



CONTROLLER EDITOR

Manual



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Table of Contents

1	Welcome to the Controller Editor!	13
1.1	About This Manual	13
1.2	Document Conventions	14
2	Installation	16
2.1	Controller Editor as Part of an NI Product Installation	16
2.2	Downloading the Controller Editor from the Native Instruments Website	16
3	Quick Start	18
3.1	Switching your NI Controller to MIDI Mode	19
3.2	Loading MIDI Assignments	21
3.2.1	Select the NI Controller	21
3.2.2	Select a Template	23
3.2.3	Select a Page	24
3.2.4	Select a Pad Page (MASCHINE Controller Family Only)	27
3.2.5	Ready to Go?	29
3.3	Modifying an Assignment	29
3.4	Organizing Your Assignments	31
3.4.1	Displaying the Lists of Templates and Pages	31
3.4.2	Renaming Templates and Pages	32
3.4.3	Re-ordering Templates and Pages	33
3.5	Saving and Loading Templates	33
4	Basic Concepts	36
4.1	How the Controller Editor Works	36
4.2	Overview of the User Interface	36
4.2.1	Application Menu Bar	38
4.2.2	Application Control Bar	38
4.2.3	Hardware Area	38

4.2.4	Inspector	40
4.3	The Mapping System	47
4.3.1	Assignments	47
4.3.2	Pages (or Knob Pages)	47
4.3.3	Pad Pages (MASCHINE Controller Family Only)	48
4.3.4	I/O and Level Pages (MASCHINE STUDIO Only)	48
4.3.5	Jog Wheel Pages (MASCHINE STUDIO Only)	49
4.3.6	Templates	49
4.3.7	Configuration	51
4.4	To Sum Up... ..	51
5	Using Your MASCHINE Controller	52
5.1	Basic Controls	52
5.2	Assignable Control Elements	54
5.3	Visual Feedback on Your Controller	57
5.3.1	Buttons	57
5.3.2	Pads	58
5.3.3	Knobs	59
5.4	The Displays	59
5.4.1	Switching Between Display Modes	59
5.4.2	Knobs Display Mode	60
5.4.3	Pad Pages Display Mode	61
5.4.4	Knob Pages Display Mode	62
5.4.5	Template Display Mode	63
5.4.6	Monitor Display Mode	63
5.4.7	Settings Display Mode	64
6	Using Your MASCHINE MK2 Controller	66
6.1	Basic Controls	66
6.2	Assignable Control Elements	68

6.3	Visual Feedback on Your Controller	71
6.3.1	Buttons	72
6.3.2	Multicolor Pads	73
6.3.3	Knobs	74
6.3.4	Control Encoder	74
6.4	The Displays	74
6.4.1	Switching Between Display Modes	74
6.4.2	Knobs Display Mode	75
6.4.3	Pad Pages Display Mode	76
6.4.4	Template Display Mode	77
6.4.5	Monitor Display Mode	78
6.4.6	Settings Display Mode	78
7	Using Your MASCHINE MIKRO Controller	80
7.1	Basic Controls	80
7.2	Assignable Control Elements	82
7.3	Visual Feedback on Your Controller	84
7.3.1	Buttons	85
7.3.2	Pads	85
7.3.3	Control Encoder	86
7.4	The Display	86
7.4.1	Switching Between Display Modes	86
7.4.2	Control Display Mode	87
7.4.3	Template Display Mode	88
7.4.4	Setup Display Mode	89
8	Using Your MASCHINE MIKRO MK2 Controller	90
8.1	Basic Controls	90
8.2	Assignable Control Elements	92
8.3	Visual Feedback on Your Controller	94

8.3.1	Buttons	94
8.3.2	Multicolor Pads	96
8.3.3	Control Encoder	97
8.4	The Display	97
8.4.1	Switching Between Display Modes	97
8.4.2	Control Display Mode	98
8.4.3	Template Display Mode	98
8.4.4	Setup Display Mode	99
9	Using Your MASCHINE STUDIO Controller	101
9.1	Basic Controls	101
9.2	Assignable Control Elements	103
9.3	Visual Feedback on Your Controller	108
9.3.1	Buttons	109
9.3.2	Multicolor Pads	110
9.3.3	Knobs	111
9.3.4	Control Encoder	111
9.4	The Displays	111
9.4.1	Switching Between Display Modes	112
9.4.2	Settings Display Mode	112
9.4.3	Calibration Display Mode	114
9.4.4	Knobs Display Mode	115
9.4.5	Pages Display Mode	117
9.4.6	Templates Display Mode	118
9.4.7	Monitor Display Mode	119
10	Using Your TRAKTOR KONTROL X1	120
10.1	Basic Controls	120
10.2	Assignable Control Elements	121
10.3	Visual Feedback on Your Controller	123

10.4	Using Two or More TRAKTOR KONTROL X1 Units	124
11	Using Your TRAKTOR KONTROL X1 MK2	125
11.1	Basic Controls	125
11.2	Assignable Control Elements	126
11.3	Visual Feedback on Your Controller	128
11.4	Using Two or More TRAKTOR KONTROL X1 MK2 Units	130
12	Using Your TRAKTOR KONTROL F1	131
12.1	Basic Controls	131
12.2	Assignable Control Elements	132
12.3	Visual Feedback on Your Controller	134
12.3.1	Buttons and Pads	135
12.3.2	7-segment Display	136
12.4	Using Two or More TRAKTOR KONTROL F1 Units	137
13	Using Your TRAKTOR KONTROL Z1	138
13.1	Basic Controls	138
13.2	Assignable Control Elements	139
13.3	Visual Feedback on Your Controller	140
14	Using Your TRAKTOR KONTROL Z2	143
14.1	Basic Controls	143
14.2	Assignable Control Elements	144
14.3	Visual Feedback on Your Controller	146
15	Using Your TRAKTOR KONTROL D2	149
15.1	Basic Controls	149
15.2	Assignable Control Elements	151
15.3	Visual Feedback on Your Controller	154
15.3.1	Buttons and Pads	154
15.3.2	Performance Knobs, Slot Volume Faders, and Loop Encoder	156
15.4	The Display	156

15.4.1	Control Display Mode	157
15.4.2	Adjust Color And Brightness	158
16	Using Your TRAKTOR KONTROL S8	161
16.1	Basic Controls	161
16.2	Assignable Control Elements	163
16.2.1	Control Elements on the Deck Units	164
16.2.2	Control Elements on the Mixer	167
16.3	Visual Feedback on Your Controller	169
16.3.1	Buttons and Pads	169
16.3.2	Performance Knobs, Slot Volume Faders, and Loop Encoder	171
16.4	The Displays	172
16.4.1	Control Display Mode	172
16.4.2	Adjust Color And Brightness	174
17	Using Your TRAKTOR KONTROL S4	177
17.1	Basic Controls	177
17.2	Assignable Control Elements	179
17.2.1	Control Elements on the Left Deck	180
17.2.2	Control Elements on the Right Deck	181
17.2.3	Control Elements on the Mixer	181
17.2.4	Assignment Parameters	183
17.3	Visual Feedback on Your Controller	183
17.3.1	Buttons	184
17.3.2	LED Chains	185
18	Using Your TRAKTOR KONTROL S4 MK2	186
18.1	Basic Controls	186
18.2	Assignable Control Elements	188
18.2.1	Control Elements on the Left Deck	189
18.2.2	Control Elements on the Right Deck	190

18.2.3	Control Elements on the Mixer	190
18.2.4	Assignment Parameters	192
18.3	Visual Feedback on Your Controller	192
18.3.1	Buttons	193
18.3.2	LED Chains	194
19	Using Your TRAKTOR KONTROL S2	195
19.1	Basic Controls	195
19.2	Assignable Control Elements	196
19.3	Visual Feedback on Your Controller	197
19.3.1	Buttons	198
19.3.2	LED Chains	199
20	Using Your TRAKTOR KONTROL S2 MK2	200
20.1	Basic Controls	200
20.2	Assignable Control Elements	201
20.3	Visual Feedback on Your Controller	202
20.3.1	Buttons	203
20.3.2	LED Chains	204
21	Using Your KOMLETE KONTROL S-SERIES Keyboard	205
21.1	Basic Controls	205
21.2	Assignable Control Elements	207
21.3	Defining Key Zones	210
21.3.1	Overview of the Keybed Area	210
21.3.2	Editing Key Zones	212
21.4	Visual Feedback on Your Keyboard	215
21.4.1	Visual Feedback on the Displays	215
21.4.2	Visual Feedback on the Light Guide	216
21.4.3	Visual Feedback on the Touch Strips	216
21.4.4	Visual Feedback on the Buttons	217

21.5	Using Two or More KOMPLETE KONTROL S-SERIES Units	218
21.6	Stand-alone Operation	218
22	Using Two or More Units of the Same Type	222
22.1	Renaming the Units	222
22.2	Accessing Templates and Pages of a Particular Unit	224
22.3	Resolving Device Conflicts	225
23	Reference	227
23.1	The Application Menu Bar	227
23.1.1	File Menu	227
23.1.2	View Menu	228
23.1.3	Help Menu	228
23.2	The Preferences Window	229
23.2.1	General Page	230
23.2.2	Controller Page	231
23.3	The Application Control Bar	241
23.3.1	Device Menu	242
23.3.2	Connect Button	243
23.3.3	MIDI Activity Indicator	244
23.3.4	NI Logo	244
23.4	The Hardware Area	245
23.4.1	Label Fields	245
23.4.2	Selection Frame	247
23.4.3	Page Areas and Page Menus	247
23.5	The Inspector	249
23.5.1	Templates Pane	250
23.5.2	Pages Pane	256
23.5.3	Assign Pane	266
23.6	MIDI Message Parameters	270

23.6.1	MIDI Message Types – Type Menu	270
23.6.2	Assignments for Buttons	274
23.6.3	Assignments for Key Zones	280
23.6.4	Assignments for the Pads – Hit Action	281
23.6.5	Assignments for Knobs and the Like	282
23.6.6	Assignments for the Pads – Press Action	283
23.6.7	Assignments for Digital Encoders	284
23.6.8	Assignments for Analog Encoders	286
23.6.9	Assignments for Touch Strips – Position Action (TRAKTOR KONTROL Devices)	289
23.6.10	Assignments for Touch Strips (KOMPLETE KONTROL S-SERIES)	290
23.6.11	Assignments for LED Chains and 7-segment Displays	293

1 Welcome to the Controller Editor!

This powerful tool turns your Native Instruments hardware controller into a versatile and efficient MIDI remote control for your studio and live setup.

With the Controller Editor, you can precisely define which MIDI message to send when using your NI controller. This way, you can put your whole music setup right at your fingertips and remotely control MIDI-capable software or hardware from your NI controller. After you have prepared your MIDI assignments with the Controller Editor, you can focus on what it's all about: making music!

1.1 About This Manual

This manual is divided into four parts:

- The first part introduces you to the Controller Editor: after a short description of the installation procedure (chapter [↑2, Installation](#)), we will start with a brief tutorial (chapter [↑3, Quick Start](#)).
- The second part illustrates the user interface of the Controller Editor, mapping scheme and the various ways to interact with the software (chapter [↑4, Basic Concepts](#)). This will familiarize you with Controller Editor's workflow.
- The third part shows you how to use your particular NI controller(s):
 - chapter [↑5, Using Your MASCHINE Controller](#),
 - chapter [↑6, Using Your MASCHINE MK2 Controller](#),
 - chapter [↑7, Using Your MASCHINE MIKRO Controller](#),
 - chapter [↑8, Using Your MASCHINE MIKRO MK2 Controller](#),
 - chapter [↑9, Using Your MASCHINE STUDIO Controller](#),
 - chapter [↑10, Using Your TRAKTOR KONTROL X1](#),
 - chapter [↑11, Using Your TRAKTOR KONTROL X1 MK2](#),
 - chapter [↑12, Using Your TRAKTOR KONTROL F1](#),

- [chapter ↑13, Using Your TRAKTOR KONTROL Z1](#),
 - [chapter ↑14, Using Your TRAKTOR KONTROL Z2](#),
 - [chapter ↑15, Using Your TRAKTOR KONTROL D2](#),
 - [chapter ↑16, Using Your TRAKTOR KONTROL S8](#),
 - [chapter ↑17, Using Your TRAKTOR KONTROL S4](#),
 - [chapter ↑18, Using Your TRAKTOR KONTROL S4 MK2](#),
 - [chapter ↑19, Using Your TRAKTOR KONTROL S2](#),
 - [chapter ↑20, Using Your TRAKTOR KONTROL S2 MK2](#),
 - [chapter ↑21, Using Your KOMPLETE KONTROL S-SERIES Keyboard](#),
 - [and chapter ↑22, Using Two or More Units of the Same Type](#).
- Finally, the fourth part ([chapter ↑23, Reference](#)) is a detailed reference describing the software interface and its operation. Read for information on every knob, button or field present in the Controller Editor’s interface. You will also find here a complete list of available MIDI message types and parameters.



This manual generally refers to all Native Instruments hardware controller devices simply as “NI controller.” If any information applies to a specific device only, e.g. the MASCHINE controller, this will be mentioned explicitly.

1.2 Document Conventions

This document uses particular formatting to point out special facts and to warn you of potential issues. The icons introducing the following notes let you see what kind of information can be expected:



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



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

Furthermore, the following formatting is used:

- Text appearing in (drop-down) menus (such as *Open...*, *Save as...* etc.) and paths to locations on your hard drive or other storage devices is printed in *italics*.
 - Text appearing elsewhere on the screen (labels of buttons, controls, text next to check boxes etc.) is printed in **light blue**. Whenever you see this formatting applied, you will find the same text appearing on the screen.
 - Text appearing on the display(s) of your hardware controller is printed in **grey**. Whenever you see this formatting applied, you will find the same text appearing on the display(s) of your controller.
 - Important names and concepts are printed in **bold**.
 - References to keys on your computer's keyboard you'll find put in square brackets (e.g., "Press [Shift] + [Return]").
1. Sequences of ordered instructions are introduced by numbers.
 - ▶ Single instructions are introduced by this play button type arrow.
 - Results of actions are introduced by this smaller arrow.

2 Installation

This chapter describes how to install the Controller Editor in various situations.

2.1 Controller Editor as Part of an NI Product Installation

The Controller Editor is included in the product software package of NI hardware controllers and was automatically installed during the installation procedure for your NI product.



We assume here that your NI product is already installed on your computer. For a detailed description of this installation procedure, please refer to the Setup Guide provided with your NI product.

You should find the Controller Editor at the following locations:

- Mac OS X: *Applications/Native Instruments/Controller Editor*
- Windows: *Program Files\Native Instruments\Controller Editor*

If for any reason the Controller Editor is not installed on your computer, please check that your NI product is up to date. You can do this easily via the Service Center or via the Native Instruments website. If updates are available for your product, download and install them.

You can also download a stand-alone installer for the Controller Editor from the Native Instruments website — see next section for more information.

2.2 Downloading the Controller Editor from the Native Instruments Website

Apart from being included in the software package of supported NI products, the Controller Editor is also available for download from the Native Instruments website. If your NI controller is already installed on your computer, use the Service Center to download the last driver updates.

If your NI controller is not installed on your computer yet, you can manually download the hardware drivers for your NI controller along with the Controller Editor. To do this:

1. Open your favorite internet browser and go to the following URL:
<http://www.native-instruments.com/updates>
2. On this page, follow the link to the **unprotected updates, drivers and the Service Center**.
3. In the list of available downloads, follow the link to your specific NI controller.
4. Download the installer file for your operating system (Windows or Mac OS X) and save it to your hard disk.
5. Navigate to the directory where you saved the installer file and double-click it. This launches the installer.
6. The installation process is straightforward: follow the instructions on the screen and you're done.

3 Quick Start

This chapter provides a hands-on introduction to the Controller Editor.



It is assumed herein that the Controller Editor is installed on your computer. See chapter [↑2, Installation](#) for more information.

The use of the Controller Editor is straightforward. Most actions can be done either from your NI controller or via the Controller Editor interface, and this in various ways — you can choose the one that best fits your needs.

In this chapter, we will successively show you how to:

1. Switch your NI controller to MIDI mode.
2. Load MIDI assignments for a specific task: Select a whole set of assignments (known as a Template) for your controller; Select a particular subset of assignments (known as a Page) for specific control elements on your controller; MASCHINE controller family only: Select an additional subset of assignments (known as a Pad Page) for the pads.
3. Modify assignments to make them perfectly fit your own needs.
4. Organize your customized assignments.
5. Save and recall the whole set of assignments as a Template.



In this chapter, we will often focus on the Controller Editor interface. But the instructions provided here can also be applied to most NI controllers — and for a few of them, even in various ways. Notably, this is very handy in live situations. For each task, we provide a small summary table with the corresponding shortcuts on each NI controllers. For more information on using your controller, please refer to the respective controller-specific chapters, later in this manual.



For details on each and every element in the Controller Editor user interface, please refer to chapter [↑23, Reference](#).



For details on each and every element in the Controller Editor user interface, please refer to chapter [↑23, Reference](#).

Preparations

At this point, we assume that:

- Your computer is up and running.
- You have already installed your NI controller and the Controller Editor (see chapter [12, Installation](#)).
- Your NI controller is physically connected to your computer via the USB 2.0 cable.

3.1 Switching your NI Controller to MIDI Mode

First of all, let's switch your NI controller to MIDI mode.

Indeed, your NI controller can run in two different and mutually exclusive modes:

- In **Application mode**, it controls its dedicated software (e.g. MASCHINE software) via the Native Instruments' ultra fast high-resolution proprietary NHL protocol. Depending on the respective software, this mode will be called MASCHINE mode, TRAKTOR mode, etc.
- In **MIDI mode**, it can control any MIDI target(s) available (software or hardware) via the MIDI protocol.

Switch to MIDI Mode Directly from your NI Controller

It is not necessary to start the Controller Editor software in order to switch your NI controller to MIDI mode: you can do it directly from your controller.

For each NI controller, the following table shows you how to switch to/from MIDI mode and how to quickly see whether your controller currently is in MIDI mode or not:

NI Controller	Switching to/from MIDI mode	Checking that MIDI mode is on
KOMPLETTE KONTROL S-SERIES	SHIFT + INSTANCE	Both PRESET buttons lit
MASCHINE	SHIFT + CONTROL	SHIFT button dimly lit
MASCHINE MK2	SHIFT + CONTROL	SHIFT button dimly lit
MASCHINE MIKRO	SHIFT + F1	SHIFT button dimly lit
MASCHINE MIKRO MK2	SHIFT + F1	SHIFT button dimly lit
MASCHINE STUDIO	SHIFT + CHANNEL	SHIFT button dimly lit
TRAKTOR KONTROL S2	SHIFT + SHIFT (on both Decks)	Both SHIFT buttons dimly lit

NI Controller	Switching to/from MIDI mode	Checking that MIDI mode is on
TRAKTOR KONTROL S2 MK2	SHIFT + SHIFT (on both Decks)	Both SHIFT buttons dimly lit
TRAKTOR KONTROL S4	SHIFT + BROWSE button	Loop Size Displays reading “ON”
TRAKTOR KONTROL S4 MK2	SHIFT + PREVIEW button	Loop Size Displays reading “ON”
TRAKTOR KONTROL S8	SHIFT (any Deck) + BACK (right Deck)	Both SHIFT buttons dimly or fully lit
TRAKTOR KONTROL D2	SHIFT (any Deck) + BACK	SHIFT button dimly or fully lit
TRAKTOR KONTROL X1	SHIFT + HOTCUE	HOTCUE button lit in green
TRAKTOR KONTROL X1 MK2	SHIFT + Load (both left and right buttons)	SHIFT button lit
TRAKTOR KONTROL F1	SHIFT + BROWSE	SHIFT button lit
TRAKTOR KONTROL Z1	MODE + CUES (ensure both A & B headphone cues are pressed)	MODE button lit
TRAKTOR KONTROL Z2	SHIFT + Settings	Settings button lit



Please find more information on this in the respective controller-specific chapters, later in this manual.

Switch to MIDI Mode by Starting the Controller Editor

You can also switch all your connected NI controllers to MIDI mode by starting the Controller Editor:

- ▶ Start the Controller Editor by selecting *Start > All Programs > Native Instruments > Controller Editor > Controller Editor (Windows) or Applications > Native Instruments > Controller Editor (Mac OS X)*.
- This not only opens the Controller Editor, but also automatically switches any connected controller(s) to MIDI mode.



If the Controller Editor is already open, you can check at any time whether your NI controller is in MIDI mode or not, and if not, switch it back to MIDI mode via the Device menu and the [Connect](#) button nearby — see [↑3.2.1, Select the NI Controller](#) below.

Whichever method you have used, when switching your controller(s) to MIDI mode, the MIDI assignments last used are automatically loaded along with their last state of use. If you are starting the Controller Editor for the first time, the default MIDI assignments for your controller(s) are loaded instead.

You can start right away using your NI controller as a MIDI remote control!

3.2 Loading MIDI Assignments

In order to load other MIDI assignments for your NI controller, we will use the Controller Editor.



As already mentioned, this can also be done from most NI controllers — see the controller-specific chapters, later in this manual.

At the top of the Controller Editor window, you see a horizontal bar with a series of controls ending in the NI logo at the far right. We call this bar the **Application Control Bar**:



The Application Control Bar, at the top of the Controller Editor window.

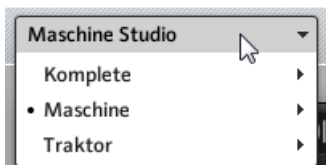
We will use the Application Control Bar to start loading new MIDI assignments.

3.2.1 Select the NI Controller

We first have to select the NI controller for which we want to load the MIDI assignments.

To select a controller:

- ▶ Click the Device menu (the first control from the left in the Application Control Bar), and select the desired controller in the menu.



Choose your NI controller in the Device menu.

Here are a few points of interest about the Device menu and the controller selection:

- In the menu both the folder containing the controller connected to your computer and the name of the controller itself are indicated by a leading dot (•) in front of their name.
- Upon your selection, the menu closes and displays the name of the controller that you just selected.
- The large controller picture below the menu is updated accordingly. This area is called Hardware area — we will get back to it later.



The selection made in this Device menu does not affect in any way whether your NI controllers are in MIDI mode or not. Its sole purpose is to select a controller for loading, changing, and managing its MIDI assignments.

Optional: Check that the Selected Controller Is in MIDI Mode

Besides looking at your NI controller to see if it's in MIDI mode (see [↑3.1, Switching your NI Controller to MIDI Mode](#)), you can also check the Controller Editor interface:

- ▶ Next to the Device menu in the Application Control Bar, you can check that the [Connect](#) button is lit, indicating that the selected NI controller is in MIDI mode (and thus is connected to the Controller Editor).



The Connect button lights up when your NI controller is in MIDI mode.

If the [Connect](#) button is unlit for any reason (for example, if you have started the MASCHINE or TRAKTOR software after the Controller Editor), you can click it at any time to re-connect the selected controller with the Controller Editor and switch it back to MIDI mode.



If the [Connect](#) button is grayed out and inactive, your NI controller might be disconnected from your computer. Check the USB connection — if your controller is connected, ensure that its drivers are properly installed (for more information, see chapter [↑2, Installation](#)).



Your NI controller does not necessarily have to be in MIDI mode or even connected to your computer in order to work on its MIDI assignments. This notably allows you to work on the MIDI assignments even if your controller is not to hand at the moment.

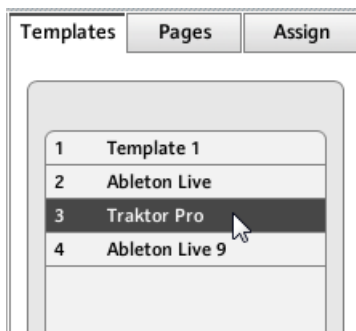
3.2.2 Select a Template

We will now select a Template — a full set of assignments for all assignable control elements on your NI controller.



For more information on the Templates, see [↑4.3, The Mapping System](#).

- ▶ On the right of the application, click the [Templates](#) tab and choose a Template in the list that appears underneath.



The Template list allows you to load the desired Template.

From the Hardware

Some NI controllers also allow you to select Templates via following shortcuts:

NI Controller	Template Selection
KOMPLETTE KONTROL S-SERIES	PRESET buttons
MASCHINE STUDIO	SHIFT + Page buttons
MASCHINE MK2	SHIFT + Page buttons
MASCHINE	SHIFT + Page buttons
MASCHINE MIKRO MK2	SHIFT + Left/Right Arrow buttons
MASCHINE MIKRO	SHIFT + Left/Right Arrow buttons

NI Controller	Template Selection
TRAKTOR KONTROL D2	Performance Mode buttons (left/right arrows on either side of the displays)
TRAKTOR KONTROL S8	Performance Mode buttons (left/right arrows on either side of the displays)
TRAKTOR KONTROL S4	n/a
TRAKTOR KONTROL S4 MK2	n/a
TRAKTOR KONTROL S2	n/a
TRAKTOR KONTROL S2 MK2	n/a
TRAKTOR KONTROL X1	n/a
TRAKTOR KONTROL X1 MK2	n/a
TRAKTOR KONTROL F1	n/a
TRAKTOR KONTROL Z1	n/a
TRAKTOR KONTROL Z2	n/a



More information on this in the respective controller-specific chapters, later in this manual.

Either way, the Template will automatically be loaded upon selection and its assignments will be displayed. You can now control the new target from your NI controller.

Each assignment is recalled at the last state of use: the software automatically saves the last value for each of the control elements assigned in this Template. When you load a Template for the first time all assignments are at their default value.



TRAKTOR KONTROL S2: You can skip the following sections and directly go to [↑3.2.5, Ready to Go?](#).

3.2.3 Select a Page

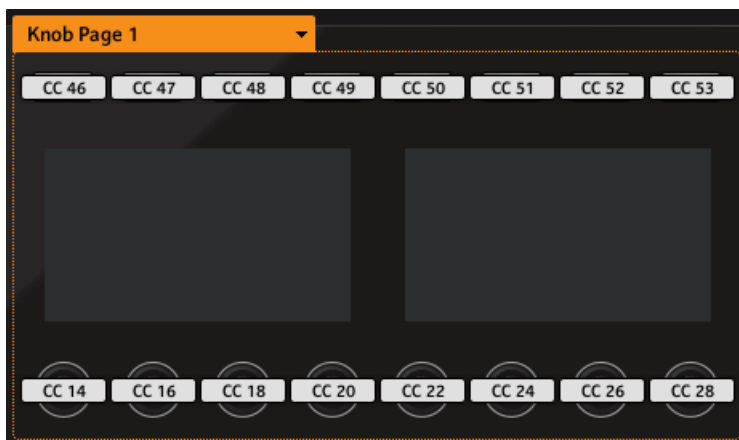


TRAKTOR KONTROL S2: There are no Pages available for this controller. Hence, you can skip this section.



KOMPLETE KONTROL S-SERIES: Only one Page is available and it is always selected. Hence, you can skip this section. Multiple Pages will be available in a future KOMPLETE KONTROL update.

Within each Template, some (or all) of the control elements of your NI controller can have multiple assignments, organized into **Pages**. In the Hardware area, these control elements are indicated by a frame surrounding them.



The orange frame representing the Knob Page in the Hardware area for the MASCHINE STUDIO controller (detail).

At any time there is one active Page, i.e. one active subset of assignments for these specific control elements.



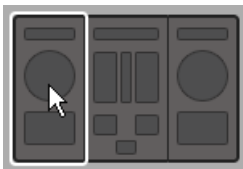
For more information on the Pages, see [↑4.3, The Mapping System](#).

Thus, let's select a particular Page of assignments for loading:

- ▶ To select a Page, click the **Page menu** (the orange menu above the orange frame in the picture above) and select the desired Page in the list.

TRAKTOR KONTROL S2 MK2, S4 (MK2), and S8: the Overview Panel

Due to their great size and number of control elements, the TRAKTOR KONTROL S2 MK2, S4 (MK2) and TRAKTOR KONTROL S8 are divided into three parts in the Controller Editor: left Deck, Mixer, and right Deck. Thus, before selecting any Page on these controllers, you first have to choose a specific part for displaying. This is done via the **Overview**, at the top left corner of the Hardware area:



Use the Overview to select the desired Deck (S4 depicted).

You have two Pages at your disposal for each Deck. To select a specific Page:

1. Click the left or right Deck in the Overview.
2. Click the Page menu (the orange menu above the orange frame) and select the desired Page in the list.

From the Hardware

You can also select Pages from your NI controller:

NI Controller	# of Available Pages	Page Switch/Selection
KOMPLETTE KONTROL S-SERIES	1	n/a
MASCHINE (MK2)	Unlimited	Page buttons
MASCHINE MIKRO (MK2)	Unlimited	Left/Right Arrow buttons
MASCHINE STUDIO	Unlimited	Left/Right Arrow buttons
TRAKTOR KONTROL D2	2 for each Deck A–D	DECK and/or SHIFT
TRAKTOR KONTROL S8	2 for each Deck A–D	DECK and/or SHIFT
TRAKTOR KONTROL S4	2 for each Deck A–D	DECK C/D then SHIFT
TRAKTOR KONTROL S4 MK2	2 for each Deck A–D	DECK C/D then SHIFT
TRAKTOR KONTROL S2	n/a	

NI Controller	# of Available Pages	Page Switch/Selection
TRAKTOR KONTROL S2 MK2	2 for each Deck A–B	SHIFT
TRAKTOR KONTROL X1	2	SHIFT
TRAKTOR KONTROL X1 MK2	2	SHIFT
TRAKTOR KONTROL F1	2	SHIFT
TRAKTOR KONTROL Z1	Unlimited	n/a
TRAKTOR KONTROL Z2	2	SHIFT

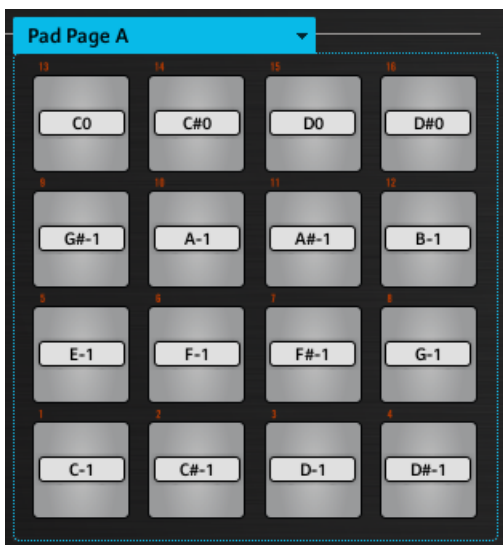


More information on this in the controller-specific chapters, later in this manual.

3.2.4 Select a Pad Page (MASCHINE Controller Family Only)

The sixteen pads of your MASCHINE STUDIO, MASCHINE (MK2) or MASCHINE MIKRO (MK2) controller can optionally have multiple assignments, too. These are also organized into pages: the **Pad Pages**. The Pad Page feature can be activated at the Template level: you can have some Templates without Pad Pages (i.e. with one assignment each pad) and some other with Pad Pages (i.e. with several assignments for each pad).

In the Hardware area, provided that the Pad Page feature is activated in the current Template, the Pad Page is indicated by a blue frame around the pads:



The blue frame representing the Pad Page in the Hardware area for the MASCHINE controller family (detail).

At any time there is one active Pad Page, i.e. one subset of assignments for the pads.



For more information on the Pad Pages, see [↑4.3, The Mapping System](#).

Thus, let's select a particular Pad Page of assignments for loading:

- ▶ To select a Pad Page, click the **Pad Page menu** (the blue menu above the blue frame) and select the desired Pad Page in the list.



MASCHINE STUDIO: Your MASCHINE STUDIO controller offers another two optional paging systems: the I/O and Level Pages can store multiple assignments for the Level knob in the Master section, and the Jog Wheel Pages can store multiple assignments for the jog wheel and its LED ring. For more details, see section [↑4.3.4, I/O and Level Pages \(MASCHINE STUDIO Only\)](#) and [↑4.3.5, Jog Wheel Pages \(MASCHINE STUDIO Only\)](#), respectively.

From the Hardware

You can also select Pad Pages from your controller:

NI Controller	# of Available Pad Pages	Pad Page Selection
MASCHINE STUDIO	8 (if feature activated)	Group buttons A–H
MASCHINE (MK2)	8 (if feature activated)	Group buttons A–H
MASCHINE MIKRO (MK2)	8 (if feature activated)	GROUP + pads 9–16



For more information on the available commands on your controller, see chapter [↑5, Using Your MASCHINE Controller](#), [↑6, Using Your MASCHINE MK2 Controller](#), [↑7, Using Your MASCHINE MIKRO Controller](#), [↑8, Using Your MASCHINE MIKRO MK2 Controller](#), or [↑9, Using Your MASCHINE STUDIO Controller](#).

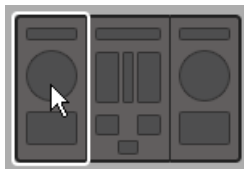
3.2.5 Ready to Go?

If you only plan to use a Template as it is, i.e. without modifying any of its MIDI assignments, you're done! As you may have noticed, you can do all this from within your MASCHINE Controller, TRAKTOR KONTROL S8 or KOMPLETE KONTROL S-SERIES — this of course being the preferred way for any live situation. If you used the Controller Editor, you can close the application now: the corresponding NI background service will take care of everything and you can start using your NI controller as a MIDI remote control right away!

3.3 Modifying an Assignment

Now, if you want to modify some of the assignments stored in the selected Template (and possibly one of its Pages), continue with these few more steps:

1. TRAKTOR KONTROL S2 (MK2) / S4 (MK2) / S8 only: In the Overview at the top left, click the part of the controller (left Deck, Mixer, or right Deck) containing the control element whose assignment you want to edit.



2. Select the desired control element. You can do this in two ways: In the Controller Editor, click the control element within the hardware representation (a double-click on the control element directly brings the Inspector's [Assign](#) pane to the front for faster editing, see next step). You can also [Shift]-click several control elements of the same type (or click and drag a rectangle) to select them. Or, on your NI controller (except KOMPLETE KONTROL S-SERIES), touch the control element (for this, the [Touch Select](#) option must be enabled in *File > Preferences > General* — this is the case by default). Either way, the control elements selected for editing get surrounded by the red Selection Frame in the Controller Editor window:

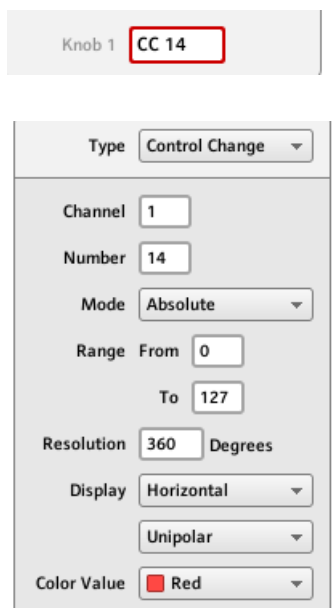


3. In the Inspector (the right part of the Controller Editor interface), click the [Assign](#) tab:



The [Assign](#) pane opens up and displays all assignments' properties for the selected control element(s).

4. Modify the assignment's properties according to your needs: at the top, you can edit the name of the assignment, and below, all MIDI properties like the type of MIDI message to be sent, the MIDI channel to use, and so on. The assignment's details will differ depending on the type of MIDI message you choose.



Knob 1 **CC 14**

Type: Control Change

Channel: 1

Number: 14

Mode: Absolute

Range From: 0

To: 127

Resolution: 360 Degrees

Display: Horizontal

Unipolar

Color Value: Red

→ That's it! Now the corresponding control element on your NI controller triggers the MIDI message that you just defined.

3.4 Organizing Your Assignments

Thanks to its powerful mapping system, the Controller Editor lets you organize your assignments as you like. You can define Templates and Pages to address various situations: For example, you could define different Pages to control different instruments in your setup. Furthermore, you could prepare different Templates for different songs in your live performance, with all necessary Pages inside.

3.4.1 Displaying the Lists of Templates and Pages

To manage (create, delete, duplicate, etc.) your Templates and Pages, use the first two tabs of the Inspector, namely [Templates](#) and [Pages](#).



The Templates tab and Pages tab allow you to organize your assignments.

- On the [Templates](#) pane, you find a list of all available Templates (both factory and user-defined), along with an [Edit](#) menu holding all managing commands (e.g. *New*, *Duplicate*, *Delete*, etc.). Below, you can see a few additional settings for the selected Template — these settings vary with each NI controller.
- On the [Pages](#) pane, an equivalent list is available for the (Knob) Pages and, only for the MASCHINE controllers, for the Pad Pages (and other Page types on the MASCHINE STUDIO), along with their corresponding [Edit](#) menus.



The Page functionality is not available on the TRAKTOR KONTROL S2.



