left of the Control area, click the SOUND tab.
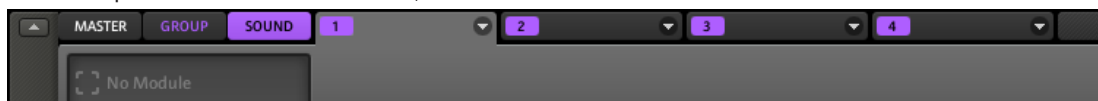
     On the right you see the four tabs of Module slots 1–4.
2.   Click the arrow at the right of Module slot 1's tab.
     This opens the Module menu where you can select the desired Module for loading.
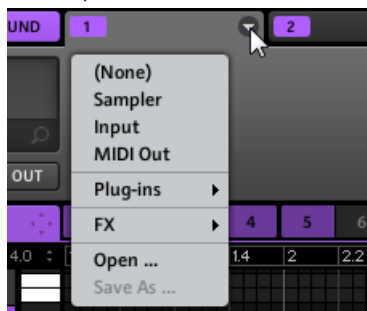
3.   To remove the Module currently loaded in the Module slot, select *(None)* at the top of the Module menu.

The entries in the Module menu will differ according to the selected Module slot:

▪   Module slot 1 of a Sound (pictured above): Under the *(None)* entry allowing you to remove the Module currently loaded, the Module menu lists the available instrument and effect Modules:

- ◦ **Sampler**, **Input**, and **MIDI Out**: These are the MASCHINE internal instruments.

- ◦ **Plug-ins submenu**: This submenu lists the available VST/AU instrument plug-ins.

- ◦ **FX submenu**: This submenu lists the available effect Modules, starting with all MA-SCHINE internal effects; at the bottom of the *FX* submenu, the *Plug-ins* submenu lists the available VST/AU effect plug-ins.

- ▪ All other Module slots at the Sound, Group, and Master level: These Module slots only accept effects, therefore their Module menus lack the entries for instruments: Under the *(None)* entry allowing you to remove the Module currently loaded, you will find the content of the *FX* submenu described above:

  - ◦ All **MASCHINE internal effects**.

  - ◦ **Plug-ins submenu**: This submenu lists the available VST/AU effect plug-ins.

For all Modules slots (Module slot 1 of Sounds included), the bottom of the Module menu holds a few commands for managing Module presets:

- ▪ *Open…*: Allows you to open a Module preset you have previously saved.

- ▪ *Save As…*: Allows you to save the current Module settings as preset for later use.

- ▪ *Save As Default…* (VST/AU plug-ins only): Allows you to save the current Module settings as default preset. This default preset will be recalled each time you load the Module from the Module menu.

See section ↑4.1.5, Bypassing Module Slots and ↑4.1.7, Saving Module Presets for more info on these commands.

For plug-ins the Module menu provides an additional entry at the top allowing you to import your VST/AU presets.

> The Sampler, Input, and MIDI Out Modules are described in section ↑4.2, The Sampler Module, ↑9.3, Applying Effects to an External Instrument, and ↑4.9.3, MIDI Output from Sounds, respectively.

> For information on working with plug-ins, please refer to section ↑4.2.6, Page 6: Velocity Destination and Modwheel Destination.

> For information on working with effects (internal effects as well as plug-in effects), please refer to chapter ↑8, Effect Reference. Moreover, you will find a detailed description of every single MASCHINE internal effect in chapter ↑4, Working with Sounds.

4.1.4 Adjusting the Module Parameters

The procedure for adjusting the Module parameters is common to all types of Modules. If a Module provides more than eight parameters, these will be split into **Parameter pages**, each page containing up to eight parameters.

Hardware

1. On your MASCHINE hardware controller, press the Page buttons to step through the various Parameter pages, if any.

2. Use Knobs 1–8 to adjust the values of the parameters in the displayed page.

Software

In the software, the main part of the Control area shows the parameters for the selected Module. This is called the **Parameter area**.

1. In the software, click the Page menu (the little arrow) at the top left of the Parameter area to step through the various Parameter pages, if any.
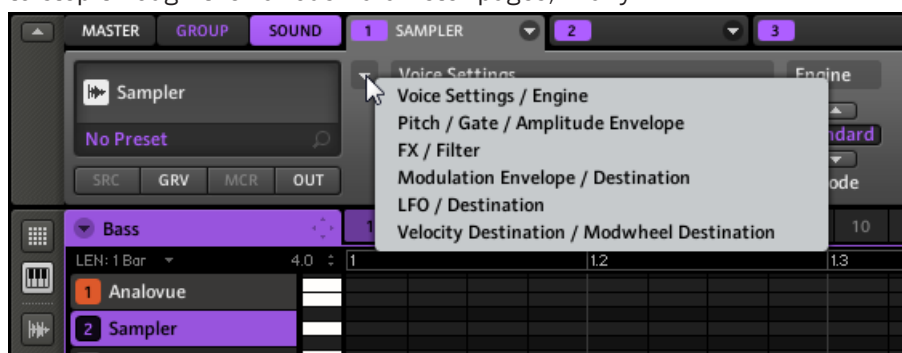
2. Use the mouse to adjust the values of the parameters in the displayed page.

4.1.5 Bypassing Module Slots

You can bypass (or "mute") any Module slot. When a Module slot is bypassed, the Module it contains is temporarily removed from the signal flow and does not process the audio passing through the slot. Instead, the incoming audio is directly sent to the next Module slot for further processing (or to the object's output if you bypass its last Module slot).

For more information on how to bypass Module slots, please refer to section ↑9.2, Bypassing Effects, where the procedure is illustrated and described in detail.

4.1.6 Moving Modules

The MASCHINE software provides you with a very useful feature: the ability to move Modules across Module slots via drag-and-drop:

►   To move a Module, click the tab of the slot it is currently loaded in and drag it onto the tab of the desired Module slot.

→   The Module is unloaded from its original slot and loaded with the exact same settings into the target slot. Any Module previously loaded in the target slot will be replaced.

While you are dragging the Module, its name appears under the mouse cursor, and the mouse cursor shows you whether the Module can be dropped at the current position or not:

Left: You can't drop the Freq Shifter Module there. Right: You can drop the Freq Shifter Module on this slot (Windows depicted).

Dragging Modules can be very useful if you want to quickly change the effects' processing order in a Sound or make way for another effect in front of an existing one.

> ⚠ Unlike other draggable MASCHINE objects (Sound slots, Group slots, Pattern slots…) you don't move the Module *slot* but instead the *Module itself* from one slot to another one. This notably means that a Module cannot be "inserted" between two existing Modules via drag-and-drop.

Moving Modules Across Sounds and Groups

Moving Modules is not only possible within the same Sound but also across Sounds, across Groups, across levels (e.g., from a Sound to a Group) or across Sounds in different Groups! These actions make use of an extended, multi-step drag-and-drop that involves Sound slots (in the Pattern Editor) and Group slots (in the Arranger) during the target selection.

Drag the Freq Shifter from its location (in Sound slot 3) to Sound slot 2 and wait a bit while holding the mouse button…
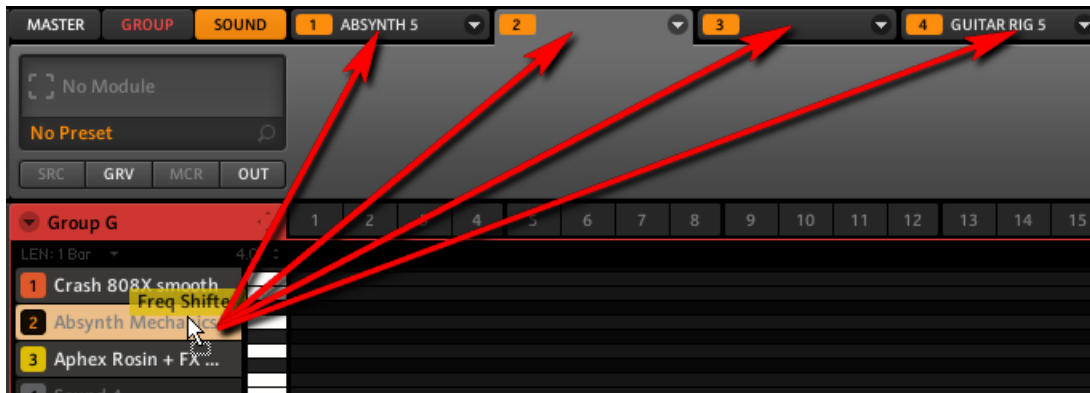
…after a few moments the Control area switches to Sound slot 2 and you can drop the Freq Shifter on the desired Module slot!

Here is how it works:

▪ If you drag the Module over a **Sound slot** (in the Pattern Editor) and stay there for a few moments while holding the mouse button, the Control area will switch to the Module content of that Sound. You can then drop the Module on one of its Module slots (see the two pictures above).

▪ If you drag the Module over a **Group slot** and stay there for a few moments while holding the mouse button, two things will happen:

  ◦ The Control area will switch to the Module content of that Group. You can then drop the Module on one of its Module slots.

  ◦ The Pattern Editor will switch to the Sound (and Pattern) content of that Group. You can then drag the Module to one of its Sound slots, stay there a few moments while holding the mouse button, and finally drop the Module on one of the Sound's Module slots as described above.

> You can also drop the Module directly on the Sound/Group slot itself: It will be automatically moved to its first empty Module slot!

The following table summarizes the possible movements:

Moving a Module from…	Action
…a slot to another slot of the same Sound or Group	Drag the Module onto the target Module slot.
…a Sound to another Sound in the same Group	Drag the Module onto the target Sound slot (in the Pattern Editor), hold the mouse button until the Control area switches to the content of the target Sound slot, then drop the Module on the desired Module slot.
…a Group to a Sound in that Group	
…a Sound to a Group	Drag the Module onto the target Group slot (in the Arranger), hold the mouse button until the Control area switches to the content of the target Group slot, then drop the Module on the desired Module slot.
…a Group to another Group	
…a Sound to another Sound in another Group	Drag the Module onto the target Group slot in the Arranger, hold the mouse button until the Pattern Editor switches to the content of the target Group slot, then drag the Module onto the desired Sound slot in the Pattern Editor, hold the mouse button until the Control area switches to the content of the target Sound slot, then drop the Module on the desired Module slot.

Hint: Using the Controller to Select the Target Object

While you are dragging a Module (and holding the mouse button), instead of dragging to Sound/Group slots and waiting for the Control area and Pattern Editor to switch their display, you can use your controller to select the target Sound/Group — this can come in handy to quickly move your Modules! For example, if we want to move a Module from Sound slot 2 in Group A to Sound slot 5 in Group B:

1. On your controller, press the Group button A to select Group A, then press pad 2 (or SELECT + pad 2 if Keyboard mode is active) to select Sound slot 2.

2. In the software, click the Module slot's tab, hold your mouse button and start dragging the Module.

3. While holding the mouse button, on your controller press the Group button B to select Group B, then press pad 5 (or SELECT + pad 5 if Keyboard mode is active) to select Sound slot 5.
   The software display is automatically updated according to your selection on the controller.

4. In the software you can now drop the Module on the desired Module slot!

4.1.7 Saving Module Presets

All settings and assignments of a Module can be saved as Module presets. Once saved, Module presets can be accessed from the Browser, both in the software and from your controller (see section ↑4.1.7, Saving Module Presets). This is a very quick and convenient way to recall Modules with their parameters already set to specific values.

Saving Module presets can only be done in the software via the Module menu. To access the Module menu, click the drop-down arrow on the right-hand side of the Module slot's tab:
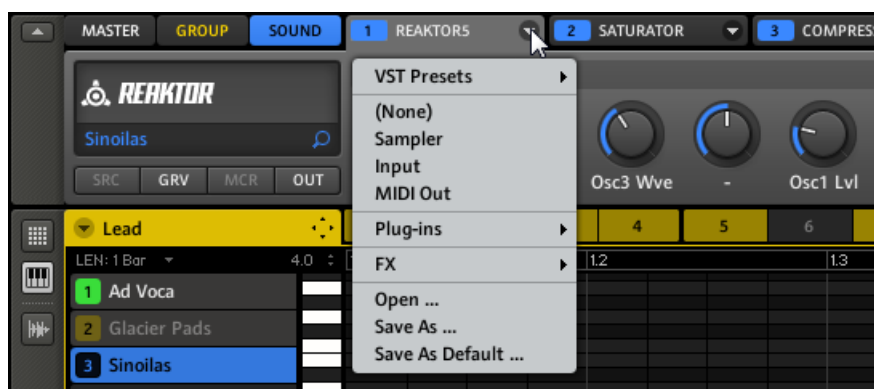
The Module menu displaying options for loading Modules as well as saving and recalling Module presets.

The commands for saving Module presets are found at the bottom of the Module menu.

Module Menu Entry	Description
Save As…	Saves the current Module settings as a preset.
Save As Default…	Only available if a VST/AU plug-in (instrument of effect) is loaded in this Module slot. This command saves the current settings and assignments as the default Module preset for the plug-in. This default preset will be loaded with this plug-in when you load it from the Module list on the controller or the Module menu in the software. See also ↑2.4.5, Preferences – Plug-ins Page for more info on managing plug-ins and their default presets.

4.1.8 Recalling Module Presets

All Module presets saved as described in section ↑4.1.7, Saving Module Presets are available in the MASCHINE Browser! You will find each Module preset automatically placed in the corresponding "Instrument" or "FX" File Type category in the Browser. User presets will be tagged with the Bank "User."

> You can change the tags automatically assigned to the Module presets that you saved. This is done in the Browser in the MASCHINE software. For more info, please refer to section ↑3.4, Tagging your Files.

In addition, the MASCHINE Library already provides a collection of Module presets for MASCHINE internal effects. Furthermore, any Native Instruments product installed on your computer will have its own factory library imported into the MASCHINE Browser so that you can browse and load its factory presets directly from MASCHINE, ready for loading.

Hardware
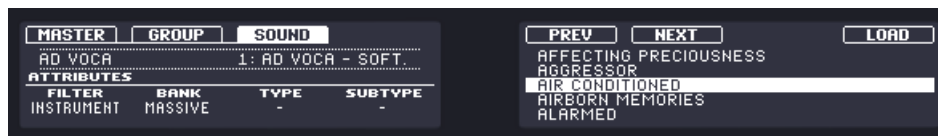
Module presets for the MASSIVE plug-in in the Browser.

1. Press the BROWSE button on your controller.
2. Turn Knob 1 to set FILTER to INSTRUMENT or FX to select Module presets for instrument or effects.
3. Turn Knob 2 to set the BANK to the name of the plug-in which Module presets you want to browse. If you selected FX in the previous step, you can also browse presets for MASCHINE internal effects by selecting FACTORY FX here.
4. Turn Knob 3 and 4 to further narrow your search to a specific effect Module, Expansion Pack, etc.
5. On the right display, you can see all Module presets corresponding to your search.
6. Browse through the list of Module presets with Knob 5.
7. Load the selected Module preset by pressing Button 8.

Software
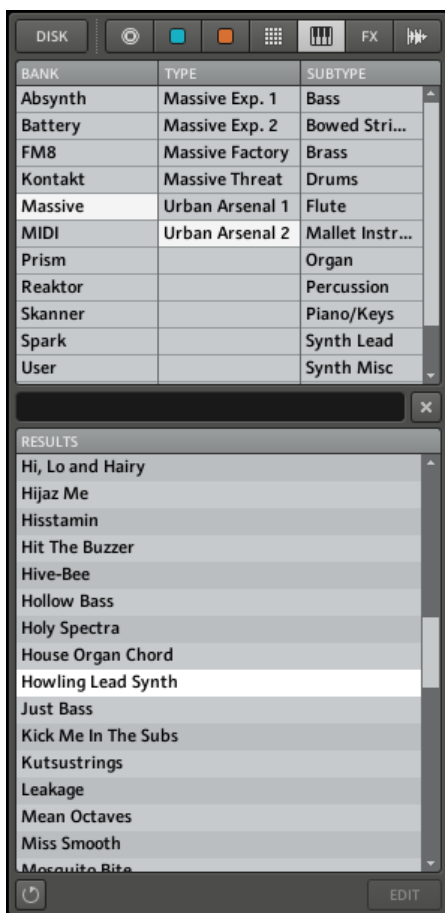
Module presets for the library "Urban Arsenal 2" of the MASSIVE plug-in in the Browser.

1. At the top of the Browser, check that the DISK button is *not* active (if it is, click it to de-activate it).

2.   On its right, select the Instrument or FX button in the File Type selector.

3.   In the BANK column of the Tag Filter, select the name of the desired plug-in. For internal effects, select Factory FX. For user presets (including user presets for internal effects), select User instead.

4.   In the TYPE and SUBTYPE columns of the Tag Filter, you can further narrow your search by selecting the desired library (for plug-in instruments) or type of effect (for effects).

5.   In the RESULTS list, double-click the desired Module preset to load it into the selected Module slot, or drag it to the Module slot where you want to load it to.

> For more information on how to load MASCHINE objects using the Browser, please refer to chapter ↑3, Browser.

You can also load a Module preset from the Module menu by selecting the *Open…* command, then navigating your file system and selecting the desired preset file (extension ".mfxp").

4.2   The Sampler Module

The Sampler Module allows you to play back any Sample in MASCHINE — including all Groups, Sounds and Samples of the factory library. The Sampler comes with an extensive set of parameters that offer various ways to further shape each of your Sounds individually. You can tune, change basic dynamics and apply effects as well as different modulation options.

> Many of these parameters are automatable! See section ↑6.1.9, Recording Automation for the controller and section ↑7.1.9, Recording and Editing Automation for the software.

The Sampler parameters are organized in 6 pages:

▪   Page 1: Voice Settings and Engine

▪   Page 2: Pitch/Gate and Amplitude Envelope

▪   Page 3: FX and Filter

▪   Page 4: Modulation Envelope and Destination

- Page 5: LFO and Destination
- Page 6: Velocity Destination and Modwheel Destination

4.2.1   Page 1: Voice Settings and Engine
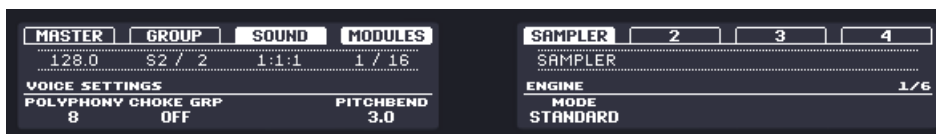
Sampler parameters – page 1 of 6: VOICE SETTINGS and ENGINE on the controller.

Sampler parameters – page 1 of 6: Voice Settings and Engine in the software.

Parameter	Description
Voice Settings	
Polyphony	Here you can define a voice limit for the Sound, that is the maximum number of voices (notes) the Sampler can play simultaneously. Once this polyphony has been reached, triggering any additional note will kill the "oldest" note still playing (i.e. the note that was triggered first). The default value is 8, the minimum 1 and the maximum 32 voices. You can also set this to *Legato*: in that case the polyphony is set to 1 and the Sampler performs a continuous pitch transition between consecutive notes. Note that the actual polyphony is also influenced by the global polyphony of the Group (see ↑5.1.1, Group – Source Properties (SRC)).
Choke Group	You can choose one of the eight Choke Groups here or leave this option set to *Off*. If you assign more than one Sound to the same Choke Group, they will cancel each other out. This is a behavior you can find in vintage drum machines (typically used to "choke" the open hi-hat with the closed one), but also in monophonic synthesizers that are only capable of playing one note at a time.

Parameter	Description
Glide	If *Legato* is selected for the Polyphony parameter, this allows to adjust the duration of the transition between consecutive notes.
Pitchbend	Here you can adjust how the Sound reacts on incoming MIDI Pitchbend messages from an external MIDI controller or your host application. For more information on how to setup your Sounds to receive MIDI, refer to section ↑4.9.1, Sound MIDI Batch Setup.
Engine	
Mode	This allows you to determine the mode of the sampling engine. Available options are *Standard* and *Vintage*.
Model	If you choose *Vintage* in Mode, you can select between two Models *MP60* and *S1200*, which emulate the sound of two legendary Samplers that are often used in Hip-Hop and similar genres of music.
Filter	If you choose *S1200* (see above), you can further shape the emulation by activating a filter here. The available filters are: *None* (no filter), *Low*, *Lo-Mid*, *Hi-Mid*, and *High*.

4.2.2   Page 2: Pitch/Gate and Amplitude Envelope
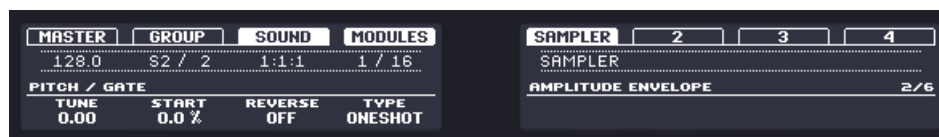
Sampler parameters – page 2 of 6: PITCH / GATE and AMPLITUDE ENVELOPE on the controller.

Sampler parameters – page 2 of 6: Pitch / Gate and Amplitude Envelope in the software.

Parameter	Description
Pitch / Gate	
Tune	Defines the basic pitch of your Sample: turn the knob to the right for a higher pitch and to the left for a lower pitch.
Start	Determines the start point of the Sample (can also be modulated with Velocity control see ↑4.2.5, Page 5: LFO and Destination).
Reverse	If Reverse is activated, the Sample will be played backwards.

Amplitude Envelope

The Amplitude Envelope section allows you to tailor your Sample in terms of its loudness over time.
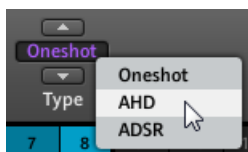
The Type selector.

The Type selector allows you to choose from three different types of Amplitude Envelopes. Depending on the selected type, the available parameters in the Amplitude Envelope section will differ (see table below):

- *Oneshot*: This is typical vintage drum machine behavior: the sample is played in its entirety from beginning to end with no envelope. If *Oneshot* is selected, the Amplitude Envelope section doesn't display any parameters.

▪ *AHD*: AHD mode disables the Sustain and Release controls, and replaces them with the Hold parameter. AHD mode is ideal for "fire and forget" behavior, whereby you would like to have the sound trigger for a certain amount of time regardless of how long you hold the pad down.

▪ *ADSR*: Typically, the ADSR envelope is used for longer, sustained Samples that require complex dynamic control.

> Unlike many other hardware devices, the pads on MASCHINE are sensitive not only to being hit, but also to being held — so using the ADSR envelope, you can make the pads behave like a MIDI keyboard and sustain a note only for as long as it is held down.

Parameter	Description
Ampliture Envelope	
Attack	Attack determines how quickly the Sound reaches full volume after being triggered.
Hold	Hold determines how long the envelope will stay at its maximum level.
Decay	Decay determines how fast the envelope drops to the Sustain level in ADSR mode; in AHD mode, it is used to adjust how fast the Sound dies down. This parameter can be modulated by Velocity.

Parameter	Description
Sustain	Sustain determines the constant level being kept after Decay until the note ends. This can also be controlled by an external MIDI controller or keyboard using the MIDI Control Change 64.
Release	Release determines how long the sound takes to fade out after the note has ended.

4.2.3 Page 3: FX and Filter
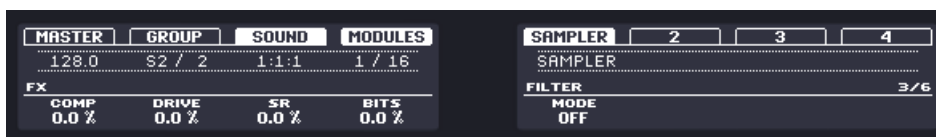
Sampler parameters – page 3 of 6: FX and FILTER on the controller.

Sampler parameters – page 3 of 6: FX and Filter in the software.

FX

This is a small selection of basic effects, not to be mixed up with the collection of effect Modules covered in depth in chapter ↑8, Effect Reference.

Parameter	Description
FX	
Comp	Basic compressor allowing you to give a Sound more density.
Drive	Defines the amount of saturation applied to a Sound.

Parameter	Description
SR	SR stands for sample rate: you can use it to lower the original sample rate in order to make the Sound more lo-fi.
Bits	Allows you to lower the original bit depth of the Sound, resulting in a more rough, digital sounding lo-fi effect.

Filter Modes

The Mode selector in the Filter section gives you access to a set of different filters. Using the arrows or clicking the type currently displayed, you can choose from different filter type settings: *Off*, *HP2*, *BP2*, *LP2*, and *EQ*. Each type results in different parameters to the right of it:

Filter Modes	Description
Off	No filter.
LP2	LP2 is a low-pass filter with Cutoff and Resonance. Cutoff can be modulated by Velocity, the Modulation Envelope, the LFO or the MIDI Modulation Wheel.
BP2	BP2 is a band-pass filter with Cutoff. Cutoff can be modulated by Velocity, the Modulation Envelope, the LFO or the MIDI Modulation Wheel.
HP2	HP2 is a high-pass filter with Cutoff and Resonance. Cutoff can be modulated by Velocity, the Modulation Envelope, the LFO or the MIDI Modulation Wheel.
EQ	The EQ is an equalizer with Frequency, Bandwidth and Gain.

4.2.4 Page 4: Modulation Envelope and Destination
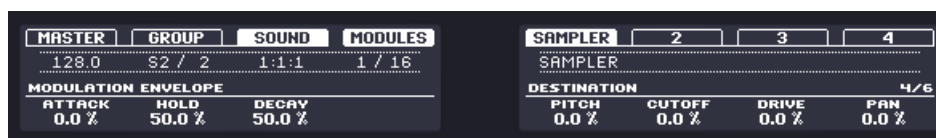
Sampler parameters – page 4 of 6: MODULATION ENVELOPE and DESTINATION on the controller.
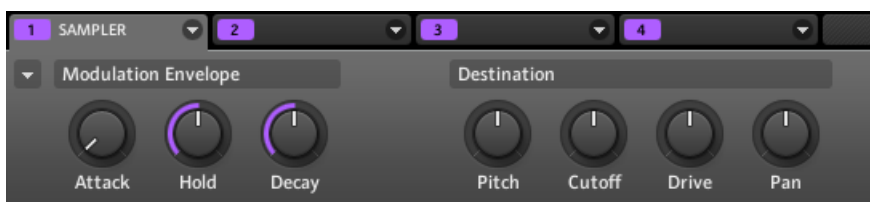
Sampler parameters – page 4 of 6: Modulation Envelope and Destination in the software.

Modulation Envelope

The Modulation Envelope section offers an additional envelope allowing to further modify (or "modulate") specific Sampler parameters according to the way you play on the pads. Its parameters are matched to those of the Amplitude Envelope section on page 2 (see ↑4.2.1, Page 1: Voice Settings and Engine), so that you have either an ADSR (Attack, Decay, Sustain, Release) envelope or an AHD (Attack, Hold, Decay) envelope to modulate your parameters. If you choose Oneshot mode, only the AHD envelope (pictured) will be available for modulation.

Envelope Controls	Description
Attack	The time it takes for the envelope to reach its maximum level.
Hold	How long the envelope will stay at its maximum level.
Decay	With Decay you adjust how fast the envelope drops to the sustain level in ADSR mode; in AHD mode it is used to adjust how fast the envelope fades out.
Sustain	The envelope level that will be maintained as long as the note is played.
Release	The time for the sustain level to return to zero after the note has ended.

Destination

This is where you define modulation targets for the Modulation Envelope, i.e. the parameters you want this envelope to control. The knobs adjust the amount of modulation for the following targets:

Parameter	Modulation Destination
Pitch	Tune parameter of the Pitch / Gate section on page 2.
Cutoff	Cutoff parameter of the Filter section (with filter types *LP2*, *HP2*, *BP2* only) on page 3.

Parameter	Modulation Destination
Drive	Drive parameter of the FX section on page 3.
Pan	Pan parameter of the Sound's Output Properties (see ↑4.4, The Sound Properties for more info).

4.2.5   Page 5: LFO and Destination
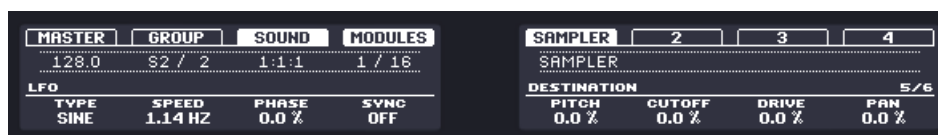
Sampler parameters – page 5 of 6: LFO and DESTINATION on the controller.
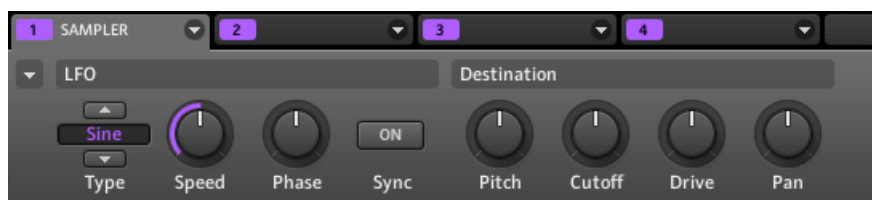
Sampler parameters – page 5 of 6: LFO and Destination in the software.

LFO

The LFO (Low Frequency Oscillator) is another modulation source based on waveforms with different shapes.

LFO Controls	Description
Type	Here you can choose the shape of the LFO waveform. Available shapes are *Sine*, *Tri* (Triangle), *Rect* (Rectangle), *Saw*, and *Random*.
Speed	Controls the rate of the LFO measured in hertz (Hz). If you choose to synchronize the Speed by activating Sync, it will show note values instead of hertz.

LFO Controls	Description
Phase	Defines the initial phase of the LFO waveform, expressed as a percentage.
Sync	This button is used to activate synchronization of the LFO to the tempo of your Project. If enabled, the values on the Speed parameter will change into rhythmical values ranging from 16/1 (= one modulation cycle in 16 bars) to 1/32 (one cycle in 1/32nd note).

Destination

This is where you define modulation targets for the LFO, i.e. the parameters you want this LFO to control. The knobs adjust the amount of modulation for the following targets:

Parameter	Modulation Destination
Pitch	Tune parameter of the Pitch / Gate section on page 2.
Cutoff	Cutoff parameter of the Filter section (with filter types *LP2*, *HP2*, *BP2* only) on page 3.
Drive	Drive parameter of the FX section on page 3.
Pan	Pan parameter of the Sound's Output Properties (see ↑4.4, The Sound Properties for more info).

4.2.6   Page 6: Velocity Destination and Modwheel Destination
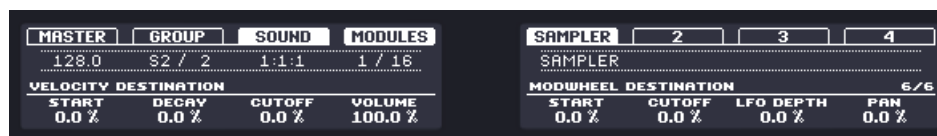
Sampler parameters – page 6 of 6: VELOCITY DESTINATION and MODWHEEL DESTINATION on the controller.

Sampler parameters – page 6 of 6: Velocity Destination and Modwheel Destination in the software.

Velocity Destination

This section allows you to use the input velocity in order to modulate various parameters.

Parameter	Modulation Destination
Start	Start parameter of the Pitch / Gate section on page 2. Positive values shift the Sample start position later in time as you play harder, negative values shift it closer to the beginning of the Sample as you play harder. Tip: a typical example for this parameter is setting it so that the initial attack transient of a snare drum is heard only at high velocity values. This makes it sound "snappier" when you play hard, and "mushier" or muted when you play softly.
Decay	Decay parameter of the Amplitude Envelope section on page 2.
Cutoff	Cutoff parameter of the Filter section (with filter types *LP2*, *HP2*, *BP2* only) on page 3.
Volume	This allows you to modulate the volume, which is what velocity normally is used for.

Modwheel Destination

Here you can determine how incoming MIDI data sent by the Modulation Wheel affects various parameters.

Parameter	Modulation Destination
Start	Start parameter of the Pitch / Gate section on page 2.
Cutoff	Cutoff parameter of the Filter section (with filter types *LP2*, *HP2*, *BP2* only) on page 3.
LFO Depth	Use this knob to adjust how much the Modulation Wheel affects the depth of the LFO modulation (for all targets) defined on page 5.
Pan	Pan parameter of the Sound's Output Properties (see ↑4.4, The Sound Properties for more info).

4.3   Using VST/AU Plug-ins

This section describes how to handle VST/AU plug-ins in MASCHINE.

MASCHINE allows you to load VST or AU plug-ins and to use them as Modules like the MA-SCHINE internal instruments and effects. As with internal Modules, the following rules apply for loading VST/AU plug-ins:

▪ An instrument plug-in can be loaded only in Module slot 1 of a Sound.

▪ An effect plug-in can be loaded in any Module slot at the Sound, Group, or Master level.

The following subsections describe tasks specific to plug-ins compared to internal Modules.

4.3.1 Loading a Plug-in

Let's load an instrument plug-in to the first Module slot of a Sound:

Hardware

1. Press the CONTROL button to enter the Control mode.
2. Press SELECT + the pad you want to load the instrument to.
3. Press Button 3 to put the focus on the SOUND tab.
4. Make sure MODULES is activated to show Module slots 1 to 4 (Button 4).

MASTER	GROUP	SOUND	MODULES		1	2	3	4
128.0	S2 / 2	1:1:1	1 / 16		NO MODULE			
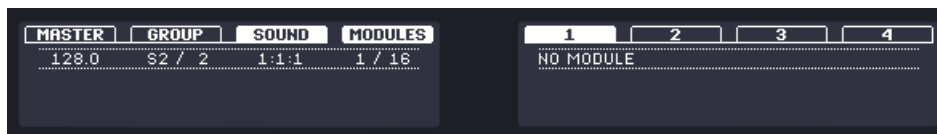
5. Press Button 5 to select slot 1.
6. Press SHIFT + BROWSE to browse Modules.
7. On the left display, change the TYPE to PLUG-IN using Knob 1.
8. Using Knob 2, set the SUBTYPE to INSTRUMENT.
   The right display now shows the list of available instrument plug-ins.

MASTER	GROUP	SOUND	MODULES		PREV	NEXT	LOAD
FM		1: FM			(NONE)		
ATTRIBUTES					ABSYNTH 5		
TYPE	SUBTYPE				ABSYNTH 5 STEREO		
PLUG-IN	INSTRUMENT				FM8		
					KONTAKT 5		
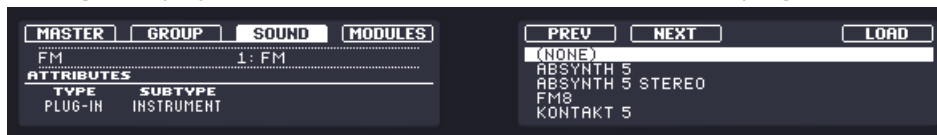
9. Turn Knob 5 to browse the available instruments.
10. When you have found the instrument plug-in you want to use, press Button 8 to load it.
11. Press SHIFT + BROWSE again or CONTROL to switch back to Control mode.

12. Now you can try out the instrument plug-in by playing the pad.

13. Edit the plug-in parameters using the Knobs 1-8.

14. Press the Page buttons to step through the Parameter pages of the plug-in.

> To play the instrument plug-in chromatically using the pads on the MASCHINE hardware; press SHIFT + PAD MODE to quickly toggle to Keyboard mode. See section ↑6.1.2, Pad Modes for more info.

Software

1. In the Control area, click the SOUND tab to switch to the Sound level.

2. In the Pattern Editor below, click the Sound slot you want to load an instrument to.

3. Back in the Control area, click the Module menu of the first Module slot (only Module slot 1 can host instrument plug-ins).
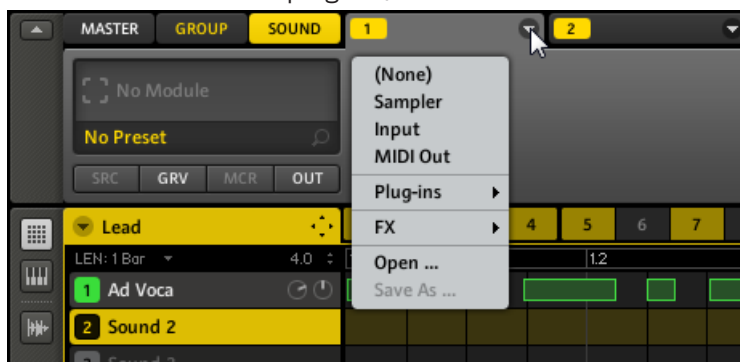
4. Select *Plug-ins* from the menu to get a list of all available instrument plug-ins.
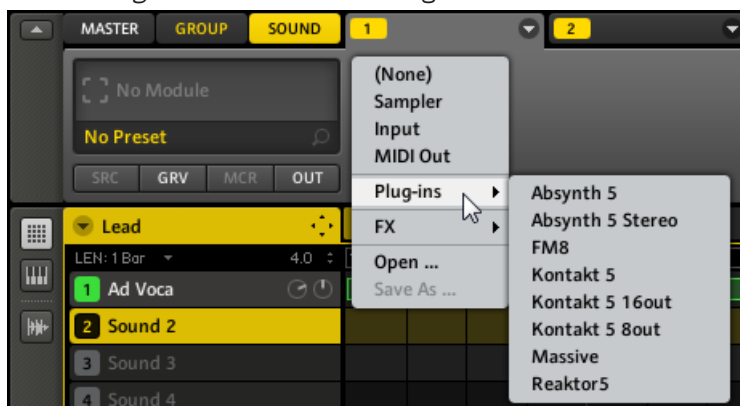
5. As an example: let's choose the Native Instruments ABSYNTH 5 plug-in. After selecting it with the mouse, ABSYNTH 5 will be loaded, and its parameters will be displayed in the Parameter area.
Now you can try out the instrument plug-in by pressing the pad.

6. Choose different Parameter pages by clicking the Page menu (the little arrow on the top left side of the Parameter area).

7. If you find a good sound setting, save it as a preset as described in section ↑4.1.5, Bypassing Module Slots.

> To play the instrument plug-in chromatically using the pads on your controller; click the Keyboard View button at the left of the Pattern Editor to quickly toggle to Keyboard mode.

4.3.2 Opening and Closing Plug-in Windows

You can open floating windows for all plug-ins of a MASCHINE Project. MASCHINE will always show the open floating windows of the selected Sound, Group or the Master at a time.

MASCHINE with ABSYNTH, GUITAR RIG and FM8 plug-in user interfaces opened.

You can open or close floating windows for plug-ins as described in the following text.

Software

When a plug-in has been assigned to a Module slot, the plug-in icon will appear in the Quick Browse area:
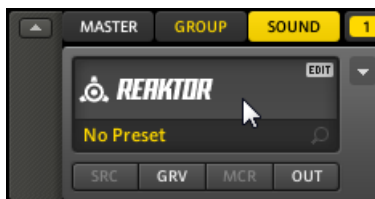
An EDIT icon appears when the mouse curser is placed over the REAKTOR logo.

To open a floating window for the plug-in:

1. Place your mouse cursor over the plug-in icon; an EDIT button appears.
2. Click anywhere in this area to open the plug-in in a separate floating window. A second click in the area will close the plug-in window.

Hardware

To open a floating window for the plug-in:

1. Press Button 5–8 to select the Module slot in which the plug-in is loaded.
2. Press the *same* Button 5–8 again to open the plug-in in a separate floating window. Press the same Button again to close the plug-in window.

4.3.3 Assigning Plug-in Parameters

The plug-in parameters offer various ways to shape each plug-in individually. Of course, you can adjust the plug-in parameters using the plug-in's user interface. But MASCHINE also allows quick and convenient access to the parameters of a plug-in by automatically organizing them into Parameter pages and assigning them to the Knobs 1–8 under the displays. Having the plug-in parameters on Parameter pages in MASCHINE has following benefits:

▪ You can step through the Parameter pages on your controller via the Page buttons and try out all parameters with the 8 Knobs directly after loading a plug-in (see section ↑4.3.1, Loading a Plug-in for more info).

▪ The plug-in parameters can be automated the same way as any other parameters at the Group and Sound levels (see section ↑6.1.9, Recording Automation for the hardware and section ↑7.1.9, Recording and Editing Automation for the software).

▪ The current state of the plug-in parameters can be saved to the Browser as preset for total recall of the plug-in (see section ↑4.3.4, Using VST/AU Plug-in Presets for more on this).

An auto-mapped Parameter page of the MASSIVE plug-in in the software.

An auto-mapped Parameter page of the MASSIVE plug-in on the controller.

You may want to create your own customized Parameter pages with the most important parameters of a plug-in arranged to fit your personal workflow. In the following section you will learn the various ways to assign plug-in parameters to MASCHINE's Parameter pages.

> ⚠️ A plug-in parameter can be assigned to one knob only!

Setting Up Parameter Pages

As with any Module, the parameters of a VST/AU plug-in Module are organized into pages. Each Module can have up to 32 pages, each containing 8 knobs, which can be assigned to the plug-in parameters.

Parameter pages may be assigned automatically using **auto-mapping** or created individually via **Learn mode**. With Learn mode, custom pages can be created by assigning only the required parameters.

To begin assigning parameters, click the arrow on the left-hand side of a Module to reveal the drop-down Page menu:
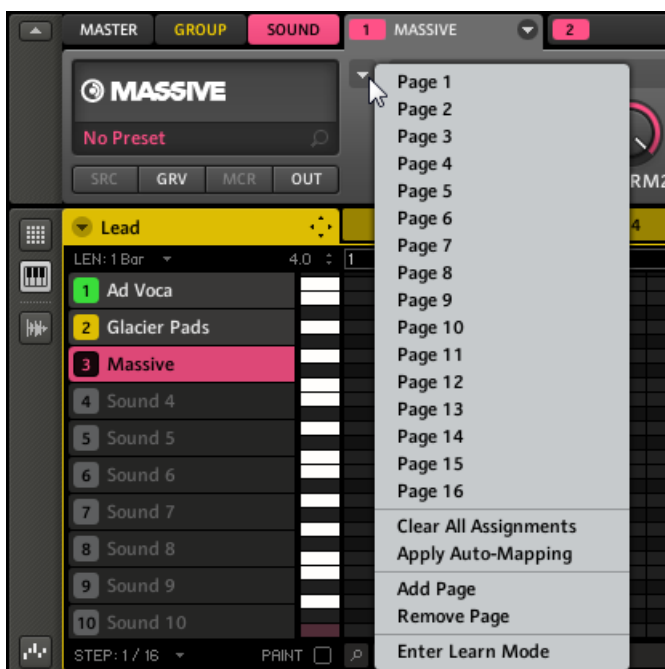
The Page menu for the MASSIVE plug-in.

Entry in the Page Menu	Description
Page 1–32	Each Module can display up to 32 Parameter pages, each displaying eight knobs at a time. Select the desired entry to display the corresponding page. The default number of pages listed in the menu vary with each plug-in.
Clear All Assignments	Removes all Parameter pages and creates a new empty Page 1 without assignments.
Apply Auto-Mapping	Deletes all pages, iterates through all automatable parameters of the plug-in, and automatically assigns them to pages in order.
Add Page	Appends a new page to the end of the page list.

Entry in the Page Menu	Description
Remove Page	Deletes the page currently displayed.
Enter Learn Mode	Starts an intuitive learn process that allows you to quickly assign the desired plug-in parameters to all eight knobs of the current Parameter page at once. When Learn mode is launched, each knob of the page is successively focused starting with Knob 1 (indicated by a flashing white dot next to the knob); the next parameter you touch in the plug-in's user interface (see section ↑4.3.2, Opening and Closing Plug-in Windows) will be assigned to the focused knob. Once a knob is assigned, the next knob to the right will become the focal point, and so on until Knob 8 is assigned. Once complete, Learn mode is automatically deactivated. Alternatively, you can select *Leave Learn Mode* from the Page menu if you want to stop assigning parameters. When Learn mode is active, you can manually change the focus of the knobs by clicking the desired knob in the Parameter area.

Once you have organized plug-in parameters into Parameter pages, you can also use MASCHINE Macro Controls to pick the most commonly used parameters, e.g., for live performances. For more info about Macro Controls, please refer to section ↑5.1.3, Group – Macro Properties (MCR) and Macro Controls.

Assigning Single Parameters

Above we have seen how to quickly assign plug-in parameters to all eight knobs of the current Parameter page. You can also manually assign a single plug-in parameter to a particular knob on a Parameter page of the plug-in Module.

To quickly assign single plug-in parameters:

1. Choose any knob on the Parameter pages of your Module and right-click it ([Ctrl]-click it on Mac OS X).
   The Parameter menu opens.

