



NI NATIVE INSTRUMENTS

THE FUTURE OF SOUND

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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.

2. Foreword

We are thrilled that you are about to start your journey with MASCHINE+.

Several teams have worked relentlessly to bring this product to life. Our hardware team has worked near miracles to fit all the necessary components into the MASCHINE MK3 form factor, keeping the portable size and iconic workflow intact while still providing an even more premium touch. Our software teams have built a whole new operating system, capable of running the MASCHINE application, several engines and plugins, as well as an embedded version of the Native Access experience. The end result is an immersive experience with fewer distractions that enables you to focus on making music without having to hook up a computer.

We hope that MASCHINE+ will provide you the perfect environment to help you get in the zone and make even more music.

The MASCHINE team

3. Welcome to MASCHINE+

Thank you for purchasing MASCHINE+!

MASCHINE+ is a standalone groovebox and sampler for production and performance, combining an iconic workflow with premium instruments and effects.

Standalone means more focus, more freedom, and more music-making opportunities, and is ideal for making music live, as well as in the studio. Plug in, power up, and get creating straight away in the embedded production environment – from first ideas to finished tracks. You can dial in effects to tweak your sounds, or sample audio and make it your own with an intuitive interface. If you want to bring your ideas into a DAW, copy them over, and use the MASCHINE software on your computer and control it with the MASCHINE+ in Controller mode to pick up where you left off.

With MASCHINE+ you can tap in freely with the pads or use Note Repeat to jam along. Alternatively, build your beats using the step sequencer just like classic drum machines. Patterns can be intuitively combined with Clips that enable you to rearrange freely on the timeline to form larger ideas with transitions and vocals. You can try out several different versions of a song without ever having to stop the music. You can also sample your material, slice loops, and rearrange them easily.

However, MASCHINE+ is a lot more than an ordinary groovebox or sampler: it comes with an inspiring 8-gigabyte library, and a sophisticated, yet intuitive tag-based Browser to give you instant access to the sounds you are looking for. Additionally, MASCHINE+ SELECTION provides pro-level instruments, effects, and expansions to cover all of your sonic needs.

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 MASCHINE+ 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.

3.1. MASCHINE Documentation

Native Instruments provides various learning assets for MASCHINE. The main documents should be read in the following order:

- 1. MASCHINE+ Quickstart:** This animated online guide is a practical tutorial to help you learn the basics of MASCHINE+ and is useful if you're new to MASCHINE or a beginner. The guide is available from the Native Instruments website: [MASCHINE+ Quickstart](#).
- 2. MASCHINE+ Manual** (this document): This reference manual provides a comprehensive description of all MASCHINE+ features. This manual is useful when using MASCHINE+ in **Standalone mode**.
- 3. MASCHINE Software Manual:** This provides a comprehensive description of all MASCHINE software features. This manual is useful when using MASCHINE+ in **Controller mode**, and is available from the Native Instruments website: [MASCHINE Manual](#).

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:

- Support on the Native Instruments website. For more information, see [Support](#)



Please check the Native Instruments website regularly for up-to-date and localized versions of these documents.

3.2. What's New in MASCHINE 1.2.15

The following features and enhancements have been added to MASCHINE+:

- **Loading Samples from External USB Disk Drives:** It is now possible to use external disk drives to browse and load Projects, Groups, and Sounds (samples) in the Browser when the **USER** toggle is activated. For more information on accessing user content, see [Accessing User Content](#). For information on working with external storage devices, see [Working with Storage Devices](#).
- **Saving Projects with samples:** If you now save a Project with samples, the Project and samples will be saved on your SD card. If you only save the Project, the samples will continue to reside on the external drive, which requires the drive with the samples to be accessible by MASCHINE+ the next time the project is opened. For more information, see [Saving a Project](#).
- **Integration with Native Instruments keyboard controllers:** MASCHINE+ now supports KOMPLETE KONTROL S-Series MK2, A-Series, and M32 keyboards. They can be connected and powered via USB and used in MIDI mode, as is the case for all class-compliant MIDI devices. Full integration with KOMPLETE KONTROL keyboards is the same features as with current computer setups. Only one keyboard instance at a time is officially supported. For more information, refer to the manual of your controller, which is available from the Native Instruments website.
- **Integration with MASCHINE JAM:** MASCHINE+ now provides basic integration with MASCHINE JAM controllers. This enables you to select Groups and Sounds, use the sliders to control Perform effects, access the Ideas view, and use the matrix to sequence Patterns. For more information on the integration, download the MASCHINE JAM Integration Cheat Sheet, available here: [Download Cheat Sheet](#).
- **Navigating Clips via 4-D Encoder:** The 4-D encoder can be used to interact and arrange Clips in Song mode. It is possible to navigate between Groups, select, move, and resize Clips using the 4-D encoder. For more information, see [Working with Clips](#).
- **Improved navigation between Pattern view and Clip view:** It is now possible to easily switch between Pattern view and Clip view. For more information, see [Navigating between Patterns and Clips](#).
- **Improved naming for Clip and Pattern duplication:** To aid ease of use and speed up workflow, the names of Clips and Patterns are now automatically appended with a number when duplicated. This helps distinguish between different Patterns and Clips while in the creative flow. You can still use custom names for your Pattern and Clips, which will also be numerically appended whenever they are duplicated.
- **File deletion:** Files selected in the Browser can now be deleted using the **ERASE** button.
- **System update notifications:** MASCHINE+ will now provide notifications when a System Update is available. You will be prompted and a graphic 'tick' will be displayed on the **SYSTEM** tab in **SETTINGS**, as a reminder until the System is updated.

3.3. Document Conventions

In this document the following formatting is used to highlight useful information:

<i>Italics</i>	Indicates paths to locations on your hard disk or other storage devices
Bold	Highlights important names, concepts, software interface elements, and hardware controls.
[Brackets]	References keys on a computer's keyboard.
▶	Single item instructions are represented by a bullet icon.
→	Results in procedures are represented by an arrow icon.

The following three icons represent different types of information:



The **light bulb** icon indicates a useful tip, suggestion, or interesting fact.



The **information** icon highlights important information that is essential for the given context.



The **warning** icon alerts you of serious issues and potential risks that require your full attention.

3.4. Important Names and Concepts

We will start with a list (in alphabetical order) of the most important concepts and names.

Arranger

The Arranger is the area located in Song view and enables you to combine Sections (references to Scenes) and arrange Clips on the timeline into a song.

Browser

The Browser is the front end for accessing all the elements of your MASCHINE Projects: Projects, Groups, Sounds, instruments and effect presets, and Samples. Each of these can be stored and tagged to provides easy access. The factory library has already been completely tagged, including the factory libraries of any Native Instruments products. To learn more about the Browser, see [Using the Browser](#).

Clip

Clips exist in the Song view and are one-off unique sound bites that can be used in addition to Patterns. They are similar to Patterns, however, they are much more flexible and have the advantage of being able to be freely positioned on the timeline. They can be part of a section, but can also exist outside a section or span across multiple Sections. Clips are great for adding transitions or audio to your song. To learn more about the Clips, see [Working with Patterns and Clips](#).

Effect

MASCHINE comes with many different effects in the form of Internal Plug-ins. You may also use some Native Instruments VST/AU effect plug-ins. Each Sound, each Group, and the Master can hold any number of effects that can be applied as insert effects. The flexible routing system also allows you to create send effects, multi-effects, and side-chains. For more details on using effects in MASCHINE, refer to chapter [Using Effects](#). You can find an exhaustive description of all internal effects included in MASCHINE Software Manual available from the Native Instruments website.

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 Event area. Depending on the current view in the Pattern Editor, you can see events for all Sounds slots (Group view) or for the selected Sound slot only (Keyboard view). Events are described in more detail in chapter [Recording Patterns](#).

Group

A Group contains 16 Sound slots. In addition to the Effect Plug-ins applied to each individual Sound, a Group can have its own insert effect. These affect all the Sounds in the Group. A Group can also contain any number of Patterns (grouped into banks of 16 Patterns each). Refer to chapter [Managing Sounds, Groups, and Your Project](#) for more information on Groups.

Ideas View

The Ideas view allows you to experiment with your musical ideas without being tied to a timeline or arrangement. You can create Patterns for each Group and combine them into a Scene. Scenes can then be added to Sections in the Song view to create a larger musical structure. For more information, see [Switching Between Ideas View and Song View](#) and [Using Ideas View](#).

Master

This is where all audio signals from each of the Groups and Sounds come together and get mixed. The Master channel can also host any number of 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 [Managing Sounds, Groups, and Your Project](#).

Pattern

A Pattern is a sequence that plays Sounds from a Group. It belongs to that Group and will be saved together with the Group. In every Scene you can choose for each Group which of its Patterns has to be played. More information on Patterns can be found in the chapter [Working with Patterns and Clips](#).

Plug-in

Each Sound, each Group, and the Master can hold any number of Plug-ins. Plug-ins can be instruments or effects, and they can be internal (included with MASCHINE), from other specific Native Instruments products (instruments or effects). Instrument and Effect Plug-ins can be loaded in the first Plug-in slot of Sounds. The other Plug-in slots of Sounds, as well as the Plug-in slots of Groups and of the Master can hold Effect Plug-ins only. At each level (Sound, Group, and Master), Plug-ins process the audio in series, according to the order in which they are stacked up. Refer to chapter [Working with Plug-ins](#).

Project

A Project contains all data needed for a song: Groups with their Patterns, all Scenes and all settings, modulation, effects, routings, Sounds, and Samples. It's like a snapshot of the entire state of MASCHINE.

Scene

A Scene is a combination of Patterns for each Group. They can be used to combine Patterns in order to create musical ideas. Scenes are created in the Ideas view and then added to Sections in the Song view to create an arrangement. For more information, see [Arranging Your Project](#) and [Using Scene Mode](#).

Section

A Section is a reference to a specific Scene on the Timeline of the Song view. They are used to arrange the Scenes into a larger musical structure. The benefit of using Sections is that any changes made to a Scene are replicated in each Section where the Scene is referenced therefore making the process of changing parts of a song quick and easy. For more information, see [Arranging Your Project](#) and [Using Song View](#).

Song view

Song view will enable you to combine Sections (references to Scenes) and arrange them into a song in the Arranger. For more information, see [Using Song View](#).

Sound

Sounds are the building blocks of all sound content in MASCHINE. A Sound is made up of any number of Plug-ins. Each Sound of the selected Group is mapped to one of the 16 pads on the hardware controller, so you can play the Sounds by pressing the pads. Refer to chapter [Managing Sounds, Groups, and Your Project](#) for more information on Sounds.



Please refer to the Glossary for more definitions, see [Glossary](#).

3.5. Standalone vs. Controller Mode

MASCHINE+ can be used in two main modes: **Standalone Mode** and **Controller Mode**.

- In **Standalone** mode: MASCHINE+ functions alone as an embedded production environment, that does not need to be connected to a computer. When MASCHINE+ is in Standalone mode the power button is lit **green**.
- In **Controller** mode: MASCHINE+ can be used as a controller for the MASCHINE software running on a computer, or as a MIDI controller that can be configured using the Controller Editor software. When MASCHINE+ is in Controller mode the power button is lit **orange**.

Using Standalone Mode

MASCHINE+ starts in Standalone mode, however, if you are in Controller mode you can still return to Standalone mode.

To access **Standalone mode**:

1. Press **SETTINGS**.

2. Use the 4-D encoder to select **System**.
 3. Press Button 4 (**STANDALONE**).
- MASCHINE+ restarts in Standalone mode.

Using Controller Mode

To start MASCHINE+ in **Controller mode**:

1. Make sure the USB-B Port on your MASCHINE+ is connected to your computer.
 2. On your computer, open the MASCHINE software.
 3. If MASCHINE+ is powered off, press the power button to switch it on.
- MASCHINE+ is now in Controller mode and the power button is lit orange. You can now control the MASCHINE software using your MASCHINE+.

Switching from Standalone to Controller Mode

To switch from **Standalone mode** to **Controller mode**:

1. Press **SETTINGS**.
 2. Using the 4-D encoder, select **System**.
 3. Press Button 4 (**CONTROLLER**).
- If the current project has been modified you will be prompted to save it. After pressing **SAVE** or **DISCARD**, MASCHINE+ will proceed to shut down and enter into Controller mode. Pressing **CANCEL** will allow you to continue using Standalone mode.

i For maximum compatibility, before you connect MASCHINE+ to your computer, make sure that you have downloaded and installed the latest version of the MASCHINE software MASCHINE+ to your computer, and you are also using the latest system update on MASCHINE+. You can download MASCHINE software using **NATIVE ACCESS**, and update MASCHINE+ by pressing **SETTINGS** and selecting **System**. For more information on Native Access, visit the Native Instruments website: [Native Access](#). For more information on updating your MASCHINE+, see [System Settings](#).

4. Connecting MASCHINE+

As well as being a groovebox and a sampler for creating custom kits, MASCHINE+ can be used as the centerpiece of your studio to record vocals, guitars, and drums. You can connect MIDI or USB hardware synths and sequence them to capture the results or sculpt external audio using effects and modulation. You can control, mix, and manipulate the rest of your setup with line, and mic inputs to bring everything together.

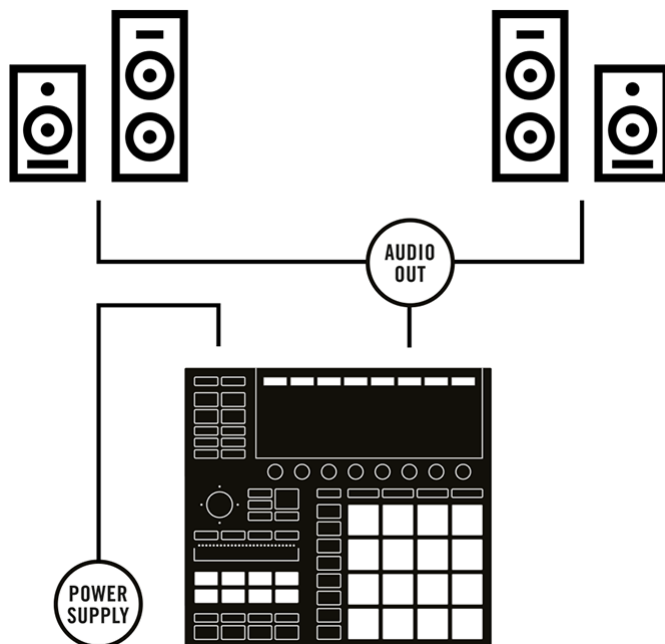
This chapter contains a quick walk-through of the basic hardware setups and the necessary connections.

4.1. Setup Examples

In this section, you will learn how to connect MASCHINE+ in various setup scenarios. Although it's not possible to cover all imaginable setups here, the examples are general enough to apply the information to most situations.

4.1.1. Connecting Active Monitor Speakers

This example shows an all-in-one production system set up in which your active monitor speakers are directly plugged into the main outputs of your MASCHINE+.



MASCHINE+ setup with active monitors.

To use active speakers (self-powered speakers with a built-in amplifier) with MASCHINE+:

1. Turn the **LINE OUT VOLUME** knob on the rear panel to the left-end stop to set the output volume to a minimum.
2. Connect the **LINE OUT L/R** sockets on the rear panel of MASCHINE+ to your active speakers using balanced cables with 1/4" TRS jack plugs. First, connect the **L** output channel with the left speaker, then the **R** output channel with the right speaker.

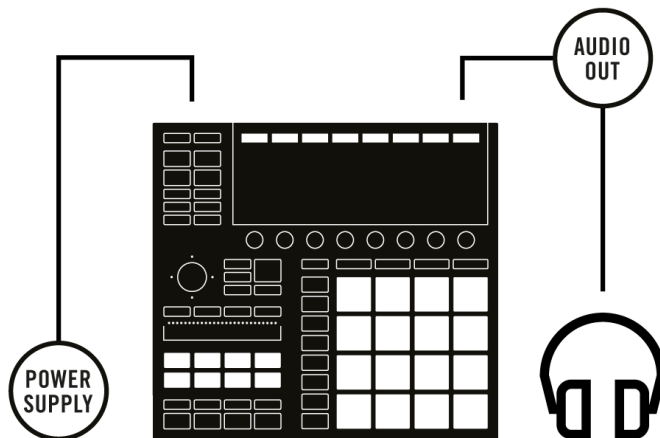
- Once you have connected the speakers to the device, set the volume knob on your active speakers to 0 dB and turn them on.
- Start the playback of a MASCHINE Project.
- Gradually turn the **LINE OUT VOLUME** knob on the rear panel of MASCHINE+ until you reach an appropriate listening level.



If you have a main mixer connected to your monitors, and various devices plugged into your main mixer, you can simply add MASCHINE+ to your setup by connecting its audio outputs to any stereo line input on your main mixer.

4.1.2. Connecting Headphones

This example shows a setup for “on-the-road” beat making or performance including MASCHINE+, and a pair of headphones



MASCHINE+ setup with headphones.

To use headphones with MASCHINE+:

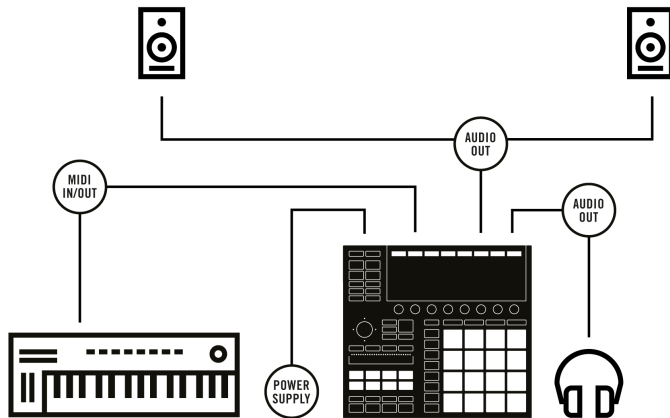
- Turn the **PHONES VOLUME** knob on the rear panel of MASCHINE+ to the left-end stop to set the headphones volume to a minimum.
- Plug the 1/4" TRS jack of your headphones into the **PHONES** socket nearby.
- Start the playback of a MASCHINE Project.
- Gradually turn the **PHONES VOLUME** knob on MASCHINE+ until you reach a comfortable listening level.



The headphones output of your MASCHINE+ is an additional stereo output, distinct from the main output pair, and perfectly tailored for the Cue channel of MASCHINE+. However, if you want to monitor the main outputs in your headphones, please select **+Phones** in the **Outputs** section of the **Hardware** page in the **SETTINGS**. For more information, see [Hardware Settings](#).

4.1.3. Connecting Line Level Equipment

This example shows a setup with both a pair of active speakers (see [Connecting Active Monitor Speakers](#)) and a pair of headphones (see [Connecting Headphones](#)) with an extra line-level input device, for example, a synthesizer.



MASCHINE setup with a line-level device (here a synthesizer) as input.

To use the MASCHINE+ in a setup with typical line level equipment:

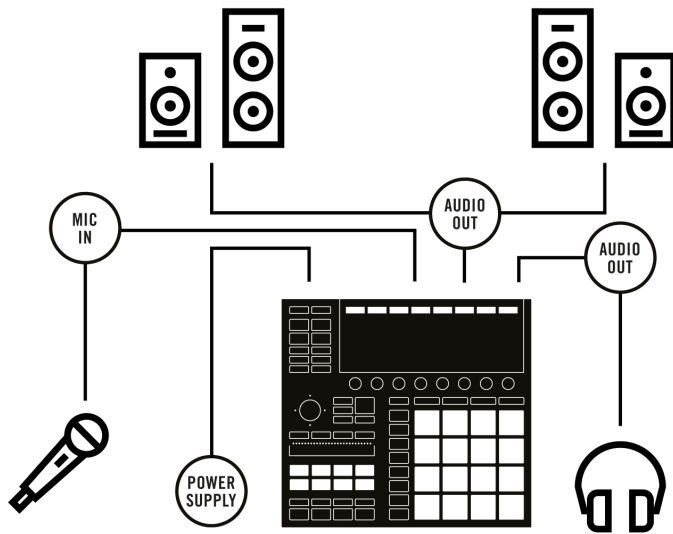
1. Turn the **LINE OUT VOLUME** and **PHONES VOLUME** knobs on the rear panel of your MASCHINE+ to the left-end stop to set the output and headphones volumes to a minimum.
2. Plug a pair of 1/4" TRS jacks from the outputs of your device into the **LINE IN 1** and **2** sockets on the rear panel of the MASCHINE+ (use a single jack plugged into the **LINE IN 1** socket if you are using a mono device).
3. Adjust the output signal of your connected device by using its relevant volume/gain control. Check that your input signal does not clip.
4. Turn the **LINE OUT VOLUME** and **PHONES VOLUME** knobs back to their usual levels.



In order to use the **LINE IN 1** and **2** sockets on your MASCHINE+, make sure that no microphone is connected to the **MIC IN** socket nearby! Indeed, plugging a microphone into the **MIC IN** socket bypasses the **LINE IN 1** and **2** sockets.

4.1.4. Connecting a Dynamic Microphone

This example shows a setup with both a pair of active speakers (see [Connecting Active Monitor Speakers](#)) and a pair of headphones (see [Connecting Headphones](#)) with a dynamic microphone, for example, when recording vocals.



MASCHINE+ setup with a dynamic microphone.

! Make sure the **LINE OUT VOLUME**, **PHONES VOLUME**, and **MIC IN GAIN** knobs are turned down before connecting a microphone to MASCHINE+. Microphones placed near speakers can cause a loud squealing tone (a phenomenon called the “Larsen effect” or “audio feedback loop”) and can seriously damage your hearing and your equipment. The greater the distance between a microphone and the speakers, the less chance there is of this effect occurring.

i You cannot plug a condenser microphone directly into MASCHINE+. It will require a preamp.

To use the MASCHINE+ in a recording setup with a dynamic microphone:

1. Turn the **LINE OUT VOLUME**, **PHONES VOLUME**, and **MIC IN GAIN** knobs on the rear panel fully to the left to set the output volume, headphones volume, and microphone input level to a minimum.
2. Plug the 1/4" TRS jack of your dynamic microphone into the **MIC IN** socket on the rear panel of your MASCHINE+.
3. Turn the **LINE OUT VOLUME** and **PHONES VOLUME** knobs back to their usual levels.
4. While singing/playing an instrument into the microphone, adjust the input signal level by gradually turning the **MIC IN GAIN** knob to the right while checking that the signal is not clipping.

i When a microphone is plugged in the **MIC IN** socket, the **LINE IN 1** and **2** sockets are bypassed. Hence, if you want to record the audio from a line-level device, make sure that no microphone is connected to the **MIC IN** socket!

4.2. Connecting to Wi-Fi

Connecting MASCHINE+ to a network enables you to download content to your Library from your Native Instruments account using your Native ID, connect to other devices using Ableton Link, and perform system updates.

To connect MASCHINE+ to a Wi-Fi network:

1. Press **SETTINGS**.
 2. Using the 4-D encoder, select **Network**.
 3. Turn the 4-D encoder or Knob 8 to select the name of the network you want to connect. If the name of the network you want to connect is not visible, press Button 7 (**REFRESH**).
 4. Press Button 8 (**CONNECT**).
 5. Select each letter of the password by pushing and turning the 4-D encoder, press it to enter a letter.
 6. Press **ENTER** to confirm your password.
- MASCHINE+ is now connected to the selected network.

4.2.1. Disconnecting from Wi-Fi

It is possible to disconnect MASCHINE+ from the Wi-Fi network from the Settings page.

To disconnect MASCHINE+ from a Wi-Fi network:

1. Press **SETTINGS**.
 2. Use the 4-D encoder to select **Network**.
 3. Press Button 8 (**DISCONNECT**).
- MASCHINE+ is now disconnected from the network

4.2.2. Using Airplane Mode

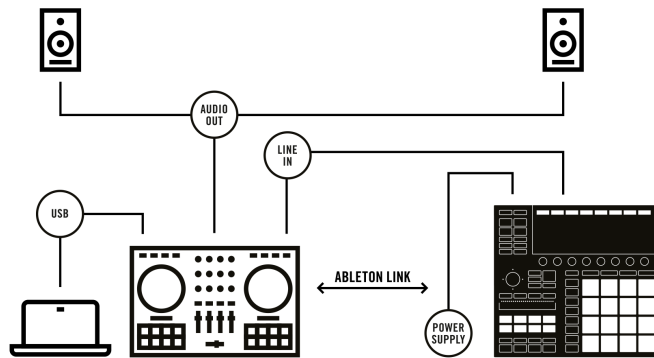
Airplane mode suspends the device's network signal transmission, effectively disabling the network service. As the name suggests, this mode is for use in environments where you are not allowed to use Wi-Fi.

To enable or disable Airplane mode:

1. Press **SETTINGS**.
 2. Use the 4-D encoder to select **Network**.
 3. Turn Knob 1 (**Enabled**) to enable/disable Airplane mode.
- Wi-Fi network service is suspended when **Enabled** is set to **On**.

4.3. Syncing MASCHINE+ using Ableton Link

Ableton Link is a protocol that synchronizes beat, phase, and tempo of Link-enabled applications on the same computer, or over a shared network. This means you can conveniently keep applications synchronized across different devices or join a group jam with others with minimal setup. Connecting applications via Link provides you with the ability to synchronize them to a shared timeline and change the tempo globally from each of the connected applications.



Using Ableton Link to synchronize with external equipment

4.3.1. Connecting to Ableton Link

Applications that support Ableton Link can join a Link session when connected to the same network. To enable Link within MASCHINE+, simply make sure it is connected to the same local network as the other applications you want to link to. This can either be a local network or an ad-hoc (computer-to-computer) connection.

For more general information on setting up and using Link, please refer to the Link FAQs article located on the Ableton website:

<https://help.ableton.com/hc/en-us/articles/209776125-Link-FAQs>.



Instead of using Wi-Fi, you can also connect MASCHINE+ to a network using a USB ethernet adapter.

4.3.2. Joining and Leaving a Link Session

It is possible to join a Link session at any time by simply enabling **Link** in the MIDI Settings page. For more information, see [MIDI Settings](#).

When another Link-enabled application is connected, a moving bar on the MIDI settings page is displayed even though the MASCHINE+ transport is not running. This bar represents the global phase of Link that all participating applications lock into.

After clicking the Play button, playback will resume on the downbeat once the moving bar is filled. The first participant to join the session sets the initial tempo, from then on any participant in the session can change the tempo in their respective application. If multiple participants change the tempo at the same time, the last tempo change will take effect.

To start or join a Link session, proceed as follows:

1. Press **SETTINGS**.
 2. Use the 4-D encoder to select MIDI.
 3. Turn Knob 4 (**Link**) to set **ENABLE** to **On**.
- The Link session is activated. Other devices on the same network can also join the same session if they have Link enable.

i When Link is active, it is not possible to set MASCHINE+ to receive MIDI Clock. Link will take priority. Sending MIDI Clock from MASCHINE+ is still possible.

4.4. Integrating MASCHINE+ into a MIDI Setup

You can quickly integrate MASCHINE+ into a MIDI setup.

You can use MIDI in various ways. Notably:

- You can synchronize a MIDI Clock signal between MASCHINE+ and other MIDI devices: [Sync to External MIDI Clock](#) and [Send MIDI Clock](#).
- If you connect a MIDI keyboard to the **MIDI IN**, you can directly play the focused Sound with it without having to set anything up.
- You can let particular Sounds and Groups react to incoming MIDI data and send MIDI data to the desired port. More on these in section [Using MIDI Control](#).

4.4.1. Connecting External MIDI Equipment

MASCHINE+ has dedicated MIDI sockets that allow you to directly connect other MIDI devices using a MIDI cable with a 5-pin DIN MIDI jack to integrate it into your MIDI setup.



The MIDI sockets on the rear panel of MASCHINE+

To connect your external MIDI equipment:

1. Connect the device receiving MIDI signals to the **MIDI OUT** socket on the rear panel using a 5-pin DIN MIDI jack.
2. Connect the device sending MIDI signals to the **MIDI IN** socket on the rear panel using a 5-pin DIN MIDI jack.

→ The MIDI equipment is connected.

Depending on your use case, additional configuration is required:

- You need to activate the corresponding MIDI inputs and outputs of your MASCHINE+ in the **MIDI** page which is accessible by pressing **SETTINGS**. For information on MIDI settings, see [MIDI Settings](#).
- If MASCHINE+ is being used in Controller mode and the MASCHINE software is running as a plug-in in a host, the MIDI configuration is managed by the host.

4.4.2. Sync to External MIDI Clock

If MASCHINE+ is running as a stand-alone application, it 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 even another sequencer.

To configure MASCHINE+ to receive MIDI Clock from an external device:

1. Press **SETTINGS**.
 2. Select the **MIDI** page.
 3. Turn Knob 1 to select **Receive** from the menu.
- MASCHINE+ can now receive MIDI Clock from an external device

When **Receive** is selected, the **PLAY** button is deactivated.

4.4.3. Send MIDI Clock

If MASCHINE+ is running in Standalone mode it can 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 configure MASCHINE+ to receive MIDI Clock from an external device:

1. Press **SETTINGS**.
 2. Use the 4-D encoder to select **MIDI**.
 3. In the **MIDI Sync** section select **Send Clock** from the menu.
- MASCHINE+ will send a MIDI Clock signal to any connected device that is capable of receiving MIDI Clock.

i You can adjust the MIDI Clock offset in the **MIDI** page of the **SETTINGS** panel. See [MIDI Settings](#) for more information.

💡 If you want MASCHINE+ to send other MIDI messages than MIDI Clock, in particular, if you want to control other MIDI-capable devices via the notes played in MASCHINE+, please refer to section

4.5. Connecting a Pedal

MASCHINE+ provides a pedal input in the form of a 1/4-inch socket on the rear panel.



The **PEDAL** socket on the rear panel.

The **PEDAL** socket allows you to use a pedal footswitch to control the transport. A single footswitch with two pedals can be used to control the transport in the following way:

- Pedal 1: Starts/stop the playback.

- Pedal 2: Engage/disengages recording.



The **PEDAL** socket can also be configured to send Continuous MIDI CC messages in the **Preferences** of the Controller Editor software. For more information read the Controller Editor manual.

4.6. Connecting MASCHINE+ to a Computer

Connecting MASCHINE+ to your computer using USB enables you to do the following:

- Control the MASCHINE software using Controller mode. For more information, see [Standalone vs. Controller Mode](#).
- Control external MIDI equipment using the Controller Editor software, see [Using MASCHINE+ as a MIDI Device](#).
- Transfer files from your SD memory card in Storage mode. For more information, see [Transferring Files to the SD Card](#).

To connect MASCHINE+ to your computer:

1. Attach the 'device end' of the included USB cable to the USB B socket on the rear panel of MASCHINE+.
2. Attach the 'computer end' of the USB cable to an available USB 2.0 (or later) port on your computer.



MASCHINE+ will not work with your computer when it is connected to a USB 1.1 port. A USB 2.0 (or later) port is required.

4.7. Using MASCHINE+ as a MIDI Device

In addition to using MASCHINE+ as a standalone device, or as a controller for the MASCHINE software, you can also use it as a powerful and highly versatile MIDI controller to pilot any other MIDI-capable software application running on the computer it is connected to via USB. This is made possible by the Controller Editor software, an application that allows you to precisely define all MIDI assignments for your MASCHINE controller. The Controller Editor is installed during the MASCHINE software installation procedure. For more information on this, please refer to the Controller Editor Manual available as a PDF file via the Help menu of Controller Editor.

4.8. Using Two or More Devices with MASCHINE

In controller mode MASCHINE+ can be used to control the MASCHINE software. However, if two or more MASCHINE devices are connected to your computer, only one device can be used to control the MASCHINE software at a time.



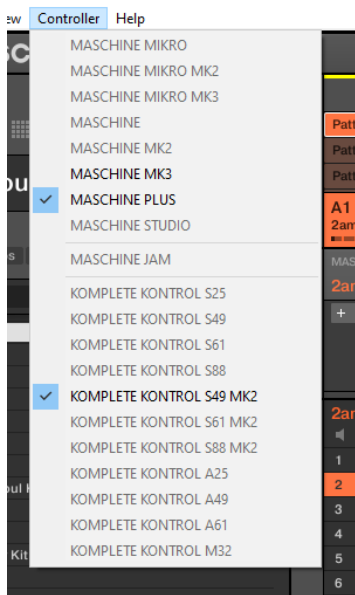
If you have more than one instance of the MASCHINE software running on your computer, you can control each instance with a different controller. Also, a device not connected to any MASCHINE software instance can be used in MIDI mode (i.e. as a MIDI controller) at the same time as the other controller(s). See the Controller Editor Manual for more information on MIDI mode.

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



For more information, on the MASCHINE software, release refer to the MASCHINE Software Manual available from the Native Instruments website.

You can select the desired device from the **Controller** menu in MASCHINE:



Click the Controller menu in the MASCHINE software and select the device you want to use.

Hardware

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

- MASCHINE+: Press **SHIFT + PLUG-IN**, turn the 4-D encoder to select the desired instance and press the 4-D encoder or Button 4 to load it.
- MASCHINE MK3 controller: Press **SHIFT + PLUG-IN**, turn the 4-D encoder to select the desired instance and press the 4-D encoder or Button 4 to load it.
- MASCHINE STUDIO controller: Press **SHIFT + PLUG-IN**, turn the jog wheel to select the desired instance and press the jog wheel or Button 8 to load it.
- MASCHINE (MK1 & MK2) controller: Press **SHIFT + STEP**, turn Knob 8 (or press Button 5/6) to select the desired instance, and press Button 8 to load it.
- MASCHINE MIKRO (MK1 & MK2) controller: Press **SHIFT + F2**, turn the Control encoder to select the desired instance and press the Control encoder to load it.
- MASCHINE JAM controller: Press **SHIFT + H (INSTANCE)**, turn the Control encoder to select the desired instance and press the Control encoder to load it.
- KOMPLETE KONTROL Keyboard MK1: Press **INSTANCE** and turn the Control encoder to select the desired instance, and press the Control encoder to load it.
- KOMPLETE KONTROL Keyboard MK2: Press **INSTANCE** and turn the 4-D encoder to select the desired instance, and press the 4-D encoder to load it.



For more information on Controller mode, see [Standalone vs. Controller Mode](#).

5. MASCHINE+ Overview

This section describes the areas and control elements on your MASCHINE+.

5.1. Top Panel Overview

The top panel includes the following sections:



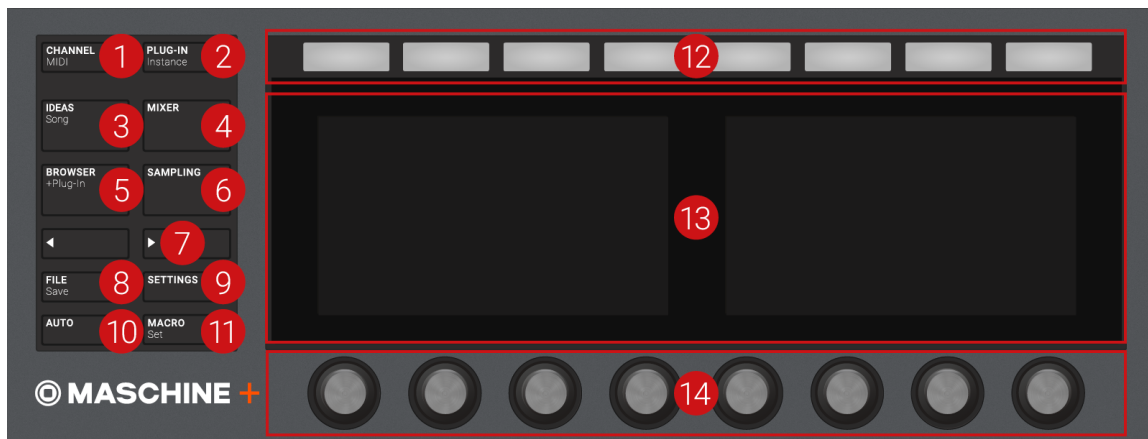
Overview of the top panel and its main sections

- 1. Control section:** Use this multi-purpose section to access to all parameters of the currently selected mode. On the left, dedicated buttons provide access to the Browser, the Arranger, the Mixer, Settings, and the Sample Editor. For more information, see [Control Section](#).
- 2. Edit section:** This section holds the 4-D encoder, a multifunctional element to be used in various contexts. Used in combination with the 4-D encoder, the three Quick Edit buttons nearby allow you to easily adjust the volume, tempo, and swing of your Sounds, Groups, and Project. In Step mode, they let you quickly adjust the velocity, position, and tune of the selected events(s). For more information, see [Edit Section](#).
- 3. Performance section:** This section provides you with various tools shaped for live performance. The **NOTE REPEAT** button provides you access to the Note Repeat / Arp feature. The **LOCK** button allows you to store and recall snapshots during your set. Underneath, the Smart Strip and its four function buttons make up a highly versatile and intuitive tool for enriching your performance. For more information, see [Performance Section](#).
- 4. Group section:** The dedicated Group buttons allow you to instantly access each of your Groups. For more information, see [Group Section](#).

5. **Transport section:** Start, stop and restart playback, activate record, and tap the tempo, simply by pressing the dedicated buttons. Use **SHIFT** to access the secondary functions. For more information, see [Group Section](#).
6. **Pad section:** Access the various modes using the column of mode buttons on the left side of this section. Use the 16 pads to play your Sounds. Above the pads, the Pad Input Mode buttons let you choose how the pads will behave: e.g., they can trigger all Sounds in your Group, different notes of a single Sound, specific chords of a single Sound, or create and edit events in the step sequencer. Besides playing the Sounds, the pads provide you access to many editing and selection commands depending on the selected mode. For more information, see [Pad Section](#).

5.1.1. Control Section

The Control section provides access to all parameters of the selected mode. It also contains dedicated buttons to access, for example, the Browser, the Arranger, the Mixer, the Sample Editor, and Settings.



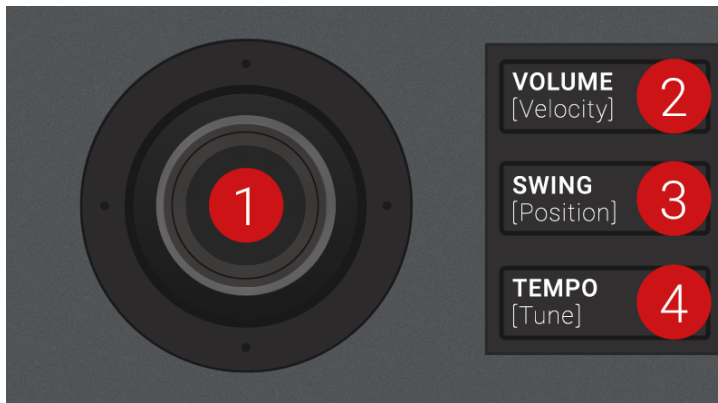
The Control section

1. **CHANNEL** button: Press **CHANNEL** to switch to Control mode (the default mode on your device) and directly display the Channel properties of the selected Sound/Group or the Master. This provides instant access to all Channel properties' parameters via the eight Buttons and eight Knobs above and under the displays. Press **SHIFT + CHANNEL (MIDI)** to switch your device to MIDI mode. This mode will enable you to use MASCHINE as a MIDI controller. For more information, refer to the Controller Editor Manual.
2. **PLUG-IN** button: Press **PLUG-IN** to switch to Control mode (the default mode on your device) and directly display the Plug-in(s) loaded in the selected Sound/Group or the Master. This provides instant access to all Plug-ins' parameters via the eight Buttons and eight Knobs above and under the displays. Press **SHIFT + PLUG-IN (Instance)** to enter Instance mode. In this mode you can select which instance of the MASCHINE plug-in you want to control from your MASCHINE+ if you have more than one instance open in your host.
3. **IDEAS** button: Press **IDEAS** at any time to get an overview of your Project. In the Ideas view you can view your Scenes and Patterns, in the Song view, you can edit your Sections, Scenes, Patterns, and Clips to create the perfect arrangement. Press **IDEAS**, then **SHIFT** and Button 1 or 2 to switch between Ideas view and Song view.
4. **MIXER** button: Press **MIXER** at any time to access an overview of your mix. Use the Mix view to, for example, quickly edit the level and panning of each Sound and Group. For more information, see [Controlling Your Mix](#).

5. **BROWSER** button: Press the **BROWSER** button to access the Browser. Press **SHIFT + BROWSER (+Plug-In)** to access the Plug-in menu and load a Plug-in (Internal, Native Instruments, and External, as well as Instrument and Effect) in the selected Plug-in slot. For more information, see [Using the Browser](#).
6. **SAMPLING** button: Press the **SAMPLING** button to access the Sample Editor. Here you can record and edit samples. For more information, see [Recording Samples](#).
7. **Page** buttons: Press the Page buttons to switch between pages. For a clear and simple layout of the displays, parameters are grouped into different pages.
8. **POWER / FILE** button: Press the power button to switch on MASCHINE+ . Press and hold the power button to shutdown. The button is green in standalone mode, and orange when used in Controller mode, and flashes red when the device is in standby. The button also provides access to your files and audio export options and you can press **SHIFT + FILE (Save)**, to quickly save a Project on the fly. For more information on the File menu, see [???](#).
9. **SETTINGS** button: Press the **SETTINGS** button to adjust the preferences of your MASCHINE+ and access MIDI, hardware, network, and mode settings. Here you can also perform system updates and access your library of content from your Native Instruments account. For more information, see [Settings Overview](#).
- 10 **AUTO** button: Press and hold while turning any of the eight Knobs (or any combination) under the displays to record modulation for the corresponding parameter(s). Press **SHIFT + AUTO** to pin/unpin the Auto mode. For more information on Auto mode, see [Recording Modulation](#).
- 11 **MACRO** button: The **MACRO** button provides instant access to the properties of the channel's Macro Controls). This shortcut can greatly facilitate both reactivity and improvisation when performing live. Press **SHIFT + MACRO (Set)** to define new Macros in a quick and easy way, directly from your device. For more information, see [Creating Custom Sets of Parameters with the Macro Controls](#).
- 12 **Buttons 1–8**: The eight Buttons above the displays dynamically adapt their function to the selected mode, allowing direct access to the most important functions. The action they perform is shown below each Button in the displays.
- 13 **Displays**: The displays are laid out to provide you with all the essential information. Press **SETTINGS (9)** and select **Hardware** to adjust the brightness.
- 14 **Knobs 1–8**: Each Knob dynamically controls the parameter shown in the display above it.

5.1.2. Edit Section

The Edit section holds the **4-D encoder**, a multifunctional element to be used in various contexts. Used in combination with the 4-D encoder, the three **Quick Edit** buttons nearby allow you to easily adjust the volume, tempo, and swing of the Sounds, the Groups, and the Project.

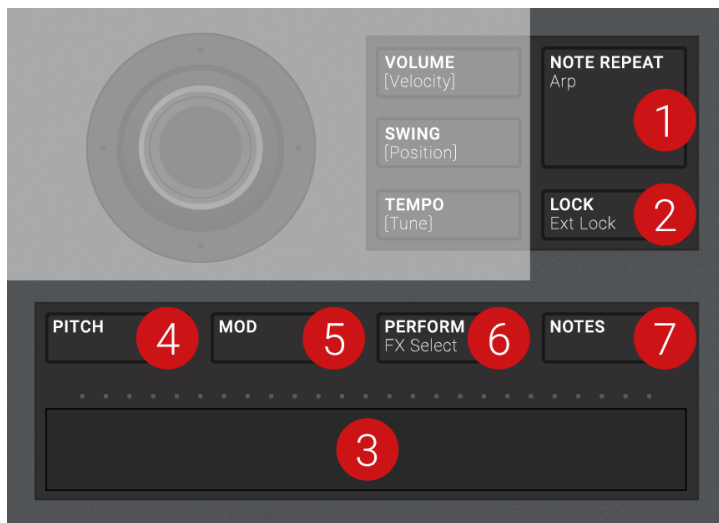


The Edit section

1. **4-D encoder** : The 4-Directional Push encoder combines the functionalities of a conventional joystick, of a button, and of an endless rotary encoder. Hence, it can be moved in the four directions: up, down, left, and right, as well as being pushed and rotated. These aspects make it into a highly versatile control element that can be used for navigation, for adjusting values of parameters, and for controlling instruments. Depending on the context, the four LEDs around the encoder indicate you the directions in which you can move the joystick. As well as being used in combination with the Quick Edit buttons (**VOLUME**, **SWING**, and **TEMPO**), press **SHIFT** and turn the 4-D Encoder to scroll through your Song.
2. **VOLUME** button: Enables quick adjustment of the volume via the 4-D encoder. When **VOLUME** is active (lit), hold a pad or a Group button and turn the 4-D encoder to change the volume level for that individual Sound or Group. Press the lit button to deactivate it and switch the encoder back to its default behavior. In Step mode, the Volume button enables you to adjust the velocity of the selected events. For more information, see [Adjusting Volume, Swing, and Tempo](#).
3. **SWING** button: Enables quick adjustment of the swing via the 4-D encoder. When **SWING** is active (lit), hold a pad or a Group button and turn the 4-D encoder to change the swing amount for that individual Sound or Group. Press the lit button to deactivate it and switch the encoder back to its default behavior. In Step mode, the Swing button enables you to adjust the position of the selected events. For more information, see [Adjusting Volume, Swing, and Tempo](#).
4. **TEMPO** button: Enables quick adjustment of the tempo via the 4-D encoder. When **TEMPO** is active (lit) turn the 4-D encoder to change the tempo. Press the lit button to deactivate it and switch the encoder back to its default behavior. In Step mode, the Tempo button enables you to adjust the tuning of the selected Group, or Sound. For more information, see [Adjusting Volume, Swing, and Tempo](#).

5.1.3. Performance Section

The Performance section provides you with various tools shaped for live performance.



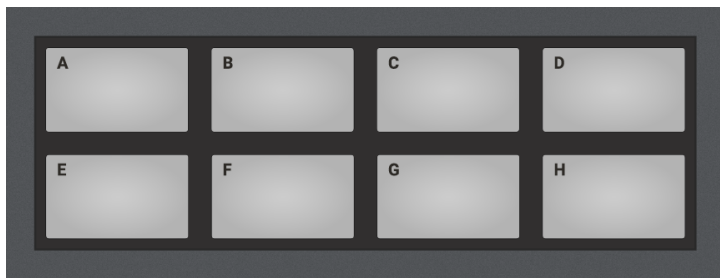
The Performance section

1. **NOTE REPEAT** button: Note Repeat is a convenient way to play and record beats and melodies. When your pads are in Group mode, the Note Repeat engine plays the selected Sound engine automatically at a given rate. While holding the **NOTE REPEAT** button, hold the pad you want to play: notes will be repeatedly triggered at the rate selected in the right display. With Buttons 5–8 you can select different rates while playing. You can change the rate value for the selected Button by turning Knob 3. When your pads are in Keyboard or Chord mode, **NOTE REPEAT** provides you instead access to the flexible and versatile Arpeggiator engine, an arpeggiator that effectively lets you play your Sounds in note sequences. The arpeggios are created according to both the pads you hold and the scale and chords you have configured. As a shortcut, when your pads are in Group mode press **SHIFT + NOTE REPEAT (Arp)** to directly switch your pads in Keyboard mode and activate the Arpeggiator engine. The Note Repeat / Arpeggiator mode can be pinned: Press **NOTE REPEAT + Button 1** to pin/unpin the mode. For more information, see [Using Note Repeat](#).
2. **LOCK** button: Press **LOCK** at any time to create a snapshot of all modulable parameters in your Project. Subsequently, change any of these parameters during your performance or studio session, then press the dim-lit **LOCK** button again to recall the snapshot with the original parameter values. Press **SHIFT + LOCK (Ext Lock)** to access Extended Lock mode and store/recall up to 64 snapshots using your pads, update and organize them into banks, and configure morphing transitions between them. Lock is a powerful tool for extensive modulations, but also very useful to compare mixes, or to switch up snapshots during a live performance. For more information, see [Using Lock Snapshots](#).
3. **Smart Strip** : The Smart Strip puts control of several parameters at your fingertips: Depending on the Strip Mode button selected above the Smart Strip, use it to apply pitch bend or modulation to the Sound(s) played on the pads, apply and tweak Perform FX in real-time, or play Sounds by strumming on the strip, even with two fingers. Above the Smart Strip, a LED bar indicates the current value or note set on the strip. When no Strip Mode button is active, the Smart Strip LEDs display the playhead position for the selected Pattern or Clip in Ideas view, or the playhead position in the arrangement in Song view.
4. **PITCH** Enable this button and use the Smart Strip to send MIDI Pitchbend data to the selected Sound. While doing this, press **REC** in the Transport section to record your actions as MIDI automation into your Pattern.
5. **MOD** Enable this button and use the Smart Strip to send MIDI Modulation data to the selected Sound. While doing this, press **REC** in the Transport section to record your actions as MIDI automation into your Pattern.

6. **PERFORM** Enable this button and use the Smart Strip to control the Perform FX (if any) for the selected Group. Press **SHIFT + PERFORM (FX Select)** to quickly select and load a Perform FX for that Group while enabling its control from the Smart Strip. For more information, see [Using Performance Effects](#).
7. **NOTES** Enable this button and use the Smart Strip to play whatever is currently loaded on the pads: Sounds, notes, or chords, depending on the current Pad Input mode. If you hold certain pads, only these pads are triggered by the strip, otherwise, all pads can be triggered along the strip. For example, with pads in Keyboard mode, you can touch the strip for single notes, slide your finger for progressive note strums, use two fingers for instant jumps between notes, but that's not all: You can use the Smart Strip in combination with the Note Repeat, Arp, and Chord engines for endless creative possibilities. For more information, see [Playing Notes with Smart Strips](#).

5.1.4. Group Section

The eight dedicated Group buttons, labeled **A** to **H**, provide instant access to the Groups.



The Group buttons

Press any Group button to select the Group you want to work in. Once a Group is selected its button lights up in the assigned color and its Sounds are available on the pads: whether one Sound on each pad (pads in Group mode) or different notes for one particular Sound (pads in Keyboard mode). The other colored Group buttons are dim-lit to indicate they can be selected. Press the dim white button to create a new Group in that slot. Buttons remain uncolored and unlit for the other empty Group slots.

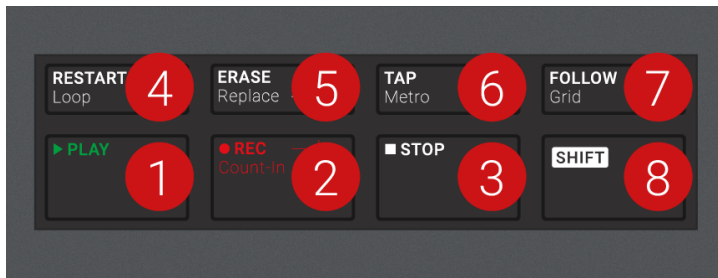
If you want to use more than eight Groups in your Project, hold **SHIFT** and press the Group buttons to select and access other banks of Groups.

These buttons are also used to solo and mute Groups on the fly when **SOLO** or **MUTE** buttons are held; this is great for jamming out your Project and performing live.

If the **VOLUME**, **TEMPO**, or **SWING** button is active in the Edit section above (see [Edit Section](#)), hold a Group button and turn the 4-D encoder to change the volume, tune or swing for that individual Group.

5.1.5. Transport Section

The Transport section holds various transport tools as well as the **SHIFT** button used in various contexts.



The Transport section

1. **PLAY** button: Press **PLAY** to activate playback. Press **PLAY** a second time to stop playback.
2. **REC** button: When playback is on, press **REC** to begin recording. Or when playback is off, press **SHIFT + REC** to begin recording with the Count-in. Press **REC** a second time to stop recording. Hold the **REC** button to access Pattern Preset mode, this allows you to select the desired Pattern Length before recording new Patterns.
3. **STOP** button: Press **STOP** to stop playback.
4. **RESTART** button: Press the **RESTART** button at any time to restart from the beginning of the current loop range. Used together with **SHIFT**, the **RESTART** button enables you to easily adjust the Loop in many ways: Press **SHIFT + RESTART** to enable/disable looping. Hold **SHIFT + RESTART** and turn the 4-D encoder to move the entire Loop along the Timeline, or “push & turn” the encoder to adjust only the endpoint of the Loop. While you hold **SHIFT + RESTART**, the displays provide another useful set of looping controls.
5. **ERASE** button: During playback, hold **ERASE** and hold any number of pads or Group buttons to erase the events for the corresponding Sounds or Groups on the fly as the playback goes on. Use the shortcut **ERASE + EVENTS + pad** to quickly erase all events triggered by that pad in your Pattern. If you have automated a parameter, hold **ERASE** and turn the corresponding Knob under the displays to erase the automation of this parameter. Press **SHIFT + ERASE + any pad** or Group button to completely remove the Sound or Group in that slot.
6. **TAP** button: Repeatedly tap the **TAP** button to set the desired tempo. Press **SHIFT + TAP** to quickly enable/disable the metronome.
7. **FOLLOW** button: If you activate **FOLLOW**, time-related displays (like the Pattern Editor) will show the next part as the playhead goes beyond the current part so that you always see where the playhead is. Press **SHIFT + FOLLOW** to open Grid mode and adjust the grids to define how various MASCHINE objects can be moved or resized: Perform grid (for transitions between Sections), Arrange grid (for Pattern length and Section length), Step grid (for events), and Nudge grid (for events as well).
8. **SHIFT** button: While the most important features are accessible through dedicated buttons, many shortcuts are available by holding the **SHIFT** button and pressing pads **1–16** or several other buttons. You can also use the **SHIFT** button to change parameters in finer increments when entering values with the Knobs, or use it to bypass, remove, and move Plug-ins from within the Plug-in List.

5.1.6. Pad Section

The Pad section includes numerous features. Use the 16 pads to play your Sounds. Above the pads, the Pad Input Mode buttons let you choose how the pads will react to your hits, for example, you can trigger all Sounds in your Group, play different notes of a single Sound, specific chords of that Sound, or create and edit events in the step sequencer.

Besides playing Sounds, the pads provide access to many editing and selection commands depending on the mode selected from the column of Mode buttons left of the pads.

Additionally, when you hold **SHIFT** the pads provide you with useful shortcuts and commands for your everyday work with MASCHINE+.



The Pad section

Mode Buttons and the Pads

The Mode buttons (1) to (8) are located in the column left of the pads. They switch the pads and your device to a series of modes dedicated to specific workflows:



All the Mode buttons left of the pads can be pinned: Simply press the desired button + Button 1 (above the left display) to pin/unpin the corresponding mode. See [Modes and Mode Pinning](#) for more information.

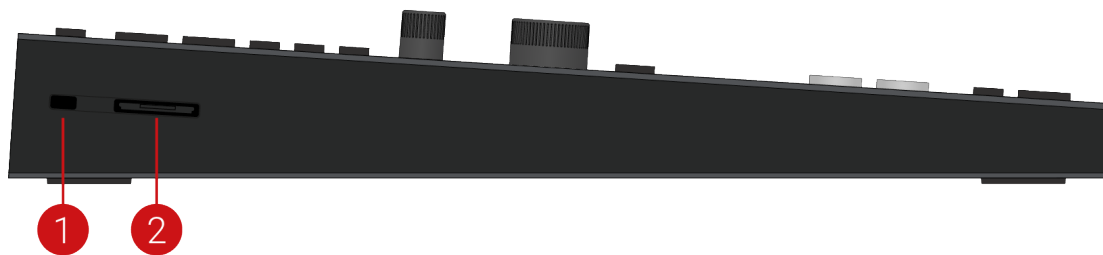
- MUTE** button: Enters Mute mode. In this mode, you can instantly mute Sounds and/or Groups by pressing the corresponding pads and/or Group buttons. This is good for getting on top of your production when you have many sounds playing and especially useful for performing live. Muted Sounds/Groups are represented by half-lit pads, while audible Sounds/Groups are represented by fully lit pads.
- SOLO** button: Enters Solo mode. In this mode, you can instantly solo any Sound or Group (equals muting all other Sounds/Groups) by pressing its pad or Group button. This is useful when you want to tweak a Sound or for performing live. The pad of the soloed Sound or Group is fully lit, while all other pads (representing the muted Sounds/Groups) are dimmed.