For the TRAKTOR KONTROL X1 (MK2), F1, S2 MK2, S4 (MK2), S8 and for Z2, there is no [Edit](#) menu available under the [Pages](#) list — instead, there is a [Shift Mode](#) menu available. For more information on this, see the controller-specific chapters, later in this manual.

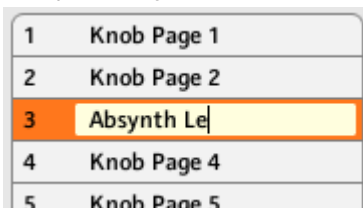


KOMLETE KONTROL S-SERIES: Only one Page is available and it is always selected. Multiple Pages will be available in a future KOMLETE KONTROL update.

3.4.2 Renaming Templates and Pages

Let's say you have just defined a Knob Page that controls one of your software synthesizers. You might want to rename it so that you easily remember its purpose:

1. In the [Knob Pages](#) list, double-click the Page that you just defined (let's say *Knob Page 3*). Its name gets highlighted.
2. Type a new name for this Page (for example, "Absynth Lead") and press [Enter] on your computer keyboard to confirm the change:



3.4.3 Re-ordering Templates and Pages

You may want to put this Page at the top of the list, e.g. if you plan to use this synthesizer at first in your song and want to have direct access to its parameters from your Controller:

1. Click the Page *Absynth Lead* in the list, hold the mouse button depressed and drag your mouse toward the top of the list. An insertion line appears to show you the position where the Page is going to be moved to.
2. When the insertion line reaches the top of the list (or the desired insertion position, wherever it is), release the mouse button. The Page “Absynth Lead” takes its new position in the list.



The Pages for the TRAKTOR KONTROL X1 (MK2), F1, S2 MK2, S4 (MK2), S8, and the Z2 cannot be reordered.

This process can also be applied to the other Pages as well as to the Templates (on the [Templates](#) pane). The [Edit](#) menus offer more managing features — you will find all details later in this manual (mainly sections [↑23.5.1, Templates Pane](#) and [↑23.5.2, Pages Pane](#)). For a detailed description of the mapping system, please refer to section [↑4.3, The Mapping System](#).

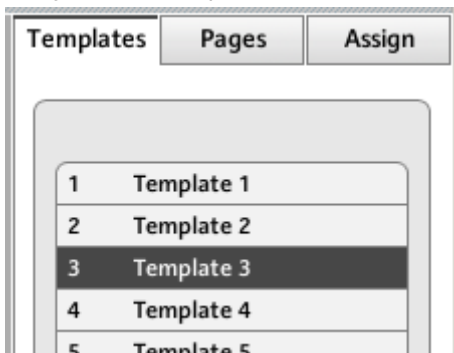
3.5 Saving and Loading Templates

Once you have defined a set of assignments that suits your needs, you have the possibility to save it.

Actually, you don't necessarily need to save it, since the Controller Editor automatically saves the changes made to the Template you are working on (and its included Pages and single assignments). So if you only plan to use this Template later on the same computer, you can quit the Controller Editor, the Template will be recalled with all modifications next time you switch your NI controller to MIDI mode and select this Template.

You may want to use a modified or a newly created Template on another computer or you may want to share your Template with other users. In that case, you can export a Template as a Template file:

1. Go to the [Templates](#) pane of the Inspector and select the desired Template by clicking its entry in the Template list. The selected Template is highlighted:



2. Below the list, click the [Edit](#) menu and select *Export*:



3. In the Save template dialog that opens, choose the destination and type the name of the Template file to be exported. Please note that the filename that you choose can be different from the Template's name inside the Controller Editor. Once this is done, click [Save](#) to export the file and you're done.



Template filenames have various extensions depending on the affected NI controller. Please see [4.3.6, Templates](#) for a list of filename extensions.

You can now transfer this Template file to another computer, share it with a friend, etc.

On the other hand, as you would expect, the Controller Editor also allows you to load a Template file. To do this:

1. In the [Templates](#) pane of the Inspector, click the [Edit](#) menu and select *Open*. An Open template dialog appears that lets you navigate through your file system on your computer and choose a Template file to import.
2. Select the desired Template file and click [Open](#). The Template is loaded and appended to your Template list.



The Controller Editor provides many factory Templates for use with various MIDI targets. Please refer to the Controller Editor Template Documentation to know how to use them!

4 Basic Concepts

In this chapter we will introduce you to the basics of the Controller Editor. You might have already checked the previous chapter, which gives you a first idea of how to use the Controller Editor. Here, we will approach the system in a more general way.

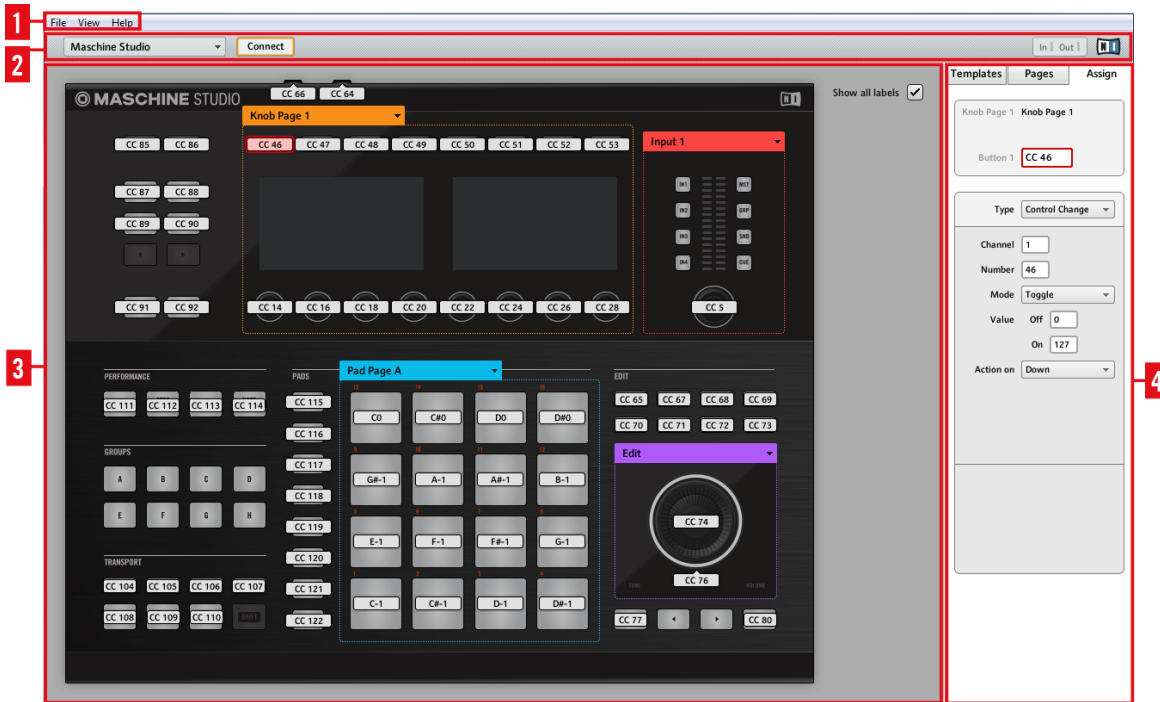
4.1 How the Controller Editor Works

The Controller Editor allows you to define the links between your NI controller and the audio applications running on your computer or your external MIDI devices. It lets you decide how your actions on the NI controller will be interpreted. For this purpose, the Controller Editor implements a powerful mapping system allowing you to define as many MIDI assignments as you want for each control element (knob, button, etc.) available on your NI controller.

The Controller Editor works in conjunction with a small background service installed on your computer during the Controller Editor installation procedure. This background service takes care of all communication matters between your NI controller and your MIDI-capable targets, both on the software side and on the hardware side. It stays active even if you close the Controller Editor application, which means you don't need the Controller Editor open on your computer to use your NI controller as a MIDI remote control! You can select and/or tweak your assignments in the Controller Editor and then quit the application — the assignments (and Templates / Pages, see below) stay active thanks to this small background service. Thus, the Controller Editor can be seen as an assignment editor: use it to check or edit your assignments.

4.2 Overview of the User Interface

Now let's look closely at the Controller Editor user interface. When you start the Controller Editor, you will see the application containing a Template, something like this:



The Controller Editor user interface: the big view (Windows version pictured, with the MASCHINE STUDIO controller in the Hardware area)

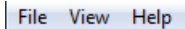
The user interface is divided into four main areas, namely:

- (1) Application Menu Bar
- (2) Application Control Bar
- (3) Hardware area
- (4) Inspector

In the following sections you will find a brief introduction to all areas of the software and their corresponding control elements. For a detailed description of each of these elements, please refer to chapter [↑23, Reference](#).

4.2.1 Application Menu Bar

At the top of the Controller Editor window (or at the top of your computer screen on Mac OS X), the Application Menu Bar is similar to the one found with most applications on your operating system. Here it consists of three menus (**File**, **View**, and **Help**) controlling the general functions of the software:



The Application Menu Bar (Windows version pictured)

4.2.2 Application Control Bar

Right under the Application Menu Bar, the Application Control Bar holds menus and buttons controlling the overall mapping system:



The Application Control Bar

From left to right, we have the following controls:

- (1) **Device menu:** Allows you to select the controller of which you want to edit the MIDI assignments.
- (2) **Connect button:** Allows you to “call” your hardware — in other words, to switch it to MIDI mode and connect it to the Controller Editor, in case it is currently connected to its dedicated software.
- (3) **MIDI Activity indicator** (except for KOMLETE KONTROL S-SERIES keyboards): Shows any incoming/outgoing MIDI data for the controller selected in the Device menu (1).
- (4) **NI Logo:** Opens the About screen.

4.2.3 Hardware Area

Below the Application Control Bar is the Hardware area. The Hardware area is the largest part of the user interface and basically represents your NI controller and all its control elements — most of them are freely assignable to MIDI messages.

The Controller depicted in the Hardware area corresponds to the device selected in the Device menu located in the Application Control Bar (see above).

- ▶ Click an assignable control element in the Hardware area to edit its assignment.

Compared to your real NI controller, the Hardware area holds a few additional graphical elements:

- Every control element that can be assigned to a MIDI message comes with a Label Field which displays a name (describing by default its current assignment).



Pairs of mini buttons in the Hardware area: If mini buttons are not selected when you click them, click their Label Field instead!

- A red Selection Frame highlights the selected control element(s).
- An orange Page (or Knob Page) menu allows you to select a particular Page (or Knob Page) of assignments. The Page (or Knob Page) area, denoted by an orange frame, holds the control elements affected by the Page (or Knob Page) selection in the menu. Please refer to section [↑4.3.2, Pages \(or Knob Pages\)](#) for more information on this.



The Page feature is not available on the TRAKTOR KONTROL S2.

- MASCHINE controllers only: If the Pad Page feature is activated, an additional blue Pad Page menu allows you to select a particular page of assignments for the pads. The blue frame highlights the Pad Page area, which holds the control elements included in the Pad Pages — namely the pads. Please refer to section [↑4.3.3, Pad Pages \(MASCHINE Controller Family Only\)](#) for more information on this.
- MASCHINE STUDIO only: If the I/O and Level Page feature is activated, an additional red I/O and Level Page menu allows you to select a particular assignment for the Level knob (in the Master section of your controller). The red frame surrounds the control elements involved in the I/O and Level Pages. Please refer to section [↑4.3.4, I/O and Level Pages \(MASCHINE STUDIO Only\)](#) for more information on this.
- MASCHINE STUDIO only: If the Jog Wheel Page feature is activated, an additional violet Jog Wheel Page menu allows you to select a particular assignment for the jog wheel and its LED ring. The violet frame highlights the jog wheel. Please refer to section [↑4.3.5, Jog Wheel Pages \(MASCHINE STUDIO Only\)](#) for more information on this.

- TRAKTOR KONTROL S2 (MK2) / S4 (MK2) / S8 only: At the upper left corner, the little Overview allows you to select a specific part of your controller for displaying and editing (left Deck, Mixer, or right Deck). The Hardware area displays the part of the S2/S4/S8 that you selected here.

You will find a detailed description of each Hardware area / NI controller and its assignable control elements in the respective controller-specific chapters, later in this manual.

4.2.4 Inspector

At the right of the Hardware area, the Inspector is the control tower of your mapping system. There, you can precisely define what has to be done on your target when you press, turn, or move anything on your NI controller. Moreover, you can organize all your assignments into Pages and Templates. Section [↑23.5, The Inspector](#) will give you a detailed description of all what you can do with the Inspector.

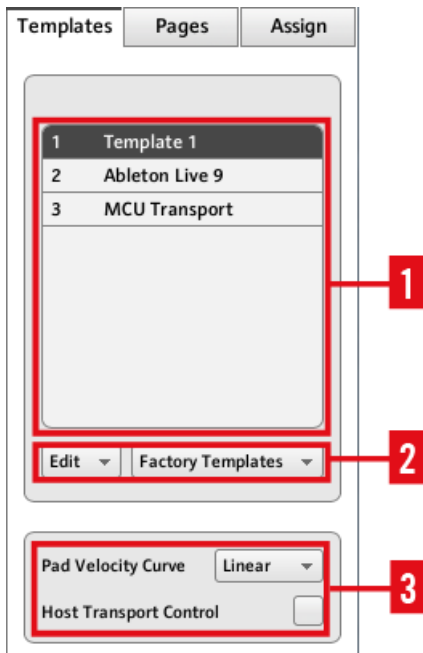
The Inspector is divided into three panes, each of them controlling a specific part of the mapping scheme: the [Templates](#) pane, the [Pages](#) pane, and the [Assign](#) pane.

The Templates Pane

The [Templates](#) pane allows you to manage your Templates. It shows a list of available Templates along with a few editing functions.



A Template holds a whole mapping configuration for all control elements of your NI controller. For more information, see [↑4.3.6, Templates](#) below.



The Templates pane in the Inspector (here for the MASCHINE controller)

The [Templates](#) pane holds the following elements, from top to bottom:

(1) Template list: Shows all available Templates with, for each Template, an index number (not editable) and a name (editable). There, you can select a Template for editing by clicking its name, and modify its name by double-clicking it.

(2) Template Edit menu and Factory Templates menu: The [Edit](#) menu provides you with editing functions like *New*, *Save As*, etc. The [Factory Templates](#) menu allows you to load factory Templates.

(3) Template Properties area: Gives you access to the properties of the Template that is currently selected in the upper Template list.



The Template Properties area is available only for certain NI controllers.

The Pages Pane

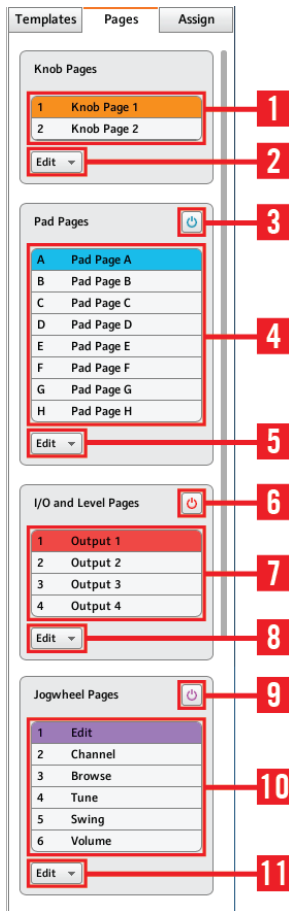
The [Pages](#) pane allows you to manage your Pages. Pages are sets of assignments focused on certain areas of your NI controller. Therefore, each NI controller will have different sets of Pages.



This feature is not available on TRAKTOR KONTROL S2 — if you are currently working on a Template for this controller, you cannot activate the [Pages](#) pane (the tab is grayed out).



Pages are sets of assignments for specific control elements. For more info, see [↑4.3.2, Pages \(or Knob Pages\)](#), [↑4.3.3, Pad Pages \(MASCHINE Controller Family Only\)](#), [↑4.3.4, I/O and Level Pages \(MASCHINE STUDIO Only\)](#), and [↑4.3.5, Jog Wheel Pages \(MASCHINE STUDIO Only\)](#).



The Pages pane in the Inspector for the MASCHINE STUDIO controller.

The **Pages** pane holds the following elements:

(1) Knob Pages list or Pages list: Shows a list with all available (Knob) Pages with, for each of them, an index number (uneditable) and a name (editable). There, you can select a Page for editing by clicking its name, and modify its name by double-clicking it. On the MASCHINE controllers, you can rearrange the page order via drag and drop. You can also select a Page via the orange (Knob) Page menu in the Hardware area, or possibly from your NI controller.

(2) Knob Page Edit menu or Page Edit menu: Provides you with editing functions for the (Knob) Pages like *New*, *Duplicate*, etc.



For some NI controllers, this **Edit** menu is replaced with a **Shift Mode menu** with the two options *Gate* and *Toggle* allowing you to choose the behavior of the SHIFT button when switching between Pages from your controller. For more information on this, see the controller-specific chapters, later in this manual.

The following elements are available only if you are working on the assignments for either of the MASCHINE controllers:

(3) Enable Pad Pages button: Activates/deactivates the Pad Page feature. If the Pad Page feature is deactivated, the rest of the area is minimized and grayed out. It will not be possible to interact with the Pad Pages when they are deactivated.

(4) Pad Page list: Shows a list with all available Pad Pages with, for each of them, an index number (uneditable) and a name (editable). There, you can select a Pad Page for editing by clicking its name, and modify its name by double-clicking it. You can rearrange the page order via drag and drop. You can also select a Pad Page via the Pad Page menu above the pads in the Hardware area, or from your controller: On the MASCHINE (MK2) and MASCHINE STUDIO controllers, use the Group buttons labeled A to H; on the MASCHINE MIKRO (MK2) controller, hold the GROUP button and use pad 9–16.

(5) Pad Page Edit menu: Provides you with editing functions like *New*, *Duplicate*, etc.

The following elements are available only if you are working on the assignments for the MASCHINE STUDIO:

(6) Enable I/O and Level Pages button: Activates/deactivates the I/O and Level Page feature. If the I/O and Level Page feature is deactivated, the rest of the area is minimized and grayed out. It will not be possible to interact with the I/O and Level Pages when they are deactivated. On the other hand, this will make the eight Input/Output buttons available for MIDI assignments.

(7) I/O and Level Pages list: Shows a list with all available I/O and Level Pages. Each page will have an index number (uneditable) and a name (editable). You can select a I/O and Level Page for editing by clicking its name, and modify its name by double-clicking it. You can rearrange the page order via drag and drop. You can also select a I/O and Level Page via the I/O and Level Pages menu above the Level knob in the Hardware area, or on your MASCHINE STUDIO controller when in MIDI mode.

(8) I/O and Level Page Edit menu: Provides you with editing functions for the I/O and Level Pages like *New*, *Duplicate*, etc.

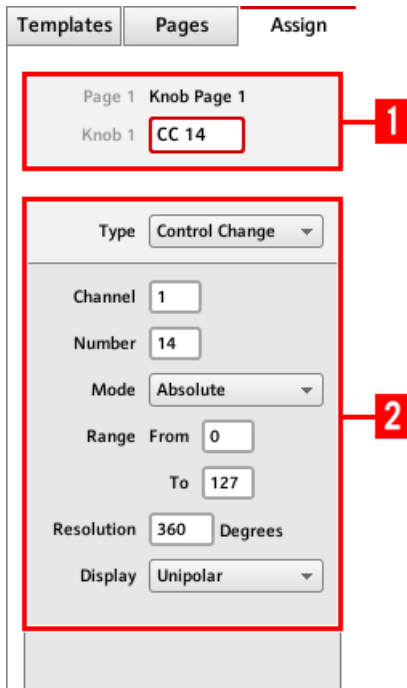
(9) Jog Wheel Pages button: Activates/deactivates the Jog Wheel Page feature. If the Jog Wheel Page feature is deactivated, the rest of the area is minimized and grayed out. It will not be possible to interact with the Jog Wheel Pages when they are deactivated. On the other hand, this will make the FUNCTION buttons available for MIDI assignments.

(10) Jog Wheel Page list: Shows a list with all available Jog Wheel Pages. Each page will have an index number (uneditable) and a name (editable). You can select a Jog Wheel Page for editing by clicking its name, and modify its name by double-clicking it. You can rearrange the page order via drag and drop. You can also select a Jog Wheel Page via the Jog Wheel Page menu above the jog wheel in the Hardware area, or using the FUNCTION buttons on your MASHINE STUDIO controller when in MIDI mode.

(11) Jog Wheel Page Edit menu: Provides you with editing functions for the Jog Wheel Pages like *New*, *Duplicate*, etc.

The Assign Pane

The last pane in the Inspector is the [Assign](#) pane. This is where you specify all details of the assignment for a particular control element. This pane shows the properties of the currently selected control element:



The Assign pane in the Inspector.

The **Assign** pane shows different properties depending on the type of element currently selected.

(1) Description area: This area is similar for all control elements. It shows the following information about the currently selected control element:

- The index number and the name of the Page of the selected control element (this is empty for elements not included in a Page).
- The element description (not editable) and its name (editable).



MASCHINE controller family: Depending on the controller and the selected control element, an additional setting can be available in the Description area. See section [↑23.5.3, Assign Pane](#) for more details.

(2) Definition area: Defines the MIDI assignment properties for the current control element. Please refer to section [↑23.5.3, Assign Pane](#) in the reference chapter for more information.

4.3 The Mapping System

Whatever you do on your NI controller, the Controller Editor translates it into a MIDI message that is then sent to the desired MIDI port — this is what the Controller Editor is all about: mapping human actions to MIDI events.

The Controller Editor’s mapping system is structured in a way that allows you to efficiently organize your assignments. This makes the whole mapping process a lot easier and informs you about what will happen whenever you actuate a control element on your NI controller. The next paragraphs will introduce you to some basic concepts.

4.3.1 Assignments

An assignment defines which MIDI event is triggered by a particular control element. Available MIDI event types are “MIDI Note,” “MIDI CC,” etc. Every action on a control element is translated into one MIDI event, the corresponding assignment defines the rules of that translation.

Depending on the type of control element (button, knob, pad, fader, encoder, pedal input, footswitch...), the available assignments differ. For more details about all available assignments for each type of control, please refer to section [↑23.6, MIDI Message Parameters](#).

4.3.2 Pages (or Knob Pages)



Pages are not available on TRAKTOR KONTROL S2.

For some of the control elements, you can have multiple assignments, organized in Pages (also called Knob Pages on specific NI controllers). Those particular control elements are located in the (Knob) Page area — indicated by the orange frame in the Hardware area, see section [↑4.2.3, Hardware Area](#) above. A (Knob) Page is a set of assignments for all control elements in this (Knob) Page area. One (Knob) Page can be selected (and loaded) at a time.

You can switch the available (Knob) Pages — either built-in or user-defined — via the Page menu (or Knob Page menu) in the Hardware area or via the Page list (or Knob Page list) in the Inspector. You can do it as well from your NI controller — more on this in the respective chapters describing the use of each NI controller.

When you select another (Knob) Page, all assignments for the control elements in the (Knob) Page area are updated accordingly. All (Knob) Pages are stored as an editable list on the [Pages](#) pane of the Inspector (for detailed information about the Inspector, see [↑23.5, The Inspector](#)).

4.3.3 Pad Pages (MASCHINE Controller Family Only)

On the MASCHINE STUDIO, MASCHINE (MK2), and MASCHINE MIKRO (MK2) controllers, you also have access to optional pages of assignments dedicated to the pads: the Pad Pages. The Pad Pages work like the Pages and Knob Pages explained above, but they affect the sixteen pads instead of the control elements in the (Knob) Page area.

The number of Pad Pages is limited to eight. One Pad Page can be selected at a time. When you select another Pad Page, all assignments for the sixteen pads are updated accordingly. The eight available Pad Pages are stored as an editable list on the [Pages](#) pane in the Inspector (you will find all details about the Inspector in section [↑23.5, The Inspector](#)).

The Pad Pages can be activated or deactivated, depending on your needs, via the Enable Pad Pages button in the Inspector's [Pages](#) pane:

- If activated, you can switch the available Pad Pages via the Pad Page menu (in the Hardware area) or via the Pad Page list (in the Inspector). Again, you can do it as well from your NI controller, via the Group buttons (labeled from A to H) or, for MIKRO controllers, via the GROUP button and pads 9–16)..
- If deactivated, only one assignment can be set for each pad. The Group buttons A–H (or the GROUP button on MIKRO controllers) can then be also assigned to MIDI commands.

4.3.4 I/O and Level Pages (MASCHINE STUDIO Only)

On the MASCHINE STUDIO controller, you also have access to optional pages of assignments dedicated to the I/O and Level section: the I/O and Level Pages. The eight available I/O and Level Pages allow you to store eight different assignments for the Level knob. Only one I/O and Level Page can be selected at a time.

The I/O and Level Pages can be activated or deactivated via the Enable I/O and Level Pages button in the Inspector's [Pages](#) pane (you will find all details about the Inspector in section [↑23.5, The Inspector](#)):

- If activated, you can switch the available I/O and Level Pages by pressing the Input buttons ([IN1](#), [IN2](#), [IN3](#), [IN4](#)) and Level meter buttons ([MST](#), [GRP](#), [SND](#), [CUE](#)) on your controller. The lit button indicates which I/O and Level page is currently active. You can also do this in the Controller Editor via the I/O and Level Page menu (in the Hardware area) or the I/O and Level Page list (in the Inspector).
- If deactivated, only one assignment can be set for the Level knob. The Input and Level meter buttons can then be also assigned to MIDI commands.

4.3.5 Jog Wheel Pages (MASCHINE STUDIO Only)

On the MASCHINE STUDIO controller, you also have access to optional pages of assignments dedicated to the jog wheel and its LED ring: the Jog Wheel Pages. The six available Jog Wheel Pages allow you to store six different assignments for the jog wheel and its LED ring. Only one Jog Wheel Page can be selected at a time.

The Jog Wheel Pages can be activated or deactivated via the Enable Jog Wheel Pages button in the Inspector's [Pages](#) pane (you will find all details about the Inspector in section [↑23.5, The Inspector](#)):

- If activated, you can switch the available Jog Wheel Pages by pressing the FUNCTION buttons (under the jog wheel) on your controller. The lit LED near the jog wheel (EDIT, CHANNEL, BROWSE, TUNE, SWING or VOLUME) indicates which Jog Wheel Page is currently active. You can also do this in the Controller Editor via the Jog Wheel Pages menu (in the Hardware area) or the Jog Wheel Page list (in the Inspector).
- If deactivated, only one assignment can be set for the jog wheel and its LED ring. The FUNCTION buttons can then be also assigned to MIDI commands.

4.3.6 Templates

A Template holds a mapping configuration for all control elements on your NI controller, including the (Knob) Pages, Pad Pages, I/O and Level Pages and Jog Wheel Pages that might exist. One Template can be selected at a time. The Template also determines if the generated MIDI events have to be sent to the internal MIDI port (to access an application listening to MIDI on your computer) or to the external MIDI port (to access an external MIDI-capable device) — only for controllers that are equipped with MIDI ports of course. Switching between different Templates can be used, for example, to address different applications on your computer or different hardware instruments.

The Template contains all Knob Page/Pad Page/I/O and Level Page/Jog Wheel Page data, the list of Knob Pages/Pad Pages/I/O and Level Pages/Jog Wheel Pages and the index of the last selected Knob Page/Pad Page/I/O and Level Page/Jog Wheel Page. The Template also stores the last state of each control element.

Templates can be stored as distinct files on your computer. These files have the following extensions:

NI Controller	Template file extension
KOMPLETTE KONTROL S-SERIES	.nckk
MASCHINE	.ncm
MASCHINE MK2	.ncm2
MASCHINE MIKRO	.ncmm
MASCHINE MIKRO MK2	.ncmm2
MASCHINE STUDIO	.ncmst
TRAKTOR KONTROL X1	.nckx1
TRAKTOR KONTROL X1 MK2	.nckx1m2
TRAKTOR KONTROL F1	.nckf1
TRAKTOR KONTROL Z1	.nckz1
TRAKTOR KONTROL Z2	.nckz2
TRAKTOR KONTROL D2	.nckd2
TRAKTOR KONTROL S8	.ncks8
TRAKTOR KONTROL S4	.ncks4
TRAKTOR KONTROL S4 MK2	.ncks4m2
TRAKTOR KONTROL S2	.ncks2
TRAKTOR KONTROL S2 MK2	.ncks2m2

You can switch among the available Templates (either built-in or user-defined) via the Template list in the [Templates](#) pane of the Inspector. This can also be done from some NI controllers — more on this in the respective chapters describing the use of each NI controller.

When you select another Template, all assignments for all control elements of the controller are updated accordingly, including the Pages, if any.



The Controller Editor provides many factory Templates for use with various MIDI targets. Please refer to the Controller Editor Template Documentation for more information about using them.

4.3.7 Configuration

For each NI controller, a working set of data contains all listed Templates, with all included pages and assignments, and the index of the currently selected Template.

The working data sets for all controllers can be stored as a single Configuration file on your computer. This type of file has the extension “.ncc.”

4.4 To Sum Up...

By utilizing your NI controller and the Hardware Service (the Controller Editor and the NI background service) you can remotely control any MIDI target. The Hardware Service was designed in a way that allows you to forget its presence in a live situation: After having configured your assignments, you can rely on your NI controller to allow you to control everything you need during your performance. Triggering MIDI hardware devices and applications in various ways, switching in real time to other sets of assignments (or groups thereof), all this can be done directly from your NI controller.

In fact, the only thing that you can not do from the Controller is modify your assignments... For that, you will need to use the Controller Editor! But thanks to the powerful mapping scheme using Templates and Pages, which is partly mirrored on your NI controller, you can prepare as many assignments as you want and recall them instantly during your live performance.

In the next chapters, we will show you how to use your NI controller(s) with the assignments defined within the Controller Editor.

5 Using Your MASCHINE Controller

In this chapter, we will focus on what's happening on your MASCHINE controller. By reading this, you will learn:

- How to use the basic controls on your controller for navigating through the MIDI mapping system.
- The list of all assignable control elements on your controller.
- How the various luminous elements give you some important information about their state.
- How to use the powerful displays of your MASCHINE controller in MIDI mode.











To enjoy full functionality of your NI controller as a MIDI remote control, especially concerning some control elements' state and LED behavior, you need to tell your NI controller what is the current state of the parameter in the MIDI target. You can do this by setting up MIDI feedback channels coming from your MIDI target back to your NI controller. This way, your controller will always stay up-to-date with the current parameter values in your target software/hardware. For more information on how to configure these MIDI feedback channels, please refer to your target software/hardware's documentation.

5.1 Basic Controls

This section shows you the commands available on your MASCHINE controller for basic tasks: switching between MIDI mode and MASCHINE mode, and selecting sets (Templates) and sub-sets (Knob Pages, Pad Pages) of MIDI assignments.



All these actions can of course be done via the Controller Editor user interface — see chapter [↑3, Quick Start](#) for example. Nevertheless, using your NI controller instead can be very handy in a live situation!

Selection	Command
MIDI/MASCHINE mode	SHIFT + CONTROL  + 
Templates	SHIFT + Page buttons  + 
Knob Pages	Page buttons 
Pad Pages (if activated)	Group buttons 
Display mode	SHIFT + Buttons 1-8  + 



For more information on Templates, Knob Pages, and Pad Pages, see [14.3, The Mapping System](#).



For more information on the display modes, see [↑5.4, The Displays](#). There you will also learn another way to select and load Templates and Knob Pages from your controller.

When your MASCHINE controller is in MIDI mode, its SHIFT button is dimly lit.

Adjusting Settings for your Controller

You can adjust various settings for your MASCHINE controller by entering its Settings display mode or by going to *File > Preferences > Controller*. See [↑5.4.7, Settings Display Mode](#) for more information.

5.2 Assignable Control Elements

If you selected the MASCHINE controller in the Device menu of the Application Control Bar, this is what the Hardware area looks like:



The Hardware area representing the MASCHINE controller.

In this Hardware area, you will notice the Knob Page menu and its associated Knob Page area (orange frame), the Pad Page menu and its associated Pad Page area (blue frame), and the red Selection Frame on the currently selected control element (pad 10 in the picture above).

The MASCHINE controller holds the following areas:



The names that you see on the device only refer to their original function in the MASCHINE software. We use these names here only to describe the interface!

(1) Page buttons and buttons around: In the top left part, you find a set of eight buttons arranged into four rows of two buttons. From these eight buttons, six are freely assignable (**CONTROL** and **STEP**, **BROWSE** and **SAMPLING**, **SNAP** (F1), and **AUTO WRITE** (F2)) and two have special functions: the left and right **Page buttons** (see previous section).

(2) MASTER area: The **MASTER** area holds four freely assignable control elements (three knobs and one button).

(3) GROUPS area: The **GROUPS** area contains eight buttons labeled from **A** to **H**: the Group buttons. If you activated the Enable Pad Pages button in the **Pages** pane of the Inspector, these buttons allow you to select the desired page of assignments for the pads (see [↑4.3.3, Pad Pages \(MASCHINE Controller Family Only\)](#)). If you didn't activate the Pad Pages, these eight buttons are freely assignable to MIDI events.

(4) TRANSPORT area: The **TRANSPORT** area contains eight buttons. Seven of them are freely assignable: **RESTART** (LOOP), Previous, Next, **GRID**, **PLAY**, **REC**, and **ERASE**. The last one, **SHIFT**, is a special button (see previous section). Therefore, this button cannot be assigned in the Controller Editor.

(5) Knob Page area: The Knob Page area holds a set of eight buttons and eight knobs, with the buttons being placed above and the knobs below the two displays, respectively. These sixteen control elements are freely assignable. The Knob Page area is indicated by an orange frame and headed by the Knob Page menu.



The buttons and knobs in the Knob Page area can also have other functions according to the display mode that is currently active. See [↑5.4, The Displays](#) for more on this.

(6) PADS area: The **PADS** area shows a column of eight freely assignable buttons (namely **SCENE**, **PATTERN**, **PAD MODE** (KEYBOARD), **NAVIGATE**, **DUPLICATE**, **SELECT**, **SOLO**, and **MUTE**) as well as a square of sixteen freely assignable pads. If you activated the Enable Pad Pages button in the **Pages** pane of the Inspector, a Pad Page area (indicated by the blue frame) groups the pads together and is headed by the Pad Page menu.

To Sum Up...

All control elements on your MASCHINE controller are freely assignable to MIDI events (with the limitations due to the type of control element), with the following exceptions:

- The Page buttons and the SHIFT button have a predefined function (see previous section).

- The Group buttons, labeled A to H, are not assignable if you use the Pad Page feature — they're used for selecting Pad Pages, see previous section. If you deactivate the Pad Pages, the Group buttons are freely assignable like any other.



You can also split the controls of your controller between MIDI mode and MASCHINE mode in order to control a MASCHINE plug-in instance while sending MIDI messages to the host with the transport controls! See [↑23.5.1, Templates Pane](#) for more information.

Assignment Parameters

The following table summarizes where to find all assignment details for each type of control element on your controller:

Type of Control Element	Assignment Parameters
Buttons	↑23.6.2, Assignments for Buttons
Pads – Hit action	↑23.6.4, Assignments for the Pads – Hit Action
Pads – Press action	↑23.6.6, Assignments for the Pads – Press Action
Knobs	↑23.6.8, Assignments for Analog Encoders

5.3 Visual Feedback on Your Controller

The fast bidirectional communication between your MASCHINE controller and the Hardware Service on the software side allows status indications on your controller to be made in real time.

Your MASCHINE controller provides you visual feedback in various ways:

- All buttons and pads are equipped with LEDs that inform you about the assignment state of the control element at any time.
- The displays show you additional information about the assignments.

5.3.1 Buttons

The LEDs below each button can have three states: off, dimmed and bright. Their lighting behavior depends on the type and state of the control element.

The following table indicates you the possible states for the LEDs:

Button State	LED State
Not assigned	Off
Assigned – Off state	Dimmed
Assigned – On state	Bright



For buttons in Increment mode, the Off state corresponds to the zero value, while the On state corresponds to a value greater than zero. See section [↑23.6.2, Assignments for Buttons](#) for more information on the various button modes.

Controlling the Button State

The On/Off state of each button can be controlled in two ways — internally via your actions on the button, or remotely via MIDI feedback:

- In Toggle mode, both controls are enabled: both your actions on the button and the possibly incoming MIDI messages are taken into account to update the button and LED state.
- In Trigger, Gate, and Increment mode, you can choose which control mode (internal or remote via MIDI) you want to use. This is done via the [LED On](#) menu in the [Assign](#) pane of the Inspector.



For more information on the button modes, [LED On](#) menu, and MIDI feedback mode, see [↑23.6.2, Assignments for Buttons](#).

Moreover, for the Buttons 1–8 above the displays, the particular assignment is shown within the displays in Knobs display mode (see section [↑5.4.2, Knobs Display Mode](#)).

5.3.2 Pads

Here are the rules for the pads. Since the pads have two functions (they are pressure-sensitive), the states are indicated as follows:

- If the pad is not assigned, it is off.
- If there is an assignment for the Hit action, the pad’s LED behaves like that of a button (see previous section).