2. Select *Learn Plug-in Parameter* in the menu.
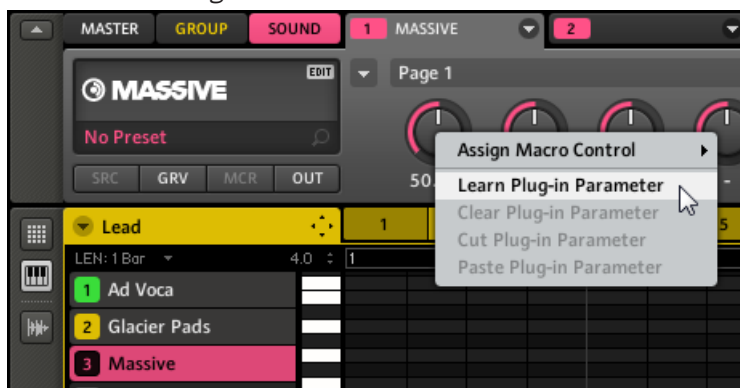
A flashing white dot will confirm the knob is now in Learn mode.

3. In the user interface of the plug-in, operate the parameter you want to assign (to know how to open the plug-in user interface, see section ↑4.3.2, Opening and Closing Plug-in Windows). As soon as you actuate the parameter, it is assigned to the knob in Learn mode.
   The white dot disappears and an abbreviation of the parameter's name is displayed underneath the MASCHINE knob to confirm the parameter is assigned.

> You can exit Learn mode before assigning any plug-in parameter by right-clicking any knob ([Ctrl]-clicking on Mac OS X) and selecting *Learn Plug-in Parameter* again in the Parameter menu!

In addition to the Learn mode mentioned above, the Parameter menu offers you other useful editing commands for each individual plug-in parameter:
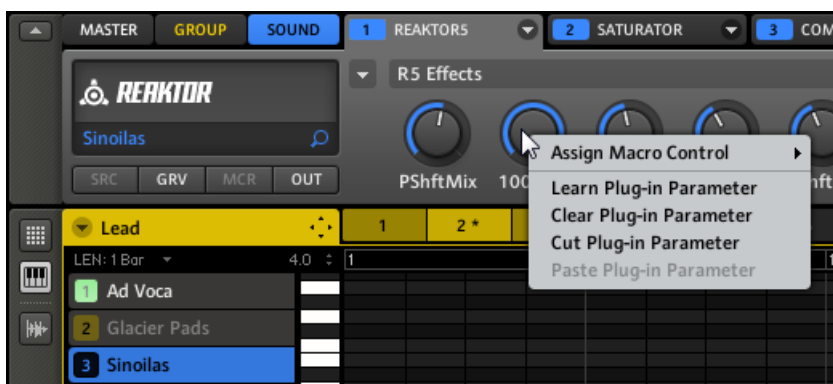
The Parameter menu displaying plug-in-specific clear, cut, and paste editing commands.

Parameter Menu Entry	Description
Assign Macro Control	Allows to select and assign a Macro Control to this parameter. See section ↑5.1.3, Group – Macro Properties (MCR) and Macro Controls for more info.
Learn Plug-in Parameter	Removes any existing parameter assignment to the knob and enter Learn mode for that knob. This allows you to quickly assign a new parameter by moving it in the plug-in user interface.
Clear Plug-in Parameter	Removes the existing parameter assignment for this knob.
Cut Plug-in Parameter	Removes the existing parameter assignment for this knob and copies it to the clipboard.
Paste Plug-in Parameter	Pastes the parameter assignment on this knob and removes it from the clipboard. A parameter assignment can only be pasted once.

> ⚠ A plug-in parameter can be assigned to one knob only!

4.3.4   Using VST/AU Plug-in Presets

For some of your VST/AU plug-ins, you might already have a set of factory or user presets (or patches, programs, etc.) that you like to use. MASCHINE lets you directly load these presets into Module slots and save them as Module presets. These tasks can be done in the MASCHINE software only. Saving your plug-in presets as Module presets will notably allow you to access them from the MASCHINE Browser.

Accessing the VST/AU presets

To access the VST/AU presets, you first need to load the corresponding VST/AU plug-in into a Module slot.

1. Load the desired VST/AU plug-in into a Module slot (see section ↑4.3.1, Loading a Plug-in).

2. Open the Module menu by clicking the little arrow at the right of the Module slot's tab. The Module menu now contains an additional submenu at the top called *VST Presets* (on Windows) or *AU Presets* (on Mac OS X).
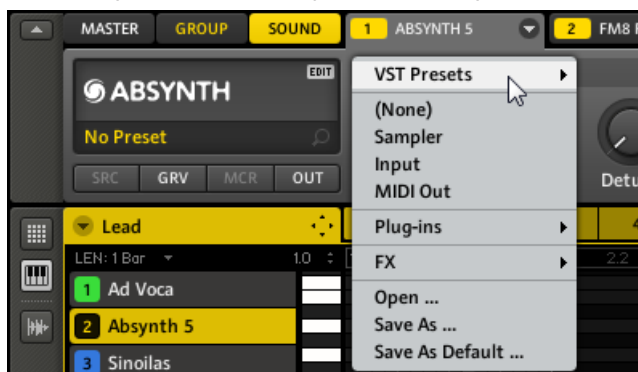
This submenu provides the list of all presets that your VST/AU plug-in has made available to the host — MASCHINE in this case.

3. Select the desired preset in this submenu.

→   The preset is loaded into the plug-in.

Each VST/AU plug-in might handle its presets (or patches, programs…) differently. Please refer to the plug-in documentation to know how to expose its presets (or a particular set of presets) to the host.

> For example, in ABSYNTH 5 and FM8, you need to enable the Program List and fill it up with the desired patches in order to expose these and see them appear in the *VST/AU Presets* submenu in MASCHINE.

> Some VST/AU plug-ins can run both as instrument and effect plug-in. When loading a preset for such a plug-in, check that the preset can be effectively loaded in the current Module slot — in particular, take care to load presets for instruments in Module slot 1 of the Sound level only!

Saving VST/AU Presets as Module Presets

Once you have loaded a VST/AU preset for a plug-in, you can save it as a Module preset via the *Save As…* or *Save As Default…* commands of the Module menu (see section ↑4.1.5, Bypassing Module Slots). Once this is done, your VST/AU preset will be available in the MASCHINE Browser among the other Module presets.

4.4   The Sound Properties

This section describes the Properties available at the Sound level. Properties are global settings that apply to the Sound independently of which Modules are loaded in the Sound's Module slots.

4.4.1   Selecting a Set of Properties

Properties are organized into sets. Available sets of Properties differ between the Sound, Group, and Master level. Here we describe how to select a particular set of Properties at the Sound level, but the procedure is the same at the Group and Master levels.

At the Sound level, following sets of Properties are available:

- Groove Properties
- Output Properties

Hardware

To select a particular set of Properties for a Sound on your controller:

1. Press the CONTROL button to enter the Control mode.
2. Press Button 3 to put the focus on the SOUND tab.
3. Press SELECT + the pad corresponding to the Sound containing the properties you want to display.
4. Make sure MODULES (Button 4) is *deactivated* to show the Sound Properties.
5. Press Button 6 (GRV) or 8 (OUT) to select the Groove Properties or Output Properties, respectively.

→   The corresponding Properties are shown in the displays of your controller.

Software

In the software, you see a series of four buttons at the bottom left of the Control area:

The Property selector in the Control area.

These buttons are called the **Property selector** and allow you to select a particular set of Properties for displaying in the Parameter area on the right.

To select a particular set of Properties for a Sound in the software:

1. Click the Sound slot of the Sound containing the properties you want to display.
2. At the top left of the Control area, click the SOUND tab.
3. At the bottom left of the Control area, click the GRV or OUT button in the Property selector.

→ The corresponding Properties are displayed in the Parameter area on the right.

4.4.2 Adjusting the Properties

Adjusting the parameters of the Properties is similar to adjusting Module parameters, except that you select the desired Properties instead of selecting the desired Module slot (see section ↑4.4.1, Selecting a Set of Properties). If some Properties provide more than eight parameters, these will be split into **Parameter pages**, each page containing up to eight parameters.

Hardware

1. On your controller, press the Page buttons to step through the various Parameter pages, if any.

2. Use Knobs 1–8 to adjust the values of the parameters in the displayed page.

Software

In the software, the Parameter area shows the parameters for the selected Properties.

1. In the software, click the Page menu (the little arrow) at the top left of the Parameter area to step through the various Parameter pages, if any.

2. Use the mouse to adjust the values of the parameters in the displayed page.

4.4.3   Sound – Groove Properties (GRV)

The Groove Properties control the rhythmic relationship between events for the selected Group/Sound or the Master level. By shifting some of the events, you can e.g. give a shuffling, ternary touch to your Patterns.

Please refer to section ↑4.4.1, Selecting a Set of Properties to know how to display the Groove Properties.
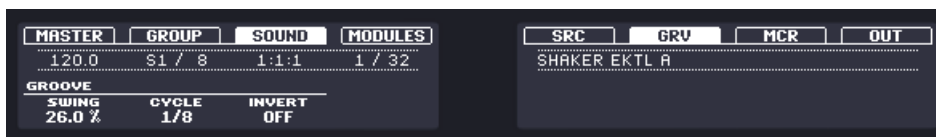
The Sound's Groove Properties on the controller.

The Sound's Groove Properties in the software.

Controls	Description
Groove Section	
Swing	Adjusts the amount by which some events are shifted. At 0 % events are not shifted. Raise the Swing value to increase the strength of the effect.
Cycle	Determines on what musical resolution the Swing is applied. This directly affects which events will be shifted. Values are measured in fractions of a whole note.
Invert	Allows you to invert the Swing function so that instead of being delayed in the Pattern events will be triggered ahead of time.

How Swing Affects the Rhythm: An Example

Take a simple, regular one-bar rhythm with a hit on each eighth note. We set the Cycle parameter to *1/2*, which is one half note, that is two beats.

The following picture shows you how this rhythm would *sound* with the following settings:

- Top: Swing at 0 % (no Swing).
- Middle: Swing at 100 % and Invert off.
- Bottom: Swing at 100 % and Invert enabled.
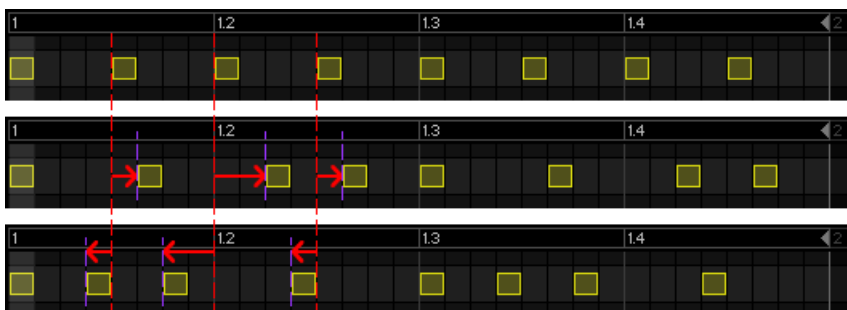
This is how the same regular rhythm would be heard with various Swing settings.

The picture above only illustrates how the Swing function affects the *sound* — adjusting the Groove Properties will not effectively move events in the Patterns displayed in the Pattern Editor!

4.4.4 Sound – Output Properties (OUT)

The Sound's Output Properties allows you to route the audio output of your Sound and define auxiliary sends (or "Aux sends"). Aux sends allow you to send a definable amount of your Sound's audio output to other Sounds (possibly in other Groups) for further processing. Read section ↑9.4, Creating a Send Effect to learn how to set up a classic send effect.

Page 1: Main, Aux 1 and Aux 2

Page 1 of 2 from the Sound's Output Properties on the controller.

Page 1 of 2 from the Sound's Output Properties in the software.

Controls	Description
Main Section	
Output	This is used to define where you want to send the main audio output of your Sound. Available options are *None* (no output), *Master*, *Group* (default setting), any other Sound within the Project acting as bussing point, as well as the 16 external stereo outputs *Out 1–16*.
Level	Here you adjust the overall volume level of your Sound.
Pan	Defines the pan position of your Sound in the stereo field.
Aux 1 Section	
Output	The destination for Aux 1: available destinations are *None* (no output, this is the default setting), *Master*, *Group*, any other Sound within the Project acting as bussing point, as well as the 16 external stereo outputs *Out 1–16*.
Level	Here you adjust the level of the signal that gets sent to the Aux 1 destination.
Aux 2 Section	
Output	The destination for Aux 2: available destinations are *None* (no output, default setting), *Master*, *Group*, any other Sound within the Project acting as bussing point, as well as the 16 external stereo outputs *Out 1–16*.
Level	Here you adjust the level of the signal that gets sent to the Aux 2 destination.

> If MASCHINE is running as a plug-in, the external stereo outputs *Out 1–16* available in the Output selectors of the Main, Aux 1, and Aux 2 sections will correspond to virtual outputs in your host. This allows you to send individual Sounds from MASCHINE to their own mixer channels within your DAW, for example.
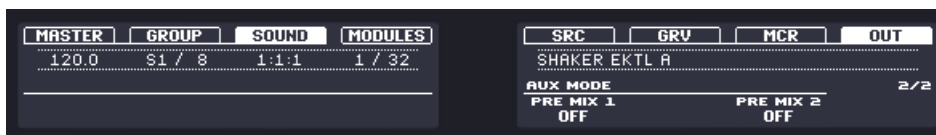
Page 2: Aux Mode

Page 2 of 2 from the Sound's Output Properties on the controller.
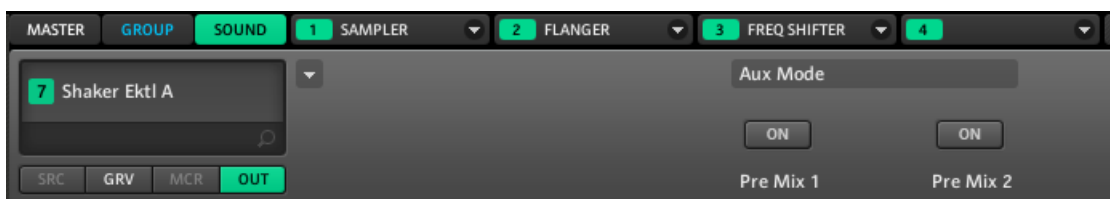
Page 2 of 2 from the Sound's Output Properties in the software.

Controls	Description
Aux Mode Section	
Pre Mix 1	If this is enabled, the Sound will be fed into Aux 1 before the Level and Pan settings of the Main section (on page 1) are applied.
Pre Mix 2	If this is enabled, the Sound will be fed into Aux 2 before the Level and Pan settings of the Main section (on page 1) are applied.

4.5   Managing Sounds

This section describes the global editing functions available for Sounds and Sound slots.

4.5.1   Naming Sound Slots

By default, Sound slots are named Sound 1–16. Each Sound slot gets automatically renamed in following situations:

▪ If you load a Sound, a Module preset or a Sample into the Sound slot, the Sound slot takes the Sound's or Sample's name.

▪ If you load a Module in Module slot 1 from the Module menu (software) or Module list (controller), the Sound slots takes the Module's name.

You can also rename Sound slots manually. Naming is only available from within the software, but any changes will also show up on your controller.

> Once you have renamed the slot manually, the automatic renaming described above is partially disabled — the slot doesn't get renamed when loading another Module preset into it nor when loading another Module in its Module slot 1.

To rename a Sound slot:

1. Double-click the desired Sound slot.
   The Sound slot's name gets highlighted.
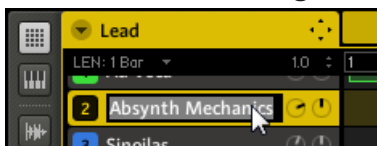
2. You can now edit the name of the Sound slot. Press [Enter] on your computer keyboard to confirm.

> If you use MASCHINE as a plug-in, some hosts will utilize the [Enter] key, as it is mapped to some function of the host software. In this case, click anywhere else in the MASCHINE plug-in window to confirm the name you have entered.

4.5.2   Changing the Sound's Color

You can change the color of each individual Sound in the software. To do this:

1. Right-click ([Ctrl]-click on Mac OS X) the desired Sound slot and select *Color* from the context menu.
    A Color Palette appears. In the Palette, the current color of the Sound is highlighted.

2. Select the desired color in the Palette. You can also choose to set the Sound back to its default color by selecting *Use Default Color* at the bottom of the Color Palette.

→   The pads of the MASCHINE MK2 controller mirror the Sound colors you select.

> By default, Sounds inherit the color of their Group. But you can choose another default color for Sounds in *Preferences > Colors > Group and Sounds > Sound Color*. See section ↑2.4.7, Preferences – Colors Page for more info.

4.5.3 Saving Sounds

You can save your Sounds as individual files (extension ".msnd"). This can be only done in the software.

To save a Sound:

1.   Right-click (on Mac OS X: [Ctrl]-click) the Sound slot in the Pattern Editor and select *Save As…* from the context menu:
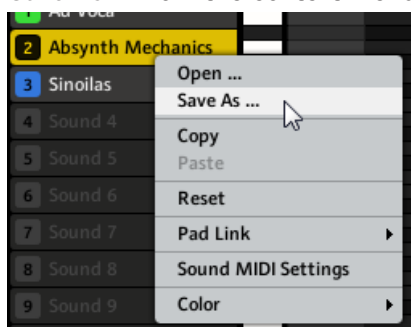
A Save File As… dialog appears. By default, the Sound file inherits the name of its Sound slot and it will be saved in your Standard User Directory (as defined in *Preferences > User Paths*, see section ↑2.4.2, Preferences – Defaults Page for more info).

2.   If you wish, choose another path and/or type another name with your computer keyboard.

3.   Press [Enter] to confirm and close the Save File As… dialog.

→   Your Sound is now saved.

The Sound will be added to the Library and is ready to be tagged in the Browser — see section ↑3.4, Tagging your Files for more info on this.

> Even if you don't save a Sound individually, its current settings will still be saved with your Project. But once a Sound is saved and tagged, it is available from the Browser for use in other Groups and Projects.

4.5.4   Copying and Pasting Sounds

You can copy and paste Sounds across Sound slots in your Project.

Hardware

To copy a Sound from one pad to another:

1.   Press and hold DUPLICATE.

2.   Press the pad of the Sound you want to copy.

3. Press the pad of your target Sound slot (this can also be in another Group, in this case first press the desired Group button).

→   All parameters of the Sound will be copied including the Pattern content for that Sound.

> 💡 To duplicate a Sound including its Pattern content, enable the + EVNT option (Button 2) while holding DUPLICATE.

> 💡 Instead of holding DUPLICATE, you can also pin the Duplicate mode by pressing DUPLICATE + Button 1. You can then release DUPLICATE: Your controller will stay in Duplicate mode until you press DUPLICATE again. See section ↑2.2.8, Pinning a Mode for more info.

Software

To copy and paste Sounds in the software:

1. Right-click (on Mac OS X: [Ctrl]-click) the Sound slot containing the Sound you want to copy.
2. In the context menu, choose *Copy* to copy the Sound.
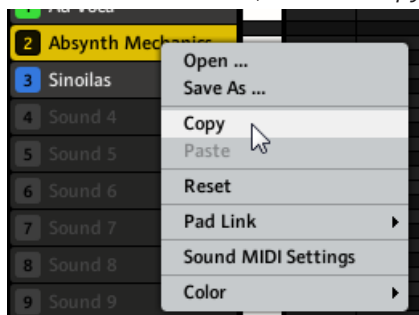
3. To paste the Sound, right-click (Mac OS X: [Ctrl]-click) another Sound slot (this can also be in another Group, in this case first press the desired Group slot in the Arranger) and select *Paste* from the context menu.

→   All parameters of the Sound will be copied except for the source's Pattern content.

4.5.5 Moving Sound Slots

You can reorder Sound slots via drag-and-drop in the software. It can be helpful to organize your Sounds more conveniently. Notably, this allows you to move your Sounds to other pads, and create a Group that is easier to play from the pads.

To move a Sound slot:

1. Click and hold the Sound slot.
2. While holding the mouse button, drag your mouse vertically toward the desired location. As the mouse cursor moves, an insertion line appears at the potential places where you can drop the Sound slot.
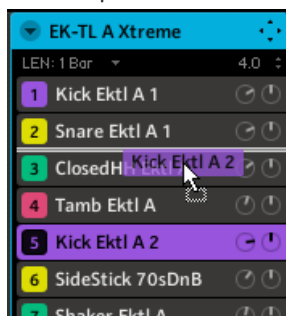
3. When the insertion line appears at the desired location, release the mouse button.

→ The Sound slot takes its new place in the Group. On your controller, its Sound will be triggered by the pad whose number appears at the left of the Sound slot.

4.5.6 Resetting a Sound Slot

Resetting a Sound slot will remove the Sound it contains and put all its settings (Properties, name, color…) back to their default values.

Hardware

► Hold SHIFT + ERASE and then touch the pad corresponding to the Sound slot to be reset.

Software

► To reset a Sound, right-click (on Mac OS X: [Ctrl]-click) the Sound slot and choose *Reset* from the context menu.
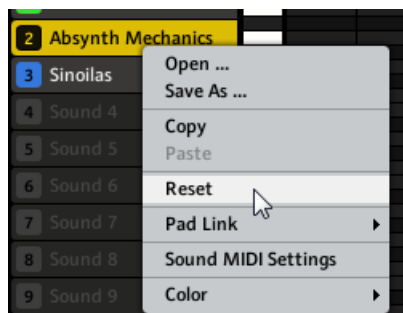
Resetting a Sound.

4.6 Mute and Solo

Muting is used to bypass a Sound or a Group, whereas Solo is pretty much the opposite: Soloing a Sound or a Group mutes all other Sounds in that Group or all other Groups, respectively, so that you can listen to the selected Sound or Group alone. The combination of both is a useful means to play live and to test different sequences together.

When used on Sounds, the Solo only applies to the current Group: The Sounds in other Groups won't be affected.

> At the Group level, the Mute function is an "audio mute": The whole audio of the muted Group will be bypassed. At the Sound level, the Mute function is a "trigger mute": the Pattern content (the events) for the muted Sound will not be triggered — but any audio remaining from past events for this Sound will still be audible until it fades away. To mute all audio from all Sounds and Groups, please refer to section ↑4.7, Choke All Notes.

4.6.1 Mute and Solo on the Hardware

Soloing Sounds and Groups

1. Press SOLO and hold it.
   Your controller switches to Solo mode.
2. Solo Sounds by pressing their pads, and Groups by pressing their Group buttons.

> 💡 Instead of holding SOLO, you can also pin the Solo mode by pressing SOLO + Button 1. You can then release SOLO: Your controller will stay in Solo mode until you press SOLO again. See section ↑2.2.8, Pinning a Mode for more info.

There are two more functions in Solo mode:

- ALL ON (Button 3) turns all Sounds on.

- NONE (Button 4) turns all Sounds off in the selected Group.

The Solo mode on the controller.

Muting Sounds and Groups

Mute works in the same way as Solo:

1. Hold MUTE.
   Your controller switches to Mute mode.
2. Mute Sounds by pressing their pads, and Groups by pressing their Group buttons.

> 💡 Instead of holding MUTE, you can also pin the Mute mode by pressing MUTE + Button 1. You can then release MUTE: Your controller will stay in Mute mode until you press MUTE again. See section ↑2.2.8, Pinning a Mode for more info.

Like in Solo mode, there are two more functions in Mute mode:

- ALL ON (Button 3) turns all Sounds on.

▪ NONE (Button 4) turns all Sounds off in the selected Group.

The Mute mode on the controller.

> 💡 Since soloing a Sound mutes all Sounds except one, the MUTE button can then be used to "release" Sounds that have been muted. You can use this technique to create a break-down: Solo a given Sound such as a kick drum, then build the track up again by bringing the muted Sounds back in one at a time while holding the MUTE button.

4.6.2 Mute and Solo in the Software

Soloing a Sound

► To solo a Sound, right-click (on Mac OS X: [Ctrl]-click) the pad icon on the left side of the Sound slot in the Pattern Editor.
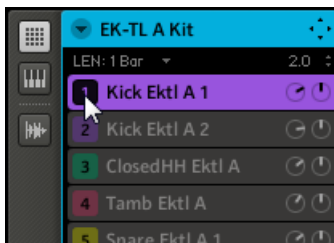
Soloing the first kick Sound.

► To unsolo a Sound, right-click (on Mac OS X: [Ctrl]-click) on the pad icon again.

Soloing a Group

► To solo a Group, right-click (on Mac OS X: [Ctrl]-click) the Group icon on the left side of the Group slot in the Arranger:
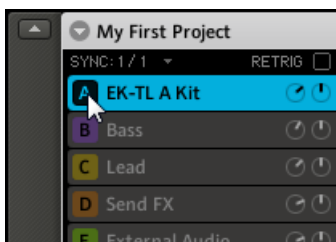
Soloing a Group.

► To unsolo a Group, right-click (on Mac OS X: [Ctrl]-click) on the Group icon again.

Muting a Sound

► To mute a Sound, click on the pad icon on the left side of the Sound slot in the Pattern Editor.
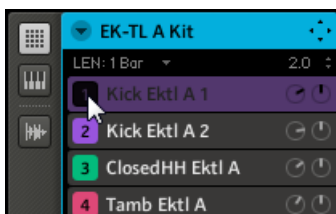
Muting a Sound.

► To unmute the Sound, click on the pad icon again.

Muting a Group

► To mute a Group, click on the Group icon on the left side of the Group slot in the Arranger:
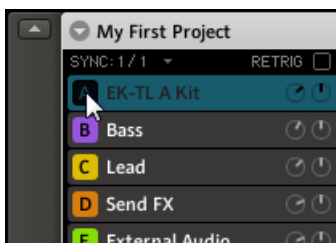
Muting a Group.

► To unmute the Group, click on the Group icon again.

4.7   Choke All Notes

The Choke All Notes feature allows you to kill any note or event currently playing in your Project. This affects the Samples being played by all Sampler Modules as well as the audio coming from all VST/AU instrument plug-ins.

Choke All Notes is only available on your controller:

► Press SHIFT + MUTE to choke all playing notes.

Choke All Notes can be useful in various situations:

▪ as a creative tool in a live performance, e.g. to create stutter beaks,

▪ as a workflow aid, to stop long oneshot Samples that still continue playing after you have stopped the sequencer),

▪ as a first panic button, if you are not sure where in your Project a particular sound is coming from, and you want to get rid of it.

> Contrary to the Mute function, Choke All Notes is not turning any Group/Sound into another state. Instead, all audio voices currently playing are instantaneously killed. The killed voices cannot be reactivated and are freed up for subsequent notes according to the polyphony setting. Voices triggered by subsequent notes will play normally.

4.8 Loading REX Files

MASCHINE supports REX (ReCycle) files to be loaded. REX files are loops that are already sliced and mapped to MIDI notes.

⚠️ Only REX2 files are currently supported.

→ The Samples are loaded into the Sound slot. A new Pattern is created in the Pattern Editor (switch the Pattern Editor to Keyboard view to better see the Pattern). This Pattern contains the sequence data of the REX file. For each REX file you import a Pattern will be created and added.
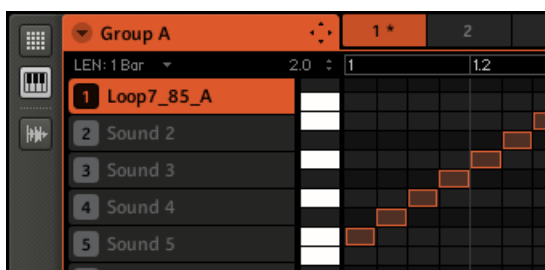
A REX file loaded in Sound slot 1.

4.9 Using MIDI with Sounds

MASCHINE provides you with flexible MIDI facilities that can be used in many situations.

Incoming MIDI

MASCHINE's Groups and Sounds can be controlled via MIDI, both globally and individually:

▪ By default, incoming MIDI notes will control the Sound slot currently selected. You can change this default behavior and map incoming MIDI notes differently in order to adapt MASCHINE to your requirements. To configure the appropriate MIDI settings, you have

two functions at your disposal: Sound MIDI Batch Setup (for whole Groups) and Sound MIDI Settings (for individual Sounds). These are described in section ↑4.9.1, Sound MIDI Batch Setup and ↑4.9.2, Sound MIDI Settings, respectively.

▪ You can control the parameters of your Groups and Sounds via MIDI CC messages thanks to the Macro Controls (this is covered in section ↑5.1.3, Group – Macro Properties (MCR) and Macro Controls).

💡 You can also trigger your Scenes using MIDI messages. Please refer to section ↑10.5, Triggering Scenes via MIDI for more info on this.

💡 You can select a particular MIDI channel on which MIDI messages will be received in *Preferences > General > MIDI > Input Channel*. See section ↑2.4.1, Preferences – General Page for more info.

Outgoing MIDI

Your Groups and Sounds can also send MIDI data:

▪ You can configure your Sounds for sending MIDI notes instead of generating audio (see section ↑4.9.3, MIDI Output from Sounds).

▪ When MASCHINE is used as plug-in, you can record the notes you play on the pads as MIDI notes in your host application (see section ↑4.9.1, Sound MIDI Batch Setup).

4.9.1 Sound MIDI Batch Setup

The Sound MIDI Batch Setup is a powerful feature that can be used both for incoming and outgoing MIDI data:

▪ Mapping incoming MIDI notes to an entire Group: You can set up how all Sounds of the selected Group respond to MIDI.

▪ Sending MIDI notes to the host application when MASCHINE is used as plug-in: This allows you to directly record MIDI patterns in your host while playing on your controller.

💡 To record the MIDI notes in your host application, you need to configure your host so that it receives the MIDI data sent by the MASCHINE plug-in. Please refer to the documentation of your host application for more details.

▪ Exporting Patterns to MIDI files: You can configure how Patterns will be exported (see section ↑7.2.8, Rendering MIDI from Patterns via Drag and Drop for more info on this).

To configure the Sound MIDI Batch Setup, do the following:

1. Click the little arrow in the Group header (above the Sound slots) to open the Group menu and choose *Sound MIDI Batch Setup* from the menu.
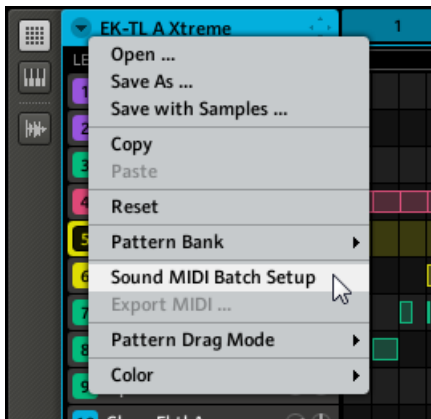
Alternatively you can right-click (on Mac OS X: [Ctrl]-click) the Group slot in the Arranger and choose *Sound MIDI Batch Setup* from the context menu.

2. In the Sound MIDI Batch Setup window that opens, configure the MIDI settings for all Sounds of that Group (available settings are described in the table below).

3. When you are done, press APPLY to confirm or CANCEL to discard your new settings.

The Sound MIDI Batch Setup window provides following settings:

Mapping Mode	Description
Restore Defaults	Select this radio button to restore the MIDI mapping to its default state. In the default state, only the selected Sound will receive MIDI notes.
Sounds to MIDI Channels	Select this radio button to have Sounds mapped to individual MIDI channels. This is useful if you want to play a Sound in a tonal way.
Sounds to MIDI Notes	Select this radio button to have Sounds mapped to MIDI notes, starting with the root note (see below). This is useful for drum kits.
MIDI Channel	Select a MIDI channel here if you have selected the *Sounds to MIDI Notes* option.
Root Note	Choose a root note here if you have selected the *Sounds to MIDI Notes* option. This defines the note that will trigger the Sound in Sound slot 1. The other 15 Sounds will be triggered by the following 15 notes on the keyboard.

> ⚠️ This window can only be used to *define* mappings for the Sounds of the Group. It *does not show* the current mappings of these Sounds! If you want to see the current mapping of a particular Sound, see section ↑4.9.2, Sound MIDI Settings.

4.9.2 Sound MIDI Settings

You can also assign individual Sounds to incoming MIDI notes. This is done in the Sound MIDI Settings window.

1. Right-click (on Mac OS X: [Ctrl]-click) the Sound slot in the Pattern Editor and choose *Sound MIDI Settings* from the context menu.
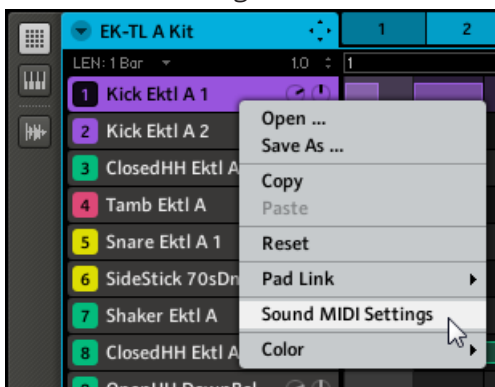
2. In the Sound MIDI Settings window that opens, configure the MIDI settings for that Sound (available settings are described in the table below).

3. When you are done, press OK to confirm or CANCEL to discard your new settings.

> ⚠️ Note: if the Sound MIDI Settings are disabled (i.e., the Enable checkbox at the top is unchecked), the Sound will have its default MIDI behavior: Any incoming MIDI note will trigger the Sound as long as the Sound is in focus.

Sound MIDI Settings	Description
Status Section	
Enable	To enable custom MIDI settings for the Sound, click this checkbox.
Input Section	
Channel	Choose on which MIDI Channel the Sound will receive MIDI by selecting it in the drop-down menu.
Low Note	Define the lowest note on which the Sound will respond to MIDI here.
High Note	Define the highest note on which the Sound will respond to MIDI here.

Sound MIDI Settings	Description
Destination Section	
Root Note	Define the root note of the selected Sound here.

> 💡 Combining the MIDI settings for Scenes, Groups and Sounds, you can easily create your custom MIDI setup and create a keyboard split for your live-set, for example: first octave controlling the Scenes, second octave controlling your drum kit, third one for the piano sound and so forth.

> ⚠️ The settings for Sounds have a higher priority than the Group settings, as well as the settings for Groups have a higher priority than the Scene settings.

4.9.3 MIDI Output from Sounds

You can output MIDI notes from individual Sounds allowing you to control any MIDI-capable application and/or external MIDI gear from MASCHINE's sequencer.

Hardware

1. Select an empty Sound slot by pressing its pad.
2. If MODULES is disabled (Button 4 dim lit), press Button 4 to activate it.
3. Press Button 5 to select Module slot 1.
4. Press SHIFT + BROWSE to open the Module list.
5. Turn Knob 1 to set TYPE to INTERNAL.
6. Turn Knob 2 to set SUBTYPE to INSTRUMENT.
7. Turn Knob 5 to select MIDI OUT in the Module list, and press Button 8 to load this Module.
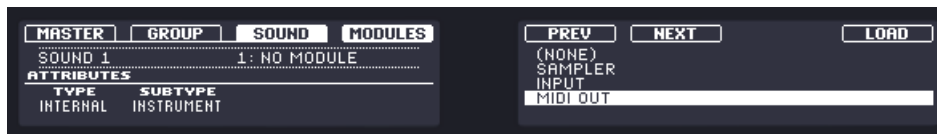
8. Press SHIFT + BROWSE again to leave the Module list.

9. Turn Knob 1 to select the MIDI channel you want the Sound to send note data to.

MASTER	GROUP	SOUND	MODULES		MIDI OUT	2	3	4
128.0	S1 / -	1:1:1	1 / 16		MIDI OUT			

SETTINGS
CHANNEL
1

→ Now your Sound will send MIDI notes on the specified channel while you play the pads and/or a Pattern is playing.

💡 You will notice that the Sound was automatically renamed to "MIDI OUT."

⚠️ When the MIDI Out Module is loaded into Module slot 1 of a Sound, the other three Module slots (2–4) are bypassed.

Software

1. Select an empty Sound slot by clicking it.
2. In the Control area, click the SOUND tab to select the Sound level.
3. Select Module slot 1 by clicking its tab.
4. Click the arrow on the tab's right side to open the Module menu and select *MIDI Out* in the menu.

The MIDI Out module is loaded into Module slot 1.

5.   Click the Channel selector's display and select the MIDI channel you want the Sound to send MIDI to.
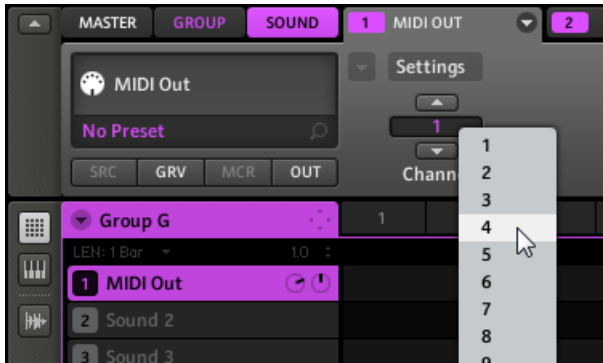
6.   Now your Sound will send MIDI notes on the specified channel while you play the pads and/or a Pattern is playing.

> 💡 You will notice that the Sound was automatically renamed to "MIDI Out."

> ⚠️ When the MIDI Out Module is loaded into Module slot 1 of a Sound, the other three Module slots (2–4) are bypassed.

5 Working with Groups

A Group contains 16 Sound slots with all their parameters. It can have up to four insert effects and up to 64 Patterns organized in 4 Banks. More on Patterns in chapter ↑5.3.2, Importing MPC Program Files and chapter ↑7, Working with Patterns (Software).

5.1 The Group Properties

The Group Properties are organized into four sets: Source, Groove, Macro, and Output Properties.

> 💡 For general information on how to display and adjust the Properties, please refer to section ↑4.4.1, Selecting a Set of Properties and ↑4.4.2, Adjusting the Properties.

5.1.1 Group – Source Properties (SRC)

The Source Properties contain settings for the global voice polyphony and the pitch of the included Sounds. Please refer to section ↑4.4.1, Selecting a Set of Properties to know how to access the Source Properties of a Group.
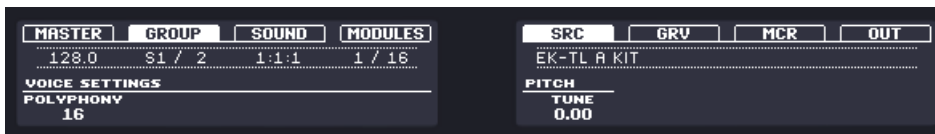
The Group's Source Properties on the controller.
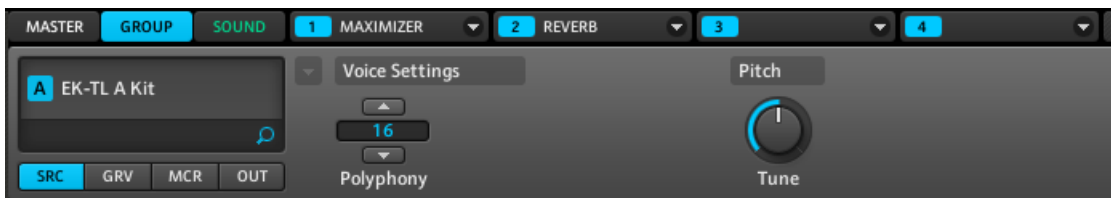
The Group's Source Properties in the software.

Controls	Description
Voice Settings	
Polyphony	Here you can define a global voice limit for the Group, that is the maximum number of voices (notes) that can be played simultaneously in that Group. The default value is 16, the minimum 1 and the maximum 32 voices.
Pitch	
Tune	This parameter provides tuning for the Group as a whole: all Sounds of the Group will be tuned together. Dial it to the right to get a higher pitch and to the left to get a lower pitch.

5.1.2 Group – Groove Properties (GRV)

The Groove Properties control the rhythmic relationship between events for the selected Group/ Sound or the Master level. By shifting some of the events, you can e.g. give a shuffling, ternary touch to your Patterns.

At the Group level, the Groove Properties settings affect all Sounds of the Group. The Group's Swing is added to the Swing set for each individual Sound via its own Groove Properties.

Please refer to section ↑4.4.1, Selecting a Set of Properties to know how to access the Groove Properties of a Group.
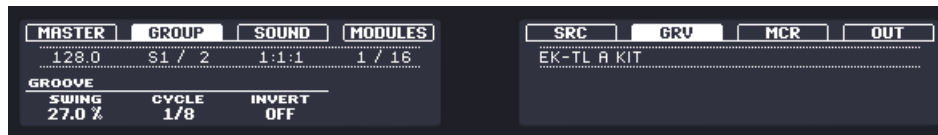
The Group's Groove Properties on the controller.

The Group's Groove Properties in the software.

Controls	Description
Groove	
Swing	Adjusts the amount by which some events are shifted. At 0 % events are not shifted. Raise the Swing value to increase the strength of the effect.
Cycle	Determines on what musical resolution the Swing is applied. This directly affects which events will be shifted. Values are measured in fractions of a whole note. The default value is 1/8.
Invert	Allows you to invert the Swing function so that instead of being delayed in the Pattern events will be triggered ahead of time.

> 💡 You will find an example illustrating how Swing affect the rhythm in section ↑4.4.3, Sound – Groove Properties (GRV).

5.1.3 Group – Macro Properties (MCR) and Macro Controls

Macro Controls enable you to control selected parameters using eight knobs per Group. Macro Controls have following benefits:

- They are useful for playing live since you can choose a set of parameters from various Sounds in the Group and from the Group itself to manipulate on one screen without having to switch screens.

- Macro Controls also allows you to automate MASCHINE parameters and third-party VST/ AU plug-ins using the host automation of your DAW (Digital Audio Workstation). All MASCHINE Macro Controls are visible for hosts and automation can be recorded in your host for each MASCHINE Macro Control. Please refer to the manual of your DAW software for more information.

- In addition, Macro Controls also allow you to control parameters through external MIDI controllers using MIDI CCs.

- Finally, like any other parameter at the Sound and Group level, you can record them as automation in a Pattern (for more information on that, see section ↑7.1.9, Recording and Editing Automation).

Please refer to section ↑4.4.1, Selecting a Set of Properties to know how to access the Macro Properties of a Group.
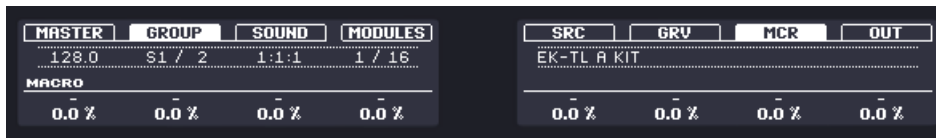
The Group's Macro Properties with the eight Macro Controls on the controller. None of the Macro Controls has been assigned yet.

The same Group's Macro Properties with the eight unassigned Macro Controls in the software.

Assigning a Parameter to a Macro Control

To assign Macro Controls you must use the MASCHINE software. This is done in the Macro Properties of the Group. Each Macro Control can be assigned to one destination with the full range of the selected parameter. Macro Controls are bipolar knobs with a range of -100 % to +100 % (0 % is centre). You can assign all modulatable parameters in the Group Modules and Properties as well as any modulatable parameter in any Sound inside the Group (basically modulatable parameters are parameters controlled by a knob or a button).

1. Choose any modulatable parameter of your Group or the Sounds contained in it and right-click it ([Ctrl]-click it on Mac OS X):
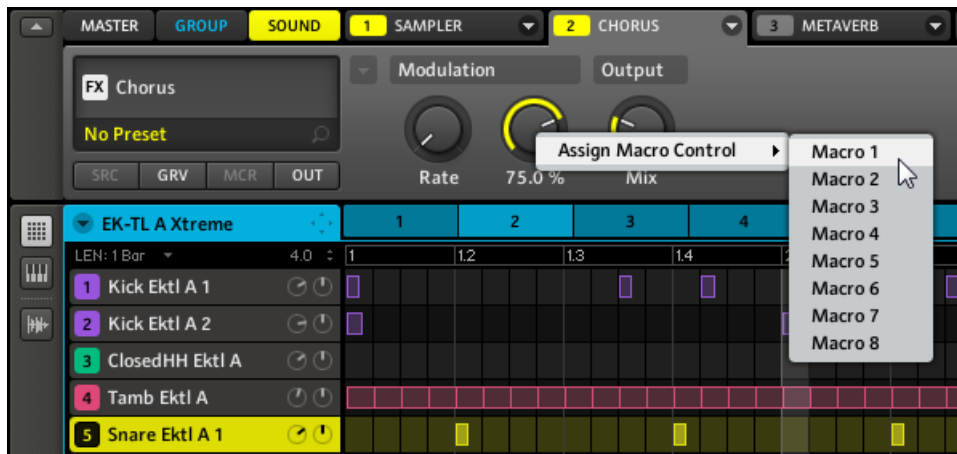
2. Now choose one of the available entries *Macro 1–8* in the context menu.
   After an assignment is made, a **blue dot** at the top left of the parameter shows that it is assigned to a Macro Control:

→ On the Macro page you will see the name of the assigned parameter now under the Macro Control:

You can also assign plug-in parameters to Macro Controls!