3. **SELECT** button: Enters Select mode. This mode allows you to select a Sound without hearing it, or select specific events of a particular Sound, which is useful for limiting quantization, nudging notes, and other operations specific to the selected events. Press **SHIFT + SELECT** + pad to quickly select all events triggered by that pad in your Pattern, or notes at that pitch when in Keyboard mode. Press **ERASE + SELECT** + pad to quickly erase all events triggered by that pad in your Pattern or notes at that pitch when in Keyboard mode.
4. **DUPLICATE** button: Enters Duplicate mode. Use Duplicate mode to swiftly create another instance of any Sound, Pattern, Group, or Scene. This can be useful for creating variations or trying out something new while preserving the current state of your work. Press **SHIFT + DUPLICATE** to quickly double the current Pattern.
5. **VARIATION** button: Enters Variation mode. This lets you introduce “happy accidents” in your Patterns. The Variation mode provides you with two features: Humanize adds natural rhythmic fluctuations to programmed sequences, while Random provides randomly generated variations of your beats and melodies based on adjustable settings. Press **SHIFT + VARIATION** to enter Navigate mode. In Navigate mode you can use the pads and the displays to zoom in and out or scroll through Patterns and Scenes. Furthermore, the Buttons above the displays provide quick access to Channel properties and Plug-in parameters.
6. **EVENTS** button: Enters Events mode. Here you can select particular events in your Pattern or Clips and modify their position, pitch (key), velocity, and length. Press **EVENTS** + pad to quickly select all events triggered by that pad.
7. **PATTERN** button: Enters Pattern mode. Pattern mode allows you to manage all Patterns in the selected Group: create new empty Patterns or duplicates of existing ones, switch between different Patterns, etc. Dimmed pads represent existing Patterns, the fully lit pad represents the selected Pattern. Press **SHIFT + PATTERN** to access Clip mode. For more information, see [Recording Patterns](#) and [Working with Patterns and Clips](#).
8. **SCENE** button: Enters Scene mode (in Ideas view) or Section mode (in Song view). Use Scene mode to access your Scenes and Section mode to arrange your song.
9. **Pad 1–16** : The sixteen velocity-sensitive pads can be used to play and select your Sounds. Their behavior can be configured by the Pad Input Mode buttons (**10**) to (**14**) described below. The pads also have many functions depending on the mode that is currently selected.
- 10 **PAD MODE** button: Press **PAD MODE** to switch the pads to **Group mode** (the default mode). In Group mode each pad represents one Sound of the Group. Group mode is typically used for drum kits. You can adjust various parameters of the mode via the displays and the surrounding Buttons and Knobs. The right display shows you the Sound triggered by each pad. You can use Buttons 5 to 8 to adjust the Base Key, which sets the key (pitch) triggered for each Sound in the Group, and Knobs 1 to 4 under the left display to set the Choke and Link group settings. Please refer to the MASCHINE Manual for more information on these features. By pressing **PAD MODE** again, you can hide its parameters from the displays and return to your previous workflow while keeping Group mode enabled on your pads; as a reminder, the **PAD MODE** button will stay lit as long as your pads are in Group mode. Press **SHIFT + PAD MODE** to switch your pads to Group mode without switching the displays to the mode parameters.
- 11 **KEYBOARD** button: Press **KEYBOARD** to switch the pads to **Keyboard mode**. In Keyboard mode the pads represent 16 pitches of the chromatic scale for the selected Sound, ascending from the selected Root Note; this way you can play the selected Sound like a melodic instrument. The right display shows you the pitch triggered by each pad. You can use Buttons 5 to 8 to adjust the Root Note (triggered by pad **1**), and Knobs 1 to 4 to configure the Scale engine and limit the available pitches to a particular scale. By pressing **KEYBOARD** again, you can hide its parameters from the displays and return to your previous workflow while keeping Keyboard mode enabled on your pads; as a reminder, the **KEYBOARD** button will stay lit as long as your pads are in Keyboard mode. Press **SHIFT + KEYBOARD** to switch your pads to Keyboard mode without switching the displays to the mode parameters.

- 12 CHORDS** button: Press **CHORDS** to switch the pads to **Chords mode**. The Chords mode is similar to the Keyboard mode (see the **KEYBOARD** button (11) above) with the difference that each pad triggers a whole chord instead of a single note. You can use Knob 3 and 4 to configure the chord you want to play. By pressing **CHORDS** again, you can hide its parameters from the displays and return to your previous workflow while keeping Chords mode enabled on your pads; as a reminder, the **CHORDS** button will stay lit as long as your pads are in Chords mode. Press **SHIFT + CHORDS** to switch your pads to Chords mode without switching the displays to the mode parameters.
- 13 STEP** button: Press **STEP** to switch the pads to **Step mode**. Step mode turns your MASCHINE+ into a full-featured step sequencer. In this mode, each pad represents one step of the selected Step Grid resolution. During playback, a running light through the pads represents the current position of the step sequencer. Pressing the pads creates notes on the corresponding steps (causing them to light up) or it removes them. By pressing **STEP** again, you can hide its parameters from the displays and return to your previous workflow while keeping Step mode enabled on your pads; as a reminder, the **STEP** button will stay lit as long as your pads are in Step mode. Press **SHIFT + STEP** to switch your pads to Step mode without switching the displays to the mode parameters.
- 14 FIXED VEL** button: Press **FIXED VEL** to enable/disable the **Fixed Velocity** option. By default, the pads are sensitive to velocity: The harder you hit them, the louder the sound will be. With Fixed Velocity enabled, your pads play at the same volume no matter how hard you hit them. For example, this can be very handy when you are triggering slices of a loop from your pads and want to have all slices at the same volume. Fixed Velocity is available in all four pad input modes: Group, Keyboard, Chords, and Step. Press **SHIFT + FIXED VEL** to activate/deactivate the **16 Velocities** option. In this mode, your pads play the same note (pitch) of the focused 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. The pitch of the played note is defined by the Base Key. The 16 Velocities option is only available in Group mode, for instance, when **PAD MODE** is enabled.

5.2. Side Panel Overview

The left side panel of MASCHINE+ contains the SD memory card slot.



Left side panel view

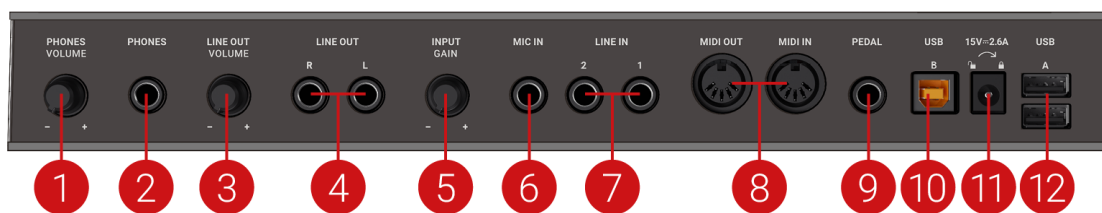
1. **Kensington Lock slot:** Use this to secure your MASCHINE+ with a Kensington Lock.
2. **SD Memory Card slot:** Here you can insert an SD memory card to save files such as Projects and samples. In System Storage mode, these files can be transferred to your computer.

! Do not remove the SD memory card while saving or loading files as this could result in data loss or corruption of your SD card. Always eject the card from MASCHINE+. For more information, see [Using the File Menu](#).

! When using Storage mode to transfer files between MASCHINE+ and your computer, always eject the SD card drive from your computer before you disconnect Storage mode. Failure to do so could result in data loss and corruption of your SD card. For more information on Storage mode, and transferring files between your computer and MASCHINE+, see [Transferring Files to the SD Card](#).


5.3. Rear Panel Overview

The rear panel of MASCHINE+ holds the various hardware knobs, and sockets of the integrated audio interface, power supply, and USB sockets.



The rear panel

1. **PHONES VOLUME** knob: Adjusts the level of the **PHONES** output (2).
2. **PHONES** socket: Stereo output socket for plugging in headphones with a 1/4" TRS jack. In your music software, this stereo output appears as a pair of mono outputs labeled **3: Headphone Left** and **4: Headphone Right**. Turn the **PHONES VOLUME** knob (1) to adjust their output level.
3. **LINE OUT VOLUME** knob: Adjusts the level of the **LINE OUT 1** and **2** outputs (4).
4. **LINE OUT L and R** sockets: These 1/4" TRS sockets are the main outputs of the audio interface. In your music software, they will appear as **1: Main Left** and **2: Main Right**. Turn the **LINE OUT VOLUME** knob (3) to adjust their output level.
5. **MIC IN GAIN** knob: Adjusts the level of the **MIC IN** input (6). Use this knob to raise the microphone signal until it reaches a level high enough for your music application without clipping. If the microphone signal sounds distorted, slowly turn this knob down until the artifacts have disappeared.
6. **MIC IN** socket: Balanced input socket for plugging in dynamic microphones with a 1/4" TRS jack. When a microphone is plugged into the socket, the **LINE IN 1** and **2** sockets (7) are deactivated.
7. **LINE IN 1 and 2** sockets: Pair of balanced 1/4" TRS input sockets accepting any line-level signal (for example, a synthesizer or mixer output). In your music software they will appear as **1: Input Left** and **2: Input Right**. If a microphone is plugged in the **MIC IN** socket (6), the **LINE IN 1** and **2** sockets are deactivated.

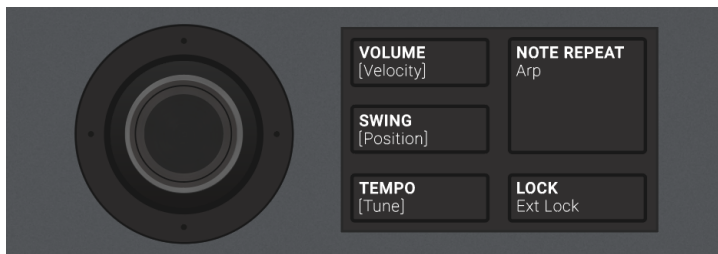
8. **MIDI IN and OUT** sockets: The **MIDI** input (**IN**) and output (**OUT**) sockets let you integrate MASCHINE+ into your MIDI setup. For example, you can connect a MIDI keyboard to the **MIDI IN** socket and play melodic Sounds via the keyboard. Connect your favorite hardware synth to the **MIDI OUT** socket and trigger its sounds from within your MASCHINE Project. You can synchronize MASCHINE with other tempo-related instruments by sending or receiving a MIDI Clock signal. Please refer to the Manual to discover all details on the various MIDI possibilities and how to set them up.
 9. **PEDAL** socket: Allows you to use a footswitch to control the transport in MASCHINE. Note that this is a stereo socket, allowing you to plug in a double footswitch and control the **PLAY** and the **REC** buttons in MASCHINE. The **PEDAL** socket can also be configured to accept continuous pedals (“expression pedals”). For more details, please refer to the MASCHINE Manual available from the **Help** menu.
 - 10 **USB B** socket: Connects MASCHINE+ to your computer via USB 2.0.
.
 - 11 **Power Supply** socket: Connect the included power supply to the socket, then turn it to the right
.
to lock it into place. Turn it to the right, and pull it out of the socket to remove it. It is not necessary to use the power supply when MASCHINE+ is connected to a computer via USB and in Controller mode. For more information on Controller mode, see [Standalone vs. Controller Mode](#).
-  Always use the power supply that was included with your MASCHINE+. Using another type of power supply could result in performance issues.
- 12 **USB A** sockets: Connect peripheral devices such as USB-enabled keyboards, external audio
.
devices, and external drives.

6. Common Operations

This section introduces a few very common operations in MASCHINE+ you will encounter in numerous situations.

6.1. Using the 4-Directional Push Encoder

The 4-Directional Push Encoder (referred to as the 4-D encoder) combines the functionalities of a conventional joystick, of a button, and of a continuous encoder. These aspects make it into a multi-functional control element that can be used for navigation, for adjusting values of parameters and controlling instruments. Hence, it can be moved to the four directions: up, down, left, and right, as well as being pushed and rotated.



*The 4-D encoder situated to the left of the **VOLUME**, **SWING**, and **TEMPO** buttons*

Depending on the menu or context, the available actions differ:

- The displays are navigated by moving the 4-D encoder in a direction indicated by the surrounding LEDs.
- Entries in a list are browsed by turning the 4-D encoder.
- The value of a highlighted parameter is adjusted by turning the 4-D encoder.
- A selection is confirmed by pushing the 4-D encoder.

6.2. Modes and Mode Pinning

MASCHINE+ has many different modes of operation.

In addition to the default Control mode (in which the pads trigger your Sounds), there are many other modes for accomplishing various tasks. These modes are enabled by specific buttons, for example, **SCENE**, **CHORDS**, **BROWSER**, etc.

For some of these modes, you need to hold the button to keep the mode active. For example, when you press the **SOLO** button, the displays will show Solo-specific control options; when you release the button, it MASCHINE+ switches back to the previous mode.

The buttons that are required to be held are in the middle column (left of the pads) along with the **NOTE REPEAT** and **AUTO** button:



By default, each of these buttons needs to be held in order to use the corresponding mode

Pinning Modes

You can also pin (lock) modes on MASCHINE+, so they do not switch back when releasing a mode button:

1. Press and hold a mode button, for example, **PATTERN**.
 2. Press Button 1 above the left display.
- On the left screen, the **PATTERN** label under Button 1 gets highlighted. You can release the **PATTERN** button: MASCHINE+ will remain in Pattern mode until you press **PATTERN** again.

i Once a mode has been pinned MASCHINE+ will automatically pin the mode next time it is pressed.

You can unpin the active mode by pressing Button 1 again.

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

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

- **NOTE REPEAT (Arp)** button: Both Note Repeat mode (for pads in Group mode) and Arp mode (for pads in Keyboard or Chords mode) can be pinned.
- **FOLLOW (Grid)** and **VARIATION** buttons: These buttons respectively switch to Grid and Navigate mode when pressed with **SHIFT** simultaneously. These modes are already pinned by default. You can unpin them and pin them again as usual by pressing Button 1.
- **AUTO** button: Instead of using Button 1, press **SHIFT + AUTO** to pin the **AUTO** mode. Moreover, when you leave this mode it is automatically unpinned, it will be temporary again next time you press **AUTO**.

6.3. Undoing and Redoing Actions

Undoing and re-doing your last actions can be a useful way to cancel operations you have performed or to compare two versions before and after a change. You can undo most of the actions you have made since loading or creating your Project.

Step Undo/Redo is the classic undo/redo. It cancels or re-executes each action you have made, step by step.

On your MASCHINE+:

- ▶ To undo the last action, press **SHIFT + Pad 3 (Step Undo)**.
- ▶ To redo the last action, press **SHIFT + Pad 4 (Step Redo)**.

6.4. Focusing on a Group or a Sound

To display the content and parameters of a particular Sound or Group, you first need to put it in focus.

Setting the focus on a Sound or Group is slightly different than selecting it: The focus defines what will be displayed, whereas the selection defines what will be affected by your edits.

Focusing on a Group

1. If necessary, press **SHIFT +** the desired Group button **A–H** to switch to the Group bank containing the desired Group.
 2. Press the desired Group button **A–H**.
- The corresponding Group is now in focus.



Once the Group is focused you can use Button 1–3 above the left display to quickly switch between the Master, the focused Group, and the last focused Sound in that Group. See section [Switching Between the Master, Group, and Sound Level](#) for more information.

Setting the Focus on a Sound

1. If you want to set the focus on a Sound located in another Group, first set the focus on its Group as described above.

2. Press **SELECT** + the pad of the desired Sound (or simply press its pad if pads are in Pad Mode).

→ The corresponding Sound is now in focus.



Once the Sound is focused you can use Button 1–3 above the left display to quickly switch between the Master, the containing Group, and the focused Sound. See section [Switching Between the Master, Group, and Sound Level](#) for more information.



You can also select multiple Sounds at once to apply changes to all of them. See section [Selecting Multiple Sounds or Groups](#) for more information.

6.5. Switching Between the Master, Group, and Sound Level

At any time you can quickly switch the Control view between the parameters of the Master, the focused Group, or the focused Sound.

1. Press the **CHANNEL** or **PLUG-IN** button to enter Control mode.
2. Press Button 1 (**MASTER**), Button 2 (**GROUP**), or Button 3 (**SOUND**) above the left display to show the Plug-in parameters and Channel properties of the Master, the focused Group, or the focused Sound, respectively.

→ The selected tab lights up. The name of your Project, the focused Group, or the focused Sound appears on the left display (under the **MASTER**, **GROUP**, and **SOUND** tabs), and the displays show the Plug-in parameters and Channel properties of the Master, the focused Group, or the focused Sound, respectively.

6.6. Navigating Channel Properties, Plug-ins, and Parameter Pages

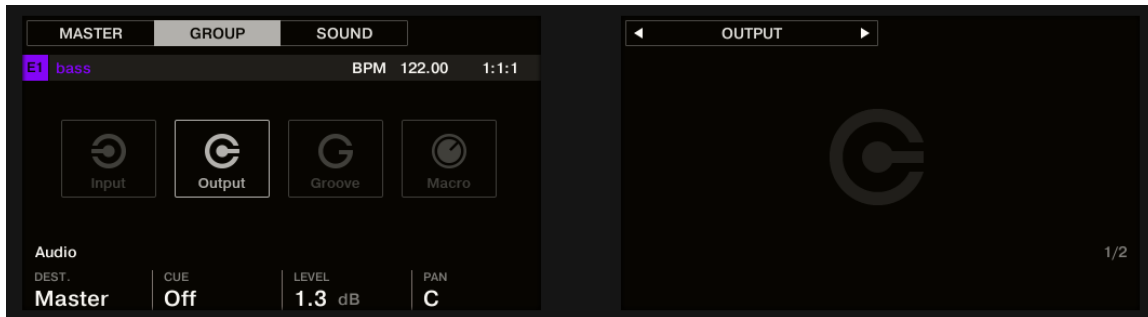
This section describes how to display/edit any Plug-in parameters or Channel properties located in a Sound, Group, or Master.

Navigating Channel Properties, Plug-ins, and Parameter Pages

To navigate Channel Properties, Plug-ins, and Parameter Pages:

1. Set the focus on the desired Sound, Group, or the Master (see section [Focusing on a Group or a Sound](#)).
2. Press the **CHANNEL** button to display the Channel properties or the **PLUG-IN** button to display the Plug-in slots of the selected Sound, Group, or the Master.
3. Press Button 1 (**MASTER**), Button 2 (**GROUP**), or Button 3 (**SOUND**) to display the Plug-ins and Channel properties of the Master, the focused Group, or the focused Sound.
4. Use the 4-D encoder or press Button 5/6 to navigate the Channel properties or Plug-ins (the name of the selected Channel properties or Plug-in appears between the left and right arrows under Button 5 and 6). The parameters of the selected Channel properties or Plug-in are shown on the displays.

- Use the **Page buttons** (underneath the **BROWSER** and **SAMPLER** buttons) to navigate through the Parameter pages of the selected Channel properties or Plug-in. Moreover, if there is another page available to the left or to the right of the current page, the corresponding Page button will be half-lit.
- Use Knobs 1–8 under the displays to adjust the value of the parameters available on the selected page. For continuous parameters, hold **SHIFT** while turning the Knobs to adjust the values in finer increments.



The displays showing the Audio page from the Group's OUTPUT properties.

Using the Navigate Mode

Alternatively, you can also navigate Channel properties and Plug-ins along with their Parameter pages via the **Navigate mode**:

- Press **SHIFT + VARIATION** to enter Navigate mode (or pin it by pressing **NAVIGATE** + Button 1).
 - Hold **SHIFT + VARIATION**, then Button 2 (**PAGE NAV**) to enter Page Navigation mode.
 - Press the **CHANNEL** button to display the Channel properties or the **PLUG-IN** button to display the Plug-in slots of the selected Sound, Group, or the Master.
 - Press Button 5/6 to navigate the Channel properties or Plug-ins. The name of the selected Channel properties or Plug-in appears between the left and right arrows under Button 5 and 6. Furthermore, this Plug-in or set of Channel properties is highlighted on the left display.
 - Press the dimmed pads to select the desired Parameter pages. The names of the available Parameter pages are shown on the right display along with the corresponding pads.
 - Upon your selection, the corresponding pad turns fully lit and the page name is highlighted on the right display.
 - If there are more than 16 Parameter pages, press Button 7/8 to switch to the previous/next 16 pages.
 - Release the **VARIATION** button to get back to Control mode (or press **VARIATION**) a second time if you pinned the Navigate mode).
- The selected Parameter page now appears on the displays. Use Knobs 1–8 under the displays to adjust the parameters.

6.7. Navigating Song View

You can control the position and zoom factor in the Song view using the following controls:

- ▶ Press **SHIFT + IDEAS (Song)**, then button 2 (**SONG**) to enter Song mode.

- ▶ Turn Knob 5 (Arranger Zoom) to zoom in or out of the Arranger.
- ▶ Turn Knob 6 (Arranger Scroll) to scroll through the Arranger.

6.7.1. Following the Playback Position

If the Song view doesn't display the entire Loop Range currently selected, at some point the play head will go beyond the portion of your Project currently displayed and you might lose track of the playback position. To prevent this, you can force the Song view to follow the playhead.

To follow the playhead position during playback:

- ▶ Press **FOLLOW** button in the Transport section.
- The **FOLLOW** button lights up. The Arranger will now switch to the next portion of your Project (with the same zoom factor) as soon as the playhead reaches the end of the portion currently displayed. This way, you always see the portion of the Project that is being played.



The Follow function is automatically deactivated as soon as you manually scroll to another portion of the Arranger or of the Pattern Editor.

The Follow function affects the displays in Song mode, Pattern mode, Step mode, and Note Repeat mode. Additionally, in Step mode the Follow function affects the pads: When Follow is activated and the playhead has gone across all 16 steps shown by the pads, the pads automatically switch to the next 16 steps of the Pattern, if any.

6.7.2. Scrubbing Through Your Song

Scrubbing is a convenient way to quickly navigate to a certain position in your song using the 4-D encoder. The intervals at which you can scrub through a song are relative to Arrange Grid setting.

To scrub through your Song:

1. Press **IDEAS (Song)** then **SHIFT** + Button 2 to select Song mode.
2. Press **SHIFT** and turn the 4-D Encoder to scroll through your song at intervals relative to the Arrange Grid value.
3. Press **SHIFT**, then press and turn the 4-D Encoder to scroll through your song in smaller intervals relative to the Arrange Grid setting.



To set the Arrange Grid value, press **SHIFT** + **FOLLOW (Grid)** and press a pad relative to the value you want to use.

6.8. Performing with Scenes and Sections

MASCHINE+ provides you with settings to fine-tune the timing of the jump between the Scenes and Sections:

- The Perform Grid lets you quantize the Scene transitions: You can choose the point at which the playback will leave the current Scene (Ideas view) or Section (Song view). 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, one-sixteenth note, the whole Scene/Section, and Off. If you choose Off, the Scene/Section 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 activated, the next Section (Ideas view) or Section (Song view) that is selected will be forced to play from the start. This is useful if you always want your Scenes or Sections to play from the beginning regardless of what's happening elsewhere in the music.
 - If Retrigger is deactivated (default setting), the next Scene or Section that is selected will play from the same offset to the beginning: for example, leaving the current Section on beat 3 will cause the new Section to start playing on its beat 3. This ensures that the global groove of your track is not interrupted.

6.8.1. Jumping between Scenes and Sections

In Ideas view the Perform Grid and the Retrigger control the setting for the jump between Scenes and in Song view it sets the grid for the jump between Sections.

To set the Perform Grid and the Retrigger settings:

1. Press **SHIFT + IDEAS** then press Button 1 or 2 to select Ideas view or Song View.
 2. Press **SHIFT + FOLLOW (Grid)** to enter Grid mode (or pin it by pressing **SHIFT + FOLLOW (Grid)** then Button 1).
 3. Press Button 2 to select **PERFORM**.
 4. Press a pad to select the desired value, for example, pad 9 (for 1/4, a quarter note).
- The next time you select a new Scene/Section or loop range, the switch will happen on the next quarter note.

Adjusting the Scene Retrigger Setting

To adjust the Scene Retrigger setting:

1. Press **SHIFT + IDEAS (Song)** then press Button 1 to select Ideas view.
 2. Press **SCENE (Section)** to enter Scene mode (or pin it by pressing **SCENE + Button 1**).
 3. At the bottom left corner of the left display, you see the current **RETRIGGER** value (Off by default).
 4. Turn Knob 1 to select On.
- The next time you select a new Scene or loop range, it will start from the beginning.

Adjusting the Section Retrigger Setting

To adjust the Section Retrigger setting:

1. Press **SHIFT + IDEAS (Song)** then press Button 2 to select Song view.
2. Press **SCENE** to enter Section mode (or pin it by pressing **SCENE + Button 1**).
3. Press the Right Page button to access page 2.

4. At the bottom left corner of the left display you see the current **RETRIGGER** value (Off by default).
 5. Turn Knob 1 to select On.
- The next time you select a new Section or loop range, it will start from the beginning.

6.9. Adjusting Volume, Swing, and Tempo

At any time you can quickly adjust volume levels, swing, and the overall tempo of your Project using the Quick Edit buttons.

Adjusting Volume

- ▶ Press the **VOLUME** button near the 4-D encoder.
- The **VOLUME** button lights up. You can now adjust the volume for your overall Project, for each Group, and for each Sound individually using the 4-D encoder as follows:
 - To adjust the overall volume, turn the 4-D encoder. Hold **SHIFT** to adjust the value in finer increments.
 - To adjust the volume of a particular Group, hold its Group button (**A–H**) and turn the 4-D encoder. Hold **SHIFT** to adjust the value in finer increments.
 - To adjust the volume of an individual Sound, press and hold its pad and turn the 4-D encoder. Hold **SHIFT** to adjust the value in finer increments.

As you adjust the volume, the left display shortly indicates its current value.



It is recommended you try this while your Pattern is playing, you will immediately hear the effect of your changes.

Adjusting Swing

You can also adjust the overall **swing** of your Project. The Swing feature shifts some of the played notes, hereby adding some “groove” to your Pattern. The procedure is similar to the one described above for the volume:

1. Press the **SWING** button near the 4-D encoder. The **SWING** button lights up. If the **VOLUME** button was still on, it turns off.
 2. Turn the 4-D encoder to adjust the swing for your overall Project.
- As you adjust the swing, the left display shortly indicates its current value.



You can also adjust the individual Swing values for Sounds and Groups by holding the desired Group button or pad as described above for the volume.

Adjusting Tempo/Tune

- ▶ Press the **TEMPO** button.
- The **TEMPO** button lights up. You can now adjust the tempo of your Project as well as the tune for each Group and for each Sound individually using the 4-D encoder:

- To adjust the tempo, turn the 4-D encoder. Hold **SHIFT** to adjust the value in finer increments.
- To adjust the tune of a particular Group, press and hold its Group button (**A–H**) and turn the 4-D encoder. Hold **SHIFT** to adjust the value in finer increments.
- To adjust the tune of an individual Sound, press and hold its pad and turn the 4-D encoder. Hold **SHIFT** to adjust the value in finer increments.

As you adjust the tempo or the tune, the left display shortly indicates its current value.



It is recommended you try this while your Pattern is playing, you will immediately hear the effect of your changes.

- ▶ When you are done with your volume, swing, and tempo changes, press the lit **VOLUME**, **SWING**, or **TEMPO** button to deactivate it.

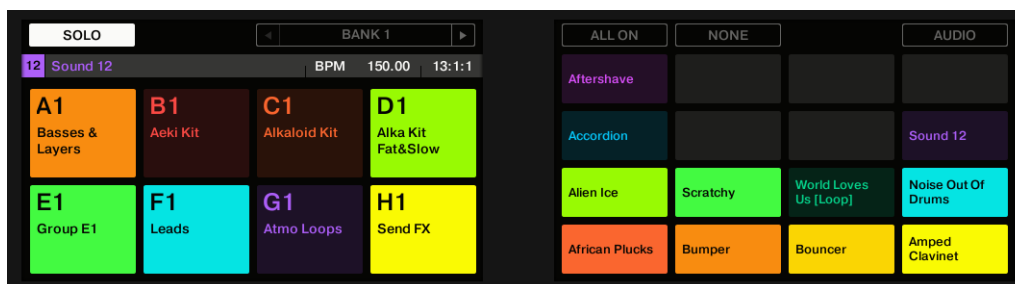
6.10. Mute and Solo

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.

In a live set you can mute and solo Groups and Sounds at the same time. 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.

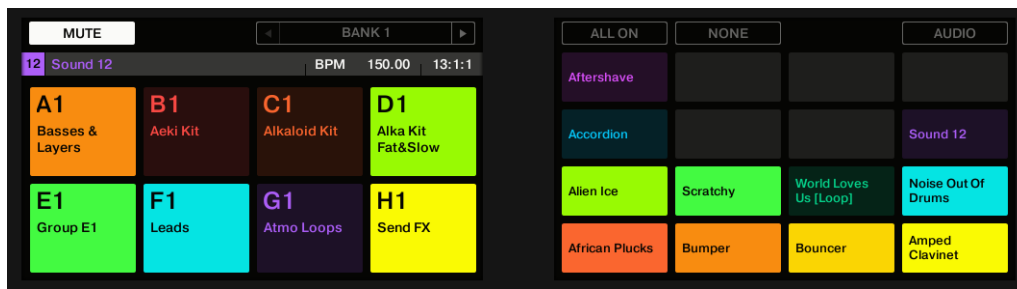
To enter solo mode:



The Solo mode

1. Press and hold **SOLO** to enter Solo mode. You can also press **SOLO** + Button 1 to pin this mode and make it permanent.
2. Solo Sounds by pressing their pads, and solo Groups of the current Group bank by pressing their Group buttons. Press Button 3 and 4 to switch to the previous/next Group bank.

To enter mute mode:



The Mute mode

1. Press and hold **MUTE** to enter Mute mode. You can also press **MUTE** + Button 1 to pin this mode and make it permanent.
2. Mute Sounds by pressing their pads, and mute Groups of the current Group bank by pressing their Group buttons. Press Button 3 and 4 to switch to the previous/next Group bank, respectively.

In both Solo and Mute modes you will note the following:

- On your controller, the unmuted pads and Group buttons are fully lit, while the muted ones are dim-lit (and the empty ones are off).
- On the displays, the unmuted Sounds and Groups are highlighted while the muted ones are not (and the empty ones are... empty).

In both modes the displays provide a few more functions:

- ▶ Press **ALL ON** (Button 5) to activate all Sounds in the selected Group.
- ▶ Press **NONE** (Button 6) to deactivate all Sounds in the selected Group.
- ▶ Hold Button 8 (**AUDIO**) to see on the pads which Sounds have audio mute enabled (see above): Sounds with audio mute enabled have fully lit pads, while Sounds with only event mute have dim-lit pads. This is also indicated on the right display (Sounds with audio mute are highlighted). While holding Button 8 (**AUDIO**), press any pad to switch the audio mute for this Sound on or off.

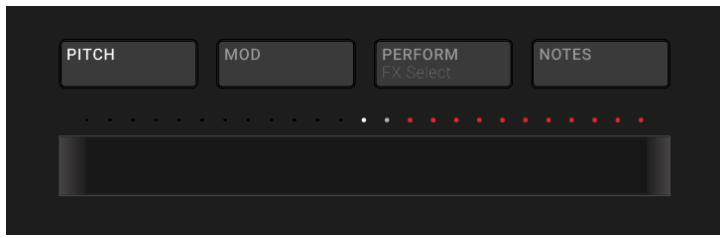
i Enabling/disabling audio mute for a Sound does not mute/unmute it! It only sets this Sound to get both its events and its audio muted when you will mute it via the usual way (pressing **MUTE** + its pad).



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 while holding the **MUTE** button.

6.11. Using the Smart Strip

The Smart Strip puts control of several parameters at your fingertips: You can use the Smart Strip to apply pitch bend or modulation to the sound you are playing on the pads, tweak Perform FX in real-time, or play Sounds by strumming on the Smart Strip.



Smart Strip with **PITCH** mode enabled.

6.11.1. Pitch Mode

In **Pitch mode**, sliding your finger on the Smart Strip “bends” the pitch of the notes you play on the pads, i.e., it detunes the sound by a certain amount. If you have used the pitch bend wheel on a synthesizer or standard MIDI keyboard before, you are probably familiar with this effect.

In Pitch mode, the scale on the Smart Strip is centered, as indicated by a white LED in the middle of the Smart Strip. Sliding your finger to the left will flatten the pitch. Sliding your finger to the right will sharpen the pitch. The amount of pitch bend applied to the Sound is indicated by the LED dots above the Smart Strip. Once you lift your finger off the Smart Strip, the pitch of the sound will return to standard tuning.

► To enable Pitch mode, press the **PITCH** button.

6.11.2. Modulation Mode

In **Modulation mode**, sliding your finger on the Smart Strip modulates the sound of the notes you play on the pads. The Smart Strip always controls the parameter that is assigned to the standard MIDI CC #1. This MIDI Continuous Controller is reserved for the modulation wheel. If you have used the modulation wheel on a synthesizer or standard MIDI keyboard before, you are probably familiar with the effect.

In Modulation mode, the scale starts at the left side of the Smart Strip, as indicated by a white LED. Sliding your finger to the right will apply an increasing amount of modulation, as indicated by the LED dots above the Smart Strip. When you lift your finger off the Smart Strip, the modulation value will remain at the position where the strip was last touched; the LED dots above remain lit to indicate this position.

► To enable Modulation mode, press the **MOD** button.

6.11.3. Notes Mode

In **Notes mode**, sliding your finger on the Smart Strip plays the pads you hold one after the other. Sliding your finger on the Smart Strip while no pad is held will play all Sounds mapped to the pad matrix in Pad Mode or Keyboard mode. If you slide your finger from left to right, the pads will be played in an ascending manner. If you slide your finger from right to left, the pads will be played in a descending manner. This applies regardless of which pads (if any) are held.

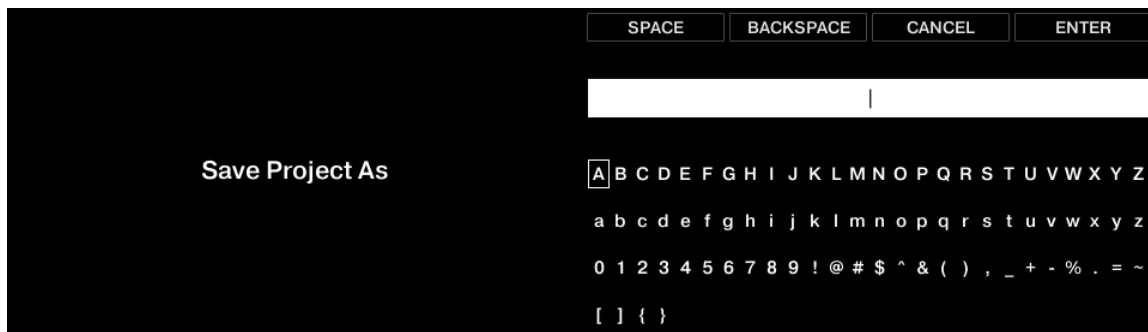
To play notes using the Smart Strip:

1. Load a Group (in Pad mode) or Sound (in Keyboard/Chords mode) so they are mapped to the pads.
2. Press the **NOTES** button to enable Notes mode.
3. Press and hold the pads you want to play.

- Slide your finger on the Smart Strip to “strum” the sounds mapped to the pads.

6.12. Entering Text

At certain times when using MASCHINE+ you will need to enter text in order to, for example, name files, projects, or enter passwords. In such situations the following text entry dialog will appear:



Save Project As text entry dialog

To enter text into the dialog, use a combination of the following:

- ▶ Turn the 4-D encoder to select characters on the same line.
- ▶ Push the 4-D encoder up or down to jump to another line of characters.
- ▶ Press the 4-D encoder to enter the selected character.
- ▶ Press Button 5 (**SPACE**) to enter a space.
- ▶ Press Button 6 (**BACKSPACE**) to clear a character or the whole text entry field.
- ▶ Press Button 7 (**CANCEL**) to exit without making any changes.
- ▶ Press Button 8 (**ENTER**) to enter text.

7. Working with MASCHINE+

This chapter holds useful information for your every-day work with MASCHINE+.

7.1. Using the Library

The Library enables you to download and install products, view installed products, and check your Native Instruments account for updates of products you own.

7.1.1. Downloading Content to Your Library

The Library enables you to download and install all of your plug-ins and content from your Native Instruments account using your Native ID.

To download and install content to your Library:

1. Press **SETTINGS**.
2. Use the 4-D encoder to select **Library**.
3. Turn Knob 1 to select **Available**.
 - A list of available products from your account are listed on the right-hand display.
4. Turn Knob 8 to select a product.
5. Press Button 8 (**INSTALL**) to install the product.
 - You can pause or resume the installation at any time by pressing Button 8. If you want to cancel the installation press Button 7. After installation, the product is available from the Browser.

7.1.2. Updating Installed Products

The Library enables you to view any available updates for the products you have already installed.

To view a list of updates available for the products installed on your MASCHINE+:

1. Press **SETTINGS**.
2. Use the 4-D encoder to select **Library**.
3. Turn Knob 1 to select **Updates**.
 - All available updates are listed on the right-hand display.
4. Turn the 4-D encoder or Knob 6 to scroll through the list of product updates.
5. Press Button 8 (**UPDATE**) to install the update for the selected product.
 - The update is installed and now available from the Browser.

7.1.3. Viewing Products Installed in Your Library


The Library provides a list of all products installed on your MASCHINE+.

To view a list of products downloaded and installed on your MASCHINE+:

1. Press **SETTINGS**.

2. Use the 4-D encoder to select **Library**.
 3. Turn Knob 1 to select **Installed**.
- All installed products are listed on the right-hand display.
4. Turn the 4-D encoder or Knob 6 to scroll through the list of installed products.

Products installed in your Library are available from the Browser.

 If the SD memory card has been removed and then reinserted into the slot, or if the content on the card has been changed, it is advisable to perform a rescan of your content by pressing Button 4 (**RESCAN**).

7.2. Using the File Menu


MASCHINE+ provides a dedicated mode that enables you to manage your Project files. This includes creating new Project files, saving Project files, and also saving copies of files as you work through iterations of your projects. You can also view a list of the most recent projects that have been worked on, and of course load existing Projects. Additionally, you can also use this mode to export audio files. eject and format storage devices.

To access File mode:

- ▶ Press the **FILE** button.
- The File menu is displayed.

The available File menu options are as follows:

Option	Description
NEW	Creates a new Project file. If you already have a project open, you will be prompted to save or discard it, after which, a new Project will be created.
SAVE AS	Enables you to save the current Project under an alternative name.
SAVE COPY	Quickly enables you to save a copy of the current Project with a numerical iteration added to the file name.
EXPORT AUDIO	Enables you to configure options to export your ideas or songs as audio files. For more information on exporting audio, see Exporting Audio .
STORAGE	Enables you to format and eject storage devices such as SD cards and external drives connected to your MASCHINE+. For more information on how to format, and eject storage devices, see Formatting a Storage Device and Ejecting a Storage Device .
RECENT	Provides a list of recent Projects for quick and easy access.
LOAD	Loads the selected file. Turn the 4-D encoder or Knob 8 to select a Project file and press the 4-D encoder or Button 8 to load it.

 Always eject storage devices before removing them from MASCHINE+. Removing storage devices without first ejecting them could result in data loss or file corruption.



For information on transferring files from the SD card in your MASCHINE+ to a computer via USB, see [Transferring Files to the SD Card](#).

7.2.1. Working with Storage Devices

The Storage menu enables you to format and eject external storage devices connected to your MASCHINE+.

Here are a few points to note when working with external storage devices:

- In addition to SD Cards, MASCHINE+ supports storage devices such as USB flash drives, and external disk drives using USB2 with a power rating up to 2.5W (5V@500mA).
- MASCHINE+ uses the exFAT file system, but can also read drives formatted with the FAT file system.
- For the best results, it is recommended that external storage devices are formatted in exFAT using the onboard MASCHINE+ Format utility, as formatting storage devices on some other operating systems may result in them appearing on MASCHINE+ with partitions. For more information on formatting external storage devices, see [Formatting a Storage Device](#).
- Additionally, using exFAT is beneficial as it enables easy file transfer between different operating systems, for instance, if you have samples stored on Windows or macOS you can easily transfer them to an external storage device formatted with exFAT or FAT and access them on MASCHINE+.
- Files on external storage devices connected to MASCHINE+ are accessible from the Browser when the **USER** toggle is activated. For more information loading user content, see [Accessing User Content](#).
- Always eject external storage devices when removing them from MASCHINE+. For more information on ejecting storage devices, see [Ejecting a Storage Device](#).



Failure to eject a storage device before removing it from MASCHINE+ could damage your storage device and cause data loss.

- Samples accessed from external storage devices can be saved to your SD card using the **SAVE AS** option in the File menu. For more information, see [Saving a Project](#).

Formatting a Storage Device

MASCHINE+ can accept several types of storage devices including SD cards, USB flash drives, and external USB hard drives. You can use any of these types of storage devices as long as they are formatted in a way that MASCHINE+ can read and write to them.

MASCHINE+ uses exFAT file system but can also read FAT. For the optimal experience, we recommend formatting your storage devices using the onboard formatting utility.

To format a storage device:

1. Press **FILE (Save)** to enter File mode.
2. Press Button 6 (**STORAGE**).
3. Use the 4-D encoder to select the storage device you want to format.

4. Press Button 7 (**FORMAT**) to format the selected device.
- MASCHINE+ will confirm that you want to format the storage device.
5. Press Button 8 (**OK**) to confirm you want to format the device.
- The storage device is formatted and now ready for use.



Using **Format** will erase all data on the selected storage device. If required, back-up all data before you format the device.

Ejecting a Storage Device

It is not always easy to tell whether your MASCHINE+ is still accessing or writing files to storage devices. Therefore pulling a memory card out of its reader or removing an external drive out of the USB port could cause corrupted files, unreadable media or both. Ejecting your storage device safely decreases these chances. You can safely remove storage devices using built-in utilities designed for disconnecting hardware.

To safely eject a storage device:

1. Press **FILE (Save)** to enter File mode.
 2. Press Button 6 (**STORAGE**).
 3. Use the 4-D encoder to select the storage device you want to eject.
 4. Press Button 8 (**EJECT**) to eject the selected device.
- You can now safely remove the storage device you selected from MASCHINE+.

7.2.2. Transferring Files to the SD Card

Storage mode enables you to exchange files between the SD memory card in your MASCHINE+ and a computer.

To exchange files you must first connect your MASCHINE+ to a computer using a USB cable, then activate Storage mode. The SD card within your MASCHINE+ then appears as a drive on your computer. For more information, see [Connecting MASCHINE+ to a Computer](#).

You can exchange the following files types:

- **Projects:** This enables you to exchange Project files between MASCHINE+ and the MASCHINE software. For example, you could start a project on MASCHINE+ and then finish it using the MASCHINE software on your computer with MASCHINE+ in Controller mode, or vice versa.
- **Samples:** This enables you to exchange samples between your computer and MASCHINE+ . Note that MASCHINE+ only accepts the following audio file formats: **.aif** and **.wav**.

Accessing Storage Mode and Transferring Files

To access Storage mode and transfer files:

1. Press **SETTINGS**.
 2. Use the 4-D encoder to select **System**.
 3. Press Button 3 (**STORAGE**).
- The SD card of your MASCHINE+ is now available as a drive on your computer and you can now transfer files.

4. Add Projects to the following directory on the SD card: *Native Instruments\Maschine 2\Projects*.
 5. Add samples to the following directory on the SD card: *Native Instruments\Maschine 2\Samples*.
- The files are transferred to the SD card in MASCHINE+. When you have finished transferring files, eject the SD card drive from your computer.

i Accessing Storage mode stops the Transport, deactivates access to all other modes, and pauses any files downloading in the Library while in use. You can continue using your MASCHINE+ after you have disconnected from Storage mode.

Disconnecting from Storage Mode

To disconnect from Storage mode:

1. On your computer, eject the MASCHINE+ SD card drive.
 2. On MASCHINE+, press **SETTINGS**.
 3. Press Button 8 (**DISCONNECT**).
- The SD card in MASCHINE+ is now disconnected from your computer.

7.2.3. Opening Files from Your SD Card

You can open your user content saved directly from the File menu. This includes Projects, Groups, and Sounds.

To open your files from the SD card on MASCHINE+.

1. Press **BROWSER**.
 2. Press Button 4 (**USER**)
 3. Press Button 1 or 2 to select the file type you want to load.
 4. Turn Knob 2 to Select **Maschine**.
 5. Turn Knob 8 to select the name of the project you want to load.
 6. Press Button 8 **LOAD**.
- The selected file is loaded from the SD card.

i If files from your SD card do not automatically appear in the Browser, press **SHIFT + Button 1 (RESCAN)** to scan for new content.


7.2.4. Saving a Project


Sometimes it is useful to have the ability to save all Samples used in your Project outside of the MASCHINE Library. This is particularly useful if you want to take a Project to another studio or if you want to back up a production with all the related files. This is an effective way to transfer Projects and Samples between and MASCHINE software and MASCHINE+.

To save a Project on MASCHINE+:

1. Press **FILE (Save)**.

2. Press Button 3 **SAVE AS**.
 3. Turn Knob 1 to select **Project**.
 4. Turn Knob 3 if you want to save the Project with or without its samples.
 5. Turn Knob 4 if you want to delete (not save) unused samples from within the Project.
 6. Press Button 8 **SAVE AS**.
 7. Press **ENTER** to save the Project and its samples.
- The Project is saved to the SD card.

 Projects are saved to the following directory on your SD card: *Native Instruments Maschine 2\Projects*.


 You can also save a single Group or Sound. For more information, see [Saving a Group](#), and [Saving a Sound](#).


7.2.5. Saving a Group

Sometimes it is useful to have the ability to save a Group outside of the MASCHINE 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. This procedure is also useful if you want to transfer Groups between MASCHINE+ and MASCHINE software.

To save a Group on MASCHINE+:

1. Press **FILE (Save)**.
 2. Press Button 3 **SAVE AS**.
 3. Turn Knob 1 to select **Group**.
 4. Turn Knob 2 to select the name of the group you want to save, or simply press the Group button.
 5. Press Button 8 **SAVE AS**.
 6. Enter a name for your Group.
 7. Press **ENTER** to save the Group.
- The Group is now saved to the SD card.

 Groups are saved to the following directory on your SD card: *Native Instruments Maschine 2\Groups*.


 You can also save your whole Project, see [Saving a Project](#).


7.2.6. Saving a Sound

Using the File menu you can save individual Sounds directly to the SD card. This procedure is also useful if you want to transfer Sounds between MASCHINE+ and MASCHINE software.

To save a Sound on MASCHINE+ :

1. Press **FILE (Save)**.
 2. Press Button 3 **SAVE AS**.
 3. Turn Knob 1 to select **Sound**.
 4. Turn Knob 2 to select the name of the Sound you want to save, or simply press the corresponding pad.
- The corresponding pad of the selected Sound will light-up brightly.
5. Press Button 8 **SAVE AS**.
 6. Enter a name for your Sound.
 7. Press **ENTER** to save the Sound.
- The Sound is now saved to the SD card.

 Sounds are saved to the following directory on your SD card: `\Native Instruments\Maschine 2\Sounds`.

 You can also save your whole Group including all of its Sounds, see [Saving a Group](#).

7.2.7. Exporting Audio

Use Export Audio to export your complete arrangement as audio from the Song view, or render individual Scenes or Sections as audio files in from the Ideas view.

Export Audio is available from the File page.

- In **Ideas** view, it is used to export individual Scenes, or all Scenes at once.
- In **Song** view, it is used to export your complete arrangement or individual Sections of the arrangement depending on the Loop range.

The exact length of the exported audio file depends on the Loop Optimize setting (see description below). Export Audio also contains options that allow you to select the source you want to export such as the Master, Groups, or Sounds.

To export Ideas or a Song as audio:

1. Enter Ideas or Song mode by pressing **IDEAS**, then **SHIFT**.
- This will determine if you are able to export ideas or your whole song.
2. Set the Loop Range to the region that you want to export.
 3. Press **FILE**, then Button 5 **EXPORT AUDIO**.
 4. If necessary, adjust the available export options (see description below) using Knobs 1 to 8.
 5. Press Button 8 **Export** to start the export process, or Button 7 **Cancel** to exit the page without exporting.

Element	Description
SOURCE	<p>Select what you want to export. The content of the Output list under the menu depends on your selection in the menu:</p> <p>Master: Select this to export the Master output signal (including all Groups and Sounds and their effects) to one audio file.</p> <p>Group: Select this to export the output signals of specific Groups to individual audio files.</p> <p>Sound: Select this to export the output signals of specific Sounds to individual audio files.</p>
SCENES/ RANGE	<p>Set the range for the audio you want to export. The options here will differ depending on whether MASCHINE is in Ideas view or Song view.</p> <p>In Ideas view the following Scene options are available:</p> <p>All: Select this option to export all Scenes as audio.</p> <p>Selected: Select this option to export the selected Scene as audio.</p> <p>In Song view the following Range options are available:</p> <p>All: Select this option to export all Sections in the arrangement as audio.</p> <p>Loop: Select this option to export the selected Section of the arrangement as audio.</p>
SAMPLE RATE	<p>Select from five different sample rates for the exported audio file(s): 44100 Hz (this is the sample rate of the audio CD format), 48000 Hz, 88200 Hz, 96000 Hz, and 192000 Hz.</p>
TYPE	<p>Select the required audio format : uncompressed WAV or AIFF.</p>
BIT DEPTH	<p>Select from three different bit depths (or bit resolutions) for the exported audio file(s):</p> <p>16 Bit is the bit depth of the audio CD format.</p> <p>24 Bit is well suited for mastering.</p> <p>32 Bit float is the bit depth used internally the audio processing engine. Choose this setting if you plan to further process the exported audio using other high-end digital audio devices or applications that support this bit depth. This setting will allow greater headroom, however, note that the exported files will be significantly larger.</p>

Element	Description
LOOP OPTIMIZE	Optimize the audio file for use as a loop: Switch on Loop Optimize to keep the exact Loop Range when exporting audio. Any effect tail will be rendered into the beginning of the audio file. Additionally, the file metadata will include the tempo (in BPM) and length (in bars). Turn this feature off to prolong the audio file when exporting audio, for example, to keep the tail of a reverb. The end of the exported audio will always correspond to a bar division.
NORMALIZE	Select this option to normalize your audio as it is exported. This means the exported audio will be brought to the highest possible level without clipping (0 dBFS).
SPLITBYSECTION	Select this option to export audio within the loop braces. If the loop spans multiple Sections, individual audio files for each Section within the selected area will be created. Please note, if you only select one Section and export, you will not gain any advantage by using this feature.

Names of the Exported Audio Files

The exported audio files are named according to the following rules:

- If **Master Output** is selected in the Output menu the audio file will be named as follows: **[Project name] - [BPM].wav/aiff**.
- If **Group Outputs** is selected in the Output menu the audio files will be named as follows: **[Project name] - [Group order number] [Group index (letter + number)] [Group name] - [BPM].wav/aiff**. The Group order number is a two-digit number indicating the "order of appearance" of the Group in the Group List. This ensures that an alphabetical listing of the exported files will reflect the structure of your Project.
- If **Sound Outputs** is selected in the Output menu the audio files will be named as follows: **[Project name] - [Sound name] - [BPM].wav/aiff**.

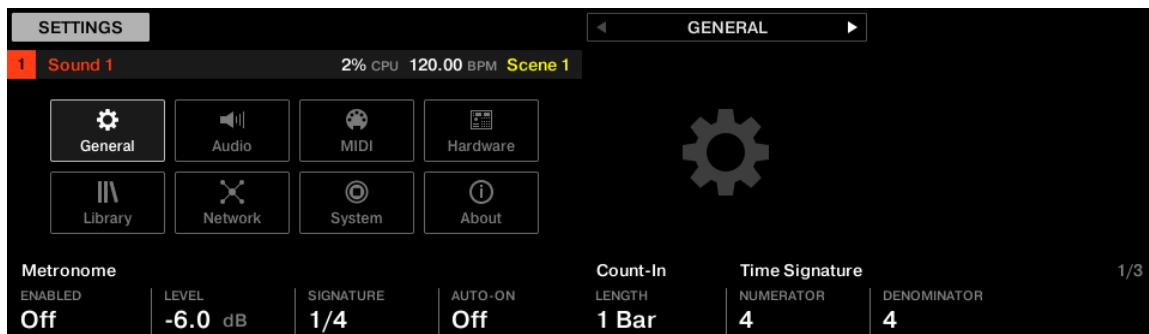
i In addition, if the name of the file about to be exported is already used in the destination folder, a hyphen followed by an index number is added to the name (e.g., "- 1," "- 2," "- 3,") to avoid any file being overwritten.

7.3. Settings Overview

The Settings page lets you specify various preferences to customize your MASCHINE+. Using the 4-D encoder, you can access different categories presented as "tiles" to set preferences for the MASCHINE+, such as recording options, audio card configuration, network access, and MIDI. Using the Settings page you can also update the operating system of your MASCHINE+, access your library to download, install, and update your plug-ins, and switch between Stand-alone and Controller modes.

To select open the Settings panel and select options:

1. Press **SETTINGS** to open the Settings panel.
2. Move the 4-D encoder in any direction to select a category, or use Buttons 5 and 6.



The Setting page with General settings selected

The Settings page contains the following categories:

- **General:** Contains all of the global settings for MASCHINE+. This includes settings for the Metronome, Count-in, Quantize, Project reload, Scene/Section, and Colors. For more information, see [General Settings](#).
- **Audio:** Contains settings related to your audio interface. This can be used to configure the internal or external audio interface for MASCHINE+. For more information, see [Audio Settings](#).
- **MIDI:** Allows you to set up the MIDI input and output ports for MASCHINE+. This page also includes MIDI Sync, Clock Offset, and Ableton Link. For more information, see [MIDI Settings](#).
- **Hardware:** Enables you to customize how the pads react to your playing, adjust the brightness of the displays, and set the sensitivity of the knobs. For more information, see [Hardware Settings](#).
- **Library:** Provides an overview of the plug-ins installed on your device and enables you to use your Native ID to download, install, and update new plug-ins. For more information, see [Library Settings](#).
- **Network:** Provides an overview of available Wi-Fi networks. Here you see which network you are connected to and choose to connect, disconnect, or enable Airplane mode. For more information, see [Network Settings](#).
- **System:** Allows you to update the operating system of your MASCHINE+, switch to Storage mode or Controller mode, and reset your device. For more information, see [System Settings](#).
- **About:** Provides an overview of the System version and firmware installed on your MASCHINE+. You can also use this page to view a list of MASCHINE+ credits and select whether you want to enable or disable usage data tracking. For more information, see [About Settings](#).

7.3.1. General Settings

General contains all of the global settings for MASCHINE+. This includes settings for the Metronome, Count-in, Quantize, Project reload, Scene/Section, and Colors.

To display the General page:

1. Press **SETTINGS**.
2. Use the 4-D encoder to select **General**.
3. Use the Page buttons to select a page.
4. Use the Knobs 1–8 to change settings.

The General page provides the following options:

General Settings (Page 1)

Setting	Description
Metronome	
ENABLED	Activates/deactivates the metronome. A metronome is a device used by musicians that marks time at a selected rate by giving a regular tick in beats per minute.
LEVEL	Adjusts the volume level of the metronome.
TIME	Selects the time interval between each tick of the metronome. By default the metronome indicates quarter notes (1/4).
AUTO-ON	Automatically turns on the metronome when you start recording a Pattern. When you start recording a Pattern, the metronome is automatically enabled. When you exit recording the metronome returns to its state before the recording (this can be on or off). The Auto-on option does not affect the Count-in: Even if Auto-on is deactivated, the metronome turns on when you press SHIFT + REC to start the Count-in.
Count-In	
LENGTH	Sets the duration of the Count-in, for instance, how long the metronome will sound before the recording actually starts.
Time Signature	
NUMERATOR	Sets the number of beats in a measure. For example, in 4/4, there are 4 beats per measure.
DENOMINATOR	Sets which type of note receives one beat. If the denominator is a 4, a quarter note counts as one beat; if the denominator is an 8, an eighth note counts as one beat; if the denominator is a 16, a 16th note counts as one beat, and so on...

General Settings (Page 2)

Setting	Description
Project	
RELOAD	Automatically reloads the last Project on startup.
Quantize	

Setting	Description
MODE	<p>Automatically quantize your input as you record.</p> <p>Select one of the following Input Quantization modes:</p> <p>None: Input Quantization is deactivated. Events you play or record on the Pads are not quantized.</p> <p>Record: Input Quantization is applied only when you record the Pads.</p> <p>Play/Rec: Input Quantization is applied both when you play on the pads and when you record them. In Play/Rec mode, quantization while playing is slightly different from the quantization applied while recording: When recording, all events are quantized to the closest step, possibly ahead of the event. When playing, events occurring in the first half of the steps are left untouched (since you cannot bring them forward in the timeline) whereas events occurring in the second half of the steps are quantized to the next step.</p>
Scene/Section	
DUPLICATE	<p>Selects how the Duplicate function will operate when duplicating Scenes.</p> <p>Scene Only: Only the Scene is duplicated. The result is a new unlinked Scene with the same Patterns referenced.</p> <p>Scene and Patterns: The Scene itself and additionally all Patterns are duplicated. The new Scene and Patterns are now completely independent from the originals.</p>
LINK WHEN DUPL	<p>Creates a linked copy of a Section when using the Duplicate function. By default this feature is deactivated.</p> <p>When enabled, the Duplicate function will create a linked copy of a Section. A linked copy will automatically be updated when any instance of a linked Section is edited. This way, you don't need to keep track of which Section is the "original."</p>
Pattern	
LENGTH	Sets the default length of a Pattern.
GROW	Sets the default of Auto-growing Patterns on or off. Auto-Growing Patterns enables you to record patterns of an undefined length. This means you can quickly capture an idea without having to set a pattern length in advance. Simply begin recording and the length of the pattern will grow until you stop recording. When you have finished recording, any silence at the end of the pattern will automatically be trimmed to the nearest Bar (quantization can be adjusted via Grid settings).