- If the Hit action is not assigned but the Press action is assigned to the Note message type, the LED has a low brightness to show the Off state and a high brightness to show the On state. For all other message types, the LED stays at low brightness.

5.3.3 Knobs

The assignments for the eight Knobs under the displays are indicated within the displays in Knobs display mode. If a Knob is not assigned, the display reads “OFF.”

The VOLUME, TEMPO and SWING knobs in the MASTER area have no display, but, like for all other controls, their value is shown in the displays in the Event line of the Monitor display mode.



For more information on the various display modes on your MASCHINE controller, see next section.

5.4 The Displays

The displays on your MASCHINE controller can show different parts of your mapping configuration, depending on the **display mode** that is activated. Each display mode modifies the behavior of Buttons 1–8 above the displays and Knobs 1–8 below them. Learn more about the different display modes available for the MASCHINE controller in the following sections.

5.4.1 Switching Between Display Modes

First of all, to switch between display modes, press the SHIFT button on your MASCHINE controller and hold it. On the displays, you see something like this:



The displays on your MASCHINE controller in MIDI mode, when the SHIFT button is depressed.

This screen allows you to select the desired display mode. On the top, you find six fields representing the six display modes, from left to right: **MONITOR**, **SETTINGS**, **KNOBS**, **PADS**, **PAGE**, and **TEMPLATE**.

- ▶ To switch to any of the display modes, hold the **SHIFT** button and press the corresponding Button 3–8 above the displays.

At any time, you can press the **SHIFT** button again and switch to another display mode.

In the middle part of the left display, you see the name of the current Template. This is common to all display modes (except the Settings display mode), so that you can always be sure about which Template is currently selected.

Below, a message reminds you that you can switch to another Template simply by pressing the Page buttons, since you are already holding **SHIFT** (see [↑5.1, Basic Controls](#)).

5.4.2 Knobs Display Mode

The Knobs display mode is probably the one you will use the most. In this mode, the displays show the currently loaded Knob Page, with its eight button assignments on the top row and its eight knob assignments on the bottom row:

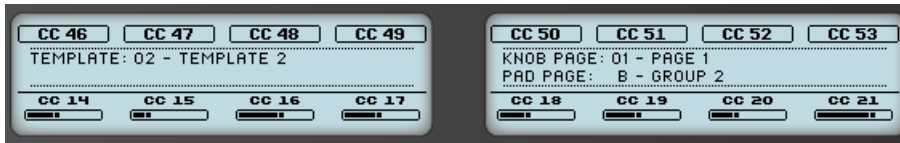


The Knobs display mode mirrors the currently loaded Knob Page.

This display mode allows you to see which MIDI message is currently assigned to each control element in the loaded Knob Page. In this mode, the 16 control elements around the displays (Buttons 1–8 above and Knobs 1–8 below) trigger the MIDI messages assigned to them.

Each field mirrors the Label Field as defined in the Inspector's [Assign](#) pane for the corresponding control element: the name you defined there appears here — if you haven't defined any name for that control element yet, its label is simply its assigned MIDI message.

In the lower row, the displays additionally show the current value for each Knob. These values can be displayed in two views: either via numerical values (like in the picture above), or via small bars:



The Knobs display mode with bars instead of numerical values.

You can switch between the two views by holding the SHIFT button and turning Knob 5:

1. Hold SHIFT (thus getting to the switching screen explained [↑5.4.1, Switching Between Display Modes](#)).
You can see the option “SHOW BARS” or “SHOW VALUES” above Knob 5 (depending on which view is currently selected).
 2. Turn Knob 5 to select the desired view.
 3. Release SHIFT.
- The new view is displayed.

Note that depending on the assignment properties for each of the Knobs, its displayed value (or bar) can either be going from 0 to 127 or from -63 to 64 (bipolar) — this second setting can be useful for some types of controls (e.g. a stereo balance). This only affects the value/bar shown on the displays — the real MIDI value will go from 0 to 127 anyway. Please refer to section [↑23.6.8, Assignments for Analog Encoders](#) for more information on this.

5.4.3 Pad Pages Display Mode

The Pad Pages display mode (labeled “PADS” on the displays) allows you to check the current assignments for the pads of your MASCHINE controller, by mirroring the current Pad Page:



The Pad Pages display mode mirrors the Pad Page currently loaded.

On the left display, you find some general information about the loaded Template, Knob Page and Pad Page. The right display summarizes the pads’ assignments stored in the active Pad Page.

5.4.4 Knob Pages Display Mode

The Knob Pages display mode allows you to switch between Knob Pages:



The Knob Pages display mode allows you to switch between Knob Pages.

On the left display, you find the usual general information about the currently loaded Template, Knob Page and Pad Page.

On the right display, you see the list of your Knob Pages, as defined in the [Knob Pages](#) list of the Inspector's [Pages](#) pane.

1. Use Buttons 5 and 6 above the up and down arrows to scroll through the list and find the Knob Page you wish to load next. You can also turn Knob 5.
2. When you have it, press Button 8 ("LOAD") to load the selected Knob Page.

Actually, this functionality is already available in many ways: in the Controller Editor, you can use the Knob Page menu (in the Hardware area) or the [Knob Pages](#) list (in the Inspector's [Pages](#) pane), and on the MASCHINE controller you have the Page buttons at your disposal. But the Knob Pages display mode allows you a greater control over the Knob Page selection from the MASCHINE controller:

- Unlike the Knob Page menu and [Knob Pages](#) list, you don't have to open the Controller Editor to switch to another Knob Page.
- Unlike the Page buttons on your controller, you can quietly choose the next Knob Page to be loaded, even if it's not the one right after/before the Knob Page currently loaded. You can check its name to remember its assignments, and you can scroll the entire list to find the page you want.



When you reach the end of a list while scrolling, you can choose whether the selection has to jump at the other end of the list or stay on this last item. This can be set in *Preferences > General > Wrap Template and Page Lists*.

5.4.5 Template Display Mode

The Template display mode allows you to switch between Templates.



The Template display mode allows you to switch between Templates.

On the left display, you find the same general information about the Template, Knob Page and Pad Page currently loaded.

On the right display, you see the list of your Templates, as defined in the Inspector's [Templates](#) pane.

1. Use Button 5 and 6 above the up and down arrows to scroll through the list and find the Template you wish to load next. You can also turn Knob 5.
2. When you have it, press Button 8 ("LOAD") to load the selected Template.

Like for the Knob Pages, this functionality is already available in many ways: in the Controller Editor you can use the Template list (in the Inspector's [Templates](#) pane), and on the MASCHINE controller you can press SHIFT + Page buttons. The Template display mode allows you a greater control over the Template selection from your controller though, for the reasons explained as those explained in the previous section for the Knob Pages.

5.4.6 Monitor Display Mode

The Monitor display mode provides you with useful information about the MIDI data sent by your MASCHINE controller.



The Monitor display mode provides information about the MIDI data sent by your MASCHINE controller.

The left display shows the usual information about the current Template, Knob Page and Pad Page.

The right display shows two lines:

- The Control line indicates the control element that you are currently actuating.
- The Event line shows the details of the MIDI event being currently sent by this control element.

This display mode is very useful to monitor what's going out of your controller, for example for debugging purpose: if something goes wrong somewhere in your MIDI chain, you can check here what is actually sent by your MASCHINE controller.

5.4.7 Settings Display Mode

The Settings display mode allows you to adjust relevant parameters and provides information about your MASCHINE controller.



The Settings display mode provides access to parameters for your MASCHINE controller.

The settings are grouped in the left display. They are the same as in *File > Preferences > Controller* (when the MASCHINE controller is selected in the Controller menu at the top, of course). The settings are:

- **Brightness:** Changes the backlight of the displays.
- **Pad Sensitivity:** Changes the sensitivity of the pads.
- **Contrast L:** Sets the contrast for the left display.
- **Contrast R:** Sets the contrast for the right display.

The right display provides you with some important information about your MASCHINE controller and the Hardware Service:

- In the upper part, you find the firmware version of your MASCHINE controller along with its serial number.

- In the bottom part of the display, you see the version numbers of the NI Hardware Service and hardware drivers.

6 Using Your MASCHINE MK2 Controller

In this chapter, we will focus on what's happening on your MASCHINE MK2 controller. By reading this, you will learn:

- How to use the basic controls on your controller for navigating through the MIDI mapping system.
- The list of all assignable control elements on your controller.
- How the various luminous elements give you some important information about their state.
- How to use the powerful displays of your MASCHINE MK2 controller in MIDI mode.









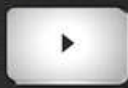
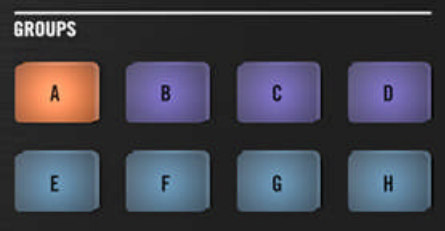


To enjoy full functionality of your NI controller as a MIDI remote control, especially concerning some control elements' state and LED behavior, you need to tell your NI controller what is the current state of the parameter in the MIDI target. You can do this by setting up MIDI feedback channels coming from your MIDI target back to your NI controller. This way, your controller will always stay up-to-date with the current parameter values in your target software/hardware. For more information on how to configure these MIDI feedback channels, please refer to your target software/hardware's documentation.

6.1 Basic Controls

This section shows you the commands available on your MASCHINE MK2 controller for basic tasks: switching between MIDI mode and MASCHINE mode, and selecting sets (Templates) and subsets (Knob Pages, Pad Pages) of MIDI assignments.



All these actions can of course be done via the Controller Editor user interface — see chapter [↑3, Quick Start](#) for example. Nevertheless, using your NI controller instead can be very handy in a live situation!

Selection	Command	
MIDI/MASCHINE mode	SHIFT + CONTROL	 + 
Templates	SHIFT + Page buttons	 +  
Knob Pages	Page buttons	 
Pad Pages (if activated)	Group buttons	
Display mode	SHIFT + Buttons 3–8	 + 



For more information on Templates, Knob Pages, and Pad Pages, see [14.3, The Mapping System](#).



For more information on the display modes, see [16.4, The Displays](#). There you will also learn another way to select and load Templates and Knob Pages from your controller.

When your MASCHINE MK2 controller is in MIDI mode, its SHIFT button is dimly lit.

Adjusting Settings for your Controller

You can adjust various settings for your MASCHINE MK2 controller by entering its Settings display mode or by going to *File > Preferences > Controller*. See [↑6.4.6, Settings Display Mode](#) for more information.

6.2 Assignable Control Elements

If you selected the MASCHINE MK2 controller in the Device menu of the Application Control Bar, this is what the Hardware area looks like:



The Hardware area representing the MASCHINE MK2 controller.

In this Hardware area, you will notice the Knob Page menu and its associated Knob Page area (orange frame), the Pad Page menu and its associated Pad Page area (blue frame), and the red Selection Frame on the currently selected control element (pad 1 in the picture above).

The MASCHINE MK2 controller holds the following areas:



The names that you see on the device only refer to their original function in the MASCHINE software. We use these names here only to describe the interface!

(1) **Page buttons and buttons around:** In the top left part, you find a set of eight buttons arranged into four rows of two buttons. From these eight buttons, six are freely assignable (**CONTROL** and **STEP**, **BROWSE** and **SAMPLING**, **ALL**, and **AUTO WR.**) and two have special functions: the left and right **Page buttons** (see previous section).

(2) **MASTER area:** The **MASTER** area holds eight freely assignable control elements (seven buttons and the Control encoder).

(3) **GROUPS area:** The **GROUPS** area contains eight buttons labeled from **A** to **H**: the Group buttons. If you activated the **Pad Pages** button in the **Pages** pane of the Inspector, these buttons allow you to select the desired page of assignments for the pads (see [↑4.3.3, Pad Pages \(MASCHINE Controller Family Only\)](#)). If you didn't activate the **Pad Pages**, these eight buttons are freely assignable to MIDI events.

(4) **TRANSPORT area:** The **TRANSPORT** area contains eight buttons. Seven of them are freely assignable: **RESTART**, **Previous**, **Next**, **GRID**, **PLAY**, **REC**, and **ERASE**. The last one, **SHIFT**, is a special button (see previous section). Therefore, this button cannot be assigned in the Controller Editor.

(5) **Knob Page area:** The Knob Page area holds a set of eight buttons and eight knobs, with the buttons being placed above and the knobs below the two displays, respectively. These sixteen control elements are freely assignable. The Knob Page area is indicated by an orange frame and headed by the Knob Page menu.



The buttons and knobs in the Knob Page area can also have other functions according to the display mode that is currently active. See [↑6.4, The Displays](#) for more on this.

(6) **PADS area:** The **PADS** area shows a column of eight freely assignable buttons (namely **SCENE**, **PATTERN**, **PAD MODE**, **NAVIGATE**, **DUPLICATE**, **SELECT**, **SOLO**, and **MUTE**) as well as a square of sixteen freely assignable pads. If you activated the **Enable Pad Pages** button in the **Pages** pane of the Inspector, a **Pad Page** area (indicated by the blue frame) groups the pads together and is headed by the **Pad Page** menu.

To Sum Up...

All control elements on your MASCHINE MK2 controller are freely assignable to MIDI events (with the limitations due to the type of control element), with the following exceptions:

- The Page buttons and the **SHIFT** button have a predefined function (see previous section).

- The Group buttons, labeled A to H, are not assignable if you use the Pad Page feature — they're used for selecting Pad Pages, see previous section. If you deactivate the Pad Pages, the Group buttons are freely assignable like any other.



You can also split the controls of your controller between MIDI mode and MASCHINE mode in order to control a MASCHINE plug-in instance while sending MIDI messages to the host with the transport controls! See [↑23.5.1, Templates Pane](#) for more information.

Assignment Parameters

The following table summarizes where to find all assignment details for each type of control element on your controller:

Type of Control Element	Assignment Parameters
Buttons	↑23.6.2, Assignments for Buttons
Pads – Hit action	↑23.6.4, Assignments for the Pads – Hit Action
Pads – Press action	↑23.6.6, Assignments for the Pads – Press Action
Knobs 1–8	↑23.6.8, Assignments for Analog Encoders
Control encoder – Push action	↑23.6.2, Assignments for Buttons
Control encoder – Turn action	↑23.6.7, Assignments for Digital Encoders

6.3 Visual Feedback on Your Controller

The fast bidirectional communication between your MASCHINE MK2 controller and the Hardware Service on the software side allows status indications on your controller to be made in real time.

Your MASCHINE MK2 controller provides you visual feedback in various ways:

- All buttons and pads are equipped with LEDs that inform you about their assignment state at any time. Furthermore, the 16 pads and 8 Group buttons provide RGB LEDs.
- The displays show you additional information about the assignments.

6.3.1 Buttons

Basically, each button on your controller can have three states:

- Not assigned.
- Assigned, in Off state.
- Assigned, in On state.

The following paragraphs describe how the LED under each button keeps you informed on the button states.

Single-Color Buttons

For all buttons except the Group buttons, the LEDs can have three states: off, dimmed and bright. All are white except for the PLAY button (green) and the REC button (red). The LED states directly indicate the button states:

Button State	LED State
Not assigned	Off
Assigned – Off state	Dimmed
Assigned – On state	Bright



For buttons in Increment mode, the Off state corresponds to the zero value, while the On state corresponds to a value greater than zero. See section [↑23.6.2, Assignments for Buttons](#) for more information on the various button modes.

Multicolor Buttons

The eight Group buttons of your controller are equipped with RGB LEDs. This by far extends the monitoring possibilities of these control elements. Their lighting behavior directly depends on whether the Pad Pages are enabled or not.

- Pad Pages enabled: Each Group button mirrors the color defined for its Pad Page (the [Color](#) setting for Pad Pages is described in [↑23.5.3, Assign Pane](#)). All Group buttons are dimmed except the button corresponding to the selected Pad Page.
- Pad Pages disabled: The Group buttons can be freely assigned. For each of them, you can choose which from the 16 available colors should be used for the On and Off states.

With Pad Pages disabled, the Group buttons offer you three Color modes:

- Single mode: You can choose a color that will be used bright and dimmed for the On and Off states, respectively. In this mode, the button's lighting behaves like that of single-color buttons (see table above).
- Dual mode: You can choose a color for the On state and another color for the Off state. Both colors will be used at full brightness.
- HSB mode: This mode is only available when the button's state is controlled via MIDI feedback (see below). In HSB mode, you can precisely define from within your MIDI target which color the button will use.

Controlling the Button State

The On/Off state of each single-color or multicolor button can be controlled in two ways — internally via your actions on the button, or remotely via MIDI feedback:

- In Toggle mode, both controls are enabled: both your actions on the button and the possibly incoming MIDI messages are taken into account to update the button and LED state.
- In Trigger, Gate, and Increment mode, you can choose which control mode (internal or remote via MIDI) you want to use. This is done via the [LED On](#) menu in the [Assign](#) pane of the Inspector.



For more information on the button modes, [LED On](#) menu, and MIDI feedback mode, see [↑23.6.2, Assignments for Buttons](#).

Moreover, for the Buttons 1–8 above the displays, the particular assignment is shown within the displays in Knobs display mode (see section [↑6.4.2, Knobs Display Mode](#)).

6.3.2 Multicolor Pads

The sixteen pads of your controller are equipped with RGB LEDs. Their lighting behavior is close to that of multicolor buttons — but since the pads have two functions (Hit and Press), their states are indicated as follows:

- If the pad is not assigned, it is off.
- If there is an assignment for the Hit action, the pad's LED behaves like that of a multicolor Group button (see previous section).

- If the Hit action is not assigned but the Press action is assigned to the Note message type, the LED has a low brightness to show the Off state and a high brightness to show the On state. For all other message types, the LED stays at low brightness.

6.3.3 Knobs

The assignments for the eight Knobs under the displays are indicated within the displays in Knobs display mode. If a Knob is not assigned, the display reads “OFF.”



For more information on the various display modes on your MASCHINE MK2 controller, see section [↑6.4, The Displays](#).

6.3.4 Control Encoder

The Control encoder has no direct visual feedback, but like all other controls its assignment and value are indicated on the right display when the displays are in Monitor display mode. If the Control encoder is not assigned, the display reads “NONE.”



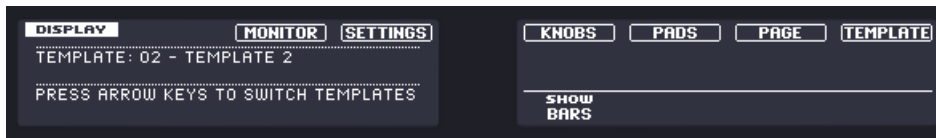
For more information on the various display modes on your MASCHINE MK2 controller, see next section.

6.4 The Displays

The displays on your MASCHINE MK2 controller can show different parts of your mapping configuration, depending on the **display mode** that is activated. Each display mode modifies the behavior of Buttons 1–8 above the displays and Knobs 1–8 below them. Learn more about the different display modes available on the MASCHINE MK2 controller in the following sections.

6.4.1 Switching Between Display Modes

First of all, to switch between display modes, press the SHIFT button on your MASCHINE MK2 controller and hold it. On the displays, you see something like this:



The displays on your MASCHINE MK2 controller in MIDI mode, when the SHIFT button is depressed.

This screen allows you to select the desired display mode. On the top, you find six fields representing the six display modes, from left to right: **MONITOR**, **SETTINGS**, **KNOBS**, **PADS**, **PAGE**, and **TEMPLATE**.

- ▶ To switch to any of the display modes, hold the SHIFT button and press the corresponding Button 3–8 above the displays.

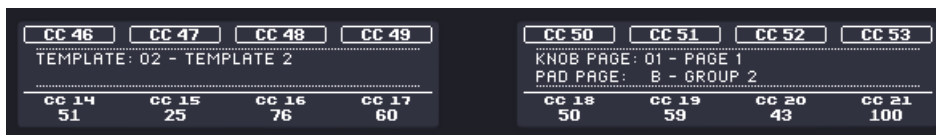
At any time, you can press the SHIFT button again and switch to another display mode.

In the middle part of the left display, you see the name of the current Template. This is common to all display modes (except the Settings display mode), so that you can always be sure about which Template is currently selected.

Below, a message reminds you that you can switch to another Template simply by pressing the Page buttons, since you are already holding SHIFT (see [↑6.1, Basic Controls](#)).

6.4.2 Knobs Display Mode

The Knobs display mode is probably the one you will use the most. In this mode, the displays show the currently loaded Knob Page, with its eight button assignments on the top row and its eight knob assignments on the bottom row:



The Knobs display mode mirrors the currently loaded Knob Page.

This display mode allows you to see which MIDI message is currently assigned to each control element in the loaded Knob Page. In this mode, the 16 control elements around the displays (Buttons 1–8 above and Knobs 1–8 below) trigger the MIDI messages assigned to them.

Each field mirrors the Label Field as defined in the Inspector's [Assign](#) pane for the corresponding control element: the name you defined there appears here — if you haven't defined any name for that control element yet, its label is simply its assigned MIDI message.

In the lower row, the displays additionally show the current value for each Knob. These values can be displayed in two views: either via numerical values (like in the picture above), or via small bars:



The Knobs display mode with bars instead of numerical values.

You can switch between the two views by holding the SHIFT button and turning Knob 5:

1. Hold SHIFT (thus getting to the switching screen explained in [↑6.4.1, Switching Between Display Modes](#)).
You can see the option “SHOW BARS” or “SHOW VALUES” above Knob 5 (depending on which view is currently selected).
 2. Turn Knob 5 to select the desired view.
 3. Release SHIFT.
- The new view is displayed.

Note that depending on the assignment properties for each of the Knobs, its displayed value (or bar) can either be going from 0 to 127 or from -63 to 64 (bipolar) — this second setting can be useful for some types of controls (e.g. a stereo balance). This only affects the value/bar shown on the displays — the real MIDI value will go from 0 to 127 anyway. Please refer to section [↑23.6.8, Assignments for Analog Encoders](#) for more information on this.

6.4.3 Pad Pages Display Mode

The Pad Pages display mode (labeled “PADS” on the displays) allows you to check the current assignments for the pads of your MASCHINE MK2 controller, by mirroring the current Pad Page:



The Pad Pages display mode mirrors the Pad Page currently loaded.

On the left display, you find some general information about the loaded Template, Knob Page and Pad Page. The right display summarizes the pads' assignments stored in the active Pad Page.

6.4.4 Template Display Mode

The Template display mode allows you to switch between Templates.



The Template display mode allows you to switch between Templates.

On the left display, you find the same general information about the Template, Knob Page and Pad Page currently loaded.

On the right display, you see the list of your Templates, as defined in the Inspector's [Templates](#) pane.

1. Use Button 5 and 6 above the up and down arrows to scroll through the list and find the Template you wish to load next. You can also turn Knob 5 or the Control encoder.
2. When you have it, press Button 8 ("LOAD") to load the selected Template.

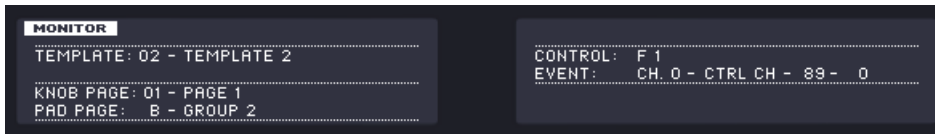
Like for the Knob Pages, this functionality is already available in many ways: in the Controller Editor you can use the Template list (in the Inspector's [Templates](#) pane), and on the MASCHINE MK2 controller you can press SHIFT + Page buttons. The Template display mode allows you a greater control over the Template selection from your controller though, for the reasons already explained in the previous section for the Knob Pages.



When you reach the end of the list, you can choose whether the selection has to jump to the other list end or stay on this last item. This can be set in *Preferences > General > Wrap Template and Page Lists*.

6.4.5 Monitor Display Mode

The Monitor display mode provides you with useful information about the MIDI data sent by your MASCHINE MK2 controller.



The Monitor display mode provides information about the MIDI data sent by your MASCHINE MK2 controller.

The left display shows the usual information about the current Template, Knob Page and Pad Page.

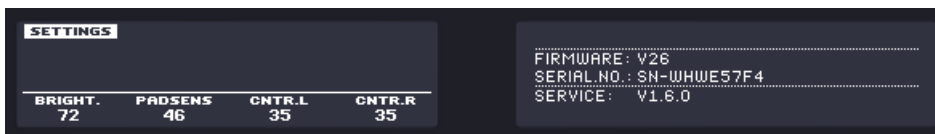
The right display shows two lines:

- The Control line indicates the control element that you are currently actuating.
- The Event line shows the details of the MIDI event being currently sent by this control element.

This display mode is very useful to monitor what's going out of your controller, for example for debugging purpose: if something goes wrong somewhere in your MIDI chain, you can check here what is actually sent by your MASCHINE MK2 controller.

6.4.6 Settings Display Mode

The Settings display mode allows you to adjust relevant parameters and provides information about your MASCHINE MK2 controller.



The Settings display mode provides access to parameters for your MASCHINE MK2 controller.

The settings are grouped in the left display. They are the same as in *File > Preferences > Controller* (when the MASCHINE MK2 controller is selected in the Controller menu at the top, of course). The settings are:

- **Brightness:** Changes the backlight of the displays.
- **Pad Sensitivity:** Changes the sensitivity of the pads.
- **Contrast L:** Sets the contrast for the left display.
- **Contrast R:** Sets the contrast for the right display.

The right display provides you with some important information about your MASCHINE MK2 controller and the Hardware Service:

- In the upper part, you find the firmware version of your MASCHINE MK2 controller along with its serial number.
- Below, you see the version numbers of the NI Hardware Service and hardware drivers.

7 Using Your MASCHINE MIKRO Controller

In this chapter, we will focus on what's happening on your MASCHINE MIKRO controller. By reading this, you will learn:

- How to use the basic controls on your controller for navigating through the MIDI mapping system.
- The list of all assignable control elements on your controller.
- How the various luminous elements give you some important information about their state.
- How to use the powerful display of your MASCHINE MIKRO controller in MIDI mode.














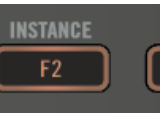

To enjoy full functionality of your NI controller as a MIDI remote control, especially concerning some control elements' state and LED behavior, you need to tell your NI controller what is the current state of the parameter in the MIDI target. You can do this by setting up MIDI feedback channels coming from your MIDI target back to your NI controller. This way, your controller will always stay up-to-date with the current parameter values in your target software/hardware. For more information on how to configure these MIDI feedback channels, please refer to your target software/hardware's documentation.

7.1 Basic Controls

This section shows you the commands available on your MASCHINE MIKRO controller for basic tasks: switching between MIDI mode and MASCHINE mode, and selecting sets (Templates) and subsets (Knob Pages, Pad Pages) of MIDI assignments.



All these actions can of course be done via the Controller Editor user interface — see chapter [↑3, Quick Start](#) for example. Nevertheless, using your NI controller instead can be very handy in a live situation!

Selection	Command	
MIDI/MASCHINE mode	SHIFT + F1	 + 
Templates	SHIFT + Left/Right Arrow buttons	 +  
Knob Pages	Left/Right Arrow buttons	 
Pad Pages (if activated)	GROUP + pads 9–16	 + 
Display mode	NAV + F1–F3	 +   



For more information on Templates, Knob Pages, and Pad Pages, see [14.3, The Mapping System](#).



For more information on the display modes, see [17.4, The Display](#).

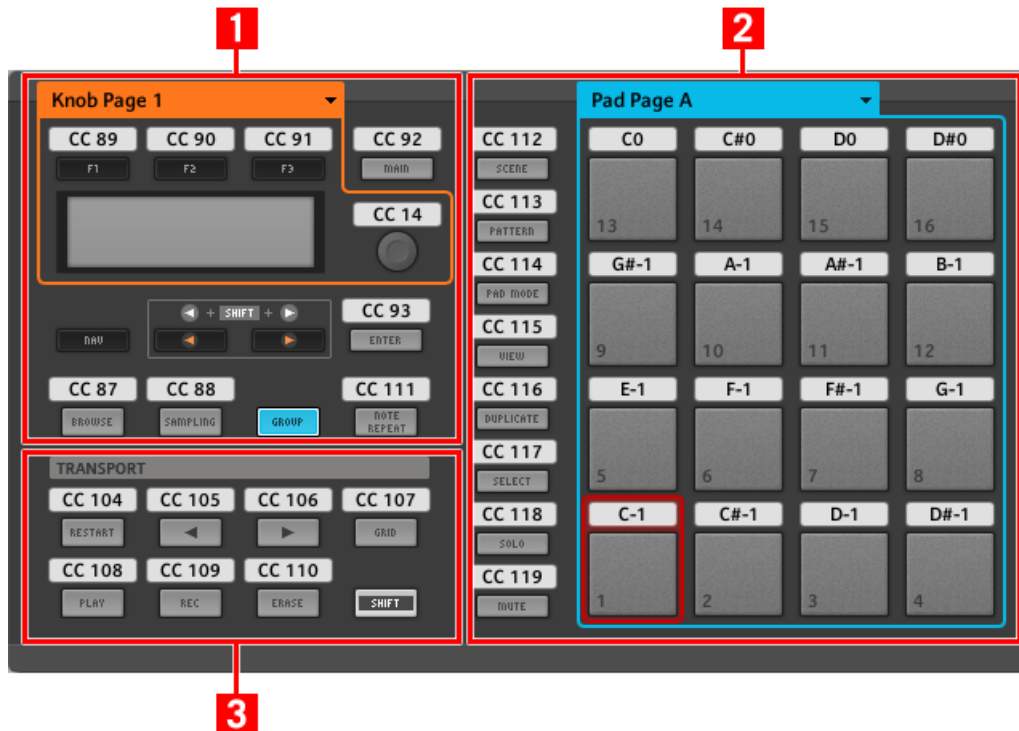
When your MASCHINE MIKRO controller is in MIDI mode, its SHIFT button is dimly lit.

Adjusting Settings for your Controller

You can adjust various settings for your MASCHINE MIKRO controller by entering its Setup display mode or by going to *File > Preferences > Controller*. See [↑7.4.4, Setup Display Mode](#) for more information.

7.2 Assignable Control Elements

If you selected the MASCHINE MIKRO controller in the Device menu of the Application Control Bar, this is what the Hardware area looks like:



The Hardware area representing the MASCHINE MIKRO controller.

In this Hardware area, you will notice the Knob Page menu and its associated Knob Page area (orange frame), the Pad Page menu and its associated Pad Page area (blue frame), and the red Selection Frame on the currently selected control element (pad 1 in the picture above).

The MASCHINE MIKRO controller holds the following areas:



The names that you see on the device only refer to their original function in the MASCHINE software. We use these names here only to describe the interface!

(1) CONTROL area: In the top left part, twelve buttons and the Control encoder are arranged around the display. From these control elements, eight buttons are freely assignable (**F1**, **F2**, **F3**, **MAIN**, **ENTER**, **BROWSE**, **SAMPLING**, and **NOTE REPEAT**) as well as the Control encoder. The remaining four buttons (**NAV**, Left/Right Arrow, and **GROUP**) have special functions (see previous section).

The CONTROL area also holds the Knob Page area, indicated by an orange frame and headed by the Knob Page menu. The Knob Page area includes the **F1**, **F2**, and **F3** buttons along with the Control encoder.



The control elements in the Knob Page area can also have other functions according to the display mode that is currently active. This is also the case for the **ENTER** button. See [↑7.4, The Display](#) for more on this.



If the Pad Page feature is deactivated, the **GROUP** button becomes freely assignable as well.

(2) PADS area: The **PADS** area shows a column of eight freely assignable buttons (namely **SCENE**, **PATTERN**, **PAD MODE**, **VIEW**, **DUPLICATE**, **SELECT**, **SOLO**, and **MUTE**) as well as a square of sixteen freely assignable pads. If you activated the Enable Pad Pages button in the **Pages** pane of the Inspector, a Pad Page area (indicated by the blue frame) groups the pads together and is headed by the Pad Page menu.

(3) TRANSPORT area: The **TRANSPORT** area contains eight buttons. All of them are freely assignable except the last one, **SHIFT**, which has a special function (see previous section).

To Sum Up...

All control elements on your MASCHINE MIKRO controller are freely assignable to MIDI events (with the limitations due to the type of control element), with the following exceptions:

- The NAV, Left/Right Arrow and SHIFT buttons have a predefined function (see [↑7.1, Basic Controls](#)).
- The GROUP button is not assignable if you use the Pad Page feature — it is used for selecting Pad Pages (see [↑7.1, Basic Controls](#)). If you deactivate the Pad Pages, the GROUP button is freely assignable like any other button.



You can also split the controls of your controller between MIDI mode and MASCHINE mode in order to control a MASCHINE plug-in instance while sending MIDI messages to the host with the transport controls! See [↑23.5.1, Templates Pane](#) for more information.

Assignment Parameters

The following table summarizes where to find all assignment details for each type of control element on your controller:

Type of Control Element	Assignment Parameters
Buttons	↑23.6.2, Assignments for Buttons
Pads – Hit action	↑23.6.4, Assignments for the Pads – Hit Action
Pads – Press action	↑23.6.6, Assignments for the Pads – Press Action
Control encoder – Push action	↑23.6.2, Assignments for Buttons
Control encoder – Turn action	↑23.6.7, Assignments for Digital Encoders

7.3 Visual Feedback on Your Controller

The fast bidirectional communication between your MASCHINE MIKRO controller and the Hardware Service on the software side allows status indications on your controller to be made in real time.

Your MASCHINE MIKRO controller provides you visual feedback in various ways:

- All buttons and pads are equipped with LEDs that inform you about the assignment state of the control element at any time.
- The display shows you additional information about the assignments.

7.3.1 Buttons

The LEDs below each button can have three states: off, dimmed and bright. Their lighting behavior depends on the type and state of the control element.

The LED states directly indicate the button states:

Button State	LED State
Not assigned	Off
Assigned – Off state	Dimmed
Assigned – On state	Bright



For buttons in Increment mode, the Off state corresponds to the zero value, while the On state corresponds to a value greater than zero. See section [↑23.6.2, Assignments for Buttons](#) for more information on the various button modes.

Controlling the Button State

The On/Off state of each button can be controlled in two ways — internally via your actions on the button, or remotely via MIDI feedback:

- In Toggle mode, both controls are enabled: both your actions on the button and the possibly incoming MIDI messages are taken into account to update the button and LED state.
- In Trigger, Gate, and Increment mode, you can choose which control mode (internal or remote via MIDI) you want to use. This is done via the [LED On](#) menu in the [Assign](#) pane of the Inspector.



For more information on the button modes, [LED On](#) menu, and MIDI feedback mode, see [↑23.6.2, Assignments for Buttons](#).

Moreover, for the F1–F3 buttons and for the Control encoder, the particular assignment is shown within the display in Control display mode (see section [↑7.4.2, Control Display Mode](#)).

7.3.2 Pads

Here are the rules for the pads. Since the pads have two functions (they are pressure-sensitive), the states are indicated as follows:

- If the pad is not assigned, it is off.
- If there is an assignment for the Hit action, the pad's LED behaves like that of a button (see previous section).
- If the Hit action is not assigned but the Press action is assigned to the Note message type, the LED has a low brightness to show the Off state and a high brightness to show the On state. For all other message types, the LED stays at low brightness.

7.3.3 Control Encoder

The assignment for the Control encoder is indicated within the display in Control display mode. If the knob is not assigned and you didn't change its default label, the display reads "OFF."



For more information on the various display modes on your MASCHINE MIKRO controller, see next section.

7.4 The Display

The display on your MASCHINE MIKRO controller can show different parts of your mapping configuration, depending on the **display mode** that is activated. Learn more about the different display modes available for the MASCHINE MIKRO controller's display in the following sections.

7.4.1 Switching Between Display Modes

First of all, to switch between display modes, press the NAV button on your MASCHINE MIKRO controller and hold it. At the top of the display, you see three tabs:



The three tabs at the top of the display on your MASCHINE MIKRO controller when NAV is hold depressed.

These tabs allow you to select the desired display mode from the three modes available: Template, Control, and Setup:

- ▶ To switch to any of the display modes, hold the NAV button and press the desired F1–F3 button above the display.

At any time, you can press the NAV button again and switch to another display mode.

7.4.2 Control Display Mode

The Control display mode is probably the one you will use the most.

- ▶ To switch to the Control display mode, press NAV + F2.

In this mode, the display shows the assignments for the currently loaded Knob Page, with its three button assignments on the top row for the F1–F3 buttons, and its Control encoder assignment on the bottom row:



The Control display mode mirrors the loaded Knob Page.

In this mode, the F1–F3 buttons and the Control encoder trigger their assigned MIDI messages.