Removing a Parameter from a Macro Control

You can remove a parameter from the assigned Macro Control both from the parameter's page and from the Group's Macro Properties:

► To remove a parameter from the assigned Macro Control, right-click (on Mac OS X: [Ctrl]-click) the parameter and select *Remove Macro Control* from the context menu:

or

► In the Group's Macro Properties, remove the parameter assignment by right-clicking (on Mac OS X: [Ctrl]-click) the Macro Control and selecting *Remove Assignment* from the context menu:
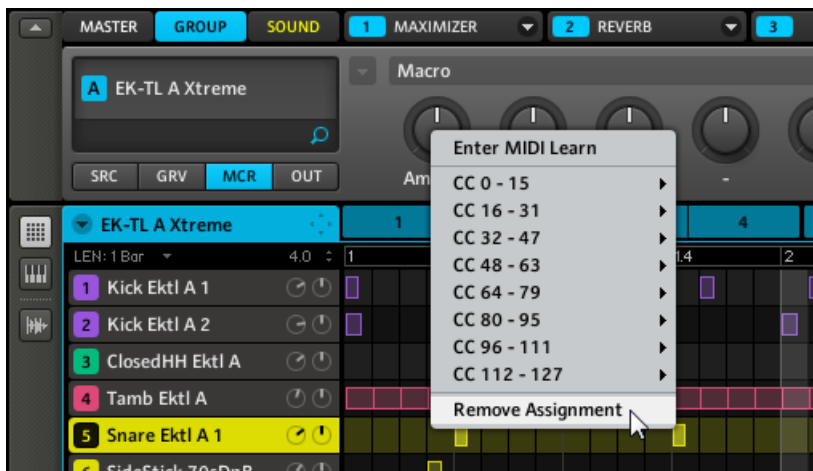
Assigning Macro Controls to MIDI Control Change Messages

Once you have assigned parameters to some Macro Controls, you can assign these Macro Controls to MIDI Control Change messages (MIDI CCs) in order to control them via MIDI. The MIDI CC assignment is performed in the Group's Macro Properties in the MASCHINE software.

To assign a MIDI CC to a MASCHINE Macro Control:

1. Go to the Macro Properties by selecting the GROUP tab and then clicking the MCR button in the Property selector.
2. Right-click (on Mac OS X: [Ctrl]-click) the desired Macro Control and choose your MIDI CC in the context menu:

→ The Macro Control is now assigned to the selected MIDI CC. This is indicated by a **white dot** at the top left of the Macro Control:
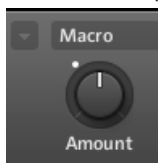
Alternatively, you can also let MASCHINE learn the MIDI CC it is supposed to react to:

1. Choose *Enter MIDI Learn* from the context menu.

    As soon as you select *Enter MIDI Learn*, **a white dot starts to flash** until the software receives an incoming MIDI CC.

2. Move the desired knob or fader on your connected MIDI controller.

→   When the MIDI CC has been received, the white dot will stop flashing and stay continuously lit, indicating that the Macro Control is now assigned to a MIDI CC.

> If you want to leave MIDI Learn mode without assigning anything, right-click the Macro Control again and select *Leave MIDI Learn* from the context menu.

Removing a MIDI CC Assignment

► To remove a MIDI CC assignment from the assigned Macro Control, right-click (on Mac OS X: [Ctrl]-click) the Macro Control and select *Remove MIDI CC* from the context menu:
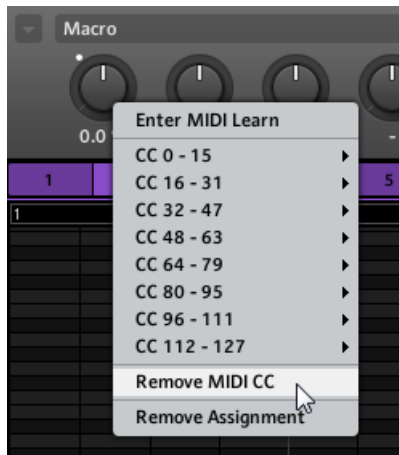
Macro Controls and Host Automation

When MASCHINE is used as a plug-in, Macro Controls can also be controlled by host automation. Each MASCHINE Macro Control has a unique Automation ID, which is provided to your host/DAW by the MASCHINE plug-in. Please refer to your host/DAW documentation to find out more about host automation.

Accessing Macro Controls from the Controller

To access the Macro Controls from your controller:

1. Press CONTROL to enter Control mode.
2. Select the Group with the Macro Controls you want to access by pressing its Group button A–H.
3. Press Button 2 to select GROUP.

4. Press Button 7 to select MCR (Macro).

→ You can now adjust the parameters you assigned in the MASCHINE software using Knobs 1–8.

5.1.4 Group – Output Properties (OUT)

The Group's Output Properties allow you to route the audio output of your Group (that is, the sum of all its Sounds' outputs) and define auxiliary sends (or "Aux sends"). Aux sends allow you to send a definable amount of your Group's audio output to Sounds in other Groups for further processing. Read the section ↑9.4, Creating a Send Effect to get to know more about how to set up a classic send effect.

Please refer to section ↑4.4.1, Selecting a Set of Properties to know how to access the Output Properties of a Group.

Page 1: Main, Aux 1 and Aux 2

Page 1 of 2 from the Group's Output Properties on the controller.

Page 1 of 2 from the Group's Output Properties in the software.

Controls	Description
Main	
Output	Defines where you want to send the main audio output of your Group. You can choose from the 16 external stereo outputs *Out 1–16*.
Level	Adjusts the overall volume level of your Group.
Pan	Defines the panoramic position of your Group in the stereo field.
Aux 1	
Output	The destination for Aux 1: available destinations are *None* (no output, default setting), *Master*, any other Sound (within other Groups) acting as bussing point, as well as the 16 external stereo outputs *Out 1–16*.
Level	Here you adjust the level of the signal that gets sent to the Aux 1 destination.
Aux 2	
Output	The destination for Aux 2: available destinations are *None* (no output, default setting), *Master*, any other Sound (within other Groups) acting as bussing point, as well as the 16 external stereo outputs *Out 1–16*.
Level	Here you adjust the level of the signal that gets sent to the Aux 2 destination.

If MASCHINE is running as a plug-in, the external stereo outputs *Out 1–16* available in the Output selectors of the Main, Aux 1, and Aux 2 sections will correspond to virtual outputs in your host. This allows you to send individual Groups from MASCHINE to their own mixer channels within your DAW, for example.

Page 2: Aux Mode

Page 2 of 2 from the Group's Output Properties on the controller.
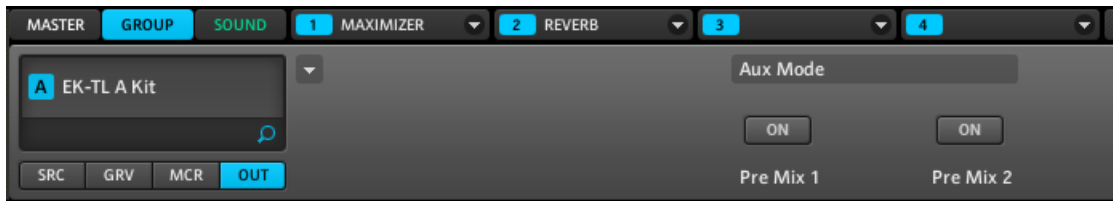
Page 2 of 2 from the Group's Output Properties in the software.

Controls	Description
Aux Mode	
Pre Mix 1	If this is enabled, the Group will be fed into Aux 1 before the Level and Pan settings of the Main section (on page 1) are applied.
Pre Mix 2	If this is enabled, the Group will be fed into Aux 2 before the Level and Pan settings of the Main section (on page 1) are applied.

5.2   Managing Groups

This section describes the global editing functions available for Groups and Group slots.

5.2.1   Naming Group Slots

By default, Group slots are named Group A–H. If you load a Group (e.g. from the Browser) into a Group slot, the slot automatically takes the Group's name.

You can also rename Group slots manually. Naming is only available from within the software, but any changes will also show up on your controller.

Group renaming is performed like Sound renaming:

1.   Double-click the desired Group slot.
       The Group slot's name gets highlighted.
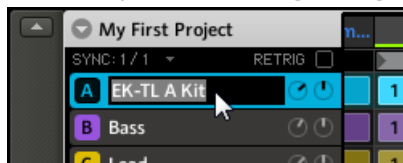
2. You can now edit the name of the Group slot. Press [Enter] on your computer keyboard to confirm.

⚠️ If you use MASCHINE as a plug-in, some hosts will utilize the [Enter] key, as it is mapped to some function of the host software. In this case, click anywhere else in the MASCHINE plug-in window to confirm the name you have entered.

5.2.2 Changing the Group's Color

You can change the color of each individual Group in the software. To do this:

1. Right-click ([Ctrl]-click on Mac OS X) the desired Group slot and select *Color* from the context menu.
A Color Palette appears. In the Palette, the current color of the Group is highlighted.

2. Select the desired color in the Palette. You can also choose to set the Group back to its default color by selecting *Use Default Color* at the bottom of the Color Palette.

→ The Group buttons of the MASCHINE MK2 controller mirror the Group colors you select.

> By default, each Group has a different color. But you can choose a common default color for Groups in *Preferences > Colors > Group and Sounds > Group Color*. See section ↑2.4.7, Preferences – Colors Page for more info.

5.2.3 Saving Groups

You can save your Groups as individual files (extension ".mgrp"). This can be only done in the software.

To save a Group:

1. Right-click (on Mac OS X: [Ctrl]-click) the Group slot in the Arranger and select *Save As…* from the context menu:
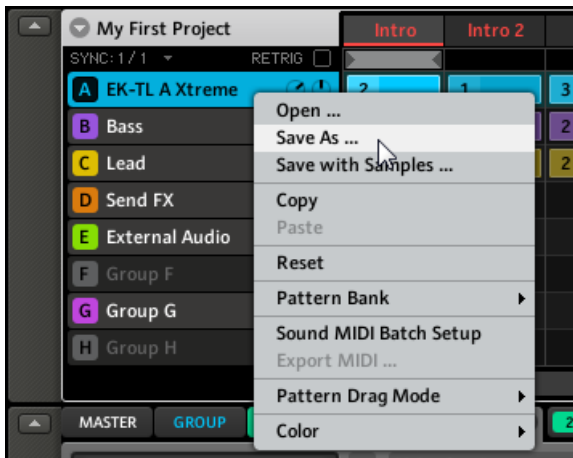
A Save File As… dialog appears. By default, the Group file inherits the name of its Group slot and it will be saved in your Standard User Directory (as defined in *Preferences > User Paths*, see section ↑2.4.2, Preferences – Defaults Page for more info).

2. If you wish, choose another path and/or type another name with your computer keyboard.
3. Press [Enter] to confirm and close the Save File As… dialog.

→ Your Group is now saved.

The Group will be added to the Library and is ready to be tagged in the Browser — see section ↑3.4, Tagging your Files for more info on this.

> Saving a Group is only available on MASCHINE software. After saving and tagging a Group it will become available in the Browser for use in other Projects.

5.2.4   Saving a Group with its Samples

Sometimes it is useful to have the ability to save a Group with its Samples outside of the MA-SCHINE Library. If you want to take a Group to another studio or if you want to backup or share a custom drum kit with all the related files, this comes in handy.

To save a Group with its Samples:

1. Right-click (on Mac OS X: [Ctrl]-click) the Group slot in the Arranger and select *Save with Samples…* from the context menu:
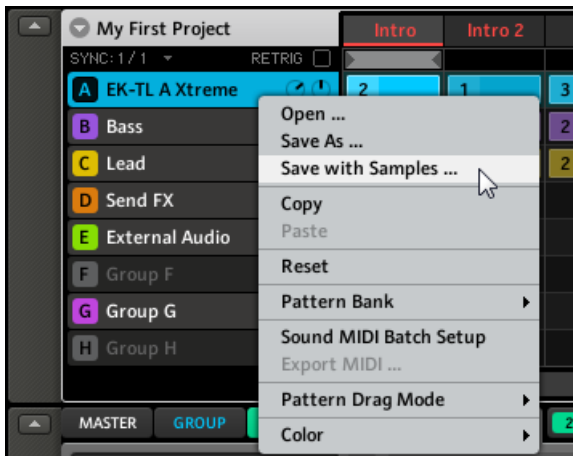
You will be presented with the Save Group with Samples window:
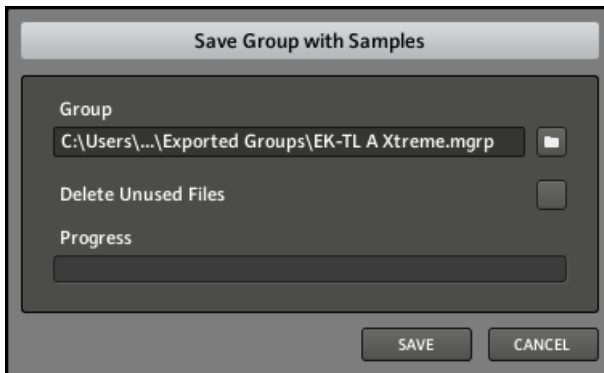
2. In this window, adjust the settings (see table below) and click SAVE to confirm or CANCEL to cancel the operation.

Controls	Description
Group	Displays the name and location of the Group file to be created. The Samples will be put in a folder with the same name in the same location. By default, the Group file inherits the name of its Group slot and it will be saved in the "Groups" subfolder of your Standard User Directory (as defined in *Preferences > User Paths*, see section ↑2.4.2, Preferences – Defaults Page for more info). Click the folder icon on the right to choose another name and/or path.
Delete Unused Files	Enable this checkbox to delete unused files, thereby minimizing the amount of audio data.
Progress	Shows the level of progress MASCHINE has made exporting the Group and its Samples.

> You can also save your whole Project with its Samples. See section ↑12.2.1, Export Audio for more info.

5.2.5 Copying and Pasting Groups

You can copy and paste Groups across Group slots in your Project.

Hardware

To copy a Group from one Group button to another:

1. Press and hold DUPLICATE.
2. Press the Group button of the Group you want to copy.
3. Press the Group button of your target Group slot.

→ All parameters of the Group (all included Sounds, Group effects, Group Properties) will be copied including all Pattern content.

> To duplicate a Group including all its Clips in the Arranger, enable the + EVNT option (Button 2) while holding DUPLICATE.

> Instead of holding DUPLICATE, you can also pin the Duplicate mode by pressing DUPLICATE + Button 1. You can then release DUPLICATE: Your controller will stay in Duplicate mode until you press DUPLICATE again. See section ↑2.2.8, Pinning a Mode for more info.

Software

To copy and paste Groups in the software:

1. Right-click (on Mac OS X: [Ctrl]-click) the Group slot containing the Group you want to copy.
2. In the context menu, choose *Copy* to copy the Group.

3. To paste the Group, right-click (Mac OS X: [Ctrl]-click) another Group slot and select *Paste* from the context menu.

→   All parameters of the Group will be copied except for the Clips of that Group (its Patterns, though, will be copied as well).

5.2.6   Moving Group Slots

You can reorder Group slots via drag-and-drop in the software. It can be helpful to organize your Groups more conveniently.

Moving Group slots is performed like moving Sound slots:

1. Click and hold the Group slot.

2. While holding the mouse button, drag your mouse vertically toward the desired location.
   As the mouse cursor moves, an insertion line appears at the potential places where you
   can drop the Group slot.
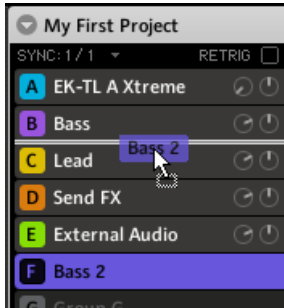
3. When the insertion line appears at the desired location, release the mouse button.

→ The Group slot takes its new place. On your controller, you can now select this Group via
   the Group button whose letter appears at the left of the Group slot.

5.2.7 Resetting a Group Slot

Resetting a Group slot will remove the Sounds and effects it contains and put all Group param-
eters (Properties, name, color…) back to their default values.

Hardware

► Hold SHIFT + ERASE, then press the Group button for the Group to be reset.

Software

► To reset a Group, right-click (on Mac OS X: [Ctrl]-click) the Group slot and choose *Reset*
  from the context menu.
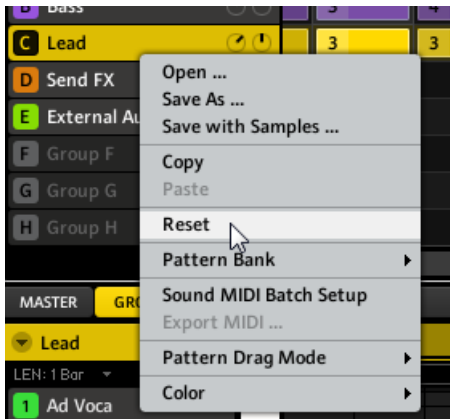
Resetting a Group.

5.3   Importing MPC Programs to Groups

MASCHINE allows you to import Drum program files (.PGM and .AKP) from the Akai MPC series to Groups. Supported models include the MPC4000, MPC3000, MPC2000, MPC500, MPC1000 and the MPC2500.

5.3.1   Supported Parameters from MPC Programs

Since MASCHINE has a different approach to handling and naming parameters, please refer to this list to find out how MPC Program settings are being translated into MASCHINE settings.

MPC Parameter	MPC500, 1000, 2500	MPC4000	MPC2000 (XL)	MPC3000	MASCHINE Parameter
Sample Name	x	x	x	x	Sample Name
Play Mode	x	x	–	–	Playback Type (ADSR, Oneshot, AHD)
Sample Level	x	x	–	–	Zone Level
Sample Pan	–	x	–	–	Zone Pan
Range Lower/Higher	x	x	–	–	High/Low Key

MPC Parameter	MPC500, 1000, 2500	MPC4000	MPC2000 (XL)	MPC3000	MASCHINE Parameter
Tuning	x	x	x	x	Tune
Attack	x	x	x	x	Attack
Decay	x	x	x	x	Decay
Voice Overlap	x	–	x	x	Polyphony
Filter1 Type	x	–	–	–	Filter Type
Filter1 Frequency	x	–	x	x	Filter Cutoff
Filter1 Resonance	x	–	x	x	Filter Resonance
Filter1 Velocity to Frequency	x	–	–	–	Velocity Cutoff
Mixer Level	x	x	x	x	Track Level
Mixer Pan	x	–	x	x	Track Pan
Velocity to Level	x	–	–	–	Velocity to Volume
Mute Group	x	–	–	–	Choke Group

5.3.2 Importing MPC Program Files

1. To import an MPC Program file, open the Browser in the MASCHINE software and activate the DISK button.

2. Navigate to the MPC Program you want to import and double-click it.
    You will be prompted with the MPC Import window:
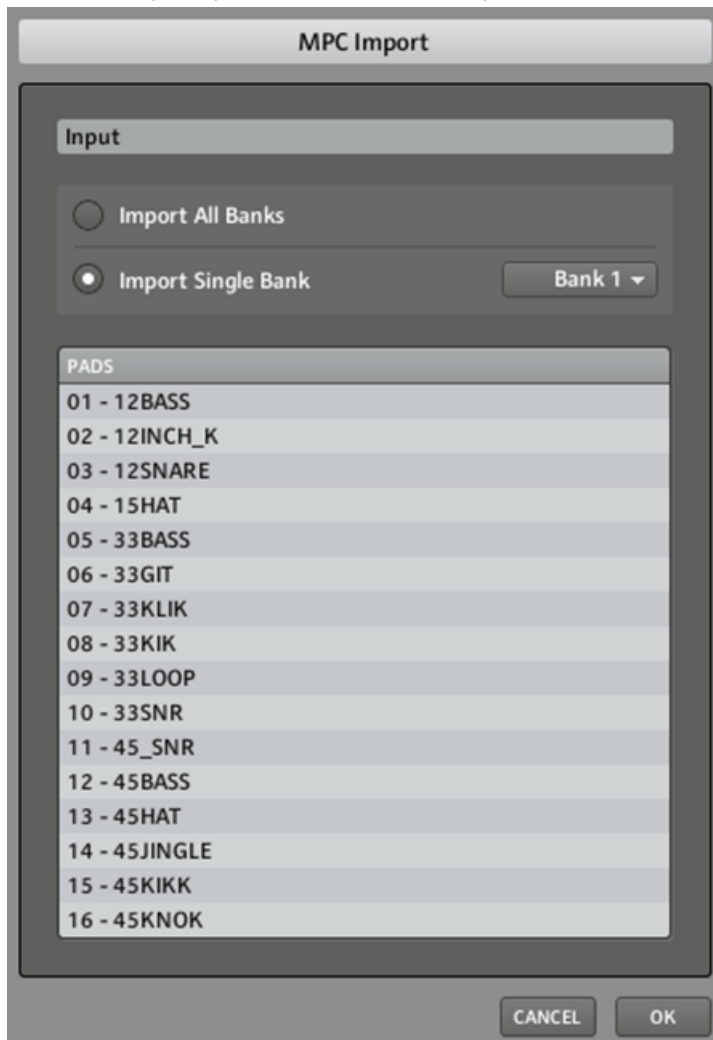
3. In the Input section of the window window, select one of the import options (see table below).
4. Click OK to start the import procedure.

Control	Description
Import All Banks	Here you can import all Banks of an MPC Program. Each Bank will be loaded into a separate Group.
Import Single Bank	If you only want to import a single Bank choose this option. Use the drop-down menu to the right to select which Bank you want to import. The list below shows you a preview of the sounds in the selected MPC Bank.

6   Working with Patterns (Controller)

Creating a Pattern is where the fun starts, because the sequencer really is the core of MA-SCHINE. Your controller provides you with many powerful tools to create and edit your own beats.

6.1   Creating Patterns

6.1.1   Pattern Mode

The Pattern mode is where you select your Patterns and apply some basic editing operations to the selected Pattern. Each Group can have up to 64 Patterns organized into 4 banks.

►   To enter Pattern mode on your controller, press PATTERN (you can pin it by pressing Button 1 at the same time).

→   Your controller switches to Pattern mode. This is indicated by the lit PATTERN button.

The hardware displays in Pattern mode.

On the right display, you will see all available Pattern slots of a Pattern Bank (Bank A by default) represented as a square of 4x4 cells:

▪   Each cell shows the number of the corresponding Pattern slot. If you defined a name for a Pattern, it will also appear in the cell corresponding to the Pattern slot in which your Pattern is located.

▪   The highlighted cell indicates the selected Pattern slot.

▪   Cells with a solid border represent Pattern slots containing a Pattern, while cells with a dotted border represent empty Pattern slots.

Selecting a Pattern Bank

Above the right display, Buttons 5–8 represent the four available Pattern Banks:

- The lit Button indicates the selected Pattern Bank.

- Dimmed Buttons indicate other Banks containing some Patterns.

- Unlit Buttons indicate empty Pattern Banks.

To select a Pattern slot in another Pattern Bank, you first need to switch the right display to that Pattern Bank:

► To switch between the four Pattern Banks, press Button 5 (for Bank A), Button 6 (for Bank B), Button 7 (for Bank C) or Button 8 (for Bank D) above the right display.

Selecting a Pattern

► To select a Pattern slot and the Pattern it contains, enter Pattern mode and press the pad corresponding to the desired cell.

Selecting a Pattern slot has the following consequences:

- Its Pattern is displayed in the software's Pattern Editor. You can then modify it both from your controller and in the software.

- Its Pattern is referenced by a Clip for the selected Group in the current Scene. This Clip replaces any previous Clip for the Group in that Scene (see chapter ↑10, Creating a Song using Scenes for more on this).

> If you only want to quickly select another Pattern without using any from the editing commands available, we recommend you to unpin the Pattern mode so you can quickly use the shortcut PATTERN + pad to select the desired Pattern.

Doubling a Pattern

To double the length and content of a Pattern, enter Pattern mode, select the Pattern by pressing its corresponding pad, and press Button 2 (DOUBLE). Keep in mind that doubling a Pattern twice results in a Pattern that is four times as long.

Duplicating a Pattern

To duplicate a Pattern select it by pressing its corresponding pad in Pattern mode, then press Button 3 (DUPL). The Pattern will be copied to the next empty Pattern slot available.

> 💡 Alternatively, you can copy a Pattern to the Pattern slot of your choice via the DUPLICATE button (see below).

Copy and Paste a Pattern

While the duplicating method described above is the quickest one, you can also copy a Pattern to the Pattern slot of your choice via the DUPLICATE button of your controller: In Pattern mode, press and hold DUPLICATE, press the pad of the Pattern you want to copy, then press the target pad for the Pattern copy. This procedure has following benefits:

- You can copy another Pattern than the one currently selected.

- You can paste the copy into the Pattern slot of your choice — empty or not. If the target Pattern slot already contains a Pattern, it will be replaced by the copied Pattern.

- You can select the target slot in another Pattern Bank: After you have selected the source Pattern, switch to the desired Pattern Bank using Buttons 5–8 before you select the target Pattern slot.

- Last but not least, this command is also available outside the Pattern mode: Simply press and hold DUPLICATE + PATTERN (instead of DUPLICATE alone in Pattern mode) before selecting the source and target slots!

> 💡 Please note that the copy-paste described here affects the Pattern as a whole. You can also copy-paste particular events/notes within the Pattern or between Patterns. See ↑6.2.3, Copy and Paste Events/Notes for more on this.

Removing a Clip from the Scene

Pressing Button 4 (REMOVE) in Pattern mode removes from the current Scene the Clip referencing the selected Pattern (Clips and Scenes are described in detail at chapter ↑10, Creating a Song using Scenes). Note that it does not delete the Pattern!

Pattern Length

The length of the selected Pattern can be adjusted in Pattern mode by dialing Knob 1. The units available here depend on the PAT LEN (Pattern Length) parameter in Grid mode. See section ↑6.1.11, Step Grid, Pattern Length, and Quantization for further information.

6.1.2 Pad Modes

By default, your pads play all Sounds of the selected Group — we call this **Group mode**. Furthermore they are velocity sensitive, meaning they will play louder if you hit them harder. You can change this behavior and choose another Pad mode in order to adapt your pads to various situations. This is done in Pad Mode mode:

▶ To enter Pad Mode mode, press and hold PAD MODE. You can also press PAD MODE + Button 1 to pin this mode and make it permanent.

In Pad Mode mode you make settings on the left display, and on the right display you will see the corresponding assignments for your pads.

The Pad Mode mode on the controller.

Parameter	Parameter Description
KEYBD (Button 2)	Activates/deactivates **Keyboard mode**. In this mode your pads play notes of the selected Sound at 16 different pitches. This is well suited for melodic instruments. The right display indicates the pitches played by each pad. See section ↑6.1.8, Using the Keyboard Mode for a detailed description of this mode.
16 VEL (Button 3)	Activates/deactivates **16 Velocities mode**. In this mode your pads play the same note of the selected Sound but with 16 different velocity values. This can be useful to play or program complex drum fills. The right display indicates the velocity values for each pad.

Parameter	Parameter Description
FIXED VEL (Button 4)	Activates/deactivates the **Fixed Velocity** option. This option is available when your pads are in Group mode (default mode) or Keyboard mode. With this option enabled, your pads play at the same volume no matter how hard you hit the pads. Obviously, this option is not compatible with the 16 Velocities mode described above: hence, their buttons are mutually exclusive.
LINK GRP (Knob 1)	Configures **Pad Link** for the selected pad. Pad Link can be used to trigger multiple Sounds when pressing only one pad. See section ↑6.1.3, Pad Link below.
BASE KEY (Knob 3)	In Group mode, this defines the key (or pitch) at which the selected Sound will be played. In Keyboard mode, this determines the base key for the MIDI note mapping on the right display. The value chosen for the base key will be assigned to pad 1; the assignment of the other pads will be reflected accordingly.
VELOCITY (Knob 4)	Here you can adjust the exact velocity value used in the Fixed Velocity mode (see above).

The base key can also be changed by using Buttons 5-8: Buttons 5-6 will shift the base key in semitones, while Buttons 7-8 will shift it in octaves. This is useful for instantly transposing the pads "by ear."

6.1.3 Pad Link

Pad Link can be used to trigger multiple Sounds when pressing only one pad:

- Each pad of the selected Group can be assigned to one of eight **Pad Link groups**.
- A pad assigned to such a Pad Link group may be set as a Master or Slave in that Pad Link group:
  - By default, the pad is set to **Master** and will trigger the other pads in the same Pad Link group.
  - A pad set to **Slave** will only trigger its own Sound, even if it is part of a Pad Link group. On the other hand its Sound will also be triggered by every pad set to Master within the same Pad Link group.
- You may set more than one pad as Master or Slave within the same group.

Assigning a Pad to a Pad Link Group

To assign a pad to a Pad Link group:

1. Press the Group button (A–H) of a Group you want to use Pad Link in.
2. Hold the PAD MODE button.
3. Deselect KEYBD (Keyboard) if it is already selected, then press the pad you want to assign to a Pad Link group.
4. On the left display, select the desired Pad Link group for this pad using Knob 1 (LINK GRP).
5. Set the pad to Master or Slave mode using Knob 2 (LINK MODE).

6. Repeat the process with other pads to link each pad to a Pad Link group.

Releasing a Pad from a Pad Link Group

To release a pad from a Pad Link group:

1. Press the Group button of the pad you want to release from its Pad Link group.
2. Hold the PAD MODE button.
3. Deselect KEYBD (Keyboard) if it is already selected, then press the pad with the Sound you want to remove from a Pad Link group.
4. On the left display, change the Pad Link to OFF using Knob 1.

5. Repeat the process to remove other pads from a Pad Link group.

6.1.4   Recording the Pads

You can easily record beats with the pads:

1. Press PLAY to start the sequencer.
   The PLAY button lights up.
2. Press REC to enable Record mode.
   The REC button lights up.

3.   Now hit the pads you want to record and listen to what happens. Each hit will create an event in the Pattern Editor, the event length depend on how long you hold the pad.

4.   When you're done, press REC again to leave Record mode.
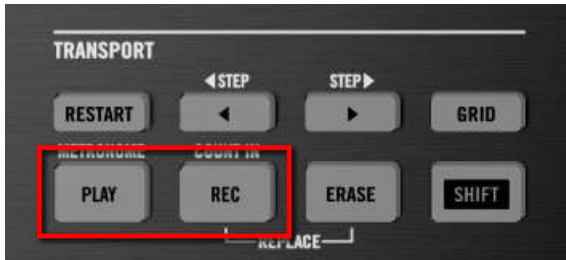
Recording a Pattern: press PLAY then REC and hit some pads!

Recording Mode

By default, all pad hits are added as events/notes when the Pattern cycles. This is called the **Overdub mode**. You can easily switch to **Replace mode** if you press REC + ERASE at the same time. In Replace mode, recorded notes are replaced by what you play.

If you press ERASE together with a pad while recording, all events at the current play position are deleted (see section ↑6.2.2, Deleting Events/Notes).

> Take your time to set up the pad sensitivity and velocity scaling to your personal taste — you will have even more fun playing MASCHINE! These settings can be found in *Preferences > Hardware > Pads*. See ↑2.4.6, Preferences – Hardware Page for more info.

6.1.5   Using the Metronome and the Count-in

The metronome will help you to keep time when recording in real time.

►   Press SHIFT + PLAY to activate or deactivate the metronome.

Metronome Volume

To adjust the volume of the metronome, with VOLUME activated, hold SHIFT + PLAY and turn the Control encoder.

Count-in

The Count-in allows you to start the metronome one full bar before the sequencer and the recording starts. This is very handy if you want to start recording a Pattern exactly on the downbeat.

▶ Press SHIFT + REC to start the Count-in.

→ You hear the metronome alone for one bar, then Record mode is engaged and you can start recording.

6.1.6 Using the Step Sequencer

If you are familiar with classic drum machines you may want to program your Pattern using the step sequencer:
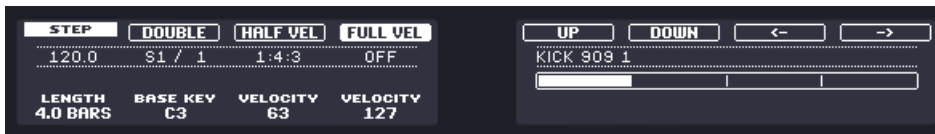
The Step mode on the controller displays: the first bar of a four-bar Pattern.

1. Press the pad with the Sound you want to record to select it and press PLAY.
2. Press STEP to switch your controller to **Step mode**. Now you will see a light chasing through the pads, starting from pad 1, going up all four rows from left to right and ending at pad 16. All of this is recorded immediately, even if REC is not enabled.
3. Each pad now represents one step of a 16-step sequence: you can activate a step by pressing a pad once, lighting it up. If you press it again, the step is removed.

This way it's easy to quickly put some drums together. By default the first 16 steps of a Pattern will be represented on the pads. If you want to program a longer Pattern, increase the Pattern Length with Knob 1. You will see a bar on the right display, representing the length of the Pattern. The selected 16 steps of the Pattern are highlighted here. Use Buttons 7 and 8 to select the next or previous 16 steps of the pattern. To switch to another Sound, use Buttons 5 and 6 located above the right display, or hold SELECT, check that SOUND (Button 2) is selected, and press the pad of the Sound you want to switch to.

The steps' default size is a quarter note. The step size can be adjusted in Grid mode. See ↑6.1.11, Step Grid, Pattern Length, and Quantization for more info.

A typical 4/4 kick line in Step mode.

6.1.7 Using Note Repeat

Note Repeat is a really handy way to play and program beats: it plays the selected Sound repeatedly at a given rate.
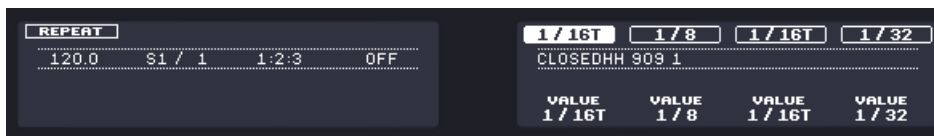
Note Repeat mode on the controller displays.

1. While holding NOTE REPEAT, hold the pad you want to play/record. The notes will now be repeatedly triggered at the selected rate (shown on the right display).
2. With Buttons 5–8, you can select different rates — also while playing.

3. If you want to use rate values other than the ones currently on display, turn Knobs 5-8 to make other rate values available via Button 5–8.

> 💡 You can pin Note Repeat mode by pressing NOTE REPEAT + Button 1.

▪ In Note Repeat mode all pads will be both velocity and pressure sensitive, allowing for expressive drum rolls or dynamic basslines.

▪ Note Repeat is a really funky way to play percussion and drums live creating build-ups and breaks.

▪ Note Repeat is also interesting to use with tonal Sounds and you can access it from Keyboard mode to create synthesizer-like arpeggios.

6.1.8 Using the Keyboard Mode

Select a Sound by pressing the pad it is assigned to. Now enter Pad Mode mode by holding PAD MODE and lock it by pressing Button 1 (you can then release PAD MODE).

Press Button 2 to enter Keyboard mode. If you hit the pads now, you will hear that they all play the same Sound, but each with a different pitch. The pitch scale is divided in semitones, starting with pad 1 as the lowest pitch going up to pad 16 as the highest pitch. The current scale is indicated on the right display:
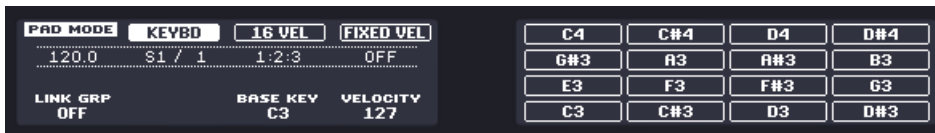
Keyboard mode selected on the controller displays in Pad Mode mode.

To shift the scale in octaves use Button 7 (octave down) or Button 8 (octave up). You can also shift the scale in semitones: use Button 5 (semitone down) and Button 6 (semitone up). Press PLAY then RECORD and start to record your melody!

> 💡 Try to experiment with all kinds of Samples in the Keyboard mode; some rather boring sounding Samples can be really interesting if you play them very low or very high!

If you prefer to play your melodies with a MIDI keyboard, you can connect one to the MIDI IN socket on the back of the MASCHINE controller. You can also use any USB-MIDI keyboard selected in the Audio and MIDI Settings (see section ↑2.5, Audio and MIDI Settings to get to know how to set these up). The connected MIDI input device will always play the currently selected Sound without the need to enter Keyboard mode.

The rear side of the MASCHINE hardware with the MIDI IN socket.

6.1.9 Recording Automation

One of the really cool features of MASCHINE is the ability to automate nearly all MASCHINE parameters both on the controller and in the software in a very easy way.

To automate a parameter with the controller:

1. First make sure the song is playing (PLAY must be lit) and your controller is in Control mode (CONTROL must be lit, if it's not please press it).
2. Hold AUTO WRITE.
3. Turn one of the Knobs 1–8 under the displays while holding down AUTO WRITE.

→ Your automation gets recorded now. Each Knob movement is stored in your Pattern as an automation event. It will be automatically played with your Pattern upon its next cycle.

> You can pin Auto Write mode by pressing SHIFT + AUTO WRITE. This allows you to have both hands free to tweak Knobs 1–8 and record automation for several parameters simultaneously! When you're done, press AUTO WRITE again to stop recording automation.

If you want to discard the automation you recorded and try again:

▶ Hold ERASE and again turn the Knob you used to record automation to delete its automation.

You can also delete all automation events:

► Press SHIFT + pad 10 (CLR AUTO) to delete all automation events for all parameters.

Which Parameters Are Automatable?

All the automatable parameters are found in Module or Properties (e.g., you cannot automate the Pattern Length or the Step Grid resolution). In order to be automatable, parameters of Modules and Properties have to meet following requirements:

▪ The parameter must be **controlled by a knob or a button** in the software — parameters controlled by selectors (e.g., for selecting an operating mode or a filter type) cannot be automated.

▪ The parameter must be at the **Group or Sound level** — parameters at the Master level cannot be automated.

> This second rule notably means that if a Module is loaded at the Master level, its parameters will not be automatable, whereas the same Module loaded in a Group or Sound will have its parameters automatable.

Almost all parameters meeting these requirements (including the Macro Controls) are automatable, the few exceptions being:

▪ Sampler Module: SYNC (LFO section of page 5/6).
▪ Transient Master Module: LIMIT.
▪ Limiter Module: THRS (Threshold).
▪ Saturator Module: in Tube mode, BASS OVER (DRIVE section) and BYPASS (EQ section).

6.1.10 Recording Automation in the Step Sequencer

It is also possible to record automation in the step sequencer:

1. Enter Step mode by holding STEP (or press STEP + Button 1 to pin Step mode).
2. Use Button 5 and 6 to select the desired Sound.
3. Press and hold the pad representing the step you want to automate (you may need to use Button 7 and 8 to navigate to the desired part of the Pattern).
   The displays will switch to a mode similar to Control mode displaying parameter values.

4. Like in Control mode, use Button 2 or 3 to select the Group or Sound level, respectively; activate or deactivate Button 4 to display the Modules or Properties at this level; and use Button 5–8 to select the Module slot or Properties you want to record automation for.

5. While holding the pad, with the Page buttons left of the displays you can select Parameter pages now, with the Knobs 1–8 under the displays you can edit the parameters for this step. After releasing the pad, the new values are recorded for this step.

> An automation value that is set for a step is valid until the next automation value for the same parameter is set in the Pattern. Hence, the automation you set will continue to affect the steps that follow until a new value is set. If you want to automate only one step of the Pattern, set the parameter of the next step back to its default value.

6.1.11 Step Grid, Pattern Length, and Quantization

Step Grid

The set of all steps in any Pattern is called **Step Grid**. The Step Grid is the frame where you create and edit the notes/events of your Pattern. The Step Grid resolution corresponds to the step size, which directly affects the precision of all Pattern editing actions, including quantization. It also affects the step sequencer: increasing the Step Grid resolution (i.e. decreasing the step size) will make more steps available in your Pattern for placing events. By default step size is 1/16th. However you may use another step size or disable the Step Grid completely.

1. To change the Step Grid resolution, hold GRID and select STEP (Button 4); the right display will show you which pad represents which resolution:

2. Select a step size by pressing the corresponding pad.

→   The selected value is highlighted on the right display and the corresponding pad is lit.

Pattern Length

The Pattern Length resolution defines the values available when adjusting the length of your Patterns (reminder: PATTERN + Knob 1). Changing this to a value less than 1 allows you to dial in lengths smaller than a full bar for example.

1. To change the Pattern Length resolution, hold GRID and select PAT LEN (Button 3); the right display will show you which pad represents which resolution:

2. Choose the Pattern Length resolution using the pads in a range from 1/1 (one full note) to 1/64T (1/64th note triplet); you can also turn it off by pressing pad 16.

→ The selected value is highlighted on the right display and the corresponding pad is lit.

> The Pattern Length resolution is common to all Patterns.

> Try a rather big value ("low" resolution) like ¼ note and change the Pattern Length setting using PATTERN + Knob 1 to create variations of a Pattern. If you select an small value ("high" resolution) like 1/64th, you can create stuttering breaks and rolls.

Quantization after Recording

You can quantize your notes, no matter how you recorded them. They will be quantized according to the step size (i.e. Step Grid resolution) currently selected. If you turn the Step Grid off, no quantization will be applied. There are two strengths of quantization: full quantization and half quantization.

► To apply full quantization, press SHIFT + pad 5 (QUANTIZE).

→ All selected notes will now be shifted in time to the next position defined by the current Step Grid.

► If you want to apply only a bit of quantization to keep the groove you created by playing your notes live, press SHIFT + pad 6 (QUANTIZE 50%).

→   The result will be that the notes get shifted half way to the current Step Grid.

> You can repeatedly apply QUANTIZE 50% until you are happy; you could for example apply it until the notes are close enough to sound tight, but loose enough to maintain their basic "feel." If it is too quantized for you, just press SHIFT + pad 1 to undo the last change.

Quantization while Recording and Playing

You can also choose to have notes automatically quantized as you play them on the pads. This is called Input Quantization.

1.   Enter Grid mode by holding GRID.
2.   Select STEP by pressing Button 4.
3.   Using Knob 1 you can now choose when quantization should be performed:
  ▪ NONE: No Input Quantization will be performed.
  ▪ RECORD: Input Quantization only when recording. The quantization will be automatically applied to the Pattern on its next cycle according to the current value (indicated on the right display and by the lit pad).
  ▪ PLAY/REC: Input Quantization when playing and when recording. Your playing is quantized in real time.

6.2   Editing Patterns

This section describes the numerous features available on your controller for editing Patterns and their events/notes.

> Basically events and notes are the same thing: a trigger for a Sound with a particular velocity, pitch, length, etc. If we might rather use the word "note" when dealing with melodic instruments and "event" when dealing with drum kits, keep in mind that both words have the same meaning in the MASCHINE context.

6.2.1   Selecting, Quick Selecting, and Quick Editing Events/Notes

Using your controller, you can select particular events/notes from the Pattern currently selected and quickly edit them without affecting the other events/notes.

Quick Selecting Events and Notes

The quickest and easiest way to select events/notes is the following:

▶ Press SHIFT + SELECT + the desired pad to select all events for that Sound (if pads are in Group mode) or to select all notes at that pitch (if pads are in Keyboard mode).

The selected pad lights up. While holding SHIFT + SELECT you can press other unlit pads to add their events/notes to your selection, or press a lit pad to remove its events/notes from the selection (the pad lights off).

> For example this can be very useful to quickly quantize a few drum instruments in your kit without affecting the rest of the kit!

Using the Select Mode

In order to make more complex selections, your controller provides you with a useful tool: the Select mode.

To select events in your Pattern:

1. Hold SELECT to enter Select mode — or press SELECT + Button 1 to pin the Select mode.
2. Press Button 2 (EVENTS).

You can now select notes and events using various tools: using the pads, Buttons 5–8, Knobs 1–4, and the Page buttons (left of the displays). Depending on the current Pad mode (Group mode or Keyboard mode, see ↑6.1.2, Pad Modes), these tools will select events differently, as described in the following paragraphs.

Selecting Events (Pads in Group mode)

In Group mode (the default mode of the pads), each pad represents a specific Sound.
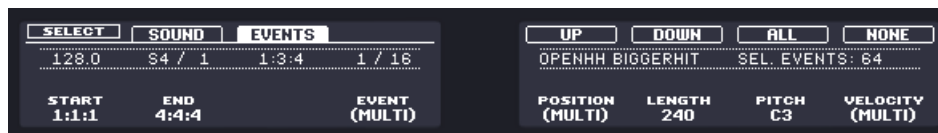
Selecting events on the controller with the pads in Group mode.

You have following selection tools at your disposal:

Selection Tool	Description
Pads	Press any pad to select all events for that particular Sound. The pad lights up to indicate that all events for that Sound are selected (if the Pattern doesn't have any events for that Sound, the pad stays off). You can press any additional pad to add its events to the selection. Press a lit pad to remove all events for that Sound from the selection (the pad lights off).
Button 7/8 (ALL/NONE)	Selects/deselects all events for all Sounds — in short the whole Pattern.
Button 5/6 (UP/DOWN)	Select the previous/next Sound in order to add or remove some of its events to/from the selection. The name of the selected Sound is indicated under the UP and DOWN labels on the right display.
Knob 1/2 (START/END)	Define the selection's start and end points in the timeline for the current Sound. All events within this time interval are included into the selection.
Page buttons	Shift the selection interval defined by the START and END values to the left/right. As the selection interval moves, some events are included into the selection while other are excluded from the selection.
Knob 4 (EVENT)	Selects individual events for the current Sound using the events' index number (their "order of appearance" in the Pattern). If the selection contains more than one event, the EVENT field indicates (MULTI).