Setting	Description
Colors	
SCENE	Selects the default color for your Scenes. In the menu, you can select the desired color from the 16-color palette or White (default setting). The color selected as default is highlighted in the menu. If you select Auto, each Scene will have a different default color.
GROUP	Selects the default color for your Groups. In the menu, you can choose the desired color from the 16-color palette. The color selected as default is highlighted in the menu. If you select Auto (default setting) each Group will have a different default color.
SOUND	Selects the default color for your Sounds. In the menu, you can choose the desired color from the 16-color palette. The color 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 (default setting) Sounds will by default mirror the color of the Group to which they belong.
LOAD COLORS	Enables you to load Color settings with your MASCHINE files (Projects, Groups, Sounds, etc.). If you turn off Load with Colors (On by default), saved colors will not be used next time you load files. The default colors set in this Colors page will be used instead.

7.3.2. Audio Settings

The Audio page contains settings related to your audio interface. This can be used to configure the internal or an external audio interface for MASCHINE+. The right-hand display provides an overview of the current status of your audio inputs and output, including measurement of the total latency.

To display the Audio page:

1. Press **SETTINGS**.
2. Use the 4-D encoder to select **Audio**.
3. Use the Page buttons to select a page.
4. Use the Knobs 1–8 to change settings.

Audio Settings page 1 provides the following options:

Setting	Description
Interface	

Setting	Description
DEVICE	<p>Selects available the internal, or external audio devices when they are connected to the USB A ports.</p> <p>The following external devices from Native Instruments are supported:</p> <ul style="list-style-type: none"> • KOMPLETE AUDIO 1 • KOMPLETE AUDIO 2 • KOMPLETE AUDIO 6 (MK2) <p>For more information on these products please refer to the Native Instruments website: https://www.native-instruments.com/en/catalog/komplete/audio-interfaces/</p>

Audio Settings pages 2 to 6 provide the following options:

Setting	Description
Input Routing	
1–8	Allows you to select 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 all of the available Inputs across several pages. The choices made here will, for example, determine which inputs can be used when sampling external sources.
Output Routing	
1–16	Represents a list of the 16 stereo outputs from MASCHINE+ across several pages: you can assign them to the outputs of your audio interface. Output routing ports are spread across pages 3–8 of the Audio settings.

7.3.3. MIDI Settings

The MIDI settings page allows you to set up the MIDI input and output ports for MASCHINE+. This page also includes MIDI Sync, Clock Offset, and Ableton Link settings.

To display the MIDI page:

1. Press **SETTINGS**.
2. Use the 4-D encoder to select **MIDI**.
3. Use the Knobs 1–8 to change the settings.

The MIDI page provides the following settings:

Setting	Description
MIDI Sync	
MODE	<p>Selects the MIDI Sync mode preference:</p> <ul style="list-style-type: none"> • Off: No MIDI sync mode is selected. • Send Clock: Sends a MIDI Clock signal to any device that is capable of receiving MIDI Clock. This could be hardware such as a synthesizer, drum machine, or even another software sequencer. • Receive Clock: Receives external MIDI Clock signals and can then be controlled by any device that is capable of sending MIDI Clock. This could be hardware such as a drum machine, another groove box or sequencer, or even another software sequencer. Note that the Receive Clock option is not available when Link is active.
CLOCK OFFSET	<p>Compensates for 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. Clock Offset is not available when MIDI Sync Mode is set to Off.</p>
MIDI Input	
DEFAULT	<p>Enables you to play your Sound(s) via MIDI notes, for example, from a MIDI keyboard. By default and without any configuration, incoming MIDI notes on any MIDI port and any MIDI channel, or via USB, will trigger the pitch of the focused Sound. In addition, you can select that a Sound receives no MIDI input, and also define the default setting for MIDI input by selecting the Default MIDI Input Mode preference. Select one of the following MIDI input mode options:</p> <ul style="list-style-type: none"> • Focus: MIDI input from any connected controller can be used to trigger the focused (selected) Sound. • None: Selected Sounds will not receive MIDI data.
Link	
ENABLED	<p>Enables the Ableton Link protocol by default. Applications that support Ableton Link can join a Link session when connected to the same network. For more information on Ableton Link, see Syncing MASCHINE+ using Ableton Link.</p>
Input Devices	
SELECT	<p>Displays a list of all available MIDI inputs of your MASCHINE+. Use STATUS to activate/deactivate each input.</p>
STATUS	<p>Displays the current status of the MIDI input device selected in SELECT. Here you can activate/deactivate the selected MIDI input.</p>
Output Devices	
SELECT	<p>Displays a list of all available MIDI outputs of your MASCHINE+. Use STATUS to activate/deactivate each input.</p>

Setting	Description
MIDI Sync	
STATUS	Displays the current status of the MIDI output device selected in SELECT . Here you can activate/deactivate the selected MIDI output.

7.3.4. System Settings

The System settings enable you to update the MASCHINE+ operating system, switch to Storage mode to exchange data between the SD card in MASCHINE+ and your computer, or enter Controller mode to use MASCHINE+ as a controller for the MASCHINE software running on a computer.

Using the SHIFT you can also find National options to reset your MASCHINE+, and manually scan for system updates.

To display the System settings page:

1. Press **SETTINGS**.
2. Use the 4-D encoder to select **System**.
3. Use the Buttons 1–8 to change settings.
4. Press **SHIFT** to see additional settings.

The Device page provides the following settings:


Setting	Description
STORAGE	Allows you to access the SD card within your MASCHINE+ when connected via USB. In this mode, you can transfer content between MASCHINE+ and your computer. For more information on Storage mode, see Using MASCHINE+ in Controller Mode .
CONTROLLER	Activates Controller mode. In Controller mode MASCHINE+ can be used as a controller for the MASCHINE software, where all processing is performed by the connected computer. It is possible to start exchange Project files and samples between MASCHINE+ and your computer using Storage mode. This means you could effectively, for example, start a Project on MASCHINE+ and then finish later on your computer using the MASCHINE software. To use Controller mode, your MASCHINE+ must be connected via USB to a computer that is running the latest MASCHINE software. For more information on Controller mode, see Stand-Alone and Controller Mode .
UPDATE	Enables you to update the MASCHINE+ operating system whenever a new version is available. When connected to Wi-Fi, MASCHINE+ automatically checks for updates when the System page is accessed. Press Button 8 to install system updates when they become available.



MASCHINE software and MASCHINE+ are constantly being developed. To receive new features and improvements, it is recommended that you install the latest updates.

Here are the additional settings that are available when pressing **SHIFT**:

Setting	Description
RESET	Enables you to reset your MASCHINE+ to its default settings.

 Pressing **RESET** will erase all of your settings and preferences. This action cannot be undone.

SCAN	Enables you to manually scan for system updates.
------	--

7.3.5. Library Settings


The Library page provides an overview of the plug-ins installed on your device and enables you to use your Native ID to download, install, and update plug-ins from your Native Instruments account.

To display the Library settings page.

1. Press **SETTINGS**.
2. Use the 4-D encoder to select **Library**.
3. Use the Buttons and Knobs 1–8 to change settings.

The Library page provides the following settings:

Setting	Description
Products	
SHOW	Shows a list of products installed or available to install: <ul style="list-style-type: none"> Installed: Displays all products installed. Available: Displays a list of products available to install. <ul style="list-style-type: none"> • Turn Knob 6 or the 4-D encoder to select a product. • Press Button 8 to install, pause, or resume the installation of the selected product. • Press Button 4 (RESCAN) at anytime to update the list of available products. Rescan also checks the directories on your SD card for any new content that may have been added while transferring files in Storage mode, for example, new Projects, or samples. Once the SD card has been scanned these files are available from the User section in Browser. For more information, see Loading Files from the Browser and Transferring Files to the SD Card.

 To update the MASCHINE+ operating system, see [System Settings](#).

7.3.6. Hardware Settings

Enables you to customize how the pads react to your playing, adjust the brightness of the displays, and set the sensitivity of the knobs.

To display the Hardware page:

1. Press **SETTINGS**.
2. Use the 4-D encoder to select **Hardware**.
3. Use the Knobs 1–8 to change settings.

The Hardware page provides the following settings:

Setting	Description
Pads	
SENSITIVITY	Adjusts how sensitive the pads respond to your touch. This sets the minimum threshold at which a “hit” is registered.
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).
LEDs	
BRIGHTNESS	Adjusts the brightness of the pads and buttons.
Touchstrip	
SHOW POSITION	Shows the playhead position within a Pattern or song: <ul style="list-style-type: none"> • Off: The Touchstrip never displays the playhead position. • Rec. Only: The Touchstrip displays the playhead position only when you are recording. • On: The Touchstrip displays the playhead position during playback and recording.
Display	
BRIGHTNESS	Adjusts the brightness of both displays.
Outputs	
MAIN	Routes the Line Out L/R to the Phones output. This allows you to listen to the same audio output channel via the line output and headphone output simultaneously, for example, use this if you want to listen to the main out via speakers and listen to the main out via headphones.
Touch-Sensitive Knobs	
AUTO-WRITE	Activates / deactivates the Touch Auto-write option. Touch Auto-write can be very useful if you want to re-record modulation for a parameter at a constant value. With Touch Auto-write enabled, you only need to keep a finger on a parameter Knob (1–8): The current modulation value is recorded as long as you touch the Knob, automatically replacing any old modulation events at the position in the Pattern.

7.3.7. Network Settings

The Network settings page contains options related to connecting MASCHINE+ to a Wi-Fi network. Before you make a connection, available Wi-Fi networks are listed on the right-hand display. Connecting to a network enables you to download plug-ins to your library from your Native Instruments account (see, [Library Settings](#)), update the system, and connect to an Ableton Link session (see, [MIDI Settings](#)) so you can sync to external devices.

To display the Network settings page:

1. Press **SETTINGS**.
2. Use the 4-D encoder to select **Network**.
3. Use the Buttons and Knobs 1–8 to change settings.

The Network page provides the following settings:

Buttons

Setting	Description
CONNECT	Connects to the selected network. Use the 4-D encoder to select a network, then press Button 8 (CONNECT) to log-on to that network. You will need the network credentials to log-on.
REFRESH	Refreshes the list of available Wi-Fi networks. Press Button 5 (REFRESH) to update the list.
DISCONNECT	Disconnects from the current Wi-Fi connection. Press Button 8 (DISCONNECT) to disconnect.

Knobs

Setting	Description
Airplane Mode	
Enabled	Activates or deactivates Airplane mode. When activated, this mode suspends Wi-Fi network signal transmission from MASCHINE+, effectively disabling the network service. As the name suggests, this mode is for use in environments where you are not allowed to use Wi-Fi.



For more information on connecting to Wi-Fi networks, and Ableton Link, see [Connecting to Wi-Fi](#) and [Syncing MASCHINE+ using Ableton Link](#).

7.3.8. About Settings

The About page provides an overview of the System version, MASCHINE version, and firmware installed on your MASCHINE+. You can also use this page to view a list of MASCHINE+ credits and select whether you want to disable usage data tracking.

To display the About page:

1. Press **SETTINGS**.
2. Use the 4-D encoder to select **About**.

- Use the Knobs 1 to 8 to change settings.

The About page provides the following settings:

Buttons

Setting	Description
CREDITS	Press Button 8 to see a list of MASCHINE+ credits. In no particular order, this list includes everyone that has contributed to the development, and sound design of MASCHINE+. Use Knob 8 to scroll through the list.

Knobs

Setting	Description
Usage Data	

TRACK	Turn Knob 1 to activate or deactivate Usage Data Tracking.
-------	--

Usage Data Tracking technology enables MASCHINE+ to automatically track anonymous usage data that you can choose to share with us. All users should keep Data Tracking activated as it provides a valuable tool for understanding the performance of Native Instruments products when they are used in real life situations. The data sent to Native Instruments is 100% anonymous and will not affect performance.

For more detailed information about Usage Data Tracking, please refer to the following Knowledge Base article on the Native Instruments website: <https://support.native-instruments.com/hc/en-us/articles/209545029>.

8. Using the Browser

The Browser provides access to all MASCHINE files: Projects, Groups, Sounds, presets for Instrument and Effect Plug-ins, Loops, and One-shots. Using the MASCHINE software, each of these can be stored, tagged, and categorized in a way that provides you with easy access to all of them. MASCHINE's factory library is already completely tagged, as well as the factory libraries of all Native Instruments products installed on your MASCHINE+.

Once MASCHINE+ is up and running, your first stop is the Browser. You can access the extensive Library using the **BROWSER** button and navigate it using the 4D-encoder, the eight touch-sensitive knobs, and buttons above the displays.

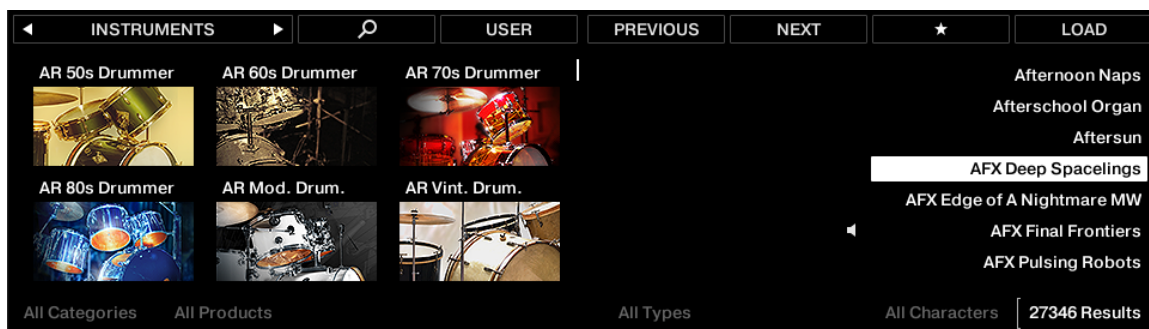
The sections within this chapter cover the generic use of the Browser when using MASCHINE+. For detailed information on using the Browser with the MASCHINE software in Controller mode, please read the [MASCHINE Software Manual](#).

i When using MASCHINE+ in Controller mode, the Browser will respect the following settings made in the MASCHINE Software such as; Prehear (audition), Preload, and the loading of Patterns with Groups. Please refer to the MASCHINE Software to configure these settings.

8.1. Browsing the Library

To access the Browser:

- ▶ Press **BROWSER** to enter or leave the Browser.



The Browser on MASCHINE+.

On the displays, the Browser is organized as follows:

- The left display enables you to narrow your search by selecting the file type, the content type (factory or user files), as well as a product category, a product, a bank, and a sub-bank.
- The right display allows you to further refine your search by selecting the desired Type (and possibly Character) tags. It also shows you the corresponding result list. Turn the 4-D encoder or Knob 8 to select any entry from the list, and press the 4-D encoder or Button 8 (**LOAD**) to load it.

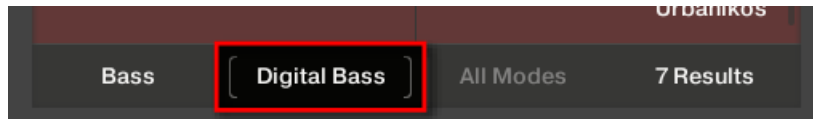
The above workflows are described in detail in the following sections. In addition, you will find most of the browsing aids available in the MASCHINE software also available here on MASCHINE+, as described in section [Additional Browsing Tools](#).

Browsing Your Library Using the 4-D Encoder

Each parameter (visible at the bottom of the displays) can be adjusted by the knob directly underneath. This is also true in Browse mode.

Browse mode additionally provides an alternate, unified method for adjusting any field appearing at the bottom of the displays: using the 4-D encoder.

1. Move the 4-D encoder left/right to select a field. The selected field is indicated by thin brackets:



2. Turn the 4-D encoder to change the value in the selected field.
3. Move the 4-D encoder right to select the Results list.
4. Turn the 4-D encoder to select an item from the Results list.
5. Press the 4-D encoder to load your selection from the Results list.

8.2. Loading Files from the Browser

To load a file using MASCHINE+:

1. Press **BROWSER** to display the Browser.
 2. Press Button 1 or 2 to select a file type, from left to right: **Projects, Groups, Sounds, Instrument** and **Effect Plug-ins** presets, **Loops** and **One-Shots**.
 3. Turn Knob 8 to select and items from the results list.
 4. Press Button 8 to load the selected file.
- The selected file is loaded.

With the Browser still open, you can continue to load the next or previous file.

To load the next or previous file:

- ▶ Press Button 5 or 6 to load the next or previous file.
- The next/previous file is loaded.

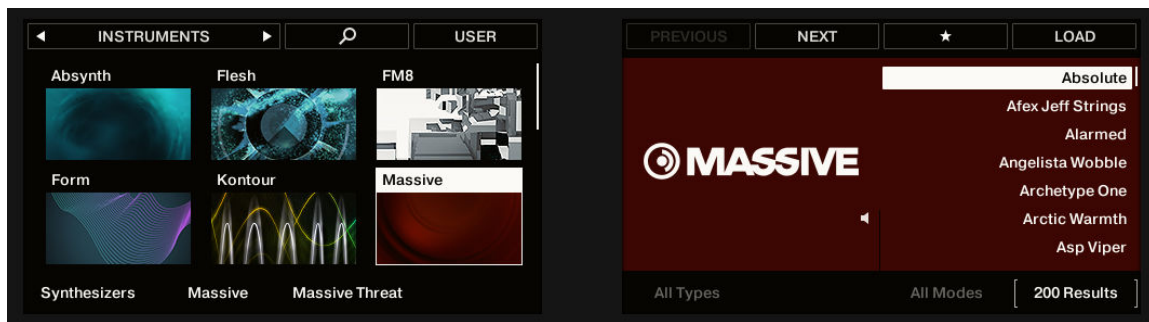


Press **SHIFT** and turn the Knob 8 to quickly scroll through the results list by ten items at a time.

8.2.1. Selecting a Product Category, a Product, a Bank, and a Sub-Bank

To filter your selection in Browse mode:

1. Turn Knob 1–4 under the left display to select a product category (if any), a particular product, a bank of that product (if any), and a sub-bank in that bank (if any), respectively. Turn a Knob fully left to remove any particular selection at this level (i.e. to select all items at this level).
2. Alternatively, move the 4-D encoder left or right to select a field and then turn it to adjust the value.



Selecting a product category, a product, a bank, and a sub-bank

Additionally, the left display shows you the name and icon of all products corresponding to the selected product category (Knob 1). The selected product (Knob 2) is highlighted.

If there are more than six products available, a scroll bar appears on the right of the left display. The display automatically scrolls to show the selected product. You can also use the Page buttons to just see the other products available:

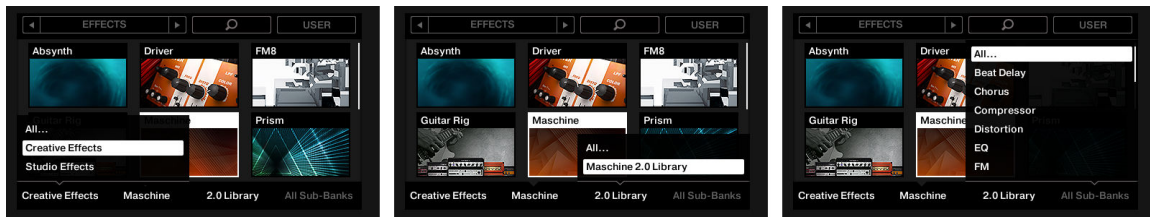
1. Press the Page buttons to scroll the products on the left display without changing the selection.
2. Alternatively, move the 4-D encoder up or down to scroll through the products in the left display without changing the selection.

List and Tag Overlays in the Browser

When browsing your Library, the touch-sensitive Knobs 1 to 8 provide you with handy browsing aids.

List Overlays for Product Category, Bank, and Sub-Bank

As you select a product category, bank, or sub-bank via Knobs 1 to 3 (under the left display), the corresponding list overlay appears above. In each list, the selected item is highlighted.



The left display, when browsing Effects: Selecting the Creative Effects category via Knob 1, the 2.0 Library bank via Knob 3 (in the middle), and all sub-banks via Knob 4 (on the right).

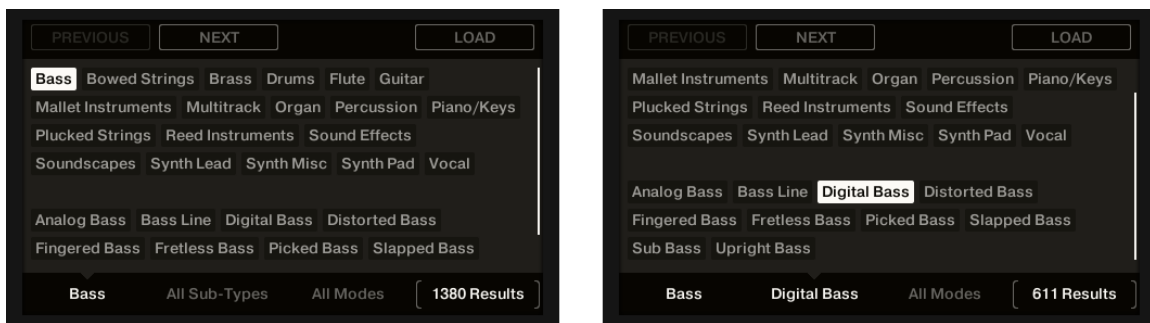
💡 These lists include an **All...** entry at the top allowing you to deselect any selected item. Turn the corresponding Knob at full left to select this entry.

Tag Overlays for Type, Sub-Type, and Mode

As you select a Type, Sub-Type(s), and/or Mode via Knobs 5 to 7 under the right display, a tag cloud appears above. It shows all tags for which items have been found in the Library. In this cloud, the selected tag is highlighted.

The Type and Sub-Type tags share the same tag cloud, while the Mode tag has its own cloud.

The highlighted tag indicates which one is currently displayed.



The right display, here when browsing Instruments: Selecting the Bass Type via Knob 5 (left picture) and the Digital Bass Sub-Type via Knob 6 (on the right).

8.3. Accessing User Content


The Browser enables you to filter and load content from your SD Card and external storage devices.


Your sample files (loops or one-shots) can typically be found under the product tile reflecting the name of the external drive they are stored on. All of your other files can be found under the **Maschine** product tile.

To access User content:

1. Press **BROWSER**.
2. Press Button 4 (**USER**).
 - Access to User content is available when Button 4 is lit and **USER** label is highlighted. Otherwise, you are viewing factory content.
3. Press Button 1 or 2 to select a file type (**PROJECTS, GROUPS, SOUNDS, INSTRUMENTS, EFFECTS, LOOPS, or ONE-SHOTS**).

4. If you are loading **LOOPS** or **ONE-SHOTS** (samples), turn Knob 2 to select the name of your SD card or external storage device.
5. Select the file you want to load by turning the 4-D encoder. If you are loading samples, you can activate or deactivate audition by pressing **SHIFT** + Button 8 (**PREHEAR**).
6. Press Button 8 (**LOAD**) or press the 4-D encoder to load the selected file.

 Samples (loops and one-shots) contained on external storage devices are only available when selecting the **LOOPS** and **ONE-SHOTS** file types. When these file types are selected you can then choose the storage device containing your samples using Knob 2. For information using storage devices, see [Working with Storage Devices](#).

 If new content from your SD card or external drives does not automatically appear in the Browser, press **SHIFT** + Button 1 (**RESCAN**) to scan for new content.

To learn more about transferring user content, for example, Projects, or samples, see [Transferring Files to the SD Card](#) and [Opening Files from Your SD Card](#).

8.4. Filtering Favorites

Favorites in the Browser enable you to quickly view and browse your most frequently used items. This includes Projects, Groups, Sounds, Instrument presets, Effect presets, and Samples (Loops and One-shots). Any of these items can be assigned as a Favorite.

Favorites serve as an additional filter in the Browser. When activated, the results list will only show items that have been assigned as a Favorite and also match all other selected filters, including the search query entered into the search field. Favorites are available for both the Factory content and User content.

To filter by Favorites:

1. Press **Browser**.
 2. Press Button 1 or 2 to select a file type (**PROJECTS, GROUPS, SOUNDS, INSTRUMENTS, EFFECTS, LOOPS, or ONE-SHOTS**).
 3. Press Button 7.
- The Results list on the right will now show only the files you have marked as favorites. Press Button 7 again to deselect the Favorites filter.

8.4.1. Adding an Item to the Favorites List

Items can be added to the Favorites list from the Browser search results.

To add an item to the Favorites list:

1. Press **BROWSER**.
2. Press Button 1 or 2 to select a file type (**PROJECTS, GROUPS, SOUNDS, INSTRUMENTS, EFFECTS, LOOPS, or ONE-SHOTS**).
3. Press Button 4 (**USER**) if the content you want to add is in your User folder.

4. Turn Knob 8 to select a file in the search results list.
 5. Press **SHIFT** and Button 7 (**SET★**) to add the selected item to the Favorites list.
- The item is added to the Favorites list as indicated by the highlighted icon next to its name.



To view your Favorite items for the selected file type, press Button 7 (★).

8.4.2. Removing an Item from the Favorites List

Items can be removed from the Favorites list.

To remove an item to the Favorites list:

1. Press **BROWSER**.
2. To see all Favourites, press Button 7 (★) to active the Favorites filter.
3. Turn Knob 8 to select an entry in the Results list.
4. Press **SHIFT** and press Button 7 (**SET★**) to remove the corresponding item from the Favorites list.

→ The item is removed from the Favorites list, and the Favorites icon next to its name is removed.

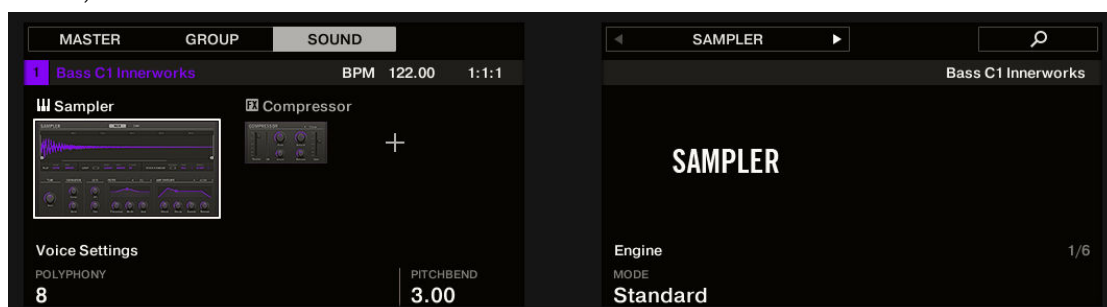
8.5. Using Quick Browse

Quick Browse is a feature that allows you to quickly recall a search query you performed to find a given file. Let's say you have loaded a kick Sample after browsing the Library, then loaded a snare Sample to another Sound slot. You now realize you are not satisfied with that kick Sample, but you heard a nice kick Sample 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 Samples (given that the MASCHINE Library already has several hundreds of kick Samples, this may take a considerable amount of time). With Quick Browse you can restore the query with just one click.

Quick Browse from Control Mode

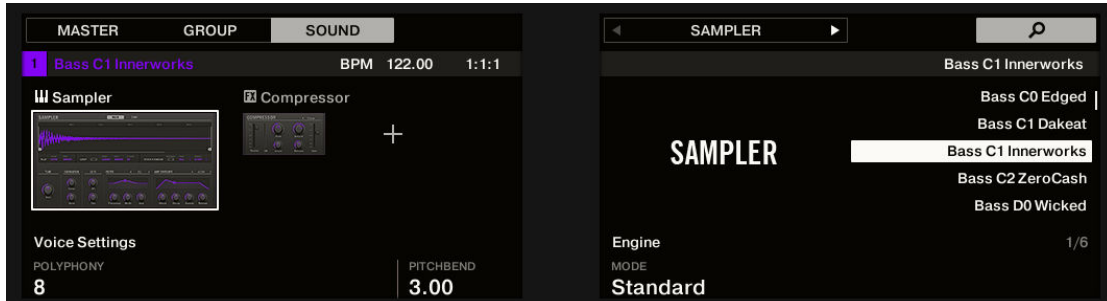
You can easily access Quick Browse for Samples and Plug-in presets directly from Control mode:

1. Press **PLUG-IN** to enter Control mode and access your Plug-ins.
2. Navigate to the channel (Master, Group, or Sound) hosting the Plug-in for which you want to recall the search query.
3. In this channel, select the desired Plug-in (for a Sample, select the Sampler Plug-in in which it is loaded).



4. Press Button 8.

→ Button 8 is illuminated, and the result list that was used to find this file directly appears in the right part of the right display:



5. Turn the 4-D encoder to select the desired Plug-in preset or Sample from the list, and press the 4-D encoder to load it.

→ The selected file replaces the previous file in your Project.

Quick Browse from the Browse Mode

You can also access Quick Browse from the **Browser**. This notably allows you to perform Quick Browse on Sounds and Groups as well:

1. Press **PLUG-IN** to enter Control mode.
2. If you want to trigger Quick Browse for a Group or a Sound, set the focus to this Group or Sound.
3. If you want to trigger Quick Browse for a Sample or a Plug-in preset, additionally select the desired Plug-in (for a Sample, select the Sampler Plug-in in which it is loaded).

Once you have focused/selected the desired file, switch to Browse mode to continue:

1. Press **BROWSER** to enter the Browser.
2. Press Button 1 and 2 to select the file type corresponding to the file you have focused/selected above.
3. Press Button 3 (showing a magnifying glass) to trigger the Quick Browse function. The Browser automatically recalls the search query used when you loaded that file.
4. Turn the 4-D encoder or Knob 8 to select the desired Plug-in preset or Sample from the list, and press the 4-D encoder or Button 8 (**LOAD**) to load it.

The selected file replaces the previous file in your Project.

8.6. Additional Browsing Tools


MASCHINE+ provides various useful tools that will help you quickly find and check the files you need. Some of the tools are available only for specific file types. The next sections describe each of these tools.


8.6.1. Loading the Selected Files Automatically

When Autoload is enabled, any item that you select in the Result list of the Browser is automatically loaded into the focused Group or Sound slot or into the selected Plug-in slot, replacing any content currently in that location. This allows you to listen to this item in context with the rest of your Project while it is playing.

To autoload content in Browse mode:

- ▶ Press Buttons 5 (**PREV**) and 6 (**NEXT**) above the right display to directly load the next or the previous file from the result list.

 Autoload is not available when browsing Projects.

 Autoload is not available when browsing Samples with Prehear enabled – see section [Auditioning Samples](#). When Prehear is enabled, Button 5 and 6 select the previous/next Sample in the result list without loading it automatically.

8.6.2. Auditioning Instrument Presets

The Prehear function enables you to audition Instrument presets before you load them.

When browsing Instrument presets:

- ▶ Press **SHIFT** + Button 8 (**PREHEAR**) to enable/disable the Prehear function.

When Prehear is enabled:

- The Instrument preset selected in the result list can be heard.
- Turn the 4-D encoder or Knob 8 to select the previous or next Instrument preset in the result list. Upon selection this Instrument preset is played back and the previous Instrument preset stops playing.
- Button 5 (**PREV**) and 6 (**NEXT**) allow you to audition the previous or next preset in the results list.
- In Pad Mode, pressing the highlighted pad allows you to also audition the Instrument preset again.
- To load the Instrument preset, press the 4-D encoder or Button 8 (**LOAD**).

When you deactivate Prehear, the playback of any Instrument preset still being pre-listened is stopped.



The Prehear signal is sent to the Cue bus of MASCHINE+.

8.6.3. Auditioning Samples

The Prehear function enables you to audition samples before you load them.

When browsing Samples:

- ▶ Press **SHIFT** + Button 8 (**PREHEAR**) to activate/deactivate the Prehear function.

When Prehear is activated:

- The Sample selected in the result list can be triggered from the pad of the focused Sound or from any pad without being loaded into that Sound.
- Pressing any other pad triggers its Sound without changing the focus. To set the focus to another Sound you have to press **SELECT** + its pad or to deactivate Prehear.
- Turn the 4-D encoder or Knob 8 to select the previous or next Sample in the result list. Upon selection, this Sample is played back and the previous Sample stops playing.
- Button 5 (**PREV**) and 6 (**NEXT**) do not automatically load the Sample they select as they usually do (see section [Loading the Selected Files Automatically](#)), but instead, they play it back as well.
- To load the Sample, press the 4-D encoder or Button 8 (**LOAD**).


When you deactivate Prehear, the playback of any Sample still being pre-listened is stopped.

8.6.4. Loading Groups with 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, you can choose to load each Group with or without its Patterns. This is done by selecting **+ PATTERNS**:

- **+ PATTERNS** button activated: 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 focused Group will be replaced.
- **+ PATTERNS** button deactivated: Groups will be loaded without their Patterns. This enables 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.

 **+PATTERNS** is only available when browsing Groups.

When browsing Groups:

- ▶ Press **SHIFT** + Button 4 (**+ PATTERNS**) to include or exclude Patterns when Groups are loaded.
- When the option is enabled (Button 4 lit and **+ PATTERNS** label highlighted), Groups are loaded together with their Patterns.

8.6.5. Loading Groups with Routing

When the file type Groups is selected, the **+ROUTING** button. When the **+ROUTING** button is enabled the audio and MIDI routings stored in the Group are also loaded, potentially overwriting previous routings in the selected Group. When the **+ROUTING** button is off, any audio and MIDI routings saved in the Group will not be loaded, thus preserving any existing routings in the active Group.

- ▶ Press **SHIFT** + Button 3 (**+ ROUTING**) to include or exclude audio and MIDI routing when Groups are loaded.
- When the option is enabled (Button 3 lit and **+ ROUTING** label highlighted), Groups are loaded together with their audio and MIDI routing.

9. Managing Sounds, Groups, and Your Project

This chapter explains in detail how to handle the various objects that structure any MASCHINE Project: Sounds, Groups, and the Master.

9.1. Overview of the Sounds, Groups, and Master

In a MASCHINE Project, objects are organized into three hierarchic levels, from the lowest to the highest:

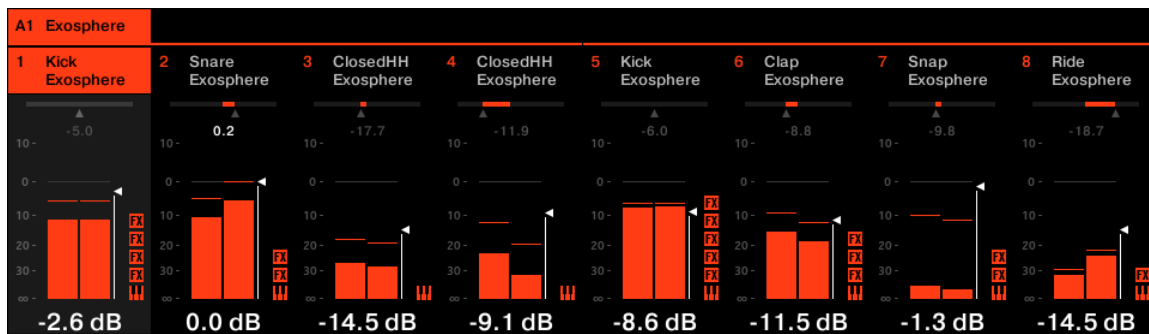
- **Sounds** are played by the pads. When they are loaded into Sound slots:
 - Each Sound of the selected Group is by default mapped to one of the 16 pads, so you can play all Sounds of a Group by pressing the pads.
 - Each Sounds are made up of any number of Plug-ins that process the audio in series.
 - Sounds are the only objects that can accept Instrument Plug-ins and these go in the Sounds' first Plug-in slot. The type of the Plug-in (Instrument or Effect) loaded in this first Plug-in slot will define the Sound's role (audio source or bussing point). For more information on Plug-ins and how they define the Sound's role, see [Working with Plug-ins](#).
- **Groups** can contain up to 16 Sounds each with all their own parameters, and when in use:
 - The 16 pads can play each of the Sounds within a selected Group.
 - Groups are selected using the Group Buttons A to H, and they are visible on the right display when Song mode is selected.
 - A Project can have any number of Groups, which are further organized in banks of eight Groups each.
 - Each Group can have any number of insert effects, which will globally apply to all Sounds contained in that Group, as well as any number of Patterns organized in banks of 16 Patterns each. For more information on Patterns, see [Recording Patterns](#).
- The **Master** is the place where all signals from the Groups are being mixed together. Just like the Groups and Sounds, the Master can host any number of insert effect

9.1.1. The Sound, Group, and Master Channels

From a routing point of view, each Sound, each Group, and the Master represents a distinct **channel** in MASCHINE+. The channels of the 16 Sounds in a Group are mixed together and sent to the Group channel, where their sum will be processed by the Group's Plug-ins if any are in use. Similarly, the channels of all Groups in your Project are mixed together and sent to the Master channel, where their sum will be processed by the Master's Plug-ins if any are in use. The resulting signal is sent to the outputs.

Each channel provides a various set of Channel properties that adjust the input, output, groove, and macro control settings for that particular Sound, Group, or for the Master, independently of the plug-ins it contains. Please refer to chapter and section [Applying Groove](#) for more details on these.

When the software is in Mix view, Sounds, Groups, and the Master are represented by channel strips in the Mixer. This view provides you with an intuitive control on both the audio and MIDI routings of any Sound, Group, and the Master. Please refer to section [Controlling Your Mix](#) for more information.



The Mixer displaying the channel strips for Sounds in a Group

9.1.2. Similarities and Differences in Handling Sounds and Groups

Sounds and Groups are handled in very similar ways — see section [Managing Sounds](#) and [Managing Groups](#) below for all details. Here is a list of the main differences between both:

- In each Group you always have a **fixed number of Sound slots**, namely 16. Some of these Sound slots might be empty, and you can have gaps in your slots (i.e. some empty Sound slots between other slots containing Sounds), depending on how you prefer to play your Sounds from your pads. You cannot create Sound slots, but instead, you can load/unload Sounds to/from the 16 existing Sound slots in each Group.
- In your Project, you can have **any number of Groups**. You can create, fill up, and delete Groups as you see fit. If you delete a Group, all following Groups are shifted up in the Group List to fill the gap. If you use more than eight Groups, another Group bank is automatically created.

9.1.3. Selecting Multiple Sounds or Groups

In MASCHINE **you can select multiple Sounds or multiple Groups at once**. This notably allows you to change a parameter value for all selected Sounds/Groups at a time.

To achieve this, MASCHINE+ distinguishes the “focus” from the “selection”:

- The **focus** determines what is displayed. For example, by selecting a Sound you are putting the focus on that Sound, and all the parameters (Channel properties, Plug-ins, etc.) for the selected item are displayed. For the focus, the following rule applies: **At each level (Sound and Group) there is always one object, and only one, in focus**. The focused object is highlighted.
- The **selection**, determines what will be affected by your actions (for example, adjusting a parameter). For example, the focused Sound (for instance, the one you selected) is implicitly selected, nothing special here: This just means that the Sound whose parameters are currently displayed will be indeed affected by the changes you do on these parameters. But you can select additional objects on top of the focused object, thereby extending your selection. Selected objects are highlighted in the displays.

More precisely, if a Group or a Sound is currently focused, you can additionally select other Groups or Sounds, respectively. These will be also affected by your edits on the focused Group or Sound.



You cannot select Sounds and Groups simultaneously.

Each Group remembers its own Sound selection and focus.

When setting the focus to a new Sound or Group, the following rules apply:

- If you set the focus to a Sound or Group which is not selected, both the focus and the selection are moved to this new Sound or Group.
- If you set the focus to a Sound or Group which is already included in the current selection, the focus is moved to this new Sound or Group but the selection is preserved. This notably allows you to check the parameters of any selected Sound or Group while keeping the ability to modify parameters for the entire selection.

What Is Affected by the Multiple Selection, and How?

When multiple Sounds or multiple Groups are selected, any change in the following settings of the focused Sound/Group will be mirrored in the other selected Sounds/Groups, respectively:

- **Channel properties:** Parameter adjustments apply to all selected Sounds/Groups for any parameter in any set of Channel properties. See chapter [Audio Routing, Remote Control, and Macro Controls](#) for more information on the Channel properties.
- **Plug-ins:** Parameter adjustments apply to all selected Sounds/Groups that have the same Plug-in loaded in the same Plug-in slot. See chapter [Working with Plug-ins](#) for more information on Plug-ins.
- **Pad view:** Base key, Choke group, and Link group settings apply to all selected Sounds.
- You can **move** multiple Sound slots or multiple Groups at once. See section [Moving Sounds](#) and [Moving Groups](#) for more information.
- You can **reset** multiple Sound slots and **delete** multiple Groups at once. See section [Resetting Sound Slots](#) and [Deleting Groups](#) for more information.



The adjustments made in the Assignment area are never mirrored in any other selected Sound/Group.

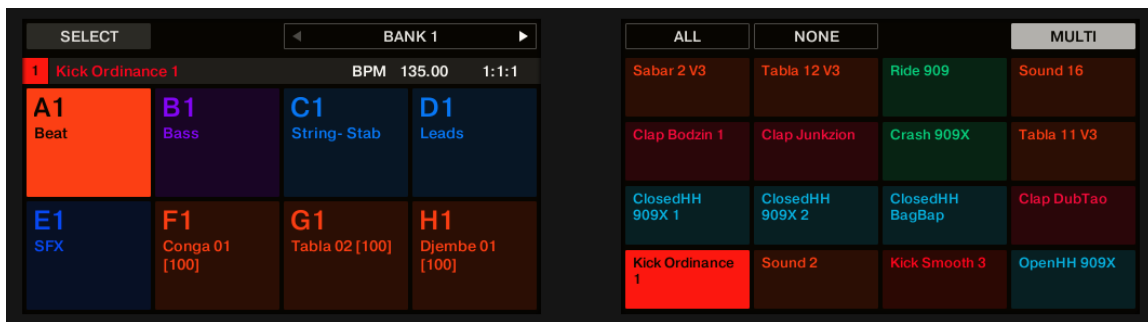
Furthermore, the exact influence on the equivalent parameter in the affected Sounds/Groups depends on the type of parameter:

- Continuous parameters (knob): the values in all selected Sounds/Groups are incremented/decremented by the same amount as the value in the focused Sound/Group. Values are clipped when they reach their range limit.
- Discrete parameter (button or selector): the values in all selected Sounds/Groups are set to the value of the focused Sound/Group.

Selecting Multiple Sounds/Groups

To select multiple Sounds or Groups via the Select mode:

- ▶ Press and hold **SELECT** to enter Select mode. You can also press **SELECT** + Button 1 to pin this mode and make it permanent.
- You are ready to select more than one Sound or Group.



Selecting Sounds and Groups via the Select mode

You have the following selection tools at your disposal:

Selection Tool	Description
Pads	Press any pad to set the focus to that particular Sound slot. The pad lights up to indicate that the Sound slot is focused (and selected). Unlit pads indicate unselected, empty Sound slots, and half-lit pads indicate unselected Sounds. The selection behavior depends on the state of the MULTI option (Button 8, see below).
Group buttons A–H	Press any Group button to set the focus to that particular Group in the current Group bank. The button lights up to indicate that the Group is focused (and selected). Unlit Group buttons cannot be pressed (they don't correspond to any existing Group), and half-lit Group buttons indicate unselected Groups. The selection behavior depends on the state of the MULTI option (Button 8, see below).
Button 3/4 (PREV/NEXT)	Selects the previous/next Group bank.
Button 5 (ALL)	Selects all Sounds in the current Group without changing the focus.
Button 6 (NONE)	Deselects all Sounds in the current Group except the focused Sound.
Button 8 (MULTI)	Activated/deactivates the multiple selection mode. Toggling this option does nothing to the current focus nor selection but changes the behavior of the selection process, see below.

The **MULTI** option (Button 8) switches between single and multiple selections:

- When **MULTI** is deactivated (Button 8 off):
 - Pressing the Group button/pad of an **unselected** Group/Sound sets the focus to that Group/Sound and clears the current Group/Sound selection (only the focused Group/Sound is then selected). The Group button/pad lights up.
 - Pressing the Group button/pad of a **selected** Group/Sound only sets the focus to that Group/Sound without changing the current Group/Sound selection. The Group button/pad stays fully lit.
- When **MULTI** is activated (Button 8 on):
 - Pressing the Group button/pad of an **unselected** Group/Sound adds it to the current Group/Sound selection without changing the current focus. The Group button/pad lights up.
 - Pressing the Group button/pad of a **selected** Group/Sound unselects it unless it is the focused Group/Sound. The Group button turns half-lit; the pad turns half-lit (if it contains a Sound) or off (if it is empty).

9.2. Managing Sounds

This section describes the global editing functions available for Sounds.

9.2.1. Loading Sounds

You can load a ready-made Sound from the Browser or from your operating system. The Sound can be included in the MASCHINE Library or any EXPANSION PACK but it can also be a Sound you have created yourself and saved for later use.

Loading Sounds

You can load Sounds directly from the Browser:

- You can browse your MASCHINE Library for the desired Sound. For more information on how to do this, please refer to section [Loading Files from the Browser](#).
- Alternatively, you can recall the search query that was used to find the Sound currently loaded in the focused Sound slot. See section [Using Quick Browse](#) for more information.

9.2.2. Pre-listening to Sounds

Pre-listening to Sounds

Pre-listening to Sounds actually is the default behavior: In Control mode, when you press a pad you both trigger its Sound and bring it into focus at once. Hence, you don't need to enable anything, pre-listening to Sounds in the focused Group is working out of the box.

Setting the Focus on Sounds without Triggering Them

You can also set the focus on any Sound in the current Group without triggering it. This comes in handy if you are in a live situation and don't want to trigger every single Sound you select. To do this, use the Select mode:

- ▶ Press **SELECT** + the pad containing the desired Sound.
- The Sound is focused without being triggered.

9.2.3. Renaming Sound Slots

By default, Sound slots are named **Sound 1–16**. If you load a Sound, a Plug-in preset, or a Sample (for example, from the Browser) into the Sound slot, the Sound slot takes the Sound's, preset's, or Sample's name.

You can also rename Sound slots manually.

To rename a Sound slot:

1. Press **PAD MODE**.
 2. Press the pad of the Sound you want to rename.
 3. Press **SHIFT** + Button 5 (**RENAME**).
 4. Turn and press the 4-D Encoder to provide a new name.
 5. Press Button 8 (**ENTER**) to confirm the new name.
- The Sound is now renamed.


9.2.4. Changing the Color of a Sound


You can change the color of each individual Sound.

To change the color of a Sound:

1. Press **PAD MODE**.
2. Press the Pad of the Sound you want to change.
3. Press the right Page button to select page 2.
4. Turn Knob 2 to select a color from the Palette. You can also choose to set the Sound back to the default color corresponding to its position in the list by selecting **Default** from the Color Palette.

→ The pads reflect the Sound colors you have selected.

 By default, Sounds inherit the color of their Group. But you can choose another default color for Sounds in [Hardware Settings](#).

 Once you have set a custom color for a Sound as described above, the Sound will retain its color when you move it, and the color will be stored with the Sound when you save the Sound for later use. Note that you can select the same color as the one used by default: In that case, the color (even unchanged) will be considered a custom color and will follow the Sound as you move it.

9.2.5. Saving Sound

You can save your Sounds as individual files (extension “.mxsnd”) using the File menu. For more information on the File menu, and saving Sounds, see [Saving a Sound](#) and [Transferring Files to the SD Card](#).

9.2.6. Copying and Pasting Sounds

You can copy and paste Sounds across pads and Groups in your Project.

To copy a Sound from one pad to another:

1. Press and hold **DUPLICATE**.
2. If you want to duplicate a Sound including its Pattern content, enable the **+EVENTS** option (Button 5).
3. Press the pad of the Sound you want to copy. The pad of the Sound starts blinking.
4. Press the pad of the 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 if you have enabled the **+EVENTS** option). The copied Sound will replace any Sound previously loaded in the target slot.

You will notice that once you have pasted the Sound, the target pad starts blinking itself, indicating that it is ready to be pasted again to additional Sound slots: Therefore, to duplicate a Sound more than once, once you have pressed the source pad you just have to press all the desired target pads in a row.



Instead of holding **DUPLICATE**, you can also pin the Duplicate mode by pressing **DUPLICATE** + Button 1. You can then release **DUPLICATE**: Your MASCHINE+ will stay in Duplicate mode until you press **DUPLICATE** again. See section [Modes and Mode Pinning](#) for more information.

9.2.7. Moving Sounds

You can reorder Sounds in your Project. It can be helpful to organize your Sounds more conveniently. Notably, this enables you to move your Sounds from one Pad to another, and create a Group that is easier to play from the pads.

To copy a Sound from one pad to another:

1. Press **PAD MODE** to enter Pad mode.
2. Press the pad of the Sound you want to move.
3. Press **SHIFT** + Button 7 or 8 (**MOVE**) to move the Sound.

→ The Sound is now moved.

9.2.8. Resetting Sound Slots

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

Resetting a Sound Slot

- ▶ To reset a Sound slot, hold **SHIFT** + **ERASE** and then press the pad related to the Sound you want to reset.

→ The Sound is removed from the pad, and the pad is turned off.

9.3. Managing Groups

This section describes the global editing functions available for a Group.

9.3.1. Creating Groups

Creating a Group will add a new empty Group at the end of the Group List. You can then fill this Group with the Sounds of your choice.

Existing Groups are indicated by the lit Group buttons **A** to **H**:

- The focused Group is indicated by the fully lit Group button.
- The other Groups of your Project are indicated by half-lit Group buttons, each Group button showing the color of the corresponding Group.
- In the last Group bank, the last half-lit Group button is white: It doesn't correspond to any existing Group but instead allows you to create another Group in your Project.

To create a new Group:

1. Hold **SHIFT** and press the last lit Group button to select the last Group bank.
2. Release **SHIFT**.
3. Press the dimmed white Group button after all other lit Group buttons.

→ A new empty Group is created after the existing Groups with the default name and color.



If the last Group bank already contains eight Groups, pressing **SHIFT** + the last lit Group button at the first step will directly create a new empty Group in a new Group bank.

Automatic Group Bank Management

In MASCHINE+ Group banks are managed automatically, so that you don't have to create or delete them manually. Groups are always adjacent to the Group List: you cannot have any gap in the Group List, or in any Group bank. When you create a new Group, the following happens:

- As long as the last Group bank contains less than eight Groups, the new Group is created in that bank.
- If the last bank already contains eight Groups, a new Group bank is automatically created after the existing bank(s) and the new Group is created in that new bank.

9.3.2. Loading Groups

You can load a ready-made Group from the Browser. The Group can be included in the MASCHINE Library or any EXPANSION PACK.

Loading Groups

You can use the Browser to load Groups:

- You can browse your MASCHINE Library for the desired Group. For more information on how to do this, please refer to section [Browsing the Library](#).
- Alternatively, you can recall the search query that was used to find the Group currently loaded in the focused Sound slot. See section [Using Quick Browse](#) for more information.

You can also load a Group you have created yourself.

To open a Group from your SD card on MASCHINE+:

1. Press BROWSER. Press **SHIFT** + Button 1 (**SCAN**) to scan for new content.
2. Press Button 4 (**USER**) Press Button 2 or 3 to select **GROUPS**.
3. Turn Knob 2 to Select **Maschine**.
4. Turn Knob 8 to select the name of the Group you want to load.
5. Press Button 8 **LOAD**. The Group is now loaded from the SD card.

Be aware, that loading a Group will replace the selected Group and all of its Sounds.

9.3.3. Renaming Groups

By default, new Groups are named **Group Ax–Hx**, "x" indicating the bank number (**Group A1–H1**, **Group A2–H2**, etc.). However, you can also rename Groups slots manually.

To rename a Group:

1. Press **PAD MODE**.
2. Press the Group button you want to rename.
3. Press **SHIFT** + Button 2 (**RENAME**).
4. Turn and press the 4-D Encoder to provide a new name.
5. Press Button 8 (**ENTER**) to confirm the new name.

→ The Group is now renamed.

9.3.4. Changing the Color of Group

You can change the color of each individual Group.

To change the color of a Group:

1. Press **PAD MODE**.
2. Press the Group button you want to change.
3. Press the right Page button to select page 2.
4. Turn Knob 1 to select a color from the Palette. You can also choose to set the Group back to the default color corresponding to its position in the list by selecting **Default** from the Color Palette.

→ The Group buttons reflect the color you have selected.



By default, each Group has a different color. But you can choose a common default color for Groups in [General Settings](#).



Once you have set a custom color for a Group as described above, the Group will retain its color when you move it in the Group List, and the color will be stored with the Group when you save the Group for later use. Note that you can select the same color as the one used by default: In that case, the color (even unchanged) will be considered a custom color and will follow the Group as you move it.

9.3.5. Saving Groups

Sometimes it is useful to have the ability to save a Group with its Samples outside of the MASCHINE Library. For information on how to save a Group using the File menu, see [Saving a Group](#) and [Transferring Files to the SD Card](#).

9.3.6. Copying and Pasting Groups

You can copy and paste Groups in your Project.

Duplicating Groups

In Control mode, do the following to copy a Group from one Group button to another:

1. Press **PLUG-IN**.
 2. Press and hold **DUPLICATE**.
 3. If you want to duplicate a Group including its Patterns, enable the **+EVENT** option (Button 5).
 4. Press the Group button of the Group you want to copy. The Group button starts blinking.
 5. Press the Group button of your target Group (this can also be in another Group bank, in this case, first press Button 3/4 to select the Group bank). If you want to paste the Group without affecting the existing Groups, press the dim white Group button after the last colored Group button to create the new Group and automatically paste the copied Group there.
- All parameters of the Group (all included Sounds, Group effects, Group's Channel properties) will be copied (including its Patterns in the Arranger if you have enabled the **+EVENT** option). The copied Group will replace the Group previously at that position in the Group List.

You will notice that once you have pasted the Group, the target Group button starts blinking itself, indicating that it is ready to be pasted again: Therefore, to duplicate a Group more than once, once you have pressed the source Group button you just have to press all the desired target Group buttons in a row.

9.3.7. Moving Groups

You can reorder Groups by moving them. For convenience, it can be helpful to organize your Groups.


To move a Group:

1. Press **PAD MODE** to enter Pad Mode.
2. Press the Group you want to move.
3. Press **SHIFT** + Button 3 or 4 (**MOVE**) to move the Group.

→ The Group is now moved.

9.3.8. Deleting Groups

Deleting a Group will remove it from the Group List.

 It is not possible to have a Project without any Groups; attempting to delete the last remaining Group in a Project will simply reset the Group to the default values.

Deleting a Group

In Control mode, do the following to delete a Group:

- ▶ To delete a Group, hold **SHIFT** + **ERASE** and press the Group button of the Group you want to delete.

→ The Group is removed. All following Groups are shifted left to fill the gap.

10. Working with Plug-ins

Plug-ins are the building blocks of all sound in MASCHINE+. They can be used at all three levels of the MASCHINE+ audio routing system: in Sounds, in Groups, and in the Master.

This chapter includes the following Plug-in topics:

- An overview of Plug-ins and how to handle them. For more information, see [Plug-in Overview](#).
- An extensive description of an essential Internal Instrument Plug-in in charge of playing back all sample content in MASCHINE: the Sampler. For more information, see [The Sampler Plug-in](#).
- An overview of the Audio plug-in, that enables you to playback Samples (drums, percussion, basslines, guitar riffs, etc.) in sync with the tempo of your Project. For more information, see [Using the Audio Plug-in](#).
- An overview of the DrumSynth, and Basssynth plug-ins that were specifically designed for MASCHINE. For more information see [Using the Drumsynths](#) and [Using the Bass Synth](#).
- Specific information on Native Instruments Plug-ins. For more information, see [Using Native Instruments Plug-ins](#).

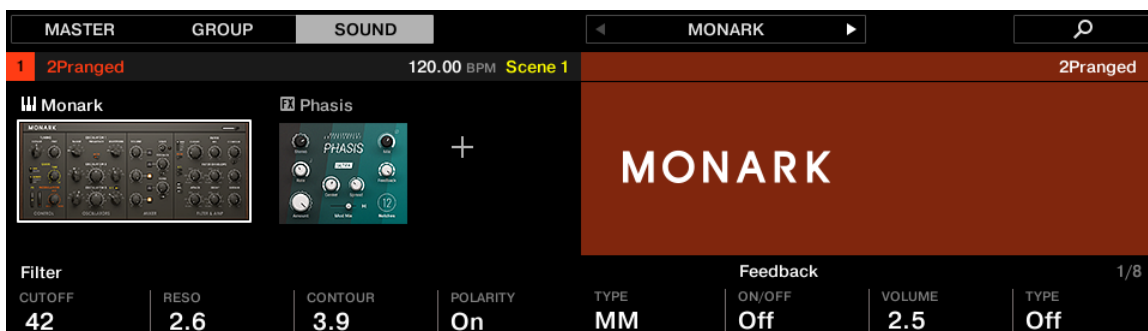
10.1. Plug-in Overview

This section describes general Plug-ins topics such as: where you can find them, how you can adjust their settings, and how you can manage them.

10.1.1. Plug-in Basics

In the Plug-in view, the content and settings of the focused Sound/Group or the Master are displayed.

Sounds, Groups, and the Master can each hold any number of Plug-ins. These are listed left to right:



The Plug-in view

In the Plug-in List, the processing order is always from top to bottom.