Each field mirrors the Label Field as defined in the Inspector's [Assign](#) pane for the corresponding control element: the name you defined there appears here — if you haven't defined any name yet for that control element, its label is simply its assigned MIDI message.

In the middle of the display, you can see the Template, Knob Page and (possibly) Pad Page that are currently active. You can switch these at any time using the usual shortcuts (see [↑7.1, Basic Controls](#)).

7.4.3 Template Display Mode

The Template display mode allows you to switch between Templates.

- ▶ To switch to the Template display mode, press NAV + F1.



The Template display mode gives you a greater control over Template switching.

In this mode, you see the list of your Templates as defined in the Inspector's [Templates](#) pane. The active Template is highlighted.

1. Turn the Control encoder to scroll through the list and find the Template you wish to load next.
The selected Template is indicated by a dotted frame.
2. When you have it, press the Control encoder to load the selected Template.



Instead of the Control encoder, you can also use the Left/Right Arrow buttons to select another Template, then the ENTER button to load it.

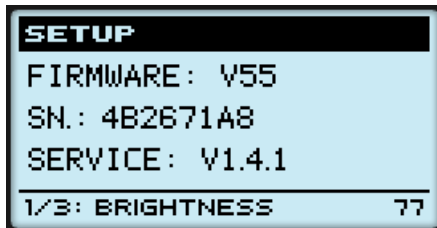
This functionality is already available in many ways: in the Controller Editor you can use the Template list (in the Inspector's [Templates](#) pane), and on the MASCHINE MIKRO controller you have the shortcut SHIFT + Left/Right Arrow at your disposal. The Template display mode, though, allows you a greater control over the Template selection from your controller:

- Unlike the Template list in the Controller Editor interface, you don't have to open the Controller Editor to switch to another Template.
- Unlike using the shortcut SHIFT + Left/Right Arrow on your controller, you can quietly choose the next Template to be loaded, even if it's not the one right after/before the Template currently loaded. You can check its name to remember its assignments, and you can scroll the entire list to find the Template you want.

7.4.4 Setup Display Mode

The Setup display mode allows you to adjust relevant parameters and provides information about your MASCHINE MIKRO controller.

- ▶ To switch to the Setup display mode, press NAV + F3.



The Setup display mode provides access to parameters for your MASCHINE MIKRO controller.

The settings appear on the bottom row of the display:

1. Press the Left/Right Arrow buttons repeatedly to scroll through the available settings.
2. Turn the Control encoder to change the value for a particular setting.

The settings are the same as in *File > Preferences > Controller* (when the MASCHINE MIKRO controller is selected in the Controller menu at the top, of course). These are:

- **Brightness:** Adjusts the brightness of the display.
- **Contrast:** Adjusts the contrast of the display.
- **Pad Sensitivity:** Changes the sensitivity of the pads.

The middle part of the display provides you with some important information about your MASCHINE MIKRO controller and the Hardware Service:

- In the upper part, you find the firmware version of your MASCHINE MIKRO controller along with its serial number.
- Below, you see the version number of the NI Hardware Service.

8 Using Your MASCHINE MIKRO MK2 Controller

In this chapter, we will focus on what's happening on your MASCHINE MIKRO MK2 controller. By reading this, you will learn:

- How to use the basic controls on your controller for navigating through the MIDI mapping system.
- The list of all assignable control elements on your controller.
- How the various luminous elements give you some important information about their state.
- How to use the powerful display of your MASCHINE MIKRO MK2 controller in MIDI mode.
















To enjoy full functionality of your NI controller as a MIDI remote control, especially concerning some control elements' state and LED behavior, you need to tell your NI controller what is the current state of the parameter in the MIDI target. You can do this by setting up MIDI feedback channels coming from your MIDI target back to your NI controller. This way, your controller will always stay up-to-date with the current parameter values in your target software/hardware. For more information on how to configure these MIDI feedback channels, please refer to your target software/hardware's documentation.

8.1 Basic Controls

This section shows you the commands available on your MASCHINE MIKRO MK2 controller for basic tasks: switching between MIDI mode and MASCHINE mode, and selecting sets (Templates) and subsets (Knob Pages, Pad Pages) of MIDI assignments.



All these actions can of course be done via the Controller Editor user interface — see chapter [↑3, Quick Start](#) for example. Nevertheless, using your NI controller instead can be very handy in a live situation!

Selection	Command	
MIDI/MASCHINE mode	SHIFT + F1	 + 
Templates	SHIFT + Left/Right Arrow buttons	 +  
Knob Pages	Left/Right Arrow buttons	 
Pad Pages (if activated)	GROUP + pads 9–16	 + 
Display mode	NAV + F1–F3	 +   



For more information on Templates, Knob Pages, and Pad Pages, see [↑4.3, The Mapping System](#).



For more information on the display modes, see [↑8.4, The Display](#).

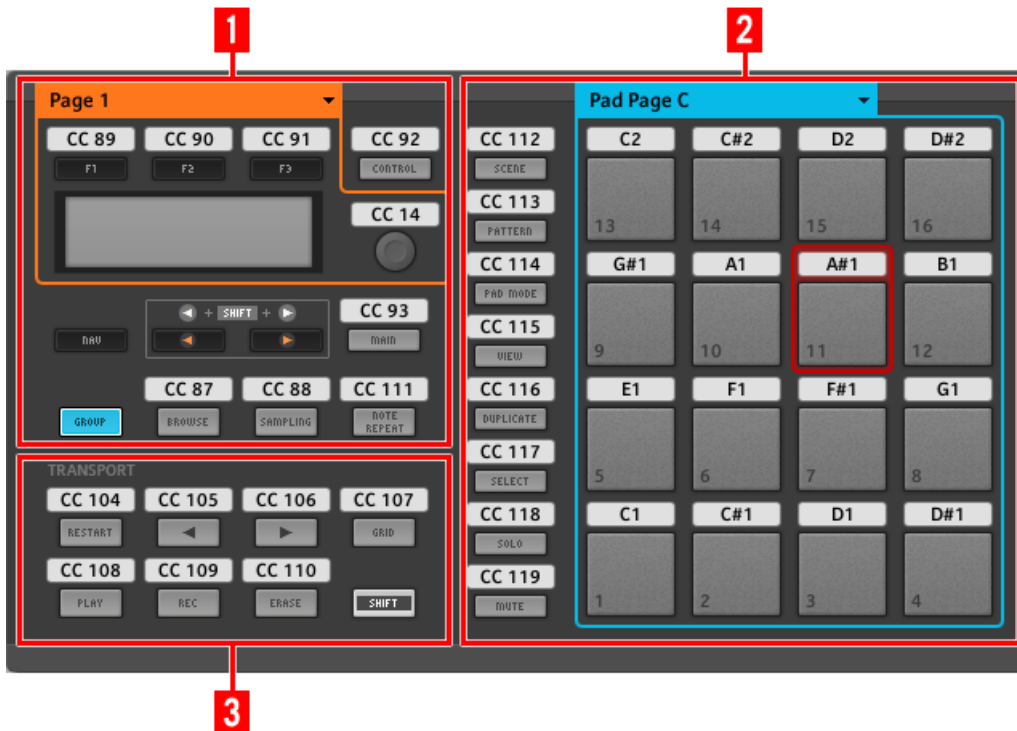
When your MASCHINE MIKRO MK2 controller is in MIDI mode, its SHIFT button is dimly lit.

Adjusting Settings for your Controller

You can adjust various settings for your MASCHINE MIKRO MK2 controller by entering its Set-up display mode or by going to *File > Preferences > Controller*. See [↑8.4.4, Setup Display Mode](#) for more information.

8.2 Assignable Control Elements

If you selected the MASCHINE MIKRO MK2 controller in the Device menu of the Application Control Bar, this is what the Hardware area looks like:



The Hardware area representing the MASCHINE MIKRO MK2 controller.

In this Hardware area, you will notice the Knob Page menu and its associated Knob Page area (orange frame), the Pad Page menu and its associated Pad Page area (blue frame), and the red Selection Frame on the currently selected control element (pad 11 in the picture above).

The MASCHINE MIKRO MK2 controller holds the following areas:



The names that you see on the device only refer to their original function in the MASCHINE software. We use these names here only to describe the interface!

(1) CONTROL area: In the top left part, twelve buttons and the Control encoder are arranged around the display. From these control elements, eight buttons are freely assignable (**F1**, **F2**, **F3**, **CONTROL**, **MAIN**, **BROWSE**, **SAMPLING**, and **NOTE REPEAT**) as well as the Control encoder. The remaining four buttons (**NAV**, Left/Right Arrow, and **GROUP**) have special functions (see previous section).

The CONTROL area also holds the Knob Page area, indicated by an orange frame and headed by the Knob Page menu. The Knob Page area includes the **F1**, **F2**, and **F3** buttons along with the Control encoder.



The control elements in the Knob Page area can also have other functions according to the display mode that is currently active. See [↑8.4, The Display](#) for more on this.



If the Pad Page feature is deactivated, the **GROUP** button becomes freely assignable as well.

(2) PADS area: The **PADS** area shows a column of eight freely assignable buttons (namely **SCENE**, **PATTERN**, **PAD MODE**, **VIEW**, **DUPLICATE**, **SELECT**, **SOLO**, and **MUTE**) as well as a square of sixteen freely assignable pads. If you activated the Enable Pad Pages button in the **Pages** pane of the Inspector, a Pad Page area (indicated by the blue frame) groups the pads together and is headed by the Pad Page menu.

(3) TRANSPORT area: The **TRANSPORT** area contains eight buttons. All of them are freely assignable except the last one, **SHIFT**, which has a special function (see previous section).

To Sum Up...

All control elements on your MASCHINE MIKRO MK2 controller are freely assignable to MIDI events (with the limitations due to the type of control element), with the following exceptions:

- The **NAV**, Left/Right Arrow and **SHIFT** buttons have a predefined function (see [↑7.1, Basic Controls](#)).

- The GROUP button is not assignable if you use the Pad Page feature — it is used for selecting Pad Pages (see [↑8.1, Basic Controls](#)). If you deactivate the Pad Pages, the GROUP button is freely assignable like any other button.



You can also split the controls of your controller between MIDI mode and MASCHINE mode in order to control a MASCHINE plug-in instance while sending MIDI messages to the host with the transport controls! See [↑23.5.1, Templates Pane](#) for more information.

Assignment Parameters

The following table summarizes where to find all assignment details for each type of control element on your controller:

Type of Control Element	Assignment Parameters
Buttons	↑23.6.2, Assignments for Buttons
Pads – Hit action	↑23.6.4, Assignments for the Pads – Hit Action
Pads – Press action	↑23.6.6, Assignments for the Pads – Press Action
Control encoder – Push action	↑23.6.2, Assignments for Buttons
Control encoder – Turn action	↑23.6.7, Assignments for Digital Encoders

8.3 Visual Feedback on Your Controller

The fast bidirectional communication between your MASCHINE MIKRO MK2 controller and the Hardware Service on the software side allows status indications on your controller to be made in real time.

Your MASCHINE MIKRO MK2 controller provides you visual feedback in various ways:

- All buttons and pads are equipped with LEDs that inform you about their assignment at any time. Furthermore, the 16 pads and the GROUP button provide RGB LEDs.
- The display shows you additional information about the assignments.

8.3.1 Buttons

Basically, each button on your controller can have three states:

- Not assigned.
- Assigned, in Off state.
- Assigned, in On state.

The following paragraphs describe how the LED under each button keeps you informed on the button states.

Single-Color Buttons

For all buttons except the GROUP button, the LEDs below each button can have three states: off, dimmed and bright. All are white except for the PLAY button (green) and the REC button (red).

The LED states directly indicate the button states:

Button State	LED State
Not assigned	Off
Assigned – Off state	Dimmed
Assigned – On state	Bright



For buttons in Increment mode, the Off state corresponds to the zero value, while the On state corresponds to a value greater than zero. See section [↑23.6.2, Assignments for Buttons](#) for more information on the various button modes.

GROUP Button

The GROUP button of your controller is equipped with a RGB LED. This by far extends the monitoring possibilities of this button. Its lighting behavior directly depends on whether the Pad Pages are enabled or not.

- Pad Pages enabled: The GROUP button mirrors the color defined for its Pad Page (the [Color](#) setting for Pad Pages is described in [↑23.5.3, Assign Pane](#)).
- Pad Pages disabled: The GROUP button can be freely assigned, and you can choose which from the 16 available colors should be used for its On and Off states.

With Pad Pages disabled, the GROUP button offer you three Color modes:

- Single mode: You can choose a color that will be used bright and dimmed for the On and Off states, respectively. In this mode, the button's lighting behaves like the single-color buttons described above.
- Dual mode: You can choose a color for the On state and another color for the Off state. Both colors will be used at full brightness.
- HSB mode: This mode is only available when the button's state is controlled via MIDI feedback (see below). In HSB mode, you can precisely define from within your MIDI target which color the button will use.

Controlling the Button State

The On/Off state of each button can be controlled in two ways — internally via your actions on the button, or remotely via MIDI feedback:

- In Toggle mode, both controls are enabled: both your actions on the button and the possibly incoming MIDI messages are taken into account to update the button and LED state.
- In Trigger, Gate, and Increment mode, you can choose which control mode (internal or remote via MIDI) you want to use. This is done via the [LED On](#) menu in the [Assign](#) pane of the Inspector.



For more information on the button modes, [LED On](#) menu, and MIDI feedback mode, see [↑23.6.2, Assignments for Buttons](#).

Moreover, for the F1–F3 buttons, the particular assignment is shown within the display in Control display mode (see section [↑8.4.2, Control Display Mode](#)).

8.3.2 Multicolor Pads

The sixteen pads of your controller are equipped with RGB LEDs. Their lighting behavior is close to that of the GROUP button — but since the pads have two functions (Hit and Press), their states are indicated as follows:

- If the pad is not assigned, it is off.
- If there is an assignment for the Hit action, the pad's LED behaves like that of a multicolor Group button (see previous section).

- If the Hit action is not assigned but the Press action is assigned to the Note message type, the LED has a low brightness to show the Off state and a high brightness to show the On state. For all other message types, the LED stays at low brightness.

8.3.3 Control Encoder

The assignment for the Control encoder is indicated within the display in Control display mode. If the knob is not assigned and you didn't change its default label, the display reads "OFF."



For more information on the various display modes on your MASCHINE MIKRO MK2 controller, see next section.

8.4 The Display

The display on your MASCHINE MIKRO MK2 controller can show different parts of your mapping configuration, depending on the **display mode** that is activated. Learn more about the different display modes available for the MASCHINE MIKRO MK2 controller's display in the following sections.

8.4.1 Switching Between Display Modes

First of all, to switch between display modes, press the NAV button on your MASCHINE MIKRO MK2 controller and hold it. At the top of the display, you see three tabs:



The three tabs at the top of the display on your MASCHINE MIKRO MK2 controller when NAV is hold depressed.

These tabs allow you to select the desired display mode from the three modes available: Template, Control, and Setup:

- ▶ To switch to any of the display modes, hold the NAV button and press the desired F1–F3 button above the display.

At any time, you can press the NAV button again and switch to another display mode.

8.4.2 Control Display Mode

The Control display mode is probably the one you will use the most.

- ▶ To switch to the Control display mode, press NAV + F2.

In this mode, the display shows the assignments for the currently loaded Knob Page, with its three button assignments on the top row for the F1–F3 buttons, and its Control encoder assignment on the bottom row:



The Control display mode mirrors the loaded Knob Page.

In this mode, the F1–F3 buttons and the Control encoder trigger their assigned MIDI messages.

Each field mirrors the Label Field as defined in the Inspector's [Assign](#) pane for the corresponding control element: the name you defined there appears here — if you haven't defined any name yet for that control element, its label is simply its assigned MIDI message.

In the middle of the display, you can see the Template, Knob Page and (possibly) Pad Page that are currently active. You can switch these at any time using the usual shortcuts (see [↑7.1, Basic Controls](#)).

8.4.3 Template Display Mode

The Template display mode allows you to switch between Templates.

- ▶ To switch to the Template display mode, press NAV + F1.



The Template display mode gives you a greater control over Template switching.

In this mode, you see the list of your Templates as defined in the Inspector's [Templates](#) pane. The active Template is highlighted.

1. Turn the Control encoder to scroll through the list and find the Template you wish to load next.
The selected Template is indicated by a dotted frame.
2. When you have it, press the Control encoder to load the selected Template.



Instead of turning the Control encoder, you can also use the Left/Right Arrow buttons to select another Template, then press the Control encoder to load it.

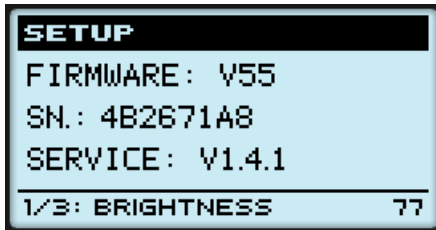
This functionality is already available in many ways: in the Controller Editor you can use the Template list (in the Inspector's [Templates](#) pane), and on the MASCHINE MIKRO MK2 controller you have the shortcut SHIFT + Left/Right Arrow at your disposal. The Template display mode, though, allows you a greater control over the Template selection from your controller:

- Unlike the Template list in the Controller Editor interface, you don't have to open the Controller Editor to switch to another Template.
- Unlike using the shortcut SHIFT + Left/Right Arrow buttons on your controller, you can quietly choose the next Template to be loaded, even if it's not the one right after/before the Template currently loaded. You can check its name to remember its assignments, and you can scroll the entire list to find the Template you want.

8.4.4 Setup Display Mode

The Setup display mode allows you to adjust relevant parameters and provides information about your MASCHINE MIKRO MK2 controller.

- ▶ To switch to the Setup display mode, press NAV + F3.



The Setup display mode provides access to parameters for your MASCHINE MIKRO MK2 controller.

The settings appear on the bottom row of the display:

1. Press the Left/Right Arrow buttons repeatedly to scroll through the available settings.
2. Turn the Control encoder to change the value for a particular setting.

The settings are the same as in *File > Preferences > Controller* (when the MASCHINE MIKRO MK2 controller is selected in the Controller menu at the top, of course). These are:

- **Brightness:** Adjusts the brightness of the display.
- **Contrast:** Adjusts the contrast of the display.
- **Pad Sensitivity:** Changes the sensitivity of the pads.

The middle part of the display provides you with some important information about your MASCHINE MIKRO MK2 controller and the Hardware Service:

- In the upper part, you find the firmware version of your MASCHINE MIKRO MK2 controller along with its serial number.
- Below, you see the version number of the NI Hardware Service.

9 Using Your MASCHINE STUDIO Controller

In this chapter, we will focus on what's happening on your MASCHINE STUDIO controller. By reading this, you will learn:

- How to use the basic controls on your controller for navigating through the MIDI mapping system.
- The list of all assignable control elements on your controller.
- How the various luminous elements give you some important information about their state.
- How to use the powerful displays of your MASCHINE STUDIO controller in MIDI mode.







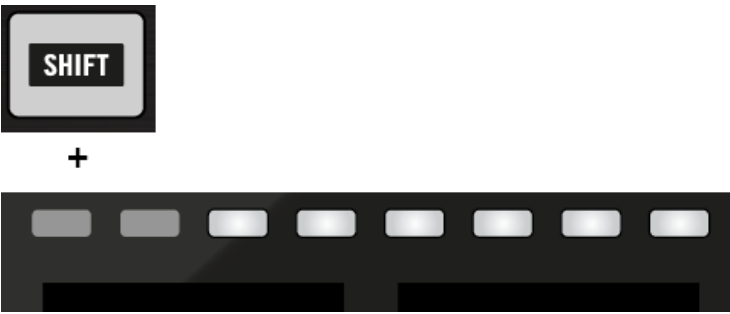
To enjoy full functionality of your NI controller as a MIDI remote control, especially concerning some control elements' state and LED behavior, you need to tell your NI controller what is the current state of the parameter in the MIDI target. You can do this by setting up MIDI feedback channels coming from your MIDI target back to your NI controller. This way, your controller will always stay up-to-date with the current parameter values in your target software/hardware. For more information on how to configure these MIDI feedback channels, please refer to your target software/hardware's documentation.

9.1 Basic Controls

This section shows you the commands available on your MASCHINE STUDIO controller for basic tasks: switching between MIDI mode and MASCHINE mode, and selecting sets (Templates) and subsets (Knob Pages, Pad Pages, I/O and Level Pages, and Jog Wheel Pages) of MIDI assignments.



All these actions can of course be done via the Controller Editor user interface — see chapter [↑3, Quick Start](#) for example. Nevertheless, using your NI controller instead can be very handy in a live situation!

Selection	Command	
MIDI/MASCHINE mode	SHIFT + CHANNEL	
Templates	SHIFT + Page buttons	
Knob Pages	Page buttons	
Pad Pages (if activated)	Group buttons	
Display mode	SHIFT + Buttons 3–8	



For more information on Templates, Knob Pages, Pad Pages, I/O and Level Pages, and Jog Wheel Pages, see [↑4.3, The Mapping System](#).



For more information on the display modes, see [↑9.4, The Displays](#). There you will also learn another way to select and load Templates and Knob Pages from your controller.

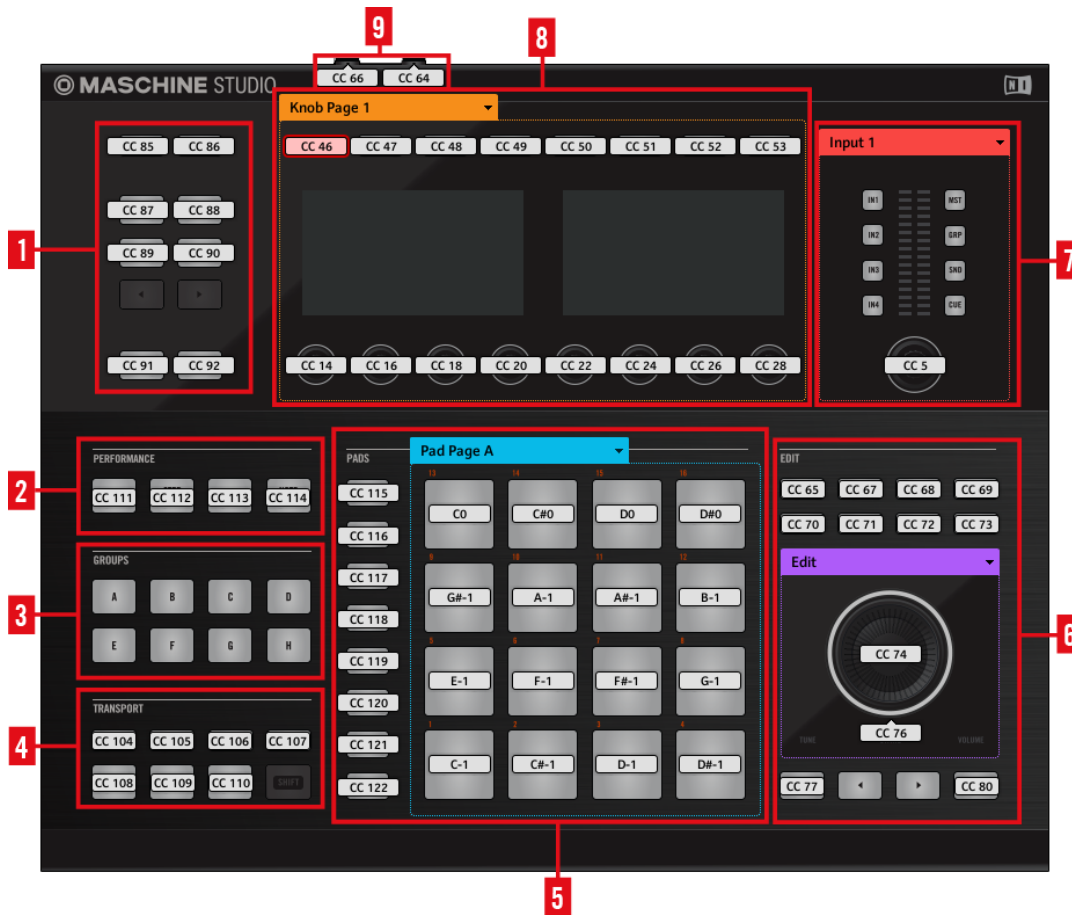
When your MASCHINE STUDIO controller is in MIDI mode, its SHIFT button is dimly lit.

Adjusting Settings for your Controller

You can adjust various settings for your MASCHINE STUDIO controller by entering its Settings display mode or by going to *File > Preferences > Controller*. See [↑9.4.2, Settings Display Mode](#) for more information.

9.2 Assignable Control Elements

If you selected the MASCHINE STUDIO controller in the Device menu of the Application Control Bar, this is what the Hardware area looks like:



The Hardware area representing the MASCHINE STUDIO controller.

The MASCHINE STUDIO controller holds the following areas:



The names that you see on the device only refer to their original function in the MASCHINE software. We use these names here only to describe the interface!

(1) Control Buttons: In the top left part, you find a set of ten buttons arranged into five rows of two buttons. From these ten buttons, eight are freely assignable ([CHANNEL](#) and [PLUG-IN](#), [AR-RANGE](#) and [MIX](#), [BROWSE](#) and [SAMPLING](#), [ALL](#), and [AUTO](#)) and two have special functions: the left and right **Page buttons** (see [↑9.1, Basic Controls](#)).

(2) PERFORMANCE area: The [PERFORMANCE](#) area holds four freely assignable buttons.

(3) GROUPS area: The [GROUPS](#) area contains eight buttons labeled from [A](#) to [H](#): the Group buttons. If you activated the [Pad Pages](#) button in the [Pages](#) pane of the Inspector, these buttons allow you to select the desired page of assignments for the pads (see [↑4.3.3, Pad Pages \(MASCHINE Controller Family Only\)](#)). If you didn't activate the [Pad Pages](#), these eight buttons are freely assignable to MIDI events.

(4) TRANSPORT area: The [TRANSPORT](#) area contains eight buttons. Seven of them are freely assignable: [RESTART](#), [METRO](#), [EVENTS](#), [GRID](#), [PLAY](#), [REC](#), and [ERASE](#). The last one, [SHIFT](#), is a special button (see previous section). Therefore, this button cannot be assigned in the Controller Editor.

(5) PADS area: The [PADS](#) area shows a column of eight freely assignable buttons (namely [SCENE](#), [PATTERN](#), [PAD MODE](#), [NAVIGATE](#), [DUPLICATE](#), [SELECT](#), [SOLO](#), and [MUTE](#)) as well as a square of sixteen freely assignable pads. If you activated the [Enable Pad Pages](#) button in the [Pages](#) pane of the Inspector, a [Pad Page](#) area (indicated by the blue frame) groups the pads together and is headed by the [Pad Page](#) menu.

(6) EDIT area: The [EDIT](#) area displays eight freely assignable buttons above the jog wheel namely [COPY](#), [PASTE](#), [NOTE](#), [NUDGE](#), [UNDO](#), [REDO](#), [QUANTIZE](#), and [CLEAR](#). In addition, the jog wheel itself and its outer ring can also be freely assigned. There is also a row of four buttons below the jog wheel, two of these are also freely assignable ([BACK](#) and [ENTER](#)) the other two buttons (left and right [FUNCTION](#)) allow you to select the desired page of assignments for the jog wheel ([EDIT](#), [CHANNEL](#), [BROWSE](#), [TUNE](#), [SWING](#), and [VOLUME](#)). If you activated the [Enable Jog Wheel Pages](#) button in the [Pages](#) pane of the Inspector, a [Jog Wheel Page](#) area (indicated by the violet frame) groups the [Jog Wheel Pages](#) together and is headed by the [Jog Wheel Page](#) menu. If you deactivate the [Jog Wheel Pages](#), the two [FUNCTION](#) buttons are freely assignable to MIDI events.

(7) I/O and Level area: The [I/O and Level](#) area shows two columns of four buttons which allow you to select the desired Pages (namely [IN1](#), [IN2](#), [IN3](#), [IN4](#), and [MST](#), [GRP](#), [SND](#), [CUE](#)) as well as a freely assignable Level knob. If you activated the [Enable I/O and Level Pages](#) button in the [Pages](#) pane of the Inspector, an [I/O and Level Page](#) area (indicated by the red frame)

including the eight buttons and knob will be visible. This section is headed by the I/O and Level Pages menu. If you deactivate the I/O Level Pages, the eight buttons become freely assignable to MIDI events.

(8) Knob Page area: The Knob Page area holds a set of eight buttons and eight knobs, with the buttons being placed above and the knobs below the two displays, respectively. These sixteen control elements are freely assignable. Furthermore, the eight Knobs 1–8 can be both turned and touched, leading to two different assignments for each Knob. The Knob Page area is indicated by an orange frame and headed by the Knob Page menu.



The buttons and knobs in the Knob Page area can also have other functions according to the display mode that is currently active. See [↑9.4, The Displays](#) for more on this.

(9) Footswitch area: The footswitch area contains two freely assignable inputs which can be controlled using a footswitch. Furthermore, both are stereo inputs: For each of them you can assign messages to the tip and ring inputs independently.

To Sum Up...

All control elements on your MASCHINE STUDIO controller are freely assignable to MIDI events (with the limitations due to the type of control element), with the following exceptions:

- The Page buttons, FUNCTION buttons and the SHIFT button have a predefined function (see previous section).
- The Group buttons, labeled A to H, are not assignable if you use the Pad Page feature — they're used for selecting Pad Pages, see previous section. If you deactivate the Pad Pages, the Group buttons are freely assignable like any other.



You can also split the controls of your controller between MIDI mode and MASCHINE mode in order to control a MASCHINE plug-in instance while sending MIDI messages to the host with the transport controls! See [↑23.5.1, Templates Pane](#) for more information.

Assignment Parameters

The following table summarizes where to find all assignment details for each type of control element on your controller:

Type of Control Element	Assignment Parameters
Buttons, Knobs 1–8 (Touch action), jog wheel (Push action), footswitch inputs (both Tip and Ring actions)	↑23.6.2, Assignments for Buttons
Pads (Hit action)	↑23.6.4, Assignments for the Pads – Hit Action
Pads (Press action)	↑23.6.6, Assignments for the Pads – Press Action
Control encoder, jog wheel (Turn action)	↑23.6.7, Assignments for Digital Encoders
Knobs 1–8 (Turn action), Level knob	↑23.6.8, Assignments for Analog Encoders

Important: Update the Controller Firmware to the Latest Version!

Touch sensitivity features have been introduced in Controller Editor 1.7.1 for Knobs 1–8 (e.g., the new Touch action). These features will work on your MASCHINE STUDIO controller only if its firmware is in version 22 or greater.

If Controller Editor is running and you connect a MASCHINE STUDIO controller that has a firmware version lower than 22, a warning message pops up indicating how to update the firmware of your controller:



The warning message helps you update your controller's firmware.

If this message appears when you connect your MASCHINE STUDIO controller, do the following to update its firmware:

1. Click the [Download](#) button at the bottom of the message.
This will automatically start your favourite internet browser and open a page of the Native Instruments website providing a link to the Device Updater.
 2. Click the link to download the Device Updater to your computer.
 3. Once the archive has been downloaded, extract it to the desired folder.
 4. In the Explorer (Windows) or Finder (Mac OS X), navigate to the extracted folder and open it.
 5. Within that folder, double-click the “DeviceUpdater.exe” file (Windows) or the “DeviceUpdater” file (Mac OS X).
The Device Updater starts up.
 6. Follow the instructions of the Device Updater to complete the firmware update.
- In the rest of the manual, we assume that the firmware of your MASCHINE STUDIO controller is in version 22 or greater.



If your computer is not currently connected to internet, click the [Close](#) button in the warning message: You will be able to use Controller Editor but the touch sensitivity features of your MASCHINE STUDIO controller won't be available. You can download the Device Updater at a later point by opening the page at <http://www.native-instruments.com/en/support/downloads/> in your internet browser, clicking the [Drivers and other files](#) link, scrolling to the [Maschine Controller](#) section and choosing the Device Updater for your operating system.

9.3 Visual Feedback on Your Controller

The fast bidirectional communication between your MASCHINE STUDIO controller and the Hardware Service on the software side allows status indications on your controller to be made in real time.

Your MASCHINE STUDIO controller provides you visual feedback in various ways:

- All buttons and pads are equipped with LEDs that inform you about their assignment state at any time. Furthermore, the 16 pads and 8 Group buttons provide RGB LEDs.
- The displays show you additional information about the assignments.

9.3.1 Buttons

Basically, each button on your controller can have three states:

- Not assigned.
- Assigned, in Off state.
- Assigned, in On state.

The following paragraphs describe how the LED under each button keeps you informed on the button states.

Single-Color Buttons

For all buttons except the Group buttons, the LEDs can have three states: off, dimmed and bright. All are white except for the PLAY button (green) the REC button (red) and the IN (1-4) buttons (blue). The LED states directly indicate the button states:

Button State	LED State
Not assigned	Off
Assigned – Off state	Dimmed
Assigned – On state	Bright



For buttons in Increment mode, the Off state corresponds to the zero value, while the On state corresponds to a value greater than zero. See section [↑23.6.2, Assignments for Buttons](#) for more information on the various button modes.

Multicolor Buttons

The eight Group buttons of your controller are equipped with RGB LEDs. This by far extends the monitoring possibilities of these control elements. Their lighting behavior directly depends on whether the Pad Pages are enabled or not.

- Pad Pages enabled: Each Group button mirrors the color defined for its Pad Page (the [Color](#) setting for Pad Pages is described in [↑23.5.3, Assign Pane](#)). All Group buttons are dimmed except the button corresponding to the selected Pad Page.
- Pad Pages disabled: The Group buttons can be freely assigned. For each of them, you can choose which from the 16 available colors should be used for the On and Off states.

With Pad Pages disabled, the Group buttons offer you three Color modes:

- Single mode: You can choose a color that will be used bright and dimmed for the On and Off states, respectively. In this mode, the button's lighting behaves like that of single-color buttons (see table above).
- Dual mode: You can choose a color for the On state and another color for the Off state. Both colors will be used at full brightness.
- HSB mode: This mode is only available when the button's state is controlled via MIDI feedback (see below). In HSB mode, you can precisely define from within your MIDI target which color the button will use.

Controlling the Button State

The On/Off state of each single-color or multicolor button can be controlled in two ways — internally via your actions on the button, or remotely via MIDI feedback:

- In Toggle mode, both controls are enabled: both your actions on the button and the possibly incoming MIDI messages are taken into account to update the button and LED state.
- In Trigger, Gate, and Increment mode, you can choose which control mode (internal or remote via MIDI) you want to use. This is done via the [LED On](#) menu in the [Assign](#) pane of the Inspector.



For more information on the button modes, [LED On](#) menu, and MIDI feedback mode, see [↑23.6.2, Assignments for Buttons](#).

Moreover, for the Buttons 1–8 above the displays, the particular assignment is shown within the displays in Knobs display mode (see section [↑9.4.4, Knobs Display Mode](#)).

9.3.2 Multicolor Pads

The sixteen pads of your controller are equipped with RGB LEDs. Their lighting behavior is close to that of multicolor buttons — but since the pads have two functions (Hit and Press), their states are indicated as follows:

- If the pad is not assigned, it is off.
- If there is an assignment for the Hit action, the pad's LED behaves like that of a multicolor Group button (see previous section).

- If the Hit action is not assigned but the Press action is assigned to the Note message type, the LED has a low brightness to show the Off state and a high brightness to show the On state. For all other message types, the LED stays at low brightness.

9.3.3 Knobs

The assignments for the eight Knobs under the displays are indicated within the displays in Knobs display mode. If a Knob is not assigned, the display reads “OFF.”



The [MCU Mode](#) check box allows you to set your MASCHINE STUDIO controller displays to MCU mode in order to receive Mackie Control feedback from your DAW while keeping the original assignment of the Buttons and Knobs in the Knob Page area. The [MCU Mode](#) setting applies Page-wide.



For more information on the various display modes on your MASCHINE STUDIO controller, see section [↑9.4, The Displays](#).

9.3.4 Control Encoder

The Control encoder has no direct visual feedback, but like all other controls its assignment and value are indicated on the right display when the displays are in Monitor display mode. If the Control encoder is not assigned, the display reads “NONE.”



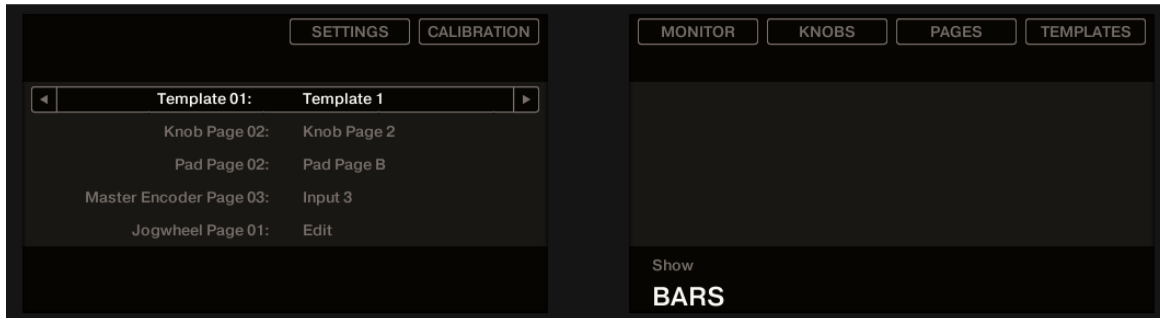
For more information on the various display modes on your MASCHINE STUDIO controller, see next section.