By combining these tools you can precisely define the selection of events you want to edit.

Additionally, at any time the pads indicate you the selection status of their respective events:

Pad state	Description
Off	None of the events for this Sound are included in the current selection, if any.
Dimmed	Some of the events for this Sound are included in the current selection.
Fully lit	All events for this Sound are included in the current selection.

The total number of events included in the current selection is shown in the right display.

Selecting Notes (Pads in Keyboard mode)

In Keyboard mode, each pad represents a specific pitch of the selected Sound.
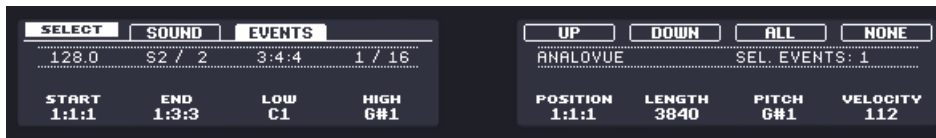
Selecting events on the controller with the pads in Keyboard mode.

You have following selection tools at your disposal:

Selection Tool	Description
Pads	Press any dimmed pad to select all notes at that particular pitch. The pad lights up to indicate that all notes at that pitch are selected (if the Pattern doesn't have any events at that pitch, the pad is off). You can press any additional pad to add other pitches to the selection. Press a lit pad to remove all notes at that pitch from the selection (the pad turns dimmed).
Button 7/8 (ALL/NONE)	Selects/deselects all notes for all pitches of the current Sound — in short all notes/events of that Sound.
Button 5/6 (UP/DOWN)	Select the previous/next Sound in order to add or remove some of its notes to/from the selection. The name of the selected Sound is indicated under the UP and DOWN labels on the right display.
Knob 1/2 (START/END)	Define the selection's start and end points in the timeline for the current Sound. All notes within this time interval and within the pitch interval defined by LOW and HIGH (see below) are included into the selection.
Page buttons	Shift the selection interval defined by the START and END values to the left/right on the timeline. As the selection interval moves, some notes are included into the selection while others are excluded from the selection.
Knob 3/4 (LOW/HIGH)	Define the selection's lowest and highest pitch for the current Sound. All notes within this pitch interval and within the time interval defined by START and END (see above) are included into the selection.

By combining these tools you can precisely define the selection of notes you want to edit.

Additionally, at any time the pads indicate you the selection status of their respective events:

Pad state	Description
Off	There is no note at that pitch for the current Sound in the Pattern.
Dimmed	There is at least one note at that pitch for the current Sound in the Pattern (but it is not necessarily within the current selection).
Fully lit	All notes at that pitch are included in the current selection.

The total number of notes/events included in the current selection is shown in the right display.

Quick Edits on Selected Events

The Select mode also provides you with a few essential editing functions controlled by Knobs 5–8. These functions will be applied to the current selection of events/notes.

Editing Tool	Description
Knob 5 (POSITION)	Shifts the selected events on the timeline by one-step-long increments (reachable locations thus depend on the current Step Grid resolution). If one event only is selected, its position is shown under POSITION. If several events are selected, the field shows (MULTI).
Knob 6 (LENGTH)	Adjusts the length of the selected events by one-step-long increments (possible resizings thus depend on the current Step Grid resolution). If the events have different lengths, the length differences are retained as long as no event becomes shorter than one step. If one event only is selected, its length is shown under LENGTH. If several events are selected, the field shows (MULTI).
Knob 7 (PITCH)	Transposes the selected events by semitones. If one event only is selected, its pitch is shown under PITCH. If several events are selected, the field shows (MULTI).
Knob 8 (VELOCITY)	Adjusts the velocity of the selected events. If the events have different velocities, the velocities differences are retained as long as the limits (0 and 127) are not reached. If one event only is selected, its velocity is shown under PITCH. If several events are selected, the field shows (MULTI).

> You can also use these editing functions to quickly create variations of your Patterns during a live performance!

The following sections will show you other editing functions available from your pads.

6.2.2 Deleting Events/Notes

Your controller provides you with several tool to delete notes/events from the current Pattern.

Quick Erasing Events or Notes

The quickest and easiest way to delete events/notes is the following:

▶ Press ERASE + SELECT + the desired pad to delete from the Pattern all events for that Sound (if pads are in Group mode) or all notes at that pitch for the selected Sound (if pads are in Keyboard mode).

> For more information on Pad modes, please refer to section ↑6.1.2, Pad Modes.

As soon as you hold ERASE + SELECT, some pads light up to indicate where there is something to delete:

- If your pads are in Group mode, the lit pads show you the Sounds for which the Pattern contains events.
- If your pads are in Keyboard mode, the lit pads show you the pitches (of the selected Sound) for which the Pattern contains events.

In other terms you don't need to press any unlit pad, since there are no events to delete there. While holding ERASE + SELECT you can press several pads to delete their events/notes.

> If you accidentally deleted events/notes, press SHIFT + pad 1 (if needed, repeatedly) to undo your last action(s)!

Deleting the Selected Events or Notes

Once you have selected particular events/notes (see ↑6.2.1, Selecting, Quick Selecting, and Quick Editing Events/Notes for more on this), you can delete them from the Pattern:

▶ Press SHIFT + pad 9 (CLEAR) to erase the selected events/notes. If nothing is selected, all event/notes in the Pattern will be affected.

Erasing Events or Notes while Playing

If the sequencer is currently playing, you can selectively erase events/notes at the play position:

▶ While the Pattern is playing, hold ERASE + the desired pad to progressively delete the events for that Sound (if pads are in Group mode) or the notes at that pitch for the selected Sound (if pads are in Keyboard mode) that are located at the current play position.

→ As long as you hold the pad, the corresponding events/notes are deleted as the play position moves on.

You can use this to selectively erase notes at a particular place in the Pattern.

> 💡 This might take some time getting used to, especially when the tempo is very fast, but you can always use undo/redo (SHIFT + pad 1, SHIFT + pad 2) to get back to where you were before.

6.2.3   Copy and Paste Events/Notes

You can also copy and paste selected events/notes:

1. To copy the selected events/notes, press SHIFT + pad 11 (COPY)
2. To paste them, press SHIFT + pad 12 (PASTE).

→ The events/notes will be pasted according to the Step Grid resolution, shifted one step to the right. If nothing is selected, all event/notes in the Pattern will be affected.

You can also copy events/notes from one Pattern to another: to do this, copy the selected events/notes, select the Pattern you want to copy them to and then paste them.

6.2.4   Nudge

Nudge allows you to shift selected events/notes by the Step Grid resolution.

▶ Press SHIFT + pad 7 (< NUDGE) to move the selected events/notes to the left, or SHIFT + pad 8 (NUDGE >) to move the selected events/notes to the right. If nothing is selected, all event/notes in the Pattern will be affected.

> Setting the Step Grid to "Off" and then using Nudge will shift events/notes in extremely small increments. This can be used to creatively add groove to Patterns — for example, shifting the snare drum so that it is ever so slightly late, or "in the pocket" (something a funk drummer does naturally!).

6.2.5   Transposing Events/Notes

You can transpose selected events/notes by semitones or octaves to match their pitch to your taste.

Transpose by Semitones

► To transpose the selected events/notes down in semitones press SHIFT + pad 13 (SEMI-TONE -); to transpose the selected events/notes up press SHIFT + pad 14 (SEMI-TONE +). If nothing is selected, all event/notes in the Pattern will be affected.

Transpose by Octaves

► To transpose the selected events/notes down in octaves press SHIFT + pad 15 (OCTAVE -); to transpose the selected events/notes up press SHIFT + pad 16 (OCTAVE +). If nothing is selected, all events/notes in the Pattern will be affected.

6.2.6   Compare/Split

This function allows you to compare a selected Pattern with its previous state, for example if you have added or edited events. This is an easy way to create variations or to compare two versions of a Pattern. If you edit a Pattern, its Pattern slot is marked with an asterisk in the software's Pattern Editor. This means that this Pattern change is temporarily saved in a buffer and can be compared with the original state. If you select another Pattern, the latest state of the Pattern will be stored and the Pattern slot will no longer show the asterisk.

► To switch between the edited Pattern and its original state, press SHIFT + pad 3 (COMPARE).

If you want to keep both the new version and the old version, do the following:

► To move the edited version to the next empty Pattern slot, press SHIFT + pad 4 (SPLIT).

For a comprehensive list of hardware shortcuts please view the Hardware Control Reference available from the Help menu.

7 Working with Patterns (Software)

The MASCHINE software further extends the Pattern editing facilities available on the controller.

7.1 The Pattern Editor

The Pattern Editor is the all-in-one Pattern editing tool of the MASCHINE software.

7.1.1 Pattern Editor Overview

This overview of the Pattern Editor introduces you its main parts and control elements.
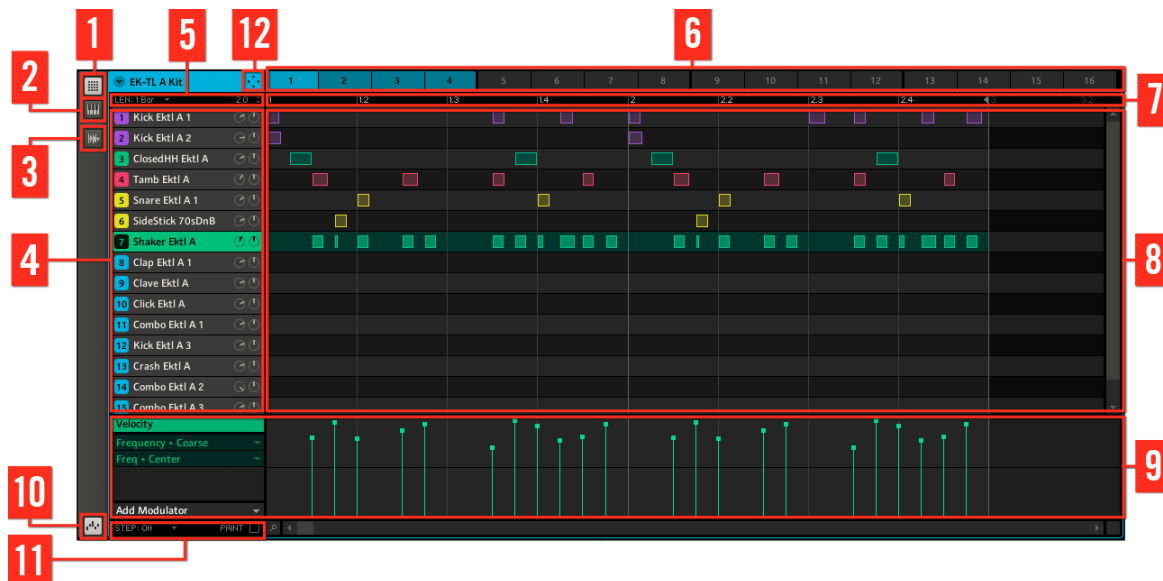
The Pattern Editor.

(**1**) **Group View button**: Click this button to switch to Group view.

(**2**) **Keyboard View button**: Click this button to switch to Keyboard view.

(**3**) **Sample Editor button**: Click this button to open/close the Sample Editor. The Sample Editor is covered in chapter ↑10.5, Triggering Scenes via MIDI.

(**4**) **Sound slots**: Sound slots 1–16 of the selected Group are listed here. Click a Sound slot to bring it into focus and display its Modules and Properties in the Control area. In Keyboard view (**2**), click a Sound slot to display its events in the Step Grid (**8**).

(**5**) **Pattern Length controls**: The Pattern Length controls allow you to choose the increment by which the length of the Pattern can be adjusted, and to adjust the length of the displayed Pattern according to that increment. See ↑7.1.4, Adjusting the Pattern Length for more info.

(**6**) **Pattern slots**: Each Group has 4 Pattern Banks of 16 Pattern slots each (see ↑7.1.2, Selecting Patterns and Pattern Banks). Each Pattern slot can hold one Pattern. A Pattern contains the events (also called "notes") that make up a groove or a musical phrase for the selected Group. Click a Pattern slot to display and edit its Pattern. Upon slot selection this Pattern is also referenced by a Clip for that Group in the selected Scene in the Arranger (see chapter ↑10, Creating a Song using Scenes). The Clip will take the name of the Pattern (if any) and the number of its Pattern slot. Create Clips from various Patterns to form an arrangement. See chapter ↑10, Creating a Song using Scenes for more info on this.

(**7**) **Pattern timeline**: The timeline at the top of the Step Grid (**8**) displays musical time units, including bars and beats. Click anywhere in the timeline to resize the currently selected Pattern.

(**8**) **Step Grid**: Displays the content of the selected Pattern slot (**6**). Here you can see your recorded events as rectangular blocks. In Group view (**1**) these represent the Sounds of your Group. In Keyboard view (**2**) they represent musical notes of the selected Sound. The events can be edited using your mouse; they can be dragged to a new position, elongated, shortened or deleted.

(**9**) **Automation Lane**: The Automation Lane provides a visual overview and editing tools for the automation of each parameter.

(**10**) **Automation Lane button**: The Automation Lane button allows you to show/hide the Automation Lane (**9**).

(**11**) **Edit controls**: Use the STEP menu to change the step size in which events can be moved/resized and click the PAINT check box to toggle the Paint mode on/off.

(**12**) **Dragger icon**: The Dragger icon allows you to conveniently drag and drop audio or MIDI from your Patterns to your desktop or host software. See ↑7.2.7, Rendering Audio from Patterns via Drag and Drop and ↑7.2.8, Rendering MIDI from Patterns via Drag and Drop for more info.

7.1.2   Selecting Patterns and Pattern Banks

To select a Pattern, click its slot above the Step Grid:
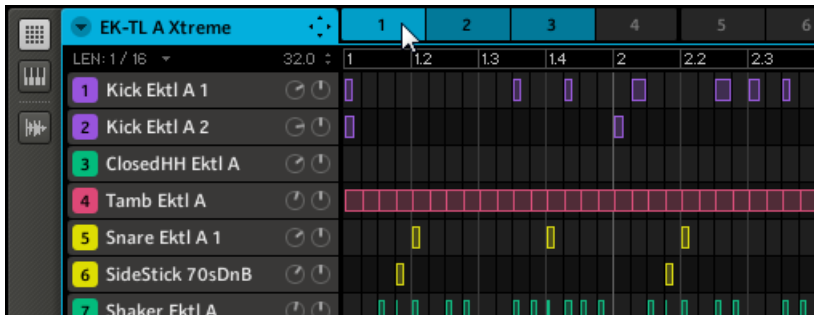
The Pattern Editor with Pattern slot 1 selected.

You can distinguish between different Pattern states by the brightness of the Pattern slots: the brightest Pattern slot represents the selected Pattern, dim Pattern slots (on the picture: slot 2 and 3) represent Pattern slots which have content but are not selected, the dark grey Pattern slots are empty (all others starting with slot 4). To switch to another Pattern Bank, click the little arrow left of the Group's name to open the Group menu, and select the desired Pattern Bank in the *Pattern Bank* submenu:
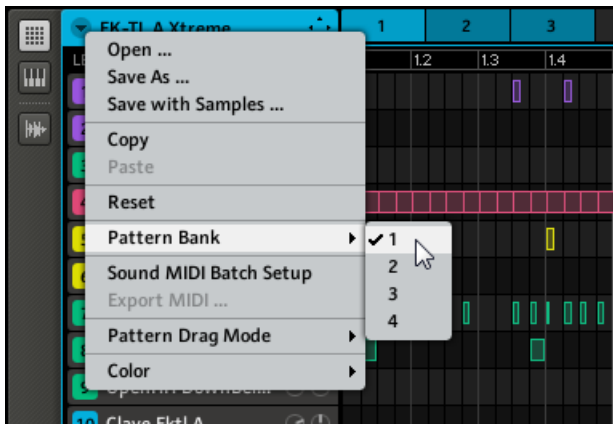
The Pattern Bank submenu.

7.1.3   Step Grid and Quantization

Step Grid

The Step Grid is a frame defining the timings at which your events/notes can be created, moved, etc. The Step Grid resolution corresponds to the step size, which directly affects the precision of all Pattern editing actions, including quantization.

► To select the step size that will apply to all your editing actions, click the STEP menu in the Edit controls (at the bottom left of the Pattern Editor) and choose the desired step size. Values range from *1 Bar* to *1/64T* (1/64th note triplet) and the Step Grid can also be turned off. The default value is 1/16th note.
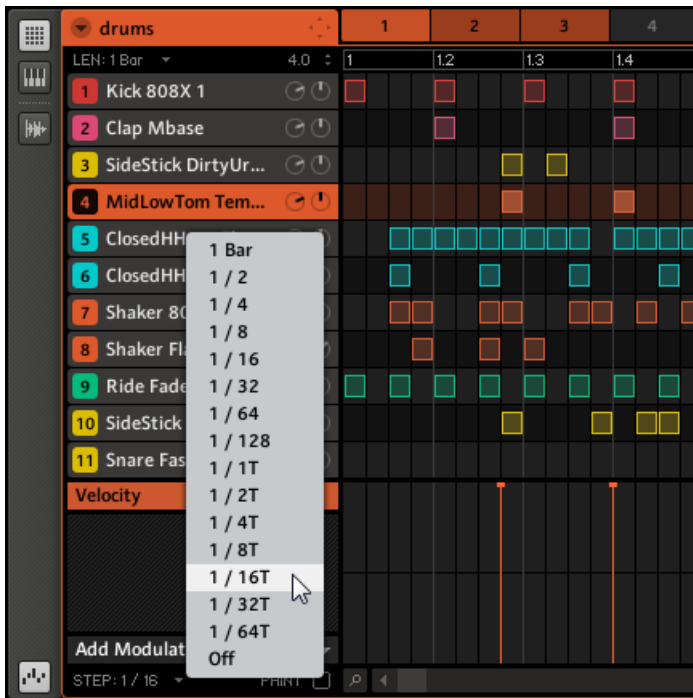
The STEP menu is where you adjust the Step Grid resolution.

Quantization

To apply quantization after recording some notes from a connected MIDI keyboard or after changing the Step Grid resolution to another value, right-click (on Mac OS X: [Ctrl]-click) the Pattern slot and choose *Quantize* or *Quantize 50%* in the slot's context menu. If some events/notes are selected, the quantization will only affect the selected ones; if nothing is selected, the whole Pattern content will be quantized.
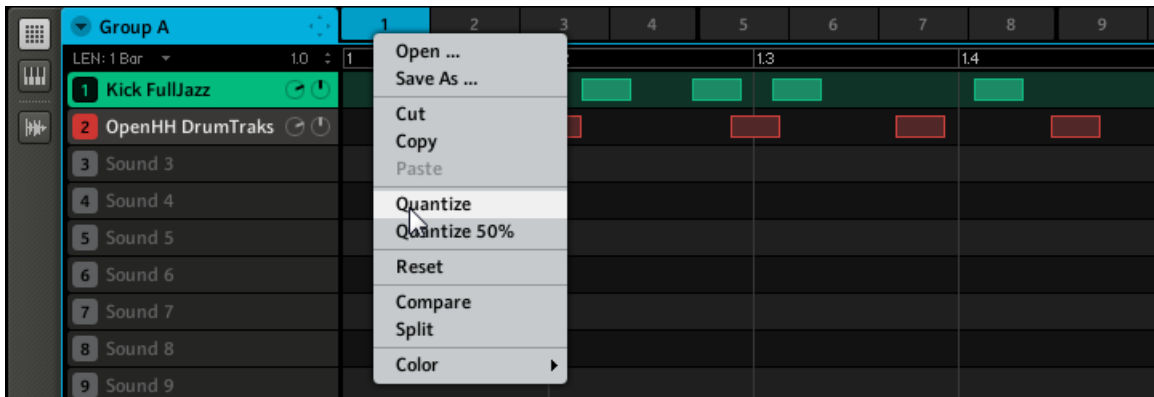
Quantizing the Pattern content.

Available quantization commands are *Quantize* (simply quantizes the notes strictly according to the Step Grid) and *Quantize 50%* (only moves the notes half way towards the selected Step Grid). If you record notes from a MIDI keyboard or using the pads, it often happens that you create double notes where you don't want them; MASCHINE automatically detects and removes these double notes while quantizing.

7.1.4 Adjusting the Pattern Length

Similarly to the Step Grid, another grid defines the available values for the Pattern Length — in other terms it determines the increments in which the Pattern Length can be resized (described below). This Pattern Length resolution can be adjusted, along with the Pattern Length itself, in the Pattern Length controls located above the Sound slots:
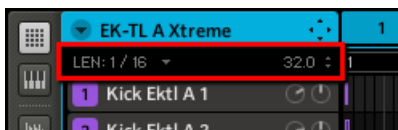
The Pattern Length controls.

1. To adjust the Pattern Length resolution (the increment size used when resizing Patterns), click the LEN menu in the left part of the Pattern Length controls:
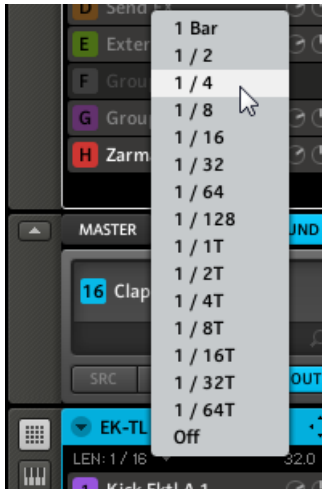
2. Now you can choose a resolution for adjusting the Pattern Length in a range from *1 Bar* to *1/64T* (1/64th note triplet). You can also turn it off, allowing you to freely set the Pattern Length.

You can now change the Pattern Length accordingly. You can do this in two ways:

►   To adjust the Pattern Length, click the number in the right part of the Pattern Length controls: drag it up to make the Pattern longer or drag it down to make it shorter.
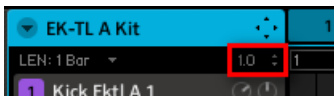
or

►   To adjust the Pattern Length, drag the grey arrow indicating the end of the Pattern in the timeline:

7.1.5 Mouse Actions in the Step Grid

Many creation and editing commands on events/notes are available directly via mouse actions in the Step Grid of the Pattern Editor. They will be applied according to the selected Step Grid resolution. In Group view, the Sound in focus will change according to the row you click in. Selected notes turn white.

The following is a list of available mouse actions in the Pattern Editor (works in both Group view and Keyboard view, see ↑7.1.8, Using the Keyboard View below):

Action	Function
Creating Notes	
Double-click in Step Grid's background	Create note
Selecting Notes	
Click unselected note	Select note
[Shift] + click unselected note	Add note to current selection
[Shift] + click selected note	Remove note from selection
Drag in Step Grid's background	Multiple selection (selection frame)
Click in Step Grid's background	Deselect all notes
Editing Selected Notes*	
Drag note horizontally	Move selected notes in time
Drag note vertically	Group view: Move selected notes to another Sound of the Group. Keyboard view: Transpose selected notes.
[Ctrl] (Mac OS X: [Alt]) + drag note	Duplicate selected notes
Drag right note border	Adjust length of selected notes
[Alt] (Mac OS X: [Cmd]) + drag note vertically	Adjust velocity of selected notes
Double-click note	Delete selected notes
Right-click (Mac OS X: [Ctrl]-click)	Delete selected notes

* When editing, mouse actions can be performed on any of the selected notes — they will apply to all selected notes.

Switching to Paint Mode

To switch the mouse behavior to Paint mode, check the PAINT checkbox at the bottom left of the Pattern Editor:
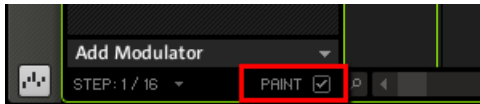

Click the PAINT checkbox to enable Paint mode.

With Paint mode enabled, the mouse works like a paint-brush tool. Clicking and holding the left mouse button down will set notes wherever you move the cursor. The other way round, left-clicking on a note and moving the mouse cursor with the button pressed will erase all notes under the Mouse cursor.

7.1.6 The Zoom Tool

Using the Zoom Tool, you can zoom in and out horizontally in the Pattern Editor on the time axis. Click the Zoom Tool (a little magnifying glass) at the bottom of the Pattern Editor and drag upwards to zoom in and downwards to zoom out.
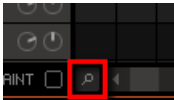

The Zoom Tool.

> You can also control the horizontal zoom factor from your controller via NAVIGATE + Knob 5.

When the Pattern Editor is in Keyboard view, an additional Zoom Tool is available above the vertical scroll bar on the right. This Zoom Tool allows you to zoom in and out vertically on the pitch axis.

7.1.7   Compare/Split

Compare and Split are useful to create variations of a Pattern and to compare them. Compare and Split are accessed by right-clicking (Mac OS X: [Ctrl]+click) the Pattern slot and choosing the appropriate entry from the context menu:
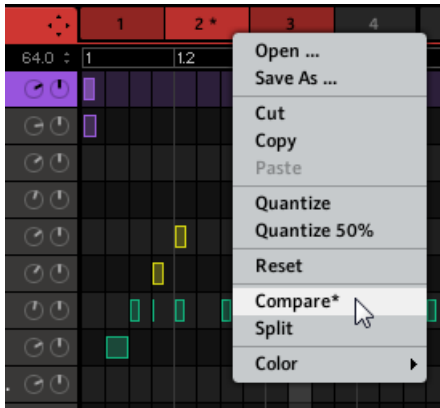
Compare and Split in the context menu.

Edit a given Pattern by adding some notes or automation to it, then select *Compare* from the drop-down menu to toggle between the original content and the new version you just created. If you like your new version you can copy it to the next empty Pattern by selecting *Split*.

> ⚠️ You can see that a Pattern has been edited by way of an asterisk symbol displayed in its Pattern slot (and next to the context menu's *Compare* entry). The new state will be confirmed as soon as you select another Pattern and the asterisk will vanish.

7.1.8   Using the Keyboard View

In order to select the Sound you want to record a melody with, click on its Sound slot. Now click the Keyboard View button: the Grid that showed all Sounds of the Group now only shows the Sound you selected. By adding notes, you can choose their pitch in semitones depending on where you put them, the lowest note being the lowest row in Keyboard view.

The Pattern Editor in Keyboard view.

The software's Keyboard view is always in sync with your controller's Keyboard mode: Switching between Group and Keyboard view in the software will automatically switch between Group mode and Keyboard mode on your controller (and inversely).

7.1.9   Recording and Editing Automation

If you take a closer look at the knobs on the Parameter pages in the Control area, you will notice they have an outer ring that changes its color to light grey as soon as you hover over it with the cursor.

You can record automation by moving that ring with a left click on it and then dragging it up and down during playback.

The outer ring of the knobs, used for automation.

To remove the entire automation for a parameter, simply right-click (on Mac OS X: [Ctrl]+click) its outer ring. Alternatively, you can also select individual automation points in the Automation Lane and right-click (on Mac OS X: [Ctrl]+click) them.

Which Parameters Are Automatable?

All the automatable parameters are found in Module or Properties (e.g., you cannot automate the Pattern Length or the Step Grid resolution). In order to be automatable, parameters of Modules and Properties have to meet following requirements:

- The parameter must be **controlled by a knob or a button** in the software — parameters controlled by selectors (e.g., for selecting an operating mode or a filter type) cannot be automated.

- The parameter must be at the **Group or Sound level** — parameters at the Master level cannot be automated.

> This second rule is also true for Modules: if a Module is loaded at the Master level, its parameters will not be automatable — but the same Module loaded at the Group or Sound level will have its parameters automatable.

Almost all parameters meeting these requirements (including the Macro Controls) are automatable, the few exceptions being:

- Sampler Module: Sync button (LFO section of page 5/6).

- Transient Master Module: Limit button.

- Limiter Module: Thrs knob (Threshold).

- Saturator Module: in Tube mode, the Bass Overld button (Drive section) and Bypass button (EQ section).

Using the Automation Lane

You can also select individual automation points in the **Automation Lane** for editing. To edit the existing automation, drag the automation points vertically in the Automation Lane. Right-click (on Mac OS X: [Ctrl]+click) an automation point to delete it. You can select several automation points in the Automation Lane together by clicking and dragging a rectangle around them; now you can edit them by dragging them up or down. You will see that they keep their relative lengths although they change their absolute values.

To create automation points, double-click in the Automation Lane — other points on this step will be replaced. Another way to create automation is to enter Paint mode (PAINT checkbox enabled at the bottom of the Pattern Editor) and draw it with the mouse via click-drag.
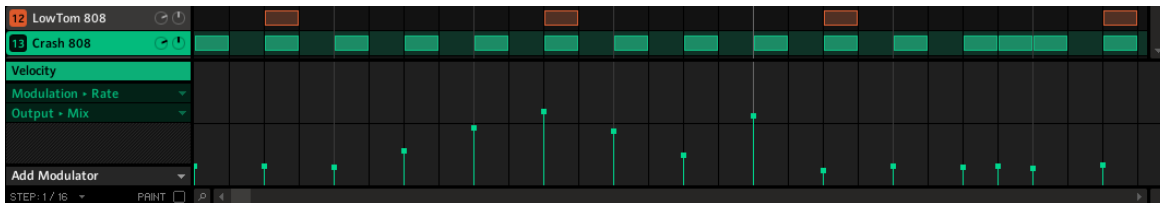
The Automation Lane with the Velocity parameter in focus (see on the left).

Adding a Modulator

On the left of the Automation Lane you will see the Add Modulator drop-down menu. Clicking it opens a list of automatable parameters at the selected level (Group or Sound):
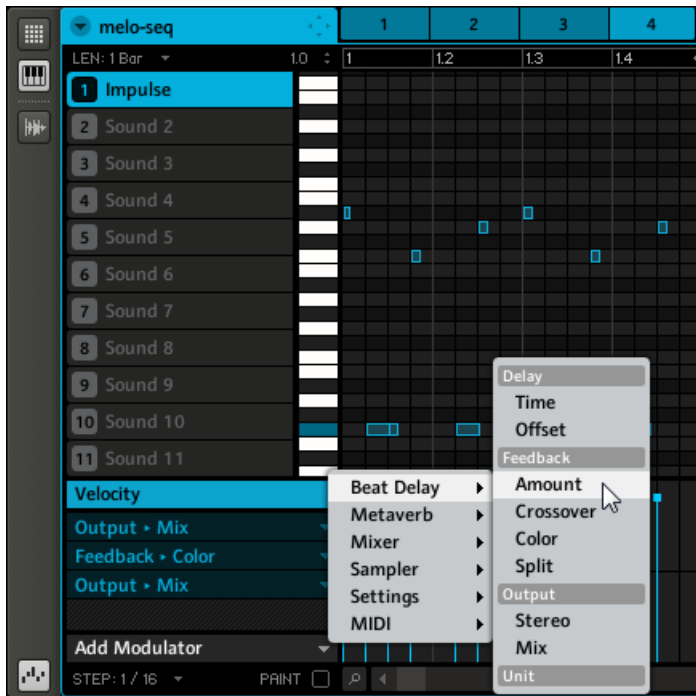
The Add Modulator drop-down menu showing a list of automatable parameters.

In the Automation Lane, you can now add automation points for the selected parameter by clicking in it, even if there is no note data present. The automation points will snap to the current Step Grid.

If you want to automate Group parameters, just click on the GROUP tab in the Control area to be presented with available parameters of the Group.

> When you load an effect into a Module slot it will automatically show in the list of available parameters.

7.1.10   Pad Link

When your pads are in Group mode, Pad Link can be used to trigger multiple Sounds when pressing only one pad. Each pad of a Group can be assigned to one of eight Pad Link groups. A pad may be set as a Master or Slave in the Pad Link group. By default, a pad is set to Master and will trigger other pads in the same Pad Link group. A pad set to Slave will only trigger its own Sound, even if it is part of a Pad Link group (but be triggered by pads set to Master within the same group). You may set more than one pad as Master or Slave within the same group.

Assigning a Pad to a Pad Link Group

To assign a pad to a Pad Link group:

1.   In the Arranger, click the Group slot (A–H) of a Group you want to use Pad Link in.

2. In the Pattern Editor, right-click ([Ctrl]+click on Mac OS X) the desired Sound and select the *Pad Link* submenu from the context menu.
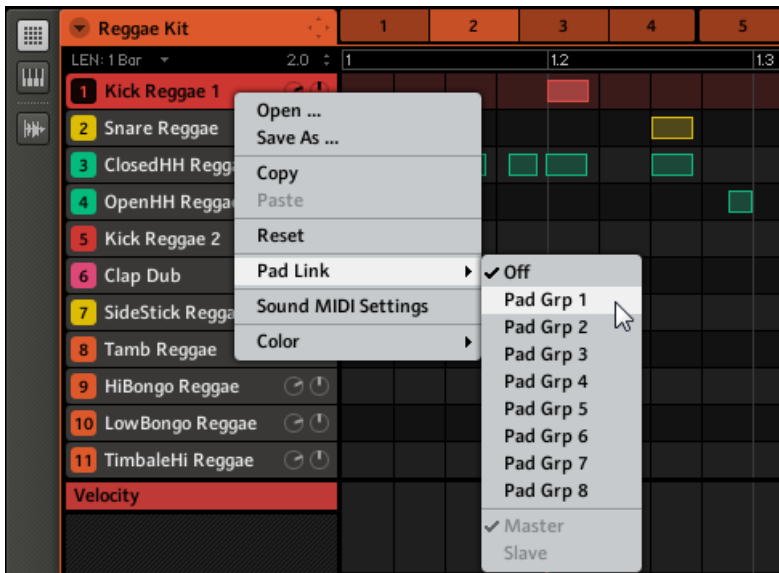
3. Select the desired Pad Link group from the list.
4. Repeat the process for each pad you want to include in the Pad Link group.

Releasing a Pad from a Pad Link Group

To release a pad from a Pad Link group:

1. Select the Sound to be removed from the Pad Link group, right-click and then select *Off* from the *Pad Link* submenu ([Ctrl]+click on Mac OS X).

2. Repeat the process to remove each pad from a Pad Link group.

Setting up a Pad as Master or Slave in a Pad Link Group

By default, a Sound is automatically set to Master when added to a Pad Link group. This means that hitting its pad will also trigger all other Sounds of that Pad Link group.

To set the status of a Sound from Master to Slave:

1. In the Arranger, select the Group containing the Sound you want to assign as Slave.
2. In the Pattern Editor, right-click ([Ctrl]-click on Mac OS X) the Sound slot containing the Sound you want to assign as *Slave*.

3. Click *Pad Link* in the menu. If there is a tick next to *Master*, then the Sound is set to Master. Click *Slave* to assign it as Slave.

→   From now on hitting this pad will only trigger its own Sound. On the other hand, hitting the pad of any Sound set as Master in that same Pad Link group will trigger this Sound as well.

## 7.2 Managing Patterns

This section describes the global editing functions available for Patterns and Pattern slots.

7.2.1 Naming Patterns

When creating a Pattern, you might want to name it. This can be done in the Arranger via any Clip referencing this Pattern (if the Pattern is currently displayed in the Pattern Editor, you will find one of its Clips in the selected Scene in the Arranger):

1.   Double-click any Clip referencing the Pattern you want to name.
     The Clip turns to a text field and waits for your input.
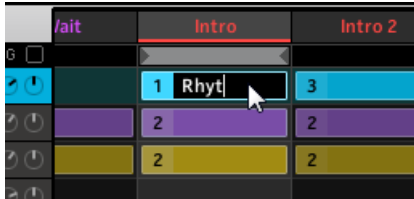
2.   Type a name and press [Enter] on your computer keyboard to confirm.

→   All Clips referencing this Pattern will mirror the new Pattern name — the Pattern slot it-
     self does not have enough space to display any name.

> ⚠ If you use MASCHINE as a plug-in, some hosts will utilize the [Enter] key, as it is mapped
>   to some function of the host software. In this case, click anywhere else in the MASCHINE
>   plug-in window to confirm the name you have entered.

Saving Patterns automatically renames them as well. Also, loading a saved Pattern from the
Browser will recall its name.

7.2.2   Changing the Pattern's Color

By default, Patterns take the color of the Group they belong to. But you can adapt the color of
each individual Pattern to your needs. To do this:

1. Right-click ([Ctrl]-click on Mac OS X) the desired Pattern slot and select *Color* from the context menu.
   A Color Palette appears.
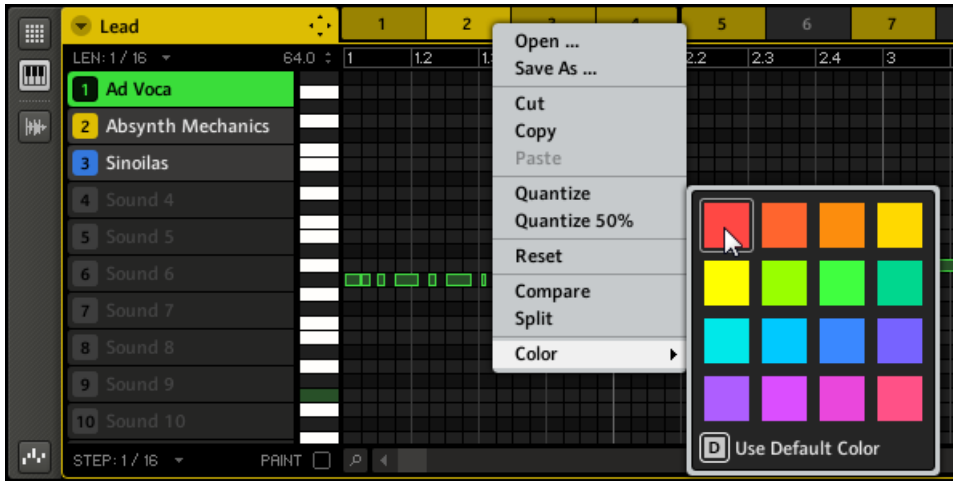
2. Select the desired color in the Palette. You can also choose to set the Pattern back to its default color by selecting *Use Default Color* at the bottom of the Color Palette.

→   The Pattern slot takes the new color you select. In the Arranger all Clips referencing this Pattern will also mirror the selected color. The color you select will also be mirrored by the pads on the controller when you are working in Pattern mode.

7.2.3 Saving Patterns

You can save a Pattern independently from its Group. This is useful if you want to try out a Pattern with different Sounds. To save a Pattern, right-click (on Mac OS X: [Ctrl]-click) the Pattern slot and select *Save As…* from the context menu:
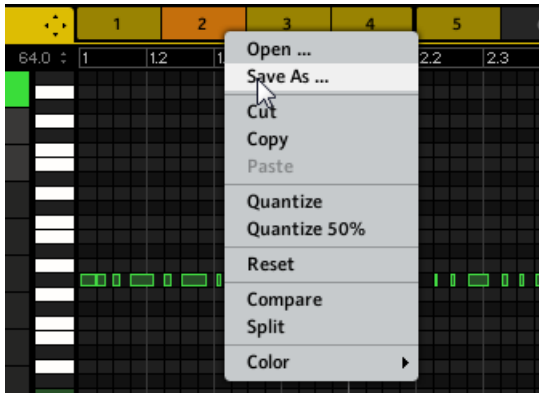
Saving a Pattern.

As with most saving operations, saving a Pattern is only available in the MASCHINE software (the only exception being the SHIFT + ALL shortcut for saving your Project).

7.2.4 Copy and Paste Patterns

To copy a Pattern, click the Step Grid's background to deselect any selected events/notes, right-click (on Mac OS X: [Ctrl]+click) the Pattern slot and choose *Copy* from the slot's context menu:
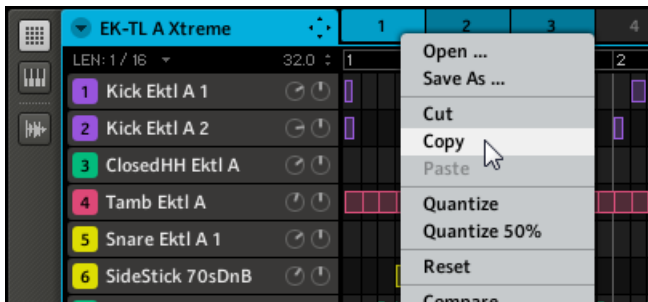
Copying a Pattern.

Now select an empty Pattern, right-click (on Mac OS X: [Ctrl]-click) its Pattern slot and choose *Paste* from the context menu to paste the Pattern.

> If events/notes are selected in the Pattern, the copy/paste operation will apply to these events/notes only!

7.2.5 Moving Pattern Slots

You can reorder Pattern slots via drag-and-drop in the software. It can be helpful to organize your Patterns more conveniently (e.g., to bring together variations of the same rhythm).

Moving Pattern slots is performed like moving Group and Sound slots:

1. Click and hold the Pattern slot.
2. While holding the mouse button, drag your mouse horizontally toward the desired location.
   As the mouse cursor moves, an insertion line appears at the potential places where you can drop the Pattern slot.

3. When the insertion line appears at the desired location, release the mouse button.

→ The Pattern slot takes its new place. Pattern slots located after the insertion line are shifted one slot to the right. Of course, all Clips referencing the moved Pattern slots are updated accordingly.

7.2.6 Resetting a Pattern Slot

To reset a Pattern, right-click (on Mac OS X: [Ctrl]+click) its Pattern slot and choose *Reset* from the slot's context menu:
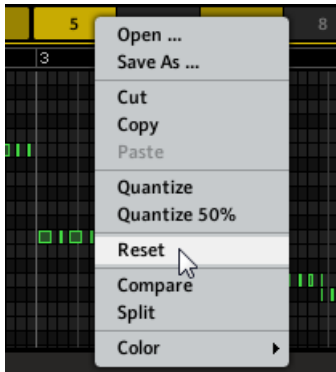
Resetting a Pattern.

This will erase all events/notes as well as any automation data and set all Pattern settings (length, name, color, etc.) back to their default values.

7.2.7   Rendering Audio from Patterns via Drag and Drop

The Audio drag-and-drop function allows you to export audio from selected Patterns onto your desktop or into your host software by simply dragging the respective Group onto the target location or application. This function is only available in the software. The audio will be exported as a WAV or AIFF file according to the Options in the Export Audio Settings.

To render Patterns to audio files:

1. In the Arranger, select the Group you want to export audio from, and in the Arranger time-line select the loop range you want to export (for more info on selecting a loop range, see ↑10.4.2, Selecting a Loop Range).
2. In the Pattern Editor, select the Sounds you want to exclude from the exported audio file by muting them. Alternatively, include Sounds by soloing them. See ↑4.6, Mute and Solo for more info on muting/soloing Sounds and Groups.
    From now on everything will happen in the **Group Header**, at the top left of the Pattern Editor:
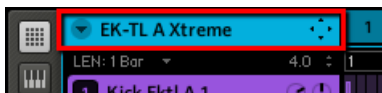
3. In the Group Header, click the arrow in front of the Group name to open the Group menu. In this Group menu choose *Audio* from the *Pattern Drag Mode* submenu:
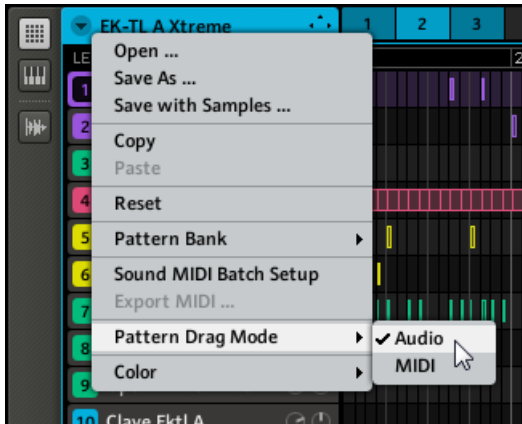
4. Now click and hold the **Dragger icon** at the right of the Group name in the Group Header. A pop-up window will inform you about the rendering status.
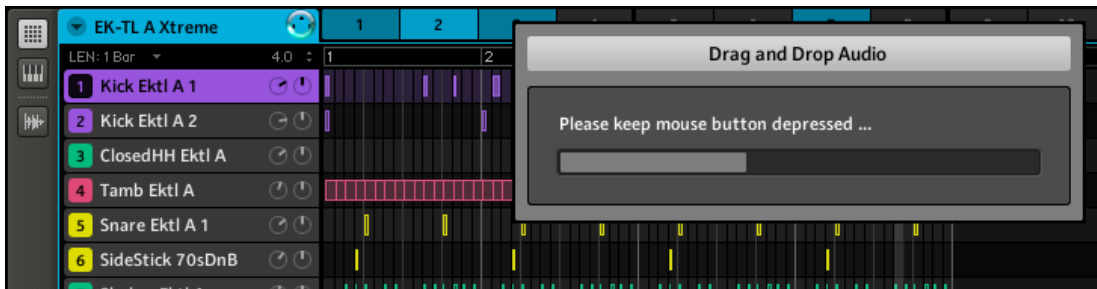
5. As soon as rendering is finished, the mouse cursor will display the name of the audio file you are about to drag:
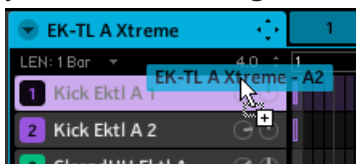
→ You can now drag the exported audio file to your desktop, into an audio channel of your host application, or even to another Sound in MASCHINE!