In addition to Plug-ins, each Sound, each Group, and the Master also provide a set of global settings called Channel properties. These are described in section [Applying Groove](#) and in chapter [Audio Routing, Remote Control, and Macro Controls](#).

Different Types of Plug-ins

There are two types of Plug-ins:

	Instrument Plug-ins	Effect Plug-ins
Internal Plug-ins	Audio, Sampler, Drumsynth, Bass Synth	MASCHINE internal effects
Native Instruments Plug-ins	VST/AU instrument plug-ins from Native Instruments included in the MASCHINE+ SELECTION	VST/AU effect plug-ins from Native Instruments included in the MASCHINE+ SELECTION

- **Instruments:** These Plug-ins generate sound. Instrument Plug-ins can only be loaded in the first Plug-in slot of Sounds. The following Plug-ins are available:
 - **Audio:** The Audio Plug-in allows audio loops to play back in time with the tempo of your Project. Adding audio with the **Loops** tag from the Browser to the Sound slot will automatically load the Audio Plug-in in the first Plug-in slot of the Sound. See [Using the Audio Plug-in](#).
 - **Sampler:** The Sampler Plug-in allows the selected Sound to play back Samples. Adding a Sample to the Sound slot will automatically load the Sampler in the first Plug-in slot of the Sound. See [The Sampler Plug-in](#).
 - **Drumsynths:** These Plug-ins are mini-synths specialized in generating drum sounds. See [Using the Drumsynths](#).
 - **Bass Synth:** This Plug-in is a monophonic synthesizer specialized in generating bass sounds. See [Using the Bass Synth](#).
 - **Native Instruments:** You can use all Native Instruments MASCHINE+ SELECTION instruments installed on your MASCHINE+ as VST/AU plug-ins (for example, MASSIVE, and FM8, etc.). Products from Native Instruments are tightly integrated into MASCHINE+.
- **Effects:** These Plug-ins modify the audio coming from the previous Plug-in slot (or from the incoming audio if the Effect is loaded in the first Plug-in slot of a Sound). Effect Plug-ins can be loaded in any Plug-in slot. The following Plug-ins are available:
 - **Internal Effects:** These are the Effect Plug-ins included with MASCHINE. To read every detail about each of the MASCHINE internal effects, and how to use them, please refer to chapter [Audio Routing, Remote Control, and Macro Controls](#) and [Effect Reference](#).
 - **Native Instruments:** You can use the Native Instruments MASCHINE+ SELECTION effects installed on your MASCHINE+ as VST/AU plug-ins. Products from Native Instruments are tightly integrated with MASCHINE+.

What to Load, and Where

The type of Plug-in that you can load depends on the selected level (Sound, Group, or Master) and slot:

- Instrument Plug-ins (both internal and external) can only be loaded in the first Plug-in slot of Sounds.
- Effect Plug-ins (both internal and external) can be loaded in all Plug-in slots at all levels (Sound, Group, Master).

10.1.2. Loading, Removing, and Replacing a Plug-in

The procedure to load a Plug-in with its default settings is common to all levels (Sound, Group, and Master) and all Plug-in types:


To load, remove, or replace a Plug-in:


1. Press the **PLUG-IN** button to enter Control mode and display the Plug-in slots of the selected Sound, Group, or the Master.
 2. Select the Sound, Group, or the Master where the Plug-in is located (see section [Focusing on a Group or a Sound](#)).
 3. Move the 4-D encoder to the right to navigate to the desired Plug-in. The name of the selected Plug-in appears on the right display in the field between the arrows under Button 5 and 6. If there are no Plug-ins in the channel this will read **EMPTY**.
- You are now ready to load, insert, remove, or replace a Plug-in as described in the following paragraphs.

Loading a Plug-in in Place

To load a Plug-in into the selected Plug-in slot:

1. Press **SHIFT + BROWSER (Plug-in)** to open the Plug-in Browser and browse the available Plug-ins.
2. On the left display, turn Knob 1 to select the **TYPE** from **Instrument** or **Effect**. The right display shows the list of available instruments or effect Plug-ins.
3. Turn the 4-D encoder or Knob 8 to browse the Plug-ins corresponding to your **TYPE** (and possibly **VENDOR**) selection.
4. When you have found the Plug-in you want to use, press the 4-D encoder or Button 8 (**LOAD**) to load it. You can also use Buttons 5 and 6 to step through the list and load each effect directly.

 If the selected Plug-in slot was not empty, the previous Plug-in will be replaced with the new Plug-in.

 Instead of using the Plug-in Browser, you can also use the common Browser to load a particular preset for a Plug-in. For more information, see section [Browsing the Library](#).

Inserting a Plug-in

To insert a Plug-in directly after the selected Plug-in slot, do the following:

1. Press **SHIFT + Button 3 (INSERT)**. This automatically opens the Browser and locks the File Type to **EFFECT** (Button 1 and 2, normally used in the Browser to select the desired File Type, are here deactivated).
 2. Choose and load the desired Plug-in preset via the usual workflow in the Browser (see section [Focusing on a Group or a Sound](#)).
 3. Press the 4-D encoder or Button 8 (**LOAD**).
- MASCHINE+ automatically switches back to Control mode and the new Plug-in is loaded in the next Plug-in slot. All following Plug-ins are shifted one slot downwards to make room for the new Plug-in.

Removing a Plug-in

To remove a Plug-in from its slot:

▶ Press **SHIFT** + Button 8 (**REMOVE**).

→ The Plug-in is unloaded from the slot. All following Plug-ins are shifted one slot upwards to fill the gap.



Alternatively, you can press **SHIFT** + **BROWSE**, turn the 4-D encoder (or Knob 8) to select **(none)** at the top of the list in the right display, and press the 4-D encoder or Button 8 (**LOAD**).

Replacing a Plug-in

To replace a Plug-in:

▶ Select its slot and load a new Plug-in.



You can also recall the search query that was used to find the Plug-in preset currently loaded in the Plug-in slot (see section [Using Quick Browse](#) for more information).

10.1.3. First Plug-in Slot of Sounds: Choosing the Sound's Role

The Plug-in loaded in the first Plug-in slot of a Sound will determine the general role of this Sound:

- If the first Plug-in slot holds an **Instrument Plug-in** (Sampler, Drumsynth, Native Instruments, see [Plug-in Overview](#)), the Sound will generate its own audio.
- If the first Plug-in slot holds an **Effect Plug-in**, the Sound will be available as a bussing point for other signals (from within MASCHINE+, and possibly from the outside world). This notably allows you to build up send effects or to apply effects to external audio. See section [Step 1: Set Up a Sound or Group as Send Effect](#) for more information.



You can also sample directly to a Sound slot. This will automatically load a Sampler in its first Plug-in slot. Read chapter [Effect Reference](#) for more details on this.

10.1.4. Browser Plug-in Slot Selection

Select a plug-in slot directly from the Browser using the **SHIFT** button. The **SHIFT** button provides temporary access to the Plug-in mode allowing you to select a plug-in slot from the Plug-in List. This can be accomplished from the Browser when loading content into all three levels of the MASCHINE audio routing system: in Sounds, in Groups, and in the Master.

To change the focus of the plug-in slot from the Browser:

1. Press the **BROWSE** button.
2. Press **SHIFT**, then press Button 5 or 6 to select a plug-in slot.

→ The focus slot can be selected from the Browser.

Loading, Removing, and Replacing a Plug-in

The procedure to load a Plug-in with its default settings is common to all levels (Sound, Group, and Master) and all Plug-in types:

To load, remove, or replace a Plug-in:

1. Press the **PLUG-IN** button to enter Control mode and display the Plug-in slots of the selected Sound, Group, or the Master.
 2. Select the Sound, Group, or the Master where the Plug-in is located (see section [Focusing on a Group or a Sound](#)).
 3. Move the 4-D encoder to the right to navigate to the desired Plug-in. The name of the selected Plug-in appears on the right display in the field between the arrows under Button 5 and 6. If there are no Plug-ins in the channel this will read **EMPTY**.
- You are now ready to load, insert, remove, or replace a Plug-in as described in the following paragraphs.

Loading a Plug-in in Place

To load a Plug-in into the selected Plug-in slot:

1. Press **SHIFT + BROWSER (Plug-in)** to open the Plug-in Browser and browse the available Plug-ins.
2. On the left display, turn Knob 1 to select the **TYPE** from **Instrument** or **Effect**. The right display shows the list of available instruments or effect Plug-ins.
3. Turn the 4-D encoder or Knob 8 to browse the Plug-ins corresponding to your **TYPE** (and possibly **VENDOR**) selection.
4. When you have found the Plug-in you want to use, press the 4-D encoder or Button 8 (**LOAD**) to load it. You can also use Buttons 5 and 6 to step through the list and load each effect directly.



If the selected Plug-in slot was not empty, the previous Plug-in will be replaced with the new Plug-in.



Instead of using the Plug-in Browser, you can also use the common Browser to load a particular preset for a Plug-in. For more information, see section [Browsing the Library](#).

Inserting a Plug-in

To insert a Plug-in directly after the selected Plug-in slot, do the following:

1. Press **SHIFT + Button 3 (INSERT)**. This automatically opens the Browser and locks the File Type to **EFFECT** (Button 1 and 2, normally used in the Browser to select the desired File Type, are here deactivated).
2. Choose and load the desired Plug-in preset via the usual workflow in the Browser (see section [Focusing on a Group or a Sound](#)).

3. Press the 4-D encoder or Button 8 (**LOAD**).

→ MASCHINE+ automatically switches back to Control mode and the new Plug-in is loaded in the next Plug-in slot. All following Plug-ins are shifted one slot downwards to make room for the new Plug-in.

Removing a Plug-in

To remove a Plug-in from its slot:

▶ Press **SHIFT** + Button 8 (**REMOVE**).

→ The Plug-in is unloaded from the slot. All following Plug-ins are shifted one slot upwards to fill the gap.



Alternatively, you can press **SHIFT** + **BROWSE**, turn the 4-D encoder (or Knob 8) to select **(none)** at the top of the list in the right display, and press the 4-D encoder or Button 8 (**LOAD**).

Replacing a Plug-in

To replace a Plug-in:

▶ Select its slot and load a new Plug-in.



You can also recall the search query that was used to find the Plug-in preset currently loaded in the Plug-in slot (see section [Using Quick Browse](#) for more information).

10.2. Adjusting the Plug-in Parameters

The procedure for adjusting the Plug-in parameters is common to all types of Plug-ins and all sets of Channel properties. It is described in section [Navigating Channel Properties, Plug-ins, and Parameter Pages](#).

10.3. Bypassing Plug-in Slots

You can bypass (mute) any Plug-in slot. When a Plug-in slot is bypassed, the Plug-in 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 Plug-in slot for further processing (or to the channel's output if you bypass its last Plug-in slot).

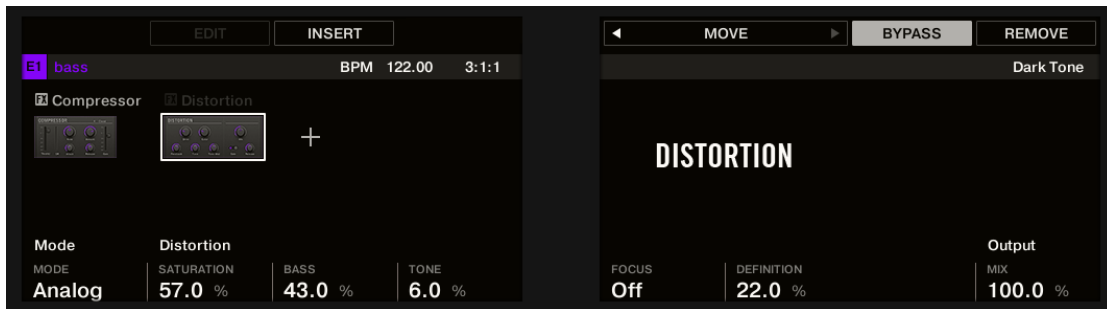
Bypassing Plug-in slots can be very useful in various situations, for example:

- Bypassing and re-enabling an effect during a live performance.
- Comparing the sound with and without an effect.
- Troubleshooting complex effect chains and routings.

Bypassing a Plug-in Slot

1. Press the **PLUG-IN** button to enter Control mode and display Plug-in slots.

2. If you want to bypass a Plug-in of the Master, press Button 1 to select the **MASTER** tab.
 3. If you want to bypass a Plug-in of a Group, press Button 2 to select the **GROUP** tab and press the Group button **A–H** corresponding to the desired Group. If necessary, first press **SHIFT** + the desired Group button **A–H** to switch to the Group bank containing that Group.
 4. If you want to bypass a Plug-in of a Sound, press Button 3 to select the **SOUND** tab, select its parent Group as described in the previous step, and press **SELECT** + the pad of that Sound (or simply hit its pad if pads are in Pad Mode).
 5. Press Button 5/6 to select the desired Plug-in slot. The name of the selected Plug-in appears in the field between the left and right arrows under Button 5 and 6. If there are no Plug-ins in the channel this will read **EMPTY**.
 6. Press **SHIFT** + Button 7 (**BYPASS**) above the right display to bypass the selected Plug-in slot.
- The Plug-in is bypassed and does not affect the sound anymore. In the left display, the Plug-in icon and name are grayed out. When you hold **SHIFT**, Button 7 is fully lit and the **BYPASS** label on the right display is highlighted to indicate that this Plug-in slot is now bypassed:



Use the same method to unmute the effect:

- ▶ To unmute the effect, press **SHIFT** + the lit Button 7 (**BYPASS**).

i In most cases, the first Plug-in slot contains an Instrument Plug-in (for example, a Sampler). Be careful: bypassing the slot will mute the whole Sound.

10.4. Using Side-Chain

Some Plug-ins provide side-chaining. This allows you to control their influence on the audio via another audio signal sent to their secondary, side-chain input. This extra routing feature is described in detail in section [Using the Side-Chain Input](#).

10.5. Moving Plug-ins

MASCHINE+ allows you to move Plug-ins across the Plug-in List and across Sounds and Groups.

Moving a Plug-in

On your MASCHINE+ in Plug-in mode, you can move a Plug-in to another slot of the same Sound, Group, or the Master. To do this:

1. Press **PLUG-IN**.

2. Select the desired Plug-in using the 4-D encoder.
 3. Press **SHIFT** + Button 5/6 to move this Plug-in to the previous/next slot.
- The Plug-in takes its new place between the existing Plug-ins while keeping the exact same settings. All other Plug-ins sitting between its old and new location are shifted one slot upwards/downwards to fill the gap.

10.6. The Sampler Plug-in

The Sampler Plug-in 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 can be modulated and automated! For more information, see section [Recording Modulation](#).

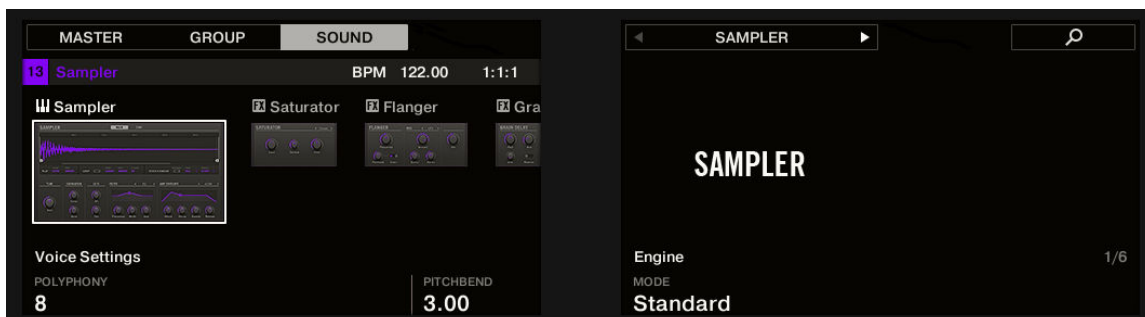
This section describes the specific parameters found in the Sampler. For a general description of the features and characteristics of Plug-ins (including the Sampler), please refer to section [Plug-in Overview](#).

Here the Sampler parameters are shown as they appear in the Plug-in view. The parameters are organized into 6 pages:

- Page 1: **Voice Settings / Engine:** [Page 1: Voice Settings / Engine](#).
- Page 2: **Pitch / Envelope:** [Page 2: Pitch / Envelope](#).
- Page 3: **FX / Filter:** [Page 3: FX / Filter](#)
- Page 4: **Modulation:** [Page 4: Modulation](#)
- Page 5: **LFO:** [Page 5: LFO](#).
- Page 6: **Velocity / Modwheel:** [Page 6: Velocity / Modwheel](#)

Using the Page buttons these pages can be selected for displaying and editing parameters.

10.6.1. Page 1: Voice Settings / Engine

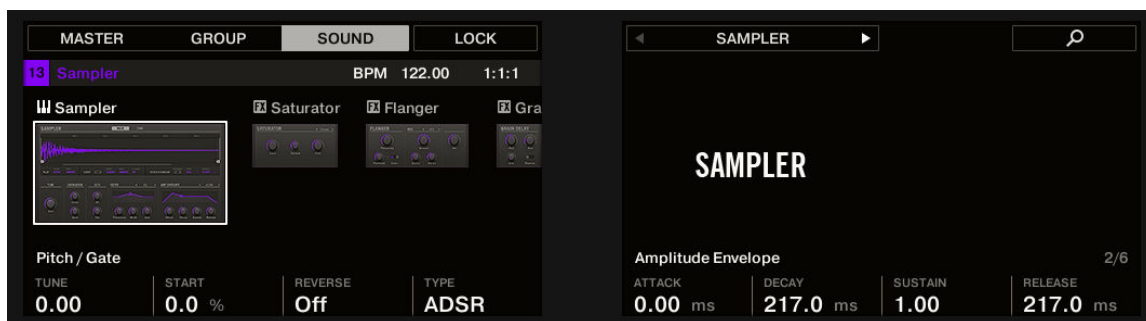


Sampler parameters – page 1 of 6: VOICE SETTINGS and ENGINE

Parameter	Description
VOICE SETTINGS	

Parameter	Description
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 available values are 1, 2, 4, 8 (default), 16, 32 , and 64 . 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.
Glide	If Legato is selected for the Polyphony parameter, this enables you 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 Triggering Sounds via MIDI Notes .
ENGINE	
Mode	This allows you to select between different models for the sampling engine. Besides the default Standard setting, the other options MP60 and S1200 emulate the sound of two legendary Samplers that are often used in Hip-Hop and similar genres of music. The latter comes in various flavors offering different filtering: S1200 (no filtering), S1200 L (for Low, i.e. low-pass filtering), S1200 LM (for Low-Mid, i.e. low-mid-pass filtering), S1200 HM (for High-Mid, i.e. mid-high-pass filtering), and S1200 High (for High, i.e. high-pass filtering).

10.6.2. Page 2: Pitch / Envelope



Sampler parameters – page 2 of 6: PITCH / GATE and AMPLITUDE ENVELOPE

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. This parameter can also be modulated by the Velocity control, see Page 5: LFO .
Reverse	Plays the Sample backwards when activated.
Type	Selects from three different types of amplitude envelopes. See below for more information.

AMPLITUDE ENVELOPE

The **AMPLITUDE ENVELOPE** section allows you to tailor your Sample in terms of its loudness over time.

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):

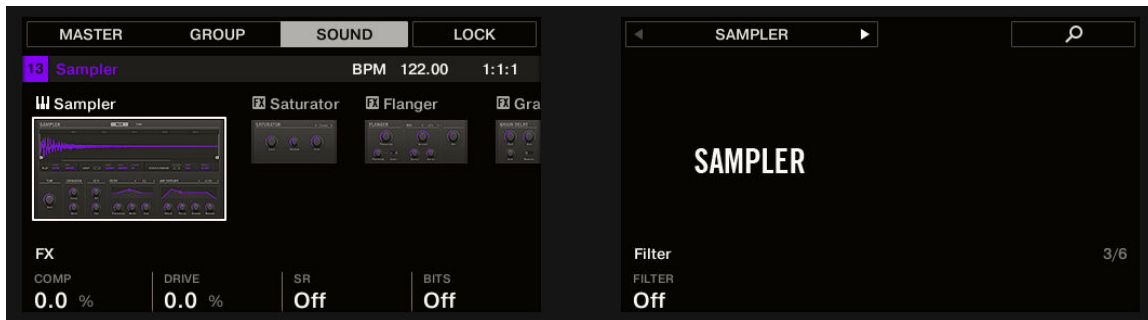
- **One-shot:** This is typical vintage drum machine behavior, where the sample is played in its entirety from beginning to end with no envelope.
- **AHD:** AHD mode deactivates the Sustain and Release controls of the ADSR envelope, and replaces them with the Hold parameter. AHD mode is ideal for “fire and forget” behavior, when 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
AMPLITUDE ENVELOPE	
Attack (AHD and ADSR)	Determines how quickly the Sound reaches full volume after being triggered.
Hold (AHD only)	Determines how long the envelope will stay at its maximum level.
Decay (AHD and ADSR)	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 also be modulated by the Velocity control, see Page 5: LFO .
Sustain (ADSR only)	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 (ADSR only)	Determines how long the sound takes to fade out after the note has ended.

10.6.3. Page 3: FX / Filter



Sampler parameters – page 3 of 6: FX and FILTER

FX

This is a small selection of basic effects, not to be mixed up with the collection of Effect Plug-ins covered in depth in chapter [Using Effects](#).

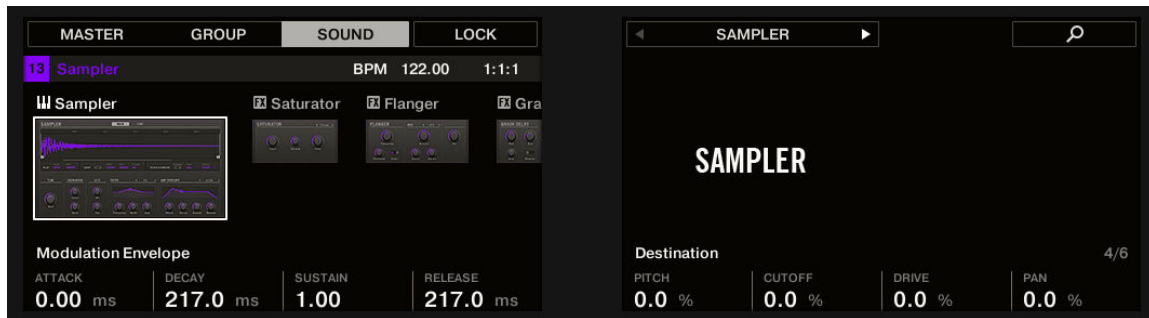
Parameter	Description
FX	
Comp	Basic compressor allowing you to give a Sound more density.
Drive	Defines the amount of saturation applied to a Sound.
SR	SR stands for “sample rate”: you can use it to lower the original sample rate in order to make the Sound more lo-fi.
Bits	Allows you to lower the original bit depth of the Sound, resulting in a more rough, digital sounding lo-fi effect.

FILTER

The **Filter** 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**, **LP2**, **BP2**, **HP2**, and **EQ**. Each type results in different parameters displayed to the right of it:

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

10.6.4. Page 4: Modulation



Sampler parameters – page 4 of 6: MODULATION ENVELOPE and DESTINATION

MODULATION ENVELOPE

The **MODULATION ENVELOPE** section offers an additional envelope allowing further modification (or “modulation”) of 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 [Page 1: Voice Settings / 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 One-shot mode, only the AHD envelope (pictured) will be available for modulation.

Envelope Controls	Description
Attack	Adjusts the time the envelope takes to reach the peak level. Turned fully left, the envelope starts immediately, and turning the knob right increases the Attack time.
Hold	Determines the fixed amount of time that the peak level of the envelope is held between the end of the Attack stage and the start of the Decay stage.
Decay	Adjusts the amount of time it takes to fall from the attack’s maximum peak level to the level defined by the Sustain control. Turned fully left, the Decay stage starts immediately, and turning the knob right increases the Decay time.
Sustain	Sets the amplitude of the Sustain stage.
Release	Defines the amount of time it will take for the envelope to fall from the set Sustain level and fade to zero.

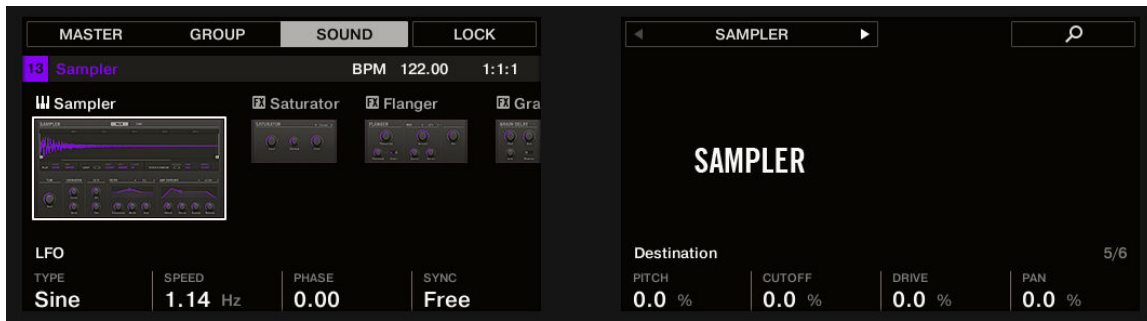
DESTINATION

This is where you can define modulation targets for the **MODULATION ENVELOPE**, for instance, 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 the Pitch / Envelope page (page 2).
Cutoff	Cutoff parameter of the FILTER section (with filter types LP2 , HP2 , BP2 only) on the FX / Filter page (page 3).
Drive	Drive parameter of the FX section on the FX / Filter page (page 3).

Parameter	Modulation Destination
Pan	Pan parameter on the Audio page of the Sound's Output properties (see Configuring the Main Output of Sounds and Groups for more information).

10.6.5. Page 5: LFO



Sampler parameters – page 5 of 6: LFO and DESTINATION

LFO

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

LFO Controls	Description
Type	Selects 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.
Phase	Defines the initial phase of the LFO waveform, from -0.50 to 0.50 .
Sync	Determines the type of synchronization that is used to synchronize the LFO to the tempo of your Project. If Free is selected, the LFO rate is independent of the Project tempo. If Retrig or Lock is enabled, the values of the Speed parameter will change into note values ranging from 16/1 (= one modulation cycle in 16 bars) to 1/32 (one cycle in 1/32nd note) and be synced with the Project tempo. While Retrig restarts the LFO at each new note (each note has another LFO phase), Lock keeps the LFO phase synchronized to the song position for all notes.

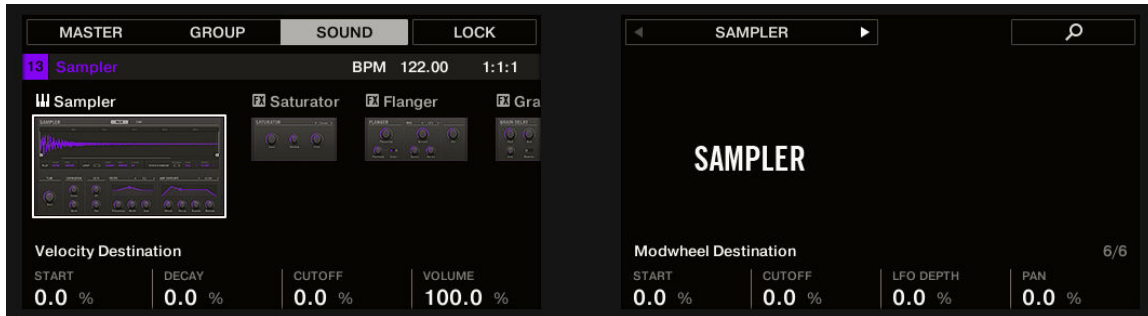
DESTINATION

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 the Pitch / Envelope page (page 2).
Cutoff	Cutoff parameter of the FILTER section (with filter types LP2 , HP2 , BP2 only) on the FX / Filter page (page 3).

Parameter	Modulation Destination
Drive	Drive parameter of the FX section on the FX / Filter page (page 3).
Pan	Pan parameter on the Audio page of the Sound's Output properties (see Configuring the Main Output of Sounds and Groups for more information).

10.6.6. Page 6: Velocity / Modwheel



Sampler parameters – page 6 of 6: VELOCITY DESTINATION and MODWHEEL DESTINATION.

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 the Pitch / Envelope page (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 “muffled” or muted when you play softly.
Decay	Decay parameter of the AMPLITUDE ENVELOPE section on the Pitch / Envelope page (page 2).
Cutoff	Cutoff parameter of the FILTER section (with filter types LP2 , HP2 , BP2 only) on the FX / Filter page (page 3).
Volume	Enables 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 the Pitch / Envelope page (page 2).
Cutoff	Cutoff parameter of the FILTER section (with filter types LP2 , HP2 , BP2 only) on the FX / Filter page (page 3).

Parameter	Modulation Destination
LFO Depth	Adjusts how much the Modulation Wheel affects the depth of the LFO modulation (for all targets) defined on the LFO page (page 5).
Pan	Pan parameter on the Audio page of the Sound's Output properties (see Configuring the Main Output of Sounds and Groups for more information).

10.7. Using the Audio Plug-in

The Audio Plug-in can playback Samples (drums, percussion, basslines, guitar riffs, etc.) in sync with the tempo of your Project. It has two modes: **Loop** mode and **Gate** mode.

- **Loop** mode is the default setting where the loaded loop will play continuously whenever there is an active Pattern or Clip in the Group. You can see the waveform of the Sample in the Pattern Editor to understand how it aligns with the Pattern.
- **Gate** mode is similar to the Loop mode where the loaded loop will play continuously. However, the loop will only be audible in locations where you place notes in the Pattern. Furthermore, when using **Stretch** mode the pitch of the loop will be transposed based on the pitch of the note (e.g. note C3 will play the Sample at its original pitch, while C4 plays the Sample one octave higher than normal).

The Audio plug-in specializes in keeping audio loops playing in-sync with your Project and has the optional ability to do so without influencing the key of the loop. Furthermore, you can transpose the loop while it plays so that it fits the key of your song.

You can quickly audition your Samples from within the Browser and then load them directly onto a Sound. If you load a Sample containing the **Loops** tag onto an empty Sound, the Audio module will load automatically.

Once a loop has been loaded, it will appear as a waveform in the Pattern Editor, allowing you to edit the Sample by adjusting the Pattern Length and add MIDI events to regions of the loop for selective playback and pitching. For finer adjustments you can edit events in a magnified view by toggling the close-up view in the Pattern Editor. In the Plug-in view, you can adjust the overall tuning, the source tempo, and length of the Sample.

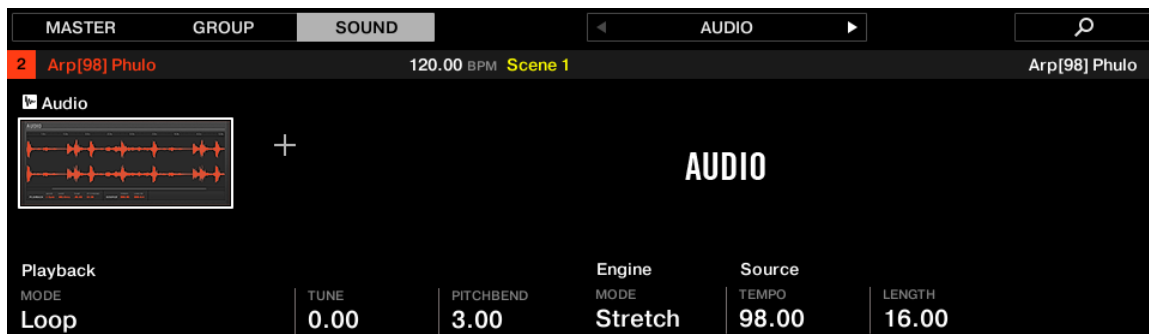


For more information on recording your own loops, see [Sampling and Sample Mapping](#).

Loading the Audio Plug-in

The Audio Plug-in can be loaded onto any Sound within a Group. As a MASCHINE Plug-in, it supports all the usual Plug-in workflows. Hence, to know how to load, remove, replace, insert, move, copy/paste the Audio Plug-in, as well as how to adjust the Audio Plug-in parameters and load/save default presets, refer to the section [Working with Plug-ins](#).

Once an Audio Plug-in is loaded it becomes visible in both the displays.



Audio Plug-in

The Audio Plug-in contains the following parameters:

Element	Description
PLAYBACK Section	
Mode	Select the mode of playback: Loop or Gate . Loop: The default mode for playback, in this mode the Sample is heard with the Pattern (as with any regular MIDI event) without the need to trigger it. In this mode, Playback and Source parameters can be manipulated such as Tune , Pitchbend , Tempo , and Length . Gate: When Gate mode is selected the Sample is only heard when triggered by a MIDI note event. The Sample is heard for the duration of the MIDI note event, and the note can also be used to pitch the Sample for melodic effect.
Fade (Gate mode only)	Set a simple fade-in/fade-out amount to avoid pops or clicks that may occur when using the Gate mode. To increase the fade of Gate mode, turn the Fade knob clockwise by clicking and dragging upwards. To decrease the fade, turn the Fade knob counter-clockwise by clicking and dragging downwards. Press the SHIFT while turning the knob to increase or decrease the fade in finer increments.
Tune	Transpose the tune (range: -36 – +36 semitones) of the Audio Plug-in. You can use this knob to set the playback pitch of the loop to 'C', and then the loop's pitch will match the pitch of Notes programmed into the Pattern. To increase the tuning of the Sample in semitones, turn the Tune knob clockwise by clicking and dragging upwards. To decrease the tuning of the Sample in semitones, turn the Tune knob left. Press the SHIFT while turning the knob to increase or decrease the tuning in cents.

Element	Description
Pitchbend	<p>Set the Pitchbend range (-12 – +12) for the Audio Plug-in which is relative to the Tune. This parameter controls the effect of the Pitch Wheel/Slider on your MIDI controller.</p> <p>To increase the range of the Pitchbend, turn the Pitchbend knob clockwise by clicking and dragging upwards. To decrease the range of the Pitchbend, turn the Pitchbend knob counter-clockwise by clicking and dragging downwards. Press SHIFT while turning the knob to increase or decrease the Pitchbend range in cents.</p>
ENGINE Section	
Re-pitch	<p>This playback engine simply matches the tempo of the Loop to the Project's tempo by changing the playback rate of the Loop, and playback rate changes will result in pitch changes to the loop. Like a vinyl record, playing it faster will also cause the pitch of the loop to rise, whereas slowing it down causes the overall pitch to drop. This mode is therefore more suitable for non-pitched material, like drums and percussion, and has the benefit that the transients of sounds remain sharp and also uses significantly less CPU than the other Engine modes. Since tempo and pitch are not independently adjustable with this Engine, any pitch automation you may have done via Events entered in Gate mode will be ignored, only the rhythm of the Events will be used to gate the Loop on and off.</p>
Stretch	<p>This playback engine provides complete independence between tempo and pitch. With this engine, you can change the tempo of a loop without changing its pitch, you can change its pitch without changing its tempo, or you can change both the tempo and pitch simultaneously. This mode even allows you to automate pitch changes by entering Events into the Pattern Editor while using Gate mode. As this mode provides complete tempo and pitch independence, and also works on polyphonic material, it requires more CPU power than other Engines.</p>
Formant	<p>This playback engine is best suited to pitched (tonal) audio as it preserves the formant of the sound. By preserving the formant, it retains the intrinsic character and avoids any shifts in pitch that would normally result in the undesirable cartoonlike effects on vocals when they are pitched upwards or downwards.</p>
SOURCE Section	
Tempo	<p>Set the original tempo of your Sample so that the Audio Plug-in can accurately play it in sync, no matter what tempo you choose for your Project. This is useful if the tempo has been miscalculated while importing the Sample. However, be aware that changing Tempo during playback could affect the synchronization of your Sample.</p> <p>To increase Tempo click and drag upwards. To decrease the Tempo, click and drag downwards. Press SHIFT while turning the knob to set finer increments.</p>

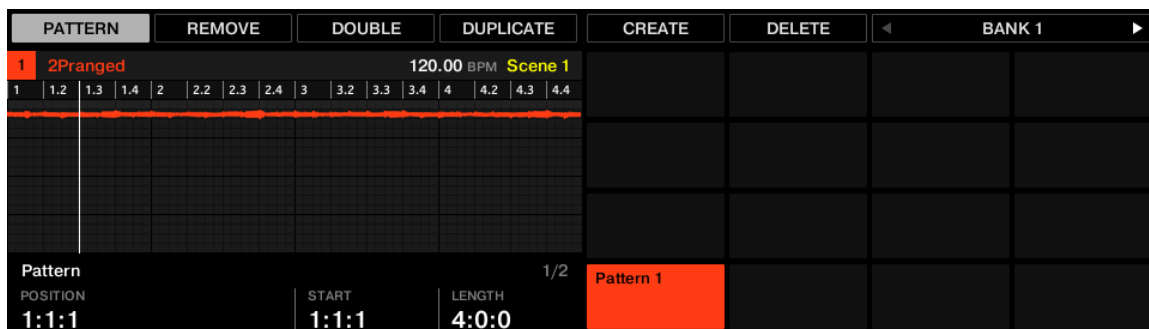
Element	Description
Length	Set the original length of your Sample so that the Audio Plug-in can accurately play it in sync, no matter what tempo you choose for your Project. This is useful if MASCHINE has miscalculated the length while importing the Sample. However, be aware that changing Length during playback could affect the synchronization of your Sample.

To increase **Length** click and drag upwards. To decrease the **Length**, click and drag downwards. Press **SHIFT** while turning the knob to set finer increments.

10.7.1. Loading a Loop into the Audio Plug-in

You can use the Sampler Plug-in to record sound directly from a microphone, or from an electric instrument (such as an electric guitar) connected to your soundcard, to create your own loops. Alternatively, you can quickly audition loops within the MASCHINE Library by using the **Loops** tag in the Browser to find one you want. To learn how to filter for loops using the Browser, refer to the section [Browsing the Library](#).

It is possible to load a Sample tagged as **Loops** directly from the Browser into empty Sound, which will place the Sample directly within the Pattern. As the sample is loaded into the Pattern a waveform of the Sample will become visible and MASCHINE+ will determine tempo information from the Sample and automatically time-stretch it to fit the tempo of your Project. You can begin playback immediately after it has loaded.



Pattern Editor with the Audio Plug-in in Loop mode loaded on Sound 2.

By default the Audio Plug-in will playback in Loop mode, meaning the Sample will be repeated for the duration of the Pattern regardless of the length of the Sample. If you want to chop the loop and pitch it, switch to Gate mode. For more information on Gate mode, refer to the following section [Using Loop Mode](#).

10.7.2. Using Loop Mode

Loop mode is the default mode for the Audio Plug-in and is used to playback an audio file in time with your Project. When loaded into a Sound, the audio appears as a waveform in the Pattern Editor and is repeated for the entirety of the Pattern.

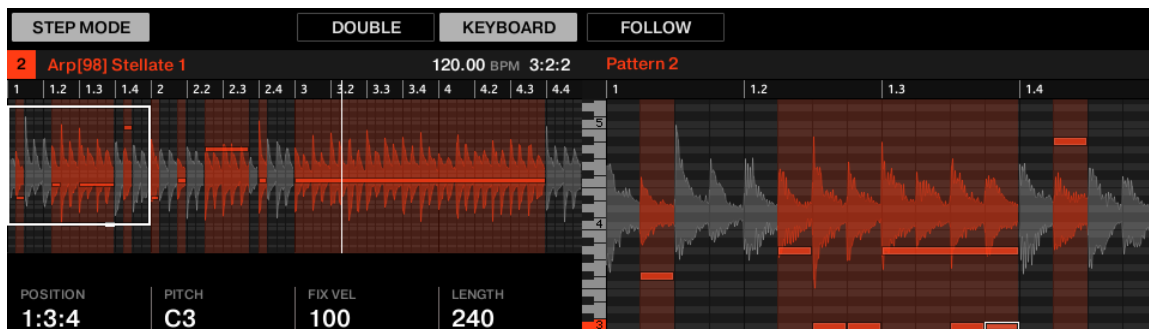
If the Pattern Length is decreased to a length shorter than the audio, Pattern playback will end up looping back to the start before the entire audio has played, the Pattern Length must be at least as long as the audio in order to hear the entire audio playing in the Pattern. If the Pattern Length is increased to a length longer than the audio, the audio will be automatically looped as needed to fill the entire length of the Pattern, and these iterations will be visualized with darker versions of the waveform. For more information on changing the Pattern Length, refer to the section [Adjusting the Pattern Length](#).

The process of using Loop mode is as follows; load an audio file onto a Sound, select Loop mode from the parameters of the Audio Plug-in.

10.7.3. Using Gate Mode

Gate mode is used to chop and pitch selected parts of your Sample by applying MIDI note events in the Keyboard view of the Pattern Editor or by recording them with the pads. Each event is a gate for the Sample; the length determines the duration of playback, and placement on the scale determines the pitch. By chopping and pitching the loop you can create melodies or even use it for effect on drums.

In Keyboard view, MIDI note events are visually layered on top of the Samples' waveform and can be edited or deleted at any time. More importantly, the Sample can be changed at any time while retaining the MIDI note events in the Pattern, meaning you can keep the phrasing and melody but use a different Sample for the playback.



Audio plug-in Gate mode with a sample and MIDI events.

The process of using Gate mode is as follows; load a loop onto a Sound, select Gate mode from the parameters of the Audio Plug-in, and then add MIDI events in the Pattern in the regions where you want to chop and pitch your Sample, or press play and use the pads to pitch the Sample. For more information on recording and editing events, refer to chapter [Recording Patterns](#).



To zoom into a Pattern, double-click on the vertical scroll bar to the right of the Pattern Editor.

10.8. Using the Drumsynths

Drumsynths are a powerful set of monophonic Internal Instrument Plug-ins that allow you to generate individual, fine-tuned drum sounds for your music productions. Like any other Instrument Plug-in, you can load them only in the first Plug-in slot of Sounds.

Drumsynths have been designed for extreme playability, both from the high-quality pads of your MASCHINE+ and from any velocity-sensitive MIDI keyboard. They allow you to quickly build custom drum kits and give you full control over the characteristics of the various drum sounds, don't hesitate to tweak them during your live performance or automate them like any other Plug-in.



See section [Recording Modulation](#) for more information on automation.

The Drums Synth plug-in contains the following engines:

- Kick
- Snare
- Hi-hats
- Toms
- Percussion
- Cymbal

In this chapter you will find an overview of the Drumsynths and a presentation of their **common features**: [Drumsynths – General Use](#)



For a detailed description of each Drumsynth and their parameters, please refer to the MASCHINE Software Manual available from the [Native Instruments website](#). For a description of the features and characteristics of Plug-ins in general (including the Drumsynths), please refer to section [Plug-in Overview](#).

10.8.1. Drumsynths – General Use

This section describes the general use and features of the Drumsynths.

Managing Drumsynths

Drumsynths are MASCHINE Plug-ins and, as such, they support all usual Plug-in actions and procedures. Hence, to know how to load, remove, replace, insert, move, Drumsynths, as well as how to adjust the Drumsynth parameters and load/save presets, please refer to section [Plug-in Overview](#) where these are described in detail.

10.8.2. Engines: Many Different Drums per Drumsynth

Each of the available Drumsynths (Kick, Snare, Hi-hat, Tom, and Percussion) provides many different drums: Indeed, each Drumsynth allows you to select a particular **engine** for generating the drum sound. In the same Drumsynth each engine will have its own algorithm, parameters, and sonic characteristics – it is in fact an entirely distinct drum. For example, the Kick provides eight different engines. Some engines will create acoustic drums while others will rather produce electronic sounds.

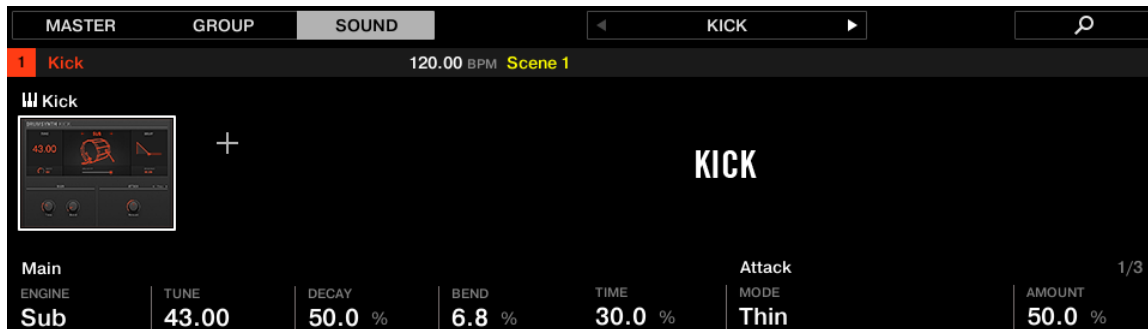
In each Drumsynth the first parameter (**Engine**) lets you select the engine you want to use. Most of the other parameters will depend on the selected engine.

10.8.3. Common Parameter Organization

All Drumsynths have a similar parameter organization, both in the Plug-in Strip view.

Common Parameter Pages

In Arrange view, the parameters of all Drumsynths are grouped in similar ways in the Control area:



All Drumsynths share the same parameter organization in the Plug-in view

- Their parameters are grouped into the same three Parameter pages:
 - The **Main page** groups the most important parameters for each drum type. Here you can select the engine to be used, the tuning, the decay, etc.
 - The **Advanced page** provides access to more complex and finer adjustments to the drum sounds.
 - The **Modulation page** allows you to adjust the playability of the drum by setting its velocity response.
- The **Main** page always starts with a **MAIN** section. The other sections on the page differ with each Drumsynth and engine.



For a detailed description of each Drumsynth and their parameters, please refer to the MASCHINE Software Manual available from the Native Instruments website.

10.8.4. Shared Parameters

Within each Drumsynth, some parameters are **shared** between **several engines** (for example, the **Tune** parameter). Shared parameters have the advantage of **keeping their position** when you switch to another engine in the Drumsynth. This allows you to compare the sound of various engines more easily.



The ranges of some shared parameters are different across engines. For example, this is the case of the **Tune** parameter: When switching to another engine, the tuning might not stay the same although the knob position is kept.

Determining which parameters are shared among engines is straightforward: If you find a parameter in more than one engine, it is shared between these engines.



If you switch to another Drumsynth (for example, if you replace the Kick sitting in a Plug-in slot with a Hi-hat) parameter positions will not be kept.

10.8.5. Various Velocity Responses

Each engine of each Drumsynth has a different response to the velocity of the notes you are playing. Globally, engines can be grouped into two general categories:

- **Acoustic sounding** engines are heavily velocity-dependant: the velocity affects many characteristics of the generated sound, which allows you to play these drums very expressively.
- **Electronic sounding** engines are generally less velocity-dependent. Most of them only use velocity to modulate the output volume of the sound.

The overall velocity sensitivity for both acoustic and electronic types of engines can be adjusted on the **Modulation** page via the **Velocity** control.

10.8.6. Pitch Range, Tuning, and MIDI Notes

All Drumsynths can be played chromatically: the pitch of the sound will be affected by the notes that you play on your MIDI keyboard (or on your pads in Keyboard mode).

For all engines, the **Tune** parameter lets you define which pitch will be played when hitting the pad of that Sound (with pads in Pad Mode) or playing the middle C (MIDI note 60) base note.



On MASCHINE+, MIDI note 60 is equivalent to C3.

The engines have different pitch ranges:

- Most engines have **limited pitch ranges**: For example, in the Snare, the Chrome engine can play pitches from MIDI note 60 to 84, while the Iron engine can play pitches from MIDI note 46 to 70. If the pitch of an incoming MIDI note falls outside the pitch range of the engine, the pitch will be bounded to that engine's allowable pitch range.
- Some engines have an **unlimited pitch range**: For example the Kick's Sub engine, the Tom's Fractal and Tronic engines, and the Percussion's Fractal engine.

In some drum engines, it is impossible to set an exact tuning in MIDI notes. For them, the **Tune** parameter is set in percent (from 0 % to 100 %).

10.9. Using the Bass Synth

Bass Synth is an internal fun and easy to use monophonic synthesizer module that allows you to quickly create expressive basslines. Like any other Instrument Plug-in, load it into the first Plug-in slot of a Sound to gain full control over its parameters. Create rich bass tones and program acid lines with ease.

You can enhance the sound of the Bass Synth further by adding internal effects, tweaking parameters during a live performance, or by automating them like any other plug-in.

Bass Synth key features:

- One Oscillator (monophonic)
- Seamlessly morph between sine to saw to square wave – and all spots in between
- Octave switch
- Filter, Mod envelope, Decay, Drive (bi-polar saturation/distortion), and Glide Time

- Integrated with MASCHINE JAM: Program bass and acid lines via notes and glides on MASCHINE JAM direct from the 8x8 click-pad matrix. For more information on sequencing Bass Synth with MASCHINE JAM, please read the MASCHINE JAM Manual available from the **Help** menu of the MASCHINE software and Native Instruments website.



See section [Recording Modulation](#) for more information on automation.

In this chapter you will find:

- An overview of the Bass Synth: [Overview of the Bass Synth](#).
- A description of the Bass Synth parameters: [Bass Synth Parameters](#).



The specific handling and parameters of the Drumsynths are described in this chapter. For a general description of the features and characteristics of Plug-ins (including the Bass Synth), please refer to section [Plug-in Overview](#).

10.9.1. Overview of the Bass Synth

This section describes the general use and features of the Bass Synth.

Managing the Bass Synth

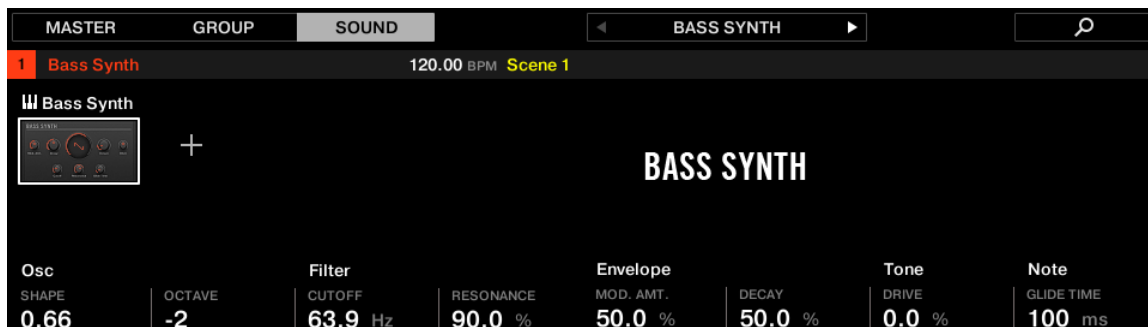
Bass Synth is a MASCHINE Plug-in and, as such, supports all usual Plug-in actions and procedures. Hence, to know how to load, remove, replace, insert, move, copy/paste a Bass Synth, as well as how to adjust the Bass Synth parameters, and load/save presets, please refer to section [Plug-in Overview](#) where these are described in detail.



Bass Synth presets can be loaded from the Browser by selecting: SOUNDS > Maschine > Bass Synth.

10.9.2. Bass Synth Parameters

The Bass Synth has two pages of parameters that can be navigated using the Page buttons.



The Bass Synth in Plug-in view

The Bass Synth parameters are as follows:

Page 1 – Main Page

Element	Description
OSC Section	
Shape	Adjusts the waveform shape continuously from sine to square. To adjust the waveform shape, turn the Shape knob by clicking and dragging upwards or downwards. The waveform shape can be viewed in the Plug-in Strip of the Mix view.
Octave	Transposes the base key of the Bass Synth (range: -3 – 3). To transpose the base key, turn the Octave knob by clicking and dragging upwards or downwards.
Filter Section	
Cutoff	Adjusts the frequency of the low-pass filter (range: 14.6 Hz – 23.7 KHz). To adjust the cutoff frequency, turn the Cutoff knob by clicking and dragging upwards or downwards.
Resonance	Adjusts the amount of boost around the cutoff frequency (range: 0.0% – 120%), Resonance can start to self-oscillate when increasing the amount over 100.0 %. To adjust the amount of resonance, turn the Resonance knob by clicking and dragging upwards or downwards.
Envelope Section	
Mod. Amt.	Adjusts the amount of envelope applied to the filter cutoff (range: 0.0% – 100%). To increase the amount of modulation applied to the Cutoff , turn the Mod. Amt. knob clockwise by clicking and dragging upwards.
Decay	Adjusts the rate at which the sound fades to silence (range: 0.0% – 100%). To increase the decay amount, turn the Decay knob clockwise by clicking and dragging upwards.
Tone Section	
Drive	Adjusts the amount of drive (range: -100% – 100%); -100% increases the input level for the filter, driving the signal internally into saturation, and 100% controls the drive level of the distortion at the end of the signal chain. To adjust the amount of drive, turn the Drive knob by clicking and dragging upwards or downwards.
Note Section	
Glide Time	Adjusts the time it takes to glide from one pitch to the next (range: 10 ms – 1000 ms). To adjust the amount of glide time, turn the Glide Time knob by clicking and dragging upwards or downwards.

Page 2 – Advanced Page

For this module, the **Advanced** page contains just one parameter.

Element	Description
Note Section	
Glide	Globally enables the glide parameter. Once set to on, the note will continuously play in a monophonic manner.

10.10. Using Native Instruments Plug-ins

MASCHINE+ enables you to load VST/AU plug-ins from Native Instruments and to use them like the internal plug-ins from MASCHINE+.

As with internal plug-ins, the following rules apply for loading Native Instruments plug-ins:

- An Instrument plug-in can be loaded only in the first Plug-in slot of a Sound.
- An Effect plug-in can be loaded in any Plug-in slot of any Sound, any Group, or of the Master.

The following sections describe additional features and tasks specific to Native Instruments plug-ins compared to Internal plug-ins. For all other tasks (for example, loading, adjusting Plug-in parameters, etc.), please refer to section [Plug-in Overview](#).

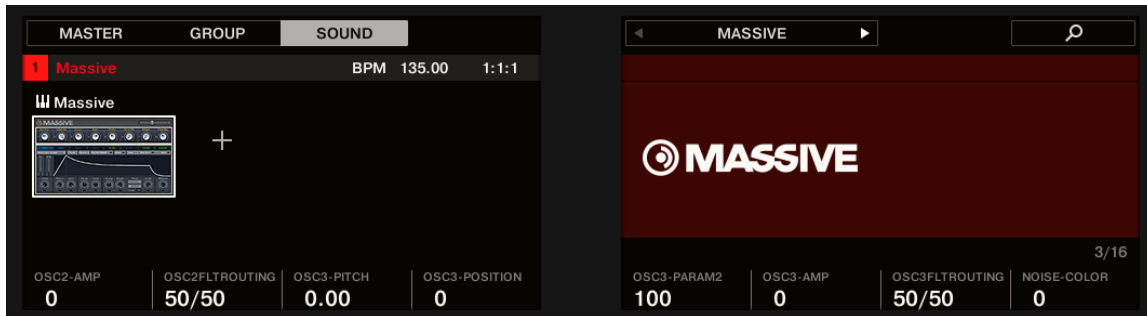
10.10.1. Using the VST/AU Plug-in Parameters

The parameters of Native Instruments plug-ins offer various ways to shape each instrument/effect individually. MASCHINE+ provides quick and convenient access to the parameters of any Native Instruments plug-in: upon loading these parameters are **auto-mapped** and organized into Parameter pages that will appear on the displays — exactly like Internal Plug-ins.

Having the Plug-in parameters on Parameter pages in MASCHINE+ has the following benefits:

- You can step through the Parameter pages and tweak each parameter (see section [Navigating Channel Properties, Plug-ins, and Parameter Pages](#)).
- The Plug-in parameters can be automated the same way as any other parameters (see section [Recording Modulation](#)).

An auto-mapped Parameter page of the Massive Plug-in in the software



An auto-mapped Parameter page of the MASSIVE Plug-in

Furthermore, for Native Instruments Plug-ins these Parameter pages group the Plug-in parameters in an intelligent way that fits the particular workflows of each Plug-in. For example, in the MASSIVE Plug-in, the eight Macro Controls of MASSIVE will be grouped into a single Parameter page, the main parameters for Oscillator 1 will be grouped into another Parameter page, etc.

10.10.2. Using Native Instruments Plug-in Presets

For some of your Native Instruments 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 and save them as Plug-in presets within MASCHINE. Saving your VST/AU presets as Plug-in presets within MASCHINE will notably allow you to access them from the Browser.



You can only save presets in the MASCHINE software.

Accessing Factory Presets of Native Instruments' Instruments/Effects

Accessing factory presets of your Native Instruments instruments and effects is straightforward: factory presets of all Native Instruments instruments/effects installed on MASCHINE+ are already integrated into the MASCHINE library. You will find them directly in the Browser by selecting the corresponding file type (Instruments or Effects) For more information on loading files from the Browser, see [Loading Files from the Browser](#).

10.10.3. Multiple-Output Plug-ins and Multitimbral Plug-ins

MASCHINE+ allows extended use of multiple-output Plug-ins as well as multitimbral Plug-ins.