9.4 The Displays

The displays on your MASCHINE STUDIO controller can show different parts of your mapping configuration, depending on the **display mode** that is activated. Each display mode modifies the behavior of Buttons 1–8 above the displays and Knobs 1–8 below them. Learn more about the different display modes available on the MASCHINE STUDIO controller in the following sections.

9.4.1 Switching Between Display Modes

First of all, to switch between display modes, press the SHIFT button on your MASCHINE STUDIO controller and hold it. On the displays, you see something like this:



The displays on your MASCHINE STUDIO controller in MIDI mode, when the SHIFT button is depressed.

This screen allows you to select the desired display mode. On the top, you find six fields representing the six display modes, from left to right: **SETTINGS**, **CALIBRATION**, **MONITOR**, **KNOBS**, **PAGES**, and **TEMPLATES**.

- ▶ To switch to any of the display modes, hold the SHIFT button and press the corresponding Button 2–8 above the displays.

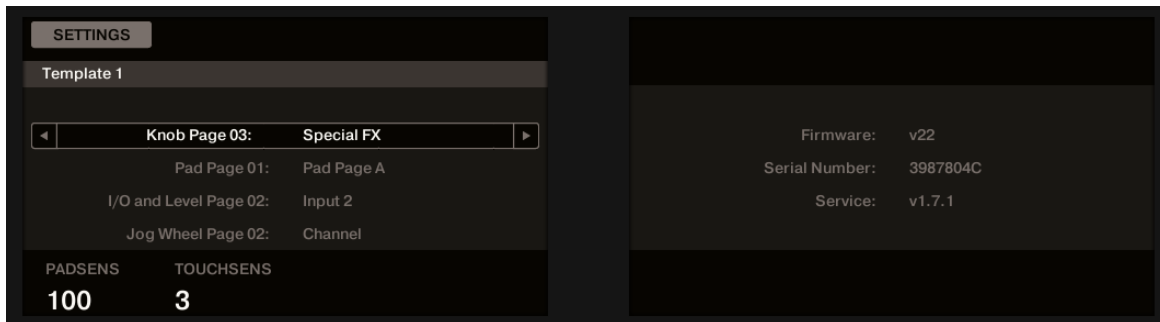
At any time, you can press the SHIFT button again and switch to another display mode.

In the middle part of the left display, you see the name of the current Template. This is common to all display modes (except the Settings and Calibration display mode), so that you can always be sure about which Template is currently selected.

Below, a message reminds you that you can switch to another Template simply by pressing the Page buttons, since you are already holding SHIFT (see [↑9.1, Basic Controls](#)).

9.4.2 Settings Display Mode

The Settings display mode allows you to adjust a few hardware settings and provides information about your MASCHINE STUDIO controller.



The Settings display mode provides access to parameters for your MASCHINE STUDIO controller.

Left Display

The settings are grouped in the left display. This screen gives also an overview of the selected Pages. The available parameters are set out as follows:

- Knob 1 controls the **pad sensitivity**.
- Knob 2 controls the **touch sensitivity of Knobs 1–8**. At low sensitivity values, you will need to apply a stronger pressure on Knobs 1–8 to send the MIDI message. At high sensitivity values, a softer pressure on the knobs will already send the MIDI message.

For the touch sensitivity of Knobs 1–8, the value display above Knob 2 provides an additional visual feedback that helps you quickly find the sensitivity that best fits your needs:



On the left, your touch is not detected; on the right, it is detected!

1. While looking at this sensitivity value, touch any Knob 1–8 under the controller displays. As soon as your pressure on the Knob is detected, the number is highlighted.
2. Apply various pressures on the Knob and readjust the slider accordingly until you are satisfied with the sensitivity.



These settings are also available in the Controller Editor software in *File > Preferences > Controller* (when the MASCHINE STUDIO controller is selected in the Controller menu at the top, of course). For more details, see section [↑23.2.2, Controller Page](#).

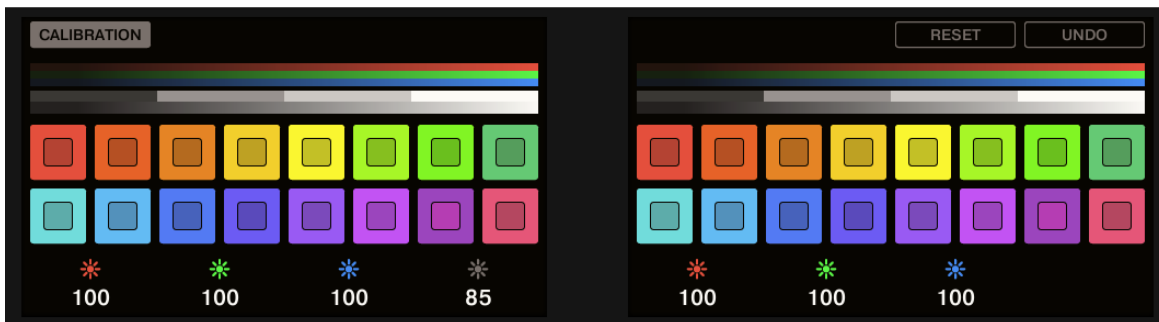
Right Display

The right display provides you with some important information about your MASCHINE STUDIO controller and the Hardware Service:

- In the upper part, you find the firmware version of your MASCHINE STUDIO controller along with its serial number.
- Below, you see the version number of the NI Hardware Service.

9.4.3 Calibration Display Mode

The Calibration display mode allows you to adjust the color balance and brightness of the displays, but also to counter any visible color differences between the two displays on your MASCHINE STUDIO controller.



The Calibration display mode provides access to the color and brightness settings for your MASCHINE STUDIO controller.

The RGB (Red, Green, Blue) parameters are grouped across each display with the brightness parameter in the left display. The Calibration parameters are set out as follows:

- Knob 1 controls the red value for the left screen.
- Knob 2 controls the green value for the left screen.
- Knob 3 controls the blue value for the left screen.
- Knob 4 controls the brightness for both screens.
- Knob 5 controls the red value for the right screen.
- Knob 6 controls the green value for the right screen.

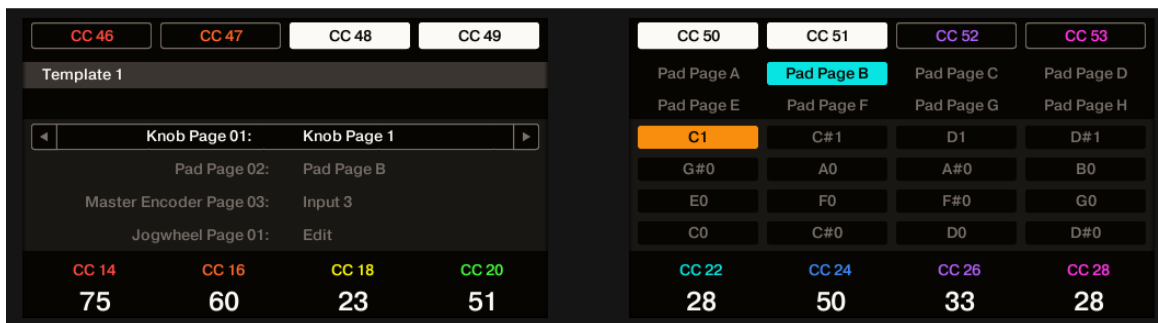
- Knob 7 controls the blue value for the right screen.
- Button 7 will reset the calibration parameters to the default setting.
- Button 8 will undo all changes to the calibration parameters.



The brightness setting (Knob 4) is also available in the Controller Editor software in *File > Preferences > Controller* (when the MASCHINE STUDIO controller is selected in the Controller menu at the top, of course). For more details, see section [↑23.2.2, Controller Page](#).

9.4.4 Knobs Display Mode

The Knobs display mode is probably the one you will use the most. In this mode, the displays show the currently loaded Knob Page, with its eight button assignments on the top row and its eight knob assignments on the bottom row:



The Knobs display mode mirrors the currently loaded Knob Page.

This display mode allows you to see which MIDI message is currently assigned to each control element in the loaded Knob Page. In this mode, the 16 control elements around the displays (Buttons 1–8 above and Knobs 1–8 below) trigger the MIDI messages assigned to them.

Each field mirrors the Label Field as defined in the Inspector's [Assign](#) pane for the corresponding control element: the name you defined in the Controller Editor will appear here on your MASCHINE STUDIO — if you haven't defined a name for a control element, it will simply display the assigned MIDI message.

In the lower row, the displays additionally show the current value for each Knob. These values can be displayed in two views: either via numerical values (like in the picture above), or via small bars:



The Knobs display mode with bars instead of numerical values.

You can switch between the two views by holding the SHIFT button and turning Knob 5:

1. Hold SHIFT (thus getting to the switching screen explained in [↑9.4.1, Switching Between Display Modes](#)).
You can see the option “SHOW BARS” or “SHOW VALUES” above Knob 5 (depending on which view is currently selected).
 2. Turn Knob 5 to select the desired view.
 3. Release SHIFT.
- The new view is displayed.

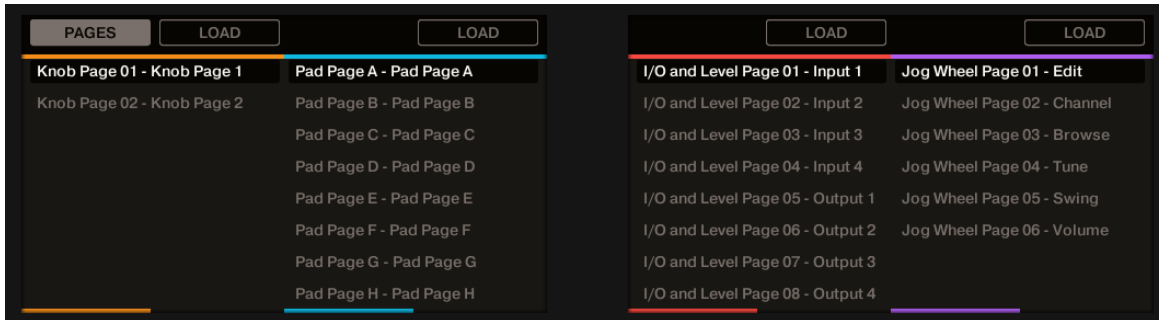
Note that depending on the assignment properties for each of the Knobs, its displayed value (or bar) can either be going from 0 to 127 or from -63 to 64 (bipolar) — this second setting can be useful for some types of controls (e.g. a stereo balance). This only affects the value/bar shown on the displays — the real MIDI value will go from 0 to 127 anyway. Please refer to section [↑23.6.8, Assignments for Analog Encoders](#) for more information on this.



The [MCU Mode](#) check box allows you to set your MASCHINE STUDIO controller displays to MCU mode in order to receive Mackie Control feedback from your DAW while keeping the original assignment of the Buttons and Knobs in the Knob Page area. The [MCU Mode](#) setting applies Page-wide.

9.4.5 Pages Display Mode

The Pages display mode allows you to check the current assignments for the Knobs, Pads, I/O and Level Knob and the Jog Wheel of your MASCHINE STUDIO controller, by mirroring the current Pages:



The Pages display mode mirrors the Pages currently loaded.

Across the two displays you will find four columns, each representing a list of Pages (Knobs, Pads, I/O and Level and the Jog Wheel). Use Knobs 1–8 to select a different page and press the button (LOAD) directly above the column to load the selected page for example, to load a new Knob Page:

1. Use Knob 1 to scroll through the list and find the Knob Page you wish to load.
2. When you have made your selection, press the Button 2 (LOAD) to load the selected Knob Page.

Actually, this functionality is already available in many ways: in the Controller Editor, you can use the Knob Page menu (in the Hardware area) or the [Knob Pages](#) list (in the Inspector's [Pages](#) pane), and on the MASCHINE STUDIO controller you have the Page buttons at your disposal. But the Pages display mode allows you a greater control over Page selection from the MASCHINE STUDIO controller:

- Unlike using the [Knob Pages](#) list, you don't have to open the Controller Editor to switch to another Page.

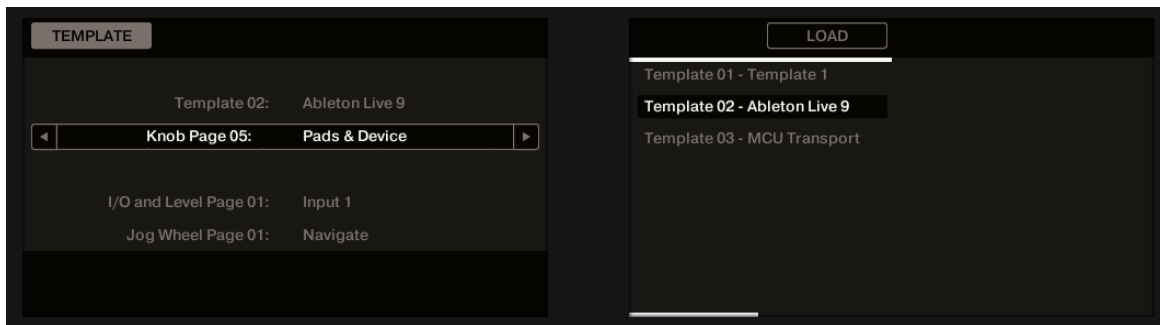
- When using the Pages display mode, you can choose the next page to be loaded, even if it's not the one right after/before the one currently loaded. You can check its name to remember its assignments, and you can scroll the lists of all Pages to find the page you want.



When you reach the end of the list, you can choose whether the selection has to jump to the other list end or stay on this last item. This can be set in *Preferences > General > Wrap Template and Page Lists*.

9.4.6 Templates Display Mode

The Templates display mode allows you to switch between Templates.



The Templates display mode allows you to switch between Templates.

On the left display, you find the same general information about the Template currently loaded.

On the right display, you see the list of your Templates, as defined in the Inspector's [Templates](#) pane.

1. Use Knob 5 to scroll through the list and find the Template you wish to load.
2. When you have made your selection, press Button 6 (LOAD) to load the selected Template.

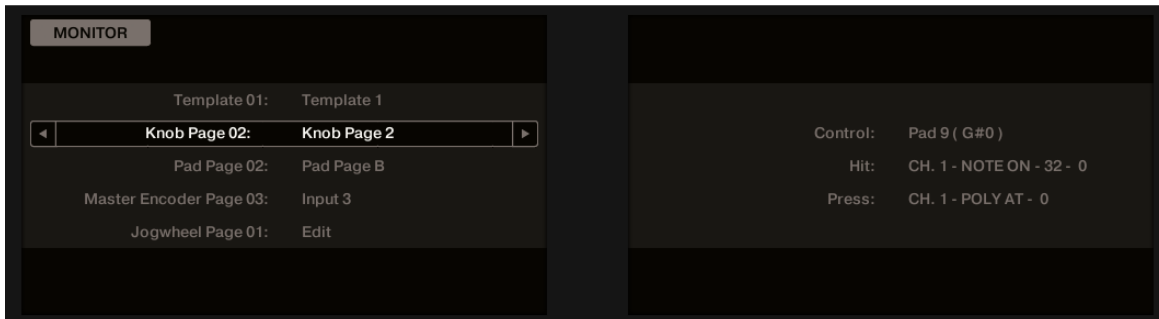
As with the Pages display mode, this functionality is already available in other ways: in the Controller Editor, you can use the Template list (in the Inspector's [Templates](#) pane), and on the MASCHINE STUDIO controller you have the Page buttons at your disposal. The Templates display mode allows you a greater control over the Template selection from your controller for the reasons already explained in the previous section for the Pages display mode.



When you reach the end of the list, you can choose whether the selection has to jump to the other list end or stay on this last item. This can be set in *Preferences > General > Wrap Template and Page Lists*.

9.4.7 Monitor Display Mode

The Monitor display mode provides you with useful information about the MIDI data sent by your MASCHINE STUDIO controller.



The Monitor display mode provides information about the MIDI data sent by your MASCHINE STUDIO controller.

The left display shows the usual information about the current Template and Pages.

The right display shows more information on the last MIDI message sent:

- The first row (**Control**) indicates the last control element that you actuated.
- If the last actuated element is *not* a pad, the second row (**Event**) shows the details of the corresponding MIDI message that was sent.
- If the last actuated element is a pad, the second row (**Hit**) and third row (**Press**) show the details of the MIDI messages corresponding to the Hit and Press actions on that pad, respectively.

This display mode is very useful to monitor what's going out of your controller, for example for debugging purpose: if something goes wrong somewhere in your MIDI chain, you can check here what is actually sent by your MASCHINE STUDIO controller.

10 Using Your TRAKTOR KONTROL X1

In this chapter, we will focus on what's happening on your TRAKTOR KONTROL X1. By reading this, you will learn:

- How to use the basic controls on your controller for navigating through the MIDI mapping system.
- The list of all assignable control elements on your controller.
- How the various luminous elements give you some important information about their state.
- How to configure more than one X1 unit for use as MIDI remote controls.

10.1 Basic Controls

This section shows you the commands available on your TRAKTOR KONTROL X1 for basic tasks: switching between MIDI mode and TRAKTOR mode, and selecting subsets (Pages) of MIDI assignments.



All these actions can of course be done via the Controller Editor user interface — see chapter [13, Quick Start](#) for example. Nevertheless, using your NI controller instead can be very handy in a live situation!

Selection	Command	
MIDI/TRAKTOR mode	SHIFT + HOTCUE	
Pages	SHIFT	



For more information on the Pages, see [↑4.3, The Mapping System](#).



You cannot switch between Templates from the TRAKTOR KONTROL X1. To do this, you have to use the Controller Editor interface (see [↑3.2, Loading MIDI Assignments](#)).

When your X1 is in MIDI mode, the HOTCUE button is lit in green.

Switching Between Pages: Gate vs. Toggle

The SHIFT button can have two operating modes:

- Gate mode: The Page is activated for the time the button is hold depressed.
- Toggle mode: The Page is activated until the next time you press the button again.

You can choose the desired mode for the SHIFT button in the Controller Editor. To do this:

1. Check that the TRAKTOR KONTROL X1 is selected in the Device menu.
2. On the [Pages](#) pane of the Inspector, click the [Shift Mode](#) menu and select the desired mode *Gate* or *Toggle*.

Adjusting Settings for your Controller

You can adjust various settings for your TRAKTOR KONTROL X1 in *File > Preferences > Controller*. See [↑23.2.2, Controller Page](#) for more information.

10.2 Assignable Control Elements

If you selected the TRAKTOR KONTROL X1 in the Device menu of the Application Control Bar, this is what the Hardware area looks like:



The Hardware area representing the TRAKTOR KONTROL X1.

In this Hardware area, you will notice the Page menu and its associated Page area (orange frame), and the red Selection Frame on the currently selected control element (left Play button in the picture above).

All control elements of the TRAKTOR KONTROL X1 are freely assignable to any MIDI event (with the limitations due to the type of control element), with the exception of the SHIFT and HOTCUE buttons. These buttons have specific functions explained in the previous section.



The names that you see on the device only refer to their original function in the TRAKTOR software.

The TRAKTOR KONTROL X1 holds the following assignable control elements:

- 24 freely assignable buttons.
- 8 freely assignable knobs.
- 4 freely assignable Push Encoders.

Assignment Parameters

The following table summarizes where to find all assignment details for each type of control element on your controller:

Type of Control Element	Assignment Parameters
Buttons	↑23.6.2, Assignments for Buttons
Knobs	↑23.6.5, Assignments for Knobs and the Like
Push Encoders – Push action	↑23.6.2, Assignments for Buttons
Push Encoders – Turn action	↑23.6.7, Assignments for Digital Encoders

10.3 Visual Feedback on Your Controller

The fast bidirectional communication between your TRAKTOR KONTROL X1 and the Hardware Service on the software side allows status indications on your controller to be made in real time.

On your TRAKTOR KONTROL X1, all buttons are equipped with LEDs that informs you about the assignment state of the button at any time. The LEDs below each control element can have three states: off, dimmed and bright. Their lighting behavior depends on the state of the control element.

The following table indicates you the possible states for the LEDs:

Button State	LED State
Not assigned	Off
Assigned – Off state	Dimmed
Assigned – On state	Bright



For buttons in Increment mode, the Off state corresponds to the zero value, while the On state corresponds to a value greater than zero.

Controlling the Button State

The state of each button can be controlled in two ways — internally via your actions on the button, or remotely via MIDI feedback:

- In Toggle mode, both controls are enabled: both your actions on the button and the possibly incoming MIDI messages are taken into account to update the button state.
- In Trigger, Gate, and Increment mode, you can choose which control mode you want to use via the **LED On** menu located in the **Assign** pane of the Inspector.



For more information on the button modes, **LED On** menu, and MIDI feedback mode, see [↑23.6.2, Assignments for Buttons](#).

Adjusting the LED Brightness

You can adjust the LED brightness for both On and Off button states in *File > Preferences > Controller > Traktor Kontrol X1 - x > LEDs* (see [↑23.2, The Preferences Window](#) for more information on the Preferences window).

10.4 Using Two or More TRAKTOR KONTROL X1 Units

You can use up to four TRAKTOR KONTROL X1 units simultaneously. This allows you to further extend the number of parameters you can control in your target(s). For more information on how to set up more than one TRAKTOR KONTROL X1 for use with the same computer, please refer to chapter [↑22, Using Two or More Units of the Same Type](#).

11 Using Your TRAKTOR KONTROL X1 MK2

In this chapter, we will focus on what's happening on your TRAKTOR KONTROL X1 MK2. By reading this, you will learn:



- How to use the basic controls on your controller for navigating through the MIDI mapping system.
- The list of all assignable control elements on your controller.
- How the various luminous elements give you some important information about their state.
- How to configure more than one X1 unit for use as MIDI remote controls.

11.1 Basic Controls

This section shows you the commands available on your TRAKTOR KONTROL X1 MK2 for basic tasks: switching between MIDI mode and TRAKTOR mode, and selecting subsets (Pages) of MIDI assignments.



All these actions can of course be done via the Controller Editor user interface — see chapter [13, Quick Start](#) for example. Nevertheless, using your NI controller instead can be very handy in a live situation!

Selection	Command	
MIDI/TRAKTOR mode	SHIFT + both Load Left and Load Right buttons	
Pages	SHIFT	



For more information on the Pages, see [↑4.3, The Mapping System](#).



You cannot switch between Templates from the TRAKTOR KONTROL X1 MK2. To do this, you have to use the Controller Editor interface (see [↑3.2, Loading MIDI Assignments](#)).

When your TRAKTOR KONTROL X1 MK2 is in MIDI mode, the SHIFT button is lit at full brightness.

Switching Between Pages: Gate vs. Toggle

The SHIFT button can have two operating modes:

- Gate mode: The Page is activated for the time the button is hold depressed.
- Toggle mode: The Page is activated until the next time you press the button again.

You can choose the desired mode for the SHIFT button in the Controller Editor. To do this:

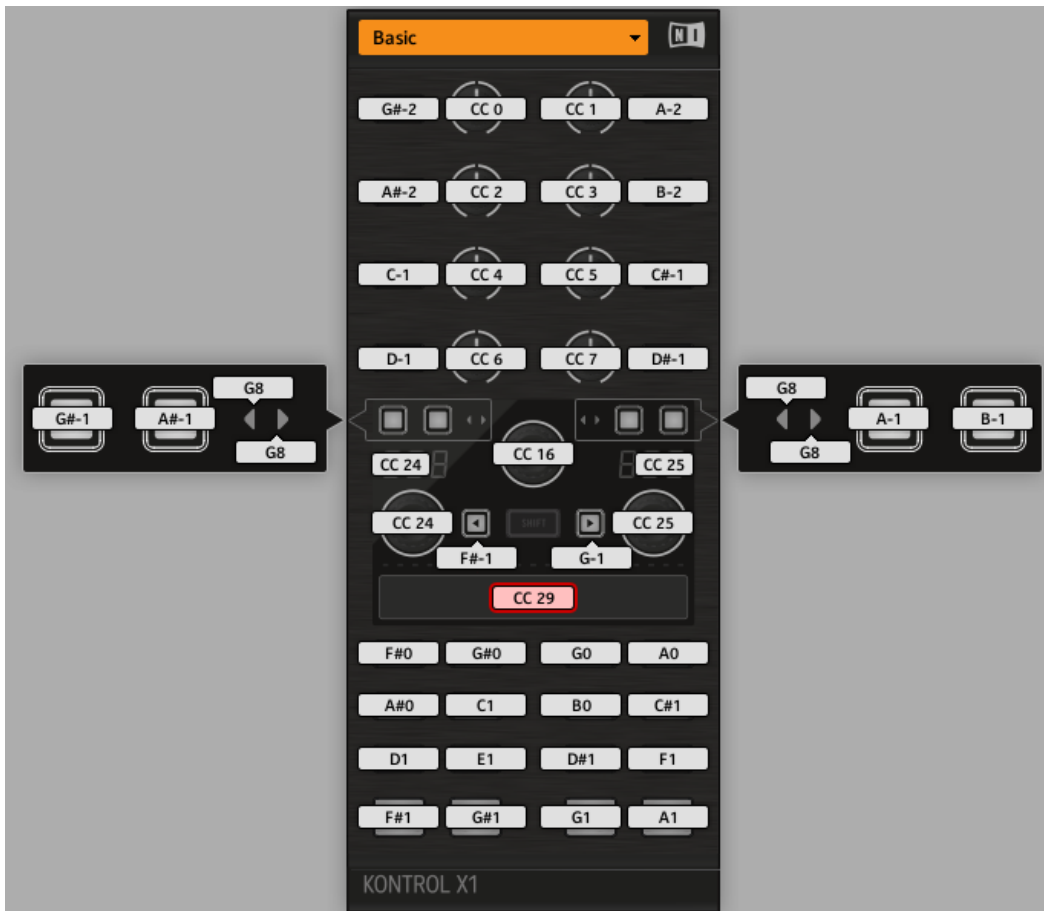
1. Check that the TRAKTOR KONTROL X1 MK2 is selected in the Device menu.
2. On the [Pages](#) pane of the Inspector, click the [Shift Mode](#) menu and select the desired mode *Gate* or *Toggle*.

Adjusting Settings for your Controller

You can adjust various settings for your TRAKTOR KONTROL X1 MK2 in *File > Preferences > Controller*. See [↑23.2.2, Controller Page](#) for more information.

11.2 Assignable Control Elements

If you selected the TRAKTOR KONTROL X1 MK2 in the Device menu of the Application Control Bar, this is what the Hardware area looks like:



The Hardware area representing the TRAKTOR KONTROL X1 MK2.

In this Hardware area, you will notice the Page menu including its associated Page area, and the red Selection Frame on the currently selected control element (the Touch Strip in the picture above).

All control elements of the TRAKTOR KONTROL X1 MK2 are freely assignable to any MIDI event (with the limitations due to the type of control element), with the exception of the SHIFT button. This button has a specific function explained in the previous section.



The names that you see on the device only refer to their original function in the TRAKTOR software.

The TRAKTOR KONTROL X1 MK2 holds the following assignable control elements:

- 32 freely assignable buttons.
- 8 freely assignable knobs.
- 3 freely assignable capacitive encoders.
- 1 seven segment display.
- 1 freely assignable touch strip.

Assignment Parameters

The following table summarizes where to find all assignment details for each type of control element on your controller:

Type of Control Element	Assignment Parameters
Buttons	↑23.6.2, Assignments for Buttons
Knobs	↑23.6.5, Assignments for Knobs and the Like
Capacitive Encoders – Touch action	↑23.6.2, Assignments for Buttons
Capacitive Encoders – Push action	↑23.6.2, Assignments for Buttons
Capacitive Encoders – Turn action	↑23.6.7, Assignments for Digital Encoders
Touch Strip – Touch action	↑23.6.2, Assignments for Buttons
Touch Strip – Position	↑23.6.9, Assignments for Touch Strips – Position Action (TRAKTOR KONTROL Devices)

11.3 Visual Feedback on Your Controller

The fast bidirectional communication between your TRAKTOR KONTROL X1 MK2 and the Hardware Service on the software side allows status indications on your controller to be made in real time.

On your TRAKTOR KONTROL X1 MK2, all buttons are equipped with LEDs that informs you about the assignment state of the button at any time. The LEDs below each control element can have three states: off, dimmed and bright. Their lighting behavior depends on the state of the control element.

The following table indicates you the possible states for the LEDs:

Button State	LED State
Not assigned	Off
Assigned – Off state	Dimmed
Assigned – On state	Bright



For buttons in Increment mode, the Off state corresponds to the zero value, while the On state corresponds to a value greater than zero.

Controlling the Button State

The state of each button can be controlled in two ways — internally via your actions on the button, or remotely via MIDI feedback:

- In Toggle mode, both controls are enabled: both your actions on the button and the possibly incoming MIDI messages are taken into account to update the button state.
- In Trigger, Gate, and Increment mode, you can choose which control mode you want to use via the [LED On](#) menu located in the [Assign](#) pane of the Inspector.



For more information on the button modes, [LED On](#) menu, and MIDI feedback mode, see [↑23.6.2, Assignments for Buttons](#).

Adjusting the LED Brightness

You can adjust the LED brightness for both On and Off button states in *File > Preferences > Controller > Traktor Kontrol X1 MK2 - x > LEDs* (see [↑23.2, The Preferences Window](#) for more information on the Preferences window).

Controlling the LED Chain State of the Touch Strip

The state of the LED chain can be controlled in two ways — internally via your actions on the touch strip, or remotely via MIDI feedback. For more details, please refer to section [↑23.6.9, Assignments for Touch Strips – Position Action \(TRAKTOR KONTROL Devices\)](#).

11.4 Using Two or More TRAKTOR KONTROL X1 MK2 Units

You can use up to four TRAKTOR KONTROL X1 MK2 units simultaneously. This allows you to further extend the number of parameters you can control in your target(s). For more information on how to set up more than one TRAKTOR KONTROL X1 MK2 for use with the same computer, please refer to chapter [↑22, Using Two or More Units of the Same Type](#).

12 Using Your TRAKTOR KONTROL F1

In this chapter, we will focus on what's happening on your TRAKTOR KONTROL F1. By reading this, you will learn:

- How to use the basic controls on your controller for navigating through the MIDI mapping system.
- The list of all assignable control elements on your controller.
- How the various luminous elements give you some important information about their state.
- How to configure more than one F1 unit for use as MIDI remote controls.

12.1 Basic Controls

This section shows you the commands available on your TRAKTOR KONTROL F1 for basic tasks: switching between MIDI mode and TRAKTOR mode, and selecting subsets (Pages) of MIDI assignments.



All these actions can of course be done via the Controller Editor user interface — see chapter [13, Quick Start](#) for example. Nevertheless, using your NI controller instead can be very handy in a live situation!

Selection	Command	
MIDI/TRAKTOR mode	SHIFT + BROWSE	
Pages	SHIFT	



For more information on the Pages, see [↑4.3, The Mapping System](#).



You cannot switch between Templates from the TRAKTOR KONTROL F1. To do this, you have to use the Controller Editor interface (see [↑3.2, Loading MIDI Assignments](#)).

When your F1 is in MIDI mode, the SHIFT button is lit.

Switching Between Pages: Gate vs. Toggle

The SHIFT button can have two operating modes:

- Gate mode: The Page is activated for the time the button is hold depressed.
- Toggle mode: The Page is activated until the next time you press the button again.

You can choose the desired mode for the SHIFT button in the Controller Editor. To do this:

1. Check that the TRAKTOR KONTROL F1 is selected in the Device menu.
2. On the [Pages](#) pane of the Inspector, click the [Shift Mode](#) menu and select the desired mode *Gate* or *Toggle*.

Adjusting Settings for your Controller

You can adjust various settings for your TRAKTOR KONTROL F1 in *File > Preferences > Controller*. See [↑23.2.2, Controller Page](#) for more information.

12.2 Assignable Control Elements

If you selected the TRAKTOR KONTROL F1 in the Device menu of the Application Control Bar, this is what the Hardware area looks like:



The Hardware area representing the TRAKTOR KONTROL F1.

In this Hardware area, you will notice the Page menu and its associated Page area (orange frame), and the red Selection Frame on the currently selected control element (first FILTER knob in the picture above).

All control elements of the TRAKTOR KONTROL F1 are freely assignable to any MIDI event (with the limitations due to the type of control element), with the exception of the SHIFT button. This button has a specific function explained in the previous section.



The names that you see on the device only refer to their original function in the TRAKTOR software.

The TRAKTOR KONTROL F1 holds the following assignable control elements:

- 11 freely assignable buttons.
- 4 freely assignable knobs.
- 4 freely assignable faders.
- 1 freely assignable encoder knob.
- 1 freely assignable 7-segment display.
- 16 freely assignable pads.

Assignment Parameters

The following table summarizes where to find all assignment details for each type of control element on your controller:

Type of Control Element	Assignment Parameters
Buttons	↑23.6.2, Assignments for Buttons
Pads	↑23.6.2, Assignments for Buttons
Knobs	↑23.6.5, Assignments for Knobs and the Like
Faders	↑23.6.5, Assignments for Knobs and the Like
Encoder knob – Push action	↑23.6.2, Assignments for Buttons
Encoder knob – Turn action	↑23.6.7, Assignments for Digital Encoders
7-segment display	↑23.6.11, Assignments for LED Chains and 7-segment Displays

12.3 Visual Feedback on Your Controller

The fast bidirectional communication between your TRAKTOR KONTROL F1 and the Hardware Service on the software side allows status indications on your controller to be made in real time.

Your TRAKTOR KONTROL F1 provides you visual feedback in various ways:

- All buttons and pads are equipped with LEDs that inform you about the assignment state of the control element at any time.
- The 7-segment display shows you additional information about the assignment of your choice.

12.3.1 Buttons and Pads

The LEDs below each button can have three states: off, dimmed and bright. Their lighting behavior depends on the state of the control element.

The following table indicates you the possible states for the LEDs:

Button State	LED State
Not assigned	Off
Assigned – Off state	Dimmed
Assigned – On state	Bright



For buttons in Increment mode, the Off state corresponds to the zero value, while the On state corresponds to a value greater than zero.

Multicolor Pads

As for the pads, they are equipped with RGB LEDs. This by far extends the monitoring possibilities of these control elements. Indeed, you can choose which from the 16 available colors you want to use for the On and Off states — and this, for each pad individually!

The pads offer you three Color modes:

- Single mode: You can choose a color that will be used bright and dimmed for the On and Off states, respectively. In this mode, the pad's lighting behaves like the buttons (see table above).
- Dual mode: You can choose a color for the On state and another color for the Off state. Both colors will be used at full brightness.
- HSB mode: This mode is only available when the pad's state is controlled via MIDI feedback (see below). In HSB mode, you can precisely define from within your MIDI target which color the pad will use.

Controlling the State of the Control Elements

The state of each button/pad can be controlled in two ways — internally via your actions on it, or remotely via MIDI feedback:

- In Toggle mode, both controls are enabled: both your actions on the control element and the possibly incoming MIDI messages are taken into account to update the button state.
- In Trigger, Gate, and Increment mode, you can choose which control mode you want to use via the **LED On** menu located in the **Assign** pane of the Inspector.



For more information on the modes, **LED On** menu, and MIDI feedback mode, see [↑23.6.2, Assignments for Buttons](#).

Adjusting the LED Brightness

You can adjust the LED brightness for both On and Off states in *File > Preferences > Controller > Traktor Kontrol F1 - x > LEDs* (see [↑23.2, The Preferences Window](#) for more information on the Preferences window).

12.3.2 7-segment Display

The 7-segment display next to the encoder knob can display any MIDI Note' velocity or any MIDI CC value. The displayed value depends on the display's assignment settings as defined in the **Assign** pane of the Inspector. See [↑23.6.11, Assignments for LED Chains and 7-segment Displays](#) for more information on the possible assignments.

Since the 7-segment display holds two digits and possible values range from 0 to 127, values are displayed as follows:

- Values within 0–99 are displayed as 0–99.
- Values within 100–127 are displayed as 0–27 with an additional dot (•) at the top left corner of the display (meaning “+100”).



The 7-segment display reading 82 (left) and 126 (right).

12.4 Using Two or More TRAKTOR KONTROL F1 Units

You can use up to four TRAKTOR KONTROL F1 units simultaneously. This allows you to further extend the number of parameters you can control in your target(s). For more information on how to set up more than one TRAKTOR KONTROL F1 for use with the same computer, please refer to chapter [↑22, Using Two or More Units of the Same Type](#).