> If you want to export a single Pattern, select a Scene in which this Pattern is played and ensure that the loop range only contains that Scene.

7.2.8 Rendering MIDI from Patterns via Drag and Drop

The MIDI drag-and-drop function allows you to export MIDI files from selected Patterns onto your desktop or into your host software by simply dragging the respective Group onto the Desktop or into a MIDI channel of your host software. This is useful if you want to use or edit them in another application. The Patterns will be exported as MIDI files according to the Sound MIDI Batch Setup, so you need to set that up before (see chapter ↑4.9.1, Sound MIDI Batch Setup).

To render Patterns to MIDI files:

1. Select the Group and Pattern you want to export MIDI from.
    From now on everything will happen in the **Group Header**, at the top left of the Pattern Editor:
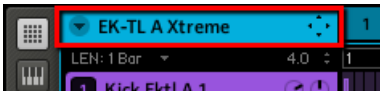

2. In the Group Header, click the arrow in front of the Group name to open the Group menu.
    In this Group menu choose *MIDI* from the *Pattern Drag Mode* submenu:
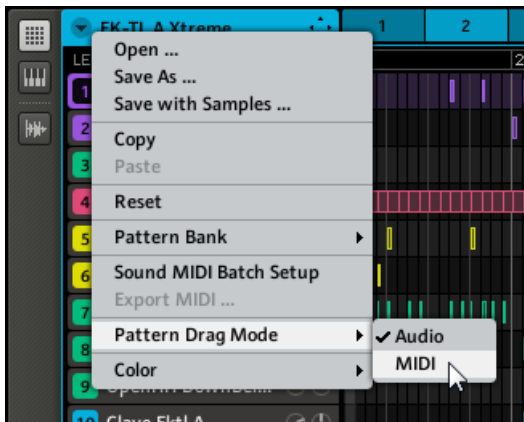
3. Now click and hold the **Dragger icon** at the right of the Group name in the Group Header. The Dragger will display the name of the MIDI file you are about to drag:
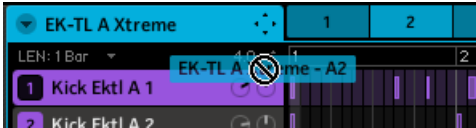
→   You can now drag the exported MIDI file to your desktop or into a MIDI channel of your host application.

> If you haven't configured the Sound MIDI Batch Setup yet, it will automatically open upon clicking the Dragger icon. Configure this Sound MIDI Batch Setup to fit your needs, click APPLY to confirm and close the pop-up window, and click the Dragger icon again! For more information on Sound MIDI Batch Setup see section ↑4.9.1, Sound MIDI Batch Setup.

Alternatively you can also use the *Export MIDI…* entry from the drop-down menu:
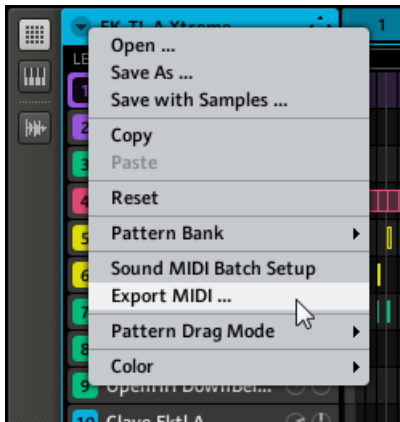
Choosing Export MIDI… from the Group menu.

Please note that, as with the MIDI drag-and-drop function, you need to configure the Sound MIDI Batch Setup first. Before that the *Export MIDI…* entry in the Group menu will be grayed out and inactive.

8 Effect Reference

MASCHINE provides a healthy selection of more than 20 different effects (FX) that can be quickly applied to Sounds, Groups and the Master, all as insert effects. By using MASCHINE's powerful routing system, it is also easy to setup send effects, build complex effect chains or apply an effect to an external source that is connected to your audio interface, such as an instrument, vocals or a turntable. We recommend you load a Project from the factory library to get to know how effects can be used.

This chapter will describe the effects and their parameters. Fore more information on how to use effects within your Project, please read chapter ↑8, Effect Reference.

Available Effects

Many types of effects are available and nearly all applications are represented. You will of course find traditional effects such as delays, reverbs and distortions, as well as engineering tools such as EQs, dynamics, and filters. But we have also provided you with a series of unique and unusual effects such as Reflex, Ice, and Resochord.

8.1 Dynamics

8.1.1 Compressor

This is a classic compression effect to control the dynamic information of an audio signal. You can use the Compressor to fatten up your drums or to control signals that have a very wide dynamic range. In MASCHINE Library's Project "Pounder" it is used heavily on pretty much all Groups, creating a very dense sound.
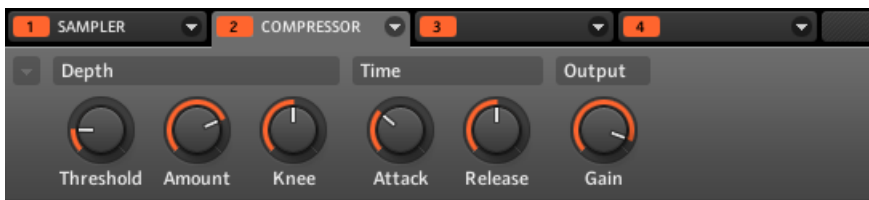
The Compressor in the software.

| Parameter	Description
Depth	
Threshold	This value determines the threshold at which the Compressor starts to work.
Amount	The amount of compression effect, sometimes called Ratio in typical applications.
Knee	This parameter defines how the Compressor starts to work: with a low setting, the transition into compression is soft, whereas with a high setting, the Compressor abruptly starts to work once the threshold is reached.
Time	
Attack	Use Attack to adjust how fast the Compressor reacts on the incoming signal: the more you dial it to the right, the slower it will react. Longer Attack times let more transients through.
Release	The time the compressor will take to stop compressing after the input signal falls below the threshold. With longer release times it takes more time to get back to normal.
Output	
Gain	Use Gain control to adjust the volume of the resulting signal; sometimes called "make-up gain" as it can be used to compensate for any reduction in the signal induced by the settings above.
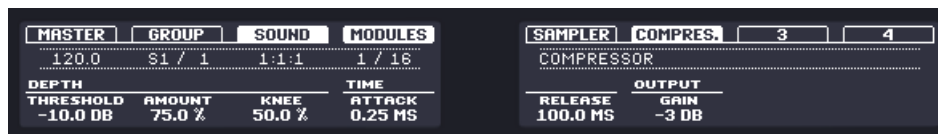
The Compressor on the controller.

8.1.2   Gate

The Gate cuts any part of the input signal which falls below the input threshold. This can be used to rhythmically chop the signal and make it stutter or sound staccato.

The Gate in the software.

Parameter	Description
Depth	
Threshold	This value determines the threshold at which the Gate starts to work. Higher values will let only the loudest parts of the signal through the Gate.
Time	
Attack	Use Attack to adjust how fast the Gate reacts to the incoming signal: the more you dial it to the right, the slower it will react, resulting in a softer transition between the gated and the not gated parts of the signal.
Hold	The Hold parameter is used to determine how long the gated signal is held; lower values will result in a more "choppy" effect.
Release	The time the Gate will take to release the input signal after it rises above the threshold.
Output	
Mix	Mix lets you adjust the amount of the effect in relation to the dry original audio signal.
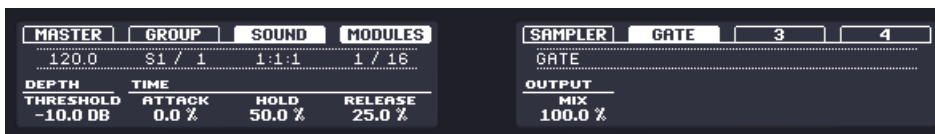
The Gate on the controller.

8.1.3 Transient Master

The Transient Master allows you to emphasize or attenuate the transients of your audio material by modifying the envelopes of every attack and sustain phase. Unlike other dynamic effects (compressors, limiters…), the Transient Master does not use the input signal level to decide when to come into effect (no threshold) but rather affects all parts of the signal. This retains the musical character of your sound while keeping operation simple and intuitive: Adjust the desired amount of accentuation for the attack and/or sustain phases and you're all set!
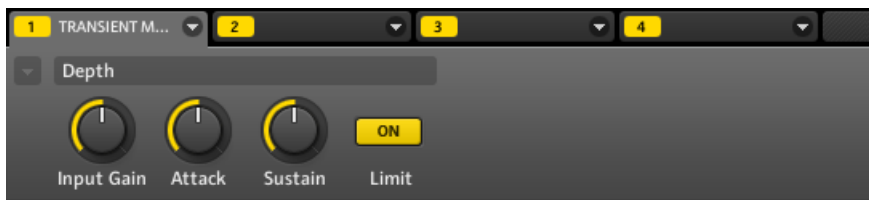
The Transient Master in the software.

Parameter	Description
Depth	
Input Gain	Adjusts the level of the input signal. This allows you to offset the overall level once you have set the desired effect, in order to counterbalance the gain or loss of level that might occur.
Attack	Sharpens/softens the attack phases in your signal. With the knob at the middle position, the attack phases are not altered. From this position, turning the Attack knob to the left softens the attack phases, while turning it to the right sharpens them.
Sustain	Prolongs/shortens the sustain phases in your signal. With the knob at the middle position, the sustain phases are not altered. From this position, turning the Sustain knob to the left shortens the sustain phases, while turning it to the right prolongs them.
Limit	Activates a hard limiter at the output, preventing the output signal from clipping. This can be useful when the Attack knob is set to a high value as this may produce amplified attack phases which become too loud.

8.1.4 Limiter

The Limiter does two things: firstly it ensures that the signal level stays below 0 dB, thus preventing digital clipping. But it can also increase the overall perceived volume by reducing the threshold. It is recommended to place the Limiter in a Master Module slot. However, please note that the Limiter introduces a small latency.

The Limiter in the software.

Parameter	Description
Depth	
Thrs	This value determines the threshold where the Limiter kicks in. If you use it to prevent your signal from clipping, leave it at 0 dB; if you want to make your signal louder, dial the Knob to the left.
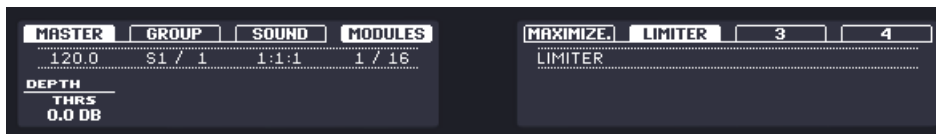
The Limiter on the controller.

8.1.5 Maximizer

The Maximizer reduces the dynamics within the sound, making the overall sound louder. It is comparable to the Limiter, but it specifically designed for increasing the perceived volume. For example, load the Project "Be Mine" from the MASCHINE Library: the Maximizer is used on the Master effect here.
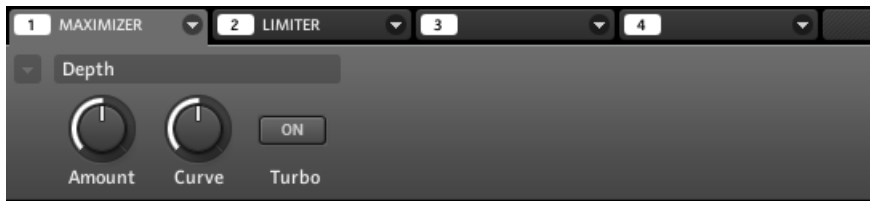
The Maximizer in the software.

Parameter	Description
Depth	
Amount	This parameter is used to adjust the amount of the Maximizer effect.
Curve	Controls the compression knee; higher values tend to result in faster and more aggressive gain control.
Turbo	Turbo intensifies the effect the Maximizer has on the signal by causing the maximizing algorithm to be applied twice.
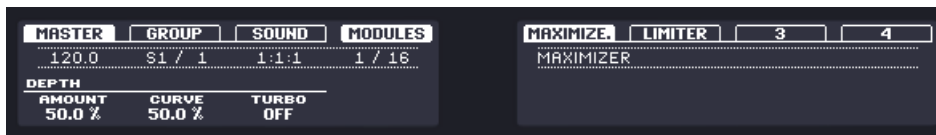
The Maximizer on the controller.

8.2 Filtering Effects

8.2.1 EQ

Use the EQ to boost or cut selective frequencies of the audio signal. The EQ is mainly a tool to tailor your audio signal to taste by cutting out selected frequencies or boosting others, but can also be used quite efficiently as a DJ-style cut-and-boost effect. Please note that the EQ parameters are spread over two pages. The second page of parameters can be accessed using the small arrow to the left of the first parameter in the Control area.

Page 1

Page 1 of the EQ in the software.

Page 1 – Parameter	Description
Low Band	
Freq	Frequency selector for the low frequency band. Ranges from 20 Hz to 8 kHz.
Gain	Gain control for the low frequency band.
Mid Band 1	
Freq	Frequency selector for the first mid-frequency band. Ranges from 40 Hz to 16 kHz.
Gain	Gain control for the first mid-frequency band.
Mid Band 2	
Freq	Frequency selector for the second mid-frequency band. Ranges from 40 Hz to 16 kHz.
Gain	Gain control for the second mid-frequency band.
High Band	
Freq	Frequency selector for the high frequency band. Ranges from 50 Hz to 20 kHz.
Gain	Gain control for the high frequency band.
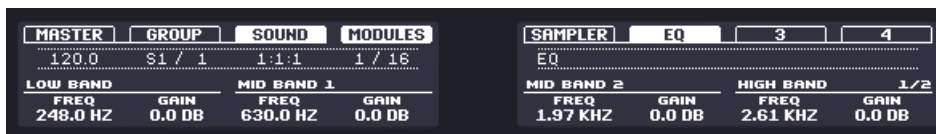
Page 1 of the EQ on the controller.

Page 2

Page 2 of the EQ in the software.

Page 2 – Parameter	Description
Mid Band 1	
Width	Bandwidth control for the first mid-frequency band.
Mid Band 2	
Width	Bandwidth control for the second mid-frequency band.
Output	
Gain	Gain control for the EQ altogether.
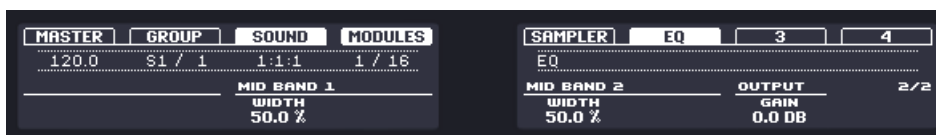
Page 2 of the EQ on the controller.

8.2.2   Filter

Filter with selectable characteristics that can be modulated via LFO or envelope. There are many applications for a filter: it can be used to emulate a synthesizer more realistically or to filter out selected frequencies and create filter-sweeps.

The Filter in the software.

Parameter	Description
Type	
Mode	Here you can select between four different filter modes: *LP* (low-pass), *BP* (band-pass), *HP* (high-pass), and *Notch*. Depending on the mode selected, the following parameters vary as indicated.
Freq	
Cut	Cut stands for cutoff frequency and is available with all filter modes.
Res	Res controls the amount of resonance, i.e. the amount of amplification near the cutoff frequency. It is not available with filter mode *Notch*.
Modulation	
Amount	This defines how much the Filter gets modulated by the modulation source.
Source	Here you can select between three different modulation sources: *LFO*, *LFO Sync*, and *Envelope*. Depending on your choice for the modulation source, the following parameters appear to the right:
Source: LFO	
Speed	Defines the speed of the modulation in hertz ranging from 0.03 Hz up to 16 Hz.
Shape	Change the shape of the LFO waveform here.
Source: LFO Sync	
Speed	Defines the speed of the modulation in note values from 16/1 (one cycle every 16 bars) up to 1/32 note.
Shape	Change the shape of the LFO waveform here.
Phase	Adjusts the start phase of the LFO.

Parameter	Description
Source: Envelope	
Decay	With Decay you adjust how fast the envelope fades out.
Smooth	Smooths the shape of the envelope.
Shape	Change the shape of the envelope here.

The Filter on the controller.

8.3 Modulation Effects

8.3.1 Chorus

The Chorus is useful to "thicken" signals and enhance or add stereo content. It is most effective on melodic sounds, but can also be used on hi-hats to make them more vivid or on a voice sample to create a doubling effect (thereby making it sound as if there were several voices). It works by splitting the audio signal up into two versions and slightly detuning one of them.

The Chorus in the software

Parameter	Description
Modulation	
Rate	The Rate knob defines how fast the phase (and thus the perceived pitch) of the detuned signal is being modulated.

Parameter	Description
Amount	The amount of the Chorus effect.
Output	
Mix	Mix lets you adjust the amount of the effect in relation to the dry original audio signal.
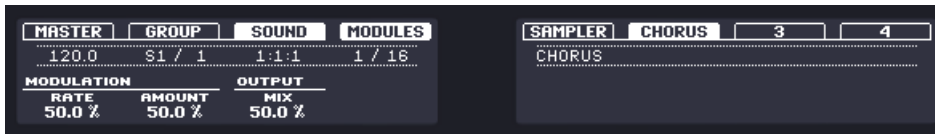
The Chorus on the controller.

8.3.2 Flanger

Classic flanger effect with LFO and envelope modulation. The Flanger sounds a bit like the Chorus, but the difference between them is that the Flanger modulates the signal faster, it is equipped with a feedback mechanism, and can be synchronized to the tempo of the Project.

The Flanger in the software.

Parameter	Description
Freq	
Center	This defines the center frequency of the Flanger.
Modulation	
Amount	This defines how much the Flanger gets modulated by the modulation source.

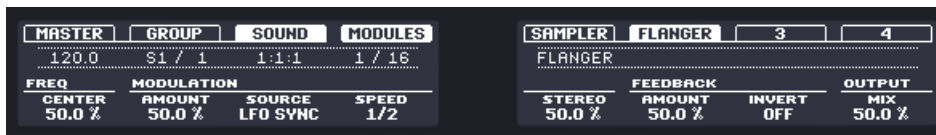| Parameter	Description
Source	Here you can select the modulation source of the Flanger: available options are *LFO*, *LFO Sync*, and *Envelope.* Depending on your selection, the parameter to the right will change.
Speed (LFO)	Defines the speed of the LFO in a range from 0.03 Hz up to 8 Hz.
Speed (LFO Sync)	Defines the speed of the LFO in note values from 16/1 (one cycle every 16 bars) up to 1/16 note.
Shape (Envelope)	Change the shape of the envelope here.
Stereo	This parameter widens the stereo field of the effect.
Feedback	
Amount	Adjusts the amount of output signal fed back into the input.
Invert	Inverts the Flanger.
Output	
Mix	Mix lets you adjust the amount of the effect in relation to the dry original audio signal.

The Flanger on the controller.

8.3.3 FM

FM modulates the frequency of the audio signal based on FM synthesis. High frequency settings are useful for adding a subtle "gritty" texture to the input signal.

FM in the software.

Parameter	Description
Freq	
Rate	This is for adjusting the speed of the FM modulation.
Split	The Split control determines the extent to which the FM effect is applied to high frequencies via a crossover. Turn to the right to affect higher frequencies. It can be useful to eliminate noise artifacts caused by FM of very high signals.
	With high Split settings, the effect becomes more "gritty" and crackling.
Depth	
Contour	Contour determines the extent to which the input volume affects the intensity of the effect.
Amount	Determines the amount of the FM effect.

The FM on the controller.

8.3.4 Freq Shifter

The Freq Shifter shifts selected frequencies of the audio signal by a user-specified amount. With high frequencies it sounds like a pitch shifter; with low frequencies it sounds like a special chorus.

The Freq Shifter in the software.

Parameter	Description
Frequency	
Coarse	This is used to define the basic frequency of the Freq Shifter.
Fine	Fine-tune the frequency here.
Feedback	
Amount	Adjusts the amount of output signal fed back into the input. Increasing this parameter will increase the intensity of the effect.
Stereo	This parameter widens the stereo field of the effect.
Output	
Invert	Inverts the settings of the Freq Shifter.
Mix	Mix lets you adjust the amount of the effect in relation to the dry original audio signal.
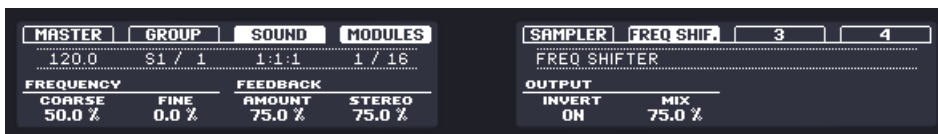
The Freq Shifter on the controller.

8.3.5 Phaser

Classic phaser with LFO and envelope modulation.

The Phaser in the software.

Parameter	Description
Freq	
Center	This defines the center frequency of the Phaser.
Modulation	
Amount	This defines how much the Phaser gets modulated by the modulation source.
Source	Here you can select the modulation source of the Phaser: available options are *LFO*, *LFO Sync*, and *Envelope*. Depending on your selection, the parameter to the right will change.
Speed (LFO)	Defines the speed of the LFO in a range from 0.03 Hz up to 8 Hz.
Speed (LFO Sync)	Defines the speed of the LFO in note values from 16/1 (one cycle every 16 bars) up to 1/16 note.
Shape (Envelope)	Change the shape of the envelope here.
Stereo	This parameter widens the stereo field of the effect.
Feedback	
Amount	Adjusts the amount of output signal fed back into the input.
8Pole	Activating this causes the Phaser to use the 8Pole mode, resulting in a more intense phasing effect.
Output	
Mix	Mix lets you adjust the amount of the effect in relation to the dry original audio signal.

The Phaser on the controller.

8.4 Spatial and Reverb Effects

8.4.1 Ice

This is a special reverb for getting cold and metallic sound. Ice includes a bank of self-oscillating filters for interesting and colorful effects. In the Project "Greenhouse" from the MASCHINE Library, you can hear how it creates deep soundscapes in the Group named "FX."

The Ice reverb in the software.

Parameter	Description
Room	
Color	With lower settings, the general sound is a bit more muffled. The higher the Color value, the brighter it sounds.
Ice	The "ICE"-factor: higher values sound more metallic.
Size	Adjust the size of the virtual room here.
Output	
Mix	Mix lets you adjust the amount of the effect in relation to the dry original audio signal.

The Ice reverb on the controller.

8.4.2 Metaverb

Like the Reverb, the Metaverb adds spatial room information. However, in contrast to the Reverb it has a much more "synthetic" sound, which is particularly suited for melodic content.

The Metaverb in the software.

Parameter	Description
Room	
Size	Adjust the size of the virtual room here.
Eq	
Low	Low band EQ to cut or boost bass frequencies.
High	High band EQ to cut or boost high frequencies.
Position	
Pan	This pans the dry signal. This is useful because the dry signal can not be panned after the effect without panning the reverb itself, which is unnatural.
Output	
Mix	Mix lets you adjust the amount of the effect in relation to the dry original audio signal.

The Metaverb on the controller.

8.4.3 Reflex

This is a special resonating reverb. At moderate settings the Reflex can be useful to emulate small, "tight" rooms. At more extreme settings, it can produce interesting artificial, metallic textures.

> 💡 Automating the Color parameter usually yields very pleasing results.

The Reflex reverb in the software.

Parameter	Description
Room	
Color	At lower settings, the general sound is a bit more muffled; the higher the settings, the brighter it sounds.
Smooth	With this parameter, you can soften the metallic character of Reflex.
Size	Adjust the size of the virtual room here.
Output	
Mix	Mix lets you adjust the amount of the effect in relation to the dry original audio signal.

The Reflex reverb on the controller.

8.4.4 Reverb

This reverb is best for most common applications. The Reverb adds room information to the signal, making it sound more spacious and natural. It is particularly suited to drum sounds, but also useful to add a more "natural" sound for all sorts of other signals.

The Reverb in the software.

Parameter	Description
Room	
Room	This allows you to choose one of four basic characteristics of the Reverb: *General*, *Bright*, *Guitar*, and *Shatter*.
Size	Adjust the size of the virtual room here.
Eq	
Low	Low band EQ to cut or boost bass frequencies.
High	High band EQ to cut or boost high frequencies.
Position	
Pan	This pans the dry signal. This is useful because the dry signal can not be panned after the effect without panning the reverb itself, which is unnatural.
Stereo	This parameter widens the stereo field of the effect.

| Parameter	Description
Output	
Freeze	Enabling Freeze both mutes the dry signal and traps the current state of the Reverb output in a temporary buffer to make it last much longer. This is a powerful tool for playing live: By simultaneously tweaking the Mix knob nearby, you can create striking breaks! Setting the EQ's Low and High controls to generous values will further increase the effect.
Mix	Mix lets you adjust the amount of the effect in relation to the dry original audio signal.
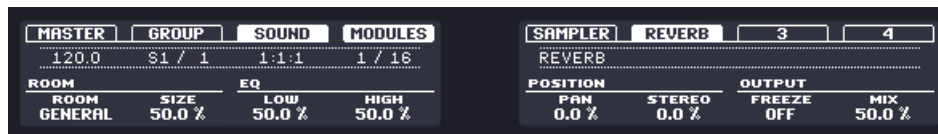
The Reverb on the controller.

8.5 Delays

8.5.1 Beat Delay

The Beat Delay is specialized for creating delays that are synced to the tempo. If you wonder how this sounds, load up the Project "Deeper" from the MASCHINE Library: the Beat Delay is used in many Groups here and offers a lot of rhythmic sonic possibilities. Please note the Beat Delay parameters are spread over two pages. The second page of parameters can be accessed using the small arrow to the left of the first parameter in the Control area.

Page 1

Page 1 of the Beat Delay in the software.

Page 1 – Parameter	Description
Delay	
Time	The Time parameter defines the delay length in note values. The available values depend on the unit defined by the Unit parameter on page 2 (see below). They range from half a unit to 16 units.
Offset	This parameter is used to shift the start of the delay in relation to the tempo.
Feedback	
Amount	Adjusts the amount of output signal fed back into the input. Higher values produce more copies of the signal and longer decays.
Crossover	Allows for panning the feedback signal rhythmically in the stereo field.
Color	Defines the basic frequency of the feedback circuit: lower values result in a deeper sound, whereas higher values brighten the sound.
Split	Controls the difference in frequency between left and right channel. At full left, this control is disabled.
Output	
Stereo	This parameter widens the stereo field of the effect. Values go from -100.0 % to 100 % — negative values inverse the stereo field of the effect.
Mix	Mix lets you adjust the amount of the effect in relation to the dry original audio signal.
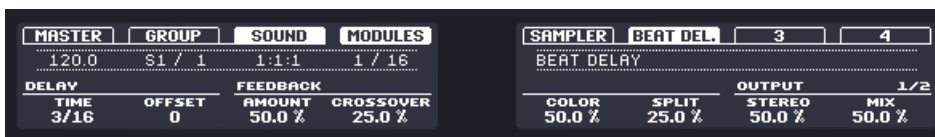
Page 1 of the Beat Delay on the controller.

Page 2

Page 2 of the Beat Delay in the software.

Page 2 – Parameter	Description
Unit	
Unit	Defines the unit used by the Time and Offset parameters on page 1.
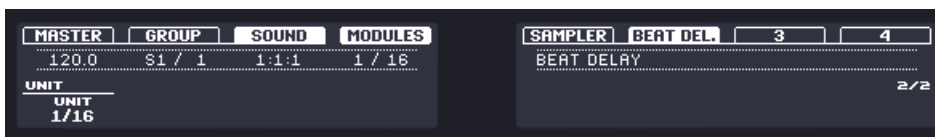
Page 2 of the Beat Delay on the controller.

8.5.2 Grain Delay

By chopping the input into small "grains" and rearranging them as a cloud, the Grain Delay is useful for creating ambient textures. Increase Size, Space and Density to quickly transform any sound into an evolving ambient texture. As a unique experimental effect, it is best experienced firsthand. Please note the Grain Delay parameters are spread over two pages. The second page of parameters can be accessed using the small arrow to the left of the first parameter in the Control area.
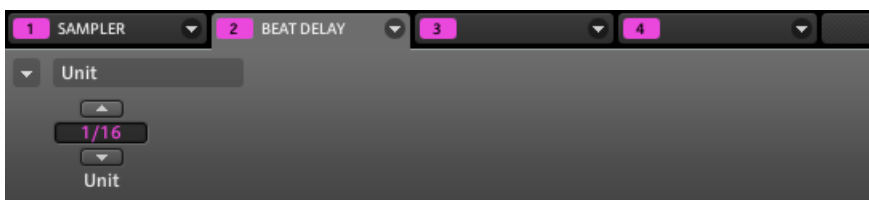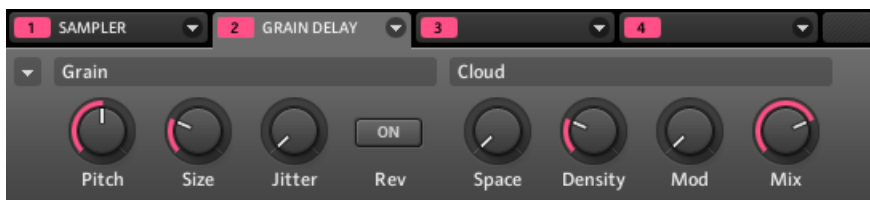
Page 1

Page 1 of the Grain Delay in the software.

| Page 1 – Parameter	Description
Grain	
Pitch	Determines the pitch of the grains: low values result in a deep, slowly repeating grain, high values speed up the grain, making it sound faster and higher.
Size	Defines the length of the grains.
Jitter	Introduces artifacts into the grains.
Rev	This button produces a reverse playback of the grain.
Cloud	
Space	Determines the spacing between the grain clouds: the higher the value, the bigger the space between the clouds.
Density	Creates a more "dense" cloud: higher values create feedback-like effects.
Mod	The amount of modulation introduced to the grain cloud.
Mix	Mix lets you adjust the amount of the effect in relation to the dry original audio signal.
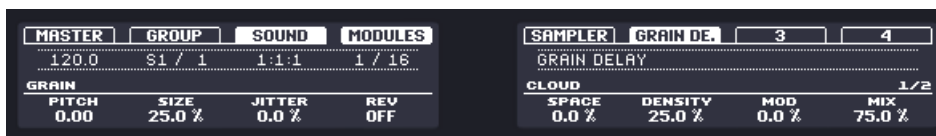
Page 1 of the Grain Delay on the controller.
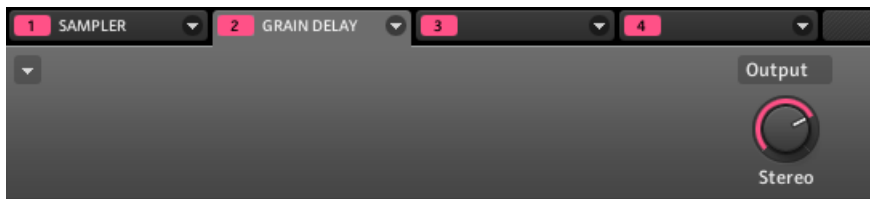
Page 2

Page 2 of the Grain Delay in the software.

Page 2 – Parameter	Description
Output	
Stereo	This parameter widens the stereo field of the effect. Values go from 0 % (no stereo) to 100 % (full stereo).
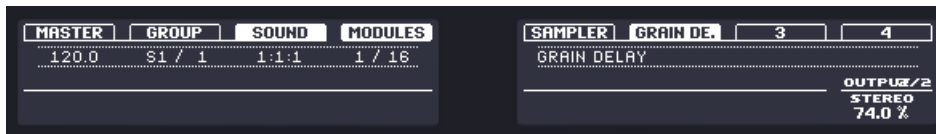
Page 2 of the Grain Delay on the controller.

8.5.3 Grain Stretch

The Grain Stretch effect uses granular synthesis to manipulate the speed and pitch of the incoming signal.

The Grain Stretch in the software.

Parameter	Description
Master	
On	Enables the effect. Every time this button is switched on, the Grain Stretch effect buffers incoming audio for 32 x 1/16th step.
Time	
Stretch	Defines the time-stretch amount. Set to *50.0 %* for half speed.
Loop	Sets a loop length, in 1/16th steps.
Pitch	
Pitch	Adjusts the pitch of the grains.
Link	When on, grain size is corrected by the pitch.
Size	Adjusts the size of the grains.
Out	
Mix	Mix lets you adjust the amount of the effect in relation to the dry original audio signal.
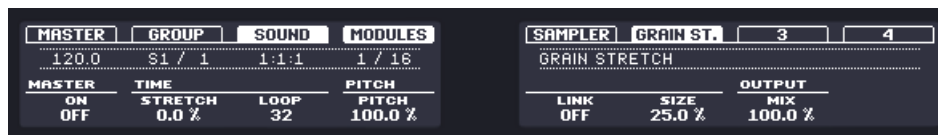
The Grain Stretch on the controller.

8.5.4   Resochord

The Resochord is a bank of 6 comb filters, each of which is individually tuned according to the selected chord. The results are most effective with non-melodic content (like drums) as the Resochord will print its own harmonic content on to any input material.

The Resochord in the software.

| Parameter	Description
Pitch	
Mode	Here you can select between the two modes of the Resochord: *Chord* and *String*. In Chord mode, the 6 combs are tuned according to various chords. In String mode, the 6 combs are centered around one frequency and can be spread for an intense chorus-like effect. Depending on your selection the other parameters in the Pitch area will change.
Spread (String mode)	Allows you to define how big the difference in tuning is between combs.
Style (Chord mode)	You can select between different chord-styles such as minor or major.
Chord (Chord mode)	Here you can choose from different chords to be applied to your audio signal.
Tune	It allows you to transpose the Resochord in semitones.
Colour	
Brightness	This is to determine the basic sound characteristic of the Resochord: higher values will brighten the sound by adding high frequencies.
Feedback	Adjusts the amount of output signal fed back into the input.
Decay	With Decay you adjust how fast the Resochord fades out.
Mix	Mix lets you adjust the amount of the effect in relation to the dry original audio signal.
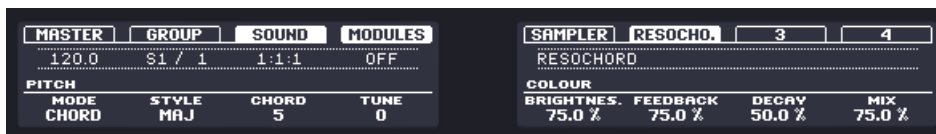
The Resochord on the controller.

8.6 Distortion Effects

8.6.1 Distortion

Combining overdrive, feedback and modulation, the Distortion produces a heavy distortion/fuzz effect, comparable to distortion stomp-boxes for guitars. This effect is special because of the feedback it creates.

The Distortion in the software.

Parameter	Description
Drive	
Amount	Determines the basic amount of distortion.
Color	At lower settings, the general sound is a bit more muffled; the higher the settings, the brighter it sounds.
Feedback	
Amount	Adjust the amount of output signal fed back into the input.
Tone	General tonal characteristic of the feedback signal.
Tone Mod	Modulation introduced in the feedback signal.
Output	
Gate	The Gate button is used to cancel out feedback loops introduced by high Amount settings.

Parameter	Description
Release	This parameter determines how fast the distorted sound dies down when the Gate is enabled.
Mix	Mix lets you adjust the amount of the effect in relation to the dry original audio signal.
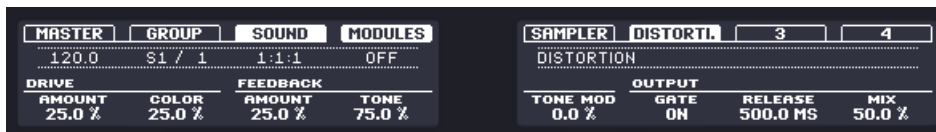
The Distortion on the controller.

8.6.2 Lofi

The Lofi effect reduces the bit depth (or bit resolution) and Sample rate of the audio signal for an interesting "vintage" effect at subtle settings, and heavy digital distortion at extreme settings.

The Lofi in the software.

Parameter	Description
Resample	
SR	SR stands for Sample Rate and ranges from CD-quality (44.1 kHz) to 0.1 kHz which results in a hissy crackle.
Smooth	Smooth reduces the aliasing introduced by the Lofi effect.
Stereo	This parameter widens the stereo field of the effect.
Bitcrush	
Bits	Introduces a distortion based on bit reduction.

Parameter	Description
Output	
Mix	Mix lets you adjust the amount of the effect in relation to the dry original audio signal.
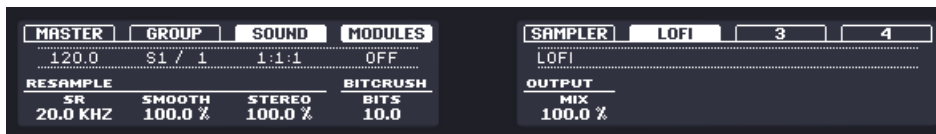
The Lofi on the controller.

8.6.3   Saturator

The Saturator is a flexible tool allowing you to apply various types of saturations to your signal. The Saturator offers three modes: Classic (legacy mode), Tape, and Tube. You can select the desired mode via the Mode selector (the first parameter on the left). Since the three modes provide different sets of parameters, each of them is described separately below.

Parameter	Description
Mode	
Mode	Selects between *Classic*, *Tape*, and *Tube* saturation modes. All other parameters vary according to the mode selected here.

Classic Mode

The Classic mode is the legacy mode. It combines compression and saturation to increase the overall loudness and add additional harmonics.

The Saturator in Classic mode in the software.

Classic Mode – Parameter	Description
Comp	
Amount	This parameter lets you adjust the amount of compression performed on the audio signal.
Drive	
Amount	The amount of the distortion introduced by the Saturator.
Contour	The Contour control determines how closely it responds to the input volume. Higher values create a more distorted sound.

The Saturator in Classic mode on the controller.

Tape Mode

The Tape mode emulates the soft compression and pleasant saturation induced by recording to analogue magnetic tapes. It can be used lightly to add warmth and coloring to the sound, or heavily to add aggressive distortion.

The Saturator in Tape mode in the software.

Tape Mode – Parameter	Description
Drive	
Input Gain	Controls the input gain of the effect. This will increase the amount of tape distortion and compression.

Tape Mode – Parameter	Description
Warmth	Controls the low frequency boost/cut of the effect.
Tone	Controls the high frequency roll-off starting frequency. Frequencies above this point will be attenuated.
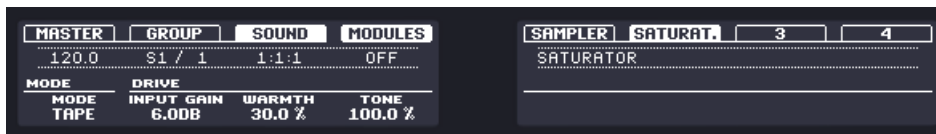
The Saturator in Tape mode on the controller.

Tube Mode

The Tube mode emulates the smooth saturation of overdriven tube amplifiers. It is equipped with a feedback-driven dynamic compression and an additional EQ section allowing you to fine adjust the frequency content to be processed.
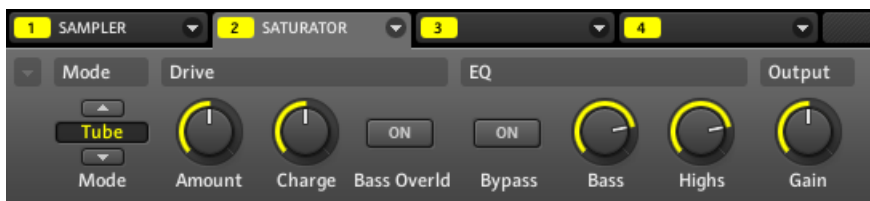
The Saturator in Tube mode in the software.

Tube Mode – Parameter	Description
Drive	
Amount	Adjusts the level of the input signal. This directly affects the amount of tube distortion.
Charge	In Tube mode the Saturator provides a negative feedback loop that attenuates the level at the Saturator's input according to the amount of low frequencies at its output. This notably prevents the bass content "polluting" the saturation. The Charge parameter allows you to adjust the amount of feedback. At 0 (full left) the feedback loop is disabled. Increase the Charge value to strengthen the effect. Higher values additionally generate an interesting compression-like effect.

Tube Mode – Parameter	Description
Bass OverId	Boosts the low frequencies of the input signal. Used together with the Charge parameter (see above) it provides you with a powerful tool to produce a richer, fatter sound.
EQ	
Bypass	Enable this button to bypass the EQ section.
Bass	Adjusts the level of the low frequency band.
Highs	Adjusts the level of the high frequency band.
Output	
Gain	Adjusts the output level of the effect. Use this to compensate for changes in volume caused by input gain and signal compression.
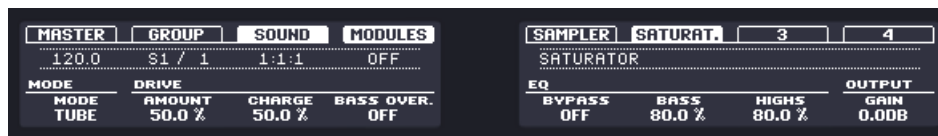
The Saturator in Tube mode on the controller.

9 Using Effects

At each Project level (Sound, Group and Master) it is possible to add effects in form of Modules. Each Sound, each Group and the Master have four Modules slots. In each Module slot you can load an internal MASCHINE effect or VST/AU plug-in effect. Using each Module slot, you can apply up to four effects to each Sound, each Group and the Master.

The processing order is always from Module slot 1 to Module slot 4.
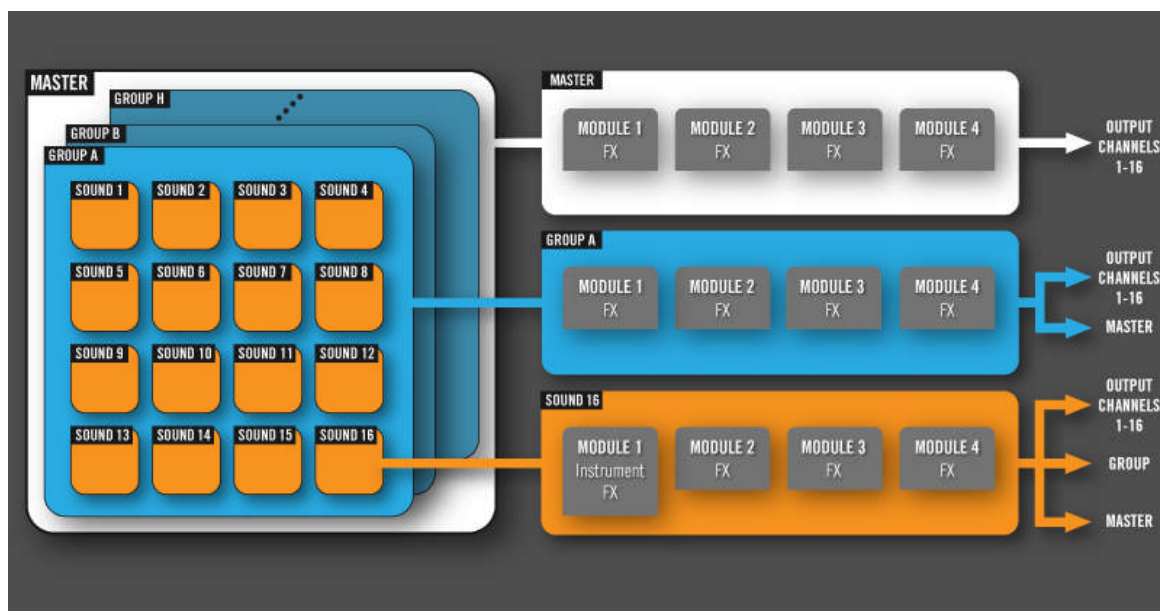
Overview of applying effects using Module slots. This picture does not include advanced routings like send effects.

> 💡 For Sounds, Module slot 1 is often used to contain an instrument Module (Sampler, VST/AU instrument plug-in, etc.). If you plug an effect to Module slot 1 of a Sound, this Sound will act as a bussing point for other Sounds and Groups, and you will find this Sound in the various Output selectors in the Output Properties of other Sound slots and Group slots. See section ↑9.4, Creating a Send Effect below for more information.

9.1 Applying Effects to a Sound, a Group or the Master

The procedures for applying an effect at the Sound, Group or Master level are very similar.