Multiple-Output Plug-ins

Multiple-output Plug-ins are Plug-ins with more than one audio stereo output.

When a multiple-output Plug-in is loaded into a Sound, MASCHINE+ uses its available outputs as follows:

- The Plug-in's first output pair is inserted in the usual Plug-in signal chain: This output pair is fed into the input of the next Plug-in slot (or sent to the channel output if the Plug-in is in the last Plug-in slot).
- The Plug-in's additional outputs are made available as audio sources for other Sounds of the same Group (they appear in the **Source** menu in the **Audio** page of the Input properties for these Sounds). This can be used to build advanced routings in MASCHINE. For more information on configuring audio inputs for Sounds, please refer to section [Sending External Audio to Sounds](#).

Multitimbral Plug-ins

Multitimbral Plug-ins are Plug-ins that can receive MIDI on top of the host control.

When a multitimbral Plug-in is loaded into a Sound, the other Sounds of the same Group can send MIDI data to this Plug-in: The Plug-in will appear as an additional port in the **Dest.** menu on the **MIDI** page of the Output properties for these Sounds. For more information on configuring MIDI output for Sounds, please refer to section [Sending MIDI from Sounds](#).

11. Recording Patterns

This chapter provides an overview of the necessary steps required to record and edit a Pattern. It explains the generic process of creating both a beat and melodic content. It also describes the various ways this can be accomplished with MASCHINE+ through real-time input or using the sequencer.

Here's an overview of this chapter:

- **Setting Recording Options:** This section provides information on how to set up your own recording options, from setting the tempo, pattern length and count-in and metronome. For more information, see [Setting Recording Options](#).
- **Playing and Programming Beats:** This section will guide you through the process and features that can be used to create a beat-based pattern. For more information, see [Playing and Programming Beats](#).
- **Creating Melodies and Harmonies:** This section explains how to create melodic content. For more information, see [Creating Melodies and Harmonies](#).
- **Recording Modulation:** This section explains how recording modulation enables you to record changes for a chosen parameter over time, to add movement, life, and depth to the sounds and effects in your songs. For more information, see [Recording Modulation](#).

Now it's time to get creative!

11.1. Setting Recording Options

Before you begin recording there are several options you may want to configure to help you get the most from MASCHINE+. You can of course start recording straight away using the default settings, but if you are an experienced user and have a preferred recording setup you can configure your own settings. However, regardless of your experience with MASCHINE+, you can revisit these features at any time to optimize your setup.

The recording options include:

- **Tempo:** The tempo of your track can be changed at any time, but setting it upfront can often give your track a certain feel that helps create the “vibe” or foundation of your track as you are recording. Additionally, you may even want to use Tap Tempo to sync up with other musicians when recording or playing live. For more information, see [Setting the Tempo](#).
- **Pattern Length:** Set the length of the Pattern you want to record in Bars. By default as you record a Pattern MASCHINE+ will automatically grow the Pattern to accommodate the length of your recording, but if you have a certain length in mind, you can change this default setting, see [Adjusting the Pattern Length](#).
- **Step Grid:** Step Grid affects both the size and number of steps and the quantization resolution in your Pattern. This is useful when recording and also when editing your Pattern. For more information see [Setting the Step Grid](#).
- **Record Settings:** These options enable you to adjust Metronome parameters (Level, Time signature, and Auto-on), Count-In Length, and automatic Quantize mode via the onscreen overlay, Input velocity, and Pattern Follow. The Metronome is a precise musical reference that can help you keep time when recording live input. The Quantize mode options allow you to set various options related to when and how quantization is applied to the input of your recording. Pattern Follow will set MASCHINE+ to move with the Playhead through the various parts of your Pattern when step sequencing. For more information see [General Settings](#).

11.1.1. Setting the Tempo

The **TEMPO** button enables you to change the tempo of the track in beats per minute (BPM).

To change the tempo of the song:

1. Press the **TEMPO** button.
2. Turn the 4-D encoder right to increase the tempo, or turn it left to decrease the tempo.

→ The tempo of the song changes and the current BPM is visible on the left display.

Tapping the Tempo

You can also use Tap Tempo to set the tempo at any time. This is an intuitive way to match another beat or sync with other musicians. As you tap the tempo once every beat, MASCHINE+ will follow the tempo of your tapping and set the BPM accordingly.

To use Tap Tempo:

- ▶ Press and hold **SHIFT** + tap the **TAP (Metro)** button at the desired tempo.

→ The tempo is adjusted to your tapping.

11.1.2. Setting the Step Grid

The Step Grid defines regularly spaced-out timings (the “steps”) 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 and Clip editing actions, including quantization.

Adjusting the Step Grid and the Nudge Grid

You can enable/disable the Step Grid and adjust the Step Grid and Nudge Grid resolution.

Enabling/Disabling and Adjusting the Step Grid

To change the Step Grid resolution:

1. Hold **SHIFT** + **FOLLOW (Grid)** to enter Grid mode.
2. Press Button 4 (**STEP**) to access the Step and Nudge Grid settings. The right display shows you the resolution each pad represents.
3. Select a step size by pressing the corresponding pad. Alternatively, you can repeatedly press Button 5–8 to successively select each of the resolutions in the corresponding column.

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

To disable the Step Grid, simply select the **OFF** value in the top right corner:

- ▶ To disable the Step Grid, hold **SHIFT** + **FOLLOW (Grid)**, press Button 4 (**STEP**), then press Pad **16 (OFF)**.



You don't need to explicitly enable the Step Grid: It is enabled as soon as you select a step size other than **OFF** (pad **16**).

Adjusting the Nudge Grid

To change the Nudge Grid resolution:

1. Hold **SHIFT + FOLLOW (Grid)** to enter Grid mode.
 2. Press Button 4 (**STEP**) to access the Step and Nudge Grid settings.
 3. Turn Knob 4 (**NUDGE**) to select the desired Nudge Grid resolution.
- The new Nudge Grid resolution is directly in use, provided that the Step Grid is enabled (see above).

11.1.3. Adjusting the Pattern Length

You can adjust the length of your Patterns to fit your needs. The Pattern Length is measured in bars and beats, and Patterns can be up to 256 bars long. When you create a new empty Pattern, the Pattern will automatically grow as you record. However, you can set a defined length or change the length of an existing pattern.

To set a defined Pattern Length:

1. Hold **PATTERN**.
2. Turn Knob 4 to adjust the Pattern Length.



Hold **SHIFT** to change the value in finer increments.

11.2. Playing and Programming Beats

This chapter explains the process and features that can be used to create a beat-based pattern using MASCHINE+. It covers the basics of loading a group (a kit) and takes you through the two common ways of creating patterns: recording in real-time and step programming. For information on creating melodic content, see [Creating Melodies and Harmonies](#).

MASCHINE+ provides two modes that are ideal for creating beat-based patterns:

- **Pad mode** : In Pad mode you can assign one Sound from a Group to each of the Pads labeled **1-16**. The Pads can be used to record in real-time as you finger drum or simply trigger each Sound individually. By default, the pads are sensitive to velocity: The harder you hit them, the louder the sound will be. You can have many Groups, each containing up to sixteen Sounds each. Switch between your Groups and record several Patterns in order to create a set of Scenes, and ultimately a Song. For more information on recording in realtime, see [Recording Beats in Real-time](#).
- **Step mode** : In Step mode, is similar to a traditional step sequencer, where each of the Pads represents a step in the Step Grid. Just as on classical drum machines, a light representing the sequence runs across the Pads, 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 can build up a whole Pattern. For more information on Step mode, see [Sequencing Beats with Step Mode](#).

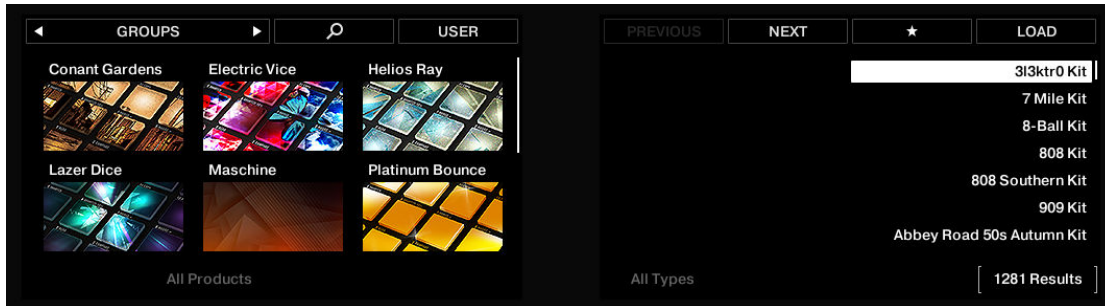
However, before you begin to create a beat you must first load a drum kit using the Browser.

11.2.1. Loading a Drum Kit

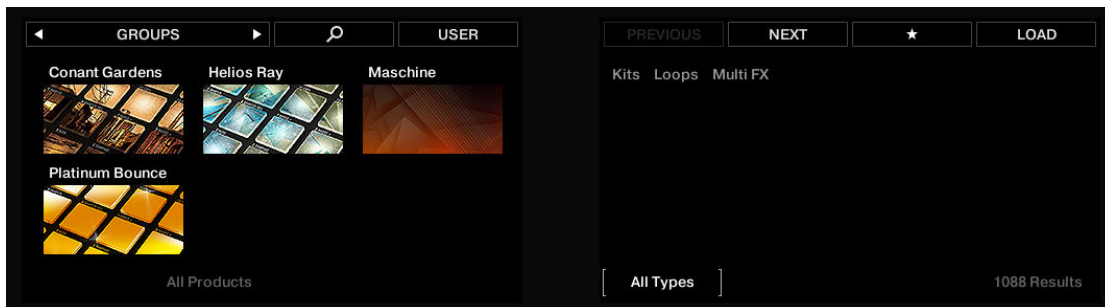
To create a beat you must first load a kit from the MASCHINE factory library. In MASCHINE+ a drum kit can be made of a collection of Sounds. These are referred to as a Group.

To load a Group.

1. Press button **A** on the left to select the first Group slot. This is where you are going to load the drum kit. Button **A** should be lit to indicate that it is selected.
2. Press the **BROWSER** button.
 - The **BROWSER** button lights up. In the left display, you now are presented with a selection of choices.
3. Press Button 1 or Button 2 above the displays to select **GROUPS**.
 - A list of Groups appears on the right display:



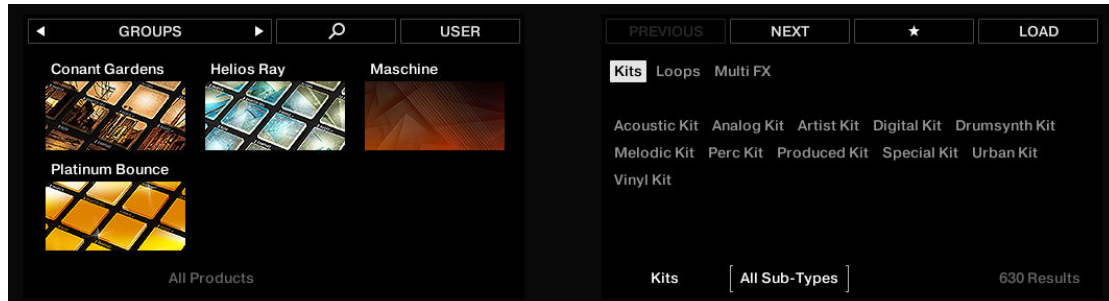
4. Check that Button 4 above the displays is *not* fully lit and that the **USER** label underneath is *not* highlighted; if necessary, press Button 4 to disable it.
 - This will now allow you to select only Native Instruments factory content.
5. Move the 4-D encoder to the left or to the right in order to put the focus (indicated by the brackets) on **All Types**.
6. Press and hold the 4-D encoder to view which Group types are available.
 - The right display shows the various types of Groups available (**Kits, Loops, Multi FX**) as long as the 4-D encoder is pressed:



7. While holding the 4-D encoder, turn it to select **Kits**.
 - When you release the encoder, the right display shows the list of Groups again, but now this list contains only drum kits. Note that you can also turn the 4-D encoder without holding it to select the desired entry (the available types of Groups will not be displayed).
8. Move the 4-D encoder one step to the right to put the focus (the brackets) on the **All Sub-Types** label that just appeared.

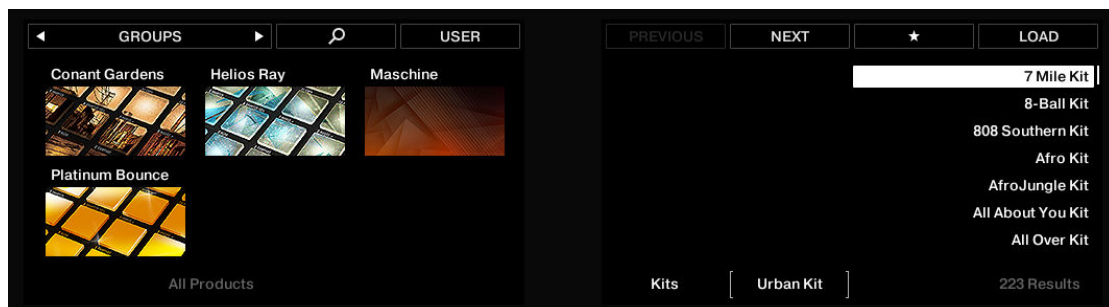
9. Press and hold the encoder.

→ The right display shows the various sub-types of drum kits available as long as the 4-D encoder is pressed:



10 Turn the 4-D encoder until, for example, **Urban Kit** is selected.

→ When you release the encoder, the result list on the right display is further reduced to the kits of that particular sub-type:



11 Move the 4-D encoder another step to the right to put the focus on the **Results** list.

12 Turn the 4-D encoder to scroll down the list and until, for example, **EK-TL A KIT** is selected.

→ If you want to hear the kits as you scroll through them, Press **SHIFT + Button 8 (PREHEAR)**.

13 Now press **SHIFT + Button 4** above the displays so that **+PATTERNS** is *deselected*.

14 Press the 4-D encoder to load the selected entry.

→ The drum kit is loaded into Group A.

11.2.2. Recording Beats in Real-time

In Pad mode the sixteen pads representing the Sounds of a Group can be used to jam or record beats in real-time as the Sounds are triggered.

The kit you have loaded using the Browser is now assigned to the pads **1** to **16**.

To enter Pad mode:

1. Press the **PAD MODE** button.
2. Select a Group **A** to **H** containing the Sounds you want to play.
3. Press any of the sixteen pads to hear their Sound.
4. Press **REC + PLAY** at any time to record a Pattern.
5. Press **STOP** to stop recording.

For information on changing Pattern Length, or Step Grid settings, see [Setting Recording Options](#).

Using Note Repeat

Note Repeat is a really handy way to play and program beats: it plays the selected Sound or note repeatedly at a given rate. You just need to hold a pad and its Sound/note will be steadily repeated until you release the pad.

- When using Note Repeat all pads will be both velocity and pressure-sensitive, allowing for expressive drum rolls or dynamic basslines.
- Note Repeat is a great way to play percussion and drums live to create build-ups and breaks.
- Note Repeat can also come in handy to quickly record a regular beat when creating Patterns.
- Note Repeat is also interesting to use with tonal Sounds and you can access it from Keyboard mode to create synthesizer-like arpeggios.

General Notes on Note Repeat

- The output of the Note Repeat is recorded into the Pattern Editor.
- The Note Repeat cannot be modulated or automated.
- You can use Note Repeat even if the transport is not running: In this case, the Note Repeat engine will use its own central clock.
- This clock will be reset as soon as you start the playback.



Note Repeat is great for programming your Pattern, especially things like a continuous hi-hat, and in performances for doing big rolls and fills.

To use Note Repeat:

1. Hold **NOTE REPEAT**.
2. While holding **NOTE REPEAT**, press any pad.
→ The Sound of the pad is repeatedly triggered at the rate shown at the bottom of the left display.
3. Turn knob 3 to change the repetition rate.
4. Turn knob 4 to change the unit of the repetition rate.



Alternatively, use buttons 5, 6, 7, or 8 above the right display to select the repetition rates that you want to use regularly. You can define these using Knobs 3 and 4.

The following table lists the Note Repeat functions.

Element	Parameter	Description
Button 1	NOTE RPT	Note Repeat page pin.
Button 2	LOCK	Keeps the Note repeat feature enabled even when you leave Note Repeat mode. For example, this can be useful to adjust the settings, switch to another Pattern, adjust Plug-in parameters, etc., while keeping Note Repeat running.

Element	Parameter	Description
Button 3	HOLD	The Hold function allows you to latch the notes played by the Note Repeat. When set to On, the Note Repeat will continuously play a sequence.
Button 4	GATE RESET	Resets the rate of the Gate defined using Knob 8.
Button 5 to 8	User-defined Rate	User-definable Note Repeat rate. Turn Knob 3 to set the rate and Knob 4 to set the Unit for this preset.
Knob 3	Rate	Sets the beat of the Note Repeat engine in relation to global tempo in musical values, ranging from 1/1 to 1/128. All note values (except 1/1 and 1/128) are available as basic notes, dotted notes, and triplets. Dotted notes are 1.5 times longer than the corresponding basic notes. Triplets are 2/3 the duration of their corresponding basic notes, so that e.g. three 1/4 notes are equal in duration to two basic 1/4 notes.
Knob 4	Unit	Selects from three variations of the original note length defined by the Rate parameter: NORMAL plays the original note length (default setting), TRIPLET plays triplets of the original note length (faster, three notes in the duration of two original notes), and DOTTED plays dotted versions of the original note length (slower, two notes in the duration of three original notes).
Knob 8	Gate	Adjusts the ratio between the duration of the notes and the duration of the silences between them, measured as a percentage of the note value set by Rate . Available values range from 1.0% to 200% : At low values the notes are very short. At 50% notes and silences are equal. At 100% (midcourse) each note last exactly until the next note is triggered. At higher values notes overlap (provided that the selected Sound is polyphonic).

11.2.3. Sequencing Beats with Step Mode

If you are familiar with classic drum machines you may want to program your Pattern using the step sequencer. In Step mode, you progressively build up the Pattern by programming a sequence for each individual Sound of the selected Group. Notably, the sequencer does not even need to be playing.

In Step mode each pad represents one step of a 16-step sequence: you can activate each step by pressing its pad once, lighting it up. If you press the pad again, the step is removed. This way it's quick and easy to create a drum pattern. If you press play you will hear the sequence and 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. You may continue to activate or deactivate pads to build your sequence during playback.

To use the Step mode sequencer:

1. Press **STEP** to switch to Step mode.
2. Press **SELECT** and then a Pad to select a Sound.
3. Press **PLAY**. You will see the playback position in the form of a light chasing through the pads, starting from pad 1, going up all four rows from left to right, and ending at pad 16.

4. Press an unlit pad to create an event on that step. The pad lights up to indicate that there is an event on that step. The new event is one step long. The next time the playback position reaches that step the new event will be played.
 5. Press a lit pad if you want to remove that step.
- When you are done with the sequence of that Sound, repeat the previous steps to create sequences for all desired Sounds.



If your Pattern is more than 16 steps, press **FOLLOW** (in the Transport section), and MASCHINE+ will automatically follow the Pattern during playback.

11.2.4. Adding Swing

Swing controls the rhythmic relationship between events in the selected channel (Sound, Group, or Master). By shifting some of the events, you can for example give a shuffling, ternary touch to your Patterns. The groove created by swing can be adjusted for each channel individually via the on-screen overlay or using the Smart Strips. A groove configured for a channel affects all its contained channels:

- On the Master channel, the Groove properties affect all Sounds of all Groups. The Master's swing is added to the groove set for each individual Group and Sound via their own Groove properties.
- On the Group channel, the Swing settings of a Group affect all Sounds of the Group. The Group's swing is added to the Swing setting for each individual Sound.
- On the Sound channel, the Swing settings of a Sound affect that single Sound.

Adding Swing to the Master

To add Swing to the Master channel:

1. Press the **SWING** button.
2. Turn the 4-D encoder to select a Master swing value.

Adding Swing to a Group

To add Swing to a Group channel:

1. Press the **SWING** button.
2. Press and hold the Group button
3. Turn the 4-D encoder to select a Group swing value.

Adding Swing to a Sound

To add Swing to a Sound channel:

1. Press the **SWING** button.
2. Press and hold a Pad to select a Sound.
3. Turn the 4-D encoder to add a Sound swing value.

11.2.5. Applying Groove


The groove controls the rhythmic relationship between events in the selected channel (Sound, Group, or Master). By shifting some of the events, you can, for example, give a shuffling, ternary touch to your Patterns.

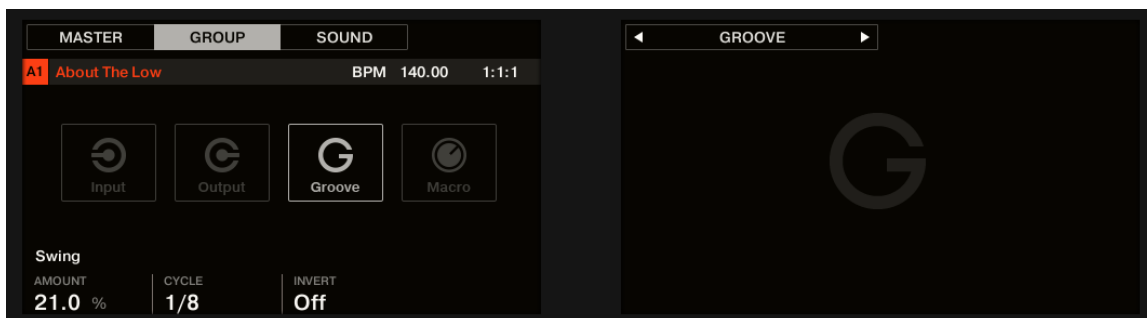
The groove can be adjusted for each channel individually via its **Groove properties**.

A groove configured for a channel affects all its contained channels:

- At the Sound level, the Groove properties settings of a Sound affect that single Sound.
- At the Group level, the Groove properties settings of a Group affect all Sounds of the Group. The Group's swing is added to the groove set for each individual Sound via its own Groove properties.
- At the Master level, the Groove properties affect all Sounds of all Groups. The Master's swing is added to the groove set for each individual Group and Sound via their own Groove properties.

The Groove properties have a single Parameter page: **Swing**.

 Please refer to section [Navigating Channel Properties, Plug-ins, and Parameter Pages](#) to know how to display and navigate sets of Channel properties.



The Groove properties for a Sound

Controls	Description
SWING Section	
Amount	Adjusts the amount of swing, i.e. the amount by which some events are shifted. At 0 % events are not shifted. Raise the Amount value to increase the strength of the swing.
Cycle	Determines on what musical resolution the groove 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 groove so that instead of being delayed in the Pattern events will be triggered ahead of time.

11.2.6. Applying Choke

The Choke All Notes feature allows you to cut off any note or event currently playing in your Project. This affects the audio coming from all Plug-ins

To choke all notes:

- ▶ 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, for example, to create stutter breaks.
- As a workflow aid, to stop long one-shot Samples that 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 cut off. The cut voices cannot be reactivated and are freed up for subsequent notes according to the polyphony setting. Voices triggered by subsequent notes will play normally.

11.3. Creating Melodies and Harmonies

This chapter explains how to create melodic content using MASCHINE+.

MASCHINE+ offers several ways to do this:

- **Keyboard mode:** In Keyboard mode, the pads enable you to play notes of the focused Sound at different pitches.
- **Chord Mode:** In Chord mode, the pads enable you to play the selected chords

The following subsections will now explain how to create melodic content using these two modes.



For information on creating a beat, see [Playing and Programming Beats](#).

11.3.1. Loading an Instrument

Before you begin to record a melody you must first load an instrument. You can load a sound from the MASCHINE factory library or a plug-in from the MASCHINE+ SELECTION that came with your MASCHINE+. For more information about installing content on your MASCHINE+, see [Using the Library](#).

To load an Instrument:

1. Press **BROWSER**.
 2. Press Button 2 to select **INSTRUMENTS**.
- Now you see all available instrument presets on the right display.
3. To select items from the **All Categories** or **All Products**, lists, turn Knobs 1 and 2 to select from on-screen overlays that appear once you touch the knobs.
 4. To refine the results list further, turn Knobs 5 to 7 to select tags from the **All Types** and **All Characters** lists.
 5. Turn knob 8 to select preset.
 6. To load a preset, press Button 8.



You can also navigate the Browser by nudging, turning, and pressing the 4-D encoder.

11.3.2. Recording Melodies and Harmonies in Real-time

In Keyboard mode, the pads enable you to play notes of the focused Sound at different pitches. This is well suited for playing melodic instruments. The right display indicates the pitches played by each pad. If you press the pads you will hear that they all play the same Sound, but each with a different pitch.

To access Keyboard mode:

► Press the **KEYBOARD** button.

→ MASCHINE+ is now in Keyboard mode which is set to the default chromatic scale of C.

From the bottom left to the top right of the pads, the selected Sound can be played chromatically. The brightly lit pads represent the root note of the scale at each octave.

► Press Buttons 5 and 6 to access higher or lower notes in the scale.

→ The notes will shift accordingly and you can play notes in the higher or lower regions of the scale.

To record a pattern:

1. Press **REC + PLAY** at any time to record a Pattern.
2. Press **STOP** to stop recording.

For more information on setting recording options, and changing the length of your Pattern, see [Setting Recording Options](#).

For information on editing your Pattern, see [Working with Patterns](#).

11.3.3. Step Sequencing Melodies and Harmonies

In Step Mode, the pads turn your MASCHINE+ into a step sequencer for melodies and chords. You can progressively build a Pattern by programming a sequence for each individual note. Furthermore, the integrated Piano Roll mode is set to allow one individual Sound to be programmed using the pads. Select a Sound and a Scale and you're ready to go!

11.3.4. Selecting Scales and Chords

MASCHINE+ comes equipped with a vast amount of scales and chords that you can select and use to play your Sounds. This opens up possibilities to play an instrument in key without hitting a wrong note or playing chords that always fit by just hitting a single pad.

When you select a scale from the on-screen overlay, the scale gets mapped onto the pads. This means that regardless of which pads you actually press, or what MIDI notes you send, the notes that are being played back are always mapped onto the closest notes contained in the scale that you select.

By default MASCHINE+ is set to the chromatic scale of C and the pads represent each semitone. The displays provide an overview of the current settings and allow you to set a new root note for the scale, a scale type, and a chord mode; including harmonic, or one of the predefined chord sets that can be triggered using a single pad.

To select a Scale:

1. Switch focus to a Sound slot containing a polyphonic instrument, or load one into the desired Sound slot.
2. Press **KEYBOARD** to enter keyboard mode.
3. Turn Knob 1 to select a bank of scales.
4. Turn Knob 2 to select the type of scale.

→ The selected scale is available to play on the pads with the root notes highlighted.

Setting the Root Note of a Scale

Use the **SCALE** parameter Root Note to set the root note of a scale. This means deciding what key the scale will begin with. The following notes of the scale depend on which scale pattern you select with the **SCALE Type** parameter. You can transpose any scale pattern up or down by selecting a different Root Note.



The Root Note of a scale is visible via brightly lit pads.

To set the root note of a scale:

1. Press **KEYBOARD** to enter Keyboard mode.
- The current root note is visible in the top right corner of the left display.
2. To adjust the root note in octaves, press Button 5 (**OCTAVE-**) or Button 6 (**OCTAVE+**).
3. To adjust the root note in semitones, press Button 7 or (**SEMITONE-**) or Button 8 (**SEMITONE+**).

→ The new root note is indicated on both the left and right displays.

Setting the Scale Type

Use the Scale parameter Type to set the scale pattern according to which the notes will be mapped onto the pads. For example, using the default Root Note value C combined with the default Scale Type value Major, you get the scale C major, which spans over one octave and contains the notes C, D, E, F, G, A, and B (followed by C again). If instead, you select G as your Root Note, the G major scale contains the notes G, A, B, C, D, E, and F# (followed by G again). You will notice that the distance between each note follows the same pattern of “whole step–whole step–half step– whole step–whole step–half step,” which is the pattern of the Major scale. If you are triggering an instrument via an incoming MIDI pattern, the notes of the MIDI pattern will be mapped onto the closest keys belonging to the selected Scale Type. This means that for example (with Root Note set to C) a MIDI pattern consisting of the notes C-D-D# will be played back as such if Scale Type is set to Chromatic (named Chrom in the on-screen overlay), but instead as C-D-E if Scale Type is set to Major.

Chord Mode

Use the Chord mode to generate chords from single notes.

To enter Chord mode:

- ▶ Press the **CHORD** button.

Chord mode has two states, which are described below:

Chord Mode	Description
Harm Knob 3	If CHORD Mode is set to Harm, the CHORD Type menu allows you to specify the interval of notes in the selected SCALE Type that will constitute the chord. For example, a triad in the form of the root note, the third note, and the fifth note (CHORD Type value 1-3-5).
Chord Set Knob 4	If CHORD Mode is set to Chord Set , the CHORD Type menu allows you to choose from a selection of predefined major and minor chords depending on the current Root Note. Chords can be triggered using the twelve illuminated pads.

11.3.5. Scale and Chord Parameters

This section describes the Scale and Chord engine and its parameters and provides a list of all available scales and chords.

General Notes on Scales and Chords

- The Scale and Chord parameters are the same for all Sound slots in a particular Group, you can have different Scale and Chord parameters for each Group. The Scale and Chord parameters of each Group are saved with the Project. However, when you save a Group the Scale and Chord parameters are **not** saved with the Group.
- The Scale and Chord engine processes live input from the pads only. Input from MIDI and events recorded in the Pattern Editor are not processed by the Scale and Chord engine.
- The output of the Scale and Chord engine is recorded into the Pattern Editor.
- The Scale and Chord parameters cannot be modulated or automated.

Available Scales

The Scale engine is controlled via two parameters:

- **Root Note** (C3 by default): Defines both the root note of the scale and the particular key triggered by Pad 1. As a direct consequence, Pad 1 always triggers the root note of the selected scale.
- **Scale Type** (Chromatic by default): Selects the scale pattern whose notes will be mapped onto the pads: The Root Note is on pad 1, the 2nd note of the selected Scale Type is on pad 2, etc. Once all notes are mapped, the next pad triggers the root note in the next octave. The Root Note and its octaves are indicated by fully lit pads, while other pads are dimmed.

The following scale types are available:

Main Scales

Scale	Bank	Type	Degree Formula
Chromatic	Main	Chrom	1 b2 2 b3 3 4 b5 5 b6 6 b7 7
Major	Main	Major	1 2 3 4 5 6 7
Minor	Main	Minor	1 2 b3 4 5 b6 b7
Harm Min	Main	Harm Min	1 2 b3 4 5 b6 7
Maj Pent	Main	Maj Pent	1 2 3 5 6
Min Pent	Main	Min Pent	1 b3 4 5 b7
Blues	Main	Blues	1 b3 4 #4 5 b7
Japanese	Main	Japanese	1 2 b3 5 b6
Freygish	Main	Freygish	1 b2 3 4 5 b6 b7
Gypsy	Main	Gypsy	1 2 b3 #4 5 b6 7
Arabic	Main	Arabic	1 b2 3 4 5 b6 7
Altered	Main	Altered	1 b2 #2 3 #4 b6 b7
Whole Tone	Main	WH Tone	1 2 3 #4 #5 b7
H-W Dim	Main	H-W Dim	1 b2 #2 3 #4 5 6 b7
W-H Dim	Main	W-H Dim	1 2 b3 4 #4 #5 6 7

Modes Scales

Scale	Bank	Type	Degree Formula
Ionian	Modes	Ionian	1 2 3 4 5 6 7
Dorian	Modes	Dorian	1 2 b3 4 5 6 b7
Phrygian	Modes	Phrygian	1 b2 b3 4 5 b6 b7
Lydian	Modes	Lydian	1 2 3 #4 5 6 7
Mixolydian	Modes	Mixolyd	1 2 3 4 5 6 b7
Aeolian	Modes	Aeolian	1 2 b3 4 5 b6 b7
Locrian	Modes	Locrian	1 b2 b3 4 b5 b6 b7
Ionian b2	Modes	Ion b2	1 b2 3 4 5 6 7
Dorian b5	Modes	Dor b5	1 2 b3 4 b5 6 b7
Harm Phryg	Modes	Har Phry	1 b2 b3 4 5 b6 7
Phryg Major	Modes	Phry Maj	1 b2 b3 4 5 6 7
Lydian b3	Modes	Lyd b3	1 2 b3 #4 5 6 7
Major Locrian	Modes	Maj Loc	1 2 3 4 b5 b6 b7
Minor Locrian	Modes	Min Loc	1 2 b3 4 b5 b6 b7
Super Locrian	Modes	Sup Loc	1 b2 b3 b4 b5 b6 b7

Jazz Scales

Scale	Bank	Type	Degree Formula
Lydian $b7$	Jazz	Lyd $b7$	1 2 3 #4 5 6 $b7$
Altered	Jazz	Altered	1 $b2$ #2 3 #4 $b6$ $b7$
Diminished	Jazz	Diminshd	1 $b2$ #2 3 #4 5 6 $b7$
Mixo $b13$	Jazz	Mix $b13$	1 2 3 4 5 $b6$ $b7$
Mixo $b9$ $b13$	Jazz	Mix$b9b13$	1 $b2$ 3 4 5 $b6$ $b7$
Lydian $b7$ $b2$	Jazz	Lyd $b7b2$	1 $b2$ 3 #4 5 6 $b7$
Bebop	Jazz	Bebop	1 2 3 4 5 6 $b7$ 7
Whole Tone	Jazz	Whole Tn	1 2 3 #4 #5 $b7$
Blues Maj	Jazz	Blues Ma	1 2 $b3$ 3 5 6
Blues Min	Jazz	Blues Mi	1 $b3$ 4 #4 5 $b7$
Blues Combined	Jazz	BluesCmb	1 2 $b3$ 3 4 #4 5 6 $b7$
Lydian #5	Jazz	Lyd #5	1 2 3 #4 #5 6 7
Jazz Minor	Jazz	Jazz Mi	1 2 $b3$ 4 5 6 7
Half Dim	Jazz	Half Dim	1 2 $b3$ 4 $b5$ $b6$ $b7$
Augmented	Jazz	Augmentd	1 $b3$ 3 5 #5 7

World Scales

Scale	Bank	Type	Degree Formula
Hungarian Min	World	Hung Min	1 2 $b3$ #4 5 $b6$ 7
Hungarian Maj	World	Hung Maj	1 #2 3 #4 5 6 $b7$
Neapolitan	World	Neapoltn	1 $b2$ $b3$ 4 5 $b6$ 7
Spanish	World	Spanish	1 $b2$ $b3$ 3 4 5 $b6$ $b7$
Greek	World	Greek	1 2 $b3$ $b4$ 5 $b6$ $b7$
Jewish 1	World	Jewish 1	1 $b2$ 3 4 5 $b6$ $b7$
Jewish 2	World	Jewish 2	1 2 $b3$ #4 5 6 $b7$
Indian 1	World	Indian 1	1 $b2$ $b3$ #4 5 $b6$ 7
Indian 2	World	Indian 2	1 2 $b3$ #4 5 6 7
Indian 3	World	Indian 3	1 $b2$ 2 4 5 $b6$ 6
Indian 4	World	Indian 4	1 #2 3 4 5 #6 7
Mid East 1	World	M East 1	1 $b2$ 3 4 5 $b6$ 7
Mid East 2	World	M East 2	1 $b2$ 3 4 $b5$ $b6$ 7
Mid East 3	World	M East 3	1 $b2$ $b3$ 4 $b5$ 6 $b7$
Mid East 4	World	M East 4	1 $b2$ 3 4 $b5$ 6 $b7$

5-Tone Scales

Scale	Bank	Type	Degree Formula
Penta I	5-Tone	Pent I	1 2 3 5 6

Scale	Bank	Type	Degree Formula
Penta II	5-Tone	Pent II	1 2 4 5 b7
Penta III	5-Tone	Pent III	1 b3 4 b6 b7
Penta IV	5-Tone	Pent IV	1 2 4 5 6
Penta V	5-Tone	Pent V	1 b3 4 5 b7
Hirajoshi	5-Tone	Hira	1 2 b3 5 b6
Insen	5-Tone	Insen	1 b2 4 5 b7
Kokin Joshi	5-Tone	Kokin	1 2 4 5 b6
Akebono	5-Tone	Akebono	1 2 b3 5 6
Ryukuan	5-Tone	Ryukuan	1 3 4 5 7
Abhogi	5-Tone	Abhogi	1 2 b3 4 6
Bhupkali	5-Tone	Bhupkali	1 2 3 5 b6
Hindolam	5-Tone	Hindolam	1 b3 4 b6 b7
Bhupalam	5-Tone	Bhupalam	1 b2 b3 5 b6
Amritavarshini	5-Tone	Amrita	1 3 #4 5 7

Modern Scales

Scale	Bank	Type	Degree Formula
Octatonic	Modern	Octatonic	1 2 b3 4 #4 #5 6 7
Acoustic	Modern	Acoustic	1 2 3 #4 5 6 b7
Augmented	Modern	Augmented	1 b3 3 5 #5 7
Tritone	Modern	Tritone	1 b2 3 b5 5 b7
Leading Wh Tone	Modern	Lead Wh	1 2 3 #4 #5 #6 7
Enigmatic	Modern	Enigmatic	1 b2 3 #4 #5 #6 7
Scriabin	Modern	Scriabin	1 2 3 #4 6 b7
Tcherepnin	Modern	Tcherepnin	1 #1 #2 3 4 5 #5 6 7
Messiaen I	Modern	Mes I	1 2 3 #4 #5 #6
Messiaen II	Modern	Mes II	1 b2 #2 3 #4 5 6 b7
Messiaen III	Modern	Mes III	1 2 b3 3 #4 5 b6 b7 7
Messiaen IV	Modern	Mes IV	1 b2 2 4 #4 5 b6 7
Messiaen V	Modern	Mes V	1 b2 4 #4 5 7
Messiaen VI	Modern	Mes VI	1 2 3 4 #4 #5 #6 7
Messiaen VII	Modern	Mes VII	1 b2 2 b3 4 #4 5 b6 6 7

Major Scales

Scale	Bank	Type	Degree Formula
Natural	Major	Natural	1 2 3 4 5 6 7
Lydian	Major	Lydian	1 2 3 #4 5 6 7
Mixolydian	Major	Mixolydian	1 2 3 4 5 6 b7

Scale	Bank	Type	Degree Formula
Major Minor	Major	Maj Min	1 2 3 4 5 b6 b7
Harmonic Major	Major	Har Maj	1 2 3 4 5 b6 7
Dbl Har Major	Major	Dbl Maj	1 b2 3 4 5 b6 7
Neapolitan Maj	Major	Nea Maj	1 b2 3 4 5 6 7
Major Locrian	Major	Maj Loc	1 2 3 4 b5 b6 b7
Blues Major	Major	Blues Ma	1 2 b3 3 5 6
Bebop Major	Major	Bebop Ma	1 2 3 4 5 #5 6 7
Hexa 1	Major	Hexa 1	1 2 3 5 6 7
Hexa 2	Major	Hexa 2	1 2 3 4 5 6
Penta 1	Major	Penta 1	1 2 3 5 6
Penta 2	Major	Penta 2	1 3 4 5 7
Penta 3	Major	Penta 3	1 3 5 6 7

Minor Scales

Scale	Bank	Type	Degree Formula
Natural	Minor	Natural	1 2 b3 4 5 b6 b7
Dorian	Minor	Dorian	1 2 b3 4 5 6 b7
Phrygian	Minor	Phrygian	1 b2 b3 4 5 b6 b7
Minor Major	Minor	Min Maj	1 2 b3 4 5 6 7
Harmonic Minor	Minor	Har Min	1 2 b3 4 5 b6 7
Dbl Har Minor	Minor	Dbl Min	1 2 b3 #4 5 b6 7
Neapolitan Min	Minor	Nea Min	1 b2 b3 4 5 b6 7
Minor Locrian	Minor	Min Loc	1 2 b3 4 b5 b6 b7
Blues Min	Minor	Blues Mi	1 b3 4 #4 5 b7
Bebop Minor	Minor	Bebop Mi	1 2 b3 4 5 b6 b7 7
Hexa 1	Minor	Hexa 1	1 2 b3 5 b6 b7
Hexa 2	Minor	Hexa 2	1 2 b3 4 5 b6
Penta 1	Minor	Penta 1	1 2 b3 5 b6
Penta 2	Minor	Penta 2	1 b3 4 5 b7
Penta 3	Minor	Penta 3	1 b3 5 b6 b7

By default, the Chromatic scale is selected – in other terms, by default your pads play every semitone, however, the last selected Scale is automatically assigned when a new Group is created.



The Scale Type parameter is not available if the Chord Mode parameter is set to Chord Set.

Available Chords

The Chord engine can automatically generate chords depending on the pad you hit and possibly the selected scale. The Chord engine is controlled via two parameters:

- **Chord Mode** (Off by default): Selects from three different modes for generating chords:
 - **Off**: No chords will be generated. Only the notes corresponding to the pads that you hit will be played.
 - **Harmonizer**: Generates chords based on the pads you hit and using notes from the selected scale, as specified by the Root Note and Scale Type parameters (see above). Use the Chord Type parameter to choose the particular notes to be used in the chord (see below). As the chord is triggered, pads of all included notes flash.
 - **Chord Set**: This special mode maps a set of chords onto the first 12 pads. These chords are not bound to any scale type, they are only affected by the selected Root Note. Use the Chord Type parameter to choose a particular set of chords to be mapped onto the pads (see below). In this mode, only the pad you actuate flashes.
- **Chord Type**: Selects which chords will be mapped to your pads. The available chord types depend on the selected Chord Mode and Scale Type:
 - If Chord Mode is set to Harmonizer, the Chord Type parameter offers different chords depending on whether Scale Type is set to Chromatic or to any other scale. All available chords are listed in the tables below.
 - If Chord Mode is set to Chord Set, the Chord Type parameter provides 16 different sets of 12 chords each (8 major sets and 8 minor sets): Major 1, Major 2, ..., Major 8, and Minor 1, Minor 2, ..., Minor 8. The 12 chords are mapped onto the first 12 pads. Pads 13–16 are deactivated.

When Chord Mode is set to **Harmonizer** and Scale Type is set to **Chromatic**, since this scale includes all semitones the chords can use any of them. Chord Type offers the following chords:

Chord Type	Semitones Added above Played Note
Octave	12
Perfect 4	5
Perfect 5	7
Major	4 and 7
Minor	3 and 7
Suspended 4	5 and 7
Major 7	4, 7, and 11
Minor 7	3, 7, and 10
Dominant 7	4, 7, and 10
Dominant 9	4, 7, 10, and 14
Minor 7 \flat 5	3, 6, and 10
Diminished 7	3, 6, and 9
Augmented	4 and 8
Quartal	5, 10, and 15
Trichord	5 and 11

When Chord Mode is set to **Harmonizer** and Scale Type is set to **any other scale than Chromatic**, the chords are bound to the particular notes included in the specified scale. Chord Type offers the following chords:

Chord Type	Notes Added to Played Note
Octave	Octave
1-3	3rd
1-5	5th
1-3-5	3rd and 5th
1-4-5	4th and 5th
1-3-5-7	3rd, 5th, and 7th
1-4-7	4th and 7th

Scales and Chords: Visual Feedback on the Pads

When scales and/or chords are enabled, the LEDs of the pads keep you informed at any time on the current scale and chord configuration. The default lighting behavior of your pads is modified by the Scale and Chord engine as follows:

When **Chord Mode** is set to **Off** or **Harmonizer**, pads of root notes are fully lit:

Type of Pad (for Selected Scale)	LED in Default State	LED when Pad Triggered
Root notes	Fully lit	Flash
Other pads	Dimly lit	Flash

Note that if Chord Mode is set to Harmonizer, pads triggered as part of the chord will also flash.

When **Chord Mode** is set to **Chord Set**, pad 1 is fully lit:

Type of Pad	LED in Default State	LED when Pad Triggered
Pad 1	Fully lit	Flash
Pads 2–12	Dimly lit	Flash
Pads 13–16	Off (pad inactive)	

Enharmonic Spelling of the Root Note

Depending on the Scale Type, Chord Mode, and Chord Type you have selected, the enharmonic spelling of the Root Note will vary in order to optimize the spelling of the entire scale/chord set:

Condition	Enharmonic Spelling											
Scale Type: Chromatic	All Keys	C	C#	D	D#	E	F	F#	G	G#	A	A#
Scale Type: not Chromatic	C	C#	D	E \flat	E	F	F#	G	A \flat	A	B \flat	B
Chord Mode: Chord Set Chord Type: Major 1-8	C	D \flat	D	E \flat	E	F	F#	G $\bar{\bar{}}$	A \flat	A	B \flat	B

Condition	Enharmonic Spelling											
Chord Mode: Chord Set	C	C#	D	D#	E	F	F#	G	G#	A	Bb	B
Chord Type: Minor 1-8												

Erasing Notes

When **erasing notes**, the notes effectively deleted vary with the Chord Mode currently selected:

- If Chord Mode is set to Off, the notes with the pitch corresponding to the pressed pad are deleted.
- If Chord Mode is set to Harmonizer, only the notes with the pitch of the pressed pad are deleted. The other notes in the triggered chord are **not** deleted.
- If Chord Mode is set to Chord Set, no notes are deleted, in other words erasing is deactivated.

11.3.6. Creating Arpeggios

MASCHINE+ includes a flexible and versatile Arp engine, an arpeggiator that effectively lets you play your Sounds in note sequences. The arpeggios are created according to both the pads you hold and the chords configured with the Scale and Chord engine.



If you have enabled chords, you can even press more than one pad to include the notes of all corresponding chords into your arpeggio!

Like the Scale and Chord engine, the Arp engine is dedicated to Keyboard mode. The Arp engine can be seen as a melodic extension of the Note Repeat: Actually, Arp replaces and extends Note Repeat in Keyboard mode. Instead of playing repeated notes at a constant pitch, you can play sequences of notes at different pitches. Depending on whether your pads are in Pad Mode or Keyboard mode, pressing **NOTE REPEAT** will switch to Note Repeat mode or Arp mode. Arp mode simply adds a few parameters to those found in Note Repeat mode.

General Notes on the Note Repeat and Arp Engine

- The Note Repeat / Arp parameters are the same for all Sound slots in all Groups of your Project. These parameters are saved with the Project.
- The Note Repeat / Arp engine processes live input from the pads. MIDI Input and data recorded in the Pattern Editor are not processed by the Scale and Chord engine.
- The Note Repeat / Arp engine detects and makes use of any changes in the pressure you apply on every pad you hold (Polyphonic Aftertouch). This allows you to generate arpeggios and repeated notes with varying velocities.
- The output of the Note Repeat / Arp engine is recorded into the Pattern Editor.
- The Note Repeat / Arp parameters cannot be modulated or automated.
- You can use Note Repeat and Arp even if the transport is not running: In this case, the Note Repeat / Arp engine will use its own central clock. This clock will be reset as soon as you start the playback.

To access the arpeggiator:

1. Press **SHIFT + NOTE REPEAT** button.
 2. Press Button 1 to pin the Arpeggiator mode.
 - MASCHINE+ switches to Keyboard mode and the pads illuminate. The brightly lit pads represent the root notes of the scale.
 3. Press any number of pads to hear an arpeggio.
 - The Sound of the pad is repeatedly triggered at the rate set by Knob 3 at the bottom of the left display.
- To create interesting rhythms for the Arpeggiator sequence, use the Rate, Sequence, and Swing parameters of the **RHYTHM** section. For more information, see the **RHYTHM** section in the table below.
 - To change the range of available notes for the Arpeggiator sequence, as well as their velocity and length, use the **OTHER** parameters: Octaves, Dynamic, and Gate. For more information, see the **OTHER** parameter descriptions in the table below.
 - To latch the playback of the Arpeggiator sequence, use the **Hold** parameter. For more information, see the **Hold** description in the table below.

The following table describes each of the parameters in Arpeggiator mode.

Element	Description
LOCK (Button 2)	Keeps the Arpeggiator feature enabled even when you leave Arpeggiator mode. For example, this can be useful to adjust the chord settings, switch to another Pattern, adjust Plug-in parameters, etc., while keeping arpeggios running. If Arpeggiator is locked, when you switch to another mode the NOTE REPEAT button stays dimly lit to remind you that Arpeggiator is on. You can also use the shortcut SHIFT + NOTE REPEAT at any time to enable/disable LOCK .
HOLD (Button 3)	Allows the notes played by the arpeggiator to be latched. This means the pads can be released and the arpeggiated notes will continue to play. Press Button 3 (HOLD) again to stop the arpeggiator.
GATE RESET (Button 4)	Press this button at any time to reset the GATE parameter to its default value of 100% .
Button 5–8	Selects between four different presets, even during playing. Each preset can store particular values for the TYPE , RATE , UNIT , SEQUENCE , and OCTAVES parameters at the bottom of the displays (see below). The rate currently assigned to each button is indicated below on the display along with the UNIT value (" T " for triplet values or " D " for dotted values). The selected preset is highlighted.

Element	Description
TYPE (Knob 2)	<p>Sets the sequential order of the arpeggiated notes. You can choose from following settings:</p> <p>Up starts from the root note and plays the notes up through the chord.</p> <p>Down plays the notes the other way around.</p> <p>Up & Down plays the notes in both directions alternatively.</p> <p>Order Played plays the notes in the order you pressed down the corresponding pads. If you have configured chords, the arpeggio will first play all notes of the chord triggered by the first pad you pressed, then all notes of the chord triggered by the second pad you pressed, etc.</p> <p>Chord plays all notes of the chord together repeatedly.</p>
RATE (Knob 3)	<p>Adjusts the note length, hence the rate of the arpeggio. Available values are 1 BAR and a series of note values going from 1/2 (half note) until 1/128 (a hundred twenty-eighth note).</p>
UNIT (Knob 4)	<p>Selects from three variations of the original note length defined by the RATE parameter: NORMAL plays the original note length (default setting), TRIPLET plays triplets of the original note length (faster, three notes in the duration of two original notes), and DOTTED plays dotted versions of the original note length (slower, two notes in the duration of three original notes). Under Button 5–8, triplet values are indicated by a “T” and dotted values by a “D” next to the note value.</p>
SEQUENCE (Knob 5)	<p>Allows you to add interesting rhythms to your arpeggiated notes. Select one of eight different sequences and apply it to the arpeggio you are playing. Select Off to use the default regular sequence.</p>
OCTAVES (Knob 6)	<p>Adjusts the spread of the arpeggiated sequence. You can choose to play back your sequence within the octave of the pads you pressed, or you can select up to eight octaves and let the notes of your chord (or the single note of your pad) be played back in as many octaves.</p>
DYNAMIC (Knob 7)	<p>Amplifies or reduces the velocity derived from the pressure you apply on every pad you hold (Polyphonic Aftertouch). Available values range from 1% to 200%. This setting applies globally to all rate presets.</p>
GATE (Knob 8)	<p>Adjusts the ratio between the duration of the notes and the duration of the silences between them, measured as a percentage of the note value set by RATE (see above). Available values range from 0% to 200%. At low values the notes are very short. At 50% notes and silences are equal. At 100% (midcourse) each note last exactly until the next note is triggered. At higher values notes overlap (provided that the selected Sound is polyphonic). This setting applies globally to all rate presets.</p>

11.3.7. Playing Notes with Smart Strips

Notes mode lets you play Sounds using the Smart Strip, for an inspiring playing experience. Sliding your finger on the Smart Strip while no pad is held will play all Sounds mapped to the pads in Pad Mode or Keyboard mode. If you slide your finger from left to right, the pads will be played in an ascending manner. If you slide your finger from right to left, the pads will be played in a descending manner. This applies regardless of which pads (if any) are held.

- In Pad mode, you can use the Smart Strip to strum a set number of Sounds based on the Sounds you select. Press the pads to add or remove Sounds from the selected Group.
- In keyboard mode, you can use the Smart Strip to strum a set number of notes based on the notes you select. Press the pads to add or remove notes. Notes will be constrained by the selected scale if a scale has been selected. Use in conjunction with the Chord settings to play whole chords instead of single notes.



Using Notes in Keyboard mode produces more useful results when a Scale Type is selected. For detailed information on selecting a scale, see [Setting the Scale Type](#).

To play notes using the Smart Strip:

1. Select the Pad containing the Sound you want to play.
2. Press Pad Mode to strum Sounds, and **KEYBOARD** or **CHORDS** to strum notes.
3. Press the **NOTES** button to enable Notes mode.
4. Press and hold the pads you want to play.
5. Slide your finger on the Smart Strip to “strum” the pads.

11.4. Recording Modulation

Recording modulation enables you to record changes for a chosen parameter over time. This adds movement, life, and depth to the sounds and effects in your songs.

To modulate a parameter:

1. Press **PLAY**
 2. Press either **CHANNEL** or **PLUG-IN** to access Control Mode.
 3. Navigate to the parameter you want to modulate. To do this, select a Group or Sound (see [Focusing on a Group or a Sound](#) navigate to the desired Plug-in or set of Channel properties, and finally to the Parameter page containing that parameter (see [Navigating Channel Properties, Plug-ins, and Parameter Pages](#)).
 4. Hold **AUTO** to enter Auto-write mode. At the bottom of the displays, non-modulatable parameters disappear. Among the remaining parameters (all modulatable), the value of each continuous parameter is replaced by a percentage.
 5. While holding **AUTO**, turn the desired Knob 1–8 under the displays to adjust the deviation to the actual value as you see fit.
- Your modulation is now recorded. Each Knob movement is stored in your Pattern as a modulation event. It will be automatically played with your Pattern upon its next cycle.

Erasing Automation

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

- ▶ Hold **ERASE** and again turn the Knob you used to record modulation to delete all modulation events for this parameter.

You can also delete all modulation events for all parameters of the channel:

- ▶ Press **SHIFT** + Pad **10 (Clear Auto)** to delete all modulation for all parameters of the focused Sound or Group.



You can also record modulation from the step sequencer. For more information, see [Recording Modulation in Step Mode](#).

11.4.1. Recording Modulation in Step Mode

You can also record modulation in Step mode. This is helpful when you want to set value changes at a specific time in a Pattern.

To record modulation in Step Mode:

1. Press and hold the pad(s) representing the step(s) you want to modulate (you may need to use Knob 6 to navigate beforehand to the desired part of the Pattern). The displays will switch to a mode similar to Control mode displaying parameter values.
2. Like in Control mode, use Button 2 or 3 to select the Group or Sound level, respectively; press **PLUG-IN** or **CHANNEL** to display the Plug-ins or Channel properties at this level; use the 4-D encoder to select the desired Plug-in slot or set of Channel properties, and use the Page button (left of the displays) to select the Parameter page containing the parameter you want to record modulation for. Only parameters that can be modulated will appear at the bottom of the displays.
3. While holding the pad(s), turn any of the Knobs 1–8 under the displays to edit the modulation value of the corresponding parameter for this step.

→ The modulation values are recorded for this step.

11.4.2. Which Parameters Are Modulatable?

All the modulatable parameters are found in Plug-ins or Channel properties (for example, you cannot modulate the Pattern Length or the Step Grid resolution). This means that all modulatable parameters are found in a Parameter page of the Control area (when the software is in Arrange view).

In order to be modulatable, parameters of Plug-ins and Channel properties have to meet the following requirements:

- The parameter must be **controlled by a knob or a button** in the software. Most parameters controlled by selectors (for example, for selecting an operating mode or a filter type) cannot be modulated, however, there are a few exceptions.
- The parameter must be at the **Group or Sound level**. Parameters at the Master level cannot be modulated.



This second rule is also true for Plug-ins: if a Plug-in is loaded at the Master level, its parameters will not be modulatable, but the same Plug-in loaded at the Group or Sound level will have its parameters modulatable.

Almost all parameters meeting these requirements can be modulated, the only exceptions being:

- Plug-ins:
 - Saturator: in Tube mode, the **Bass Overload** button (**MAIN** section), and **Bypass** button (**EQ** section).
 - Percussion (Drumsynth): in Fractal mode, the **Tune Hold** button in the **Main** page.
- Channel properties:
 - Sound's and Group's Output properties: the **Cue** button in the **Audio** page.
 - Group's Input properties: the **Root Note** knob in the **MIDI** page.

11.5. Using Lock Snapshots

Lock allows you to create up to sixty-four snapshots spread across four banks of sixteen pads providing a total of up to sixty-four snapshots. Each snapshot contains every modulatable parameter in your Project, including your Solo and Mute settings. Once created, you can use Extended Lock to switch between these instantly, or morph between them synchronized to the tempo of your Project. Lock snapshots are a powerful tool for extensive modulations, but also very useful to compare mixes or to switch up snapshots during a live performance.

The Lock button is used to create and recall a single snapshot, and when used in addition to Extended Lock, snapshots can be managed; allowing you to update them, clear unwanted snapshots, and organize them exactly the way you want.

11.5.1. Creating a Lock Snapshot

Use the Lock button to capture, update, or recall a single Lock snapshot.