13 Using Your TRAKTOR KONTROL Z1

In this chapter, we will focus on what's happening on your TRAKTOR KONTROL Z1. By reading this, you will learn:

- How to use the basic controls on your controller for navigating through the MIDI mapping system.
- The list of all assignable control elements on your controller.
- How the various luminous elements give you some important information about their state.

13.1 Basic Controls

This section shows you the command available on your TRAKTOR KONTROL Z1 for switching between MIDI mode and TRAKTOR mode.

Selection	Command
MIDI/TRAKTOR mode	MODE + Cues (ensure both A & B headphone cues are pressed) 



You cannot switch between Templates from the TRAKTOR KONTROL Z1. To do this, you have to use the Controller Editor interface (see [↑3.2, Loading MIDI Assignments](#)).

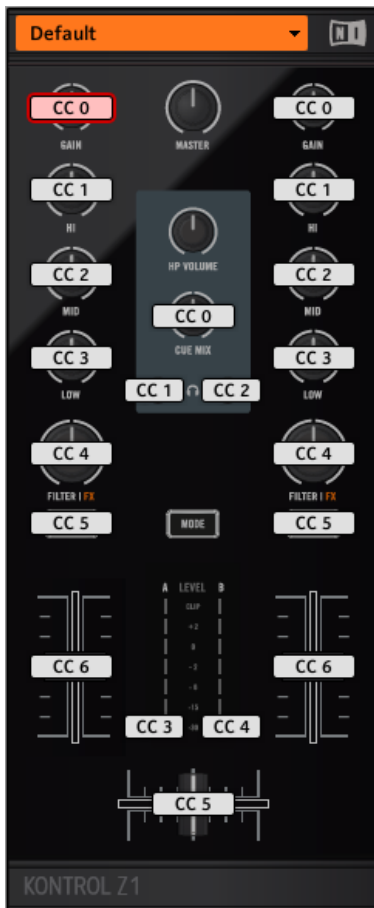
When your Z1 is in MIDI mode, the MODE button is lit.

Adjusting Settings for your Controller

You can adjust various settings for your TRAKTOR KONTROL Z1 in *File > Preferences > Controller*. See [↑23.2.2, Controller Page](#) for more information.

13.2 Assignable Control Elements

If you selected the TRAKTOR KONTROL Z1 in the Device menu of the Application Control Bar, this is what the Hardware area looks like:



The Hardware area representing the TRAKTOR KONTROL Z1.

In this Hardware area, you will notice the Page menu and its associated Page area, and the red Selection Frame on the currently selected control element (Deck Focus button B in the picture above).

All control elements marked with a white Label Field in the Hardware area are freely assignable to any MIDI event (with the limitations due to the type of control element).



The names that you see on the device only refer to their original function in the TRAKTOR software.

The TRAKTOR KONTROL Z1 holds the following assignable control elements:

- 4 freely assignable buttons.
- 11 freely assignable knobs.
- 3 freely assignable faders (2 channel faders and 1 crossfader).
- 2 assignable LED Meters.

Assignment Parameters

The following table summarizes where to find all assignment details for each type of control element on your controller:

Type of Control Element	Assignment Parameters
Buttons	↑23.6.2, Assignments for Buttons
Knobs	↑23.6.5, Assignments for Knobs and the Like
Faders	↑23.6.5, Assignments for Knobs and the Like

13.3 Visual Feedback on Your Controller

The fast bidirectional communication between your TRAKTOR KONTROL Z1 and the Hardware Service on the software side allows status indications on your controller to be made in real time. All buttons are equipped with LEDs that inform you about their assignment state at any time.

Basically, each button on your controller can have three states:

- Not assigned.

- Assigned, in Off state.
- Assigned, in On state.

The following paragraphs describe how the LED under each button keeps you informed on the button states.

Single-Color Buttons

For all buttons the LEDs can have three states: off, dimmed and bright. The LED states directly indicate the button states:

Button State	LED State
Not assigned	Off
Assigned – Off state	Dimmed
Assigned – On state	Bright



For buttons in Increment mode, the Off state corresponds to the zero value, while the On state corresponds to a value greater than zero. See section [↑23.6.2, Assignments for Buttons](#) for more information on the various button modes.

Controlling the Button State

The On/Off state of each single-color or multicolor button can be controlled in two ways — internally via your actions on the button, or remotely via MIDI feedback:

- In Toggle mode, both controls are enabled: both your actions on the button and the possibly incoming MIDI messages are taken into account to update the button and LED state.
- In Trigger, Gate, and Increment mode, you can choose which control mode (internal or remote via MIDI) you want to use. This is done via the [LED On](#) menu in the [Assign](#) pane of the Inspector.



For more information on the button modes, [LED On](#) menu, and MIDI feedback mode, see [↑23.6.2, Assignments for Buttons](#).

Adjusting the LED Brightness

You can adjust the LED brightness for both On and Off states in *File > Preferences > Controller > Traktor Kontrol Z1 > LEDs* (see [↑23.2, The Preferences Window](#) for more information on the Preferences window).

14 Using Your TRAKTOR KONTROL Z2

In this chapter, we will focus on what's happening on your TRAKTOR KONTROL Z2. By reading this, you will learn:




- How to use the basic controls on your controller for navigating through the MIDI mapping system.
- The list of all assignable control elements on your controller.
- How the various luminous elements give you some important information about their state.

14.1 Basic Controls

This section shows you the commands available on your TRAKTOR KONTROL Z2 for basic tasks: switching between MIDI mode and TRAKTOR mode, and selecting subsets (Pages) of MIDI assignments.



All these actions can of course be done via the Controller Editor user interface — see chapter [13](#), [Quick Start](#) for example. Nevertheless, using your NI controller instead can be very handy in a live situation!

Selection	Command	
MIDI/TRAKTOR mode	SHIFT + Settings	 + 
Pages	SHIFT	



For more information on the Pages, see [14.3](#), [The Mapping System](#).



You cannot switch between Templates from the TRAKTOR KONTROL Z2. To do this, you have to use the Controller Editor interface (see [↑3.2, Loading MIDI Assignments](#)).

When your Z2 is in MIDI mode, the Settings button is lit.

Switching Between Pages: Gate vs. Toggle

The SHIFT button can have two operating modes:

- Gate mode: The Page is activated for the time the button is hold depressed.
- Toggle mode: The Page is activated until the next time you press the button again.

You can choose the desired mode for the SHIFT button in the Controller Editor. To do this:

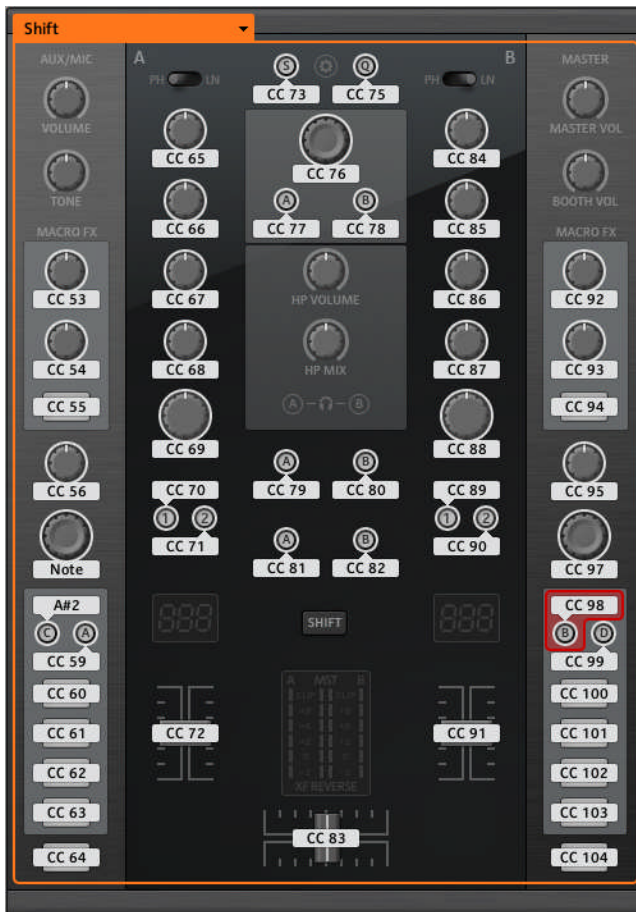
1. Check that the TRAKTOR KONTROL Z2 is selected in the Device menu.
2. On the [Pages](#) pane of the Inspector, click the [Shift Mode](#) menu and select the desired mode *Gate* or *Toggle*.

Adjusting Settings for your Controller

You can adjust various settings for your TRAKTOR KONTROL Z2 in *File > Preferences > Controller*. See [↑23.2.2, Controller Page](#) for more information.

14.2 Assignable Control Elements

If you selected the TRAKTOR KONTROL Z2 in the Device menu of the Application Control Bar, this is what the Hardware area looks like:



The Hardware area representing the TRAKTOR KONTROL Z2.

In this Hardware area, you will notice the Page menu and its associated Page area (orange frame), and the red Selection Frame on the currently selected control element (Deck Focus button B in the picture above).

All control elements marked with a white Label Field in the Hardware area are freely assignable to any MIDI event (with the limitations due to the type of control element).



The names that you see on the device only refer to their original function in the TRAKTOR software.

The TRAKTOR KONTROL Z2 holds the following assignable control elements:

- 28 freely assignable buttons including 8 multicolor buttons.
- 3 freely assignable encoders with Turn and Push action (2 Auto-loop encoders and the BROWSE encoder).
- 16 freely assignable knobs.
- 3 freely assignable faders (2 channel faders and 1 crossfader).

Assignment Parameters

The following table summarizes where to find all assignment details for each type of control element on your controller:

Type of Control Element	Assignment Parameters
Buttons	↑23.6.2, Assignments for Buttons
Knobs	↑23.6.5, Assignments for Knobs and the Like
Faders	↑23.6.5, Assignments for Knobs and the Like
Encoders – Push action	↑23.6.2, Assignments for Buttons
Encoders – Turn action	↑23.6.7, Assignments for Digital Encoders

14.3 Visual Feedback on Your Controller

The fast bidirectional communication between your TRAKTOR KONTROL Z2 and the Hardware Service on the software side allows status indications on your controller to be made in real time. All buttons are equipped with LEDs that inform you about their assignment state at any time.

Basically, each button on your controller can have three states:

- Not assigned.
- Assigned, in Off state.

- Assigned, in On state.

The following paragraphs describe how the LED under each button keeps you informed on the button states.

Single-Color Buttons

For all buttons except the Cue/Sample Trigger buttons 1–4 (on either side of your controller), the LEDs can have three states: off, dimmed and bright. The LED states directly indicate the button states:

Button State	LED State
Not assigned	Off
Assigned – Off state	Dimmed
Assigned – On state	Bright



For buttons in Increment mode, the Off state corresponds to the zero value, while the On state corresponds to a value greater than zero. See section [↑23.6.2, Assignments for Buttons](#) for more information on the various button modes.

Multicolor Buttons

The eight Cue/Sample Trigger buttons (four on either side of your controller) are equipped with RGB LEDs. This by far extends the monitoring possibilities of these control elements. Indeed, you can choose which from the 16 available colors you want to use for the On and Off states — and this, for each button individually!

The Cue/Sample Trigger buttons offer you three Color modes:

- Single mode: You can choose a color that will be used bright and dimmed for the On and Off states, respectively. In this mode, the button's lighting behaves like that of single-color buttons (see table above).
- Dual mode: You can choose a color for the On state and another color for the Off state. Both colors will be used at full brightness.
- HSB mode: This mode is only available when the button's state is controlled via MIDI feedback (see below). In HSB mode, you can precisely define from within your MIDI target which color the button will use.

Controlling the Button State

The On/Off state of each single-color or multicolor button can be controlled in two ways — internally via your actions on the button, or remotely via MIDI feedback:

- In Toggle mode, both controls are enabled: both your actions on the button and the possibly incoming MIDI messages are taken into account to update the button and LED state.
- In Trigger, Gate, and Increment mode, you can choose which control mode (internal or remote via MIDI) you want to use. This is done via the [LED On](#) menu in the [Assign](#) pane of the Inspector.



For more information on the button modes, [LED On](#) menu, and MIDI feedback mode, see [↑23.6.2, Assignments for Buttons](#).

Adjusting the LED Brightness

You can adjust the LED brightness for both On and Off states in *File > Preferences > Controller > Traktor Kontrol Z2 > LEDs* (see [↑23.2, The Preferences Window](#) for more information on the Preferences window).

15 Using Your TRAKTOR KONTROL D2

In this chapter, we will focus on what's happening on your TRAKTOR KONTROL D2. By reading this, you will learn:

- How to use the basic controls on your controller for navigating through the MIDI mapping system.
- The list of all assignable control elements on your controller.
- How the various luminous elements give you some important information about their state.
- How to use the powerful display of your TRAKTOR KONTROL D2 in MIDI mode.





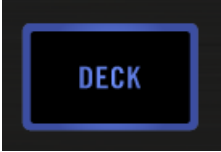
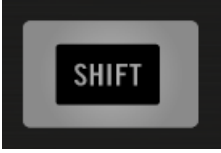
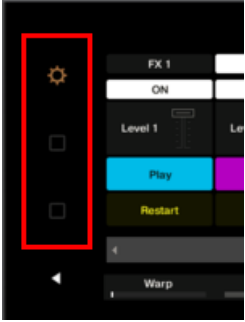
To enjoy full functionality of your NI controller as a MIDI remote control, especially concerning some control elements' state and LED behavior, you need to tell your NI controller what is the current state of the parameter in the MIDI target. You can do this by setting up MIDI feedback channels coming from your MIDI target back to your NI controller. This way, your controller will always stay up-to-date with the current parameter values in your target software/hardware. For more information on how to configure these MIDI feedback channels, please refer to your target software/hardware's documentation.

15.1 Basic Controls

This section shows you the commands available on your TRAKTOR KONTROL D2 for basic tasks: switching between MIDI mode and TRAKTOR mode, selecting a Template, selecting subsets (Pages) of MIDI assignments, and switching between display modes.



All these actions can of course be done via the Controller Editor user interface — see chapter [↑3, Quick Start](#) for example. Nevertheless, using your NI controller instead can be very handy in a live situation!

Selection	Command	
MIDI/TRAKTOR mode	SHIFT + BACK	
Templates	Performance Mode buttons (left/right arrows)	
Deck	DECK button	
Page	SHIFT	
Display mode	Settings button and Display button 1-2	



For more information on Templates and Pages, see [↑4.3, The Mapping System](#).

When your D2 is in MIDI mode, the SHIFT button is lit.

Switching Between Pages

In MIDI mode, D2 allows you to access four different Pages, organized as Deck A and C, each with “Basic” and “Shift” variations. To load any of these Pages, do the following:

1. Switch to the desired Deck using the DECK buttons.
When the upper Deck A is selected, the DECK button and the control elements above it are blue. When you switch to the lower Deck C, the DECK button and the control elements turn white.
2. Switch to the desired variation of the Deck using the SHIFT button.

Switching Between Decks and Pages: Gate vs. Toggle

The DECK and SHIFT buttons can have two operating modes:

- Gate mode: The Deck/Page is activated for the time the button is hold depressed.
- Toggle mode: The Deck/Page is activated until the next time you press the button again.

You can choose the desired mode in the Controller Editor. To do this:

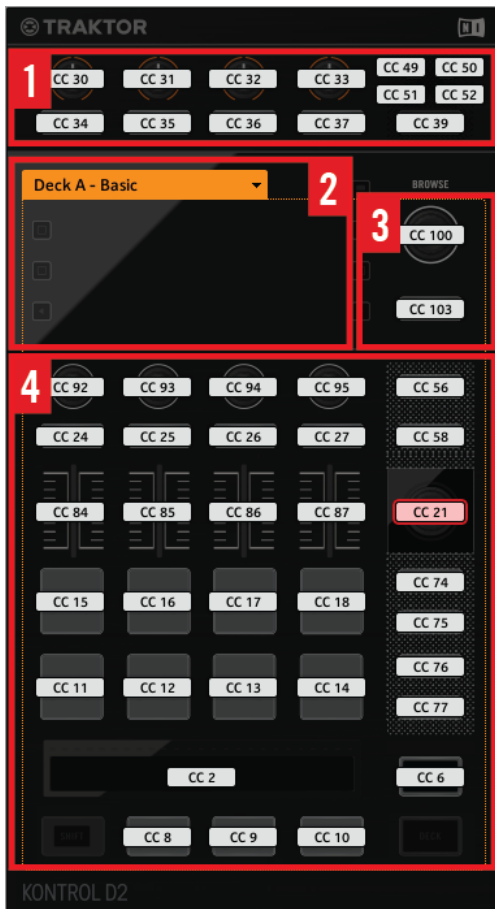
1. Check that the TRAKTOR KONTROL D2 is selected in the Device menu.
2. On the [Pages](#) pane of the Inspector, click the [Shift Mode](#) menu and select the desired mode *Gate* or *Toggle*.

Adjusting Settings for your Controller

You can adjust various settings for your TRAKTOR KONTROL D2 by going to *File > Preferences > Controller* (see section [↑23.2.2, Controller Page](#)). You can also adjust settings directly from your controller by switching its display to Settings display mode (see section [↑15.4.2, Adjust Color And Brightness](#)).

15.2 Assignable Control Elements

Here is an overview of all assignable control elements in D2's Deck Unit.



Controls on D2

D2 can be divided into the following areas:

(1) FX area: This area holds four FX buttons and four FX knobs, plus the Deck Selector buttons **A-D** and the **SELECT** button. The buttons offer a button press assignment, while the four FX knobs react to both turning and touching, allowing for two different assignments for each knob.

(2) Display area: This area doesn't hold any MIDI-assignable elements. The display and the little buttons around provide you feedback on your assignments and allow you to adjust a few settings for your controller. See section 16.4 for more information.

(3) BROWSE encoder and BACK button: These two control elements are freely assignable. The **BACK** button offers a button press assignment, while the **BROWSE** encoder reacts to turning, pushing, and touching, allowing for three different assignments for this encoder.

(4) Page area: The Page area holds all Deck controls. Apart from the DECK and SHIFT buttons, all these control elements are freely assignable. The Page area is headed by the Page menu. Furthermore, many control elements have multiple functions:

- The Loop encoder can be turned, pushed, and touched, allowing for three different assignments for this encoder.
- The Performance knobs 1–4 (beneath the display) react to turning and touching, which can be assigned separately.
- The Slot Volume faders 1–4 are sensitive to sliding and touching, which can be assigned separately.
- The Touch Strip detects both the touch and the position of your finger, leading to two different assignments.

Assignment Parameters for Control Elements on the Deck Unit

The following table summarizes where to find all assignment details for each type of control element on the Deck Unit:

Type of Control Element	Assignment Parameters
Buttons	25.6.2
Pads	25.6.2
FX knobs – Turn action	25.6.5
FX knobs – Touch action	25.6.2
Performance knobs – Turn action	25.6.8
Performance knobs – Touch action	25.6.2
Slot Volume faders – Slide action	25.6.5
Slot Volume faders – Touch action	25.6.2
BROWSE and Loop encoders – Turn action	25.6.7
BROWSE and Loop encoders – Push action	25.6.2

Type of Control Element	Assignment Parameters
BROWSE and Loop encoders – Touch action	25.6.2
Touch Strip – Touch action	25.6.2
Touch Strip – Position	25.6.9

15.3 Visual Feedback on Your Controller

The fast bidirectional communication between your TRAKTOR KONTROL D2 and the Hardware Service on the software side allows status indications on your controller to be made in real time.

Your TRAKTOR KONTROL D2 provides you visual feedback in various ways:

- All buttons and pads are equipped with LEDs that inform you about their assignment state at any time. Furthermore, the eight pads provide RGB LEDs.
- The displays show you additional information about the assignments. This will be described in section [↑15.4, The Display](#).

15.3.1 Buttons and Pads

All buttons and pads are equipped with single-color or multicolor LEDs. Basically, each button or pad on your controller can have three states:

- Not assigned.
- Assigned, in Off state.
- Assigned, in On state.

Single-Color Buttons

For all buttons, the LEDs can have three states: off, dimmed and bright. The LED states directly indicate the button states:

Button State	LED State
Not assigned	Off
Assigned – Off state	Dimmed
Assigned – On state	Bright



For buttons in Increment mode, the Off state corresponds to the zero value, while the On state corresponds to a value greater than zero. See section [↑23.6.2, Assignments for Buttons](#) for more information on the various button modes.

Multicolor Pads

The eight pads of your controller are equipped with RGB LEDs. This by far extends the monitoring possibilities of these control elements. The pads offer you three Color modes:

- Single mode: You can choose a color that will be used bright and dimmed for the On and Off states, respectively. In this mode, the pad's lighting behaves like that of single-color buttons (see above) except that you can choose the color.
- Dual mode: You can choose a color for the On state and another color for the Off state. Both colors will be used at full brightness.
- HSB mode: This mode is only available when the pad's state is controlled via MIDI feedback (see below). In HSB mode, you can precisely define from within your MIDI target which color the pad will use.

Controlling the Button/Pad State

The On/Off state of each button or pad can be controlled in two ways — internally via your actions on the button/pad, or remotely via MIDI feedback:

- In Toggle mode, both controls are enabled: both your actions on the button/pad and the possibly incoming MIDI messages are taken into account to update the button/pad and LED state.
- In Trigger, Gate, and Increment mode, you can choose which control mode (internal or remote via MIDI) you want to use. This is done via the [LED On](#) menu in the [Assign](#) pane of the Inspector.



For more information on the button modes, [LED On](#) menu, and MIDI feedback mode, see [↑23.6.2, Assignments for Buttons](#).

Buttons and Pads on the Display

In addition to the LED indications, the assignments for the FX buttons, Performance buttons, and pads are shown within the display in Control display mode.



For more information on the display of your TRAKTOR KONTROL D2, see section [↑15.4, The Display](#).

15.3.2 Performance Knobs, Slot Volume Faders, and Loop Encoder

Your TRAKTOR KONTROL D2 also gives feedback on additional control elements:

- Assignments for the Turn action of the four Performance knobs (under the display) and for the Slide action of the four Slot Volume faders are indicated in the display in Control display mode.



For more information on the display of your TRAKTOR KONTROL D2, see section [↑15.4, The Display](#).

- The Loop encoder (the push encoder next to the Slot Volume faders) is equipped with a LED ring that indicates you the state of the encoder's Push action. The LED ring's behavior is the same as that of buttons (see section [↑15.3.1, Buttons and Pads](#) above), except that there is no [LED On](#) menu in Trigger, Gate, and Increment mode: The LED ring always reacts to incoming MIDI feedback signals (for more info on the button modes and the [LED On](#) menu, see section [↑23.6.2, Assignments for Buttons](#)).

15.4 The Display

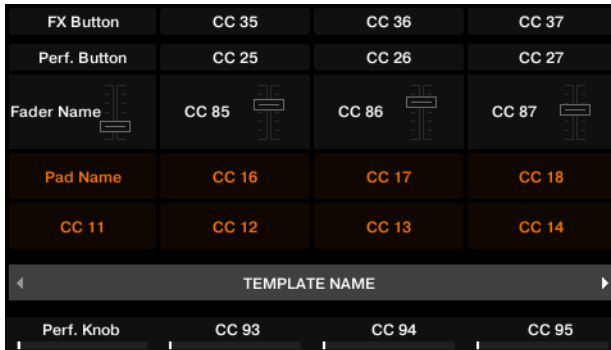
The display on D2 can show various elements of your MIDI mapping configuration or give you access to settings for your controller, depending on the **display mode** that is activated.

- In the default **Control display mode**, the display shows the assignments for particular control elements.
- In **Settings display mode**, you can adjust the color calibration of the display.

Both display modes are described in the following sections.

15.4.1 Control Display Mode

By default, the display of your D2 is in Control display mode. In this mode it informs you about both the assignments and the states of many control elements:



The display in Control display mode.

For each control element, the display indicates the element's name as defined in its Label Field.



By default the name defined in the Label Field is the MIDI message that will be sent by this control element, but you can customize it to your liking, as in the picture above — for more information, see section [↑23.4.1, Label Fields](#) and [↑23.5.3, Assign Pane](#).

From top to bottom, each display shows the assignment and the state of the following control elements:

- 1st row: **FX buttons 1–4** above the display. Buttons in Off state are indicated by a dark background, while buttons in On state are highlighted.
- 2nd row: **Performance buttons 1–4** under the display. Buttons in Off state are indicated by a dark background, while buttons in On state are highlighted.
- 3rd row: **Slot Volume faders 1–4** (Slide action). A little fader picture indicates the current value for the Slide action of each fader.
- 4th and 5th rows: **Pads 1–8**. The pad state is indicated in various ways depending on the entry selected in the [Color Mode](#) menu in the [Assign](#) pane of the Inspector:

- In Single or Dual color mode, the pad's On state uses the color set in the [Color Value](#) parameter (Single mode) or [Color On](#) parameter (Dual mode), while the pad's Off state uses the same color in a darkened version.
- In HSB color mode (only available if the [LED On](#) menu is set to *For MIDI Out*), the pad's states use white instead and is indicated as for buttons (Off state with a dark background, On state highlighted).



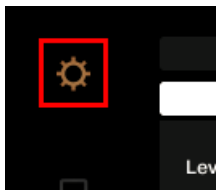
For more info on the modes available in the [Color Mode](#) menu, see section [↑15.3.1, Buttons and Pads](#) above.

- 6th row: This row shows you the **current Template**. You can switch to the previous/next Template by pressing the lit Performance Mode buttons (showing left and right arrows) on either side of the display, as described in section [↑15.1, Basic Controls](#).
- 7th row: **Performance knobs 1–4** (Turn action) right under the display. A little bar indicates the current value of the Turn action of each knob. Note that the bar can have its zero at the left or in the middle, depending on the entry selected in the [Display](#) menu in the [Assign](#) pane of the Inspector — see section [↑23.6.8, Assignments for Analog Encoders](#).

15.4.2 Adjust Color And Brightness

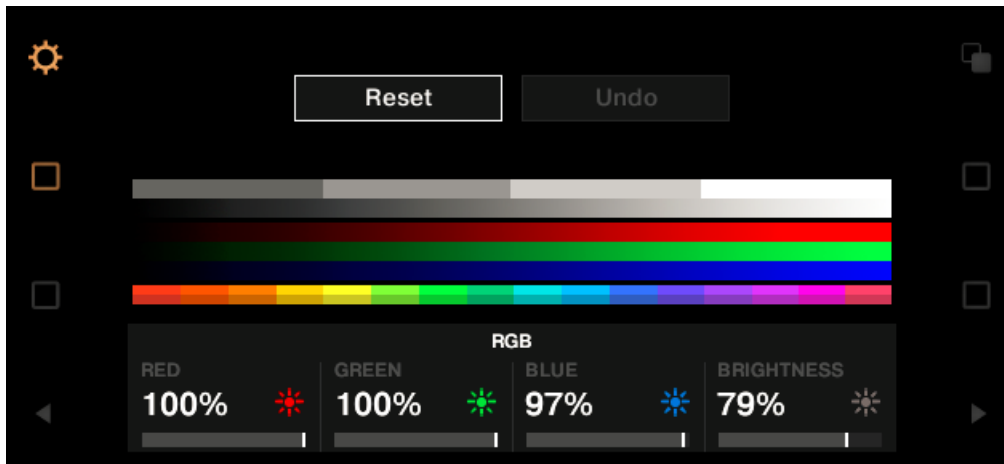
The Settings display mode allows you to adjust a few hardware settings directly from your D2 device.

- ▶ To enter or exit Settings display mode, press the Settings button (showing a cog wheel) in the top left of the display.



The Settings button.

The RGB settings let you adjust the color levels, as well as brightness. The various settings and their current values are shown at the bottom of the display:



The RGB settings.

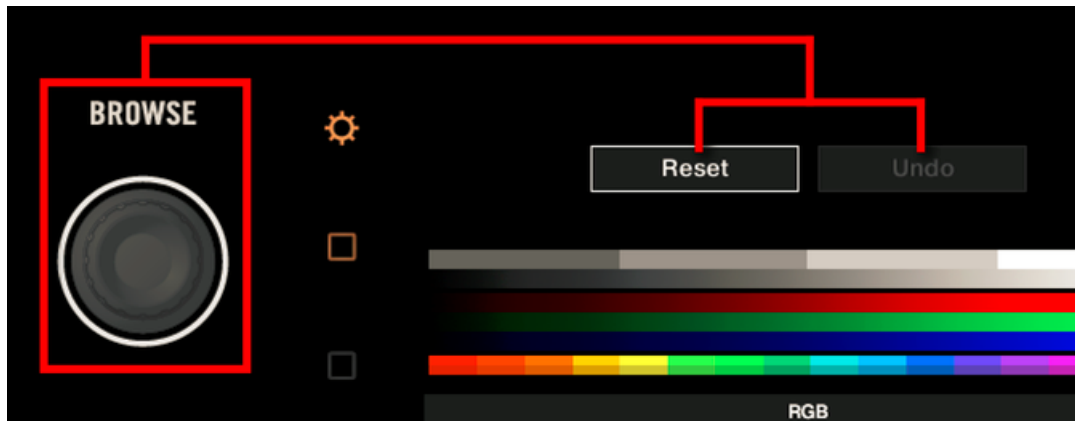
- ▶ To adjust the red, green or blue level, turn the Performance knob 1 (RED), 2 (GREEN) or 3 (BLUE) beneath the display.
- The color levels are adjusted accordingly.
- ▶ To adjust the brightness, turn the Performance knob 4 beneath the display.
- The BRIGHTNESS value above Performance knob 4 is applied to the display.



You can also adjust brightness in the Controller Editor by going to *File > Preferences > Controller*. See section [↑23.2.2, Controller Page](#) for more information.

You can **cancel your adjustments** at any time by doing the following:

- ▶ Turn the BROWSE encoder next to the display to select **Reset** or **Undo**, and press the encoder to confirm.



- The **Reset** option will reset all the settings to their default values.
- The **Undo** option will put the settings back to their previous values.

When you have made the desired color and/or brightness adjustments, press the Settings button again to exit Settings display mode.

16 Using Your TRAKTOR KONTROL S8

In this chapter, we will focus on what's happening on your TRAKTOR KONTROL S8. By reading this, you will learn:

- How to use the basic controls on your controller for navigating through the MIDI mapping system.
- The list of all assignable control elements on your controller.
- How the various luminous elements give you some important information about their state.
- How to use the powerful displays of your TRAKTOR KONTROL S8 in MIDI mode.






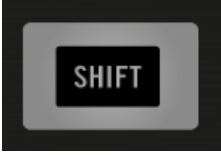
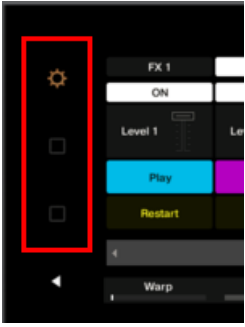
To enjoy full functionality of your NI controller as a MIDI remote control, especially concerning some control elements' state and LED behavior, you need to tell your NI controller what is the current state of the parameter in the MIDI target. You can do this by setting up MIDI feedback channels coming from your MIDI target back to your NI controller. This way, your controller will always stay up-to-date with the current parameter values in your target software/hardware. For more information on how to configure these MIDI feedback channels, please refer to your target software/hardware's documentation.

16.1 Basic Controls

This section shows you the commands available on your TRAKTOR KONTROL S8 for basic tasks: switching between MIDI mode and TRAKTOR mode, selecting a Template, selecting the desired Deck on each side, selecting subsets (Pages) of MIDI assignments, and switching between display modes.



All these actions can of course be done via the Controller Editor user interface — see chapter [↑3, Quick Start](#) for example. Nevertheless, using your NI controller instead can be very handy in a live situation!

Selection	Command	
MIDI/TRAKTOR mode	SHIFT (any Deck) + BACK (right Deck)	
Templates	Performance Mode buttons (left/right arrows)	
Decks	DECK buttons	
Pages (per Deck)	SHIFT	
Display mode	Settings button and Display buttons 1–2	



For more information on Templates and Pages, see [↑4.3, The Mapping System](#).

When your S8 is in MIDI mode, both SHIFT buttons are lit (dimly or fully).

Switching Between Decks and Pages

In MIDI mode, the S8 takes up TRAKTOR's 4-Deck scheme. In other terms, the available Pages are organized per Deck, Decks A to D providing two Pages each (whose default names are "Basic" and "Shift"). Thus, to load any of these Pages, do the following:

1. Switch to the desired Deck using the DECK buttons.
When the upper Deck (Deck A or B) is selected, the DECK button and the few control elements above it are blue. When you switch to the lower Deck (Deck C or D), the DECK button and these control elements turn white — this to remind you which Deck is currently active on the left and right Deck Units of your controller.
2. Switch to the desired Page for that Deck using the SHIFT button of that Deck Unit.

Switching Between Decks and Pages: Gate vs. Toggle

The DECK and SHIFT buttons can have two operating modes:

- Gate mode: The Deck/Page is activated for the time the button is hold depressed.
- Toggle mode: The Deck/Page is activated until the next time you press the button again.

You can choose the desired mode in the Controller Editor. To do this:

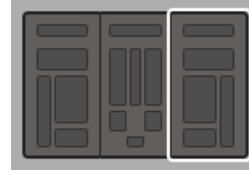
1. Check that the TRAKTOR KONTROL S8 is selected in the Device menu.
2. On the [Pages](#) pane of the Inspector, click the [Shift Mode](#) menu and select the desired mode *Gate* or *Toggle*.

Adjusting Settings for your Controller

You can adjust various settings for your TRAKTOR KONTROL S8 by going to *File > Preferences > Controller* (see section [↑23.2.2, Controller Page](#)). You can also adjust settings directly from your controller by switching its displays to Settings display mode (see section [↑16.4.2, Adjust Color And Brightness](#)).

16.2 Assignable Control Elements

If you selected the TRAKTOR KONTROL S8 in the Device menu of the Application Control Bar, you can choose which part of your controller you want to display in the Hardware area by clicking its miniature version in the Overview (in the top left corner):



Click the desired part of your controller in the Overview to display its details in the Hardware area.

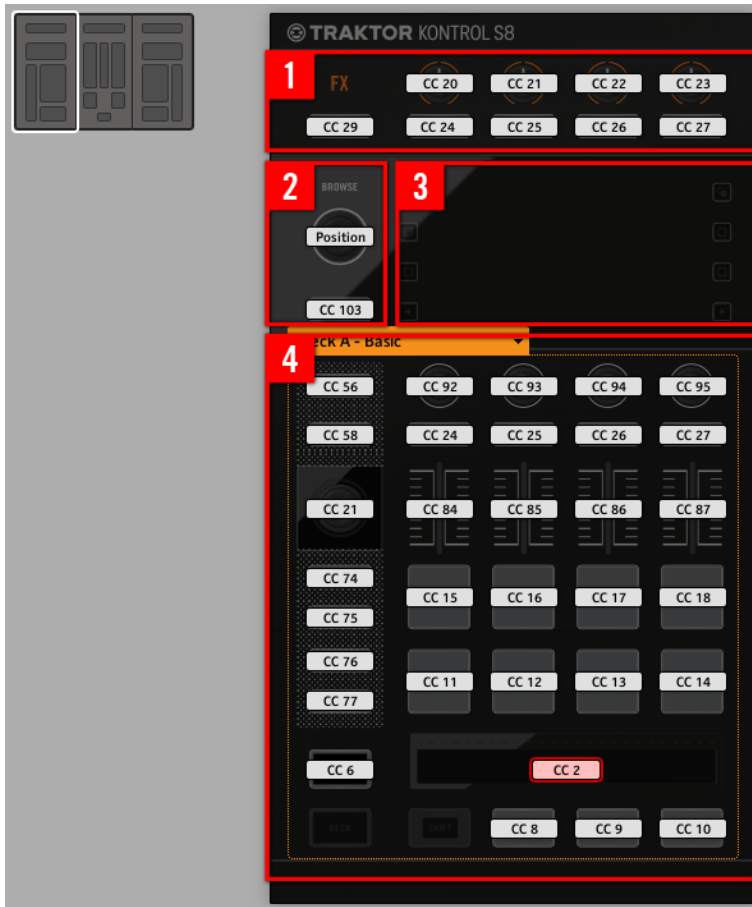
In this Hardware area, you will notice the Page menu and its associated Page area (orange frame) when the left or right Deck Unit is displayed, and the red Selection Frame on the currently selected control element.



The names that you see on the device only refer to their original function in the TRAKTOR software.

16.2.1 Control Elements on the Deck Units

The left and right Deck Units of your TRAKTOR KONTROL S8 hold the same control elements. Here is the list of all assignable control elements on either left Deck Unit of your S8.



The left Deck Unit on the TRAKTOR KONTROL S8.