Hardware

1. Press the CONTROL button to select the Control mode.
2. If you want to apply the effect to the Master (to process the audio of the whole Project), press Button 1 to select the MASTER tab.
3. If you want to apply the effect to a Group (to process the audio of the whole Group), press Button 2 to select the GROUP tab and press the Group button A–H corresponding to the desired Group.
4. If you want to apply the effect to a Sound, press Button 3 to select the SOUND tab, press the Group button A–H of the Group containing that Sound, and press SELECT + the pad of that Sound (or simply hit its pad if pads are in Group mode).
5. Make sure MODULES (Button 4) is activated to show Module slots 1 to 4 on the right display.
6. Press Button 5–8 to select Module slot 1–4 (Module slot 3 of a Group in the example underneath).
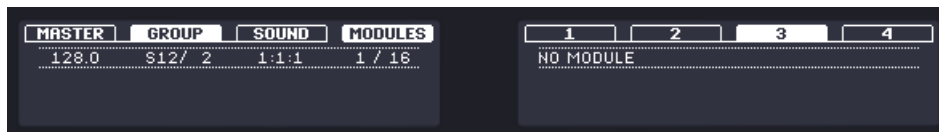
7. Press SHIFT + BROWSE to open the Module list and browse the available effect Modules.
8. On the left display, use Knob 1 to set the TYPE to INTERNAL for MASCHINE effects or PLUG-IN for VST/AU effect plug-ins.
   The right display now shows the list of the corresponding Modules (MASCHINE effects in the example underneath).
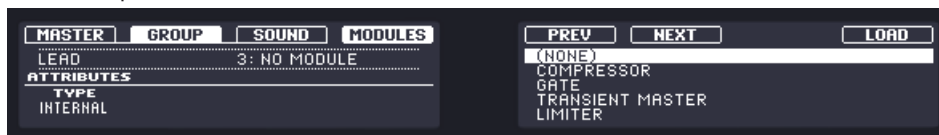
9. Turn Knob 5 to browse the available Modules.

10. When you have found the effect you want to use, press Button 8 to load it. You can also use buttons 5 and 6 to step through the list and load each effect directly.

11. Switch back to Control mode by pressing CONTROL (or by pressing SHIFT + BROWSE again).

→ Now you can edit the effect parameters using Knobs 1–8 and the Page buttons.

> ⚠️ Loading a Module will replace any Module previously loaded in the Module slot.

> 💡 For more information on editing effect parameters, please read ↑4.1.4, Adjusting the Module Parameters.

> 💡 If you created a nice effect setting, you can put it to further use by saving it as a Module preset. Please read ↑4.1.5, Bypassing Module Slots for more details.

> 💡 For additional, specific information on VST/AU plug-ins, please read ↑4.2.6, Page 6: Velocity Destination and Modwheel Destination.

Software

1. If you want to apply the effect to the Master (to process the audio of the whole Project), click the MASTER tab in the Control area.
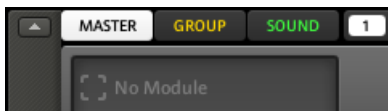
2. If you want to apply the effect to a Group (to process the audio of the whole Group), click the desired Group slot in the Arranger and click the GROUP tab in the Control area.
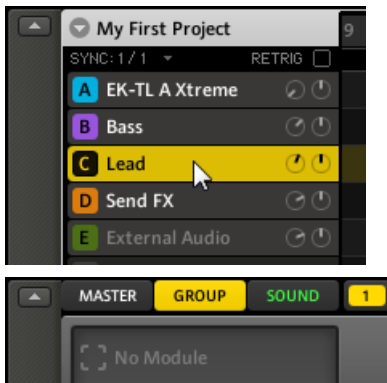
3. If you want to apply the effect to a Sound, click the Group slot of the Group containing that Sound in the Arranger, click the desired Sound slot in the Pattern Editor, and click the SOUND tab in the Control area.
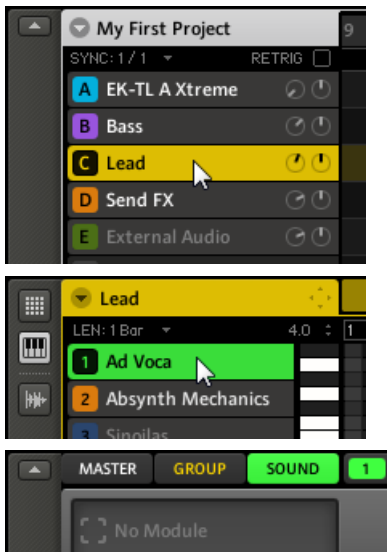
4. In the top right part of the Control area, click the arrow on the right of the tab of the de-sired Module slot 1–4 (in the example underneath we choose Module slot 2 of a Sound). The Module menu opens and shows a list of all available effects.
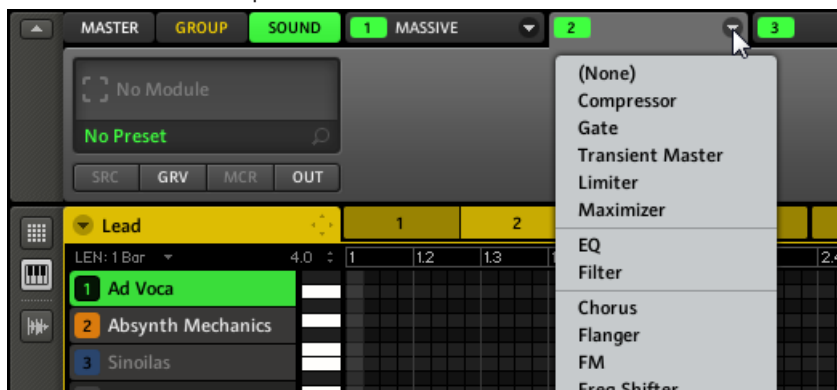
5. Click the desired entry in the list. If you have VST/AU effect plug-ins installed you may also load them from the menu by selecting the *Plug-ins* submenu near the bottom of the list.

→ Upon your selection the effect is loaded and its parameters are displayed in the Parame-ter area below (in the example underneath we selected the *Phaser* effect in the Module menu).

| ⚠ | Loading a Module will replace any Module previously loaded in the Module slot. |

| 💡 | For more information on editing effect parameters, please read ↑4.1.4, Adjusting the Mod-ule Parameters. |

| 💡 | If you created a nice effect setting, you can put it to further use by saving it as a Module preset. Please read ↑4.1.5, Bypassing Module Slots for more details. |

> For additional, specific information on VST/AU plug-ins, please read ↑4.2.6, Page 6: Velocity Destination and Modwheel Destination.

### Removing Effects

Removing an effect is done via the same method as for loading an effect (see ↑9.1, Applying Effects to a Sound, a Group or the Master above). When you browse the list of available Modules, simply select *(None)* in the Module menu (in the software) or (NONE) in the Module list (on your controller).

Other Operations on Effects

You can manipulate effects like any other Module loaded in a Module slot. This notably includes adjusting the effect parameters, moving effects, saving and recalling effect presets, etc. Please refer to ↑4.1, Sound Basics for more information on these topics.

9.2   Bypassing Effects

Bypassing an effect might come in handy whenever you want to return to a dry, unaltered signal: such as after applying so much Reverb that you can't hear the dry signal anymore or to get rid of feedback while using the Delay for example.

Hardware

1. Press the CONTROL button to select the Control mode.
2. If you want to bypass an effect of the Master, press Button 1 to select the MASTER tab.
3. If you want to bypass an effect of a Group, press Button 2 to select the GROUP tab and press the Group button A–H corresponding to the desired Group.
4. If you want to bypass an effect of a Sound, press Button 3 to select the SOUND tab, press the Group button A–H of the Group containing that Sound, and press SELECT + the pad of that Sound (or simply hit its pad if pads are in Group mode).
5. Make sure MODULES (Button 4) is activated to show Module slots 1 to 4 on the right display.
6. Hold SHIFT and press the desired Button (5–8) above the right display to bypass the corresponding Module slot.

→ The effect is bypassed and does not affect the sound anymore. On the right display the Module slot's frame turns dashed to indicate that this Module slot is now bypassed. For example, here the Saturator and the Chorus are bypassed:
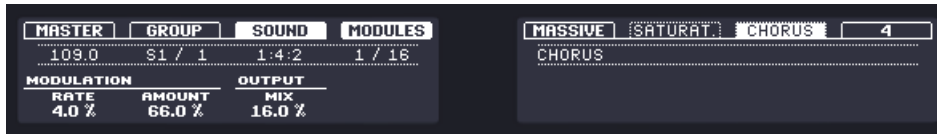
Use the same method to unmute the effect:

▶ To unmute the effect, hold SHIFT and press by the respective Button (5-8) again.

> 💡 This method does not only work for effect Modules but for all Module slots, whatever Module (instrument or effect) is loaded!

> ⚠️ In most cases Module slot 1 contains a Sampler or Input Module. Be careful: bypassing the slot will mute the whole Sound!

Software

1. If you want to bypass an effect of the Master, click the MASTER tab in the Control area.
2. If you want to bypass an effect of a Group, click the desired Group slot in the Arranger and click the GROUP tab in the Control area.
3. If you want to bypass an effect of a Sound, click the Group slot of the Group containing that Sound in the Arranger, click the desired Sound slot in the Pattern Editor, and click the SOUND tab in the Control area.
4. Now click the colored number (1–4) on the left side of the desired Module slot to bypass the contained effect.
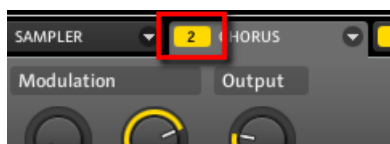
The effect unit does not affect the sound anymore. The number is grayed out to indicate that this slot is now bypassed.

Use the same method to unmute the effect:

► To activate the bypassed slot again, click its grayed out number.

> 💡 This method does not only work for effect Modules but for all Module slots, whatever Module (instrument or effect) is loaded.

> ⚠️ In most cases Module slot 1 contains a Sampler or Input Module. Be careful: bypassing the slot will mute the whole Sound!

9.3 Applying Effects to an External Instrument

MASCHINE's flexible routing facilities allow you to apply effects to external audio as well. This external audio can come from the inputs of your audio interface if MASCHINE is used in stand-alone mode, or from your host if MASCHINE is used as plug-in.

To do this, we will choose a Sound and make use of the **Input Module**.

MASCHINE in Stand-alone Mode

Please make sure that you have connected an external audio signal source to your audio interface and that the inputs of the audio interface are activated. To do this:

1. Select the *Audio and MIDI Settings…* entry from the File menu to open the Audio and MIDI Settings window.
2. In the Audio and MIDI Settings window, click the Routing tab, then click the Inputs button, activate the desired inputs by clicking them, then click OK.
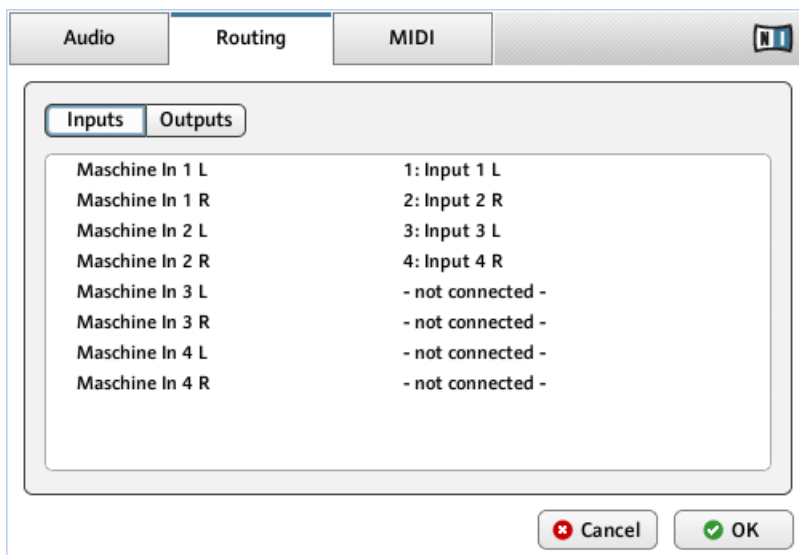
MASCHINE's Inputs configuration in the Audio and MIDI Settings window.

→ Audio signals coming from external sources will now be routed to MASCHINE's effects!

See ↑2.5, Audio and MIDI Settings for more info on the Audio and MIDI Settings window.

MASCHINE in Plug-in Mode

If MASCHINE is running as a plug-in in a host environment, the MASCHINE plug-in can receive audio from the host only. Please refer to your host documentation to find out how to route audio channels to the virtual audio inputs of the MASCHINE plug-in.

Hardware

1. Press the CONTROL button to select the Control mode.
2. Press Button 3 to select the SOUND tab, press the Group button A–H of the Group containing the Sound you want to use, and press SELECT + the pad of that Sound (or simply hit its pad if pads are in Group mode).

3. Make sure MODULES (Button 4) is activated to show Module slots 1 to 4 on the right display.

4. Press Button 5 to select Module slot 1.

5. Press SHIFT + BROWSE to open the Module list on the right display and browse the available effect Modules.

6. Turn Knob 1 to set TYPE to INTERNAL.

7. Turn Knob 2 to set SUBTYPE to INSTRUMENT.

8. Turn Knob 5 to select INPUT and press Button 8 to load the Input Module.
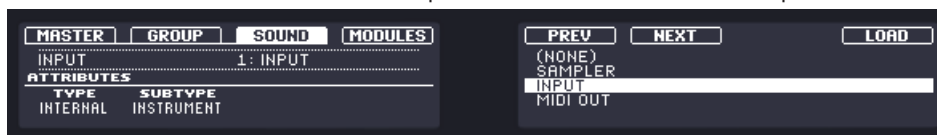
9. Switch back to Control mode by pressing SHIFT + BROWSE again or pressing the CONTROL button.

10. Turn Knob 2 to set SOURCE to the desired external source from EXT IN 1–4.

11. Select another Module slot by pressing Button 6–8.

12. Press SHIFT + BROWSE to open the Module list on the right display and browse the available effect Modules.

13. Turn Knob 1 to choose between MASCHINE internal effects (INTERNAL) or VST/AU effect plug-ins (PLUG-IN).

14. Turn Knob 5 to select an effect and load it pressing Button 8.

→ Now the external audio will be processed by the effect!

Software

1. Click the Group slot of the Group containing the Sound you want to use, click its Sound slot in the Pattern Editor, and click the SOUND tab in the Control area.

2. Click the arrow on the right of Module slot 1's tab to open the Module menu, and select *Input* from the menu.

The Input Module is loaded in Module slot 1 and its parameters are displayed in the Parameter area underneath.

3. You will now see two parameters: one knob for the level of the input and a selector that lets you select a source. Set the Source selector to *Ext In 1*.

4. Click the tab of Module slot 2 and select an effect from its Module menu (using the drop-down arrow at the upper right corner of the tab).
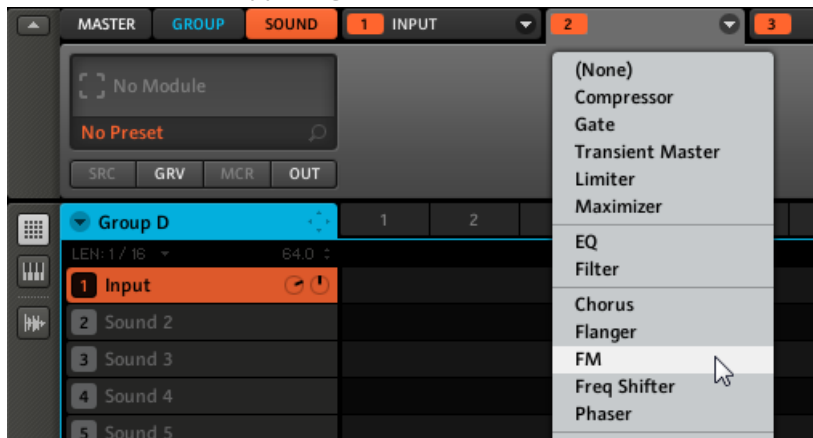
→   Now the external audio will be processed by the effect!

9.4   Creating a Send Effect

Sometimes you may want to have a classic send effect, for example a reverb which can be shared by multiple sound sources. To make use of a send effect, you need to:

- Set up a Sound as send effect. This is done by loading an effect into its first Module slot.

- Route a portion of the desired audio signals from their original Sounds and Groups to that send effect. This is done via the Output Properties of the corresponding Sounds and Groups.

The following sections describe these two tasks in more detail.

9.4.1   Setting up a Sound as Send Effect

The procedure to set up a Sound as a send effect is straightforward: You just need to load an effect instead of an instrument into its first Module slot — MASCHINE will take care of the rest!

Hardware

1. Press the CONTROL button to select the Control mode.
2. Press Button 3 to select the SOUND tab, press the Group button A–H of the Group containing the Sound you want to use as send effect, and press SELECT + the pad of that Sound (or simply hit its pad if pads are in Group mode).
3. Make sure MODULES (Button 4) is activated to show Module slots 1 to 4 on the right display.
4. Press Button 5 to select Module slot 1.
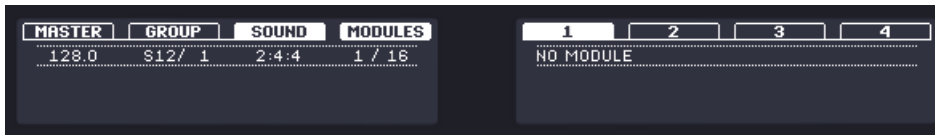
5. Press SHIFT + BROWSE to open the Module list and browse the available effect Modules.
6. On the left display, use Knob 1 to set the TYPE to INTERNAL for MASCHINE effects or PLUG-IN for VST/AU effect plug-ins, and use Knob 2 to set the SUBTYPE to FX.
   The right display now shows the list of the corresponding Modules (MASCHINE effects in the example underneath).

7. Turn Knob 5 to browse the available Modules.
8. When you have found the effect you want to use, press Button 8 to load it. You can also use buttons 5 and 6 to step through the list and load each effect directly.
9. Switch back to Control mode by pressing CONTROL (or by pressing SHIFT + BROWSE again).

→ Now you can edit the effect parameters using Knobs 1–8. When you load an effect into the first Module slot of a Sound, MASCHINE automatically configures the Sound's input to receive any signal(s) coming from other Sounds and Groups in your Project and send them through its own Module slots — in other terms, you now have a send effect.

> 💡 You could also load an effect preset from the Browser instead of using the Module menu. For more info on how to load effect presets, see ↑4.1.7, Saving Module Presets.

When you load the effect into the first Module slot, MASCHINE automatically renames the Sound slot to the Module name. This will be of great help when routing other signals to that send effect — see ↑9.4.2, Routing Audio to a Send Effect below for more info.

Software

1. Select and display the desired Sound: Click the Group slot of the Group containing the Sound you want to use as send effect in the Arranger; click the corresponding Sound slot in the Pattern Editor, and click the SOUND tab in the Control area.

2. In the top right part of the Control area, click the arrow on the right of the tab of Module slot 1 to open the Module menu, click the *FX* submenu, and click the desired entry in the list (select the *Plug-ins* submenu near the bottom of the list if you want to load a VST/AU plug-in).

→ Upon your selection the effect is loaded and its parameters are displayed in the Parameter area. When you load an effect into the first Module slot of a Sound, MASCHINE automatically configures the Sound's input to receive any signal(s) coming from other Sounds and Groups in your Project and send them through its own Module slots — in other terms, you now have a send effect.

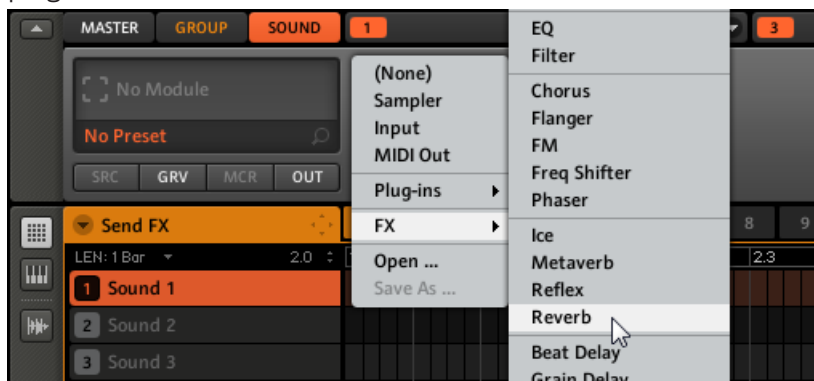You could also load an effect preset from the Browser instead of using the Module menu. For more info on how to load effect presets, see ↑4.1.7, Saving Module Presets.

When you load the effect into the first Module slot, MASCHINE automatically renames the Sound slot to the Module name. This will be of great help when routing other signals to that send effect — see ↑9.4.2, Routing Audio to a Send Effect below for more info.

9.4.2 Routing Audio to a Send Effect

Once you have configured a Sound as send effect (see ↑9.4.1, Setting up a Sound as Send Effect above), you can send the output of any other Sounds and Groups to that Sound. For this purpose, each Sound/Group is equipped with an additional two auxiliary outputs available in its Output Properties.

Hardware

1. Press the CONTROL button to enter the Control mode.
2. If you want to route a Group's output to the send effect, press Button 2 to select the GROUP tab and press the Group button A–H corresponding to the desired Group.
3. If you want to route a Sound's output to the send effect, press Button 3 to select the SOUND tab, press the Group button A–H of the Group containing that Sound, and press SELECT + the pad of that Sound (or simply press its pad if pads are in Group mode).
4. Make sure MODULES (Button 4) is *deactivated* to show the Properties.
5. Press Button 8 (OUT) to display the Output Properties.
   The Output Properties are shown in the displays of your controller (in the example underneath we show the Output Properties of a Group).

6. Turn Knob 5 (AUX 1 OUTPUT) or Knob 7 (AUX 2 OUTPUT) to assign the corresponding auxiliary output to the desired send effect. In addition to the usual entries available in both fields, you will find all the Sounds you have configured as send effects. For each of them, the entry shows the Group letter followed by the Sound name (in the example underneath we selected the entry D: REVERB for the AUX 1 output).

7. Use Knob 6 (AUX 1 LEVEL) or Knob 8 (AUX 2 LEVEL) to adjust the level of the signal sent to that auxiliary output.

> The signal of each auxiliary output is taken by default after the main output level control has been applied. This can be changed on the second page of the Output Properties. For a detailed description of the Output Properties, please refer to ↑4.4, The Sound Properties (for Sounds) and ↑5.1, The Group Properties (for Groups).

You can repeat the process to route more Sounds/Groups to the same send effect, or route the same Sound/Group to another send effect send using AUX 2.

Software

1. If you want to route a Group's output to the send effect, click the desired Group slot in the Arranger and click the GROUP tab in the Control area.

2. If you want to route a Sounds' output to the send effect, click the Group slot of the Group containing that Sound in the Arranger, click the desired Sound slot in the Pattern Editor, and click the SOUND tab in the Control area.

3. Click OUT in the Properties selector at the bottom left of the Control area to display the Output Properties (in the example underneath we show the Output Properties of a Sound).

4. In the Aux 1 or Aux 2 section on the right, click the Output selector and select the Sound configured as send effect which you want to send the audio to. In addition to the usual entries available in both menus, you will find all the Sounds you have configured as send effects. For each of them, the entry shows the Group letter followed by the Sound name (in the example underneath we select the entry *D: Reverb* for the Aux 1 output)

5. Use the Level knob in the same section to adjust the level of the signal sent to that auxiliary output.

> 💡 The signal of each auxiliary output is taken by default after the main output level control has been applied. This can be changed on the second page of the Output Properties. For more info, please see section ↑4.4, The Sound Properties (for Sounds) and ↑5.1, The Group Properties (for Groups).
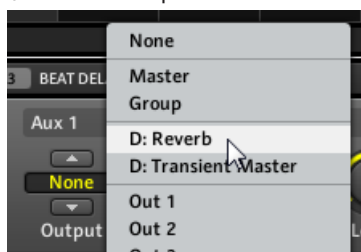
You can repeat the process to route more Sounds/Groups to the same send effect, or route the same Sound/Group to another send effect send using Aux 2.

9.4.3 A Few Notes on Send Effects

When working with send effects, please keep in mind the following:

- You cannot send the Master output to send effects.

- Obviously you cannot send a send effect's output to itself.

On the other hand, you can chain several Sounds configured as send effects by sending the output of a send effect into another send effect using the method described above (see ↑9.4.2, Routing Audio to a Send Effect). This opens up virtually endless routing possibilities!

> ⚠ When setting up complex routings, please take care to avoid feedback loops!

In addition, the following points are worth noting:

- **CPU load**: Send effects can be of great help to save CPU power. Using one reverb for many Sounds and Groups instead of loading another reverb in each Sound/Group makes a big difference on the CPU load. You can adjust at which extent the reverb must be applied on each Sound/Group via the respective Level controls in their Output Properties.

- **MIDI control**: Like any other Sound, Sounds used as send effect can be controlled via MIDI! This is not only true for all effect parameters via the Macro Controls (see ↑5.1.3, Group – Macro Properties (MCR) and Macro Controls), but also for effects that require incoming notes (e.g., a vocoder). See ↑4.9, Using MIDI with Sounds for more info.

- **Use Patterns**: You can create Patterns for your send effects to make them more lively. Simply record some automation in Control or Step mode for the desired effect parameters — or even record notes for effects requiring incoming notes (e.g., the vocoder mentioned above).

- **Input Module**: You might have noticed that the Input Module's Source selector offers an *Internal* entry in addition to the available entries for external audio inputs. This is the legacy method used in older MASCHINE versions to set up send effects. It is still available for backwards compatibility only, and we recommend you not to use it when creating new send effects, but instead use the method described in ↑9.4.1, Setting up a Sound as Send Effect above. By the way, the new method has an obvious advantage over the old one: It frees up one Module slot, which is then available for one more effect.

9.5   Creating Multi-effects

Creating a multi-effect unit is basically the same thing as creating a send effect, but extended to the Group level. As described in the previous section ↑9.4, Creating a Send Effect, you can set up four effects for every Sound in the Group, adding up to 64 effects per Group this way! You can route Sounds within the Group to your liking: You can chain them all, keep them as separate effects that can be used in parallel, etc.

You can then save the whole multi-effect Group for later use. This can be useful if you like a certain combination of effects for your live setup or in the studio. Although this is overkill, you can afterwards still add four more effects on the multi-effect Group itself. Of course this depends on the age and processing power of your computer.

However, make sure to name every Sound in this multi-effect Group after the effect(s) inserted and to give it a name that allows you to recognize it as an effect; remember that you will be choosing this effect from a potentially large list in your user library. In the MASCHINE Library there are already a number of multi-effect Groups tagged Multi FX:
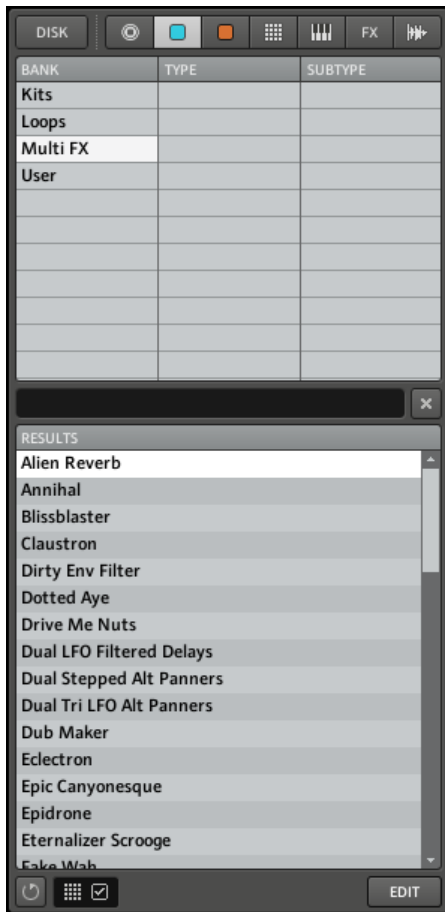
The Multi FX Bank of Groups of the Library in the Browser.

Example: The Multi-effect Group "Dual LFO Filtered Delays"

The multi-effects "Dual LFO Filtered Delays" consists of a combination of the Beat Delay with the Filter. Try out some other multi effects from the Library to get some ideas on how to set up your own multi effect! Your own presets can also include any combination of VST/AU plug-in effects you have installed for quick and easy recall from the Browser.

The multi-effect Group "Dual LFO Filtered Delays" in the software.

10   Creating a Song using Scenes

In MASCHINE, a song is made of a variable number of **Scenes**, which represent the different parts of the song — e.g., intro, verse, chorus, break, another verse… Scenes provide a very flexible way to arrange your song. The place where you organize Scenes is the **Arranger**, located in the top right part of the MASCHINE window. The Arranger provides you with 64 Scene slots organized in columns. Each slot can contain one Scene.

To get you started we recommend you load a Project from the Factory Library and have a look at the Arranger:

Factory Project "Deeper" in the Arranger with Scene 2 selected.

This is how Scenes work:

- Only one Scene is played at a time.

- In each Scene (i.e. each column of the Arranger), you can choose to play one particular Pattern of each Group. For example, in the picture above, Scene 1 will play Pattern 2 of the Beat Group together with Pattern 6 of the Synth Group and Pattern 2 of the Bass Group.

- On the other hand, a Pattern can be played in several Scenes: In fact a Scene only contains a **reference to your Pattern**, and you can place as many references to this Pattern as you want in different Scenes in the Arranger. For example, in the picture above, Scene 2, 4, and 6 use the same Pattern 1 of the Beat Group. When you modify your Pattern in the

Pattern Editor, all references to it in the Arranger will get updated accordingly. These references are called **Clips**. In the Arranger, you create, delete, and edit Clips — that is, references to your Patterns.

▪ The length of a given Scene always corresponds to the longest Pattern used in this Scene.

> As a notable consequence, whatever you do in the Arranger, your Patterns stay untouched — with one exception: When you double-click a Clip, you can enter a name that will be saved to the referenced Pattern. See ↑7.2.1, Naming Patterns for more on this.

10.1   Selecting a Scene

Hardware

1.   Enter Scene mode by holding the SCENE button. You can pin the Scene mode by pressing Button 1 at the same time.

The right display gives you an overview of the available Scenes, with the selected Scene highlighted. The lit pads show the Scenes available for selection. If more than one pad is brightly lit, these Scenes are looped.

2.   Hit one of the pads to select a Scene. To get to Scenes 17–64, use Buttons 6, 7, and 8.

Software

►   Select the Scene by clicking on the Scene slot in the Arranger. It will now be highlighted:
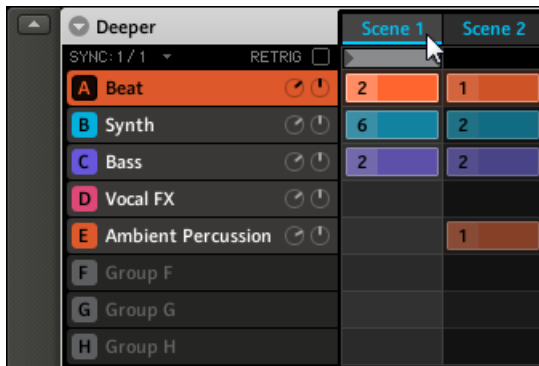
Selecting Scene 1.

10.2 Creating and Deleting Clips

Each Clip placed in the Arranger references one of the Patterns available in the Pattern Editor for the corresponding Group. Therefore, "creating a Clip" means "selecting a Pattern to be referenced in the selected Scene," while "deleting a Clip" means "removing the reference to the Pattern from the Scene."

Hardware

1. Press SCENE + the desired pad to select the Scene in which you want to create or delete a Clip (see ↑10.1, Selecting a Scene for more info).
2. Press the desired Group button A–H to select the Group from which you want to select a Pattern.
3. Press PATTERN + the desired pad to select the Pattern you want to use in the selected Scene.

While you are holding PATTERN, the right display gives you an overview of the available Patterns with the selected Pattern highlighted — this is the Pattern referenced in the selected Scene for that Group.

→   Upon your selection, a Clip referencing this Pattern is inserted into the selected Scene, replacing any Clip previously existing for that Group in the Scene.

> 💡 While you are holding PATTERN, you can select the Pattern Banks A–D by pressing Buttons 5 (Bank A) , 6 (Bank B), 7 (Bank C) or 8 (Bank D). For further information regarding the Pattern mode, take a look at chapter ↑5.3.2, Importing MPC Program Files and ↑7, Working with Patterns (Software).

Removing a Clip is also done in Pattern mode:

► To remove the Clip for the selected Group from the selected Scene, press PATTERN + Button 4 (REMOVE).

→ The Clip is deleted and the corresponding Pattern will not be played by the selected Scene anymore. The Pattern itself is left untouched.

Software

In the Arranger, each column represents a Scene and each row represents a Group.

1. In the Arranger, click the cell located in the column of the desired Scene and in the row of the desired Group.
This selects both the desired Scene and Group simultaneously.
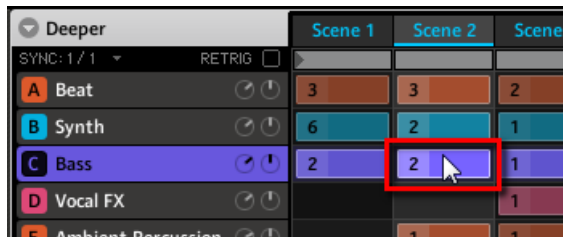
You can also click the desired Scene label and Group slot separately.

2. In the Pattern Editor, click the desired Pattern slot to select it.

→ Upon your selection, a Clip referencing this Pattern is inserted into the selected Scene, replacing any Clip previously existing for that Group in the Scene.

> 💡 Double-clicking an empty cell in the Arranger will automatically create a Clip referencing a new empty Pattern.

Removing a Clip is done in the Arranger:

► To remove a Clip, right-click it (on Mac OS X: [Ctrl] + click).

→ The Clip is deleted and the corresponding Pattern will not be played by the selected Scene anymore. The Pattern itself is left untouched.

10.3 Manipulating Scenes

This section describes the global editing functions available for Scenes and Scene slots.

10.3.1 Naming Scene Slots

By default, Scene slots are named Scene 1–64.

You can rename Scene slots manually. Naming is only available from within the software, but any changes will also show up on your controller.

Scene renaming is performed like Sound renaming:

1. Double-click the desired Scene slot.
   The Scene slot's name becomes highlighted.

2. You can now edit the name of the Group slot. Press [Enter] on your computer keyboard to confirm.

> ⚠ If you use MASCHINE as a plug-in, some hosts will utilize the [Enter] key, as it is mapped to some function of the host software. In this case, click anywhere else in the MASCHINE plug-in window to confirm the name you have entered.

10.3.2 Changing the Scene's Color

You can change the color of each Scene in the software. To do this:

1. Right-click ([Ctrl]-click on Mac OS X) the desired Scene slot in the Arranger and select *Color* from the context menu.
    A Color Palette appears. In the Palette, the current color of the Scene is highlighted.

2. Select the desired color in the Palette. You can also choose to set the Scene back to its default color by selecting *Use Default Color* at the bottom of the Color Palette.

> By default, each Scene has a different color. But you can choose a common default color for Scenes in *Preferences > Colors > Scenes > Scene Color*. See section ↑2.4.7, Preferences – Colors Page for more info.

10.3.3 Moving Scene Slots

You can reorder Scene slots via drag-and-drop in the software. It can be of great help to organize your Scenes and arrange your song.

Moving Scene slots is performed like moving Sound slots:

1. Click and hold the Scene slot.

2. While holding the mouse button, drag your mouse horizontally toward the desired location.
    As the mouse cursor moves, an insertion line appears at the potential places where you can drop the Scene slot.
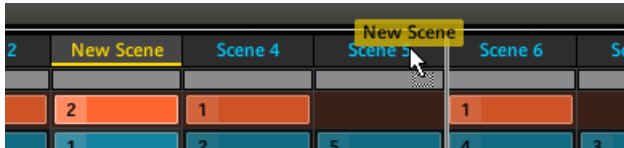
3. When the insertion line appears at the desired location, release the mouse button.

→   The Scene slot takes its new place. On your controller, you can now select this Scene via the pad corresponding to its new location.

10.3.4 Duplicating, Clearing, and Removing Scene Slots

Duplicating a Scene slot will insert a new Scene slot next to it containing the exact same Scene and settings (name, color). The following Scene slots will shift one step to the right.

Removing a Scene slot will simply delete the slot and its content. The following Scene slots will shift one step to the left.

Clearing a Scene slot will delete its content, leaving the slot empty.

> 💡 You cannot clear Scene slots using your controller.

Hardware

The commands DUPL (Button 3) and REMOVE (Button 4) on the controller.

1. Hold SCENE to enter Scene mode (you can pin it by pressing Button 1 at the same time).
2. Press the pad corresponding to the Scene slot you want to duplicate or remove.

3. Press Button 3 (DUPL) to duplicate the selected Scene slot or Button 4 (REMOVE) to re-move it.

Software

► Right-click ([Ctrl]-click on Mac OS X) the Scene slot and choose *Duplicate* to duplicate the selected Scene slot or *Remove* to remove it.
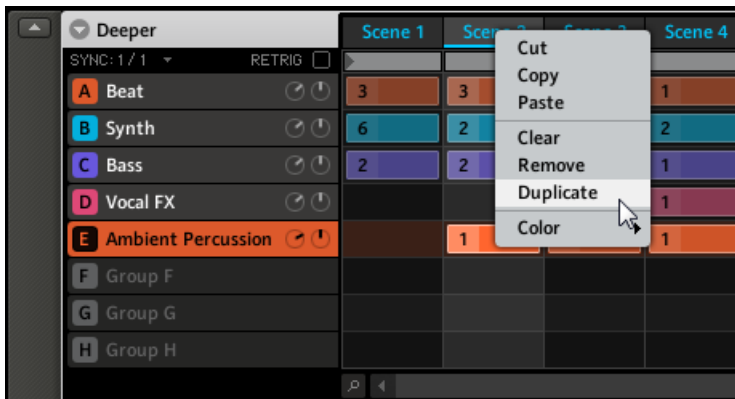
The Scene menu in the software with the commands Clear, Remove and Duplicate.

10.3.5 Cut, Copy, and Paste Scenes

You can cut or copy a Scene and paste it to another Scene slot. Copying a Scene will put it in the clipboard (allowing it to be pasted later), while cutting the Scene will additionally remove it from its Scene slot. The Clips, the name and the color of the cut/copied Scene will be pasted to the target Scene slot, replacing its previous content, if any.

Hardware

1. Hold SCENE to enter Scene mode (you can pin it by pressing Button 1 at the same time).
2. Hold DUPLICATE.
3. Press the pad containing the Scene you want to copy.
4. Press the pad where you want to copy the Scene to.

> You cannot cut Scenes using your controller.

Software

1. Right-click ([Ctrl]-click on Mac OS X) the source Scene slot and select *Cut* or *Copy* from the context menu.
2. Right-click ([Ctrl]-click on Mac OS X) the target Scene slot and select *Paste* from the context menu.

10.4 Playing with Scenes

MASCHINE provides you with various tools to precisely control which Scene(s) has to be played, and when.

Studio Track or Live Performance?

If you are composing a studio track that you plan to export as is, you can arrange your Scenes so that your whole track can be played in one go from the very first Scene to the very last one.

> Please refer to chapter ↑12.2, Exporting Audio for information on exporting audio.

On the other hand, if you are preparing a track for performing live, you will probably want to switch back and forth between different Scenes or a group of Scenes during your performance. This may also be necessary if you are composing a studio track in your host sequencer and want to control which Scene the MASCHINE plug-in has to play. This is where the MASCHINE tools described in the following sections come in handy.

10.4.1 The Scene Position Marker

In the software, the Scene Position marker helps you to keep track of exactly where you are in the current Scene. It indicates the current play position via a light grey bar growing left to right on each beat:

The Scene Position marker underneath the Scene slot.

10.4.2 Selecting a Loop Range

The basic rule is: A single selected Scene is always looping automatically.

But MASCHINE also allows you to select several consecutive Scenes and play them one after the other in a loop. Here is how to select the desired range of Scenes.

Hardware

On your controller:

1. Press and hold SCENE to enter Scene mode (or pin it by pressing SCENE + Button 1).
2. Press and hold the pad corresponding to the start Scene.
3. While holding the first pad, press the pad corresponding to the end Scene.

→   The start and end Scenes along with all Scenes in-between are played one after the other in a loop. On your controller, the pads corresponding to all these Scenes are fully lit to indicate the loop range.

You can also quickly select all Scenes in one go:

►   Press SCENE + Button 2 (ALL) to include all available Scenes in the loop.

Software

The Arranger provides a timeline located under the slot labels that always show the current loop range:

The Arranger timeline showing that the single Scene Pt A is looped.

To select another loop range:

1. In the Arranger timeline, click in the column of the start Scene and hold the mouse button.
2. Drag horizontally onto the column of the end Scene and release the mouse button.

→ The start and end Scenes along with all Scenes in-between are played one after the other in a loop. The Arranger timeline indicates the new loop range.

The loop range now contains three Scenes.

> You will note that selecting a single Scene amounts to selecting a one-Scene-long loop range.

You can also quickly select all Scenes in one go:

▶ Double-click in the Arranger timeline to include all available Scenes in the loop.

10.4.3 Jumping to Other Scenes

By selecting another loop range or another Scene (which is nothing more than a one-Scene-long loop range!) for playing as described above, you can easily adapt your song live. MASCHINE provides you with two additional settings to fine-tune the jumps between the Scene currently playing and the next loop range selected:

- The **Scene Sync** setting lets you quantize the Scene transitions: You can choose the point at which the playback will leave the current Scene. For example, you might not want a newly selected loop to fire off immediately—you might want it to wait until the next bar line. The available quantization values are one bar, one half note, one quarter note, one eighth note, the whole Scene, and Off. If you choose Off, the Scene change will be performed immediately after you select the next loop.

- The **Retrigger** setting lets you decide where the next loop will start:
  ◦ If Retrigger is enabled, the next loop range you select will be forced to play from the start. This is useful if you always want your Scenes to play from the beginning regardless of what's happening elsewhere in the music.

◦ If Retrigger is disabled (default setting), the next loop range you choose will start at the current position in the previously selected Scene: e.g., leaving the current Scene on beat 3 will cause the new Scene to start playing on its beat 3. This ensures that the global groove of your track is not interrupted!

Hardware

To adjust the Scene Sync setting:

1. Press and hold GRID to enter Grid mode (or pin it by pressing GRID + Button 1).
2. Press Button 2 to select SYNC.

On the right display you see the available Scene Sync values. The current value is highlighted and the corresponding pad is lit. The default value SCENE (pad 15) means that the next time you select a new Scene or loop range, the switch will happen once the current Scene has played to the end.

3. Press a pad to select the desired value, for example pad 3 (for 1/4, a quarter note).

→ The next time you select a new Scene or loop range, the switch will happen on the next quarter note.

To adjust the Retrigger setting:

1. Press and hold SCENE to enter Scene mode (or pin it by pressing SCENE + Button 1).
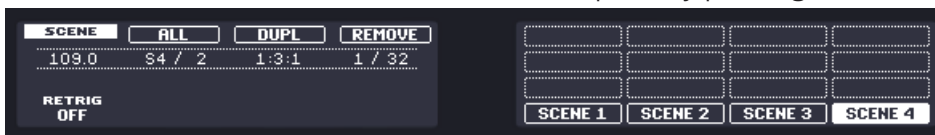
At the bottom left corner of the left display you see the current Retrigger value (OFF by default).

2. Turn Knob 1 to select the desired value, for example ON.

→ The next time you select a new Scene or loop range, it will start from the beginning.

Software

In the Arranger, you will find the SYNC menu and the RETRIG check box at the left of the timeline, right under the Project name:
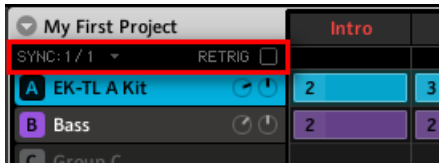
The SYNC and RETRIG controls.

►   To adjust the Scene Sync setting, click the SYNC menu and select the desired entry in the menu, for example *Scene*.

→   The next time you select a new Scene or loop range, the switch will happen on the next Scene.

►   To enable/disable the Retrigger setting, click the RETRIG check box.

→   The next time you select a new Scene or loop range, it will start from the beginning.

10.5   Triggering Scenes via MIDI

The Scene MIDI Settings let you trigger and change Scenes using MIDI notes or MIDI Program Change messages sent by your host to the MASCHINE plug-in or from any other MIDI device to the MASCHINE in stand-alone mode. To access Scene MIDI Settings:

1.   Click the arrow in the Header of the Arranger, next to the Project's name:
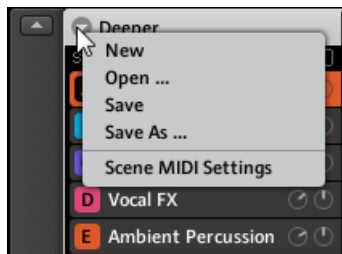
2. Choose *Scene MIDI Settings* from the drop-down menu to be presented with the Scene MIDI Settings window:

3. Adjust the settings as you see fit and click OK to apply your changes (or CANCEL to discard them).

Parameter	Description
Status section	
Enable	Click this checkbox to enable the Scene MIDI Settings.
Input section	
MIDI Note	If this radio button is checked, Scenes will be controlled by incoming MIDI notes.
Channel	From this drop-down menu, select the MIDI channel the Scenes should receive MIDI notes from.
Root Note	This determines the MIDI note which triggers the first Scene. The following Scenes will be triggered by the following next higher MIDI notes.