To create a Lock snapshot:

1. Press the **CHANNEL** or **PLUG-IN** button.
 2. Press **LOCK** to take a snapshot.
 - The **LOCK** button is highlighted to indicate a single snapshot has been taken. You are now free to change parameters or Mute and Solo settings, safe in the knowledge you can recall your snapshot.
 3. Press **LOCK** to recall the snapshot.
 - The Lock snapshot is recalled and the **LOCK** button ceases to be highlighted. You can access your snapshot in Extended Lock mode. For more information on Extended Lock, see [Using Extended Lock](#). If you find better settings press the **LOCK** button again to update the snapshot.
- ▶ Press **SHIFT + FILE (Save)** to save your Project.

11.5.2. Using Extended Lock

Extended Lock presents an overview of all your Lock snapshots. Here you can recall, update, or clear your snapshots. You can also set options for morphing between snapshots.

To enter Lock view:

- ▶ Press **SHIFT + LOCK (Ext Lock)**.
- The pads change to provide an overview of all your Lock snapshots. The dimly-lit click-pads represent your stored snapshots. The brightly lit Pad represents the selected snapshot.

11.5.3. Updating a Lock Snapshot

If you have created a Lock snapshot but find better settings you can update the Lock snapshot. There are two ways to achieve this, you can use the Lock option or Update option directly within Extended Lock. Please note, both methods will overwrite the selected in Extended Lock mode.

To update a stored Lock snapshot:

1. Press the **CHANNEL** or **PLUG-IN** button.
2. Press **SHIFT + LOCK (Ext Lock)**.
3. Select the pad containing the snapshot you want to update. If necessary, press Button 7 or 8 to access a Lock snapshot from another bank.
 - The selected snapshot will illuminate to indicate it is in focus.
4. Press the **LOCK** button to exit the Extended Lock view.
5. Adjust the settings until you are ready to update the snapshot. You can use Buttons 5 and 6 to switch between Channel parameters and Plug-in parameters.
6. Press **SHIFT + LOCK (Ext Lock)** to return to the Extended Lock view.
7. Press button 5 **UPDATE** to update your snapshot.
 - The selected snapshot is updated.

Repeat the process to update other Lock snapshots.

11.5.4. Recalling a Lock Snapshot

Within Extended Lock, you can recall a stored Lock snapshot.

To recall a Lock snapshot:

1. Press the **CHANNEL** or **PLUG-IN** button.
2. Press **SHIFT + LOCK (Ext Lock)**
3. Select the snapshot you want to recall from the pads. If necessary, press Button 7 or 8 to access a Lock snapshot from another bank.

The snapshot is recalled and parameters return to their stored setting. You can also morph between settings using the settings in the on-screen overlay.

11.5.5. Morphing Between Lock Snapshots

When switching between two stored snapshots you can set MASCHINE to morph between them, adding movement and interest to a song. Within Extended Lock, you can switch on morphing, and set the morph sync and timing parameters.

To morph between your Lock snapshots:

1. Press the **CHANNEL** or **PLUG-IN** button.
2. Press **SHIFT + LOCK (Ext Lock)**.
3. Turn knob 1 to turn the **MORPH** setting on.

4. Adjust the Morph mode and time to your requirements. A description of each mode is described in the table below.
- As you switch between your snapshots a controlled transition from one to another at the selected time rate can be heard.

Element	Description
MORPHING	
MORPH	Select to switch morphing ON or OFF mode.
MODE	<p>TRAVEL will morph the selected snapshots without syncing to the grid. The morph will begin instantly instead of waiting until the next bar begins. The duration of the morph is set using the TIME parameter.</p> <p>TARGET will morph in sync to the downbeat when set to Bar, or to the selected Grid value.</p>
TIME/GRID	<p>In TRAVEL mode the duration of the morph will last for the number of Bars set here.</p> <p>In TARGET mode the duration of the morph is set according to the Grid value set here.</p>

11.5.6. Deleting a Lock Snapshot

Within Extended Lock, you can delete a stored Lock snapshot.

To delete a Lock snapshot:

1. Press the **CHANNEL** or **PLUG-IN** button.
2. Press **SHIFT + LOCK (Ext Lock)**.
3. Press the pad containing the snapshot you want to delete. If necessary, press Button 7 or 8 to access a Lock snapshot from another bank.
4. Press button 6 (**DELETE**) to delete a snapshot.
5. Press the pad containing the snapshot you want to clear.

The snapshot is cleared.

12. Working with Patterns and Clips

You can build your Song in MASCHINE+ using either Patterns or Clips, or a combination of both. Patterns and Clips each have their advantages depending on your preferred workflow and goals.

Clips only exist in the Song view (timeline) and are unique, while Patterns are referenced objects that exist in both the Ideas view and Song view. This means Patterns are great when you want to create single-sourced sequences, and Clips provide flexibility when you need one-off unique sound bites that can be freely positioned on the timeline. Therefore, if you copy a Clip to multiple places and change one of the Clips, only the one you edited is changed. However, if you use a Pattern in multiple places, and change one Pattern, all occurrences of this Pattern are changed (unless you use the “make unique” feature or convert it into a Clip beforehand). For added flexibility, Clips can be freely positioned and moved across the timeline. They can be part of a section, but can also exist outside a section or span across multiple sections.

To summarize, here’s an overview of Patterns and Clips basics:

- They both contain events (also called “notes”) that make up a groove or a musical phrase using the Sounds of the selected Group.
- They both also contain modulation data (if any) modifying the value of parameters in that Group or any of its Sounds.
- They can both be edited in the Editor, however, only the selected Pattern or Clip will appear in the Editor.

Patterns versus Clips

This section provides an overview of the differences between Patterns and Clips.

Patterns

Here are the features of Patterns:

- Patterns exist in the Ideas view and Song view. They act as the building blocks for developing ideas in Ideas view and can be added to Scenes in Song view to create an arrangement.
- You can reference the same Pattern in different Scenes. When you modify a Pattern in the Pattern Editor, all references to this Pattern are updated in the Song view (unless you use the “make unique” feature or convert into a Clip beforehand).
- When added to the Song view Patterns maintain a fixed position on the timeline of the arrangement relative to the Scene.
- A Pattern can be converted into a Clip. This creates a unique version of the Pattern that can be freely placed on the timeline of the arranger.
- Only one Pattern from each Group can be added to a Scene.
- A Pattern belongs to a Group and is saved together with the Group. Each Group can have an unlimited number of Patterns.

Clips

Here are the features of Clips:

- Clips exist only in Song view. Clips can be used in addition to Patterns. They are great for adding, for example, one-shot sounds, transitions, and vocal, etc.
- Unlike Patterns, they are unique entities that can be freely positioned and moved across the timeline of the arranger in the Song view.
- If you copy a Clip to multiple places and change one Clip, only the one you edited will be changed.

- They can be part of a section, but can also exist outside a section or span across multiple Sections.
- Whenever a Clip is placed on top of a Pattern, you will only hear the Clip.
- In Song view, Clips appear in a fully saturated color, while Patterns will have a slightly dimmed color state.

12.1. Navigating between Patterns and Clips

MASCHINE provides a simple way to switch between Pattern view and Clip view for ease of use and to speed up your workflow.

To navigate to Pattern view:

1. Press **PATTERN**.
2. Press Button 1 (**PATTERN**).

→ Pattern view is displayed. Press Button 1 again to pin or unpin Pattern view.

To navigate to Clip view:

1. Press **PATTERN**.
2. Press Button 2 (**CLIP**).

→ Clip view is displayed, and MASCHINE switches to Song mode. Press Button 2 again to pin or unpin Clip view.



You can also quickly enter Clip view by pressing **SHIFT + PATTERN**.

12.2. Working with Patterns

The following section describes in detail how to work with Patterns.

12.2.1. Deleting Events or Notes

MASCHINE+ provides you with several tools to delete events from the current Pattern.

Quick Deleting Events or Notes

The quickest and easiest way to delete events is the following:

- ▶ Press **EVENTS + ERASE** + the desired pad to delete from the Pattern all events for that Sound (if pads are in Pad Mode) or all notes at that pitch for the focused Sound (if pads are in Keyboard mode).

As soon as you hold **EVENTS + ERASE**, some pads light up to indicate where there is something to delete:

- ▶ If your pads are in Pad 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 focused 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 **EVENTS + ERASE** you can press several pads to delete their events.



If you accidentally delete events, press **SHIFT + Pad 1 (UNDO)** to undo it.

Deleting the Selected Events or Notes

Once you have selected particular events, you can delete them from the Pattern:

- ▶ Press **SHIFT + Pad 9 (CLEAR)** to erase the selected events. If nothing is selected, all events/notes in the Pattern will be affected.

Deleting Events or Notes while Playing

If the sequencer is currently playing, you can selectively erase events 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 Pad Mode) or the notes at that pitch for the focused Sound (if pads are in Keyboard mode) as they are reached by the playhead.
- As long as you hold the pad, the corresponding events are deleted as the playhead 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.

Deleting Events for the Entire Group at Playback Position

You can erase events for all Sounds in the Group at the playback position.

- ▶ While the Pattern is playing, hold **ERASE** + the desired Group button **A–H** to progressively delete events for all Sounds in that Group as they are reached by the playhead.

Deleting Events or Notes via the Transport Functions

If the sequencer is not currently playing, you can erase events on either side of the playhead by manually moving the playhead:

- ▶ While playback is off, hold **ERASE** and turn the 4-D encoder to jump to the previous/next step and delete all events found on the way for the selected Sound(s).

Please note the following:

- If multiple Sounds are selected, all of them will be affected.
- The jumps are based on the step size that is on the Step Grid setting. The command has the same effect whether your pads are in Pad Mode or in Keyboard mode.

12.2.2. Quick Edit in Step Mode

In Step mode and Keyboard mode, you can quickly adjust the position, pitch, velocity, and length of any number of steps in Step mode via the Quick Edit shortcuts.

Adjusting the Position

To finely adjust the position of the selected steps:

1. Press **STEP**.
 2. Press the pads representing the steps you want to adjust or select single steps using the 4-D encoder.
 3. Turn Knob 1 to adjust the **POSITION** value or nudge the step by pushing the 4-D encoder left or right.
- The position of the selected steps is adjusted and the current value is visible on the displays.

Adjusting Pitch

1. To adjust the pitch of the selected steps:
 2. Press **STEP**.
 3. Press Button 3 **KEYBOARD**.
 4. Press the pads representing the steps you want to adjust or select single steps using the 4-D encoder.
 5. Turn Knob 2 to adjust the **PITCH** value.
- The pitch of the selected steps is adjusted and the current value is visible on the displays.

Adjusting the Velocity

To finely adjust the velocity of the selected steps:

1. Press **STEP**.
 2. Press the pads representing the steps you want to adjust or select single steps using the 4-D encoder.
 3. Turn Knob 3 to adjust the **FIX VEL** value.
- The velocity of the selected steps is adjusted and the current value is visible on the displays. All new steps will also use this selected value.

Adjusting the Length

To finely adjust the length of the selected steps:

1. Press **STEP**.
 2. Press the pads representing the steps you want to adjust or select single steps using the 4-D encoder.
 3. Turn Knob 4 to adjust the **LENGTH** value.
- The length of the selected steps is adjusted and the current value is visible on the displays.



If you have a long Pattern and cannot see the steps you want to edit on the right display, press Button 5 (**FOLLOW**) to see each section of the Pattern.

12.2.3. Deleting Groups and Sounds

Using shortcuts it's possible to delete Groups and Sounds from your Project.

To delete a Group from your Project:

1. Hold **SHIFT + ERASE**.
 2. Then press the Group (**A–H**) you want to delete.
- The selected Group and all of its Sounds are deleted.

To delete a Sound from your Project:

1. Hold **SHIFT + ERASE**.
 2. Then press the pad (**1–16**) of the sound you want to delete.
- The selected Sound and any applied effects are deleted from the pad.

12.2.4. Quantizing Your Pattern

Quantization is the process of moving events to the closest steps. You can quantize your notes at any time, no matter how you recorded them. They will be quantized according to the step size (i.e. Step Grid resolution) selected. If you turn the Step Grid off, no quantization will be applied. See section [Setting the Step Grid](#) and the Nudge Grid above for more information on the Step Grid and the step size.

There are two strengths of quantization:

- **Full quantization:** Moves each event directly onto the closest step of the current Step Grid. This allows a perfectly regular rhythm.
- **Half quantization (50%):** Moves each event halfway toward the closest step of the current Step Grid. This allows a tighter rhythm while retaining a human feel.

You can quantize your notes at any time, no matter how you recorded them. They will be quantized according to the step size (Step Grid resolution) selected. If you turn the Step Grid off, no quantization will be applied. For more information on Setting the Step Grid, see [Setting the Step Grid](#).



You can also choose to have notes automatically quantized as you record them on the pads. For more information, see [General Settings](#).

To apply full or half quantization:

1. Select the events you wish to quantize. If nothing is selected, the whole Pattern content will be quantized.
2. To apply full quantization to the selected events, press **SHIFT + Pad 5 (QUANTIZE)**.
3. To apply only a bit of quantization to keep the groove you created by playing your notes live, press **SHIFT + Pad 6 (QUANTIZE 50%)**.



You can repeatedly apply **QUANTIZE 50%** until you are happy; you could, for example, apply it until the notes are close enough to the Step Grid 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.

12.2.5. Doubling a Pattern

You can quickly double the length and content of the current Pattern using the Double feature in the Pad view.

To double the length and content of a Pattern:

1. Press the **PATTERN** button to enter the Pattern view.
2. Press the Pad representing the Pattern you want to double.
3. Press Button 3 (**DOUBLE**)



Keep in mind that doubling a Pattern twice results in a Pattern that is four times as long.

12.2.6. Clearing a Pattern

It's possible to clear all events within a Pattern using a shortcut.

To clear a Pattern:

1. Press the Pad representing the Pattern you want to clear.
 2. Press **SHIFT** + Pad **9**.
- All events are cleared from the Pattern, leaving the Pattern empty.

12.2.7. Deleting a Pattern

It's possible to delete Patterns using a shortcut.

To delete a Pattern:

1. Press **PATTERN**.
2. Press the Pad representing the Pattern you want to delete.
3. Press Button 6 (**DELETE**).

12.2.8. Duplicating a Pattern

You can copy a Pattern to the Pattern slot of your choice using a shortcut.

To copy a Pattern to the Pattern slot of your choice:

1. Press and hold **PATTERN** to enter Pattern mode (you can pin it by pressing Button 1).
 2. Press and hold **DUPLICATE**.
 3. Press the Pad representing the Pattern you want to copy.
- The Pad starts flashing.
4. Press the target Pad to copy over the Pattern.

12.2.9. Transposing a Pattern

You can transpose selected events or whole Patterns by semitones or octaves:

- To transpose the selected events down in semitones, press **SHIFT + Pad 13 (SEMITONE-)**.
- To transpose the selected events up, press **SHIFT + Pad 14 (SEMITONE+)**. If nothing is selected, all events/notes in the Pattern will be affected.
- To transpose the selected events down in octaves, press **SHIFT + Pad 15 (OCTAVE-)**.
- To transpose the selected events up, press **SHIFT + Pad 16 (OCTAVE+)**. If nothing is selected, all events in the Pattern will be affected.

12.2.10. Cutting, Copying, and Pasting Events/Notes

To copy and paste selected events:

1. To copy the selected events, press **SHIFT + Pad 11 (COPY)**.
 2. If you want to cut the selected events before pasting them, press **SHIFT + Pad 9 (CLEAR)** to delete the original events.
 3. To paste them, press **SHIFT + Pad 12 (PASTE)**.
- The events will be pasted according to the same rules as to when using the keyboard shortcuts in the software (see above). If no event is selected, all displayed events will be affected: in Keyboard view these are all events of the focused Sound; in Group view these are all events of all Sounds within the Group. You can also copy events from one Pattern to another: to do this, copy the selected events, select the Pattern you want to copy them to, and then paste them.

12.2.11. Adding Variation to Patterns

Variation provides an abundance of inspiration and even “happy accidents” when applied to your workflow. The variation engine contains two modes:

- **Humanize:** This mode adds natural rhythmic fluctuations to programmed sequences.
- **Random:** This mode provides randomly generated patterns or variations of your beats and melodies based on customizable values.

Variation is available in both Pad mode and Keyboard mode and can be applied to a Sound. In Keyboard mode, the Random mode contains extra parameters that allow you to add variety to melodic content.



When adding Variation to your Patterns, be aware that Random mode conforms to the selected Scale.

To access Variation mode:

1. Select the Group (**A–H**) containing the Sound to which you want to apply the variation.
2. Press **SELECT + Sound (1–16)**.
3. Press **VARIATION** to access the Variation controls.



Press Button 1 to pin the Variation page.

The following table describes the function of each parameter in the Variation page:

Element	Description
HUMANIZE	This mode provides natural rhythmic fluctuations to your programmed sequences based on the values of the parameters of this mode.
RANDOM	This mode creates randomly generated versions of your beats and melodies based on the values of the parameters of this mode.
APPLY	Applies the current settings to the selected Sound.

Humanize Mode Parameters

Element	Description
Apply	Applies the current settings to the selected Sound.
VELOCITY RANGE	
Velocity Lo	Adjust notes with a velocity no lower than the set value.
Velocity Hi	Adjust notes with a velocity no higher than the set value.
TIME SHIFT	
Step	Set the amount of time shift per step. The value is applied to all notes and will move them randomly in both plus and minus values according to the overall percentage set here.
	Step can be changed from +/- 0-50% in 5% increments. Press SHIFT to change in finer increments of 1%.

Random Mode Parameters

Element	Description
PROBABILITY	
	(Keyboard mode)
Probability	Set the probability of how often a note is created.
	At 50% a note may or may not be created at each step.
	At 100% a note will be created at every step of the Pattern.
	Probability can be changed from 10-100% in 10% increments. Press SHIFT to change in finer increments of 1%.
NOTE RANGE	
	(Keyboard mode)
Note Lo	Create notes no lower than the set value.
Note Hi	Create notes no higher than the set value.
VELOCITY RANGE	
Velocity Lo	Create notes with a velocity no lower than the set value.

Element	Description
Velocity Hi	Create notes with a velocity no higher than the set value.
CHORDS	
(Keyboard mode)	
Note Count	Set the number of notes that are available to make up a chord per step. This is also calculated in relation to the Note Count set in the DISTRIBUTIONS section. The Note Count range is from 1 to 6 .
NOTE LENGTH	
Steps	Set the length of a note in steps. The value ranges from 1 to 6 steps per note. Press SHIFT to change in finer increments.
TIME SHIFT	
Step	Set the amount of time shift per step. The value is applied to all notes and will move them randomly in both plus and minus values according to the overall percentage set here. Time shift can be changed from +/- 0-50% in 5% increments. Press SHIFT to change in finer increments of 1%.
DISTRIBUTIONS	
Note Count	Fixed: The note count is fixed. The value set in the Note Count of the CHORDS section will take precedent here.
(Keyboard mode)	Equal: The note count will be evenly distributed across the NOTE RANGE . Gauss: The note count is likely to be distributed to the middle section of the NOTE RANGE . ½ Gauss: The note count more is likely to be distributed to the middle and lower section of the NOTE RANGE .
Notes	Equal: Notes will be evenly distributed across the Pattern in accordance with the Step Grid.
(Keyboard mode)	Gauss: Notes are more is likely to be distributed to the middle part of the note range. ½ Gauss: Notes are more likely to be distributed to the middle and lower part of the Pattern in accordance with the Step Grid.

Element	Description
Note Length	<p>Fixed: Notes will have the same length across the Pattern.</p> <p>Equal: Note lengths will be evenly distributed across the Pattern.</p> <p>Gauss: Note lengths in the middle part of the pattern are more likely to be shorter.</p> <p>½ Gauss: Note lengths in the middle to lower part of the pattern are more likely to be shorter.</p>

12.2.12. Duplicating a Sound

Using the Duplicate button you can copy a Sound from one Pad to another.

To copy Sounds:

1. Press and hold **DUPLICATE**.
 2. If you want to duplicate a Sound including its Pattern content, press Button 5 to enable the **+Events** option.
 3. Press the pad of the Sound you want to copy. The pad of the Sound starts blinking.
 4. Press the pad of the target Sound slot (this can also be in another Group, in this case, first press **GROUP**, then the pad of the desired Group, then **GROUP** again to deactivate it).
- All parameters of the Sound will be copied (including the Pattern content for that Sound if you have enabled the **Copy Events** option). The copied Sound will replace any Sound previously loaded in the target Sound slot.

12.2.13. Duplicating a Group

Using the Duplicate button you can copy a Group from one Group button to another:

To duplicate a Group:

1. Press and hold **DUPLICATE**.
 2. If you want to duplicate a Group including its Patterns, enable the **+EVENT** option (Button 5).
 3. Press the Group button of the Group you want to copy. The Group button starts blinking.
 4. Press the Group button of your target Group (this can also be in another Group bank, in this case, first press Button 3/4 to select the Group bank). If you want to paste the Group without affecting the existing Groups, press the dim white Group button after the last colored Group button to create the new Group and automatically paste the copied Group there.
- All parameters of the Group (all included Sounds, Group effects, Group's Channel properties) will be copied (including its Patterns in the Arranger if you have enabled the **+EVENT** option). The copied Group will replace the Group previously at that position in the Group List.

You will notice that once you have pasted the Group, the target Group button starts blinking itself, indicating that it is ready to be pasted again: Therefore, to duplicate a Group more than once, once you have pressed the source Group button you just have to press all the desired target Group buttons in a row.

12.3. Working with Clips

The following section explains in detail how to work with Clips.



For an overview of Patterns and Clips, see [Working with Patterns and Clips](#).

12.3.1. Creating a Clip

A new Clip can be created anywhere on the arranger in the Song view.



Clips can also be created directly on top of Patterns. In this instance, you will only hear the Clip during playback.

To create a Clip in the Arranger:

1. Hold **SHIFT + IDEAS (Song)**.
2. Then press Button 2 (**SONG**) to select the Song view.
3. Press Button 2 (**CLIP**) to select Clips.
4. Press Button 5 (**CREATE**) to create a new Clip.

→ A new Clip is created in the Arranger.

Alternatively, you can access the Clip view as follows:

1. Press **SHIFT + PATTERN**.
2. Release **SHIFT**.
3. Press Button 5 (**CREATE**).



You can pin the Clip page by pressing Button 1.

12.3.2. Deleting a Clip

Clips can be deleted from the Arranger and Editor in Song view.

To delete a Clip:

1. Press **SHIFT + PATTERN**.
2. Release **SHIFT**.
3. Press Button 6 (**DELETE**).

12.3.3. Doubling a Clip

The size of a Clip can be doubled in the Song view.

To double the length of a Clip:

1. Press **SHIFT + PATTERN**.
2. Release **SHIFT**.
3. Press Button 3 (**DOUBLE**).

12.3.4. Duplicating a Clip

Using the duplicate function enables you to make a copy of a Clip.

To duplicate a Clip:

1. Press **SHIFT + PATTERN**.
2. Release **SHIFT**.
3. Press Button 4 (**DUPLICATE**).

12.3.5. Clearing a Clip

Clearing a Clip allows you to remove all of its Events, leaving the Clip empty.

To clear a Clip in Song view:

1. Select the Clip you want to clear using the left and right Page buttons (arrow buttons).
2. Press **SHIFT + Pad 9**.

12.3.6. Adjusting the Length of a Clip

In the Song view, you can adjust the length of a Clip. When you adjust the length, it snaps to the nearest position on the grid, using the current Arrange Grid value. You can override the grid by holding down **SHIFT** while dragging the Clip.

To adjust the length of a Clip:

1. Hold **SHIFT + IDEAS (Song)**.
2. Then press Button 2 (**SONG**) to select the Song view.
3. Press Button 2 (**CLIP**) to select Clips.
4. Press and turn the 4-D encoder to adjust the length of the selected Clip. Alternatively, you can also turn Knob 4.

→ The length of the Clip is adjusted.

12.3.7. Adjusting the Start of a Clip

In Song view, you can adjust the start of a Clip. When you adjust the start point, it snaps to the nearest position on the grid, using the current Arrange Grid value.

To adjust the start of a Clip on the Arranger:

1. Hold **SHIFT + IDEAS (Song)**.
2. Then press Button 2 (**SONG**) to select the Song view.
3. Press Button 2 (**CLIPS**) to select Clips.
4. Turn the 4-D encoder to select the Clip you want to adjust.

5. Turn Knob 3 to adjust the start of the selected Clip.

→ The start of the Clip is adjusted.



Press **SHIFT** to override the Arranger Grid and adjust the Clip in smaller intervals.

12.3.8. Repositioning a Clip

In the Song view, a Clip can be moved to a different position within the same Group. This enables you to place a Clip exactly where you want on the timeline.

To reposition a Clip on the Arranger:

1. Hold **SHIFT + IDEAS (Song)**.
2. Then press Button 2 (**SONG**) to select the Song view.
3. Press Button 2 (**CLIPS**) to select Clips.
4. Use the 4-D encoder to select the clip you want to adjust.
5. Nudge the 4-D encoder left or right to reposition the selected Clip.

→ Nudging the 4-D encoder left or right moves the selected Clip relative to the current Arrange Grid value. Pressing **SHIFT** while nudging moves the selected Clip relative to the current Step Grid value.



To select a new Grid value, press **SHIFT + FOLLOW (Grid)**, and then press Button 3 (**ARRANGE**) or Button 4 (**STEP**). To change the value of the selected Grid, press the pad relative to the value you want to use.

12.3.9. Inserting Scenes to an Arrangement as Clips

Once you are satisfied with a Scene you can insert it directly as Clips to your arrangement in the Song view.

To insert a Scene to the arrangement as Clips:

1. Hold **SHIFT + IDEAS (Song)**.
2. Then press Button 1 (**IDEAS**) to enter Ideas view.
3. Press and hold **SCENE (Section)** to enter Scene mode.
4. Press Button 3 (**APPEND**).
5. Press the pad corresponding to the Scene you want to append. You can do this more than once, tapping a series of pads will add all of those Scenes into Sections at the end of the Arranger in one quick step.

13. Audio Routing, Remote Control, and Macro Controls

This chapter describes a few important topics and features of MASCHINE's routing and assignment system. Understanding these will be of great help in numerous MASCHINE workflows. This section will explain:

- How the audio routing works in MASCHINE+ and how to take advantage of its flexibility, see [Audio Routing](#).
- How to route MIDI signals to and from your Sounds and Groups, and how to control MASCHINE+ parameters via MIDI: [Using MIDI Control](#).
- How to use the powerful Macro Controls to greatly improve your live experience by putting the desired parameters at your fingertips: [Creating Custom Sets of Parameters with the Macro Controls](#).

The Channel Properties

Most of the features described here can be accessed via the **Channel properties**. Channel properties are global settings that apply to a particular Sound, Group, or to the Master independently of which Plug-ins are loaded in its Plug-in slots.

Channel properties are organized into four sets. Similar sets of properties are available for all channels (Sounds, Groups, and Master): **Input properties** (unavailable for the Master), **Output properties**, **Groove properties**, and **Macro properties**.

You can access Channel properties and their parameters via the same procedure as for Plug-ins. Please refer to section [Navigating Channel Properties, Plug-ins, and Parameter Pages](#) for a detailed description.

The Input properties, Output properties, and Macro properties are covered in the following sections. For more information on the Groove properties, please refer to section

13.1. Using MIDI Control

MASCHINE+ provides you with flexible MIDI remote control and host automation facilities that can be used in many situations.

Incoming MIDI

The Master, Groups, and Sounds can be controlled via MIDI:

- By default, all MIDI data incoming on the enabled MIDI input port(s) will be received by the focused Sound of the focused Group. See [MIDI Settings](#) to find information on how to enable/disable MIDI input ports in MASCHINE+.
- **Triggering Sounds via MIDI notes:** By default, incoming MIDI notes will trigger the focused Sound. You can change this default behavior and map incoming MIDI notes differently in order to adapt MASCHINE+ to your requirements. The appropriate MIDI settings can be configured in the **MIDI** page of the Input properties, both for individual Sounds and for entire Groups. These are described in section [Triggering Sounds via MIDI Notes](#).

Outgoing MIDI

You can also **send MIDI data from Sounds**. This enables you to record your performance on the pads as a MIDI pattern on another device. This is described in section [Sending MIDI from Sounds](#).

13.1.1. Sending MIDI from Sounds

Your Sounds can output MIDI notes and automation data to the outside world, allowing you to control any MIDI-capable application and/or external MIDI gear from MASCHINE+.

With its MIDI output enabled, a Sound will send:

- MIDI notes corresponding to the notes played by that Sound in the current Pattern.
- MIDI notes corresponding to your hits on the pads.
- All events of the MIDI tracks you might have created in the MIDI Automation.



A Sound without any Plug-in loaded can still send the MIDI data listed above! Furthermore, if the Sound has no Plug-in it will forward any incoming MIDI notes to its MIDI output. To know how to configure the MIDI note input of Sounds, please refer to section [Triggering Sounds via MIDI Notes](#).

The MIDI output of Sounds is configured on the **MIDI** page of the Output properties for Sounds.

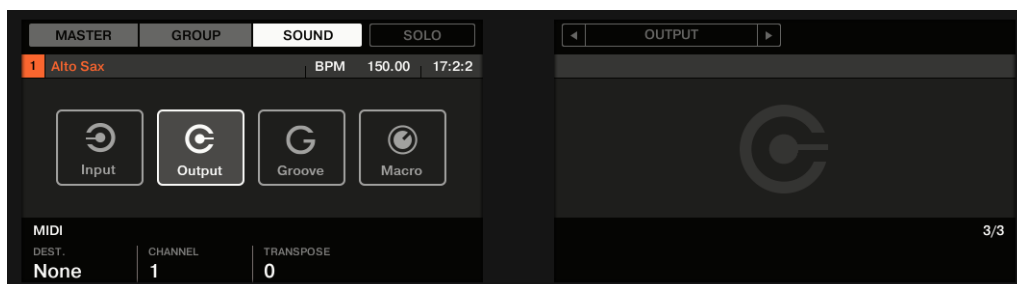


The **MIDI** page of the Output properties is available for Sounds only.

To access the MIDI Output page:

1. Press **CHANNEL**.
 2. Press Button 3 (**SOUND**).
 3. Use the 4-D encoder to select **Output**.
 4. Press the right Page button to select page 3 **MIDI**.
- The settings can now be adjusted using the Knobs.

The MIDI page of the Output properties for a Sound in the software.



The MIDI page of the Output properties for a Sound



Please refer to section [Navigating Channel Properties, Plug-ins, and Parameter Pages](#) to learn how to access the **MIDI** page of the Output properties.

Control	Description
MIDI Section	
Dest.	<p>Selects the MIDI port on which the Sound will send MIDI data.</p> <p>If MASCHINE+ is running in Stand-alone mode, available entries are None (MIDI output deactivated, default setting), every activated MIDI output port, as well as any Sound in the same Group containing a Plug-in that can receive MIDI (multitimbral Plug-in). Check the MIDI page of the Settings page to enable the desired MIDI output ports on your MIDI interfaces (see MIDI Settings).</p> <p>If MASCHINE+ is in Controller mode and the MASCHINE software is running as a plug-in in a host application, the entries for the activated MIDI output ports are None (MIDI output deactivated, default setting) and Host. If Host is selected, MASCHINE will forward the MIDI data from the Sound to the host application. This notably allows you to record what you play on the pads as MIDI files in your host.</p>
Channel	Selects the MIDI channel on which the Sound will send MIDI data. By default Sound slot 1 will send MIDI data on channel 1, Sound slot 2 on channel 2, etc.
Transpose	Applies an offset to the MIDI note numbers before the notes are sent. Values range from -48 (downward transposition by 48 semitones, for instance, four octaves) to +48 (upward transposition by 48 semitones, for instance, four octaves). The default value is 0.

13.2. Audio Routing

MASCHINE+ offers a powerful audio routing system that you can finely customize to fit your specific needs.

To make it short, by default the various channels are structured in a simple, hierarchical way:

- At the bottom level, each Sound has its own channel. The output of the Sound's channel is sent to its parent Group.
- At the mid-level, each Group has its own channel, which sums all channels of the included Sounds. The output of the Group's channel is sent to the Master.
- At the top level, the Master has its own channel, which sums the channels of all Groups and ends up at the main output of MASCHINE+. The output of the Master's channel is sent to your amplification system.

This default basic configuration can be customized in numerous ways. Using the audio settings available in the Input and Output properties at the Sound, Group, and Master level, you can build complex routing that covers a wide range of situations, as you will see in the next sections:

- Feed external audio to the input of your Sounds: [Sending External Audio to Sounds](#).
- Adjust the main output of your Sounds and Groups, and route it to various destinations: [Configuring the Main Output of Sounds and Groups](#).
- Send auxiliary outputs of your Sounds and Groups to other destinations: [Setting Up Auxiliary Outputs for Sounds and Groups](#).
- Choose the destination and settings for the Master output as well as for the Cue bus used for pre-listening: [Configuring the Master and Cue Outputs](#).

Configuring the Audio Routing

All the procedures described in the following sections make use of the Channel properties. To follow these procedures, switch to Control mode and navigate to the desired Channel properties as described in section [Navigating Channel Properties, Plug-ins, and Parameter Pages](#).

13.2.1. Sending External Audio to Sounds


Each Sound can be configured to receive external audio signals. These audio signals can be coming from the following sources:

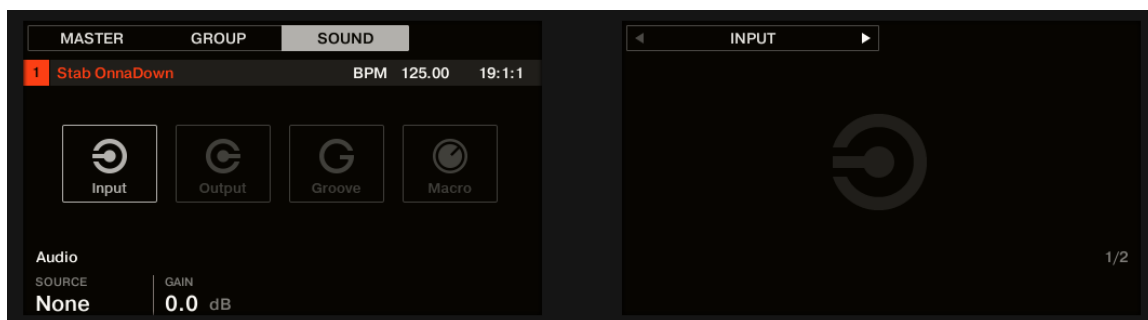
- Outside MASCHINE+ from the audio inputs or from a connected audio interface.
- Additional outputs of multiple-output Plug-ins that might be loaded somewhere else in your Project.

Each Sound can use one external stereo input. The same external signal can be fed into any number of Sounds.


For example, this allows you to have any external audio signal be processed by the Plug-ins loaded in that Sound, and more generally, integrate external audio signals into the MASCHINE+ routing and processing system. See also section [Applying Effects to External Audio](#) for an example of use and step-by-step instructions.

The configuration of external audio inputs for a Sound is done on the **Audio** page of the Sound's Input properties.

 The **Audio** page of the Input properties is available for Sounds only.



The AUDIO page of the Input properties for a Sound

 Please refer to section [Navigating Channel Properties, Plug-ins, and Parameter Pages in the Control Area](#) to learn how to access the **Audio** page of the Input properties.

Controls	Description
AUDIO Section	

Controls	Description
Source	Selects an external audio input to be routed to the Sound. Available entries are None (no external input) and the four external stereo inputs Ext. 1–4 , as well as any additional output(s) of multiple-output Plug-ins loaded in other Sounds of the same Group. Check the Routing page of the Audio Settings (see, Audio Settings) to route the physical inputs of your audio interface to the virtual audio inputs of MASCHINE+.
Gain	Adjusts the gain of the incoming signal.

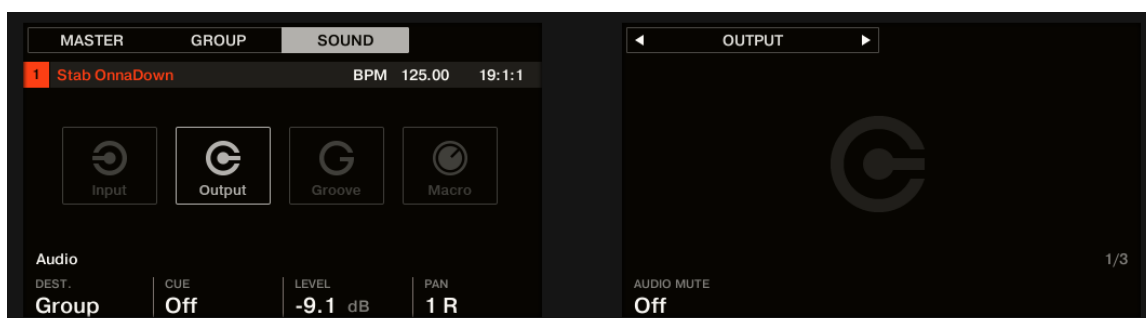
i To access and change Channel properties or Plug-in parameters, simply use the common workflow described in [Navigating Channel Properties, Plug-ins, and Parameter Pages](#). Furthermore, you will find a step-by-step use case in [Applying Effects to External Audio](#).

13.2.2. Configuring the Main Output of Sounds and Groups

By default the outputs of all Sounds in a Group are sent to this Group, where they are mixed together and processed by the Plug-ins loaded in the Group if any have been added. Similarly, by default, the outputs of all Groups are sent to the Master, where they are mixed together and processed by the Plug-ins loaded in the Master if any have been added.

This default behavior can be customized to your liking: You can adjust the level and panoramic position of the channel output, or send it to the Cue bus for pre-listening. Furthermore, you could send individual Sounds or whole Groups to other pairs of outputs on your audio interface in order to process them separately at a later stage. The output routing configuration is done on the **Audio** page of the Output properties for Sounds and Groups.

i We describe here the **Audio** page of the Output properties for Sounds and Groups only. The equivalent page for the Master will be described in section [Configuring the Master and Cue Outputs](#).



The AUDIO page of the Output properties (here for a Sound)

Controls	Description
AUDIO Section	

Controls	Description
Dest.	<p>Selects where you want to send the main audio output of your channel.</p> <p>For Sounds, available options are None (no output), Master, Group (parent Group, default setting), any other Group or any other Sound acting as bussing point (i.e. containing an Effect Plug-in in its first Plug-in slot), as well as the 16 external stereo outputs Ext. 1–16.</p> <p>For Groups, available options are None (no output), Master (default setting), any other Group acting as bussing point (i.e. containing an Effect Plug-in in its first Plug-in slot), any Sound acting as bussing point in any other Group, as well as the 16 external stereo outputs Ext. 1–16.</p> <p>The available bussing points are labeled as described below.</p>
Cue	<p>When Cue is enabled, the main output of the channel is sent to the Cue bus instead of its normal target (defined in Dest., see above). For example, this is very useful to pre-listen a channel before you mix it in your performance.</p> <p>Note that when Cue is enabled, the channel's Aux 1 and Aux 2 outputs are muted as well, but they are not sent to the Cue bus (see Setting Up Auxiliary Outputs for Sounds and Groups).</p>
Level	Adjusts the overall volume level of the channel.
Pan	Defines the pan position of the channel in the stereo field.
Audio Mute (Sounds only)	If you enable Audio Mute , muting this Sound will not only bypass its events but also mute its audio output, thereby muting any audio tails from notes already played. See section for more information.



If MASCHINE+ is in Controller mode and the MASCHINE software is running as a plug-in, the external stereo outputs **Ext.1–16** available in the **Dest.** selector of the **MAIN** section will correspond to virtual outputs in your host. This allows you to send individual Sounds or Groups from MASCHINE to their own mixer channels within your DAW, for example.

Labels for Bussing Points in the Dest. Selector

The various bussing points available in the **Dest.** selector (described in the table above) are labeled differently in the drop-down menu and in the display of the selector:

- In the drop-down menu they are labeled as follows:
 - For Groups: **[Group name]** (for example, **Drums**).
 - For Sounds: **[Group name]: [Sound name]-[input number]** (for example, **Drums: Kick-1**).
- In the selector display they are labeled as follows:
 - For Groups: **[Group letter+number]** (e.g., **A2**).
 - For Sounds: **[Group letter+number]:S[Sound number]-[input number]** (for example, **A2:S4-1** for the first input of the Sound 4 of Group A2).

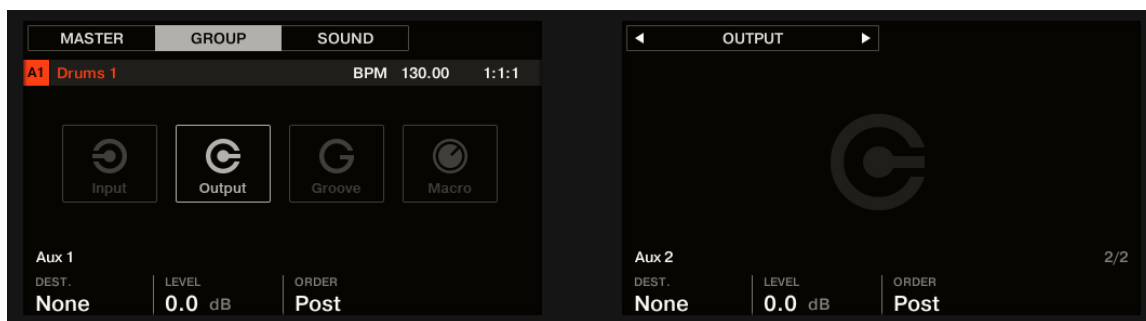
i The bussing points available in the **DEST.** parameter are labeled as in the selector display described above.

13.2.3. Setting Up Auxiliary Outputs for Sounds and Groups

Each Sound or Group of your Project provides two auxiliary outputs that you can route to additional targets. For example, you can send a definable amount of the channel's audio output to other channels for further processing. This is notably used in send effects, see section [Creating a Send Effect](#) to learn how to set up a classic send effect.

The auxiliary outputs of a Sound/Group are configured on the **Aux** page of the Output properties.

i There is no **Aux** page in the Output properties of the Master.



The AUX page of the Output properties (for a Group shown here)

i Please refer to section [Navigating Channel Properties, Plug-ins, and Parameter Pages](#) to learn how to access the **Aux** page of the Output properties.

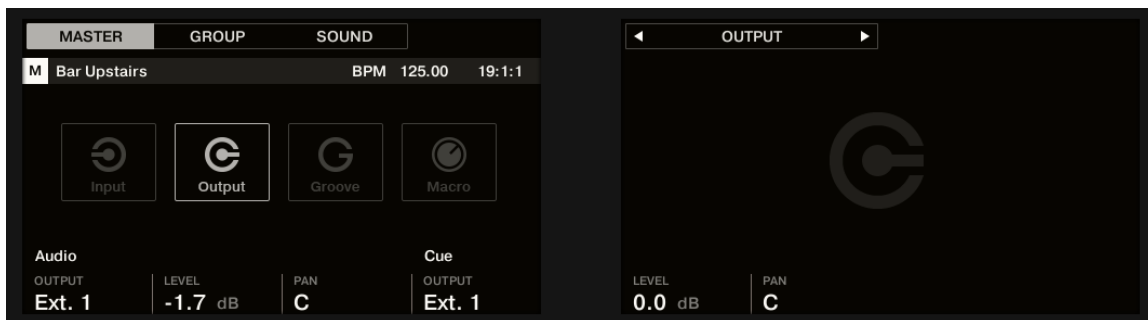
Controls	Description
AUX 1 / AUX 2 Section	
Dest.	Selects where you want to send the Aux 1 or Aux 2 output of your channel. Available options are the same as for the Dest. selector of the Audio page (see Configuring the Main Output of Sounds and Groups), except that for Aux 1 and Aux 2, the default destination is None , in other terms there are no auxiliary sends defined by default.
Level	Adjusts the level of the signal sent to the Aux 1 or Aux 2 output.
Order	If Order is set to Pre , the channel will be fed into Aux 1 or Aux 2 before the Level and Pan settings of the MAIN section on the Audio page are applied. If Order is set to Post (default setting), the Level and Pan settings of the main output also affect the signals sent to the auxiliary outputs.

13.2.4. Configuring the Master and Cue Outputs

All channels routed to the Master are mixed together and processed by any Plug-ins loaded in the Master. The result is then sent to the Master output (that is, the main output).

Besides, all channels currently routed to the Cue bus for pre-listening are mixed together and sent to the Cue output.

You can choose to which outputs both Master and Cue outputs should be sent, and adjust their respective levels and panoramic positions. This is done on the **Audio** page of the Output properties for the Master.



The AUDIO page of the Output properties for the Master



Please refer to section [Navigating Channel Properties, Plug-ins, and Parameter Pages](#) to know how to access the **Audio** page of the Output properties.

Controls	Description
AUDIO Section	
Output	Selects where you want to send the master output of your MASCHINE Project. Available options are the 16 external stereo outputs Ext. 1–16 .
Level	Adjusts the overall volume level of the master output.
Pan	Defines the panoramic position of the master output in the stereo field.
CUE Section	
Output	Selects where you want to send the Cue bus of your MASCHINE Project. Available options are the 16 external stereo outputs Ext. 1–16 . By selecting a different output from the one used for the main stereo output, you can effectively pre-listen on this additional output (e.g., on your headphones) any channel(s) currently sent to the Cue bus. To send a channel to the Cue bus, enable the Cue switch in the Audio page of its Output properties (see section Configuring the Main Output of Sounds and Groups).
Level	Adjusts the level of the Cue output.
Pan	Defines the panoramic position of the Cue output in the stereo field.

13.2.5. Mono Audio Inputs

Each Sound can be configured to receive external stereo or mono audio signals. You may use audio signals from outside MASCHINE+.

MASCHINE+ offers either 4 stereo inputs or 8 mono inputs, so each Sound can use one external mono or stereo input. The same external signal can be fed into any number of Sounds.

For example, this allows you to process any external audio signal using the plug-ins loaded in a Sound, and more generally, integrate external audio signals into the MASCHINE+ routing and processing system.


The external audio inputs for a Sound can be configured on the **Audio** page of the Sound's Input properties.

13.2.6. Triggering Sounds via MIDI Notes

MASCHINE+ allows you play your Sound(s) via MIDI (for example, from a MIDI keyboard).

By default and without any configuration, incoming MIDI notes on any MIDI port and any MIDI channel will trigger different pitches of the Sound slot currently focused.

To play one or more Sounds via MIDI notes independently of the Sound currently focused, you need to configure the MIDI input settings of your Sound(s) or of their Group, i.e. define how the Sound(s) or the Group should react to incoming MIDI notes. This is done on the **MIDI** page of the Group or the Sounds Input properties.

 The Input properties of the Master channel does not have a **MIDI** page.

When configuring these MIDI input settings, keep in mind the following:

- **MIDI input settings for a Group** affect all Sounds in the Group: Each Sound will be triggered by a different MIDI note. Typically, this allows you to quickly set up a MIDI remote control for an entire drum kit.
- **MIDI input settings for a Sound** affect only that Sound: Incoming MIDI notes will trigger different notes of this Sound. Typically, this allows you to control a melodic instrument via MIDI. More precisely, the incoming MIDI notes will be routed to the first Plug-in slot of the Sound.



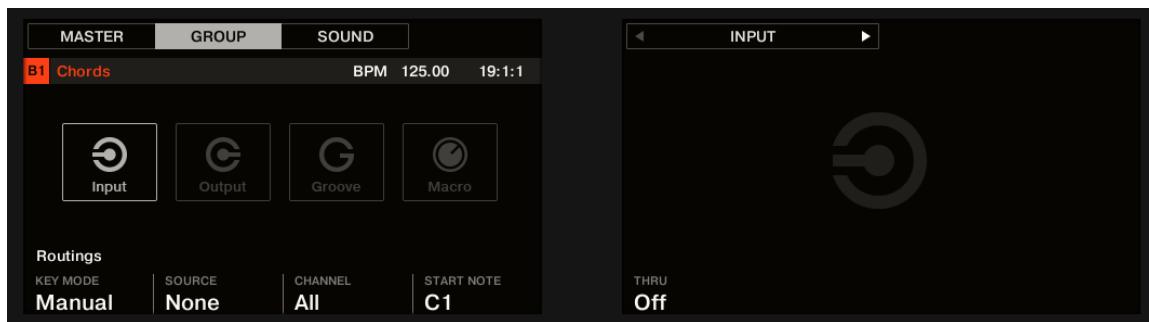
If the Sound has no Plug-ins, incoming MIDI notes will be forwarded to the Sound's MIDI output, if enabled (see section [Sending MIDI from Sounds](#)).

- MIDI input settings of a Sound and its parent Group are merged: For example, if you configure a Group to react to incoming notes on MIDI channel 1, but one Sound is set up to react to incoming notes on MIDI channel 2, then this Sound will react to one incoming note on MIDI channel 1 and all incoming notes on channel 2.

To access the MIDI Input page:

1. Press **CHANNEL**.
2. Press Button 2 (**GROUP**) or Button 3 (**SOUND**).
3. Use the 4-D encoder to select **Input**.
4. Press the right Page button to select page 3 **MIDI**.

→ The settings can be adjusted using the Knobs.



The MIDI page of the Input properties (a Group is shown here)

The MIDI input settings for Sounds and Groups provide the following parameters:

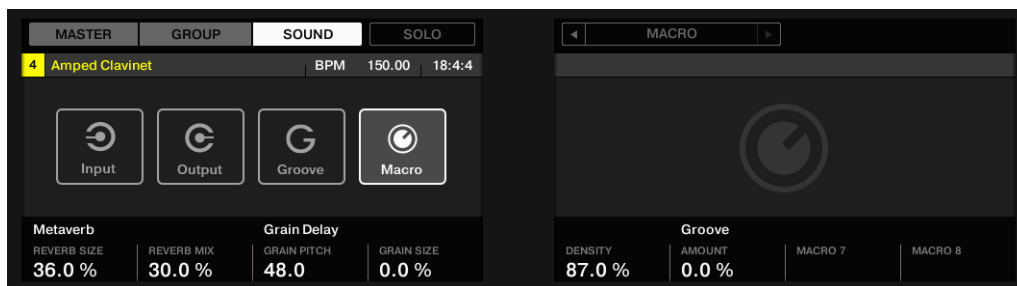
Controls	Description
MIDI ROUTING Section	
Key Mode (Pad Mode only)	Enables the MIDI note input for the selected Group (deactivated by default).
	Key Mode offers the following options:
	Off: Select this option to deactivate MIDI note input for the selected Group.
	Drumkit: Select this option to conveniently configure the MIDI note input for the selected Group and place each Sound on a specific key chromatically across the keyboard starting from C2 upwards.
	Manual: This option allows you to configure the MIDI note input based on your own preferences, including the Source , Channel , Start Note and Thru settings.
Source (stand-alone and in Manual mode only)	Select the MIDI port on which the Sound or Group will receive MIDI notes. Available entries are None (MIDI note input deactivated, the default setting), All (MIDI notes are received on all enabled input ports), and each enabled MIDI input port. You can enable the desired MIDI input ports of your MIDI interfaces in the MIDI page of the Settings (see section MIDI Settings). Note that when None is selected for both a Sound and its parent Group, if the Sound is focused it will receive MIDI notes from all MIDI ports and on all MIDI channels.
Channel (Manual mode only)	Select the MIDI channel on which the Sound or Group will receive MIDI notes. If you select All (default setting), the Sound or Group will receive MIDI notes from all channels.
Start Note (Manual mode only)	Define the MIDI root note for that Group (C1 by default). The MIDI root note and the upper 15 MIDI notes (from Root Note until Root Note + 15) will trigger the root note of Sound slot 1–16 , respectively. Incoming MIDI notes outside this range will be ignored by the Group.

Controls	Description
Thru (Manual mode only)	Switch this parameter on to send incoming events through to the MIDI outputs. This can be useful if you want to record notes played from MASCHINE+ into your host sequencer, and then play them back from there, using MASCHINE as the sound source.
	Switch this parameter off to stop incoming events from being routed to the outputs.

13.3. Creating Custom Sets of Parameters with the Macro Controls

Macro Controls enable you to control in one same location a selection of parameters coming from different sources. Available in every channel (Sounds, Groups, and Master), Macro Controls are very useful for playing live since you can choose a set of parameters from various sources to manipulate on one screen without having to switch screens.

The Macro Controls are available in the **Macro properties**.



The Macro properties (here for a Sound)

i Please refer to section [Navigating Channel Properties, Plug-ins, and Parameter Pages](#) to learn how to access the Macro properties.


13.3.1. Macro Control Overview


Each Macro Control can be assigned to one destination with the full range of the selected parameter. On the other hand, the same parameter can be the destination of more than one Macro Control.

To know which parameters you can assign to a Macro Control, consider this single rule:

A Macro Control of a channel can control any parameter located in the properties or Plug-ins of that channel or of any underlying channel. In other words:

- For Sounds: You can assign the Macro Controls of a Sound to any parameters in its properties or Plug-ins. It is also possible to assign MIDI Control Change messages, Pitchbend and Program Changes to Macro Controls in order to control external MIDI devices.
- For Groups: You can assign the Macro Controls of a Group to any parameters in its properties or Plug-ins as well as any parameters in any Sound inside the Group.
- For the Master: You can assign the Macro Controls to any parameters found in the properties or Plug-ins of any channel in your Project.

 Obviously, the Macro properties (even of a different channel) are not available as targets for any Macro Control.

 Linking the same parameter to more than one Macro Control can be useful in the following example: If a parameter of a Sound is particularly important, you can link it to the same knob in the Macro Controls of that Sound, of its parent Group, and of the Master. By doing this, you ensure that the parameter is always available on the same knob when you switch between the Master, Group, and Sound level (but not if you switch to another Sound or Group, of course).

Macro Control Shortcut

A dedicated button enables you to quickly access your Macro Controls at any time:

Press **MACRO** to directly switch to the Macro Controls of the focused channel (Sound, Group, or Master).

14. Controlling Your Mix

The Mix view provides quick access to the level and routing settings of all your Sounds, Groups, and the Master channels. The mix levels are visualized on the displays as well as an overview of the plug-ins assigned to each channel. Eight channels from each Group are displayed at any one time, and it's easy to navigate to the other Sounds or Groups using the Page buttons and Group buttons.

Mix view is great for controlling your mix while producing, but even better when performing, as the Mute and Solo functions allow you to really perform a mix on the fly.

14.1. Navigating Your Channels in Mix Mode

Mix mode enables you to display channel strips at the **Group level** (i.e. all your Groups) or at the **Sound level** (i.e. all Sound slots of the Group currently focused).


At both levels, channels are organized into groups of eight channels (four on each display).

- ▶ Use the Page buttons at the left of the displays to show the next/previous eight channels (Sounds: **1–8** and **9–16**; Groups: **A1–H1**, **A2–H2**, etc.).

Setting the Focus on a Channel (Sound or Group)

- ▶ To put the focus on any of the displayed channels (Sounds or Groups), press the Button 1–8 above the desired strip in the displays.
- The focused channel is highlighted.

Alternatively, you can focus Groups and Sounds by pressing the Group buttons and the pads as in Control mode. If you set the focus to a Sound or Group not visible on the displays, these automatically switch to the relevant set of eight channels: for example if you are viewing Sound channels **1–8** and press pad **11**, the displays automatically jump to Sound channels **9–16** in order to show the Sound slot **11** you just selected.

 The focus is strictly equivalent in Mix mode and in Control mode: The Sound or Group focused in Mix mode will also be focused in Control mode, and inversely.

Mix Mode – Displaying the Group Level

- ▶ To display Group channels, push the 4-D encoder upwards.

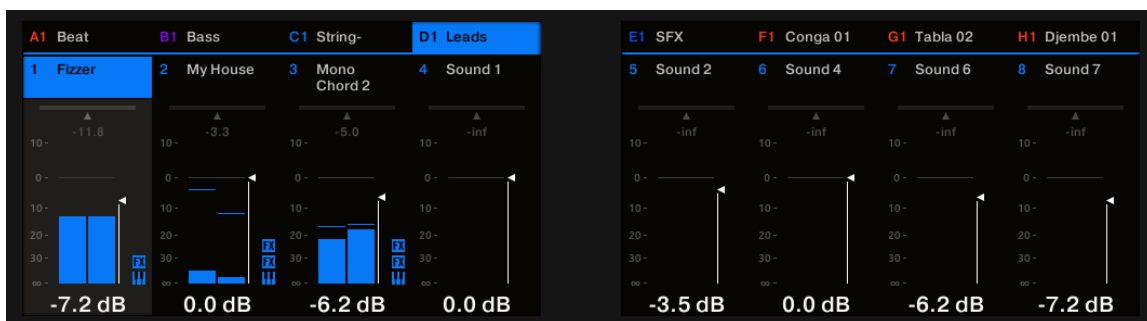


The Mix mode displaying Group channels

The channel strips on the displays represent the Groups of your Project. At the top of the displays, you see the headers of all your Groups. The focused channel is highlighted.

Mix Mode – Displaying the Sound Level

- To display the Sound channels of the focused Group, push the 4-D encoder downwards.



The Mix mode displaying the Sound channels of the focused Group

The channel strips on the displays represent the Sound slots of the focused Group. At the top of the displays you see two rows:

- The first row contains the headers of your Groups. The header of the focused Group is highlighted.
- The second row contains the headers of the Sound slots in the focused Group. The header of the focused Sound slot is highlighted.