The Deck Units of the TRAKTOR KONTROL S8 hold the following areas:

(1) FX area: This area holds five buttons and four knobs, all of them freely assignable. Furthermore, the four FX knobs can be both turned and touched, leading to two different assignments for each knob.

(2) BROWSE encoder and BACK button: These two control elements are freely assignable. Furthermore, the BROWSE encoder can be turned, pushed, and touched, leading to three different assignments for this encoder.

(3) Display area: This area doesn't hold any MIDI-assignable elements. The display and the little buttons around provide you feedback on your assignments and allow you to adjust a few settings for your controller. See section [↑16.4, The Displays](#) for more information.

(4) Page area: The Page area holds all Deck controls. Apart from the DECK and SHIFT buttons, all these control elements are freely assignable. The Page area is headed by the Page menu. Furthermore, many control elements have multiple functions:

- The Loop encoder can be turned, pushed, and touched, leading to three different assignments for this encoder.
- The Performance knobs 1–4 (under the displays) can be turned and touched, leading to two different assignments.
- The Slot Volume faders 1–4 can be slid and touched, leading to two different assignments.
- The Touch Strip detects both the touch and the position of your finger, leading to two different assignments.

Assignment Parameters for Control Elements on the Deck Units

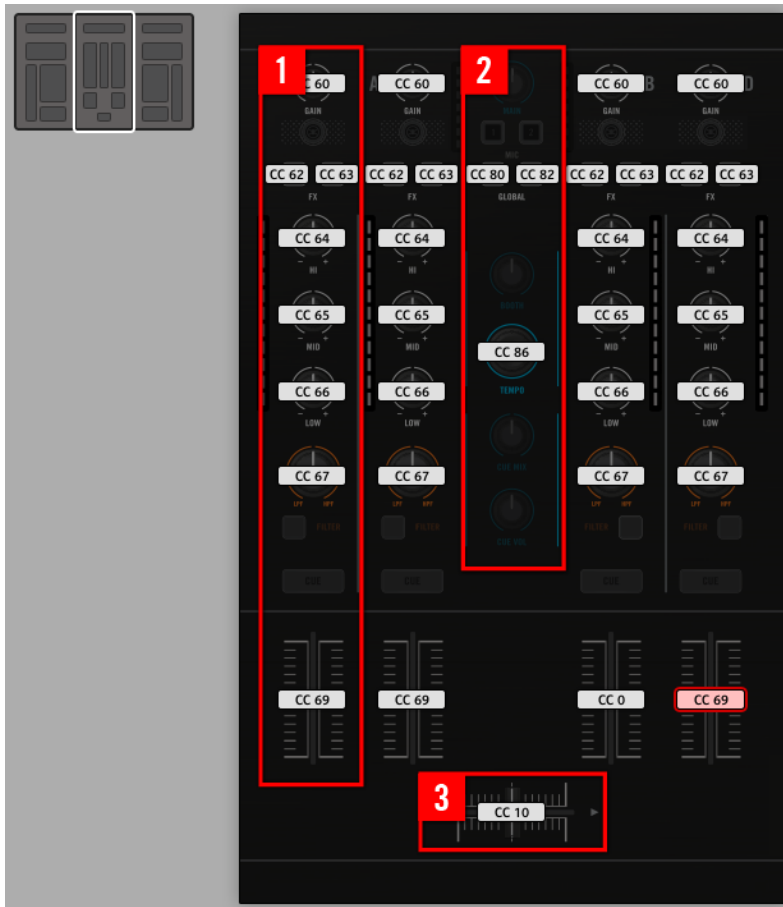
The following table summarizes where to find all assignment details for each type of control element on either Deck Unit:

Type of Control Element	Assignment Parameters
Buttons	↑23.6.2, Assignments for Buttons
Pads	↑23.6.2, Assignments for Buttons
FX knobs – Turn action	↑23.6.5, Assignments for Knobs and the Like
FX knobs – Touch action	↑23.6.2, Assignments for Buttons
Performance knobs – Turn action	↑23.6.8, Assignments for Analog Encoders
Performance knobs – Touch action	↑23.6.2, Assignments for Buttons
Slot Volume faders – Slide action	↑23.6.5, Assignments for Knobs and the Like
Slot Volume faders – Touch action	↑23.6.2, Assignments for Buttons

Type of Control Element	Assignment Parameters
BROWSE and Loop encoders – Turn action	↑23.6.7, Assignments for Digital Encoders
BROWSE and Loop encoders – Push action	↑23.6.2, Assignments for Buttons
BROWSE and Loop encoders – Touch action	↑23.6.2, Assignments for Buttons
Touch Strip – Touch action	↑23.6.2, Assignments for Buttons
Touch Strip – Position	↑23.6.9, Assignments for Touch Strips – Position Action (TRAKTOR KONTROL Devices)

16.2.2 Control Elements on the Mixer

Here is the list of all assignable control elements on the Mixer of your S8.



The Mixer on the TRAKTOR KONTROL S8.

The Mixer of the TRAKTOR KONTROL S8 holds the following areas:

- (1) Channel areas:** In each of the four channel strips, all control elements are freely assignable except the TRAKTOR button (at the top) and the FILTER and CUE buttons (at the bottom).
- (2) Main area:** In this area only the S (Snap) and Q (Quantize) buttons as well as the TEMPO encoder are freely assignable. Furthermore, the TEMPO encoder can be both turned and pushed, leading to two different assignments.



Most of the control elements in this area are audio controls related to the audio interface of the S8. This is why they are not part of the MIDI mapping system.

(3) Crossfader: The crossfader is freely assignable as well.

Assignment Parameters for Control Elements on the Mixer

The following table summarizes where to find all assignment details for each type of control element on the Mixer:

Type of Control Element	Assignment Parameters
Buttons	↑23.6.2, Assignments for Buttons
Knobs	↑23.6.5, Assignments for Knobs and the Like
TEMPO encoder – Turn action	↑23.6.7, Assignments for Digital Encoders
TEMPO encoder – Push action	↑23.6.2, Assignments for Buttons
Channel faders and crossfader	↑23.6.5, Assignments for Knobs and the Like

16.3 Visual Feedback on Your Controller

The fast bidirectional communication between your TRAKTOR KONTROL S8 and the Hardware Service on the software side allows status indications on your controller to be made in real time.

Your TRAKTOR KONTROL S8 provides you visual feedback in various ways:

- All buttons and pads are equipped with LEDs that inform you about their assignment state at any time. Furthermore, the 16 pads provide RGB LEDs.
- The displays show you additional information about the assignments. This will be described in section [↑16.4, The Displays](#).

16.3.1 Buttons and Pads

All buttons and pads are equipped with single-color or multicolor LEDs. Basically, each button or pad on your controller can have three states:

- Not assigned.

- Assigned, in Off state.
- Assigned, in On state.

Single-Color Buttons

For all buttons, the LEDs can have three states: off, dimmed and bright. The LED states directly indicate the button states:

Button State	LED State
Not assigned	Off
Assigned – Off state	Dimmed
Assigned – On state	Bright



For buttons in Increment mode, the Off state corresponds to the zero value, while the On state corresponds to a value greater than zero. See section [↑23.6.2, Assignments for Buttons](#) for more information on the various button modes.

Multicolor Pads

The sixteen pads of your controller are equipped with RGB LEDs. This by far extends the monitoring possibilities of these control elements. The pads offer you three Color modes:

- Single mode: You can choose a color that will be used bright and dimmed for the On and Off states, respectively. In this mode, the pad's lighting behaves like that of single-color buttons (see above) except that you can choose the color.
- Dual mode: You can choose a color for the On state and another color for the Off state. Both colors will be used at full brightness.
- HSB mode: This mode is only available when the pad's state is controlled via MIDI feedback (see below). In HSB mode, you can precisely define from within your MIDI target which color the pad will use.

Controlling the Button/Pad State

The On/Off state of each button or pad can be controlled in two ways — internally via your actions on the button/pad, or remotely via MIDI feedback:

- In Toggle mode, both controls are enabled: both your actions on the button/pad and the possibly incoming MIDI messages are taken into account to update the button/pad and LED state.
- In Trigger, Gate, and Increment mode, you can choose which control mode (internal or remote via MIDI) you want to use. This is done via the [LED On](#) menu in the [Assign](#) pane of the Inspector.



For more information on the button modes, [LED On](#) menu, and MIDI feedback mode, see [↑23.6.2, Assignments for Buttons](#).

Buttons and Pads in the Displays

In addition to the LED indications, on each Deck Unit the assignments for the FX buttons, Performance buttons, and pads are shown within the displays in Control display mode.



For more information on the displays of your TRAKTOR KONTROL S8, see section [↑16.4, The Displays](#).

16.3.2 Performance Knobs, Slot Volume Faders, and Loop Encoder

Your TRAKTOR KONTROL S8 also gives feedback on additional control elements:

- On each Deck Unit of your TRAKTOR KONTROL S8, assignments for the Turn action of the four Performance knobs (under the display) and for the Slide action of the four Slot Volume faders are indicated in the display in Control display mode.



For more information on the displays of your TRAKTOR KONTROL S8, see section [↑16.4, The Displays](#).

- On each Deck Unit, the Loop encoder (the push encoder next to the Slot Volume faders) is equipped with a LED ring that indicates you the state of the encoder's Push action. The LED ring's behavior is the same as that of buttons (see section [↑16.3.1, Buttons and Pads](#) above).

See also

[Assignments for Buttons \[→ 274\]](#)

16.4 The Displays

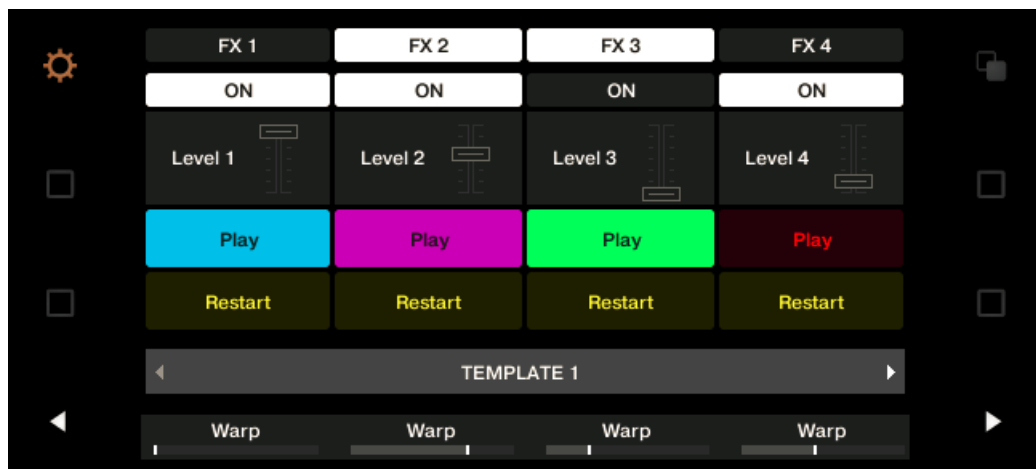
The displays on your TRAKTOR KONTROL S8 can show various elements of your MIDI mapping configuration or give you access to settings for your controller, depending on the **display mode** that is activated.

- In the default **Control display mode**, each display shows the assignments for particular control elements of the corresponding Deck Unit.
- In **Settings display mode**, you can adjust the color calibration of the displays.

Both display modes are described in the following sections.

16.4.1 Control Display Mode

By default, the displays of your S8 are in Control display mode. In this mode each display informs you about both the assignments and the states of many control elements on that particular Deck Unit:



The display of a Deck Unit in Control display mode.

For each control element, the display indicates the element's name as defined in its Label Field.



By default the name defined in the Label Field is the MIDI message that will be sent by this control element, but you can customize it to your liking, as in the picture above — for more information, see section [↑23.4.1, Label Fields](#) and [↑23.5.3, Assign Pane](#).

From top to bottom, each display shows the assignment and the state of the following control elements:

- 1st row: **FX buttons 1–4** above the display. Buttons in Off state are indicated by a dark background, while buttons in On state are highlighted.
- 2nd row: **Performance buttons 1–4** under the display. Buttons in Off state are indicated by a dark background, while buttons in On state are highlighted.
- 3rd row: **Slot Volume faders 1–4** (Slide action). A little fader picture indicates the current value for the Slide action of each fader.
- 4th and 5th rows: **Pads 1–8**. The pad state is indicated in various ways depending on the entry selected in the [Color Mode](#) menu in the [Assign](#) pane of the Inspector:
 - In Single or Dual color mode, the pad's On state uses the color set in the [Color Value](#) parameter (Single mode) or [Color On](#) parameter (Dual mode), while the pad's Off state uses the same color in a darkened version.
 - In HSB color mode (only available if the [LED On](#) menu is set to *For MIDI Out*), the pad's states use white instead and is indicated as for buttons (Off state with a dark background, On state highlighted).



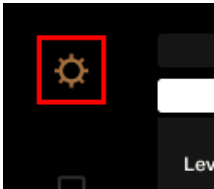
For more info on the modes available in the [Color Mode](#) menu, see section [↑16.3.1, Buttons and Pads](#) above.

- 6th row: This row shows you the **current Template**. You can switch to the previous/next Template by pressing the lit Performance Mode buttons (showing left and right arrows) on either side of the display, as described in section [↑16.1, Basic Controls](#).
- 7th row: **Performance knobs 1–4** (Turn action) right under the display. A little bar indicates the current value of the Turn action of each knob. Note that the bar can have its zero at the left or in the middle, depending on the entry selected in the [Display](#) menu in the [Assign](#) pane of the Inspector — see section [↑23.6.8, Assignments for Analog Encoders](#).

16.4.2 Adjust Color And Brightness

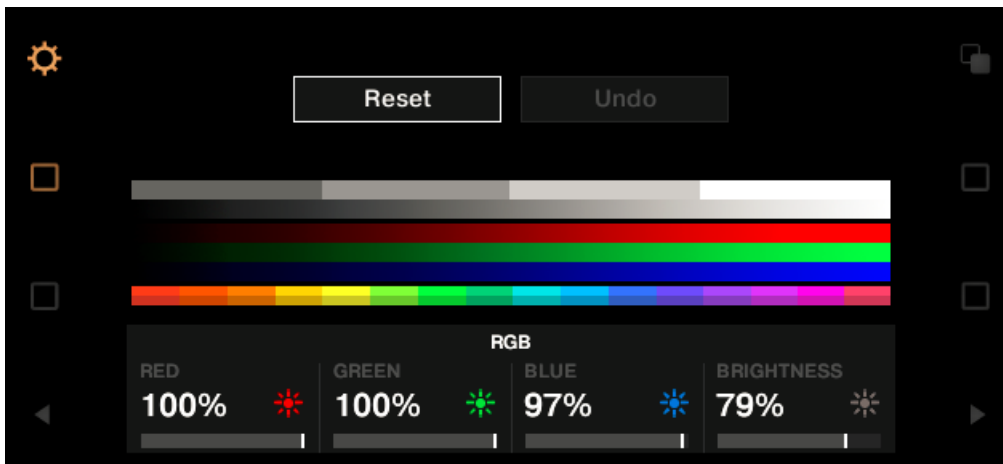
The Settings display mode allows you to adjust the displays' color rendition and brightness directly from your S8 device.

- ▶ To enter or exit Settings display mode, press the Settings button (showing a cog wheel) in the top left of either display.



The Settings button.

The RGB settings let you adjust the color levels independently for each display as well as the brightness for both displays. The various settings and their current values are shown at the bottom of the displays:



The RGB settings (here on the right Deck Unit).

- ▶ To adjust the red, blue or green level of a particular display, turn the Performance knob 1 (RED), 2 (GREEN) or 3 (BLUE) beneath that display.
- The color levels of that display are adjusted accordingly.
- ▶ To adjust the brightness of both displays, turn the Performance knob 4 beneath any display.
- The brightness applies to both displays simultaneously. The BRIGHTNESS value above Performance knob 4 is updated in both displays accordingly.



You can also adjust the brightness of the displays in the Controller Editor by going to *File > Preferences > Controller*. See section [↑23.2.2, Controller Page](#) for more information.

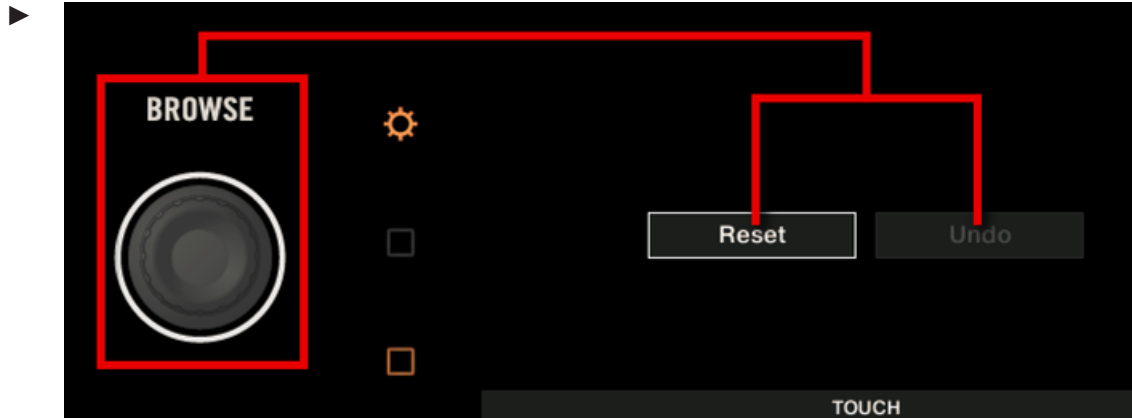
You can **cancel your adjustments** at any time by doing the following:

- ▶ Turn the BROWSE encoder next to the **left display** to select *Reset* or *Undo*, and press the encoder to confirm.



- The *Reset* option will reset all the settings to their default values.
- The *Undo* option will put the settings back to their previous values.

When you have made the desired color and/or brightness adjustments, press the Settings button again to exit Settings display mode.



- The **Reset** option will reset all the settings to their default values.
- The **Undo** option will put the settings back to their previous values.

When you have made the desired adjustments to the various touch sensitivities, press the Settings button again to exit Settings display mode.

17 Using Your TRAKTOR KONTROL S4

In this chapter, we will focus on what's happening on your TRAKTOR KONTROL S4. By reading this, you will learn:

- How to use the basic controls on your controller for navigating through the MIDI mapping system.
- The list of all assignable control elements on your controller.
- How the various luminous elements give you some important information about their state.




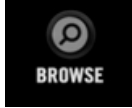



To enjoy full functionality of your NI controller as a MIDI remote control, especially concerning some control elements' state and LED behavior, you need to tell your NI controller what is the current state of the parameter in the MIDI target. You can do this by setting up MIDI feedback channels coming from your MIDI target back to your NI controller. This way, your controller will always stay up-to-date with the current parameter values in your target software/hardware. For more information on how to configure these MIDI feedback channels, please refer to your target software/hardware's documentation.

17.1 Basic Controls

This section shows you the commands available on your TRAKTOR KONTROL S4 for basic tasks: switching between MIDI mode and TRAKTOR mode, selecting the desired Deck on each side, and selecting subsets (Pages) of MIDI assignments.



All these actions can of course be done via the Controller Editor user interface — see chapter [↑3, Quick Start](#) for example. Nevertheless, using your NI controller instead can be very handy in a live situation!

Selection	Command	
MIDI/TRAKTOR mode	SHIFT + BROWSE button	 + 
Decks	Deck Assign buttons (DECK C / DECK D)	 and 
Pages (per Deck)	SHIFT	



For more information on Pages, see [↑4.3, The Mapping System](#).



You cannot switch between Templates from the TRAKTOR KONTROL S4. To do this, you have to use the Controller Editor interface (see [↑3.2, Loading MIDI Assignments](#)).

When your S4 is in MIDI mode, both Loop Size Displays on your S4 read “ON” (meaning that MIDI mode is on).

Switching Between Decks and Pages

In MIDI mode, the S4 takes up TRAKTOR’s 4-Deck scheme. In other terms, the available Pages are organized per Deck, Decks A to D providing two Pages each (whose default names are “Basic” and “Shift”). Thus, to load any of these Pages, do the following:

1. Switch to the desired Deck using the Deck Assign buttons (DECK C on the left Deck, DECK D on the right Deck).
When you switch to the lower Deck (C on the left, D on the right), the DECK C (or DECK D) indicator lights up in the Deck Display while the DECK A (or DECK B) indicator turns off — this to remind you which Deck is currently active.
2. Switch to the desired Page for that Deck using the SHIFT button of that Deck.

Please keep in mind that the DECK C and DECK D buttons are always in Toggle mode: When you press one of them, the Deck controls switch to the alternate Deck until you press the button again.

Switching Between Pages: Gate vs. Toggle

The SHIFT buttons can have two operating modes:

- Gate mode: The Page is activated for the time the button is hold depressed.
- Toggle mode: The Page is activated until the next time you press the button again.

You can choose the desired mode for the SHIFT button in the Controller Editor. To do this:

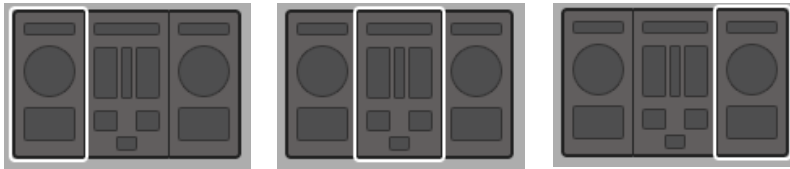
1. Check that the TRAKTOR KONTROL S4 is selected in the Device menu.
2. On the [Pages](#) pane of the Inspector, click the [Shift Mode](#) menu and select the desired mode *Gate* or *Toggle*.

Adjusting Settings for your Controller

You can adjust various settings for your TRAKTOR KONTROL S4 in *File > Preferences > Controller*. See [↑23.2.2, Controller Page](#) for more information.

17.2 Assignable Control Elements

If you selected the TRAKTOR KONTROL S4 in the Device menu of the Application Control Bar, you can choose which part of your controller you want to display in the Hardware area by clicking its miniature version in the Overview (in the top left corner):



Click the desired part of your controller in the Overview to display its details in the Hardware area.

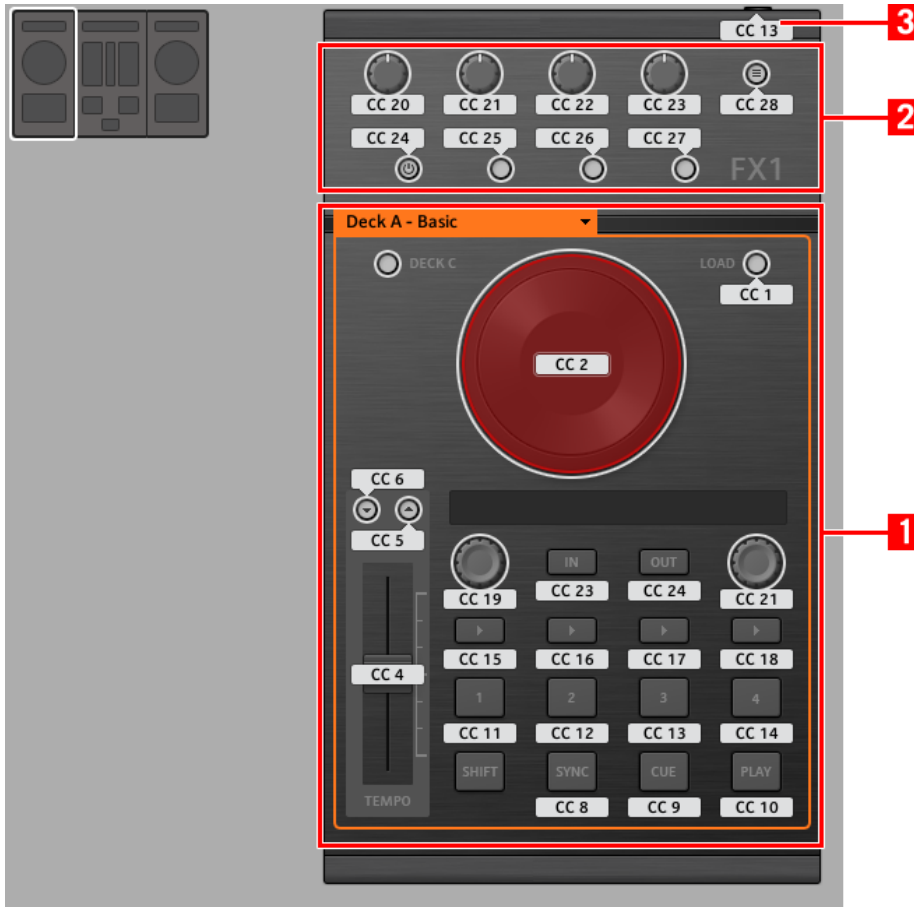
In this Hardware area, you will notice the Page menu and its associated Page area (orange frame) when the left or right Deck is displayed, and the red Selection Frame on the currently selected control element.



The names that you see on the device only refer to their original function in the TRAKTOR software.

17.2.1 Control Elements on the Left Deck

Here is the list of all assignable control elements on the Left Deck of your S4.



The Left Deck on the TRAKTOR KONTROL S4.

The Left Deck of the TRAKTOR KONTROL S4 holds the following areas:

(1) Page area: The Page area holds all Deck controls. Apart from the Deck Assign (DECK C) and SHIFT buttons, all these control elements are freely assignable: 17 buttons, 2 encoders, 1 fader, and 1 jog wheel. The Page area is headed by the Page menu.

(2) FX area: This area holds 5 buttons and 4 knobs, all of them freely assignable.

(3) Footswitch input: The footswitch input of your S4 can also be freely assigned to any MIDI event.



You will find all details concerning the assignment parameters for the control elements in [↑23.6, MIDI Message Parameters](#).

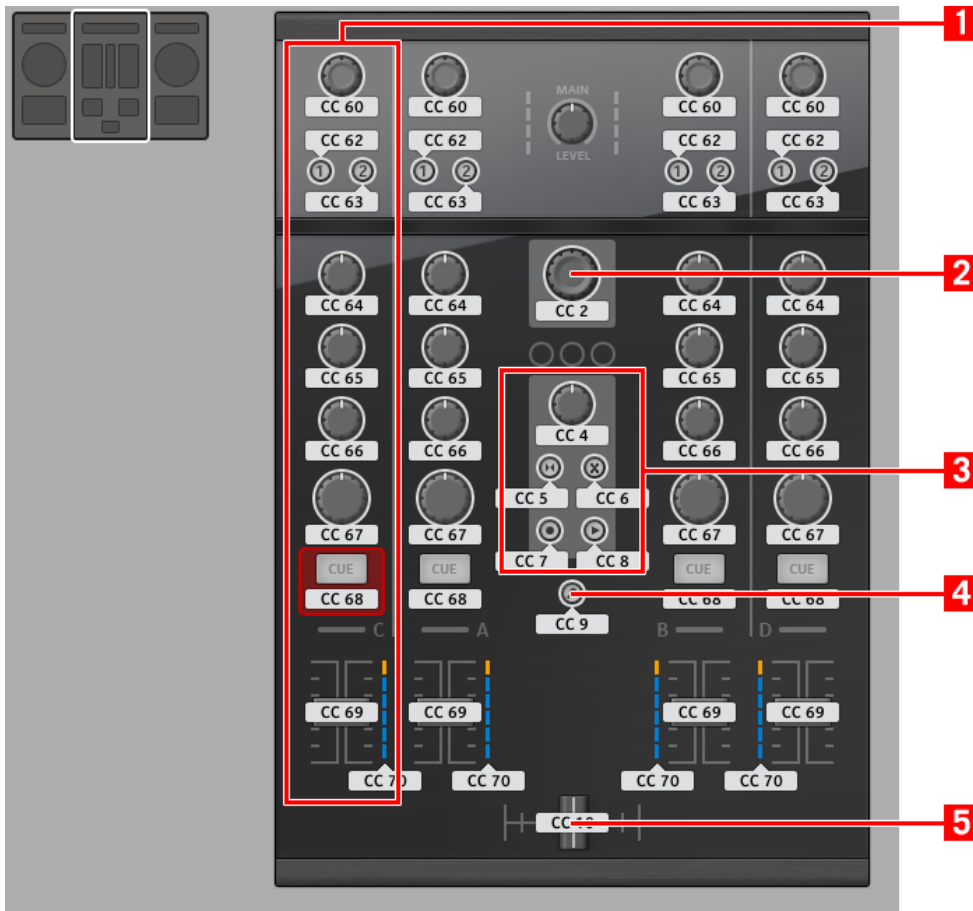
17.2.2 Control Elements on the Right Deck

The Right Deck of the TRAKTOR KONTROL S4 is very similar to the Left Deck described above. It holds the same control elements, with the following exceptions:

- There is no footswitch input.
- There are two additional knobs (CUE MIX and MIC VOL) located on the front panel of your S4. These knobs are freely assignable.

17.2.3 Control Elements on the Mixer

Here is the list of all assignable control elements on the Mixer of your S4.



The Mixer on the TRAKTOR KONTROL S4.

The Mixer of the TRAKTOR KONTROL S4 holds the following areas:

- (1) Channel areas:** Each of the four channel strips holds 4 knobs, 3 buttons, 1 encoder, 1 fader, and 1 LED chain. All of them are freely assignable.
- (2) BROWSE encoder:** The BROWSE encoder is freely assignable.
- (3) Loop Recorder area:** The Loop Recorder area holds 4 buttons and 1 knob. All of them are freely assignable.

(4) BROWSE button: The BROWSE button is freely assignable.

(5) Crossfader: The crossfader is freely assignable as well.



On the Mixer, the Main section (with the MAIN LEVEL knob and MAIN LEVEL meters), the Master Display (with the Alert, USB, and Preview Play indicators along with the SNAP, MASTER, and QUANT buttons), and the Deck Assignment indicators are excluded from the MIDI mapping scheme. In other terms, you cannot assign MIDI events to any of these control elements.

17.2.4 Assignment Parameters

The following table summarizes where to find all assignment details for each type of control element on your controller:

Type of Control Element	Assignment Parameters
Buttons	↑23.6.2, Assignments for Buttons
Footswitch input	↑23.6.2, Assignments for Buttons
Knobs	↑23.6.5, Assignments for Knobs and the Like
Faders and crossfader	↑23.6.5, Assignments for Knobs and the Like
Encoders – Push action	↑23.6.2, Assignments for Buttons
Encoders – Turn action	↑23.6.7, Assignments for Digital Encoders
LED chains	↑23.6.11, Assignments for LED Chains and 7-segment Displays

17.3 Visual Feedback on Your Controller

The fast bidirectional communication between your TRAKTOR KONTROL S4 and the Hardware Service on the software side allows status indications on your controller to be made in real time.

17.3.1 Buttons

On your TRAKTOR KONTROL S4, all buttons are equipped with LEDs that inform you about the assignment state of the button at any time. The LEDs below each control element can have three states: off, dimmed and bright. Their lighting behavior depends on the state of the control element.

The following table indicates you the possible states for the LEDs:

Button State	LED State
Not assigned	Off
Assigned – Off state	Dimmed
Assigned – On state	Bright



For buttons in Increment mode, the Off state corresponds to the zero value, while the On state corresponds to a value greater than zero.

Controlling the Button State

The state of each button can be controlled in two ways — internally via your actions on the button, or remotely via MIDI feedback:

- In Toggle mode, both controls are enabled: both your actions on the button and the possibly incoming MIDI messages are taken into account to update the button state.
- In Trigger, Gate, and Increment mode, you can choose which control mode you want to use via the **LED On** menu located in the **Assign** pane of the Inspector.



For more information on the button modes, **LED On** menu, and MIDI feedback mode, see [↑23.6.2, Assignments for Buttons](#).

Adjusting the LED Brightness

You can adjust the LED brightness for both On and Off button states in *File > Preferences > Controller > Traktor Kontrol S4 > LEDs* (see [↑23.2, The Preferences Window](#) for more information on the Preferences window).

17.3.2 LED Chains

The Mixer of the S4 provides four assignable LED chains that give you additional visual feedback on your target's parameters. The feedback provided by each LED chain depends on its assignment settings as defined in the [Assign](#) pane of the Inspector. See [↑23.6.11, Assignments for LED Chains and 7-segment Displays](#) for more information on the possible assignments.

18 Using Your TRAKTOR KONTROL S4 MK2

In this chapter, we will focus on what's happening on your TRAKTOR KONTROL S4 MK2. By reading this, you will learn:

- How to use the basic controls on your controller for navigating through the MIDI mapping system.
- The list of all assignable control elements on your controller.
- How the various luminous elements give you some important information about their state.








To enjoy full functionality of your NI controller as a MIDI remote control, especially concerning some control elements' state and LED behavior, you need to tell your NI controller what is the current state of the parameter in the MIDI target. You can do this by setting up MIDI feedback channels coming from your MIDI target back to your NI controller. This way, your controller will always stay up-to-date with the current parameter values in your target software/hardware. For more information on how to configure these MIDI feedback channels, please refer to your target software/hardware's documentation.

18.1 Basic Controls

This section shows you the commands available on your TRAKTOR KONTROL S4 MK2 for basic tasks: switching between MIDI mode and TRAKTOR mode, selecting the desired Deck on each side, and selecting subsets (Pages) of MIDI assignments.



All these actions can of course be done via the Controller Editor user interface — see chapter [↑3, Quick Start](#) for example. Nevertheless, using your NI controller instead can be very handy in a live situation!

Selection	Command	
MIDI/TRAKTOR mode	SHIFT + BROWSE button	 + 
Decks	Deck Assign buttons (DECK C / DECK D)	 and 
Pages (per Deck)	SHIFT	



For more information on Pages, see [↑4.3, The Mapping System](#).



You cannot switch between Templates from the TRAKTOR KONTROL S4 MK2. To do this, you have to use the Controller Editor interface (see [↑3.2, Loading MIDI Assignments](#)).

When your S4 is in MIDI mode, both Loop Size Displays on your S4 read “ON” (meaning that MIDI mode is on).

Switching Between Decks and Pages

In MIDI mode, the S4 takes up TRAKTOR’s 4-Deck scheme. In other terms, the available Pages are organized per Deck, Decks A to D providing two Pages each (whose default names are “Basic” and “Shift”). Thus, to load any of these Pages, do the following:

1. Switch to the desired Deck using the Deck Assign buttons (DECK C on the left Deck, DECK D on the right Deck).
When you switch to the lower Deck (C on the left, D on the right), the DECK C (or DECK D) indicator lights up in the Deck Display while the DECK A (or DECK B) indicator turns off — this to remind you which Deck is currently active.
2. Switch to the desired Page for that Deck using the SHIFT button of that Deck.

Please keep in mind that the DECK C and DECK D buttons are always in Toggle mode: When you press one of them, the Deck controls switch to the alternate Deck until you press the button again.

Switching Between Pages: Gate vs. Toggle

The SHIFT buttons can have two operating modes:

- Gate mode: The Page is activated for the time the button is hold depressed.
- Toggle mode: The Page is activated until the next time you press the button again.

You can choose the desired mode for the SHIFT button in the Controller Editor. To do this:

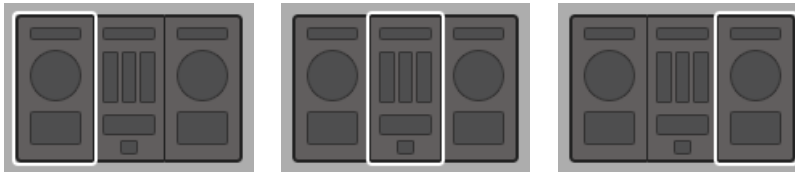
1. Check that the TRAKTOR KONTROL S4 MK2 is selected in the Device menu.
2. On the [Pages](#) pane of the Inspector, click the [Shift Mode](#) menu and select the desired mode *Gate* or *Toggle*.

Adjusting Settings for your Controller

You can adjust various settings for your TRAKTOR KONTROL S4 MK2 in *File > Preferences > Controller*. See [↑23.2.2, Controller Page](#) for more information.

18.2 Assignable Control Elements

If you selected the TRAKTOR KONTROL S4 MK2 in the Device menu of the Application Control Bar, you can choose which part of your controller you want to display in the Hardware area by clicking its miniature version in the Overview (in the top left corner):



Click the desired part of your controller in the Overview to display its details in the Hardware area.

In this Hardware area, you will notice the Page menu and its associated Page area (orange frame) when the left or right Deck is displayed, and the red Selection Frame on the currently selected control element.



The names that you see on the device only refer to their original function in the TRAKTOR software.

18.2.1 Control Elements on the Left Deck

Here is the list of all assignable control elements on the Left Deck of your S4.



The Left Deck on the TRAKTOR KONTROL S4 MK2.

The Left Deck of the TRAKTOR KONTROL S4 MK2 holds the following areas:

(1) Page area: The Page area holds all Deck controls. Apart from the Deck Assign (DECK C) and SHIFT buttons, all these control elements are freely assignable: 17 buttons, 2 encoders, 1 fader, and 1 jog wheel. The Page area is headed by the Page menu.