Parameter	Description
MIDI Program Change	If this radio button is checked, Scenes will be controlled by incoming MIDI Program Change messages. Program Change 1 will trigger Scene 1, and the following Scenes will be triggered by the subsequent Program Change numbers.
Channel	From this drop-down menu, select the MIDI channel the Scenes should receive MIDI Program Change messages from.

11 Sampling and Sample Mapping

MASCHINE allows you to record internal or external audio signals using your audio interface without having to stop the sequencer. This is a useful feature if you want to record your own Samples, or rearrange loops that you have created yourself using MASCHINE.

The slicing feature (controller: ↑11.1.3, Slicing a Sample (Hardware), software: ↑11.2.3, Slicing a Sample (Software)) allows you to slice loops in order to make them playable at any tempo without changing their pitch or timing. It is also useful to extract single Samples from loops (e.g., a snare sound from a drum loop) quickly or to rearrange loops by editing or muting their Slices, changing the order of the Slices, applying a different quantization or adding Swing.

Last but not least you can map your Samples (controller: ↑11.1.3, Slicing a Sample (Hardware), software: ↑11.2.4, Mapping a Sample (Software)), thereby creating multi-sample Sounds with individual velocity and note ranges, volume and panning. This is useful to emulate the behavior of classic instruments and synthesizers, but also allows for a large amount of Samples in only one Sound.

Make sure you check out the tutorial videos regarding sampling on the Native Instruments website (http://www.native-instruments.com).

> ⚠ Before recording an external source please consult the documentation that came with your audio interface for information on connecting audio devices and instruments.

11.1 Controlling Sampling from the Hardware

11.1.1 Recording a Sample (Hardware)

Choose an empty Sound slot to record into by selecting it with its pad.

Now press SAMPLING to enter Sampling mode and press Button 1 to select the RECORD page:

The RECORD page on the controller.

Parameter	Description
SOURCE	You can select the source of the recording by using Knob 1: it can be either set to EXTERN for audio signals connected to your audio interface, or INTERN for audio signals from MASCHINE itself (either from another Group or from the Master output).
INPUT	Using Knob 2 you can choose between the available inputs. If EXTERN is selected as SOURCE, you can select from the four external stereo inputs available in MASCHINE. For each of them you can choose between the left channel, the right channel, and both. For example, for the first external input these will be referred as IN 1 L, IN 1 R, and IN 1 L+R. If INTERN is selected you can select from the available Groups and the Master as a source.
MODE	MASCHINE offers two different modes for starting the recording available via Knob 3. **DETECT**: If DETECT is selected, you can set a certain threshold using Knob 4 (THRESHOLD). The threshold is indicated by a little arrow above the level meters on the left display. After you press Button 5 (START), the input signal level exceeding this threshold will start the recording. You can then manually stop the recording by pressing Button 5 (STOP) again. This is useful to record a singer or an instrumentalist, for example. **SYNC**: If SYNC is selected, you can synchronize the recording function to the sequencer, so that the recording starts in sync with the sequencer after you press Button 5 (START). The recording will start at the top of the next bar. Using Knob 4, you can choose a length for the Sample to be recorded: either 1, 2, 4, 8, or 16 bars or choose FREE if you want to stop the recording yourself by pressing Button 5 (STOP) again.
START	Press Button 5 (START) to begin recording. If you have selected SYNC, MASCHINE will wait for the next bar before starting to record; if you have selected DETECT, the recording will start as soon as the THRESHOLD value is met. Once the recording has started, the same Button 5 shows STOP and allows you to stop the recording manually, while Button 6 (CANCEL) cancels the recording — the recorded Sample will not be saved.

Parameter	Description
DELETE	All recorded Samples are stored in the Recording History. When the recording has stopped, press Button 6 (DELETE) to delete the selected Sample from the Recording History.
PREV	Press Button 7 (PREV) to select the previous Sample from the Recording History if you have recorded more than one Sample in the Sound slot.
	Note: to play the Sample, just press the pad representing the Sound slot you used for sampling.
NEXT	Press Button 8 (NEXT) to select the next Sample from the Recording History if you have recorded more than one Sample in the Sound slot.

> If you want to start and stop the recording manually, leave the MODE set to DETECT, dial the THRESHOLD down to OFF and start the recording by pressing START (Button 5). To stop recording, press STOP (Button 5).

As soon as you have recorded a Sample, the Sampler Module is automatically loaded into Module slot 1 of the Sound, and your Sample can be played back by pressing the corresponding pad on your controller.

The recorded Sample is shown on the right display (here with the Playhead indicator).

The right display shows you the waveform of the recorded Sample. When the Sample is played back, the Playhead indicator (vertical line) shows you the current play position within the waveform.

Location and Name of Your Recorded Samples

By default, recorded Samples are saved in the Recordings subfolder of your Standard User Directory, as defined on the User Paths page of the Preferences window (see ↑2.4.2, Preferences – Defaults Page). If you activate the Prefer Project Folder option on the General Page of the Preferences window (see ↑2.4.1, Preferences – General Page), recorded Samples will be saved instead in a Recordings subfolder of the folder where your current Project is saved.

Recorded Samples are automatically named using the following scheme:

[YYMMDD]_[HHMMSS].wav

In the name above, [YYMMDD] stands for the current date (year, month, day, all 2-digit numbers) and [HHMMSS] for the current time (hours, minutes, seconds, all 2-digit numbers).

11.1.2 Editing a Sample (Hardware)

Press Button 2 to access the EDIT page. Here you can for example edit the start and end point of the Sample and create a loop. The right display shows you the waveform of the Sample. Use Knob 5 to zoom in on the waveform of the Sample and Knob 6 to navigate through it.

> ⚠ If your Sound contains more than one Sample, all your actions in the EDIT page will affect the Sample of the Zone currently selected in the MAP page! See ↑11.1.3, Slicing a Sample (Hardware) for more info on selecting Zones in the MAP page.

The Sample can be played back at any time by pressing the corresponding pad on your controller. When the Sample is played back, the Playhead indicator (vertical line) shows you the current play position within the waveform on the right display.

The parameters available on the left display are spread over three pages. Use the Page buttons on the left of the displays to select the desired page.

Page 1 – Trim Parameters

The EDIT page on the controller, page 1 of 3: adjusting the start and end point of the Sample.

Parameter	Description
START	Using Knob 1 you can adjust the start point of the Sample.
END	Using Knob 2 you can adjust the end point of the Sample.

> 💡 Hold SHIFT when turning the Knobs to adjust the parameters in finer increments.

The start and end point defined here will also be used when processing the audio of the Sample. See below for more info.

> ⚠️ If you defined a loop in the Sample (see page 2 below), the loop will always stay within the region defined by the start and end points of the Sample. Therefore, when moving the Sample's start and end points closer to each other, keep in mind that it might also shrink the loop!

Page 2 – Loop Parameters

The EDIT page on the controller, page 2 of 3: setting a loop within a Sample.

Parameter	Description
LOOP MODE	Here you can choose to either disable or enable Loop mode by dialing Knob 1. If enabled, you can see the loop highlighted on the right display (as pictured above). When the play position reaches the loop, the playback is looped as long as the note is held. This can be useful to loop either a whole Sample or part of it, e.g., to simulate a longer tone. Note: this technique requires that you choose either AHD or ADSR as the Amplitude Envelope in the Sampler's Parameter pages (see ↑4.2.1, Page 1: Voice Settings and Engine).
START	Defines the start point of the loop with Knob 2.
END	Defines the end point of the loop with Knob 3.
CROSSFADE	CROSSFADE (Knob 4) allows you to blend a little of the material near the loop start and end points in order to get a smoother, less abrupt loop. This is particularly helpful if the loop is inducing any clicks.

> 💡 Hold SHIFT when turning the Knobs to adjust the parameters in finer increments.

> 💡 By moving the loop's start and end points closer to each other you can shrink the loop to very small values on-the-fly, thereby creating very interesting glitch effects in a live situation.

Page 3 – Amplitude Envelope Parameters

The EDIT page on the controller, page 3 of 3: setting the amplitude envelope of a Sample.

This amplitude envelope can be used to get rid of clicks after slicing; you can either apply it to the whole Sample or to individual selected Slices.

Parameter	Description
ATTACK	The ATTACK parameter determines how quickly the Sample/Slice reaches full volume after being triggered.
DECAY	DECAY is used to adjust how fast the Sample/Slice dies down.

> Hold SHIFT when turning the Knobs to adjust the parameters in finer increments.

Audio Editing

The EDIT page additionally provides several audio editing functions to process your Sample.

Audio editing functions on the right display of the controller.

Use Button 5 and 7 to select the desired audio function. To perform the selected audio function, press Button 6. The audio function will be performed on the region defined by the START and END parameters of page 1 (see above).

> These audio processing functions are destructive, i.e. they modify the audio material in the Sample. However, your original Sample will not be modified: For each audio function that you perform, a new, distinct copy of the Sample will be saved!

Available functions are:

Parameter	Description
TRUNCATE	This deletes the part of the Sample that is outside of the selected region.
NORM	This adjusts the level of the selected region to the maximum possible value without clipping.
REVERSE	This reverses the selected region of the Sample.
FADE IN	This applies a fade in to the selected region of the Sample.
FADE OUT	This applies a fade out to the selected region of the Sample.
DC FIX	This removes the DC offset. DC offset ("Direct Current offset") is an undesirable constant shift in the signal level that might be introduced by some audio processing units. This offset can notably waste some of the available headroom.
SILENCE	This silences the selected region of the Sample.
CUT	This deletes the selected region from the Sample and places it into the clipboard for later use.
COPY	This copies the selected region of the Sample to the clipboard for later use.
PASTE	This pastes the cut/copied region of the Sample, replacing the region of the Sample currently selected.
DUPL	This duplicates the selected region of the Sample. The copy is placed right after the original region.
STRETCH	This allows you to apply time stretching and/or pitch shifting to the selected region of the Sample. See below for a detailed description.

Time Stretching / Pitch Shifting

When STRETCH is selected, pressing Button 8 (SETTINGS) allows you to adjust the parameters of the time stretching / pitch shifting function before applying it to the selected region. Use Knob 1–8 to adjust the parameters. Pitch shifting and time stretching can be applied independently.

Parameters for the Stretch function.

Following parameters are available:

Parameter	Description
PITCH section	**Pitch shifting parameters.**
TUNE	Adjusts the detuning (pitch shifting) to be applied (in semitones). Leave this value to 0 to leave the original pitch untouched.
FORMANT C (Formant Correction)	Enables/disables the formant correction. Formant correction allows the pitch-shifted audio to retain the timbre (or "color") of the original audio as much as possible. This is especially useful for melodic instruments.
SRC TIME section	**Time stretching: parameters for the source (original) audio.**
MODE	Selects from the two available time shifting modes. **BEAT**: In Beat mode, the new tempo is defined relatively to the time signature (the beats and bars) of the original audio. This can be useful if you sampled a loop with a clearly defined rhythm (e.g., a drum loop). **FREE**: In Free mode, the new tempo is defined independently from the time signature of the source. This is more suited for non-rhythmic Samples. In this mode only one parameter is available: SPEED (see below).
AUTO DTCT (Beat mode only)	If AUTO DTCT (Auto Detection) is enabled, MASCHINE automatically detects the tempo of the original audio.
SRC (Beat mode only)	SRC (Source BPM) allows to define the tempo of the original audio (in BPM). This tempo is defined in different ways according to the AUTO DTCT value: If AUTO DTCT is enabled, you can set the length (in bars) of the original audio. You can choose between 1, 2, and 4 bars. The number between brackets indicates the resulting tempo (in BPM) derived from the number of bars you have set and the computed tempo value. If AUTO DTCT is disabled, you can directly define the tempo of the original audio (in BPM).
NEW TIME section	**Time stretching: parameters for the target (pitch-shifted) audio.**
NEW BPM (Beat mode only)	Defines the target tempo of the time-shifted audio (in BPM).

Parameter	Description
LENGTH (Beat mode with Auto Detection enabled only)	If Auto Detection is enabled, you can define the length of the target audio (in bars). Please note that any change to the SRC value (see above) will be automatically mirrored by this LENGTH value. Once you have set the number of bars in the source audio, you can set here another number of bars, thereby dividing or multiplying the tempo of the target audio. Available values are 1/16, 1/8, 1/4, 1/2, 1, 2, 4, and 8 bars, as well as the corresponding triplet values.
SPEED (Free mode only)	Adjusts the new tempo relatively to the original tempo (in percentage). The minimum value is 10 %.

> In Beat mode, if you set a target tempo that is smaller than a tenth of the original tempo, Button 6 will show an exclamation mark (!) next to STRETCH and the button will be disabled. Set a higher target tempo to enable the button again!

Once you have set the parameters to the desired values, press Button 6 (STRETCH) to apply the pitch shifting and/or time stretching to the selected region in the Sample.

11.1.3 Slicing a Sample (Hardware)

Press SAMPLING and then Button 3 to show the SLICE page. The SLICE page allows you to prepare **Slices** that you can then export to different notes of the same Sound or to different Sounds of the same Group. The right display shows you the waveform of the Sample with the Slices pictured as vertical lines. Depending on how you set up the Slice settings, the Slice Markers will move. Use Knob 5 and 6 to navigate and zoom the Slices!

> If your Sound contains more than one Sample, all your actions in the SLICE page will affect the Sample of the Zone currently selected in the MAP page! See ↑11.1.3, Slicing a Sample (Hardware) for more info on selecting Zones in the MAP page.

You can press the lit pads to play and select each of the first 16 Slices individually. If a pad is unlit no Slice is assigned. The fully lit pad indicates the selected Slice. When a Slice is played back, the Playhead indicator (vertical line) shows you the current play position within the Slice's waveform on the right display.

Preparing the Slices

The SLICE page on the controller.

Parameter	Description
MODE	Using Knob 1, you can select either SPLIT, GRID or DETECT.
	SPLIT: In Split mode, the Sample will be sliced into equally spread Slices.
	GRID: In Grid mode, the Sample will be sliced according to note values.
	DETECT: In Detect mode, the Sample will be sliced according to its transients.
	The following parameter will vary according to the selected mode.
SLICES (Split mode only)	Here you can choose how many Slices you want the Sample to be split into: 4, 8, 16 or 32.
LENGTH (Grid mode only)	Select the note value using Knob 2: available lengths are 4th, 8th, 16th and 32nd notes.
SENS (Detect mode only)	Sensitivity parameter for the transient recognition (Knob 2). Higher values will cause more Slices to be detected because more transients will be recognized, lower values will result in less slices. This parameter should be adjusted until all the musically significant slices are being detected in the right display.
TEMPO	Determines the tempo of the Sample: available options are AUTO and MANUAL.
BPM	Shows the tempo based on the TEMPO parameter above; if MANUAL is selected, you can dial in a tempo value using Knob 4; if AUTO is selected, you can choose from multiples of the tempo calculated by MASCHINE.
EDIT	You can edit separate Slices using the Edit mode. Press Button 5 to enter Edit mode (see paragraph below).

Edit Mode

In Edit mode you can select and fine-tune each particular Slice.

► On the SLICE page of the Sampling mode, press Button 5 (EDIT) to enter Edit mode.

The Edit mode in the SLICE page.

Parameter	Description
SELECTION section	
SLICE	Choose the Slice you want to edit by dialing Knob 1 here; the display will show you which Slice is currently selected. You can also use the pads to select Slices starting from pad 1.
SLICE section	
START	Here you can adjust the start point of a Slice using Knob 3. Hold SHIFT when turning the Knob to adjust the parameter in finer increments.
END	This lets you edit the end point of a Slice using Knob 4. Hold SHIFT when turning the Knob to adjust the parameter in finer increments.
Button 6–8	
RESET	Reset your Slice edits using Button 6.
ADD	Add another Slice according to the current Mode settings using Button 7.
REMOVE	Remove the selected Slice using Button 8.

► After you have performed your Slice edits, confirm them by pressing Button 5 again to return to the SLICE page (EDIT turns off).

Exporting the Slices

To actually perform the slicing according to the settings described in the previous paragraphs, you need to press Button 7 (APPLY TO) or Button 8 (APPLY).

Parameter	Description
APPLY TO	Exports the Slices to another Group or Sound: Press Button 7 (APPLY TO), then select the Group or Sound you want the Slices to be copied to by pressing the corresponding Group button A–H or the corresponding pad, respectively.
	If you select a Group, the Slices will be mapped to individual Sounds, the pads on your controller will switch to Group mode, and a new Pattern will be created with one note for each Sound so that the Pattern reproduces the original, unsliced Sample. Additionally, your controller automatically switches back to Control mode.
	If you select a Sound, the Slices will be mapped to individual notes of this Sound, the pads on your controller will switch to Keyboard mode, and a new Pattern will be created with one note for each pitch so that the Pattern reproduces the original, unsliced Sample.
APPLY	Exports the Slices to the same Sound. If you press Button 8 (APPLY), the Slices will be mapped to individual notes of this Sound, the pads on your controller will switch to Keyboard mode, and a new Pattern will be created with one note for each pitch so that the Pattern reproduces the original, unsliced Sample. Additionally, your controller automatically switches back to Control mode.

11.1.4 Mapping a Sample (Hardware)

The MAP page allows you to create and adjust **Zones** that define a note range and a velocity range for each Sample included in the Sound. The Zones can overlap, allowing you to trigger different Samples at once or triggering different Samples depending on how hard you hit the pads. The set of all Zones define the **Sample Map** (or "**map**" for short) of the Sound.

► In Sampling mode, press Button 4 to show the MAP page.

The Sampling mode's MAP page on the controller.

The right display shows you the waveform of the Sample in the selected Zone. The Sample can be played back at any time by pressing the corresponding pad on your controller. When the Sample is played back, the Playhead indicator (vertical line) shows you the current play position within the waveform on the right display.

▶ To switch between Zones, use Buttons 7 (PREV) and 8 (NEXT).

▶ To delete a Zone, press Button 5 (REMOVE).

Adding Samples to the Map

To add a new Sample to the map of the current Sound:

1. Press BROWSE to enter the Browser.
2. In the MASCHINE Browser, select the Sample you want to add to the map of the current Sound (see ↑3.6, The Browser on the Hardware for more info on using the Browser on your controller).
3. Activate the ADD option (Button 7) on the right Browser display.
   With ADD active, the Sample you load will not replace the current Sample(s) but instead it will be inserted in a new Zone of the Sound.
4. Press Button 8 to load the Sample.
   A new Zone will be created that contains the added Sample.
5. Press SAMPLING to switch back to Sampling mode.

Page 1: Note Settings

The MAP page on the controller, page 1 of 3: note settings.

Parameter	Description
ROOT	Here you can define a root key for the Zone. This defines the note that will cause the Sample to play back at its original pitch.
LOW	Here you can define the lowest key of the selected Zone (Knob 2).
HIGH	Here you can define the highest key of the selected Zone (Knob 3).

Page 2: Velocity Settings

The MAP page on the controller, page 2 of 3: velocity settings.

Parameter	Description
LOW	Dial Knob 1 to define the lowest velocity for the Zone.
HIGH	Dial Knob 2 to define the highest velocity for the Zone.

Page 3: Tune, Gain, and Pan Settings

The MAP page on the controller, page 3 of 3: tune, gain, and pan settings.

Parameter	Description
TUNE	Tune control for the Zone (Knob 1).
GAIN	Volume level for the Zone (Knob 2).
PAN	Panorama position for the Zone (Knob 3).

11.2 Controlling Sampling from the Software

11.2.1 Recording a Sample (Software)

To record a Sample in the software, do the following:

1. Choose an empty Sound slot to record into by clicking it in the Pattern Editor.

2. Click the Sample Editor button on the left of the Pattern Editor to switch to the Sample Editor.

The Sample Editor appears.

3. At the top of the Sample Editor, click the RECORD tab (leftmost tab) to show the RE-CORD page.

→ Now you can adjust various recording settings at the top of the RECORD page and record a new Sample.

The RECORD page in the software.

(1) **Source settings**

Use the Source selector on the left to choose the type of source you want to record: click Ext ("External") to record audio signals connected to your audio interface, or Int ("Internal") to record audio signals coming from MASCHINE itself. On the right, the Input menu allows you to choose between the available inputs:

▪ If the Source selector is set to Ext, you can select from the four external stereo inputs available in MASCHINE. For each of them you can choose between the left channel, the right channel, and both. For example, for the first external input these will be referred as *In 1 L*, *In 1 R*, and *In 1 L+R*.

▪ If the Source selector is set to Int, you can select from the available Groups and the Master as a source.

(2) **Start settings**

MASCHINE offers two different modes for starting the recording available via the Start Mode selector on the left:

- **Detect**: If Detect is selected, you can set a certain threshold using the Threshold control on the right. After you clicked START, the input signal level exceeding this threshold will start the recording. You can then manually stop the recording by clicking STOP. This is useful to record a singer or an instrumentalist, for example.

  > The threshold is also indicated by a vertical line and two little arrows on the Level meters (**4**). You can also adjust the threshold by dragging this indicator with the mouse.

- **Sync**: If Sync is selected, you can synchronize the recording function to the sequencer, so that the recording starts in sync with the sequencer after you clicked START. The recording will start at the top of the next bar. The Length control on the right allows you to choose a length for the Sample to be recorded: either 1, 2, 4, 8, or 16 bars or choose Free if you want to stop the recording yourself by clicking STOP (**3**).

(3) START, STOP and CANCEL

Click START to start the recording. If you have set the Start Mode selector to Sync, MASCHINE will wait for the next bar before starting to record; if you have selected Detect instead, the recording will start as soon as the Threshold value is met. Once the recording has started, click STOP to stop the recording manually, or CANCEL to cancel the recording — the recorded Sample will not be saved.

(4) Monitoring controls

The Level meters show you at any time the level of the selected audio source. For example, this can come in handy to adjust the appropriate threshold in Detect mode. If you have set the Source selector to Ext, an additional Monitor button (with a loudspeaker symbol) allows you to hear the audio source.

(5) Info bar

Displays the file name and the length of the recorded Sample. Click and hold the little loudspeaker icon on the left to listen to the Sample. When the Sample is played back, the Playhead indicator (**8**) shows you the current play position within the waveform.

(6) Record menu

Command	Description
Delete recording	Deletes the displayed Sample from the Recording History. This has the same effect as clicking the little cross at the top right corner of the selected mini waveform in the Recording History.
Open containing folder	Opens the folder on your hard disk containing the Sample, providing quick access to the original file.

(7) Timeline

Shows the time scale in bars. When you put the mouse cursor over the timeline, the cursor turns into a small magnifying glass: click and drag your mouse horizontally for scrolling through the waveform and vertically to zoom in/out.

(8) Playhead indicator

When the Sample is played back, this white vertical line shows you the current play position within the waveform.

(9) Zoom Tool

Use this to zoom in and out of the Sample by click-dragging up (zoom in) and down (zoom out). You can also use the Timeline (7).

(10) Recording History

All recorded Samples are stored in the Recording History and displayed as mini waveforms at the bottom of the Record page. The following actions are available:

- Click any mini waveform to select the corresponding recording for displaying — you can then further edit this recording via the other pages of the Sample Editor.
- Click the little cross at the top right corner of a mini waveform to delete this particular recording.
- Drag any mini waveform to another Sound slot to load it in that Sound.

Location and Name of Your Recorded Samples

By default, recorded Samples are saved in the Recordings subfolder of your Standard User Directory, as defined on the User Paths page of the Preferences window (see ↑2.4.2, Preferences – Defaults Page). If you activate the Prefer Project Folder option on the General Page of the Preferences window (see ↑2.4.1, Preferences – General Page), recorded Samples will be saved instead in a Recordings subfolder of the folder where your current Project is saved.

Recorded Samples are automatically named using the following scheme:

[YYMMDD]_[HHMMSS].wav

In the name above, [YYMMDD] stands for the current date (year, month, day, all 2-digit numbers) and [HHMMSS] for the current time (hours, minutes, seconds, all 2-digit numbers).

11.2.2 Editing a Sample (Software)

In the EDIT page, you can do the following: adjust the start and end points of the Sample, enable Loop mode, adjust the start and end points of the loop, and set a crossfade between the end and start points of the loop.

> ⚠ If your Sound contains more than one Sample, all your actions in the EDIT page will affect the Sample of the Zone currently selected in the MAP page! See ↑11.2.4, Mapping a Sample (Software) for more info on selecting Zones in the MAP page.

The EDIT page in the software.

(1) **Start and end points of the Sample**

Adjust the start and end points of the Sample by either dragging the small white icons labeled S (for Start) and E (for End) left and right using the mouse, or by adjusting the Start and End parameters here.

> 💡 The start and end point defined here will also be used when processing the audio of the Sample! See below for more info.

> ⚠️ If you defined a loop in the Sample (see below), the loop will always stay within the region defined by the start and end points of the Sample. Therefore, when moving the Sample's start and end points closer to each other, keep in mind that it might also shrink the loop!

(2) **Loop settings**

Here you can define a loop by clicking the LOOP button. When the play position reaches the loop, the playback is looped as long as the note is held. This can be useful to loop either a whole Sample or part of it, e.g., to simulate a longer tone. Note: this technique requires that you choose either AHD or ADSR as the Amplitude Envelope in the Sampler's Parameter pages (see ↑4.2.1, Page 1: Voice Settings and Engine). The loop's start and end points can be edited via the Start and End parameters. Alternatively you can also adjust them by dragging the borders of the loop, and move the entire loop by dragging its title bar. Crossfade allows you to blend a little of the material near the loop start and end points in order to get a smoother, less abrupt loop. This is particularly helpful if the loop is inducing any clicks.

> 💡 By moving the loop's start and end points closer to each other you can shrink the loop to very small values on-the-fly, thereby creating very interesting glitch effects in a live situation.

(3) **Envelope settings**

This amplitude envelope can be used to get rid of clicks after slicing; you can either apply it to the whole Sample or to individual selected Slices.

Parameter	Description
Attack	The Attack determines how quickly the Sample/Slice reaches full volume after being triggered.
Decay	Decay is used to adjust how fast the Sample/Slice dies down.

(4) **Info bar**

Displays the file name and the length of the edited Sample. Click and hold the little loudspeaker icon on the left to listen to the Sample. When the Sample is played back, the Playhead indicator (**7**) shows you the current play position within the waveform.

(**5**) Edit menu

The Edit menu provides several audio editing functions to process your Sample. Click the menu and select the desired audio function. The audio function will be directly performed on the region between the start and end points of the Sample, as defined by the Start and End parameters (**1**).

Available audio functions are described in the next paragraph.

(**6**) Timeline

Shows the time scale in seconds. When you put the mouse cursor over the timeline, the cursor turns into a small magnifying glass: click and drag your mouse horizontally for scrolling through the waveform and vertically to zoom in/out.

(**7**) Playhead indicator

When the Sample is played back, this white vertical line shows you the current play position within the waveform.

(**8**) Zoom Tool

Use this to zoom in and out of the Sample by click-dragging up (zoom in) and down (zoom out). You can also use the Timeline (**6**).

Audio Functions in the Edit Menu

The audio functions will be performed on the region between the start and end points of the Sample, as defined by the Start and End parameters (**1**).

> These audio processing functions are destructive, i.e. they modify the audio material in the Sample. However, your original Sample will not be modified: For each audio function that you perform, a new, distinct copy of the Sample will be saved!

The Edit menu (**5**) provides following audio processing functions:

Command	Description
Truncate	This deletes the part of the Sample that is outside of the selected region.
Normalize	This adjusts the level of the selected region to the maximum possible value without clipping.
Reverse	This reverses the selected region of the Sample.
Fade In	This applies a fade in to the selected region of the Sample.
Fade Out	This applies a fade out to the selected region of the Sample.
DC Fix	This removes the DC offset. DC offset ("Direct Current offset") is an undesirable constant shift in the signal level that might be introduced by some audio processing units. This offset can notably waste some of the available headroom.
Silence	This silences the selected region of the Sample.
Cut	This deletes the selected region from the Sample and places it into the clipboard for later use.
Copy	This copies the selected region of the Sample to the clipboard for later use.
Paste	This pastes the cut/copied region of the Sample, replacing the region of the Sample currently selected.
Duplicate	This duplicates the selected region of the Sample. The copy is placed right after the original region.
Stretch	This allows you to apply time stretching and/or pitch shifting to the selected region of the Sample. See below for a detailed description.

In addition, the Edit menu provides following managing commands:

Command	Description
Remove sample from map	Removes the Sample from the map. See ↑11.2.4, Mapping a Sample (Software) for more info.
Open containing folder	Opens the folder on your hard disk containing the Sample, providing quick access to the original file.
Save sample as…	Saves a copy of the Sample once it has been edited.

Time Stretching / Pitch Shifting

When you select *Stretch* in the Edit menu, the Timestretch window appears. This window allows you to adjust the parameters of the time stretching / pitch shifting function before applying it to the selected region. Pitch shifting and time stretching can be applied independently.
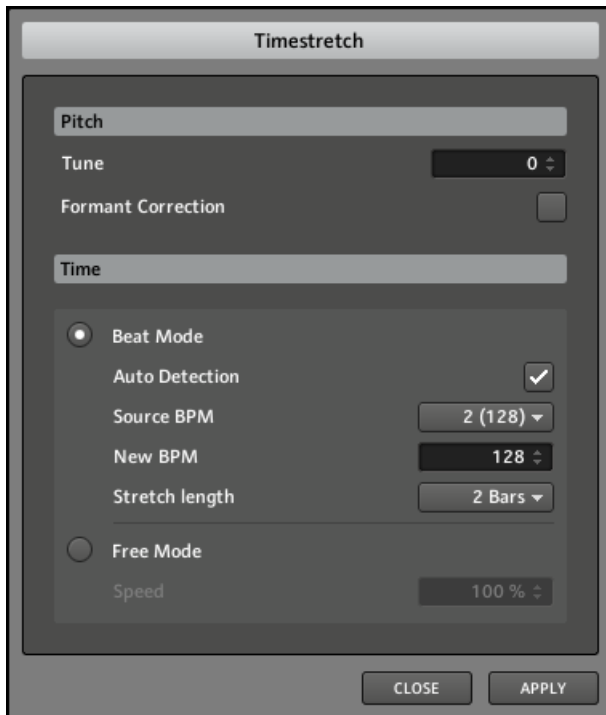
The Timestretch window.

The following parameters are available:

Parameter	Description
Pitch section	**Pitch shifting parameters.**
Tune	Adjusts the detuning (pitch shifting) to be applied (in semitones). Leave this value to 0 to leave the original pitch untouched.

Parameter	Description
Formant Correction	Enables/disables the formant correction. Formant correction allows the pitch-shifted audio to retain the timbre (or "color") of the original audio as much as possible. This is especially useful for melodic instruments.
Time section	**Time stretching parameters.**
Beat Mode	Click this radio button in order to use Beat mode. In Beat mode, the new tempo is defined relatively to the time signature (the beats and bars) of the original audio. This can be useful if you sampled a loop with a clearly defined rhythm (e.g., a drum loop).
Auto Detection (Beat Mode only)	If enabled, MASCHINE automatically detects the tempo of the original audio.
Source BPM (Beat Mode only)	Allows to define the tempo of the original audio (in BPM). This tempo is defined in different ways according to the Auto Detection value: If Auto Detection is enabled, you can set the length (in bars) of the original audio. You can choose between 1, 2, and 4 bars. The number between brackets indicates the resulting tempo (in BPM) derived from the number of bars you have set and the computed tempo value. If Auto Detection is disabled, you can directly define the tempo of the original audio (in BPM).
New BPM (Beat Mode only)	Defines the target tempo of the time-shifted audio (in BPM).
Stretch length (Beat Mode with Auto Detection enabled only)	If Auto Detection is enabled, you can define the length of the target audio (in bars). Please note that any change to the Source BPM value (see above) will be automatically mirrored by this Stretch length value. Once you have set the number of bars in the source audio, you can set here another number of bars, thereby dividing or multiplying the tempo of the target audio. Available values are 1/16, 1/8, 1/4, 1/2, 1, 2, 4, and 8 bars, as well as the corresponding triplet values.
Free Mode	Click this radio button in order to use Free mode. In Free mode, the new tempo is defined independently from the time signature of the source. This is more suited for non-rhythmic Samples. In this mode only one parameter is available: Speed (see below).
Speed (Free Mode only)	Adjusts the new tempo relatively to the original tempo (in percentage). The minimum value is 10 %.

> ⚠ In Beat mode, if you set a target tempo that is smaller than a tenth of the original tempo, all parameter will turn to red and the APPLY button will be disabled. Set a higher target tempo to enable the APPLY button again!

▶ Once you have set the parameters to the desired values, click APPLY to apply the pitch shifting and/or time stretching to the selected region in the Sample, or CLOSE to let the Sample untouched.

11.2.3 Slicing a Sample (Software)

Slicing allows you to chop up loops to be able to extract single Sounds (the drum sounds of a drum loop for example), but is also good for preparing a loop to be played back at another than the original tempo without changing its pitch or timing.

> ⚠ If your Sound contains more than one Sample, all your actions in the SLICE page will affect the Sample of the Zone currently selected in the MAP page! See ↑11.2.4, Mapping a Sample (Software) for more info on selecting Zones in the MAP page.

→ You can see that your loop now has a couple of equally spread vertical lines in the waveform: this is where the Slices are going to be applied (i.e. cut).

You can select and listen to individual Slices by clicking on their waveform.

The SLICE page in the software.

(1) Slicing Mode settings

Parameter	Description
Mode	Here you can select either *Split*, *Grid* or *Detect*: **Split mode**: The Sample will be sliced into equally spread Slices. **Grid mode**: The Sample will be sliced according to note values. **Detect mode**: The Sample will be sliced according to its transients.
Slices	Depending on the mode selection you have made (see Mode above), you can adjust the following here: In Split mode: Slices lets you choose the amount of Slices: 4, 8, 16 or 32. In Grid mode: Length lets you choose the length of the Slices in note values: 4th, 8th,16th or 32nd notes. In Detect mode: Sens lets you adjust the sensitivity of the transient detection. Higher values will cause more Slices to be detected because more transients will be recognized, lower values will result in less Slices. This parameter should be adjusted until all the musically significant slices are being detected in the waveform.

(2) Tempo settings

Parameter	Description
Auto	If this radio button is selected, MASCHINE will calculate the tempo automatically.
Man	If this radio button is selected, you can enter the tempo in BPM manually.
BPM	If you have selected Auto, you can choose between the tempo that MASCHINE detected, or half or double of that tempo. If you have selected Man, you can adjust the tempo manually.

(3) ADD and REMOVE

Element	Description
ADD	Adds a Slice within the selected Slice according to the Slicing Mode settings.
REMOVE	Removes the selected Slice.

(4) APPLY and Loop Dragger

Element	Description
APPLY	Exports the Slices to the same Sound. If you click APPLY, the Slices will be mapped to individual notes of this Sound, the Sample Editor will be replaced by the Pattern Editor in Keyboard view, and a new Pattern will be created with one note for each pitch so that the Pattern reproduces the original, unsliced Sample.
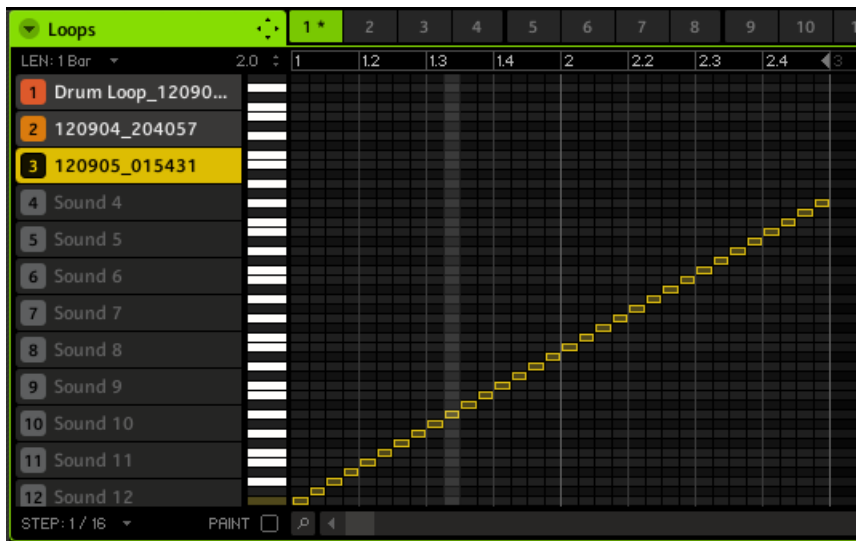
A new Pattern with the notes representing the Slices of the Sample.

> Play around with the slicing feature by removing some of these notes, quantizing or completely rearranging them!

These notes represent the Slices and trigger them in order to play the loop with correct timing and pitch. Try changing the tempo now, and you will hear that the loop automatically adjusts to the new tempo.

Element	Description
Loop Dragger	Drag the Loop Dragger to export the Slices to another Sound or another Group.
	If you drag to a Group, the Slices will be mapped to individual Sounds, the Sample Editor will be replaced by the Pattern Editor in Group view, and a new Pattern will be created with one note for each Sound so that the Pattern reproduces the original, unsliced Sample.
	If you drag to a Sound, the Slices will be mapped to individual notes of this Sound, the Sample Editor will be replaced by the Pattern Editor in Keyboard view, and a new Pattern will be created with one note for each pitch so that the Pattern reproduces the original, unsliced Sample.

(5) Info bar

Displays the file name and the length of the edited Sample. Click and hold the little loudspeaker icon on the left to listen to the selected Slice. When the Slice is played back, the Playhead indicator (**8**) shows you the current play position within the waveform.

(6) Slice menu

Remove sample from map	Removes the Sample from the map. See ↑11.2.4, Mapping a Sample (Software) for more info.
Open containing folder	Opens the folder on your hard disk containing the Sample, providing quick access to the original file.
Save sample as…	Saves a copy of the Sample.

(7) Timeline

Shows the time scale in seconds. When you put the mouse cursor over the timeline, the cursor turns into a small magnifying glass: click and drag your mouse horizontally for scrolling through the waveform and vertically to zoom in/out.

(8) Playhead indicator

When the selected Slice is played back, this white vertical line shows you the current play position within the waveform.

(9) Zoom Tool

Use this to zoom in and out of the Sample by click-dragging up (zoom in) and down (zoom out). You can also use the Timeline (**7**).

Adjusting Slices on the Waveform Display

On the waveform display you can adjust individual Slices by dragging their borders:
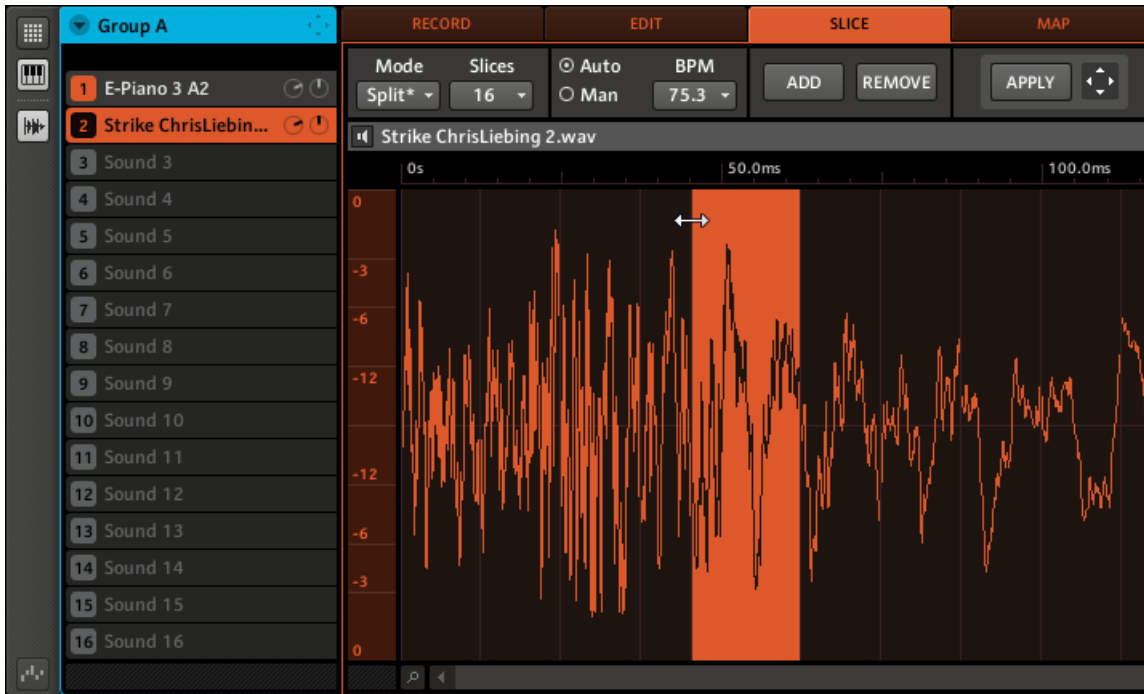
Dragging the border of a Slice: adjusting its start point.

You can also copy an individual Slice to another Sound by drag-and-drop:
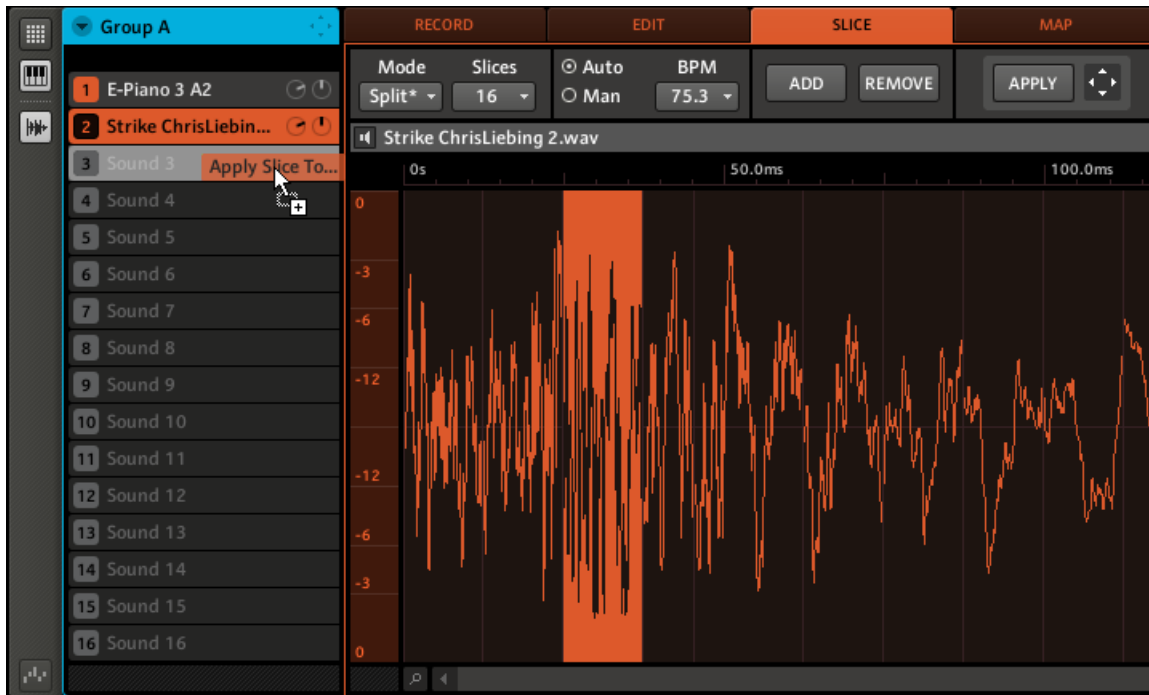
Dragging an individual Slice to another Sound.

11.2.4 Mapping a Sample (Software)

Mapping Samples is a way to create Sounds with more than one Sample across the MIDI keyboard and with different velocities. The MAP page allows you to create and adjust **Zones** that define a key (or pitch) range and a velocity range for each Sample included in the Sound. In other terms, the Sample will be triggered only if the played note is within its Zone's key range and velocity range.

The Zones can overlap, allowing you to trigger different Samples at once or triggering different Samples depending on how hard you hit the pads. The set of all Zones define the **Sample Map** (or "**Map**" for short) of the Sound.