If you select another Group (by pressing its Group button), the displays directly switch to the Sound slots of the newly focused Group.

14.2. Adjusting the Level and Pan in Mix Mode

The Mix mode allows you to quickly adjust the level and panoramic position of each of your channels via Knobs 1–8. To do this:

1. To adjust the level and panoramic position of Groups, switch to the Group view by pushing the 4-D encoder upwards.
2. To adjust the level of a Sounds, switch to the Sound view by pushing the 4-D encoder downwards.
3. To adjust the panoramic position of a Sound, press the 4-D encoder and turn it counterclockwise to pan the Sound to the left or clockwise to pan the Sound to the right.

4. Use the Page buttons to show the desired channels on the displays. You can also use the Group buttons and pads to directly switch to the desired channel.
5. At the top of the displays, the selected parameter appears above each channel strip.
6. Turn the desired Knob(s) 1–8 to adjust the displayed parameter in the corresponding channel(s). You can also use the 4-D encoder to adjust that parameter for the focused channel.



Hold **SHIFT** while adjusting a value to make finer adjustments.

In each channel strip, the peak value is indicated above the level meter. This peak value is reset each time you start the playback via **PLAY** or **RESTART**.

14.3. Mute and Solo in Mix Mode

When MASCHINE+ is in Mix mode, pressing **MUTE** or **SOLO** doesn't switch the displays to the usual Mute or Solo mode: In addition to the usual procedure to mute or solo Groups and Sounds, you can mute or solo your channels directly in Mix mode. To do this:

1. Press **MIXER** to enter Mix mode.
2. To mute a channel in Mix mode, press **MUTE** + the Button 1–8 above the desired channel(s).
3. To solo a channel in Mix mode, press **SOLO** + the Button 1–8 above the desired channel(s).

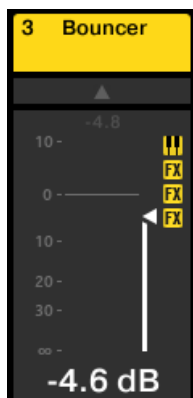
The strips of muted channels are grayed out in the displays.



Even if the displays don't switch to Mute or Solo mode, the usual procedures for muting and soloing Groups and Sounds stay valid in Mix mode. For more information on the Mute and Solo functions.


14.4. Plug-in Icons in Mix Mode

In Mix mode each channel indicates the presence of Plug-ins by displaying small icons arranged vertically on the right of the level meter:



A Sound channel with an Instrument Plug-in and three Effect Plug-ins.

Instrument and Effect Plug-ins are represented by different icons.

 On the displays, you can see up to seven Plug-in icons in each channel. Any additional Plug-in will not be shown.

15. Using Effects

At each Project level (Sound, Group, and Master) it is possible to add effects in the form of Plug-ins. Each Sound, each Group, and the Master can have an unlimited number of insert effects loaded in their Plug-ins slots. In each Plug-in slot, you can load an Internal or Native Instruments plug-ins.

The processing order is always from top to bottom, both in the Plug-in List of the Control area (in Ideas view and Song view) and in the channel strip of the Mixer (in Mix view). In the Plug-in Strip of the Mix view, the processing order is from left to right.



For Sounds, the first Plug-in slot is often hosting an Instrument Plug-in (Sampler, Drumsynth, Native Instruments, or External Plug-in), this allows the Sound to generate its own audio. If instead, you plug an effect to the first Plug-in slot 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 **Dest.** selectors in the Output properties of other Sounds and Groups. For more information, see section [Applying Effects at the Sound, Group, or Master Level](#).

Most of the features used in the procedures mentioned in this chapter have been already described in chapter [Working with Plug-ins](#). In MASCHINE+, effects are just a certain type of Plug-ins. Nevertheless, we illustrate them here with various effect-oriented examples. Furthermore, from time to time we will use the Mix view instead of the default Arrange view — indeed, the intuitive routing facilities of the Mixer make it particularly well suited for quickly setting up advanced effect routings.

15.1. Effects List

MASCHINE+ provides a healthy selection of more than 20 different Effect Plug-ins 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, such as an instrument, vocals, or turntable. We recommend you load a Project from the factory library to get to know how effects can be used.

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.

Effects are organized into the following categories:

- **Dynamics:** Compressor, Gate, Transient Master, Limiter, and Maximizer.
- **Filtering effects:** EQ, Filter, and Cabinet.
- **Modulation effects:** Chorus, Flanger, FM, Freq Shifter, and Phaser.
- **Spatial and Reverb effects:** Ice, Metaverb, Reflex, Reverb (Legacy), and Reverb.
- **Delays:** Beat Delay, Grain Delay, Grain Stretch, and Resochord.
- **Distortion effects:** Distortion, Lofi, and Saturation.

- **Performance FX:** Designed for spontaneous, tactile control in recording or live performance, these complex multi-effects alter motion, space, dynamics, and more for added expression.

i This section provides only a list of the available effects. For detailed information on each effect and its parameters, please refer to the MASCHINE Software Manual, available from the Native Instruments website.

15.2. Applying Effects at the Sound, Group, or Master Level

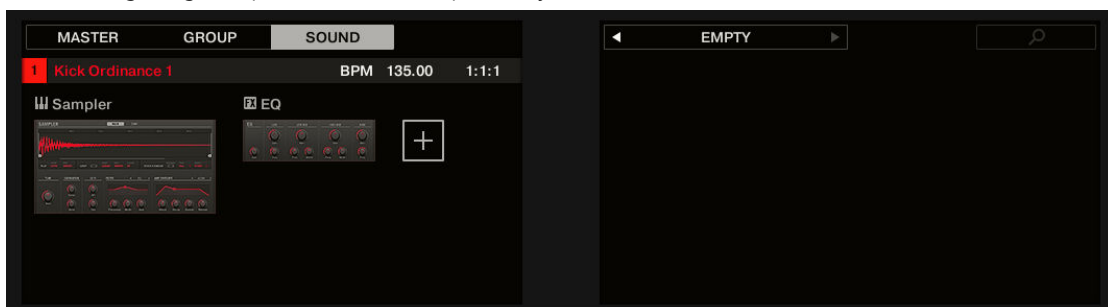
The procedures for applying an effect at the Sound, Group or Master level are very similar.

15.2.1. Adding an Effect

An effect plug-in can be added using the Plug-in view.

To add an effect:

1. Press the **PLUG-IN** button to enter Control mode and display the Plug-in slots.
2. To apply the effect to the Master (to process the audio of the whole Project), press Button 1 to select the **MASTER** tab.
3. 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. If the desired Group is in another bank, before you select the Group you first need to press **SHIFT** + the corresponding Group button **A–H** to select the Group bank.
4. To apply the effect to a Sound, press Button 3 to select the **SOUND** tab, select the Group containing that Sound (see the previous step), and press **SELECT** + the pad of that Sound (or simply hit its pad if pads are in Pad Mode).
5. Move the 4-D encoder right to navigate to the Plug-in slot where you want to load the effect (the name of the Plug-in currently loaded in the selected slot appears between the arrows under Button 5 and 6 as well as on the left display). If you want to add the effect in addition to the existing Plug-ins, press Button 6 repeatedly to select **EMPTY**.




6. Press the 4-D encoder or **SHIFT** + **BROWSER (Plug-in)** to open the Plug-in Browser and browse the available Plug-ins.
7. On the left display, turn Knob 1 to select the **TYPE** from **Instrument** or **Effect**. The **Instrument** option only appears when applying effects to Sounds. The right display shows the list of available instruments or effect Plug-ins.
8. Turn Knob 2 to select the **VENDOR** from **INTERNAL**, or the name of the vendor, for example, **Native Instruments**. If you have selected any other Plug-in slot the **TYPE** field is not available. Only Effect Plug-ins will be listed on the right display.

9. Turn the 4-D encoder or Knob 8 to browse the available Plug-ins.
 - 10 When you have found the Plug-in you want to use, press the 4-D encoder or Button 8 (**LOAD**) to load it. You can also use Buttons 5 and 6 to step through the list and load each effect directly.
 - 11 Leave the Plug-in Browser and switch back to Control mode by pressing the 4-D encoder or **PLUG-IN**.
- The effect is loaded in the selected Plug-in slot and it is visible on the displays. Now you can edit the effect parameters using Knobs 1–8 and the Page buttons.

Notes and Hints on Loading Effects

- If you have selected a Plug-in slot already containing a Plug-in, this Plug-in will be replaced with the new Effect Plug-in. If you have instead selected the **EMPTY** entry, the new Effect Plug-in will be appended to the list of loaded Plug-ins.
- Instead of using the Plug-in Browser, you can also press **BROWSER** and use the global Browser to load a particular preset for an Effect Plug-in.
- Instead of loading the effect into the selected Plug-in slot (possibly replacing the Plug-in currently loaded), you can also **insert** the effect directly after the selected slot (a new Plug-in slot will be automatically created): After you have selected the desired Plug-in slot in Control mode, press **SHIFT** + Button 3 (**INSERT**) and choose an effect preset in the Browser that automatically opened. Upon loading, MASCHINE+ automatically leaves the Browser and switches back to Control mode.

 For detailed overviews and parameters descriptions of the MASCHINE+ effects, please refer to the MASCHINE Software Manual

15.2.2. Other Operations on Effects

You can manipulate effects like any other Plug-in loaded in a Plug-in slot. This notably includes adjusting the effect parameters, removing effects, moving effects to other Plug-in slots, saving and recalling effect presets, etc.

Once you have selected an Effect Plug-in in a Sound, in a Group, or in the Master, the following actions are available:

Action	Procedure
Insert another effect after the selected effect	Press SHIFT + Button 3. The Browser automatically opens and lets you select the desired effect preset to be inserted after the Plug-in currently selected.
Replace the effect	Use the Plug-in Browser (press SHIFT + BROWSER) or the Browser (BROWSER) as described in section Adding an Effect .
Remove the effect	Press SHIFT + Button 8. The effect is removed from the Plug-in slot and all following effects are shifted one slot up to fill the gap.
Move the effect	Press SHIFT + Button 5/6 to move the effect to the previous/next slot.

Action	Procedure
Bypass the effect	Press SHIFT + Button 7.
Recall an effect preset	Use the Browser (press BROWSER) to access and load any effect preset. See section Browsing the Library for more on this.
Native Instruments Effects	
Open/close the effect window	Press SHIFT + Button 2 (EDIT).

You will find more details on Plug-in operation in section [Plug-in Overview](#). For more details on the specific operations available for Native Instruments Effects, see [Using Native Instruments Plug-ins](#).

15.2.3. Using the Side-Chain Input

For certain Plug-ins, MASCHINE+ allows you to use a side-chain input to control how the effects process the audio.

What Is a Side-Chain Input?

If we consider an effect unit that processes the signal incoming at its main input, **side-chaining** means using a secondary signal (the “side-chain signal”) fed to a secondary input of the unit (the “side-chain input”) to control the behavior of the processing. Usually, the amplitude of the side-chain signal will determine how much the main signal will be processed by the unit.


In music production, the side-chain signal is most of the time another audio track of the project. A common example is the use of the kick drum track as a side-chain for the compression of the bass track: on each kick the compressor will compress the bass more, resulting in a typical pumping effect between kick and bass that can be heard in various styles of dance music.

The Side-Chain Parameter Page

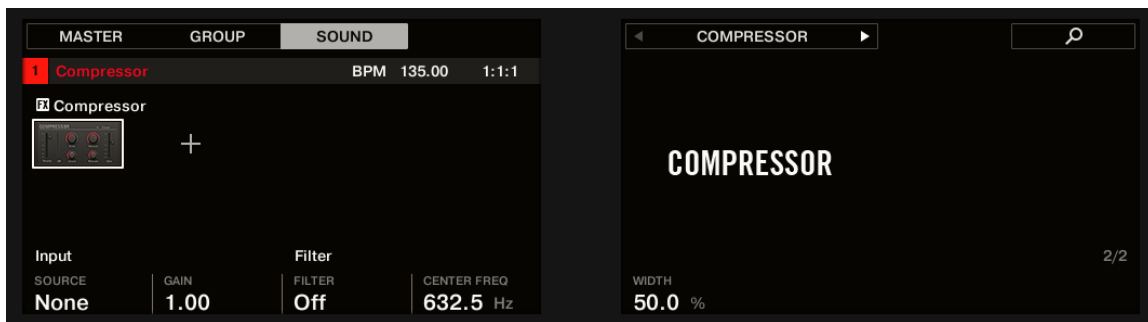
The following Internal, Native Instruments, and External Plug-ins support side-chaining:

- Internal Plug-ins: Compressor, Maximizer, Limiter, Gate, Filter.
- AU plug-ins (Native Instruments and External): Any AU plug-in with side-chain input.
- VST plug-ins (Native Instruments and External): Any VST plug-in with multiple inputs.

When you load any of these Plug-ins in a Sound or a Group, a **Side-Chain Input** Parameter page appears at the end of the page list.

 Side-chaining is not possible at the Master level (i.e. if the Plug-in is loaded in a Plug-in slot of the Master).

The Side-Chain Input page of the Compressor Plug-in in the Control area.



The SIDE-CHAIN INPUT page of the Compressor Plug-in

Parameter	Description
INPUT Section	
Source	Selects the audio signal you want to use as side-chain signal to control the Plug-in. Available options are None (side-chain deactivated, default setting), the outputs of all (other) Sounds, and the outputs of all (other) Groups. In the menu these outputs are labeled as follows: For Groups: [Group name] (e.g., Drums) For Sounds: [Group name]: [Sound name] (e.g., Drums: Kick) In the selector display these outputs are labeled as follows: For Groups: [Group name] (e.g., Drums) For Sounds: [Group letter+number]:S[Sound number] (e.g., A1:S4 for the Sound 4 of Group A1)
Gain	Adjusts the input level of the side-chain signal fed into the Plug-in.
FILTER Section	
Filter	Activates a filter on the side-chain input. This filter can be useful to select only a specific frequency range of the side-chain signal to control the Plug-in.
Center Freq	Adjusts the center frequency of the filter.
Width	Adjusts the bandwidth of the filter.



Note that the settings of the **Side-Chain Input** page stay in place when you switch to another Plug-in supporting side-chain. This notably allows you to try different compressors or different compression presets without losing the side-chain setup.


15.3. Applying Effects to External Audio

The flexible routing of MASCHINE+ enables you to apply effects to external audio as well. This external audio can come from the inputs of MASCHINE+ or an audio interface attached to MASCHINE+.

To do this, we will choose a Sound and make use of the **Audio** page in its **Input properties**.

15.3.1. Step 1: Configure MASCHINE+ Audio Inputs

To begin, you must configure MASCHINE+ to receive audio at the inputs by making sure they are active.

 If you are using MASCHINE+ in Controller mode as a plug-in in a host application, MASCHINE can receive audio from your host on any of its eight mono virtual inputs. To know how to route audio in your host to the virtual inputs of the MASCHINE plug-in, please refer to your host documentation and the MASCHINE Software Manual. When this is done, go directly to section [Step 2: Set up a Sound to Receive the External Input](#).

Configuring Audio Inputs

Please make sure that you have connected an external audio signal source to MASCHINE+ or to the external audio interface connected to MASCHINE+ and that the inputs of the audio interface are activated. To do this:

1. Select the **SETTINGS**.
2. Select **Audio** using the 4-D encoder.
3. Select Page 1 (**Interface**) using the Page buttons.
4. Turn Knob 1 to select the Interface you want to use: **Internal** or **External**.
5. Select Page 2 (**Input Routings**) using the Page buttons.
6. Turn the Knobs to activate the inputs you want to use.


→ Audio signals coming from external sources plugged in the inputs selected here will now be routed to the MASCHINE+ inputs as selected.



Configuration of audio input can be done in the Audio Settings page, see [Audio Settings](#).

15.3.2. Step 2: Set up a Sound to Receive the External Input

Now the external audio is routed to your Sound! You can adjust the level of the incoming signal via the **Gain** knob.

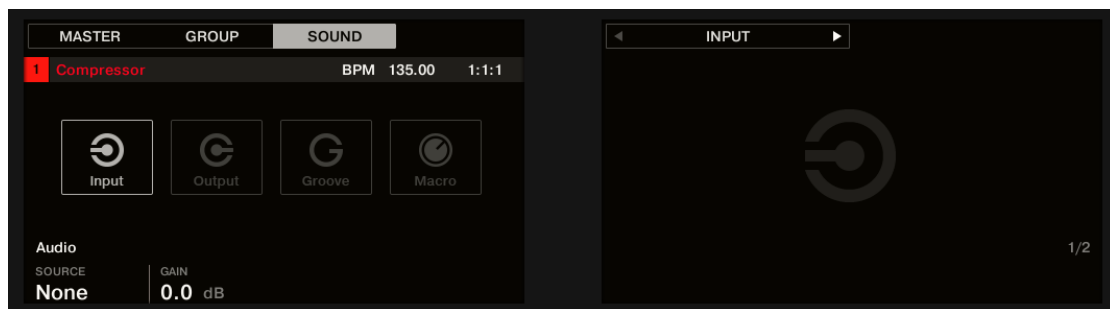
 You will find a detailed reference of the **Audio** page of the Sounds' Input properties in section [Sending External Audio to Sounds](#)

There are two ways to access the Input signal controls:

Method 1: Using the Channel Page

First, select the Sound you want to configure:

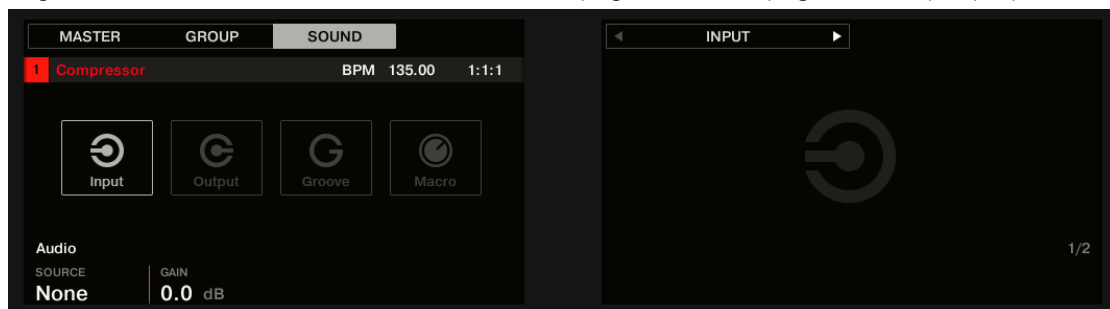
1. Press the **CHANNEL** button to enter Control mode and display the Channel properties.
2. Press Button 3 to select the **SOUND** tab.
3. Press the Group button **A–H** of the Group containing the empty Sound you want to use. If the Group in question is in another bank, before you select the Group you first need to press **SHIFT** + the corresponding Group button **A–H** to select its Group bank.
4. Press **SELECT** + the unlit pad of the empty Sound you want to use (or simply hit its unlit pad if pads are in Pad Mode). You can then select the desired input. You can do this via two methods: using the Master section, or using the Input properties on the displays.
5. Turn Knob 1 to set the **SOURCE** to **Ext. 1**.



→ Now the external audio is routed to your Sound! You can adjust the level of the incoming signal by turning Knob 2 (**GAIN**).

Method 2: Using the Navigate Page

1. Press Button 5 repeatedly until the Input properties are selected (you should see **INPUT** at the top left of the right display, under Button 5/6).
2. Press **SHIFT** + **NAVIGATE** + pad 1 to select the **Audio** Parameter page. You can also press the Page Left button until it turns off since the **Audio** page is the first page of the Input properties.



You will now see two parameters at the bottom of the left display: **SOURCE** (which selects the source) and **GAIN** (which adjusts the level of the input).

3. Turn Knob 1 to set the **SOURCE** to **Ext. 1**.

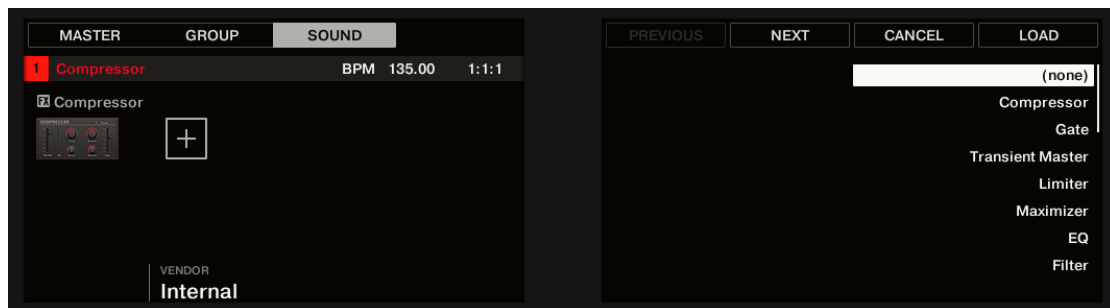
→ Now the external audio is routed to your Sound! You can adjust the level of the incoming signal by turning Knob 2 (**GAIN**).

15.3.3. Step 3: Load an Effect to Process an Input

You can now insert an Effect Plug-in into this Sound so that it processes the incoming audio.

To load an Effect to process an input:

1. Press the **PLUG-IN** button to show the Plug-in slots of the selected Sound. Since we have selected an empty Sound, you see **EMPTY** on the left of the left display as well as under Button 5/6 on the right display (i.e. there are no Plug-ins to navigate yet).
2. Press **SHIFT + BROWSER (Plug-in)** to open the Plug-in Browser and browse the available Plug-ins.
3. On the left display, turn Knob 1 to select the **TYPE** to **Effect**.
 - The right display shows the list of available instruments or effect Plug-ins.
4. If you have selected the first Plug-in slot of a Sound, turn Knob 2 to select the **VENDOR**, **INTERNAL**, or **Native Instruments**.
 - The right display shows only Effect Plug-ins of the type you have selected.



5. Turn the 4-D encoder or Knob 8 to browse the effects Plug-ins corresponding to your selection.
6. When you have found the Plug-in you want to use, press the 4-D encoder or Button 8 (**LOAD**) to load it. You can also use Buttons 5 and 6 to step through the list and load each effect directly.
 - The selected effect is loaded in a new Plug-in slot and directly starts to process your external audio. By pressing **PLUG-IN** or **SHIFT + BROWSE** again you can switch back to Control mode and adjust the effect.

15.4. 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:

- Step 1: Set up a Sound or Group as send effect. This is done by loading an effect into its first Plug-in slot: [Step 1: Set Up a Sound or Group as Send Effect](#).
- Step 2: 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: [Step 2: Route Audio to the Send Effect](#).

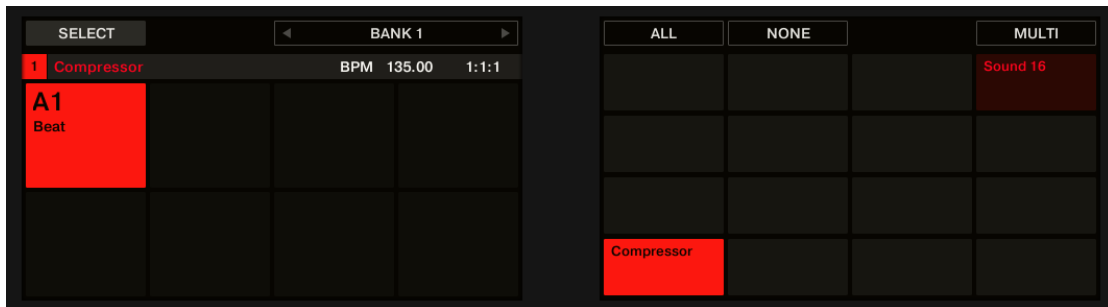
15.4.1. Step 1: Set Up a Sound or Group as Send Effect

The procedure to set up a Sound or Group as a send effect is straightforward: You just need to load an effect into its first Plug-in slot — MASCHINE will take care of the rest and make it available as a destination for other channels of your Project.

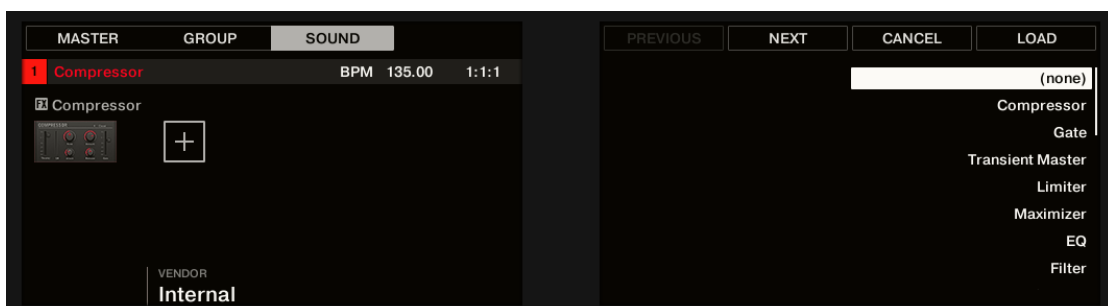
Set Up a Sound as Send Effect

1. Press the **PLUG-IN** button to enter Control mode and show the Plug-in slots.

2. Press Button 3 to select the **SOUND** tab
3. Press the Group button **A–H** of the Group containing the empty Sound you want to use. If the Group in question is in another bank, before you select the Group you first need to press **SHIFT** + the corresponding Group button **A–H** to select its Group bank.
4. Press **SELECT** + the unlit pad of the empty Sound you want to use (or simply hit its unlit pad if pads are in Pad Mode). Since we have selected an empty Sound, you see **(NONE)** under Button 7/8 and these buttons are inactive (i.e. there are no Plug-ins to navigate yet).




5. Press **SHIFT** + **BROWSE** to open the Plug-in Browser and browse the available Instrument and Effect Plug-ins.
6. On the left display, turn Knob 1 to select the **TYPE** to **Effect**.
 - The right display shows the list of available instruments or effect Plug-ins.
7. If you have selected the first Plug-in slot of a Sound, turn Knob 2 to select the **VENDOR** from **INTERNAL**, or the name of a vendor, for example, **Native Instruments**.
 - The right display shows only Effect Plug-ins of the type you have selected.



8. Turn the 4-D encoder or Knob 8 to browse the effects Plug-ins corresponding to your selection.
9. When you have found the effect you want to use (for example, the MASCHINE Compressor), press the 4-D encoder or Button 8 to load it. You can also use Button 5/6 to step through the list and load each effect directly.
- 10 Switch back to Control mode by pressing **PLUG-IN** (or by pressing **SHIFT** + **BROWSE** again).
 - Now you can edit the effect parameters using Knobs 1–8 and the Page buttons as usual (see [Navigating Channel Properties, Plug-ins, and Parameter Pages](#)). When you load an effect into the first Plug-in 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 sends them through its own Plug-in slots, in other terms, you now have a send effect.

Now that the effect is loaded, we suggest that you rename the Sound slot to the Plug-in name: this will be of great help when routing other signals to that send effect (see section [Step 2: Route Audio to the Send Effect](#) below).

 For more information on renaming Sound slots, see section [Renaming Sound Slots](#).

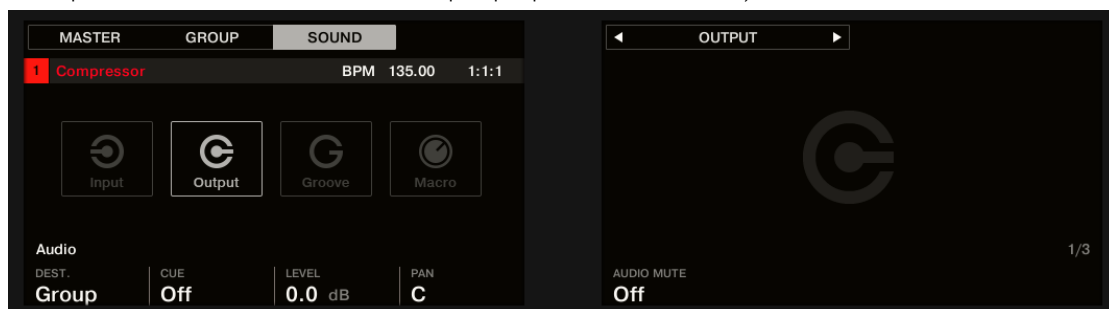
15.4.2. Step 2: Route Audio to the Send Effect

Once you have configured a Sound or Group as send effect (see [Step 1: Set Up a Sound or Group as Send Effect](#)), you can send the output of any other Sounds and Groups to that Sound or Group. For this purpose, each Sound and each Group is equipped with an additional two auxiliary outputs available in its Output properties.

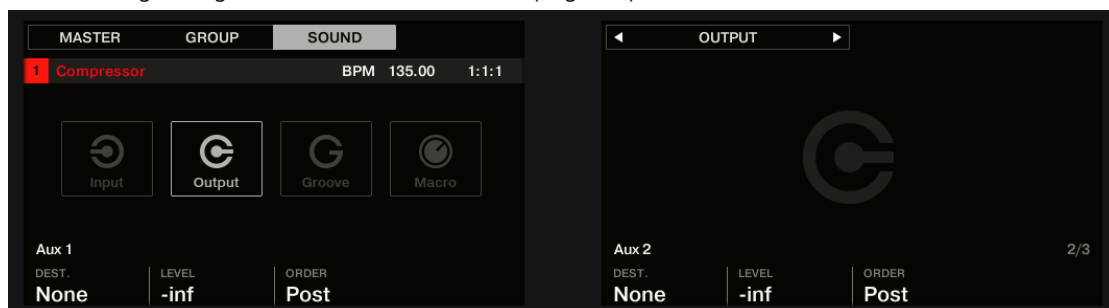
You can repeat the process to route more Sounds/Groups to the same send effect, or route the same Sound/Group to an additional send effect send using **AUX 2**.

Routing Audio to the Send Effect

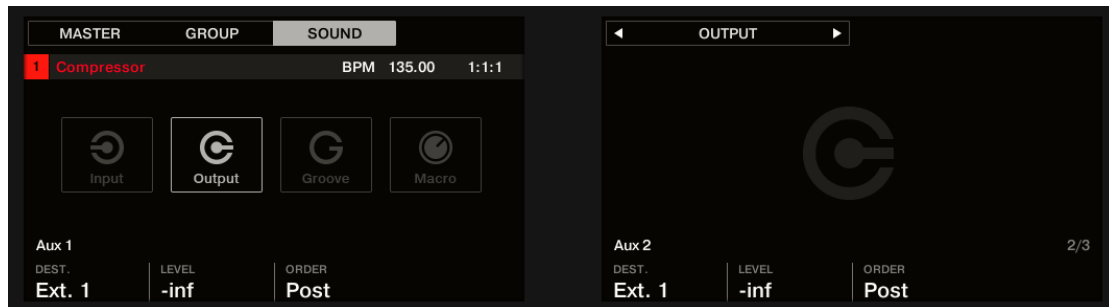
1. Press the **CHANNEL** button to enter Control mode and display the Channel properties.
2. If you want to route a Group's output to the send effect, press Button 2 to select the **GROUP** tab, if necessary press **SHIFT** + the Group button **A–H** corresponding to the bank containing the Group, and 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, select the Group containing that Sound as described in the previous step, and press **SELECT** + the pad of that Sound (or simply press its pad if pads are in Pad Mode).
4. Press Button 5/6 to select **OUTPUT**. The Output properties are shown in the displays (in the example underneath we show the Output properties of a Sound).



5. Press the right Page button to select the **Aux** page of parameters.



6. Turn Knob 1 (**Aux 1 DEST.**) to assign the first auxiliary output to the desired send effect. In addition to the usual entries available in both fields, you will find all the Sounds and Groups with an Effect Plug-in loaded in their first Plug-in slot — see [Step 1: Set Up a Sound or Group as Send Effect](#). For each Sound, the entry shows the Group letter and number followed by the Sound number (in the example underneath we selected the entry **A1:S1-1** for the **Aux 1** output).



7. Use Knob 2 (**Aux 1 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 via Knob 3 (**Aux 1 ORDER**). For more information, see [Setting Up Auxiliary Outputs for Sounds and 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**.

15.5. Creating Multi-Effects

Creating a multi-effect unit is basically the same thing as creating a series of Sounds as send effects within a Group and arrange them as you see fit. Following the procedure described in the previous section [Creating a Send Effect](#) in every Sound of the Group you can set up a send effect containing any number of effects, the only limit being the processing power of your computer! You can route Sounds within the Group to your liking: You can chain them all, keep them as separate effects to be used in parallel, build any combination of both, etc.

Organizing Your Effects into Several Sounds

If you plan to build a multi-effects containing more than a few Effect Plug-ins in series, you have many ways at your disposal. Since you can have any number of Effect Plug-ins in each Sound, you can set up the whole sequence of effects in series into one single Sound. However, it might be judicious to split your sequence of effects across several Sounds whose outputs are sent into the inputs of the next Sound (thereby re-building an equivalent sequence of effects). Doing this can have several advantages, for example:

- The Sound List lets you keep a better overview of your effect sequence than the tiny Plug-in List in a single Sound.
- You can rename and colorize each Sound individually according to the effect(s) it contains.
- You have better control over your whole effect sequence.
- You can easily re-arrange your effect sequence by changing the routing between your Sounds.

To use several Sounds plugged in series, use the procedure described in the previous section [Creating a Send Effect](#) to send the output of each Sound to the input of the next one in the sequence.

Which of the Main, Aux 1, and Aux 2 Output To Use?

Each Sound provides three distinct outputs: Main, Aux 1, and Aux 2. If you want to build a series of effects split across several Sounds, for each Sound in the series you have to send one of these outputs to the input of the next Sound. For this we recommend you to use the `main` output of the Sound rather than any of its auxiliary outputs because it provides a few useful additional features not available on the auxiliary outputs:

- **Cue** switch: You can send the Main output of any Sound to the Cue bus and pre-listen the channel on a distinct MASCHINE+ output (typically your headphones). Note that enabling the **Cue** switch automatically mutes both Aux 1 and Aux 2 outputs as well, but it doesn't send them to the Cue bus!
- Hardware control: Your controller provides various shortcuts allowing a quicker and easier control of your Sounds' Main output.

These can be of great help when building complex multi-effects!

Saving Your Multi-Effects

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 later still add more effects on the multi-effect Group itself, imagine for example distinct send effects in different Sounds, but all of them being further processed by the same set of effects at the Group level.

However, take time 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**.

For information on saving Groups, see [Saving a Group](#).

16. Using Performance Effects

MASCHINE+ provides a great selection of studio effects (FX) that can be loaded in the form of Plug-ins. Each Sound, Group, and Master channel can have an unlimited number of insert effects loaded in their Plug-ins slots.

In addition, MASCHINE+ also has a set of Performance effects that are ideal for use in a live performance situation. They are designed specifically for their ease of use with the Smart Strip and can be applied to Group channels for maximum sonic impact.

16.1. List of Perform Effects

One Performance FX can be added to each Group channel. The following Performance effects are available:

- **Filter:** An analog-modeled High, Low, and Band-pass filter capable of yielding raw, natural-sounding results using saturation and resonance. Roll-off the highs for a thick, murky veil, or use the resonance to create sounds that float into self-oscillation infinity.
- **Flanger:** A comb filter effect with more than a few tricks up its sleeve. Get performance-ready flanger or phaser effects, or expose its wild side—setting higher decay and frequency values unleashes ping-pong delay-like flutter effects.
- **Burst Echo:** A warm, versatile echo with plenty of character, designed for spontaneous splashes of echo. Strong, responsive attacks that taper off into hazy trails are perfect for dub and can also be tweaked for more extreme sound design.
- **Reso Echo:** A complex resonant echo with advanced feedback and saturation that verge on psychedelic tendencies. Echoes range from a tight, punchy resonant hum to ambiguous howling sounds from another dimension.
- **Ring:** Built on a carefully selected bank of ring modulators, Ring adds a bell-like quality to melodic sound sources. Using the additional plate reverb, tweak a knob or Smart Strip to hand-pick individual notes and keep them ringing into the stratosphere.
- **Stutter:** Turn the intensity up, and down again with Stutter. This beat-mangling effect adds creative dynamics like glitches, fills, and expressive pitch-bending crescendos to drum patterns and more.
- **Tremolo:** A no-frills tremolo and vibrato effect that's perfect for creating motion and wobble on the fly. Instantly add expression with multiple modes, Rate, and Depth ranges, and use the Stereo knob to create auto-pan motion effects.
- **Scratcher:** Scratcher warps your sounds with turntable motion effects that can get otherworldly. Apply a 'brake' to a sound, then scratch with it – just like on vinyl. Or use the pitch shifter delay to thicken the sound and create alien-sounding sweeps.



For a full description of each Performance FX and its parameters, please refer to the MASCHINE Software Manual.

16.2. Using a Performance Effect

After selecting a Performance FX you can start to interact with it. This is where the fun really begins!

To adjust a Performance FX:

1. Press **PLAY** to start playback of your Song.
 2. Press the Group button (**A–H**) to select the Group where you applied the Performance FX.
 3. Put your finger on the Smart Strip and slide it upwards to increase the effect, or slide it downwards to decrease the effect.
- The effect can be heard as you slide your finger up and down the Smart Strip. Take your finger off the Smart Strip to release the effect.

Adjusting the Performance FX Parameters

Each Performance FX has a set of dedicated parameters that can be adjusted using the Smart Strips.

To adjust the individual parameters of the selected Performance FX:

1. Press the **PIUG-IN** button.
 2. Select the Group (**A–H**) with the Perform Effect you want to adjust.
 3. Turn the knobs to change the parameters.
- The Smart Strips can now be used to adjust the parameters of the Performance FX. Use the Page buttons to switch between parameter pages. You can also modulate the parameters during playback by pressing the **AUTO** button and turning the Knobs. For more information on modulating parameters, see [Recording Modulation](#).

For a full description of Performance FX parameters, see the MASCHINE Software Manual.

16.3. Automating a Performance Effect

After selecting a Performance FX and applying it to a Group, if you find something you like while playing with it, you can automate it! Automation will replicate any movement you make with your finger on the Smart Strip, leaving your hands free to perform other tasks.

To automate a Performance FX:

1. Press **PLAY** to start playback of your song.
 2. Press the Group button (**A–H**) to select a Group containing the performance effect you want to automate.
 3. Press and hold the **AUTO** button.
 4. Put your finger on the Smart Strip and slide it upwards to increase the effect, or slide it downwards to decrease the effect.
 5. Release the **AUTO** button once you are satisfied with the sound.
- When you release the **AUTO** button, the changes you made to the effect using the Smart Strip are automatically replicated during playback.



To delete automation press **SHIFT + CLEAR**.

17. Arranging Your Project

A song is made of a variety of Scenes. Each Scene contains a specific set of Patterns that make up a part of the song, for example, intro, verse, chorus, break, second verse, etc. By assigning your Scenes to Sections to the Timeline in the Song view you can start to organize your track.

The MASCHINE Song view is where you can sequence Scenes to create your final arrangement. This process involves creating a Section on the Timeline and assigning a Scene to it. Any Scene that exists in the Ideas view can be assigned to a Section in the Song view.

One powerful aspect of the relationship between the Ideas view and Song view is that the content in these two areas are actually one-in-the-same. This means that if you make a change to a Scene it will affect all other instances of that Scene automatically. If you place a Scene in three different Sections of the Timeline and then proceed to change the Patterns assigned to that Scene, the other two instances of that Scene also play the newly-assigned Patterns. It's therefore very easy to make changes to individual Patterns and Scenes after the arrangement has been made and immediately hear the results in the context of the arrangement, and those changes can be made in either Ideas or Song view.

In Song view MASCHINE+ provides a perfect overview of all your Sections, Patterns, Clips, and Groups. Here you can create a Section and assign a Scene to it, duplicate your Sections, clear a Section, and more importantly quickly and easily assign your Sections to the Timeline in the order you would like them to play.

17.1. Arranger Basics

This section describes some of the basic functions that enable you to navigate Ideas view and Song view when arranging your song.

17.1.1. Switching Between Ideas View and Song View

The Arranger has two different views: Ideas view and Song view. Each view has a specific purpose in the workflow of creating a song, but essentially they represent the same content.

To switch between Ideas view and Song view:

1. Hold the **SHIFT + IDEAS (Song)**.
 2. Press Button 1 (**IDEAS**) to access Ideas view.
 3. Press Button 2 (**SONG**) to access Song view.
- The displays switch between Ideas view and Song view.

17.1.2. Navigating Song View

You can control the position and zoom factor in the Song view using the following controls:

- ▶ Press **SHIFT + IDEAS (Song)**, then button 2 (**SONG**) to enter Song mode.
- ▶ Turn Knob 5 (Arranger Zoom) to zoom in or out of the Arranger.
- ▶ Turn Knob 6 (Arranger Scroll) to scroll through the Arranger.

17.1.3. Following the Playback Position

If the Song view doesn't display the entire Loop Range currently selected, at some point the play head will go beyond the portion of your Project currently displayed and you might lose track of the playback position. To prevent this, you can force the Song view to follow the playhead.

To follow the playhead position during playback:

- ▶ Press **FOLLOW** button in the Transport section.
- The **FOLLOW** button lights up. The Arranger will now switch to the next portion of your Project (with the same zoom factor) as soon as the playhead reaches the end of the portion currently displayed. This way, you always see the portion of the Project that is being played.



The Follow function is automatically deactivated as soon as you manually scroll to another portion of the Arranger or of the Pattern Editor.

The Follow function affects the displays in Song mode, Pattern mode, Step mode, and Note Repeat mode. Additionally, in Step mode the Follow function affects the pads: When Follow is activated and the playhead has gone across all 16 steps shown by the pads, the pads automatically switch to the next 16 steps of the Pattern, if any.

17.1.4. Performing with Scenes and Sections

MASCHINE+ provides you with settings to fine-tune the timing of the jump between the Scenes and Sections:

- The Perform Grid lets you quantize the Scene transitions: You can choose the point at which the playback will leave the current Scene (Ideas view) or Section (Song view). 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, one-sixteenth note, the whole Scene/Section, and Off. If you choose Off, the Scene/Section 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 activated, the next Section (Ideas view) or Section (Song view) that is selected will be forced to play from the start. This is useful if you always want your Scenes or Sections to play from the beginning regardless of what's happening elsewhere in the music.
 - If Retrigger is deactivated (default setting), the next Scene or Section that is selected will play from the same offset to the beginning: for example, leaving the current Section on beat 3 will cause the new Section to start playing on its beat 3. This ensures that the global groove of your track is not interrupted.

Jumping between Scenes and Sections

In Ideas view the Perform Grid and the Retrigger control the setting for the jump between Scenes and in Song view it sets the grid for the jump between Sections.

To set the Perform Grid and the Retrigger settings:

1. Press **SHIFT + IDEAS** then press Button 1 or 2 to select Ideas view or Song View.
2. Press **SHIFT + FOLLOW (Grid)** to enter Grid mode (or pin it by pressing **SHIFT + FOLLOW (Grid)** then Button 1).

3. Press Button 2 to select **PERFORM**.
 4. Press a pad to select the desired value, for example, pad 9 (for 1/4, a quarter note).
- The next time you select a new Scene/Section or loop range, the switch will happen on the next quarter note.

Adjusting the Scene Retrigger Setting

To adjust the Scene Retrigger setting:

1. Press **SHIFT + IDEAS (Song)** then press Button 1 to select Ideas view.
 2. Press **SCENE (Section)** to enter Scene mode (or pin it by pressing **SCENE + Button 1**).
 3. At the bottom left corner of the left display, you see the current **RETRIGGER** value (Off by default).
 4. Turn Knob 1 to select On.
- The next time you select a new Scene or loop range, it will start from the beginning.

Adjusting the Section Retrigger Setting

To adjust the Section Retrigger setting:

1. Press **SHIFT + IDEAS (Song)** then press Button 2 to select Song view.
 2. Press **SCENE** to enter Section mode (or pin it by pressing **SCENE + Button 1**).
 3. Press the Right Page button to access page 2.
 4. At the bottom left corner of the left display you see the current **RETRIGGER** value (Off by default).
 5. Turn Knob 1 to select On.
- The next time you select a new Section or loop range, it will start from the beginning.

17.2. Using Ideas View

The Ideas view allows you to experiment with your musical ideas without being tied to a timeline or any kind of arrangement. Here you can create Patterns for each Group and combine them into a Scene.

In Ideas view, MASCHINE+ provides a perfect overview of all your Scenes, Patterns, and Groups. Here you can create a Scene by selecting a Pattern for each Group, duplicate your Scenes, clear a Scene and more importantly trigger your Scenes so you can hear how they sound when played in a particular order.

Pressing a pad in Scene mode will trigger a Scene and in turn trigger all the assigned Patterns. In addition to creating ideas, Scene mode is fantastic for improvisation during a performance.

17.2.1. Using Scene Mode

The Scene mode focuses on Scene selection and manipulation, and all Scenes can be managed from the Ideas view.

To enter Scene mode:

- ▶ Press **SCENE (Section)** to enter Scene mode.
- The software switches to Scene mode. This is indicated by the illuminated **SCENE (Section)** button.

In Scene mode you see all Scene slots of the selected Scene bank represented cells:

- The fully lit pad indicates the selected Scene slot.
- Dim lit pads indicate Scene slots containing a Scene.
- Unlit pads represent empty Scene slots.

This grid of cells shown in the right display corresponds to the pads, which have the same functionality as in Scene Arrange mode:

- The highlighted cell indicates the selected Scene slot.
- Cells showing a name represent Scene slots containing a Scene.
- Empty cells represent empty Scene slots.

In addition, the Scene mode provides useful Scene management commands similar to those of the Scene Arrange mode. These are described in the following sections.

17.2.2. Creating a New Scene

In Ideas view you can create a new Scene.

To create a new Scene:

1. Press **IDEAS (Song)**.
 2. Press **SHIFT** + Button 1 (**IDEAS**)
 3. Press **SCENE (Section)** + any unlit pad to create a new empty Scene in the current Scene bank.
- An empty Scene is created.

17.2.3. Assigning and Removing Patterns

Each Pattern placed in the Arranger (Ideas view or Song view) references one of the Patterns available in the Pattern Editor for the corresponding Group.

In the Ideas view, each column represents a Group. After selecting a Scene it is possible to assign and remove Patterns from their slots.

Assigning a Pattern is done in Pattern mode.

1. Press **IDEAS (Song)**.
2. Press **SHIFT** + Button 1 to enter Ideas view.
3. First, select the Scene to which you want to assign a Pattern:
4. Press and hold **SCENE (Section)**.
5. Press the pad corresponding to the Scene to which you want to assign a Pattern.

Then create the Pattern for the desired Group:

1. Press the desired Group button **A–H** to select the Group from which you want to select a Pattern.
2. Press and hold **PATTERN**.

Both your pads and the right display give you an overview of the available Patterns. Dim lit pads indicate the available Patterns. If a Pattern already exists in the selected Scene for that Group, the referenced Pattern is highlighted and its pad is fully lit.

- ▶ While you are holding **PATTERN**, if necessary, press Button 7 or 8 to select the desired Pattern bank, then press the desired pad (or press the Page buttons) to select the Pattern you want to use in that Scene.
- If you have pressed a dim-lit pad, a Pattern is inserted into the selected Scene. If you have pressed an unlit pad, a new empty Pattern is automatically created in the selected Scene. In both cases, any Pattern previously existing for that Group in the Scene will be replaced.

Furthermore, the following happens: ▪ In the Arranger (Ideas view and Song view) the Pattern displays the name and color of the Pattern.

- The corresponding Pattern will now be played by that Scene.
- Additionally, this Pattern is loaded in the Pattern Editor, ready to be modified.

For information on removing a Pattern from a Scene, see [Removing a Pattern in Ideas View](#).

17.2.4. Removing a Pattern in Ideas View

You can remove a Pattern from a Scene in Ideas view.

To remove a Pattern from a Scene in Ideas view:

1. In Ideas view, press **PATTERN**.
2. Press the Pad of the Pattern you want to remove.
3. Press Button 2 (**REMOVE**).

- The Pattern is removed from the Scene. The corresponding Pattern will not be played by that Scene anymore and the Pattern itself is left untouched.

17.2.5. Selecting a Scene

You can select Scenes from the current Scene bank.

To select a Scene:

Press **SCENE (Section)** + the dim-lit pad corresponding to the cell of the desired Scene on the right display.

- After your selection, the following happens: The Editor displays the Pattern for the focused Group in this Scene. If there is no Pattern for the focused Group in the Scene you have just selected, the Pattern Editor is empty.
- If playback is off the playhead immediately jumps to the beginning of the selected Scene. If playback is on the playhead jumps according to the Perform Grid settings.

17.2.6. Deleting a Scene

You can delete a Scene in Ideas view.

To delete a Scene in the Ideas view:

1. Press **IDEAS (Song)**.
2. Press **SHIFT** + Button 1 (**IDEAS**)

3. Press and hold **SCENE** to enter Scene mode.
 4. Press Button 7 and 8 to select the desired Scene bank.
 5. Press the pad corresponding to the Scene you want to delete.
 6. Press Button 6 (**DELETE**).
- The Scene is deleted with all its Patterns. Scenes to the right shift to fill the gap.

17.2.7. Duplicating a Scene

The Ideas view allows you to duplicate a Scene. When using MASCHINE+ in Controller mode this feature works in connection with settings made in the Default page of the Preferences.

Together they offer you options to:

- duplicate Scenes
- duplicate Scenes and Patterns
- link when duplicating Sections

For more information on the Default page of the Preferences, refer to the MASCHINE Software Manual.

To duplicate a Scene:

1. Press **SCENE (Section)** to enter Scene mode.
2. Press the pad corresponding to the Scene you want to duplicate.
3. Press any unlit pad to duplicate the Scene.

17.2.8. Selecting a Scene Bank

It is possible to select a Scene located in another Scene bank.

To select a Scene located in another Scene bank:

1. Press **SCENE (Section)**.
2. Press Button 7 or 8 to select the previous or next Scene bank.

17.2.9. Creating and Deleting Scene Banks

A new Scene bank is automatically created once you fill an entire bank with Scenes.

To delete a Scene bank:

1. Press and hold **SCENE (Section)** to enter Scene mode.
2. If required, press Button 7 and 8 to select the desired Scene bank.
3. Press **SHIFT + Button 6 (DELETE)** to delete the selected Scene bank.

→ The Scene bank is deleted including all its Scenes. The following banks are shifted up to fill the gap.

17.2.10. Making a Scene Unique

If a Scene is referencing the same Patterns you can make a separate (unique) copy of the Scene and its Patterns by selecting Unique. This allows you to work on a new separate copy of the Scene and its Pattern in isolation. Use Unique in combination with the Duplicate option.

To make a Scene unique:

1. Press and hold **SCENE (Section)** to enter Scene mode.
2. Press the pad corresponding to the Scene you want to make unique.
3. Press Button 2 (**UNIQUE**).

→ A unique copy of the Scene and its Patterns are created.

17.2.11. Appending a Scene to the Arrangement

Once you are satisfied with a Scene you can append it directly to your arrangement in the Song view.

To append a Scene to the arrangement.

1. Press and hold **SCENE (Section)** to enter Scene mode.
2. If required, press Button 7 and 8 to select the desired Scene bank.
3. Press Button 3 (**APPEND**).
4. Press the pad corresponding to the Scene you want to append.

→ The Scene is appended to the arrangement, You can do this more than once, tapping a series of pads will add all of those Scenes into Sections at the end of the Arranger in one quick step.

17.2.12. Changing the Color of a Scene

You can change the color of each Scene.

To change the color of a Scene:

1. Press and hold **SCENE (Section)** to enter Scene mode.
2. If necessary, press Button 7 or 8 to select the desired Scene bank.
3. Press the Pad to select the Scene you want to change.
4. Turn Knob 1 (**Color**) to change the color.

→ The color of the selected Scene is changed. Press the Pad to select other Scenes and repeat the procedure to change their color.

17.3. Using Song View

In MASCHINE, a song is made of a variable number of Scenes, which represent the different parts of the song, for example, intro, verse, chorus, break, another verse. By assigning your Scenes to Sections to the Timeline in the Song view you can start to organize your track.

The Song view is where you can sequence Scenes to create your final arrangement. This process involves creating a Section on the Timeline and assigning a Scene to it. Any Scene that exists in the Ideas view can be assigned to a Section in the Song view. You can change the length of the Section (determining the playback length of the Scene) or re-order the Sections as you see fit. You can also re-use the same Scene in multiple Sections in the timeline, or you can choose to assign no Scene to the Section at all.

One powerful aspect of the relationship between the Ideas view and Song view is that the content in these two areas are actually one-in-the-same. This means that if you make a change to a Scene it will affect all other instances of that Scene automatically. If you place a Scene in three different Sections of the Timeline and then proceed to change the Patterns assigned to that Scene, the other two instances of that Scene also play the newly-assigned Patterns. It's therefore very easy to make changes to individual Patterns and Scenes after the arrangement has been made and immediately hear the results in the context of the arrangement, and those changes can be made in either Ideas or Song view.

17.3.1. Creating Sections

You can create a new Section directly in the Song view.

To create a new Section:

1. Press **IDEAS (Song)**.
2. Press **SHIFT** + Button to enter Song view.
3. Press **SCENE (Section)** + any unlit pad to create a new empty Section in the current Section bank.

→ A new empty Section is created.

17.3.2. Assigning a Scene to a Section

Now you have created an empty Section on the timeline of the Arranger, you can now add a Scene from the Ideas view to the Song view.

To add a Scene to a Section in Song view:

1. Press **SHIFT + SCENE (Section)** to enter Song view.
2. Press the Right Arrow button to select Scene.
3. Turn the Encoder to select the Scene you want to add to the Section.

→ The selected Scene is added to the Section. By repeating this for each new Section, you can quickly add Scenes to the Arranger.

17.3.3. Selecting a Section

You can select a Section directly in the Song view.

To select a Section in the current Section bank:

1. Press **IDEAS (Song)**.
2. Press **SHIFT** + Button 2 to enter Song view.
3. Press the dim-lit pad corresponding to the cell of the desired Section on the right display.

→ The desired Section is selected.

Upon your selection, the following happens:

- The Pattern Editor displays the Pattern corresponding to the focused Group in this Section. If there is no Pattern for the focused Group in the Section you have just selected, the Pattern Editor is empty.

- If you have selected the Section by pressing a pad, or if you have selected a Section outside the current Loop Range:
 - The Loop Range is set to the selected Section, see section [Selecting a Loop Range](#).
 - If playback is off the playhead immediately jumps to the beginning of the selected Section. If playback is on the playhead jumps according to the Perform Grid settings, see section [Jumping to Other Scenes](#).
- If you have selected a Section within the current Loop Range via the Page buttons, the Loop Range and the playback position stay untouched.

17.3.4. Creating and Deleting Section Banks

A new Section bank is automatically created once you fill an entire bank with Sections.

To delete a Section bank:

1. Press **IDEAS (Song)**
2. Press **SHIFT**, then Button 2 (**SONG**).
3. Press and hold **SCENE (Section)** to enter Section mode.
4. If required, press Button 7 and 8 to select the desired Scene bank.
5. Press **SHIFT** + Button 6 (**DELETE**) to delete the selected Scene bank.

→ The Section bank is deleted including all its Sections. The following banks are shifted up to fill the gap.

17.3.5. Selecting a Section Bank

You can select a Section located in another Section bank.

To select a Section located in another Section bank:

1. Press **SHIFT** + **SCENE** to enter Song view.
2. Press **IDEAS (Song)**, then **SHIFT**.
3. Press Button 2 (**SONG**)
4. Press and hold **SCENE** to enter Scene mode (or pin it by pressing **SCENE** + Button 1).
5. Press Button 7 or 8 to select the previous/next Section bank.

17.3.6. Moving a Section

Reordering Sections is essential to organize and arrange your song.

To move a Section:

1. Press **IDEAS (Song)**.
2. Press **SHIFT** + Button 2 to enter Song view.
3. Press and hold **SCENE (Section)** to enter Section mode (you can pin it by pressing Button 1).
4. If required, press Button 7 and 8 to select the Section bank containing the Section you want to move.
5. Press the pad of the Section you want to move.

6. Turn Knob 1 (**POSITION**) to move the selected Section to another position in your arrangement.
 - The Section takes its new place. In Section mode you can now select this Section via the pad corresponding to its new location.

17.3.7. Adjusting the Length of a Section

Here are a few rules on how Sections, Scenes, Patterns, Clips are displayed within the Arranger: By default, the length of a Section is automatically set to the longest Pattern used within the referenced Scene (Auto Length), unless the length of the Section is manually set to a specific bar range (Manual Length).

Auto Length: By default, the length of a Section corresponds to the longest Pattern used in the referenced Scene. Inserting a new Pattern that is longer than the Section automatically extends the Section. Removing the longest Pattern from the Section automatically shrinks the Section. Extending/shrinking the longest Pattern automatically extends/shrinks the Section accordingly.

Manual Length: A Section can be manually adjusted to a set length. This can be shorter or longer than the Pattern contained within the referenced Scene. Inserting or removing Patterns from the Scene will not alter the length of the Section, however, the length of a Section can be altered by using the Length parameter.