Adding a Sample to the Sample Map

1. Select an empty Sound slot, then open the Sample Editor (by clicking the button with the waveform icon on the left of the Pattern Editor), and click the MAP tab to show the MAP page:
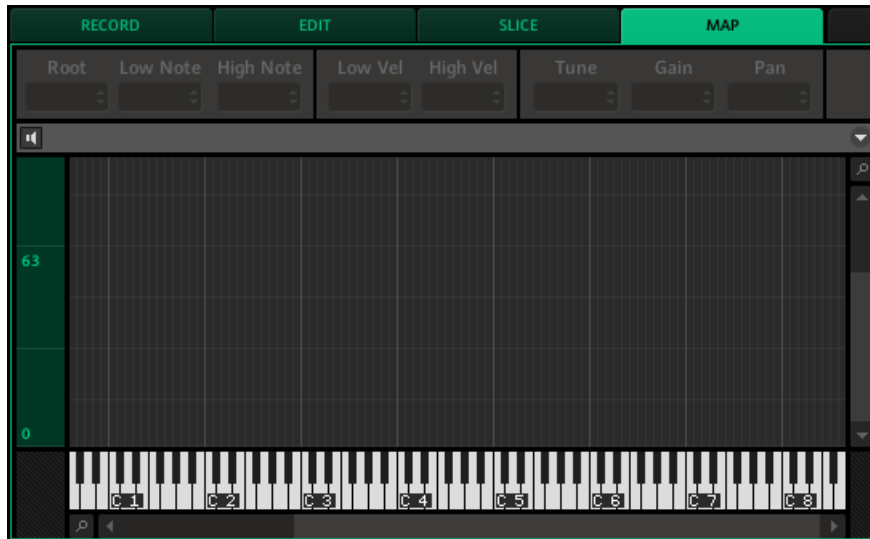
► To add a new Sample, select one from the Browser and drag it onto the Mapping area (the biggest part in the middle of the MAP page). Once your mouse is hovering the Mapping area, and *before* you release the mouse button:

- Drag your mouse horizontally to choose the root note of the new Zone

- Drag your mouse vertically to adjust the key range: With your mouse at the bottom of the Mapping area the Zone will cover the root note only; dragging your mouse up will extend the Zone's key range up to one octave around the root note; with your mouse at the top of the Mapping area, the Zone will cover the entire keyboard.

→ As you release the mouse button, the Zone is created.

You can add other Samples to the Sound via this method.

> You can also drag several Samples to the Map at once: Hold [Ctrl] on your computer keyboard, click the desired Samples in the Browser, and drag them to the Sample Map.

The note range of several Zones can overlap, as can the velocity range.
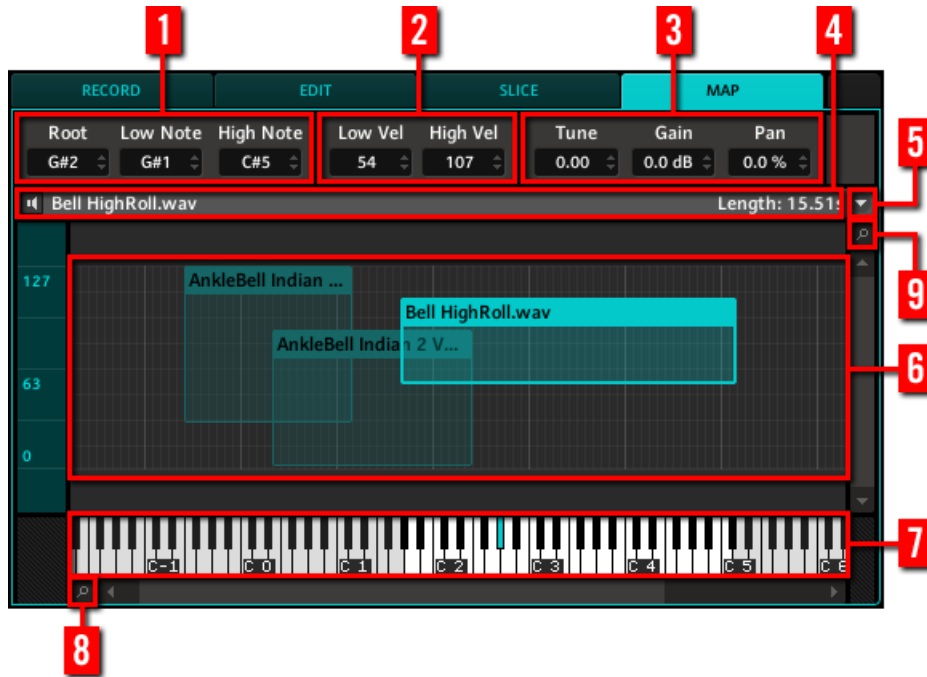
The MAP page in the software.

(**1**) **Note settings**

These settings affect the Zone(s) selected in the Mapping area (**6**).

Parameter	Description
Root	Adjusts the **root note** of the selected Zone, that is the key at which the Sample will be played back at its original pitch. The root note is also indicated by the colored key on the virtual keyboard (**7**); to change it, you can drag it to another note on the keyboard.
Low Note	Sets the lowest note (key) of the selected Zone. Alternatively, you can drag the left border of the Zone in the Mapping area (**6**).
High Note	Set the highest note (key) of the selected Zone. Alternatively, you can drag the right border of the Zone in the Mapping area (**6**).

(2) Velocity settings

These settings affect the Zone(s) selected in the Mapping area (**6**).

Parameter	Description
Low Vel	Defines the lowest velocity of the selected Zone. Alternatively, you can drag the lower border of the Zone in the Mapping area (**6**).
High Vel	Defines the highest velocity of the selected Zone. Alternatively, you can drag the higher border of the Zone in the Mapping area (**6**).

(3) Tune, Gain, and Pan settings

These settings affect the Zone(s) selected in the Mapping area (**6**).

Parameter	Description
Tune	Sets the tuning of the selected Zone.
Gain	Sets the gain of the selected Zone.
Pan	Sets the panorama position of the selected Zone.

(4) Info bar

Displays the file name and the length of the Sample contained in the last selected Zone. Click and hold the little loudspeaker icon on the left to listen to the Sample.

(5) Map menu

The Map menu provides following commands:

Command	Description
Remove sample(s) from map	Removes the selected Zone(s) and the corresponding Sample(s).
Open containing folder	Opens the folder on your hard disk containing the Sample of the last selected Zone, providing quick access to the original file.
Save sample as…	Saves a copy of the Sample(s) corresponding to the selected Zone(s).

(6) Mapping area

The Mapping area shows all Zones contained in your Sound. The horizontal axis represents keys (or pitches) from C-2 to G8, while the vertical axis represents velocities from 0 to 127. Each Zone is depicted as a rectangle defining a specific key range (the rectangle's width) and a velocity range (the rectangle's height). Any note played within these key and velocity ranges will trigger the Sample of that Zone.

You can zoom in/out both horizontally and vertically via the Zoom Tools (**8**) and (**9**), respectively.

Each Zone header displays the name of the corresponding Sample.

Click a Zone to select it. The selected Zone is highlighted; its info and parameters are displayed above (**1**)–(**5**). You can select several Zones at once by holding [Shift] on your computer keyboard and clicking each Zone.

Several actions on Zones are available with your mouse in the Mapping area — see the next paragraph for more info.

(**7**) **Virtual keyboard**

Below the Mapping area, the virtual keyboard represents the entire key scale. On the keyboard, keys included in the key range of the selected Zone are black and white, while keys outside the range are grayed out. The root note of the selected Zone is indicated by the colored key. You can drag this key with the mouse to modify the root note.

(**8**) **Horizontal Zoom Tool**

Use this to zoom in and out horizontally by click-dragging up (zoom in) and down (zoom out).

(**9**) **Vertical Zoom Tool**

Use this to zoom in and out vertically by click-dragging up (zoom in) and down (zoom out).

Selecting and Editing Zones with the Mouse

You can select and edit Zones with your mouse in the Mapping area. Following actions are available:

Mouse Action	Edit Command
Click a Zone	Selects this Zone. The selected Zone is highlighted. You can then edit its Sample on the EDIT page, and even slice it on the SLICE page.
Hold [Shift] and click several Zones	Selects all clicked Zones. This notably allows you to edit parameters for several Zones simultaneously.
Click and drag a selection frame in the Mapping area	Selects all Zones within or overlapping the frame.
Drag the left/right border of a Zone	Adjusts the Zone's key range in which the Sample will be triggered.
Drag the higher/lower border of a Zone	Adjusts the Zone's velocity range in which the Sample will be triggered.
Drag a corner of a Zone	Simultaneously adjusts the lowest/highest note and the lowest/highest velocity of the Zone (depending on the corner).
Click inside a Zone and drag	Moves the Zone across the Mapping area.
Double-click a Zone	Opens its Sample in the EDIT page for editing.

For more info on the EDIT and SLICE pages, please refer to section ↑11.2.2, Editing a Sample (Software) and ↑11.2.3, Slicing a Sample (Software), respectively.

12 The Master

The Master is the place where all signals from the Groups are being mixed together and their panorama position is set. Just like the Groups and Sounds, the Master can host up to four insert effects.

12.1 The Master Properties

The Master Properties are organized into three sets: Mix, Groove, and Output Properties.

Here is a quick reminder on how to select and adjust Properties. For all details on how to display and adjust the Properties, please refer to section ↑4.4.1, Selecting a Set of Properties and ↑4.4.2, Adjusting the Properties.

Hardware

To display the desired Master Properties:

1. Press CONTROL to enter Control mode.
2. Press Button 1 to select MASTER.
3. Make sure MODULES (Button 4) is *deactivated* to show the Master Properties.
4. Press Button 5 (MIX), Button 6 (GRV) or Button 8 (OUT) to select the Mix, Groove or Output Properties, respectively.

→ The corresponding Properties are shown in the displays of your controller.

To adjust the displayed Properties:

1. Press the dim lit Page buttons at the left of the displays to step through the various Parameter pages, if any. If all parameters are on a single Parameter page, both Page buttons are off.
2. Turn Knobs 1-8 to adjust the values of the parameters in the displayed page.

Software

To display the desired Master Properties:

1. At the top left of the Control area, click the MASTER tab.
2. At the bottom left of the Control area, click the MIX, GRV or OUT button in the Property selector.

→ The corresponding Properties are displayed in the Parameter area on the right.

To adjust the displayed Properties:

1. Click the Page menu (the little arrow) at the top left of the Parameter area to step through the various Parameter pages, if any. If all parameters are on a single Parameter page, the arrow of the Page menu is greyed out and disabled.
2. Use the mouse to adjust the values of the parameters in the displayed page.

12.1.1 Master – Mix Properties (MIX)

The Mix Properties allow you to adjust the level and panoramic position of each Group in your Project. In other terms, you can adjust here the mix between your Groups that will be sent at the master output.

Page 1: Level

Page 1 of 2 from the Master's Mix Properties on the controller.

Page 1 of 2 from the Master's Mix Properties in the software.

Controls	Description
Level	
Knobs A–H	These knobs allow you to adjust the volume level of each Group. These controls are also available in the Output Properties of the respective Groups (see ↑5.1.4, Group – Output Properties (OUT) for more info).

Page 2: Panoramic Position
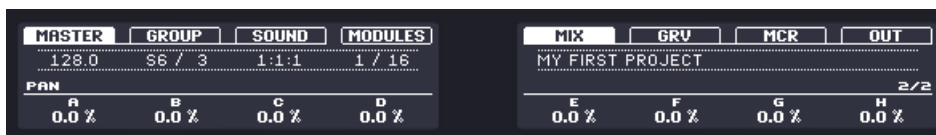
Page 2 of 2 from the Master's Mix Properties on the controller.

Page 2 of 2 from the Master's Mix Properties in the software.

Controls	Description
Pan Section	
Knobs A–H	These knobs allow you to adjust the panoramic position of each Group in the stereo field. These controls are also available in the Output Properties of the respective Groups (see ↑5.1.4, Group – Output Properties (OUT) for more info).

12.1.2   Master – Groove Properties (GRV)

The Groove Properties control the rhythmic relationship between events. By shifting some of the events, you can e.g. give a shuffling, ternary touch to your Patterns.

At the Master level, the Groove Properties affect all Sounds of all Groups. The Master's Swing is added to the Swing set for each individual Group and Sound via their own Groove Properties.

The Master's Groove Properties on the controller.

The Master's Groove Properties in the software.

Controls	Description
Groove	
Swing	Adjusts the amount by which some events are shifted. At 0 % events are not shifted. Raise the Swing value to increase the strength of the effect.

> Alternatively, you can quickly alter the Swing value of the Master in the MASTER section of your controller by activating SWING and turning the Control encoder. To change the Swing value of a Group, activate SWING, hold the corresponding Group button and turn the Control encoder. To change the Swing value of an individual Sound, activate SWING, hold the corresponding pad and turn the Control encoder.

12.1.3 Master – Output Properties (OUT)

The Master's Output Properties allow you to route the overall audio output of your MASCHINE Project. You can choose any stereo output from the 16 virtual outputs available.

The Master's Output Properties on the controller.

The Master's Output Properties in the software.

Controls	Description
Main	
Output	Defines where you want to send the master output of your MASCHINE Project. Click the displayed value and select the desired output from the 16 external stereo outputs *Out 1–16*.
Level	Adjusts the overall volume level of the master output. This control is the same as the Master Volume slider in the Header, at the top right corner of MASCHINE's window.
Pan	Defines the panoramic position of the master output in the stereo field.

> If MASCHINE is running as a plug-in, the external stereo outputs *Out 1–16* available in the Output selector will correspond to virtual outputs in your host.

> Alternatively, you can quickly alter the Level value of the Master in the MASTER section of your controller by activating VOLUME and turning the Control encoder. To change the output level of a Group, activate VOLUME, hold the corresponding Group button and turn the Control encoder. To change the output level of an individual Sound, activate VOLUME, hold the corresponding pad and turn the Control encoder.

12.2 Exporting Audio

MASCHINE provides you with flexible functions to export audio files from your Project.

12.2.1 Export Audio

In some cases you might want to export the audio of your Groups, Sounds or your complete song as audio files in order to edit them further in other applications or burn a CD. The format of the exported audio files is WAV.

> ⚠ The export function is only available in the software!
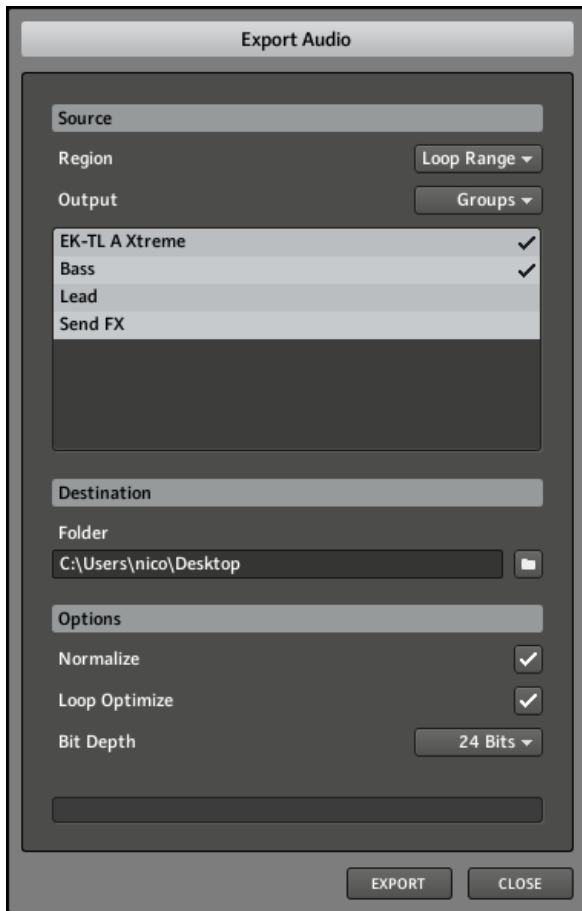
The Export Audio window.

The Export Audio window allows you to configure how you want to export audio. Following parameters are available:

Element	Description
Source	
Region	Selects the region to export:
	All Scenes: Includes all Scenes in the exported audio file.
	Loop Range: Includes only the current loop range in the exported audio file. See ↑10.4.2, Selecting a Loop Range for more info on the loop range.
Output	Selects what will be exported:
	Master: Select this to export the Master output signal (including all Groups and Sounds and their effects) to one audio file.
	Groups: Select this to export the output signals of specific Groups to individual audio files. When this entry is selected, a list appears underneath with the Groups available for exporting. Empty Group slots, muted Groups, and Groups containing only muted Sounds are not listed. Click the desired entries in the list to include/exclude the corresponding Groups. Groups with a check mark will be exported.
	Sounds: Select this to export the output signals of specific Sounds to individual audio files. When this entry is selected, a list appears underneath with the Sounds available for exporting. Empty Sound slots and muted Sounds are not listed. Click the desired entries in the list to include/exclude the corresponding Sounds. Sounds with a check mark will be exported.
Destination	
Folder	Allows you to choose a folder on your hard disk where you want to save the exported audio file(s).
Options	
Normalize	If this option is checked, the resulting audio file(s) will be normalized, i.e. the exported audio will be brought to the highest possible level (0 dBFS) without clipping.
Loop Optimize	Optimizes the exported audio file for use as a loop:
	If Loop Optimize is disabled, the exported audio file will be prolonged to keep, e.g., the tail of a reverb.
	If Loop Optimize is enabled, the exported audio file will have the exact duration of the exported region. Any effect tail will be rendered into the beginning of the audio file.

Element	Description
Bit Depth	Selects from three different bit depths (or bit resolutions) for the exported audio file: *8 Bit* (produces a lo-fi sound typical of many vintage samplers and drum machines), *16 Bit* (this is the bit depth of the audio CD format) and *24 Bit* (the highest available bit depth in MASCHINE, best for mastering).
EXPORT	Click EXPORT to start exporting your audio file(s) according to the current settings.
CLOSE	Click CLOSE to close the window without exporting anything.

12.2.2 Saving a Project with its Samples

Sometimes it is useful to have the ability to save all Samples used in your Project outside of the MASCHINE Library. If you want to take a Project to another studio or if you want to backup a production with all the related files, this comes in handy.

1. Choose *Save Project with Samples…* from the File menu or the *File* submenu in the Plug-in menu:
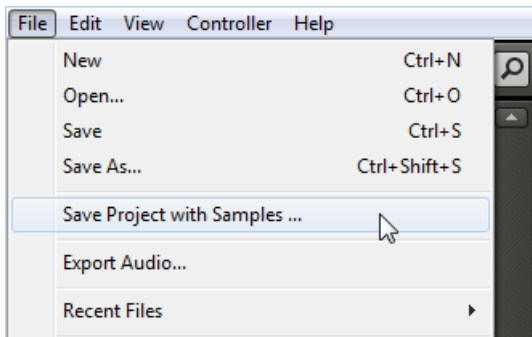
    You will be presented with the Save Project with Samples window:
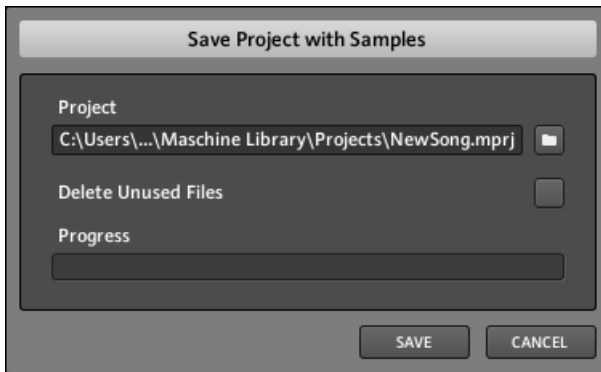
2. In this window, adjust the settings (see table below) and click SAVE to confirm or CANCEL to cancel the operation.

Element	Description
Project	Displays the name and location of the Project file to be created. The Samples will be put in a folder with the same name in the same location. By default, the Project file inherits the name of the Project and it will be saved in the "Projects" subfolder of your Standard User Directory (as defined in *Preferences > User Paths*, see section ↑2.4.2, Preferences – Defaults Page for more info). Click the folder icon on the right to select another name and/or path.
Delete Unused Files	Enable this checkbox to delete unused files, thereby minimizing the amount of audio data.
Progress	Shows the level of progress MASCHINE has made exporting the Project and its Samples.

You can also save single Groups with their Samples. See ↑5.2.4, Saving a Group with its Samples for more on this.

13 Troubleshooting – Getting Help

This chapter assists you in solving common issues with MASCHINE and provides you with the necessary information for getting further assistance.

Before getting help please make sure you have downloaded the latest MASCHINE software and documentation from Service Center!

13.1 Troubleshooting

A few common issues and possible solutions when working with MASCHINE are listed in this section.

13.1.1 The MASCHINE Software Won't Start

- Check the system requirements for MASCHINE. The minimum requirements are the very least you can get by with and are often not enough for advanced use (e.g., many effects, complex routing…). Increasing your RAM may save you a lot of trouble.

- Make sure you have the most recent version of the MASCHINE software installed. You can find the latest available version following this link:
  http://www.native-instruments.com/updates

- Make sure that you have not clicked an outdated application alias/shortcut.

- Try to restart your computer. Disconnect any other audio interfaces and computer peripherals like printers, scanners, and the like.

13.1.2 Latency Issues

- Please check if your computer is suited for handling real-time audio processing without dropouts. In general, it is not recommended to use laptops with shared-memory graphic cards. You will need all the memory and processing power available for your audio software.

- It is not recommended to run the laptop on battery, as built-in power management systems might slow the clock rate of the CPU in an effort to extend battery life.

- Disconnect all unused hardware (e.g., printer, scanner). This will increase the amount of processing power available for your music software.

- Laptops often are equipped with built-in devices that disturb audio processing, most commonly Bluetooth transceivers, an Ethernet network adapter, or a wireless LAN card. You might need to disable these devices while working with MASCHINE.

13.1.3   The MASCHINE Software Crashes

In case of a crash during runtime, please contact the Native Instruments technical support team as described in section ↑13.2.2, Technical Support and send them your crashlog and a detailed description of what you were doing with the software just before the crash happened. You will find the crashlog in the following folders:

- Windows: *My Documents\Native Instruments\Maschine\Crashlogs*
- Mac OS X: *Users/~/Library/Logs/CrashReporter*

13.1.4   Updates

Whenever you encounter problems, it is recommended that you first download and install any available software updates. Updates are released regularly to fix known problems, maintain compatibility with operating system updates, and to continuously improve the software. The version number of your software is displayed in the About dialog for any Native Instruments application. This dialog can be opened by clicking on the NI logo in the upper right corner of the user interface. Alternatively, you can find the version numbers of all installed Native Instruments applications when showing the details for an application within the Overview page of the Service Center. Updates are available on the Update page in Service Center or on our website under:

http://www.native-instruments.com/updates

13.2 Getting Help

If you are experiencing problems related to your Native Instruments product that the supplied documentation does not cover, there are several ways of getting help!

> 💡 The links in the following sections can also be reached from the Service Center application: Open the Service Center application and click on the Support button in the upper-right corner.

13.2.1 Knowledge Base

The Online Knowledge Base gathers useful information about your Native Instruments product and can be of great help to solve possible issues you may encounter. You can reach the Knowledge Base via:

www.native-instruments.com/knowledge

13.2.2 Technical Support

If no Knowledge Base entry matches your problem, or if the matching entry does not solve the problem, you can use the Online Support Form to contact the Technical Support team of Native Instruments. The Online Support Form will ask you to enter information about your hardware and software setup. This information is essential for our Support team to be able to provide you with quality assistance. You can reach the Online Support via:

www.native-instruments.com/suppform

When communicating with the Native Instruments Support team, keep in mind that the more details you can provide about your hardware, your operating system, the version of the software you are running, and the problem you are experiencing, the better they will be able to help you.

In your description, you should mention:

- How to reproduce the problem
- What you have already tried to fix the problem
- A description of your setup, including all hardware and the version of your software

▪ The brand and specifications of your computer

When installing new software or software updates, a Readme file is included that contains late breaking news and new information that was not yet included in the documentation. Please open and read this Readme file before contacting Technical Support.

13.2.3 Registration Support

If problems occur during the product activation procedure, please contact our Registration Support team:

www.native-instruments.com/regsuppfrm

13.2.4 User Forum

In the Native Instruments User Forum, you can discuss product features directly with other users and with experts moderating the forum. Please be aware that the Technical Support team does not participate in the forum. If you're encountering an issue that can't be solved by other users, contact Native Instruments' Technical Support team via the online support as described above. You can reach the User Forum via:

www.native-instruments.com/forum

14   Appendix: Tips for Playing Live

MASCHINE is a very hands-on tool for producing music as well as for performing live. Here we have specifically gathered some tips to help you when playing live. If you are used to playing live, you may not need them, but maybe you will find some new ideas to integrate into your set.

14.1   Preparations

14.1.1   Focus on the Hardware

In a live situation it is not very comfortable or intuitive to look back and forth from your laptop screen running the MASCHINE software to the MASCHINE hardware controller.

14.1.2   Customize the Pads of the Hardware

Take your time to setup the pad sensitivity and velocity scaling to your personal taste (see section ↑2.4.6, Preferences – Hardware Page to learn how to do that) — you will have even more fun playing MASCHINE.

14.1.3   Check Your CPU Power Before Playing

Some things can be very embarrassing, for example if you are on stage and your computer starts to have the hiccups because it cannot handle the amount of effects you are using. Although the MASCHINE software is programmed very efficiently, this might happen if your computer is quite old. So before you get on stage, give your live set a thorough performance check by first playing it at home. Have a look at the CPU meter in the MASCHINE software's Header to ensure it never turns red. If necessary, increase the Latency value (see ↑2.5, Audio and MIDI Settings).

14.1.4 Name and Color Your Groups, Patterns, Sounds and Scenes

Naming and coloring your Groups, Patterns, Sounds and Scenes gives you a better overview of exactly what you are doing. The colors you select are mirrored on the controller. This is especially helpful if you focus on playing with the MASCHINE controller. It might not be something that is very interesting, but it certainly pays off in a hectic live situation.

14.1.5 Consider Using a Limiter on Your Master

This sounds rather conservative, but if you want to avoid digital distortion caused by an overload of your audio interface, this is a useful safety measure. However, you might experience a somewhat squashed and dull sound if you overuse the Limiter by feeding a lot of loud signals to it. Try it out and see what works best for you! See ↑8.1.3, Transient Master for more info.

14.1.6 Hook Up Your Other Gear and Sync It with MIDI Clock

If you have other gear such as a drum machine, a synthesizer or another sequencer that is able to send MIDI Clock, hook it up to the MASCHINE controller's MIDI IN socket and activate *Sync to External MIDI Clock* from MASCHINE's File menu so that they can play together in sync. MASCHINE can also receive MIDI Clock via an internal MIDI port, so you can synchronize it with another software. You can also let MASCHINE send the MIDI Clock signal by activating *Send MIDI Clock* from MASCHINE's File menu. Please refer to section ↑2.5.3, MIDI Page for more info on these features. Make sure to also setup the Sync Offset Slave value correctly (see chapter ↑2.4.1, Preferences – General Page) so that all your devices and MASCHINE are tightly synchronized.

14.1.7 Improvise

It is nice if a live set is working out exactly the way you planned it, but sometimes, this can get boring for you as well as for the audience. Something unexpected or even plain mistakes can be the key for inspiring tracks and performances as well as just jamming around with your Sounds and Samples!

14.2 Basic Techniques

14.2.1 Use Mute and Solo

Mute and Solo are a good way to build up a live set especially on the MASCHINE controller as you can mute and solo Groups and Sounds at the same time.

By pinning the Mute and Solo mode (press Button 1 simultaneously for this), you have both hands free to mute or solo Sounds and Groups. Since soloing a Sound mutes all Sounds except one, the MUTE button can then be used to "release" Sounds that have been muted. You can use this technique to create a breakdown: Solo a given Sound such as a kick drum, then build the track up again by bringing the muted Sounds back in one at a time with the MUTE button. See ↑4.6, Mute and Solo for more on this.

14.2.2 Use Scene Mode and Scene Sync

Scene mode is useful to trigger different parts of an arrangement by switching Scenes or changing the loop range. By using a short value for the Scene Sync, you can quickly combine Scenes and create new variations. Please refer to section ↑10.4, Playing with Scenes for more info.

14.2.3 Create Variations of Your Drum Patterns in the Step Sequencer

You can easily create interesting drum patterns by adding or removing steps in the step sequencer. Breaks and build-ups like snare rolls or a double-tempo hi-hat can be created on the fly. See ↑6.1.6, Using the Step Sequencer for more info on the step sequencer.

14.2.4 Use Note Repeat

Note Repeat is a very useful tool for playing live: use it to add some additional drums, drop in some effect sounds, play a bassline or a melody. Note Repeat is also interesting to use with tonal Sounds and you can access it from Keyboard mode to create synthesizer-like arpeggios. See ↑6.1.7, Using Note Repeat for more info.

14.2.5 Set Up Your Own Multi-effect Groups and Automate Them

You can setup multi-effect Groups containing all the effects you want to use in a live set. You can find several multi-effects in the Library (check the Browser for the Multi FX Bank) to give you an idea of what works for you. To be able to quickly change and modulate the effect settings, you can set automation for the multi-effect as Patterns from within the MASCHINE software. By using Patterns for the multi-effect Group you could for example trigger a filter-sweep or a wild modulated Beat Delay. See ↑9.5, Creating Multi-effects for more details!

14.3 Special Tricks

14.3.1 Changing Pattern Length for Variation

Try a short Pattern Length resolution like a quarter or eighth note and change the Pattern Length in Pattern mode (see chapter ↑6.1.11, Step Grid, Pattern Length, and Quantization) using Button 1 to create variations of a Pattern. If you select an even smaller value like 1/64th you can create stuttering breaks and rolls.

14.3.2 Using Loops to Cycle Through Samples

You can use loops to cycle through Samples, creating glitches and stuttering breaks or interesting soundscapes. Just enter the EDIT page in Sampling mode on your controller, enable the LOOP MODE and play with the Knobs for the start and end point of the loop. Use the SHIFT button to change the values in smaller increments. See ↑11.1.2, Editing a Sample (Hardware) for more on this. Note: this technique requires that you choose either AHD or ADSR as the Amplitude Envelope in the Sampler's Parameter pages (see ↑4.2, The Sampler Module).

14.3.3 Load Long Audio Files and Play with the Start Point

As you know you can adjust the start point of a Sample in the Sampler's Parameter pages (see ↑4.2, The Sampler Module). If you load a long audio file, you can create interesting variations by tweaking the start point.

15   Glossary

In this glossary you will find short definitions for numerous terms used in the MASCHINE context. If you have any doubts about the meaning of a word, this is the place to check!

Arranger

The Arranger is the big area located in the upper part of the MASCHINE window, right under the Header. On its left you can select Group slots. The Arranger allows you to combine Clips (references to Patterns) into Scenes, and arrange these Scenes into a song. You can adjust the Scene Sync resolution in order to adjust transitions between Scenes.

Autoload

When Autoload is enabled, any Group, Sound, Pattern, Module preset (instrument or effect), or Sample that you select in the Browser is instantly loaded into the selected Group slot, Sound slot, Pattern slot or Module slot. This way, you can listen to this object in the current context of your song.

Automation

Automation allows you to record changes of parameter values so that you don't need to actuate these parameters in real-time. Any automated parameter is displayed both in the Automation Lane (at the bottom of the Pattern Editor) and as a movement of the chosen parameter itself in the Control area.

Automation Lane

Located at the bottom of the Pattern Editor in the MASCHINE window, the Automation Lane shows and lets you edit the recorded automation in form of automation points for each automated parameter. You can add, remove, or manipulate existing automation points as well as add new parameters to automate.

BPM

BPM stands for "beats per minute." It is the most common unit to measure the tempo in a musical context.

Browser

The Browser is the front end for accessing all MASCHINE objects: Projects, Groups, Sounds, Patterns, presets for instrument and effect Modules, and Samples. Each of these can be stored, "tagged," and categorized in a way that allows you easy access to all of them. MASCHINE's factory library is already completely tagged, and you can also import your own files to the Library and tag them as well.

Bussing point

A bussing point is a point in the signal flow that can accept signals coming from various locations in the audio routing system. In MASCHINE for example, the first Module slot of a Sound usually contains a sound source (which you will hear by pressing the corresponding pad on your controller). If you load an effect Module in this first Module slot, though, the Sound won't generate audio itself but instead it becomes available for other Sounds and Groups to process their audio. You then only have to set up the desired Sound(s) and Group(s) of your Project to send some of their audio to this bussing point. This basically is the way to set up send effects in MASCHINE!

Clip

Clips are found in the Arranger in form of colored blocks. Clips are the building blocks for Scenes. A Clip is a reference to a particular Pattern. In one Scene you can create one Clip for each Group — in other terms, in each Scene you can play one Pattern of each Group. You can create more than one Clip referencing the same Pattern in different Scenes. When you modify your Pattern in the Pattern Editor, all Clips referencing this Pattern in the Arranger will get updated accordingly.

Control Area

The Control area is located in the middle of the MASCHINE window, between the Arranger (above) and the Pattern Editor (below). This area allows you to adjust all parameters (Properties and Modules) for the selected Sound/Group or the Master level: routing, effects, plug-ins, mixing, Macro Controls, etc.

Control Mode

Control mode is the default mode of your controller. In this mode, you can play or record your actions in real-time. Control mode also allows you to easily adjust any parameter of your Groups and Sounds via the CONTROL section of your controller.

Effect (FX)

An effect modifies the audio material it receives. MASCHINE already includes many different effects. You may also use VST/AU plug-in effects. Effects can be loaded as Modules in any Module slot of the Sound, Group, and Master levels. MASCHINE's flexible routing allows you not only to apply insert effects but also to create send effects and multi-effects.

Event

Events are the individual drum hits or notes that make up a Pattern. In the Pattern Editor, events are visually represented by rectangles in the Step Grid. Depending on the current view in the Pattern Editor, you can see events for all Sounds slots (Group view) or for the select Sound slots only (Keyboard view).

Groove Properties

The Groove Properties control the rhythmic relationship between events for the selected Group/ Sound or the Master level. By shifting some of the events, you can e.g. give a shuffling, ternary touch to your Patterns. The main parameter of the Groove Properties is the Swing control.

Group

A Group contains 16 Sound slots, each of which can hold one Sound. In addition to the effects applied to individual Sounds, a Group can have up to four insert effects loaded in its Module slots. These affect all the Sounds in the Group. A Group can also contain up to 64 Patterns organized into four Pattern Banks.

Group View

Group view is the view of the Pattern Editor in which events for all 16 Sound slots of the selected Group are visible and editable. In Group view, each row of the Step Grid represents a different Sound slot. This mode is well suited for rhythmic instruments (e.g., a drum kit).

Insert Effect

An insert effect is an effect directly inserted in the signal path of the audio to be processed.

Instance

You can run several instances of the MASCHINE plug-in simultaneously in your host environment — the only limit being the resources of your computer! At any time you can switch the focus of your hardware controller between the plug-in instances. You can even use different controllers (e.g., a MASCHINE MK2 controller and a MASCHINE MIKRO MK2 controller) to control different plug-in instances.

Header

The Header is the topmost row of controls in the MASCHINE software window. It contains global settings, such as the Master Volume slider, the Transport controls, controls for global swing, tempo, time signature, etc.

Keyboard View

Keyboard view is the view of the Pattern Editor in which only events of the selected Sound are visible and editable. The Keyboard view provides a vertical on-screen keyboard that indicates the pitch of each event (one row per semi-tone). This mode is well suited for melodic instruments (e.g., synthesizer). The Keyboard view of the Pattern Editor and the Keyboard mode on your controller are bound together: If you enable Keyboard view in the Pattern Editor, your controller automatically switches to Keyboard mode, and inversely.

Latency

The term latency refers to the period of time a computer (or any digital device) needs to process an audio signal. It is usually measured in milliseconds. If the latency is too high, it can be disturbing while music recording and playback. This applies for example if you record a software instrument via a MIDI controller keyboard and the latency is so high that there is an audible delay between hitting a key and the playback of the audio signal through the speakers. Thus, the latency should be set as low as possible to avoid audible delays. However, if the latency is set too low, distortion, crackles and dropouts may occur because the computer cannot process the audio material quickly enough. If this is the case, gradually increase the latency until the playback is clean.

Library

MASCHINE includes a huge factory library of Samples, Sounds, Module presets, Patterns, Groups, and Projects. Of course, you can further extend it with your own files.

Macro Control

Each Group provides a page of eight Macro Controls to which you can assign any continuous parameters (i.e. controlled by a rotary knob) from that Group or any of its Sounds. This way you can define for each Group a set of eight parameters that are quickly accessible. Furthermore, Macro Controls can be assigned to MIDI CCs to be controlled by an external MIDI controller or application. Last but not least, if you use MASCHINE as plug-in in a host, Macro Controls are available for automation in your host too.

Master

The Master is where all audio signals from each of the Groups and Sounds come together and get mixed. The Master bus can also have up to four insert effects loaded in its Module slots. These effects are applied to all Groups and the Sounds within them.

Module

Modules can be sound sources or effects, and internal or external (VST/AU plug-ins). The Sound slots, the Group slots and the Master provide four Module slots each for loading Modules.

Module Preset

You can load various types of Modules in the Modules slots available at the Sound, Group, and Master level. You can save the current settings of any Module in form of a Module preset for later use. Notably, this will make the Module preset available in the MASCHINE Browser.

Mute and Solo

Muting allows you to bypass a Sound or a Group, whereas Soloing is pretty much the opposite: It mutes all other Sounds or Groups so that only the soloed Sound or Group is played. The combination of muting and soloing is a useful means both to play live and to test different sequences together.

Pad Link

Pad Link allows you to establish links between pads so that the Sound of a pad can be also triggered by pressing another pad. You can build up Pad Link groups containing several pads. In a Pad Link group, each pad can be set as Master or Slave: In addition to its own Sound, a Master pad will trigger the Sounds of all Slave pads in the group, while a Slave pad will only trigger its own Sound.

Pad Mode

Your controller offers various Pad modes that allow you to play your Sounds from the pads in different ways: Depending on the selected Pad mode, you can either assign one Sound to all 16 pads (Keyboard mode and 16 Velocities mode) or trigger each Sound with a distinct pad (default mode and Fixed Velocity mode). The Keyboard mode on your controller and the Keyboard view in the software's Pattern Editor are bound together: If you enter Keyboard mode on the controller, Keyboard view gets automatically enabled in the software, and inversely.

Parameter Pages

The Parameter pages constitute the biggest part of the Control area in the MASCHINE window. They contain the adjustable parameters for the Modules and Properties of the selected Sound/Group or those of the Master.

Pattern

A Pattern is a sequence that plays Sounds from the current Group. A Pattern is therefore usually linked to a Group since it is a part of the Group; however you can also save it independently from the Group. This is useful if you want to try out different drum kits with the same Pattern or different Sounds with a given melody. Using the Patterns you created in your different Groups, you can compose Scenes in the Arranger.

Pattern Editor

Located at the bottom of the MASCHINE window, the Pattern Editor allows you to select Sound slots (on the left), display and edit your Patterns, change the Step Grid settings and create/edit automation.

Plug-in

A plug-in is an external VST/AU instrument or effect unit, either by Native Instruments or a third-party manufacturer, that can be loaded as Module into a Module slot to produce or alter sound. When a plug-in is loaded into a Module slot, the plug-in icon appears in the Quick Browse area (in the left part of the Control area). In opposition to plug-ins, instruments and effects included in MASCHINE are referred as internal Modules.

Prehear

The Prehear feature allows you to listen to Samples directly from the Browser without loading them into Sound slots first. This way, you can quietly choose a Sample before modifying anything in your Project.

Project

A Project contains all data needed for a song: all Groups, Patterns, Sounds, Samples, Scenes and all settings, automation, effects, routings, etc. It's like a snapshot of the entire state of MASCHINE.

Properties

Properties are sets of parameters available at each Project level (i.e. for each Sound, each Group, and for the Master) that are independent of the Modules loaded in that Sound/Group/Master. Like the Module parameters, in the software the Properties parameters are displayed via Parameter pages in the Control area. For example, the volume, pan or swing controls are Properties of their respective Sound/Group/Master.

Quantization

To quantize a Pattern is to make its events snap to a set of equally distributed locations known as steps. This ensures that these events are on beat. You can also let MASCHINE automatically quantize events that you play and/or record live. Quantization makes it easier to get a rhythm going, but too much use can make the Pattern seem stiff or lifeless.

Sample

A Sample is any piece of audio that can be used e.g. to build a drum kit or a melodic instrument, or as a distinct loop in your song. You can load one or several Samples into Sound slots.

Sample Editor

The Sample Editor can be displayed in place of the Pattern Editor in the MASCHINE software. The Sample Editor is the all-in-one editor for Samples. It notably allows you to record Samples, edit them, split them into slices and map them across notes and velocities on your keyboard. Its equivalent on your controller is the Sampling mode.

Sample Map

The Sample Map is the set of all Zones in a Sound, i.e. the "map" of all Samples included in the Sound along with the individual key ranges and velocity ranges at which these Samples are triggered.

Sample Rate

The sample rate of an audio signal is the number of samples stored in the audio signal per time unit (typically per second). Any digital audio signal is made up of a discrete series of values called "samples." Taken as a whole, these samples are a digital representation of the original sonic wave. The number of samples contained in one second of audio signal defines the "sample rate" of the signal. Note: In this context the term "sample" has nothing to do with the MASCHINE object ("Sample")!

Scene

A Scene is a combination of Clips for your different Groups. Each Clip references a specific Pattern of a Group. In a Scene you can create one Clip for each Group. Scenes are located in the Arranger. They can be used to build up a finished arrangement or to trigger different parts of a song during a live performance.

Send Effect

A send effect is an effect available for audio signals located on other Sounds and/or Groups. These audio signals can be routed to a variable extent to the send effect for the effect to process them. Send effects notably allow you to reuse the same effect on different Sounds and/or Groups, thereby limiting the overall CPU load.

Sequencer

Generally speaking, a sequencer is a hardware unit or software tool that arranges musical sequences, e.g. drum patterns or chord progressions. Hardware sequencers typically function as a set of steps, where every step can be filled with musical content. The steps are then played back as a musical sequence. MASCHINE has its own sequencing abilities: you can record and play single Patterns as well as arrange Patterns into Scenes and Scenes into full songs.

Slice

A Slice is a piece of Sample ready to be exported to a particular note or Sound. The Sample Editor in the MASCHINE software (and its equivalent the Sampling mode on your controller) allows you to cut any Sample or loop into a customizable set of Slices and to export these Slices to individual notes or Sounds. This will allow you to play the Slices individually with the pads, create new Patterns with them, etc.

Sound

Sounds are the building blocks of all sound content in MASCHINE. They are organized into Groups that can hold up to 16 Sounds each. Sounds can be played directly from the pads on your controller. A Sound can hold up to four Modules of various types (sound source or effect, internal or plug-in, etc.).

Step

Steps are elementary time blocks. They are notably used to apply quantization or to compose Patterns from your controller in Step mode. All steps together make up the Step Grid. In the software's Pattern Editor, steps are visualized by vertical lines. You can adjust the step size, e.g., to apply different quantization to different events or to divide the Step Grid into finer blocks to edit your Pattern more precisely.

Step Grid

The Step Grid is a set of parallel lines that divide the Pattern into steps. By changing the resolution of the Step Grid (i.e. the step size), you can adjust the note values at which you can quantize your Pattern and the number of steps available in Step mode on your controller.

Step Mode

In Step mode, your controller can be used as a traditional step sequencer, where each of the 16 pads represent a step in the Step Grid. Just as on classical drum machines, a light representing the sequence runs from pad 1 up to pad 16, highlighting each step during playback. Select a Sound and put events at chosen steps in the sequence by pressing the corresponding pads. By repeating the process Sound by Sound you build up the whole Pattern.

Swing

The Swing parameter allows you to shift some of the events in your Pattern to create a shuffling effect. It is the main parameter of the Groove Properties.

Solo

See Mute and Solo.

Tempo

The tempo of a Project (or song, track…) is the speed at which the song is played. The tempo is usually measured in beats per minute (BPM).

Time Signature

The time signature of a Project (or song) defines both the Project's time unit (e.g., the quarter note) and the Project's bar length measured in that unit (e.g., four quarter notes). The time signature is written in form of a fraction: for example, a time signature of 3/8 will mean that the Project's time unit is the eighth note, and the Project's bars are three eighth note long.

VST/AU Preset

You can use VST/AU plug-ins in MASCHINE (both instruments and effects) by loading them as Modules into the Module slots of the Sound, Group, and Master level. You might already have collections of presets (or patches, programs, etc.) for your favorite VST/AU plug-ins: in the MASCHINE context we call them "VST/AU presets." You can not only load these VST/AU presets in MASCHINE but also save them as Module presets: This will make them appear directly in the MASCHINE Browser and take advantage of all Browser's features.

Zone

A Zone defines the key range (note interval) and the velocity range in which a Sample will be triggered. Each Sample of a Sound has its own Zone, i.e. its own key range and velocity range. In the MAP page of the Sample Editor, Zones are represented by rectangles. You can build up complex sets of Zones to make your Sound react differently according to the pitch and velocity of the played notes.

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