If a Pattern is shorter than the Section it is placed in, it is automatically repeated until the end of the Section (the last repetition might be shortened). These repetitions are automatically generated and cannot be edited. They reference the same Pattern placed at the beginning of the Section. Repetitions of a Pattern are indicated by darker blocks in the Arranger, and a Truncated Pattern marker will appear on the right-hand side of the Section to indicate that a section of the Pattern is hidden:

- If a Section has been manually shortened, only the visible part of the Pattern within the set length will be audible.
- Scenes always start at the beginning of the Section.

To adjust the length of a Section:

1. Press **IDEAS (Song)**.
2. Press **SHIFT** + Button 2 (**SONG**) to enter Song view.
3. Select the pad relating to the Section you want to adjust.
4. Turn Knob 4 to adjust the length of the Section as required. Turning the knob left will shorten the Section, turning it right will lengthen the Section.
5. Press **SHIFT** and turn Knob 4 to change the Section length in smaller increments.

→ The length of the Section is adjusted.

17.3.8. Duplicating a Sections

The Ideas view allows you to duplicate a Section. This feature works in connection with settings made in the Scene/Section page of the MASCHINE+ General Settings, see [General Settings](#) .

Together they offer you options to:

- duplicate Scenes
- duplicate Scenes and Patterns
- link when duplicating Sections

For more information on the Default page of the Preferences, refer to the MASCHINE Software Manual.

To duplicate a Section:

1. Press **IDEAS (Song)**.
2. Press **SHIFT**, then Button 2 (**SONG**)
3. Press the pad corresponding to the Scene you want to duplicate.
4. Hold **SCENE (Section)**, then press Button 4 (**DUPLICATE**)
5. Press any unlit pad to duplicate the Scene.

Making a Section Unique

If a Scene is referencing the same Patterns you can make a separate (unique) copy of the Scene and its Patterns by selecting Unique. This allows you to work on a new separate copy of the Scene and its Pattern in isolation. Use Unique in combination with the Duplicate option.

To make a Section unique:

1. Press and hold **SCENE (Section)** to enter Scene mode.
 2. Press the pad corresponding to the Section you want to make unique.
 3. Press Button 2 (**UNIQUE**).
- The Section will become independent of any Sections it was linked to and the Patterns can be edited without affecting any of the original Sections.

17.3.9. Removing a Section

Sections can be removed from the arrangement.

To remove a Section:

1. Press **IDEAS (Song)**.
2. Press **SHIFT** + Button 2 to enter Song view.
3. Press and hold **SCENE (Section)** to enter Section mode.
4. Press the pad corresponding to the Section you want to remove.
5. Press Button 6 (**REMOVE**).

→ The Section is removed from the arrangement. The next Sections shift ahead to fill the gap.

17.3.10. Enabling Auto Length

By default, a Section is set to Auto Length allowing it to resize automatically to the content within the Section. If the length of a Section is manually adjusted by truncating or lengthening the Section end marker, Auto Length is discarded and the Section automatically set to Manual Length. It is possible to quickly reset a Section to back to Auto Length in order to return to the Section to its default state and reveal any truncated (hidden) content. When Auto Length is enabled, the Manual Length settings are discarded and the Section is resized according to the Patterns in the assigned Scene, and will continue to resize with the content unless the length is again manually adjusted.

To enable Auto Length for a Section:

1. Press **IDEAS (Song)**
2. Press **SHIFT** + Button 2.

3. Press **SHIFT + SCENE (Section)** to enter Section view.
 4. Press the corresponding pad to select a Section.
 5. Press Button 3 (**AUTO LENGTH**) to enable Auto Length.
- The selected Section is automatically resized to fit the content of the Patterns within the assigned Scene.

17.4. The Arrange Grid

The Arrange Grid is used to quantize all modifications related to the timeline. The value set here is used for the following features:

- Loop start / length
- Loop position
- Pattern length
- Scene length
- Song Clip start/length
- Playhead relocation

To activate the Arrange Grid:

1. Press the **SHIFT + FOLLOW (Grid)** button to access the Grid page.
2. Press Button 3 to select **ARRANGE**.
3. Press Buttons 5, 6, and 7, or the corresponding pad to select an Arrange Grid value.

→ The selected Arrange Grid value is applied.

To deactivate the Arrange Grid:

- ▶ Press pad 16 to select **OFF**.

→ The Arrange Grid is deactivated.

17.5. Quick Grid

The Quick Grid setting allows you to quickly and conveniently set the most common Pattern lengths.

When the Quick Grid is used, the following rules apply:

- The available Pattern lengths are as follows: 1 bar, 2 bars, 4 bars, 8 bars, 12 bars, 16 bars, etc. (+ 4 bars each time starting from 4 bars).
- The Quick Grid is exclusively applied to Pattern Length. For all other features related to the Grid (for example, adjusting the playback position or the Loop Range), the Arrange Grid is used.
- The Quick Grid setting is global and applies to all Patterns.
- When the Quick Grid is set to **OFF**, the Arrange Grid is used.

To activate the Quick Grid:

1. Press **SHIFT + FOLLOW (Grid)** to access the Grid page.
2. Press Button 3 to select **ARRANGE**.

3. Turn Knob 4 to activate the **QUICK** Grid

→ Quick Grid is activated and globally applied to all Patterns.

18. Sampling and Sample Mapping

MASCHINE+ enables you to record internal or external audio signals without even 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. You can apply various types of destructive processing to the recorded audio or to any sample you want to use in a Sound.

The slicing feature 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 quickly extract single samples from loops, for example, a snare sound from a drum loop, 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 to particular Zones, 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 number of Samples in only one Sound. All this can be done in the Sample Editor.

18.1. Opening the Sample Editor

The Sampler can be opened using its dedicated button.

To access the Sampler:

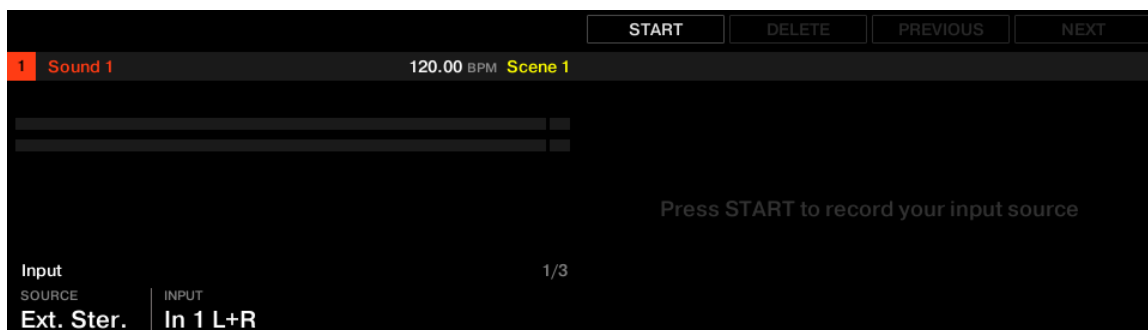
- ▶ Press the **SAMPLING** button.
- The Sample recording page is available. You can now start selecting the source and recording mode.

18.2. Recording Audio Overview

In the Sampler, MASCHINE+ provides everything you need to record audio. The initial Record page provides options for setting the recording source and mode for samples.

18.2.1. Opening the Record Page

The Record page tab only becomes visible once some audio has been recorded.



The initial Sample page

After recording a sample the Record page becomes available.

► In the Sampler, press Button 1 to access the **RECORD** page.

→ The Record page appears.



The Record page in the Sampler

18.2.2. Selecting the Source to Record

Here you can select the type of source you want to record.

To select a source type:

► Turn Knob 1 (**SOURCE**).

The following options are available:

- Select **Ext. Ster.** to record stereo external audio signals connected to your audio interface.
- Select **Ext. Mono** to record mono external audio signals connected to your audio interface.
- Select **Internal** to record audio signals from MASCHINE+.

To select an Input type:

► Turn Knob 2 (**INPUT**).

The following options are available:

- If **SOURCE** is set to **Ext. Ster.**, you can select either of the external stereo inputs In 1–4.
- If **SOURCE** is set to **Ext. Mono**, you can select either of the eight external mono inputs: the left (“**L**”) or right (“**R**”) channel of each input pair In 1–4.
- If **SOURCE** is set to **Internal**, you can select the output of any available Group or the Master.



You can record your improvisations recorded as Samples, ready to be used, edited, sliced, etc., as any other samples in MASCHINE+. To do this, set **SOURCE** to **Internal**, then choose a Group with a drum kit loaded as **INPUT**, and record your live improvisations on the pads while playing this drum kit.

18.2.3. Choosing a Recording Mode

The Recording mode option enables you to select how MASCHINE+ records samples.

To access the Recording mode options:

1. Press **SAMPLING** to access the Sampler.
2. Press Button 1 (**RECORD**).
3. Press the right Page button to access page 2.
4. Turn Knob 1 (**MODE**) to select from the three available recording modes:
 - **Detect**: Records audio after the set threshold has been exceeded. This is useful when you want to record audio without the silence before the incoming sound is played. If the focused Sound Slot contains neither an Audio nor Sampler plug-in, then the recorded audio will be loaded automatically into a Sampler plug-in for the first Take. You must trigger the Sampler with MIDI Events, such as those in a Pattern, to playback the audio.
 - If **Detect** is selected, you can set a certain threshold using the level **THRESHOLD** control on the right. After you pressed **Start**, any input signal level exceeding this threshold will start the recording. You can then manually stop the recording by pressing **Stop**. You can also adjust the threshold that appears on the horizontal input level meters: Any input level reaching the slider position will start the recording. To reset the threshold set it to the default value of -12 dB.
 - **Sync**: Starts recording audio in time with the Pattern Grid. If the focused Sound Slot contains neither an Audio nor Sampler plug-in, then the recorded Sample will be loaded automatically into a Sampler plug-in as the first Take. You must trigger the Sampler with MIDI Events, such as those in a Pattern, to playback the audio.
 - When **Sync** is selected recording starts in sync with the sequencer after you click Start. The recording will begin at the start of the next bar. The **LENGTH** control on the right allows you to choose a length for the recording: either **1**, **2**, **4**, **8**, or **16** bars, or choose **Free** if you do not want to set a duration limit to the recording. At any time you can press Stop to end recording, and the recording will stop at the next bar.

- **Loop:** Records audio that you intend to playback in-sync with your Project using the Audio plug-in. It records audio in the same way as Sync however when Loop mode is selected, an additional parameter appears called Target. In Loop mode, the recording is loaded into an Audio plug-in so that you can immediately hear the results. The Target parameter dictates how MASCHINE+ loads new recordings into the Audio plug-in:
 - **Take:** Records each new Take into the focused Sound slot. After a Take is recorded it will become visible in the Audio Pool and is automatically selected for playback. You can review all the Takes you've captured in the Audio Pool, and you can also select any of these Takes to make it the one that actively plays back in the Audio plug-in.
 - **Sound:** Provides a layered workflow similar to that achieved with guitar loop pedals. When using this mode, each recording that you make will be loaded into an empty Sound Slot in the current Group and Pattern and will begin playing back. Therefore, each recording that you make will playback layered on top of all the previous recordings made in that particular Group and Pattern. By layering each new Take onto a new Sound you can quickly build a whole pattern. You can continue this process until all empty Sound slots in the Group are used up, then after that, each additional recording will simply be recorded as a new Take into the last Sound of the Group that contains an Audio plug-in (and the previous Takes will still be preserved if you want to switch back to them).
 - **Pattern:** Records in a similar way to the Sound Target described above, except that each new recording will also be assigned to a new Pattern on its own. This mode can be useful when you want to record different variations of a part and then review the variations easily by playing each Pattern. For example, the first recording made will be placed into an Audio plug-in in the first available Sound Slot in the Group, and then a new Pattern will be created where only this new recording is playing back. Making another recording will result in the recording being loaded into another unused Sound Slot, and another new Pattern will be made where only this most recent recording is playing. If you then switch back to the previous Pattern, you'll hear only the previous recording (the newest will automatically be deactivated in the previous Pattern).

18.2.4. Monitoring the Input Signal

The level meters in the **RECORD** section 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. For this purpose, in Detect mode the level meters additionally provide a fader adjusting the threshold level, this fader is a strict equivalent to the **THRESHOLD** control described above. This way, you can easily visualize when the input signal exceeds the current threshold (and hence, when it would start the recording) and adjust it accordingly.

Furthermore, if you have selected an external signal (**Ext. Ster.** or **Ext. Mono** selected in **SOURCE**), an additional **MONITOR** section appears on page 3. In this section, activate the MONITOR to send the input signal to the Cue bus of MASCHINE, allowing you to hear on a separate channel (for example, your headphones) the audio source that is about to be recorded.

To access the Monitor:

1. Press **SAMPLING**.
2. Press Button 1 (**RECORD**).
3. Press the right Page button to access page 3.
4. Turn Knob 1 (**MONITOR**) to turn monitoring on/off.

18.2.5. Arming, Starting, and Stopping the Recording

In the Sampler, you can arm, start, and stop the recording of the Sampler.

To arm the recording:

1. Press **SAMPLING**.
2. Press Button 5 (**Start**) to arm the recording.

→ After the recording has been armed, its behavior will depend on the recording mode you have selected, see [Selecting the Source and Recording Mode](#).



If you want to start and stop the recording manually, you can set the **MODE** to **DETECT**, dial the **THRESHOLD** down to **OFF** and start the recording by pressing **START** (Button 5). To stop recording, press **STOP** (Button 5).

- When recording in **Detect** mode:
 - The recording will start as soon as the input signal exceeds the **THRESHOLD** value. Until then the **START** button turns to a **WAITING** button and the **Waiting for input...** message appears. During this waiting phase, you can also start the recording manually by clicking the **WAITING** button or cancel the recording by clicking **CANCEL**.
 - Once the recording has started, you can press **STOP** to stop the recording (it stops immediately) or **CANCEL** to cancel the recording (the recorded audio will not be saved).
- When recording in **Sync** mode:
 - The recording will start at the next bar. Until then the **START** button reads a flashing **WAITING** label and the **Waiting for the next bar...** message appears in the information bar above the waveform display.
 - Once the recording has started, the audio is recorded for the duration set by the **LENGTH** control (see [Choosing a Recording Mode](#)). You can also press **STOP** beforehand to stop the recording at the next bar, or **CANCEL** to cancel the recording (in that case the recorded audio will not be saved).
- When recording in **Loop** mode:
 - The recording will start at the beginning of the Pattern. Until then the **START** button reads a flashing **WAITING** label and the **Waiting for end of Pattern...** message appears in the information bar above the waveform display.
 - Once the recording has started, the audio is recorded for the duration set by the **LENGTH** control (see [Choosing a Recording Mode](#)). You can also click **STOP** beforehand to stop the recording at the next bar or **Cancel** to cancel the recording (in that case the recorded audio will not be saved).



To start and stop the recording manually, set the **MODE** to **Detect**, dial the **THRESHOLD** down to **OFF**, and start the recording by pressing **START**. To stop recording, press **STOP**.


In any case, the recorded audio will be stored in the selected Sound as you started the recording.

When Recording is Complete

When the recording is done, the following things happen:

- Each Take is named and stored as a file on your hard disk (see [Location and Name of Your Recorded Samples](#)).

- Its waveform appears in the waveform display and its name appears in the information bar above.
- The recording is automatically appended to the Audio Pool of the Sound and selected (see [Checking Your Recording](#)).
- A Sampler Plug-in is automatically loaded in the first Plug-in slot of the Sound, ready to play your new recording. All Plug-ins previously loaded in that Sound are removed. However, when recording in Loop mode, an Audio plug-in will be loaded. If there was already a Sample Plug-in in the Slot when engaging Loop recording, it will not change the Sampler to an Audio plug-in, it will remain as a Sampler and you will need to manually change the plug-in to Audio if you wish. In this case, all recorded takes will be preserved.
- The Sound slot takes the name of your recording.
- If the Sampler Plug-in was used in **Detect** mode or **Sync** mode, the recording is mapped to a new Zone covering the entire key and velocity ranges in the **Zone** page, which makes your new sample directly playable from the pad of its Sound slot (or from all your pads if pads are in Keyboard mode). Any existing Zones will be replaced. The sample must then be triggered using MIDI Events in the Pattern Editor. For more information on Zones, see section [Mapping Samples to Zones](#).
- If the Audio Plug-in was used in **Loop** mode, the last recorded Take will automatically play back with the Pattern.

 Note that any MIDI events for that Sound in the current Pattern will remain. As a consequence, your recording might directly start to play at the pitch defined by the existing MIDI events.

18.2.6. Using the Footswitch for Recording Audio

MASCHINE+ has an input for a footswitch that can be used to control the sampler while keeping your hands free to play your instruments. In order to use the footswitch for audio loop recording, you must first go to the **SAMPLING** page to pin the recording mode. You can then set the recording parameters as described in the section: [Choosing a Recording Mode](#). When all the recording parameters are set, simply depress the footswitch. Once the sync point is reached, the recording will start. It will then stop after the pre-determined length or, especially in the cases where you have selected **Free** for the **LENGTH**, press the footswitch again to stop recording on the next bar. When the recording is done, the recording will be loaded according to the setting of the Target parameter.

In most instances the footswitch provides the following control:

- **Cancel:** If a recording is standing by to start (awaiting the sync point), you can simply press the footswitch once again to cancel the recording. No new recordings will be made, nor new Patterns.
- **Abort:** If a recording has started, “double-click” the footswitch to abort the current recording. Any audio recorded will be discarded, no loops will be loaded, and no new Pattern created.
- **Undo:** If a recording finished before you could cancel it, then simply press and hold the footswitch to trigger Undo.

18.2.7. Checking Your Recording

After recording a sample the recordings you have made are visualized on the displays. The highlighted sample is the sample selected for the current Sound.



The Record page in the Sampler

Using the Audio Pool

All the recordings (takes) you have made since you opened the current Project are stored in the Audio Pool and displayed as mini waveforms on the left display. The following actions are available:

To navigate your recordings, press Button 7 (**PREV**) and Button 8 (**NEXT**).

- If you are using the Sampler plug-in:
 - The selected recording is automatically loaded in the Plug-in and ready to be played.
 - You can further edit the selected recording via the other pages of the Sampling mode. When selected, a recording is also automatically mapped to a new Zone covering the entire key and velocity ranges in the **ZONE** page. Any existing Zones will be replaced.
 - You can press the fully lit pad (the focused Sound slot) to listen to the displayed recording on the Cue bus (see section [Configuring the Master and Cue Outputs](#)).
- If you are using the Audio plug-in:
 - The last take will automatically playback.
 - You can set the Playback mode, the Engine mode, and Source Tempo and Length.

► Press Button 6 (**DELETE**) to delete the selected take.

i All recordings (takes) in the Audio Pool are saved with the Project. When you close the current Project, all of your takes are saved as audio files and available for later use unless you explicitly delete them (via the MASCHINE software or in your operating system).

Location and Name of Your Recorded Samples

By default, recorded (takes) are saved in the Recordings subfolder of your SD memory card: `Native Instruments\Maschine2\Recordings`. You can access them when using MASCHINE+ in Storage mode. For more information on Storage mode, see [Transferring Files to the SD Card](#).

Recorded samples (takes) are automatically named using the following scheme:

[YYMMDD]T[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).

18.3. Editing a Sample

The Edit page of the Sampler enables you to adjust the start and endpoint of a sample or slice and apply various destructive audio processing functions.

i Sample editing can only be done in the Sampler plug-in, not using the Audio plug-in. If you want to edit a sample in the Audio plug-in, you must first switch it to a Sampler plug-in, make the edit, and then switch back to the Audio plug-in again.

The Edit page always displays the Sample of the Zone currently selected (see [Selecting and Managing Zones](#)), and all your actions on that page will affect this particular Sample. For example:

- If you have just recorded a Sample, it will directly appear here. If you have recorded more than one sample, the sample selected in the Recording History (by default the last recorded Sample) will appear here, see section [Checking Your Recording](#) for more information on the Recording History.
- If the sample in that Sound is already split into slices, each slice has its own Zone and the slice of the focused Zone will appear here. See section [Slicing a Sample Overview](#) for more information on slicing samples.

18.3.1. Using the Edit Page

The Edit page enables you to adjust the start and endpoints of a Sample or Slice and to apply various destructive audio processing functions to any part of the Sample.

To edit a sample:

- ▶ In the Sampler, press Button 2 (**EDIT**) to access the Edit page.
- The Edit page is displayed.



The Edit page

The right display shows the waveform of the selected Sample:

- Turn Knob 5 to zoom in on the waveform of the Sample and Knob 6 to scroll through it.
- Above the waveform, the information bar indicates the name and length of the Sample.
- The Sample can be played back at any time by pressing the corresponding pad. 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 at the bottom of the left display are spread over two pages.

- Use the Page buttons to the left of the displays to select the desired page.

Page 1 – Play Range Parameters

The parameters in the Play Range section allow you to adjust the range that will be played back when you trigger a note.

Parameter	Description
Knob1 (START)	Adjusts the start point of the play range in the Sample.
Knob 2 (END)	Adjusts the end point of the play range in the Sample.

Page 2 – Selection Range Parameters

The parameters in the Selection Range section allow you to adjust the range to which audio processing functions will be applied.

Parameter	Description
Knob1 (START)	Adjusts the start point of the selection range in the Sample.
Knob 2 (END)	Adjusts the end point of the selection range in the Sample.



Hold **SHIFT** when turning the Knobs to adjust the parameters in finer increments.

On the right display, the selection range is highlighted.

The Edit page provides several audio editing functions to process your Sample. Available via Buttons 5–8 above the right display, these functions are described in detail in the following section: [Audio Editing](#).

18.3.2. Audio Editing

On the Edit page, the Audio Toolbar provides various audio functions. These will be performed on the selected region of the Sample, as defined by the **START** and **END** parameters of the Selection Range section (see [Using the Edit Page](#)).

The **EDIT** page additionally provides several audio editing functions to process your Sample.

1. Use Button 5 and 6 to select the desired audio function.
2. Press Button 8 to perform the selected audio function.

→ The audio processing function will be performed on the selected region in your Sample, as defined by the **START** and **END** parameters of the **SELECTION RANGE** section on page 2.



These audio processing functions are destructive, this means 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 playback settings of the Sample (e.g., tune, amplitude envelope, etc.) can be adjusted on the Zone page.

The Audio Toolbar provides the following audio processing functions:

Command	Description
TRUNCATE	Deletes the part of the Sample that is outside of the selected region.
NORM. (Normalize)	Adjusts the level of the selected region to the maximum possible value without clipping.
REVERSE	Reverses the selected region of the Sample.
FADE IN	Applies a fade in to the selected region of the Sample.
FADE OUT	Applies a fade out to the selected region of the Sample.
DC CORRECT	Removes the DC offset. DC offset ("Direct Current offset") is an undesirable asymmetry of the signal that might be introduced by some audio processing units. This offset can notably waste some of the available headroom.
SILENCE	Silences the selected region of the Sample.
CUT	Deletes the selected region from the Sample and places it into the clipboard for later use.
COPY	Copies the selected region of the Sample to the clipboard for later use.
PASTE	Pastes the cut/copied region of the Sample, replacing the region of the Sample currently selected.
DUPL. (Duplicate)	Duplicates the selected region of the Sample. The copy is placed right after the original region.
STRETCH	Applies 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 7 (**SETTINGS**) enables you to adjust the parameters of the time-stretching / pitch-shifting function before applying it to the selected region. Use Knobs 1 to 8 to adjust the parameters. Pitch shifting and time-stretching can be applied independently.



The Stretch controls at the bottom of the Edit page.

The following parameters are available:

Parameter	Description
STRETCH section	
TUNE	Adjusts the detuning (pitch shifting) to be applied (in semitones and cents). Leave this value to 0.00 to leave the original pitch untouched.

Parameter	Description
FORMANT C (Formant Correction)	Activates/deactivates the formant character. 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.
MODE	<p>Selects between Beat and Free mode:</p> <p>In Beat mode, the new tempo is defined relative 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 (for example, a drum loop).</p> <p>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).</p>
AUTO DTCT (Auto Detection, Beat mode only)	Automatically detects the tempo of the original audio.
SRC BPM (Source BPM, Beat mode only)	<p>Defines the tempo of the original audio (in BPM). This tempo is defined in different ways according to the AUTO DTCT value:</p> <p>When AUTO DTCT is activated, you can set the length (in bars) of the original audio. You can choose between 1/2, 1, and 2 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.</p> <p>When AUTO DTCT is deactivated, you can directly define the tempo of the original audio (in BPM).</p>
NEW BPM (Beat Mode only)	Defines the target tempo of the time-stretched audio (in BPM).
LENGTH (Stretch Length, Beat mode with Auto Detection enabled only)	Defines the length of the time-stretched audio (in bars) if AUTO DTCT is activated. Please note that any change to the SRC BPM 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 target tempo relative to the original tempo (in percentage). The minimum value is 10%.

i In Beat mode, if you set a target tempo (**NEW BPM**) that is smaller than a tenth of the original tempo (**SRC BPM**), Button 8 (**APPLY**) will be grayed out and deactivated. Set a higher target tempo to activate the button again.

18.4. Slicing a Sample Overview

Slicing enables you to chop-up loops to extract single Sounds (the drum sounds of a drum loop for example), but it's also good for preparing a loop to be played back at another tempo without changing its pitch or timing. The resulting Slices can then be exported to different notes of the same Sound or to different Sounds of the same Group.

The Slice page of the Sample Editor enables you to slice your Samples in various ways.

18.4.1. Slicing a Sample

The typical workflow for slicing your Samples is as follows:

1. Open the Slice page: [Opening the Slice Page](#).
2. Choose a method for slicing along with a few settings depending on the chosen method: [Adjusting the Slicing Settings](#).
3. If you wish, manually adjust the proposed Slices: [Manually Adjusting Slices](#).
4. Apply the slicing to your Sample and export the Slices – whether in place or to another Sound/ Group: [Applying the Slicing](#).

Which Sample Is Shown in the Slice Page?

The **Slice** page always displays the Sample of the Zone currently selected (see section [Selecting and Managing Zones](#) for more information on selecting Zones), and all your actions on that page will affect this particular Sample. For example:

- If you have just recorded a Sample, it will directly appear here. If you have recorded more than one Sample, the Sample selected in the Recording History (by default the last recorded Sample) will appear here, see section [Recording Audio Overview](#) for more information on how to record Samples.
- You can also drag a Sample onto the focused Sound slot or directly to the Slice page from the Browser or from your operating system. It will then appear on the page and replace any Sample already loaded in that Sound.

18.4.2. Opening the Slice Page

Slicing a Sample is done in the Slice page of the Sample Editor.

- ▶ In Sampling mode, press Button 3 (**SLICE**) to access the Slice page.
- The Slice page appears and you can adjust its parameters.

The Slice page looks as follows:



The Slice page (1 of 3)

18.4.3. Adjusting the Slicing Settings

At the bottom of the left display, you can adjust the settings used to define where the various Slices will be created in the Sample.

Any change to these settings will directly affect the number and position of the Slice markers shown in the waveform on the displays.

Selecting and Pre-Listening the Slices with the Pads

At any time, the proposed Slices are also available on your pads: The fully lit pad indicates the selected Slice, while the dimmed pads indicate the other Slices.

- ▶ Press any fully or dimmed pad to playback the corresponding Slice on the Cue bus.

If there are more than 16 Slices, you can select which set of 16 Slices should be triggered by your pads:

- ▶ If there are more than 16 Slices, press **SHIFT** + Button 7 or 8 to switch your pads to the previous/next 16 Slices.

i Note that you haven't applied any slicing yet: For now your pads only allow you to prelisten to how it will sound after you apply the slicing. Applying the slicing will be described in section [Applying the Slicing](#).

Slicing Parameters

The following parameters are available:

Parameter	Description
Slicer Section	

Parameter	Description
MODE	Here you can select either Detect , Split , Grid , or Manual : Detect mode: The Sample will be sliced according to its transients. Split mode: The Sample will be sliced into equally spread Slices. Grid mode: The Sample will be sliced according to note values. Manual mode: Manually enter slice points using the pads, and edit the start and end points of a slice. For more information, see Manually Adjusting Slices .
SLICES (Split and Grid mode only)	When MODE is set to SPLIT (see above), SLICES lets you choose the amount of Slices: 4, 8, 16 or 32. When MODE is set to GRID (see above), SLICES lets you choose the length of the Slices in note values: 4th, 8th, 16th or 32nd notes.
AUTO-SNAP (Manual mode only)	The Auto-Snap feature automatically aligns Slice points to the nearest transient as you manually trigger the slicing from the pads. It can be turned off so that slice points are instead placed exactly where you trigger them. In order to use Auto-Snap, you must wait for analysis to be performed on the sample you are slicing, the analysis is very quick but will take longer for long audio files.
SENSITIVITY (Detect mode only)	When MODE is set to DETECT SENSITIVITY enables 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.
BPM (BPM Mode)	Selects how the tempo is defined: If you select AUTO , MASCHINE will calculate the tempo automatically. If you select MANUAL , you can enter the tempo in BPM manually.
ADJUST	If BPM is set to AUTO , you can choose between the tempo that MASCHINE+ detected, or half or double of that tempo. If BPM is set to MANUAL , you can adjust the tempo manually.

When **MODE** is set to **DETECT**, the second section of parameters is available at the bottom of the left display: the Engine section.

► When **MODE** is set to **DETECT**, press the Right Page button to show the Engine section.

The Engine section contains a single parameter: **ZERO-X**.

Parameter	Description
Engine Section	(Detect mode only)
ZERO-X (Zero Crossing, Detect mode only)	When MODE is set to DETECT , activate ZERO-X to force the detected Slices to be created on the closest locations where the audio signal crosses the zero value. This can be helpful to avoid clicks when playing back Slices in another sequence.

18.4.4. Live Slicing

Live Slicing is a quick and intuitive way to add slices to a sample using the pads. The first pad is used to trigger the sample and the subsequent pads are used to add slice points as required. If necessary, the start and end points of the slices can then be fine-tuned using Edit mode.

To manually add Slices to a sample using the pads:

1. Press the **SAMPLING** button to enter the Sampling page.
2. Press Button 3 (**SLICE**) to open the **SLICE** tab.
3. Turn Knob 1 to select **Manual** mode.
 - Pad 1 will begin to flash to indicate that the first Slice can be added.
4. Press Pad 1 to add the first Slice to the sample.
 - Playback of the sample will begin and the next pad will begin to flash to indicate that the next slice point can be added.
5. Press Pad 2 to add the second slice point.
6. Continue to press subsequent pads as they flash to add more slices.
 - When playback of the sample stops you may fine-tune the start and end points of your slices by entering **EDIT** mode.



Press **SHIFT** + **MUTE** if you want to stop playback of a long sample.



Press **SHIFT** + Button 7 and 8 to access each bank of Slices.

18.4.5. Delete All Slices

The **DELETE ALL** option in Sampler Edit mode is a quick and convenient way to delete all Slices at once from a sample.

18.4.6. Manually Adjusting Slices

In addition to the Detect, Split, Grid, and Manual modes that create Slices automatically (see section [Adjusting the Slicing Settings](#) above), you can also adjust Slices manually using your mouse, the waveform display, and the various edit tools at your disposal.



You can directly adjust your Slices manually by selecting **Manual** in the **MODE** menu or start from the proposed Slices and fine-adjust these Slices manually. In that case, the **MODE** menu automatically switches to **Manual**.

Your MASCHINE+ provides a dedicated Slice mode that allows you to select and fine-tune each particular Slice.

After creating slices in Live Slice mode (refer to [Live Slicing](#) use the following steps to edit them:

1. In **SLICE** mode:
2. Press the right page button to access Page 2 **Edit**.
3. Turn Knob 1 to select a slice to edit.
4. Turn Knob 3 to trim the start of the selected slice.
5. Turn Knob 4 to trim the end of the selected slice.
6. Press Button 8 to apply the slice.

Use the page button to access the following parameters and commands:

Page / Parameter	Description
Slicer Page	
Mode	Select the Slicer edit mode.
AUTO-SNAP	The Sample Slicer Manual mode Auto-Snap feature automatically aligns slice points to the nearest transient as you manually trigger the slicing from the pads. This feature can be turned off so that slice points are instead placed exactly where you trigger them. In order to use Auto-Snap, you must wait for analysis to be performed on the sample you are slicing. The analysis is very quick but will take longer for long audio files.
Edit Page	
SLICE (Knob 1)	Selects the Slice to edit. The display will show you which Slice is currently selected. You can also use the pads to select Slices starting from the first pad.
START (Knob 3)	Adjusts the start point of the selected slice. Hold SHIFT when turning the Knob to adjust the parameter in finer increments. If the start point of the slice and the end point of the previous Slice are still joined, moving the start point of the Slice simultaneously moves the end point of the previous Slice, so that both Slices stay joined.
END (Knob 4)	Adjusts the end point of the selected slice. Hold SHIFT when turning the knob to adjust the parameter in finer increments. Note that moving the end point of a slice does not simultaneously move the start point of the next slice, in opposition to adjusting the START parameter (see above).
Apply Page	
MONO	The Mono option of the Sample Slicer automatically sets the Voice and Choke Group of all sample slices to 1 when slicing to a Group. This time saving feature is useful when you do not want to have lots of samples triggered or repeating at the same time, for example, when you slice a drum loop and trigger the individual hits to form a new pattern. When Mono is selected and the slices are applied to a Group, the sampler polyphony is automatically set to 1 so only one voice will play at a time. The Choke Group is also automatically set to 1 so each new pad that is hit will always take priority over the previous one by cancelling it out. This behavior can be found on 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.
PATTERN	This will create a new pattern or replace the existing once the slices have been applied.

Page / Parameter	Description
BPM	Available when Create or Replace is selected in the PATTERN parameter. Selects how the tempo is defined: If you select Auto , MASCHINE will calculate the tempo automatically. If you select Manual , you can enter the tempo in BPM manually.
ADJUST	Available when Create or Replace is selected in the PATTERN parameter. If BPM is set to Auto , you can choose between the tempo that MASCHINE detected, or half or double of that tempo. If BPM is set to Manual , you can adjust the tempo manually.
Buttons 5, 6, 7 and 8	
SPLIT (Button 5)	Splits the sample in half, or adds a Slice during sample playback.
REMOVE (Button 6)	Removes the start border of the selected Slice, thereby joining this Slice with the previous Slice.
DELETE ALL (Button 7)	Removes all Slices.
APPLY... (Button 8)	Applies the Slices.

18.4.7. Applying the Slicing

Once you are satisfied with the proposed and/or manually adjusted Slices (see section [Adjusting the Slicing Settings](#)), you can apply the slicing in order to actually cut the original Sample and create these Slices. This is done via the two commands at the top of the right display: **APPLY...** (Button 8).

Choosing a Destination for the Slices

- ▶ Press Button 8 (**APPLY...**) to export the Slices to any Sound or Group in your Project.
- The displays switch to a Selection mode allowing you to choose a destination for the exported Slices.

In this Selection mode, you can choose to export the Slices to a Sound or to a Group.

To export the Slices to a **Sound**:

1. Select the Group containing the target Sound by pressing its Group button **A–H**. If your Project has more than eight Groups, you can use Buttons 3 and 4 to first select the desired Group bank.
- The selected Group button starts flashing and the corresponding Group is highlighted on the left display. In addition, the pads now represent the Sound slots of that Group.
2. Select the target Sound by pressing its pad. The Group button stops flashing, the selected pad starts flashing to indicate that it is now the target.

3. Press Button 8 (**OK**) to export the Slices.

→ The Slices will be mapped to individual notes of the selected Sound, starting with the bottom C (C-2 in MASCHINE convention). The base key of the Sound will be set to the bottom C as well (see section Adjusting the Base Key for more information on the base key). Any previous content in the Sound will be replaced. Your MASCHINE+ will leave Sample mode and return to Control mode. The pads will switch to Keyboard mode so that you can directly play your Slices on the pads. Additionally, depending on the setting of the Pattern Creation selector in the Slice page of the software, notes will be automatically created for each Slice (see above for more information).

To export the Slices to a **Group**:

1. Select the desired Group by pressing its Group button **A–H**. If your Project has more than eight Groups, you can use Button 3 and 4 to first select the desired Group bank. The selected Group button starts flashing and the corresponding Group is highlighted on the left display.

2. Press Button 8 (**OK**) to export the Slices.

→ The Slices will be mapped to individual Sound slots, replacing their current content (if any). Only the first 16 Slices will be exported. Your MASCHINE+ will leave Sample mode and return to Control mode. The pads will switch to Group mode so that you can directly play your Slices on the pads. Additionally, depending on the setting of the Pattern Creation selector in the Slice page of the software, notes will be automatically created for each Slice (see below).



At any time you can press Button 7 (**CANCEL**) to cancel the export and return to the **SLICE** page.

18.4.8. Exporting Single Slices

Instead of exporting all Slices, you can also export the selected Slice only:

1. Press Button 7 (**APPLY TO**).

→ Slicing switches to the Selection mode.

2. Press Button 5 (**SINGLE**) to export the selected Slice only.

3. Choose the target Sound or Group as described above.

4. Press Button 8 (**APPLY**) to export the selected Slice.

5. On the Slice page, press Button 8 (**APPLY**) to export all Slices to the focused Sound itself.

APPLY: Exporting the Slices to the Same Sound

► On the **SLICE** page, press Button 8 (**APPLY**) to export all Slices to the focused Sound itself.

→ The Sample currently loaded in that Sound will be replaced by its own Slices, each of them being mapped to a particular note.

This is equivalent to pressing Button 7 (**APPLY TO**) and selecting the Sound in which you already are preparing the Slices.

18.5. Mapping Samples to Zones

Mapping Samples is a way to create Sounds with more than one Sample across the MIDI keyboard and with different velocities. You can 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. You can adjust various playback settings for the Sample of each Zone individually. The set of all Zones define the Sample Map (or Map) of the Sound.

18.5.1. Opening the Zone Page

Mapping is created in the Zone page of the Sample Editor.

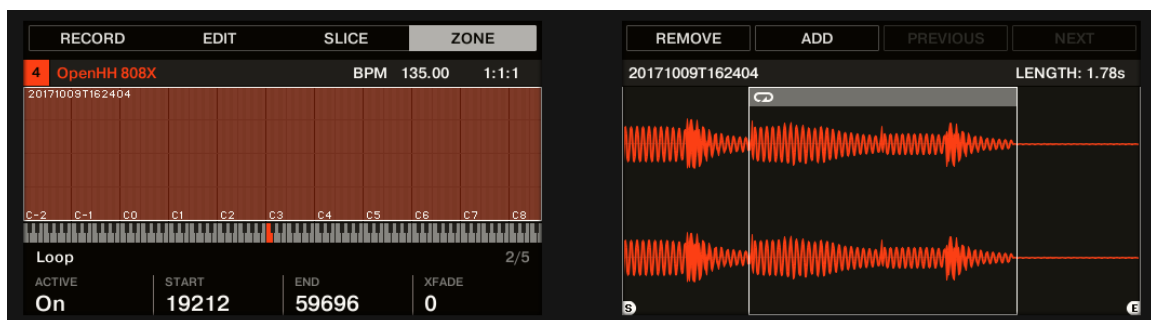
In Sampling mode, press Button 4 (**ZONE**) to access the page.



The Zone page

18.5.2. Editing Zones

At the bottom of the left display, the Zone settings allow you to adjust how each Zone should be played back.



The Zone settings

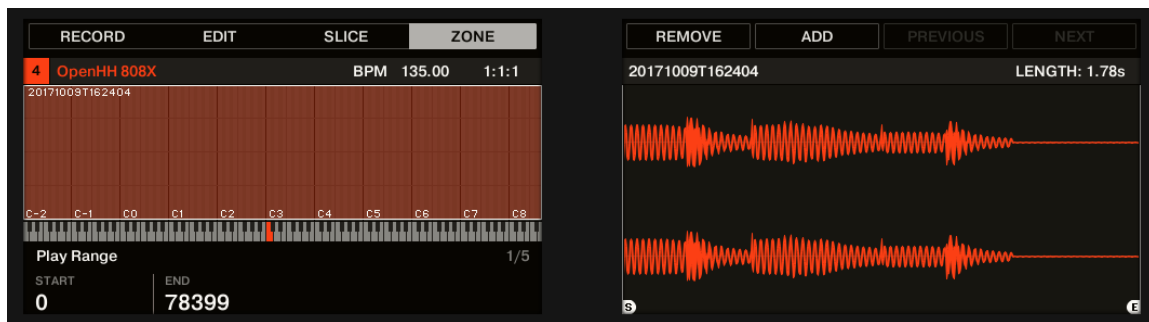
The various parameters always display the values for the focused Zone.

The parameters available in the Zone settings are spread over five pages.

- Use the Page buttons on the left of the displays to select the desired page.

Page 1 – Play Range Parameters

The parameters in the Play Range allow you to adjust the portion of the Sample that will be played back when the Zone is triggered.



The Zone, page 1 of 5: Play Range parameters

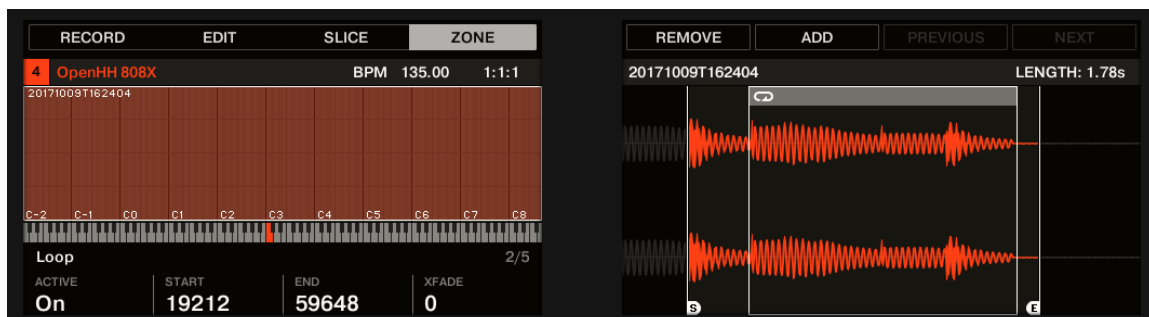
Parameter	Description
START (Knob 1)	Adjusts the playback's start point in the Sample of the focused Zone.
END (Knob 2)	Adjusts the playback's end point in the Sample of the focused Zone.

- Hold **SHIFT** when turning the Knobs to adjust the parameters in finer increments.

In the waveform on the right display, the regions outside the play range are grayed out.


Page 2 – Loop Parameters


The parameters in the **Loop** page allow you to define and adjust a portion that will play in a loop while the note is held.



The Zone, page 2 of 5: Loop parameters.

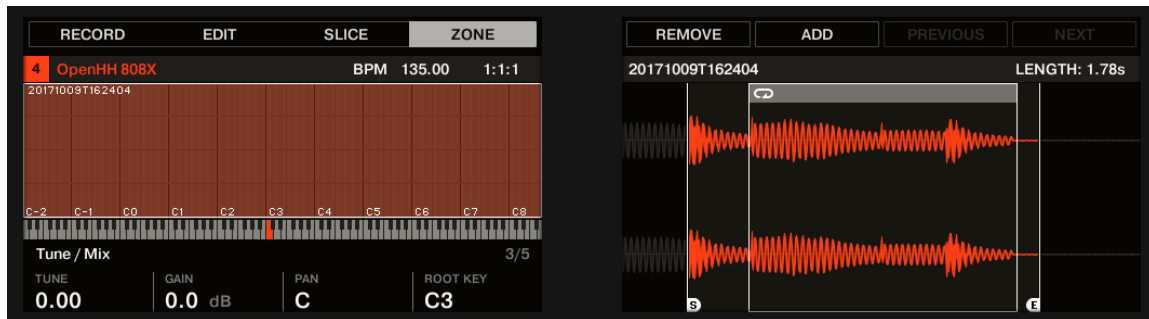
Parameter	Description
ACTIVE (Knob 1)	Enable this to define a loop in the Sample of the focused Zone. When the play position reaches the loop, the playback is looped as long as the note is held. This can be useful to loop either a whole Sample or part of it, e.g., to simulate a longer tone. Note: this technique requires that you set the Sampler's TYPE selector to AHD or ADSR in the PITCH / GATE section (Parameter page 2, see Page 2: Pitch / Envelope).
START (Knob 2)	Adjusts the start point of the loop.
END (Knob 3)	Adjusts the end point of the loop.
XFADE (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 playback is producing 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 – Tune / Mix Parameters

The Tune/Mix page contains parameters controlling pitch- and level-related aspects of the Sample playback.

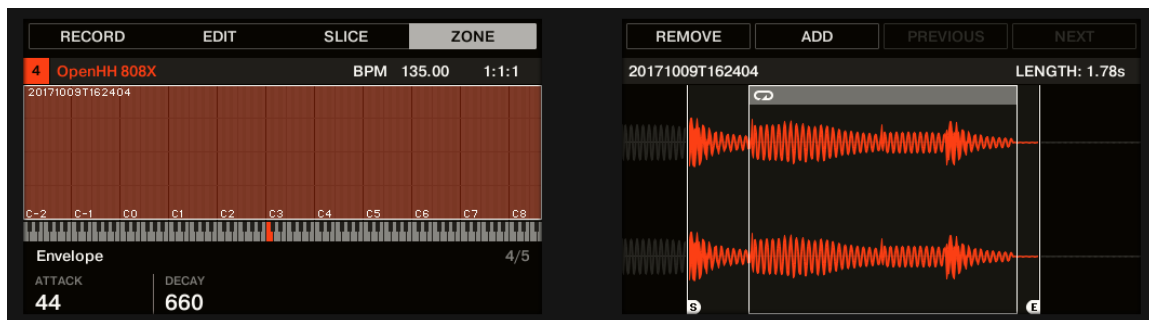


The Zone, page 3 of 5: Tune/Mix parameters

Parameter	Description
TUNE (Knob 1)	Sets the tuning of the focused Zone.
GAIN (Knob 2)	Sets the gain of the focused Zone.
PAN (Knob 3)	Sets the panorama position of the focused Zone.
ROOT KEY (Knob 4)	Adjusts the root key of the focused Zone, that is the key at which the Sample will be played back at its original pitch.

Page 4 – Envelope Parameters

This amplitude envelope can be used to shape the contour of the wave and remove clicks after slicing: you can either apply it to the Zone of the whole Sample or to individual Zones for selected Slices.



The Zone, page 4 of 5: Envelope parameters

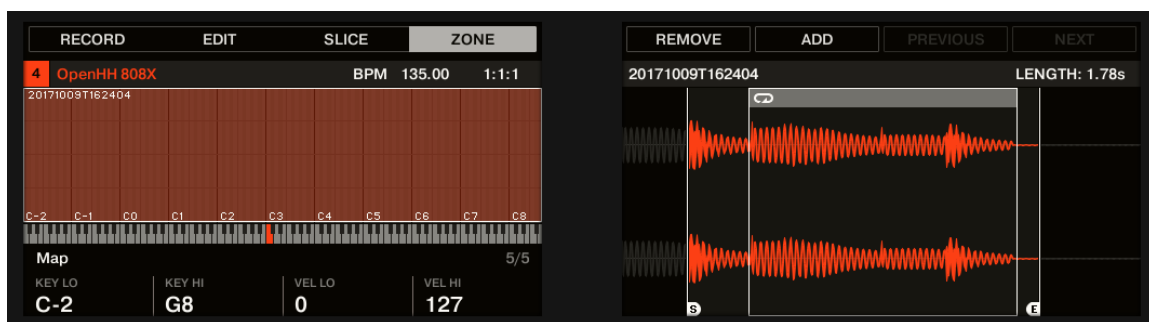
Parameter	Description
ATTACK (Knob 1)	Adjusts how quickly the Sample/Slice reaches full volume level after being triggered.
DECAY (Knob 2)	Adjusts how fast the Sample/Slice fades out.



Hold **SHIFT** when turning the knobs to adjust the parameters in finer increments.

Page 5 – Map Parameters

The **Map** page contains the parameters defining the key and velocity ranges of the Zone.



The Zone, page 5 of 5: Map parameters.

Parameter	Description
KEY LO (Lowest Key, Knob 1)	Sets the lowest note (key) of the focused Zone.
KEY HI (Highest Key, Knob 2)	Sets the highest note (key) of the focused Zone.
VEL LO (Lowest Velocity, Knob 3)	Defines the lowest velocity of the focused Zone.
VEL HI (Highest Velocity, Knob 4)	Defines the highest velocity of the focused Zone.

18.5.3. Adding Samples to the Sample Map

You can add Samples directly to the Map view of the **ZONE** page.

To add a new Sample to the Sample Map of the current Sound:

1. Press **SAMPLING** to enter Sampling mode and press Button 4 (**ZONE**) to open the Zone page.
2. Press Button 6 (**ADD**). It switches to the Browser with the **SAMPLE** type preselected. Button 1 and 2 are inactive so that you can only select and load Samples.
3. In the Browser, select the Sample you want to add to the map of the current Sound.
4. Press Button 8 (**LOAD**) to load the Sample.

→ A new Zone is created that contains the added Sample. Your MASCHINE+ automatically switches back to Sampling mode and the new Zone is selected and appears on the right display, ready to be tweaked.



While in the Browser you can press Button 6 (**CANCEL**) to return to Sampling mode without loading any new Sample.

19. Support

The chapter explains what you can do if there is an issue with your product.

19.1. How to Get Support

The Native Instruments website has a dedicated Support page that is designed to help you find answers to your questions and resolve any issues as quickly as possible. To get Support, visit <https://support.native-instruments.com/hc/>.

19.2. 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: <http://www.native-instruments.com/forum>.

20. Glossary

In this glossary, you will find short definitions for important terms used in the MASCHINE context.

Arranger

The Arranger is the big area located in the MASCHINE software and MASCHINE+. The Arranger contains two views: Ideas view and Song View. To learn more about the Arranger, see [Arranging Your Project](#).

Autoload

When Autoload is enabled, any Group, Sound, Pattern, Plug-in preset (instrument or effect), or Sample selected in the Browser is instantly loaded into the selected Group, Sound, Pattern, or Plug-in slot. By using Autoload, you can listen to any of these objects in the current context of your song.

Browser

The Browser is the front end for accessing all MASCHINE content: Projects, Groups, Sounds, Patterns, presets for instrument and effect plug-ins, and Samples. Each of these can be stored, tagged, and categorized in a way that provides easy access to them. MASCHINE's factory library is already completely tagged, and you can also import your own files to the Library and tag them too. To learn more about the Browser, see [Using the Browser](#).

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 Plug-in slot of a Sound usually contains a sound source (which you will hear by pressing the corresponding pad). If you load an effect plug-in in this first Plug-in slot, though, the Sound won't generate audio itself. 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.

Channel Properties

Channel 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 Plug-ins loaded in that Sound/Group/Master. Like the Plug-in parameters, the Channel properties are displayed in the Control area. For example, the volume, pan, or swing controls are properties of their respective Sound/Group/Master channel.

Clip

Clips exist in the Song view and are sound bites that can be used in addition to Patterns. They are similar to Patterns, although they are much more flexible and have the advantage of being freely positioned on the timeline. They can be part of a Section, but can also exist outside a Section or span across multiple Sections. Clips are great for adding transitions or audio to your song. To learn more about Clips, see [Working with Patterns and Clips](#).

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 Plug-in parameters and Channel properties for the selected Sound/Group or the Master level: routing, effects, Macro controls, etc.

Control Mode

Control mode is the default mode of your MASCHINE+. 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.

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 Plug-ins in any Plug-in 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). To learn more, see [Working with Patterns](#).

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. To learn more, see [Applying Groove](#) and [Adding Swing](#).

Group

A Group contains 16 Sound slots, each of which can hold one Sound. In addition to the effects applied to individual Sound, a Group can have insert effects loaded in its Plug-in slots. These affect all the Sounds in the Group. A Group can also contain an unlimited amount of Patterns organized into Pattern Banks.

Group View

Group view is a view within 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 (for example, a drum kit).

Ideas View

The Ideas view allows you to experiment with your musical ideas without being tied to a timeline or arrangement. You can create Patterns for each Group and combine them into a Scene. These Scenes can then be added to Sections in the Song view to create a larger musical structure. To learn more about Ideas view, see [Using Ideas View](#).

Insert Effect

An insert effect is an effect directly inserted in the signal path of the audio to be processed.

Keyboard View

Keyboard view is a view within 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). Keyboard mode is well suited for melodic instruments (for example, a synthesizer). To learn more, see [Recording Melodies and Harmonies in Real-time](#).

Macro Control

Each Sound/Group/Master channel provides a page of eight Macro Controls to which you can assign almost any parameter from that level or the underlying one. Using Macro controls you can define a set of eight parameters that are accessible for each Group or Sound. To learn more, see [Creating Custom Sets of Parameters with the Macro Controls](#).

Master

The Master is where all audio signals from each of the Groups and Sounds come together and are mixed. The Master bus can also have insert effects loaded in its Plug-in slots. These effects are applied to all Groups and the Sounds within them.

Modulation

Modulation allows you to record changes of parameter values so that you do not need to actuate these parameters in real-time. Any modulated parameter is displayed both in the Control Lane (at the bottom of the Pattern Editor) and as a movement of the chosen parameter itself in the Control area. To learn more, see [Recording Modulation](#).

Mute and Solo

Muting allows you to silence a Sound or a Group, whereas Soloing does 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 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 and the Keyboard view in the Pattern Editor are bound together: If you enter Keyboard mode, the Keyboard view is automatically displayed. To learn more, see [Playing and Programming Beats](#).

Parameter Pages

The Parameter pages constitute the biggest part of the Control area in the MASCHINE window. They contain the adjustable Plug-in parameters and Channel properties of the selected Sound/Group or those of the Master. To learn more, see [Navigating Channel Properties, Plug-ins, and Parameter Pages](#).

Pattern

A Pattern is a sequence that plays Sounds from a Group. Patterns are the building blocks for Scenes. One Pattern from each Group can be added to a Scene. You can reference the same Pattern in different Scenes. When you modify a Pattern in the Pattern Editor, all references to this Pattern are updated in the Arranger. To learn more, see [Recording Patterns](#).

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 instrument or effect unit, either Internal or External that can be loaded into a Plug-in slot to produce or alter sound. When a Plug-in is loaded into a Plug-in slot, the Plug-in appears in the Plug-in List in the left part of the Control area.

Prehear

The Prehear feature allows you to listen to Samples and Instruments directly from the Browser without loading them into Sound slots first. This way, you can quietly choose a Sample or Instrument before modifying anything in your Project. To learn more, see [Auditioning Samples](#) and [Auditioning Instrument Presets](#).

Project

A Project contains all data needed for a song: Groups, Patterns, Sounds, Samples, Scenes, and all settings, automation, effects, routings, etc. It's like a snapshot of the entire state of MASCHINE+.

Quantization

To quantize a Pattern is to make its events snap to the musical grid, also called the steps of the pattern. This ensures that these events are on the beat. You can also let MASCHINE+ automatically quantize events that you play and/or record live. To learn more, see [Quantizing Your Pattern](#).

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 more Samples into each Sound slot.

Sample Editor

The Sample Editor can be displayed in place of the Pattern Editor. 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. To learn more, see [Editing a Sample](#).

Scene

A Scene is a combination of Patterns for each Group. They can be used to combine Patterns in order to create musical ideas. Scenes are created in the Ideas view and then added to Sections in the Song view to create an arrangement. To learn more, see [Using Scene Mode](#).

Section

Sections are references to specific Scenes on the Timeline of the Song view and are used to arrange the Scenes into a larger musical structure. The benefit of using Sections is that any changes made to a Scene are replicated in each Section when the Scene is referenced, therefore making the process of changing parts of a song quick and easy. To learn more, see [Creating Sections](#).

Send Effect

A send effect is an effect available for audio signals located on other Sounds and/or Groups. Audio signals can be routed to a send effect for them to be processed. Send effects notably allow you to reuse the same effect on different Sounds and/or Groups, thereby limiting the overall CPU load. To learn more, see [Creating a Send Effect](#).

Sequencer

Generally, speaking, a sequencer is a hardware unit or software tool that arranges musical sequences, for example, 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 Sections to create full songs.

Solo

See Mute and Solo.

Song view

Song view enables you to combine Sections (references to Scenes) and arrange them into a song in the Arranger. To learn more, see [Using Song View](#).

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. A Sound can be loaded with Plug-ins of various types (sound source or effect).

Step

Steps are elementary units of time that represent the musical grid. They are notably used to apply quantization or to compose Patterns in Step mode. All steps together make up the Step Grid. In the Pattern Editor, steps are visualized by vertical lines. You can adjust the step size, for example, to apply different quantization to different events or to divide the Step Grid into smaller units 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 and the number of steps available in Step mode. To learn more, see [Setting the Step Grid](#).

Step Mode

In Step mode, MASCHINE+ can be used as a traditional step sequencer, where each of the 16 pads represents 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. By pressing pads you place events at chosen steps in the sequence. By repeating the process Sound by Sound you can build up a whole Pattern. To learn more, see [Sequencing Beats with Step Mode](#).

Swing

The Swing parameter enables you to shift some of the events in your Pattern to create a shuffle effect. To learn more, see [Adding Swing](#).