(2) FX area: This area holds 5 buttons and 4 knobs, all of them freely assignable.

(3) Footswitch input: The footswitch input of your S4 can also be freely assigned to any MIDI event.



You will find all details concerning the assignment parameters for the control elements in [↑23.6, MIDI Message Parameters](#).

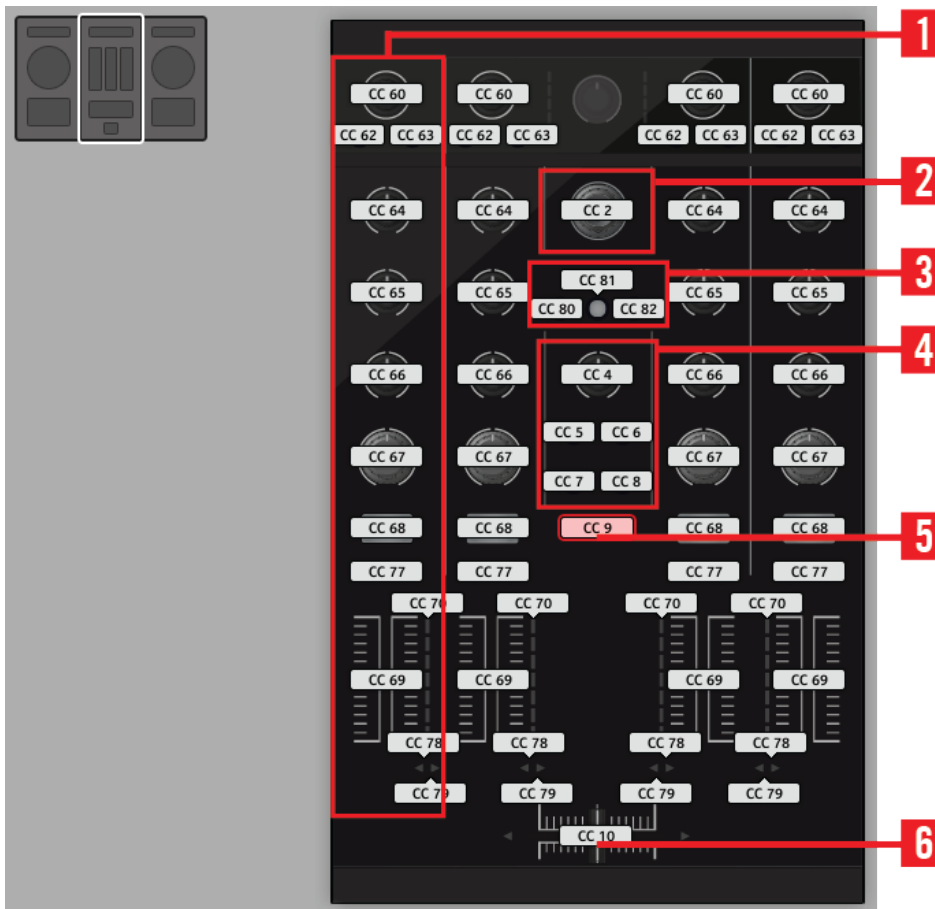
18.2.2 Control Elements on the Right Deck

The Right Deck of the TRAKTOR KONTROL S4 MK2 is very similar to the Left Deck described above. It holds the same control elements, with the following exceptions:

- There is no footswitch input.
- There are two additional knobs (CUE MIX and MIC VOL) located on the front panel of your S4. These knobs are freely assignable.

18.2.3 Control Elements on the Mixer

Here is the list of all assignable control elements on the Mixer of your S4.



The Mixer on the TRAKTOR KONTROL S4 MK2.

The Mixer of the TRAKTOR KONTROL S4 MK2 holds the following areas:

- (1) **Channel areas:** Each of the four channel strips holds 4 knobs, 3 buttons, 1 encoder, 1 fader, and 1 LED chain. All of them are freely assignable.
- (2) **BROWSE encoder:** The BROWSE encoder is freely assignable.
- (3) **SNAP and QUANT buttons:** The SNAP and QUANT buttons are freely assignable.

(4) Loop Recorder area: The Loop Recorder area holds 4 buttons and 1 knob. All of them are freely assignable.

(5) Preview button: The P button is freely assignable.

(6) Crossfader: The crossfader is freely assignable as well.



On the Mixer, the Main section (with the MAIN LEVEL knob and MAIN LEVEL meters), the Master Display (with the Alert, USB, and Preview Play indicators along with the SNAP, MASTER, and QUANT buttons), and the Deck Assignment indicators are excluded from the MIDI mapping scheme. In other terms, you cannot assign MIDI events to any of these control elements.

18.2.4 Assignment Parameters

The following table summarizes where to find all assignment details for each type of control element on your controller:

Type of Control Element	Assignment Parameters
Buttons	↑23.6.2, Assignments for Buttons
Footswitch input	↑23.6.2, Assignments for Buttons
Knobs	↑23.6.5, Assignments for Knobs and the Like
Faders and crossfader	↑23.6.5, Assignments for Knobs and the Like
Encoders – Push action	↑23.6.2, Assignments for Buttons
Encoders – Turn action	↑23.6.7, Assignments for Digital Encoders
LED chains	↑23.6.11, Assignments for LED Chains and 7-segment Displays

18.3 Visual Feedback on Your Controller

The fast bidirectional communication between your TRAKTOR KONTROL S4 MK2 and the Hardware Service on the software side allows status indications on your controller to be made in real time.

18.3.1 Buttons

On your TRAKTOR KONTROL S4 MK2, all buttons are equipped with LEDs that inform you about the assignment state of the button at any time. The LEDs below each control element can have three states: off, dimmed and bright. Their lighting behavior depends on the state of the control element.

The following table indicates you the possible states for the LEDs:

Button State	LED State
Not assigned	Off
Assigned – Off state	Dimmed
Assigned – On state	Bright



For buttons in Increment mode, the Off state corresponds to the zero value, while the On state corresponds to a value greater than zero.

Controlling the Button State

The state of each button can be controlled in two ways — internally via your actions on the button, or remotely via MIDI feedback:

- In Toggle mode, both controls are enabled: both your actions on the button and the possibly incoming MIDI messages are taken into account to update the button state.
- In Trigger, Gate, and Increment mode, you can choose which control mode you want to use via the **LED On** menu located in the **Assign** pane of the Inspector.



For more information on the button modes, **LED On** menu, and MIDI feedback mode, see [↑23.6.2, Assignments for Buttons](#).

Adjusting the LED Brightness

You can adjust the LED brightness for both On and Off button states in *File > Preferences > Controller > Traktor Kontrol S4 MK2 > LEDs* (see [↑23.2, The Preferences Window](#) for more information on the Preferences window).

18.3.2 LED Chains

The Mixer of the S4 provides four assignable LED chains that give you additional visual feedback on your target's parameters. The feedback provided by each LED chain depends on its assignment settings as defined in the [Assign](#) pane of the Inspector. See [↑23.6.11, Assignments for LED Chains and 7-segment Displays](#) for more information on the possible assignments.

19 Using Your TRAKTOR KONTROL S2

In this chapter, we will focus on what's happening on your TRAKTOR KONTROL S2. By reading this, you will learn:

- How to use the basic controls on your controller for switching your controller to/from MIDI mode.
- The list of all assignable control elements on your controller.
- How the various luminous elements give you some important information about their state.




To enjoy full functionality of your NI controller as a MIDI remote control, especially concerning some control elements' state and LED behavior, you need to tell your NI controller what is the current state of the parameter in the MIDI target. You can do this by setting up MIDI feedback channels coming from your MIDI target back to your NI controller. This way, your controller will always stay up-to-date with the current parameter values in your target software/hardware. For more information on how to configure these MIDI feedback channels, please refer to your target software/hardware's documentation.

19.1 Basic Controls

Here is how to switch between MIDI mode and TRAKTOR mode from your TRAKTOR KONTROL S2.



This can of course be done via the Controller Editor user interface — see chapter [↑3, Quick Start](#) for example. Nevertheless, using your NI controller instead can be very handy in a live situation!

Selection	Command
MIDI/TRAKTOR mode	SHIFT + SHIFT (on both Decks) 

When your S2 is in MIDI mode, both SHIFT buttons are dimly lit (meaning that MIDI mode is on).



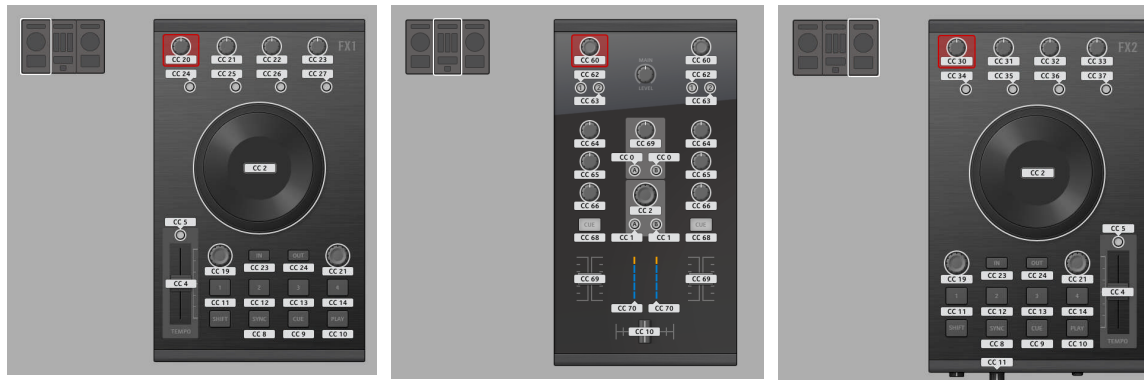
You cannot switch between Templates from the TRAKTOR KONTROL S2. To do this, you have to use the Controller Editor interface (see [↑3.2, Loading MIDI Assignments](#)).

Adjusting Settings for your Controller

You can adjust various settings for your TRAKTOR KONTROL S2 in *File > Preferences > Controller*. See [↑23.2.2, Controller Page](#) for more information.

19.2 Assignable Control Elements

If you selected the TRAKTOR KONTROL S2 in the Device menu of the Application Control Bar, depending on the part of the S2 that you selected in the S2 Overview (in the top left corner), this is what the Hardware area looks like:



The Hardware area representing the S2's left Deck, Mixer, and right Deck, respectively.

In this Hardware area, you will notice the red Selection Frame on the currently selected control element.



The names that you see on the device only refer to their original function in the TRAKTOR software.

On your TRAKTOR KONTROL S2, almost every control element is freely assignable to a MIDI event. The few exceptions are the following:

- The SHIFT buttons on the left and right Decks have a special function (switching between MIDI and TRAKTOR modes, see above).
- On the Mixer, the MAIN LEVEL knob, along with the Alert, USB, and Microphone indicators are excluded from the MIDI mapping scheme. This is also the case for the CUE VOL knob and the MIC ENGAGE button on the front panel. In other terms, you cannot assign MIDI events to any of these control elements.

Assignment Parameters

The following table summarizes where to find all assignment details for each type of control element on your controller:

Type of Control Element	Assignment Parameters
Buttons	↑23.6.2, Assignments for Buttons
Knobs	↑23.6.5, Assignments for Knobs and the Like
Faders and crossfader	↑23.6.5, Assignments for Knobs and the Like
Encoders – Push action	↑23.6.2, Assignments for Buttons
Encoders – Turn action	↑23.6.7, Assignments for Digital Encoders
LED chains	↑23.6.11, Assignments for LED Chains and 7-segment Displays

19.3 Visual Feedback on Your Controller

The fast bidirectional communication between your TRAKTOR KONTROL S2 and the Hardware Service on the software side allows status indications on your controller to be made in real time.

19.3.1 Buttons

On your TRAKTOR KONTROL S2, all buttons are equipped with LEDs that inform you about the assignment state of the button at any time. The LEDs below each control element can have three states: off, dimmed and bright. Their lighting behavior depends on the state of the control element.

The following table indicates you the possible states for the LEDs:

Button State	LED State
Not assigned	Off
Assigned – Off state	Dimmed
Assigned – On state	Bright



For buttons in Increment mode, the Off state corresponds to the zero value, while the On state corresponds to a value greater than zero.

Controlling the Button State

The state of each button can be controlled in two ways — internally via your actions on the button, or remotely via MIDI feedback:

- In Toggle mode, both controls are enabled: both your actions on the button and the possibly incoming MIDI messages are taken into account to update the button state.
- In Trigger, Gate, and Increment mode, you can choose which control mode you want to use via the **LED On** menu located in the **Assign** pane of the Inspector.



For more information on the button modes, **LED On** menu, and MIDI feedback mode, see [↑23.6.2, Assignments for Buttons](#).

Adjusting the LED Brightness

You can adjust the LED brightness for both On and Off button states in *File > Preferences > Controller > Traktor Kontrol S2 > LEDs* (see [↑23.2, The Preferences Window](#) for more information on the Preferences window).

19.3.2 LED Chains

The Mixer of the S2 provides two assignable LED chains that give you additional visual feedback on your target's parameters. The feedback provided by each LED chain depends on its assignment settings as defined in the [Assign](#) pane of the Inspector. See [↑23.6.11, Assignments for LED Chains and 7-segment Displays](#) for more information on the possible assignments.

20 Using Your TRAKTOR KONTROL S2 MK2

In this chapter, we will focus on what's happening on your TRAKTOR KONTROL S2 MK2. By reading this, you will learn:

- How to use the basic controls on your controller for switching your controller to/from MIDI mode.
- The list of all assignable control elements on your controller.
- How the various luminous elements give you some important information about their state.




To enjoy full functionality of your NI controller as a MIDI remote control, especially concerning some control elements' state and LED behavior, you need to tell your NI controller what is the current state of the parameter in the MIDI target. You can do this by setting up MIDI feedback channels coming from your MIDI target back to your NI controller. This way, your controller will always stay up-to-date with the current parameter values in your target software/hardware. For more information on how to configure these MIDI feedback channels, please refer to your target software/hardware's documentation.

20.1 Basic Controls

Here is how to switch between MIDI mode and TRAKTOR mode from your TRAKTOR KONTROL S2 MK2.



This can of course be done via the Controller Editor user interface — see chapter [↑3, Quick Start](#) for example. Nevertheless, using your NI controller instead can be very handy in a live situation!

Selection	Command
MIDI/TRAKTOR mode	SHIFT + SHIFT (on both Decks) 

When your S2 is in MIDI mode, both SHIFT buttons are dimly lit (meaning that MIDI mode is on).



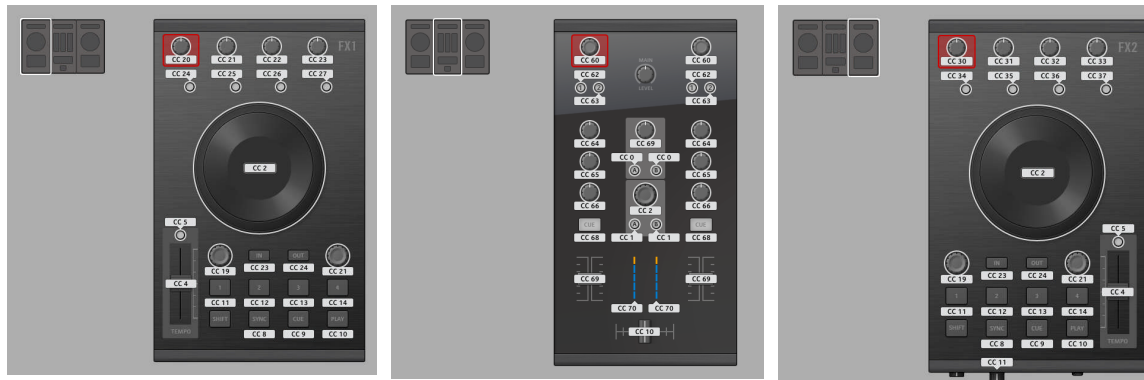
You cannot switch between Templates from the TRAKTOR KONTROL S2 MK2. To do this, you have to use the Controller Editor interface (see [↑3.2, Loading MIDI Assignments](#)).

Adjusting Settings for your Controller

You can adjust various settings for your TRAKTOR KONTROL S2 MK2 in *File > Preferences > Controller*. See [↑23.2.2, Controller Page](#) for more information.

20.2 Assignable Control Elements

If you selected the TRAKTOR KONTROL S2 MK2 in the Device menu from the Application Control Bar, depending on the part of the S2 MK2 that you selected in the S2 MK2 Overview (in the top left corner), this is what the Hardware area looks like:



The Hardware area representing the S2 MK2's left Deck, Mixer, and right Deck, respectively.

In this Hardware area, you will notice the red Selection Frame on the currently selected control element.



The names that you see on the device only refer to their original function in the TRAKTOR software.

On your TRAKTOR KONTROL S2 MK2, almost every control element is freely assignable to a MIDI event. The few exceptions are the following:

- The SHIFT buttons on the left and right Decks have a special function (switching between MIDI and TRAKTOR modes, see above).
- On the Mixer, the MAIN LEVEL knob, along with the Alert, USB, and Microphone indicators are excluded from the MIDI mapping scheme. This is also the case for the CUE VOL knob and the MIC ENGAGE button on the front panel. In other terms, you cannot assign MIDI events to any of these control elements.

Assignment Parameters

The following table summarizes where to find all assignment details for each type of control element on your controller:

Type of Control Element	Assignment Parameters
Buttons	↑23.6.2, Assignments for Buttons
Knobs	↑23.6.5, Assignments for Knobs and the Like
Faders and crossfader	↑23.6.5, Assignments for Knobs and the Like
Encoders – Push action	↑23.6.2, Assignments for Buttons
Encoders – Turn action	↑23.6.7, Assignments for Digital Encoders
LED chains	↑23.6.11, Assignments for LED Chains and 7-segment Displays

20.3 Visual Feedback on Your Controller

The fast bidirectional communication between your TRAKTOR KONTROL S2 MK2 and the Hardware Service on the software side allows status indications on your controller to be made in real time.

20.3.1 Buttons

On your TRAKTOR KONTROL S2 MK2, all buttons are equipped with LEDs that inform you about the assignment state of the button at any time. The LEDs below each control element can have three states: off, dimmed and bright. Their lighting behavior depends on the state of the control element.

The following table indicates you the possible states for the LEDs:

Button State	LED State
Not assigned	Off
Assigned – Off state	Dimmed
Assigned – On state	Bright



For buttons in Increment mode, the Off state corresponds to the zero value, while the On state corresponds to a value greater than zero.

Controlling the Button State

The state of each button can be controlled in two ways — internally via your actions on the button, or remotely via MIDI feedback:

- In Toggle mode, both controls are enabled: both your actions on the button and the possibly incoming MIDI messages are taken into account to update the button state.
- In Trigger, Gate, and Increment mode, you can choose which control mode you want to use via the **LED On** menu located in the **Assign** pane of the Inspector.



For more information on the button modes, **LED On** menu, and MIDI feedback mode, see [↑23.6.2, Assignments for Buttons](#).

Adjusting the LED Brightness

You can adjust the LED brightness for both On and Off button states in *File > Preferences > Controller > Traktor Kontrol S2 MK2 > LEDs* (see [↑23.2, The Preferences Window](#) for more information on the Preferences window).

20.3.2 LED Chains

The Mixer of the S2 provides two assignable LED chains that give you additional visual feedback on your target's parameters. The feedback provided by each LED chain depends on its assignment settings as defined in the [Assign](#) pane of the Inspector. See [↑23.6.11, Assignments for LED Chains and 7-segment Displays](#) for more information on the possible assignments.

21 Using Your KOMLETE KONTROL S-SERIES Keyboard

In this chapter, we will focus on what's happening on your KOMLETE KONTROL S-SERIES keyboard. By reading this, you will learn:

- How to use the basic controls on your keyboard for navigating through the MIDI mapping system.
- The list of all assignable control elements on your controller.
- How the various luminous elements and displays give you some important information about the assignments' state.






This chapter describes the MIDI assignments for the KOMLETE KONTROL S25, S49, and S61 all together — the only difference between them being the number of keys available.



To enjoy full functionality of your NI controller as a MIDI remote control, especially concerning some control elements' state and LED behavior, you need to tell your NI controller what is the current state of the parameter in the MIDI target. You can do this by setting up MIDI feedback channels coming from your MIDI target back to your NI controller. This way, your controller will always stay up-to-date with the current parameter values in your target software/hardware. For more information on how to configure these MIDI feedback channels, please refer to your target software/hardware's documentation.

21.1 Basic Controls

This section shows you the commands available on your KOMLETE KONTROL S-SERIES keyboard for basic tasks like switching between MIDI mode and KOMLETE KONTROL mode or selecting sets (Templates) of MIDI assignments.

Selection	Command	
MIDI / KOMLETE KONTROL mode	SHIFT + INSTANCE	
Templates	PRESET buttons	
Keybed range	OCT-/OCT+ buttons	



The name of the current Template is shown in the leftmost display. See section [↑21.4.1, Visual Feedback on the Displays](#) for more info.

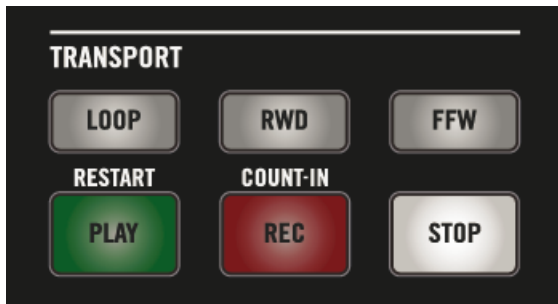


For more information on Templates, see [↑4.3, The Mapping System](#).

When your KOMLETE KONTROL S-SERIES keyboard is in MIDI mode, its PRESET buttons are both fully lit.

TRANSPORT Section: Controlling Your DAW

Whether your KOMLETE KONTROL S-SERIES keyboard is in MIDI mode or KOMLETE KONTROL mode, the buttons in the TRANSPORT section send MCU messages, allowing you to remotely control the transport functions of your favorite DAW.



The buttons in the TRANSPORT section on your keyboard.

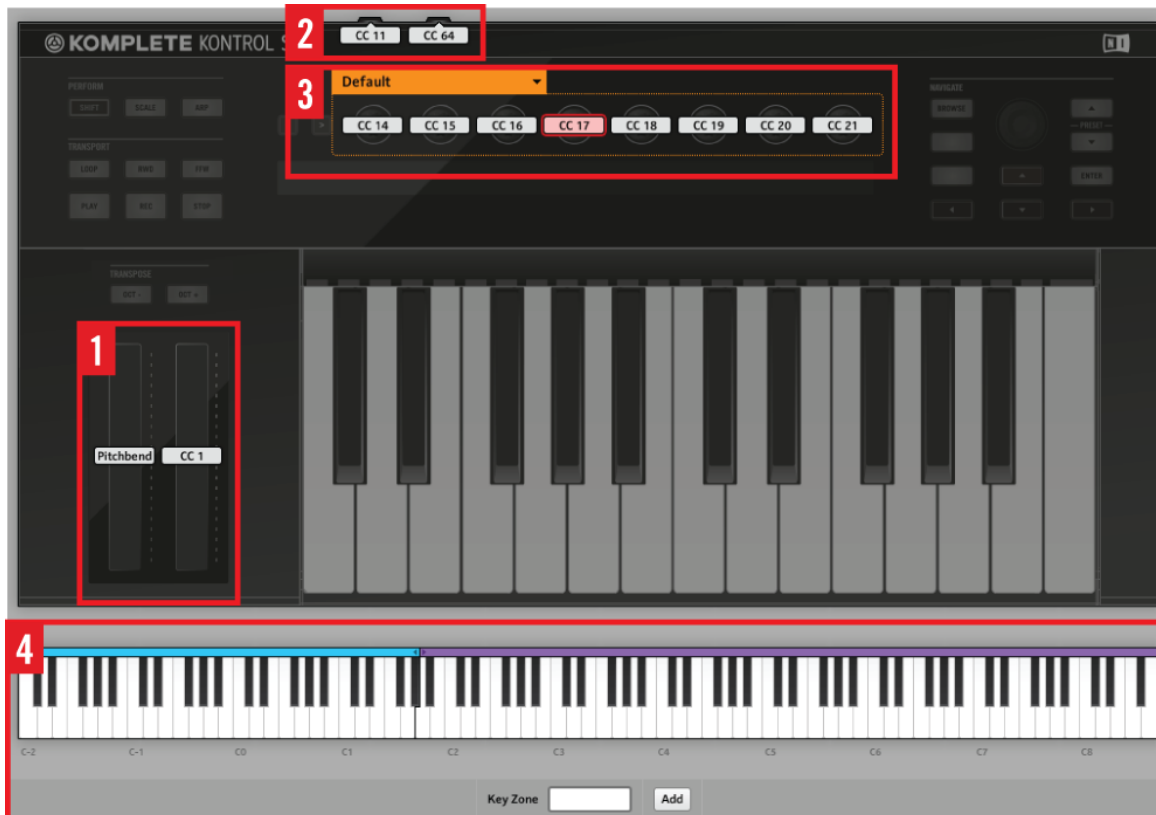
These MCU messages are sent on a virtual port of your keyboard labeled “Komplete Kontrol DAW.” For this to work, you have to configure your DAW so that it listens to control surface messages on this virtual port. To know how to do this, please refer to the documentation of your DAW.



The LEDs of these buttons are controlled by your DAW using the same MCU messages on the feedback channel — see section [↑21.4.4, Visual Feedback on the Buttons](#).

21.2 Assignable Control Elements

If you selected the KOMLETE KONTROL S-SERIES keyboard in the Device menu of the Application Control Bar, this is what the Hardware area looks like:



The Hardware area representing the KOMplete KONTROL S-SERIES keyboard.

In this Hardware area, you will notice the red Selection Frame on the currently selected control element (Knob 4 in the picture above).



The names that you see on the device only refer to their original function.

On the KOMplete KONTROL S-SERIES keyboard, the following control elements can be assigned to MIDI commands:

(1) Touch strips: Both touch strips can be assigned to MIDI messages.

(2) Pedal and footswitch inputs: Both the pedal (EXPRESSION) and stereo footswitch (SUSTAIN) inputs (on the rear panel of your keyboard) can be assigned to MIDI messages. Furthermore, the SUSTAIN input is a stereo input: You can assign messages to the tip and ring inputs independently.

(3) Knobs 1–8: The rotate action on the touch-sensitive Knobs 1–8 can be assigned to MIDI messages. Furthermore, the displays underneath show you the names and current values of the knobs' assignments — for more details, see section [↑21.4.1, Visual Feedback on the Displays](#).

(4) Keybed area: The keys of your keyboard are of course assignable as well. The Keybed area allows you to define various Key Zones with distinct MIDI assignments — this is described in detail in section [↑21.3, Defining Key Zones](#). Furthermore, your keys send MIDI Aftertouch data, as described below.

Assignment Parameters

The following table summarizes where to find all assignment details for each type of control element on your controller:

Type of Control Element	Assignment Parameters
Touch strips	↑23.6.10, Assignments for Touch Strips (KOMPLETE KONTROL S-SERIES)
EXPRESSION pedal input	↑23.6.5, Assignments for Knobs and the Like
SUSTAIN footswitch input (both Tip and Ring actions)	↑23.6.2, Assignments for Buttons
Knobs 1–8	↑23.6.8, Assignments for Analog Encoders
Keybed area	The keys of the keybed are organized into one or more Key Zones. See section ↑21.3, Defining Key Zones .

MIDI Aftertouch

In addition to being assignable to MIDI messages, the keys on your keyboard systematically send MIDI Aftertouch messages:

- Aftertouch messages are always sent, even if your keys are not assigned (Key Zone disabled, see section [↑21.3.2, Editing Key Zones](#)).
- Keys send monophonic Aftertouch, i.e. Channel Pressure messages. In other words, the Aftertouch value is applied to the whole keybed.

- If you have defined more than one Key Zone, the Aftertouch value will be sent on the MIDI channel specified for the first (i.e. leftmost) Key Zone.

21.3 Defining Key Zones

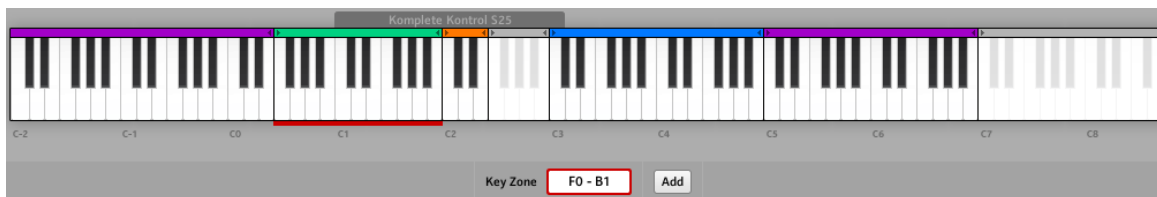
Obviously, the keys of your KOMPLETE KONTROL S-SERIES keyboard can be assigned to MIDI Note messages. The Controller Editor lets you manage the key assignments by using **Key Zones**. A Key Zone is a group of contiguous keys to which you can assign a particular range of MIDI notes. Key Zones are a flexible and handy tool that allows you to quickly set up advanced key mappings:

- You don't have to assign each key individually. Instead, assigning a key range to the Key Zone will automatically set the correct assignments to all included keys.
- Each Key Zone can have its own MIDI channel, transposition, velocity curve, and color setting. These will be applied to all included keys. You can also select multiple Key Zones and set common values to the desired parameter(s) for all selected Key Zones at once.
- Key Zones span the entire range of MIDI notes. You can have between 1 and 16 Key Zones. Key Zones cannot overlap (i.e. each key can only belong to one single Key Zone), and they cannot have gaps between them (i.e. each key must belong to a Key Zone). You can disable particular Key Zones: In this case their keys won't send any MIDI Note message (dead keys).

The following sections describe these features more in detail.

21.3.1 Overview of the Keybed Area

At the bottom of the Hardware area, the **Keybed area** allows you to define and manage your Key Zones over the full range of notes:



The Keybed area lets you easily create and modify your Key Zones.

The Keybed area shows a 128-key keybed along with a few additional elements:

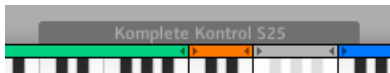
- Each existing Key Zone is shown with its color and borders on the keybed:



- The scale under the keybed indicates the beginning of each octave:



- The gray frame above the keybed indicates the current range of your KOMPLETE KONTROL S-SERIES keyboard:

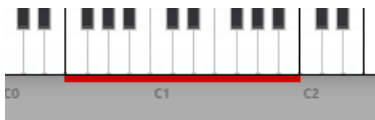


This frame depends on the model of the KOMPLETE KONTROL S-SERIES keyboard currently connected. If no keyboard is connected, the gray frame is not visible.



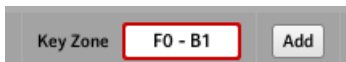
To reach any key from your KOMPLETE KONTROL S-SERIES keyboard, use the OCT- and OCT+ buttons: These shift by one octave (down or up) the key range that you can play from your keyboard.

- The thick red segment at the bottom of the keybed indicates the Key Zone(s) currently selected.



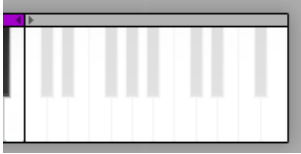
This red segment is called the **Selection Frame**.

- Under the keybed, the **Key Zone** field displays the name of the selected Key Zone:



By default, the Key Zone's label indicates the first and last key of the Zone (see picture above), but you can modify it to your liking by clicking the field, typing a new name and pressing [Enter] on your computer keyboard. The **Key Zone** field reads "..." if multiple Zones are selected.

- Disabled Key Zones (i.e. Key Zones not assigned to any MIDI message) are grayed out:



21.3.2 Editing Key Zones

To edit Key Zones, the Keybed area provides you with following tools.

Selecting Key Zones

As you hover the mouse over the keybed, the Key Zone under the mouse cursor is slightly highlighted to indicate that it will be selected as soon as you click.

- ▶ Click in the desired Key Zone on the keybed to select it.

You can also select multiple Key Zones to edit them at once. To do this, use the usual shortcut of your operating system:

- To select multiple, non-contiguous Key Zones, hold [Ctrl] on your computer keyboard ([Cmd] on Mac OS X) and click the desired Key Zones.
- To select multiple, contiguous Key Zones, hold [Shift] on your computer keyboard and click the first and the last Key Zones to be included. All Key Zones inbetween are included in your selection.

The selected Key Zone(s) are indicated by the red Selection Frame underneath. You can then adjust the assignment parameters for all selected Key Zones at once.



The assignment parameters for the selected Key Zone(s) are available in the [Assign](#) pane of the Inspector. These parameters are described in detail in section [↑23.6.3, Assignments for Key Zones](#).

Resizing Key Zones

- ▶ To resize a Key Zone, click its lower or upper border and drag your mouse horizontally.

When resizing Key Zones, please note the following:

- Clicking a border of a Key Zone cancels any previous selection.
- The lower border of the leftmost Key Zone as well as the upper border of the rightmost Key Zone are fixed and cannot be dragged.
- Since Key Zones cannot overlap, dragging the border of a Key Zone simultaneously resizes the neighboring Key Zone accordingly so that both Key Zones stay “in contact.”
- You cannot resize a Key Zone to less than one key — this is also true for the neighboring Key Zone that is simultaneously resized.

Adding or Deleting Key Zones

You can **add a new Key Zone** at the right end of the keyboard:

- ▶ To add a new Key Zone at the right of the existing Key Zones, click the [Add](#) button at the bottom of the Keybed area:



- The rightmost Key Zone is shrunk to half of its size and the remaining keys are included into a new Key Zone.

If the rightmost Key Zone is only one key wide, it is moved one key to the left and a new one-key-wide Key Zone is created at its right.



If you already have 16 Key Zones, the [Add](#) button is grayed out and disabled.

Alternatively you can **split any existing Key Zone** into two distinct Key Zones at the desired key:

- ▶ To split an existing Key Zone, hover your mouse within the Key Zone over the key at which you want to split it, right-click ([Ctrl]-click on Mac OS X) and select *Split key zone* in the context menu.
- The existing Key Zone is shrunk to the left of the key, and a new Key Zone is created starting from that key up to the next Key Zone.



If the Key Zone you clicked in is only one key wide, or if you already have 16 Key Zones, the *Split key zone* entry is not available in the context menu.

The other way around, you can **delete single or multiple Key Zones** as follows:

- ▶ To delete a Key Zone, left-click to select and then right-click ([Ctrl]-click on Mac OS X) and select *Delete key zone* in the context menu.
- The selected Key Zones are deleted and their keys are incorporated into the next Key Zone to the left.

If you delete the leftmost Key Zone, its keys are incorporated into the next Key Zone to its right.



If you only have one Key Zone set up, the *Delete key zone* entry is not available in the context menu.

Enabling/Disabling a Key Zone

Disabling a Key Zone removes the assignments for all included keys: These keys won't trigger any MIDI message anymore. For example, this can be useful to avoid triggering unwanted MIDI messages by mistake as you play keys in the neighboring Key Zones — or simply to have a clean, better organized keybed.

- ▶ To disable a single or multiple Key Zones, left-click to select and then right-click ([Ctrl]-click it on Mac OS X) and select *Disable key zone* in the context menu.
- The disabled Key Zones are grayed out in the Keybed area and their assignments are removed: In the [Assign](#) pane of the Inspector, [Type](#) is set to *Off*. If the Key Zones had the default label, they are renamed to *Off*.



On the Light Guide of your KOMPLETE KONTROL S-SERIES keyboard, a disabled Key Zone will be indicated by unlit LEDs for the corresponding keys. For more info on the Light Guide behavior in MIDI mode, see section [↑21.4.2, Visual Feedback on the Light Guide](#).

You can re-enable a Key Zone at any time:

- ▶ To enable a Key Zone, right-click it ([Ctrl]-click it on Mac OS X) and select *Enable key zone* in the context menu.
- The Key Zone is re-enabled. Its previous assignment settings and label are recalled.

Adjusting the MIDI Assignments for the Selected Key Zone(s)

The assignment parameters for the selected Key Zone(s) are available in the [Assign](#) pane of the Inspector. For a detailed description of these parameters, please refer to section [↑23.6.3, Assignments for Key Zones](#).

21.4 Visual Feedback on Your Keyboard

The fast bidirectional communication between your KOMPLETE KONTROL S-SERIES keyboard and the Hardware Service on the software side allows status indications on your keyboard to be made in real time.

Your KOMPLETE KONTROL S-SERIES keyboard provides you visual feedback in various ways:

- The displays show you the name of the current Template along with the assignment names and values for Knobs 1–8 above them.
- The Light Guide (above the keys) mirrors for each key the color of the Key Zone it belongs to and indicates which keys are played.
- The touch strips include LED chains that inform you about their assignment value.
- The buttons in the TRANSPORT section, although not assignable to any MIDI message, keep you informed about their state in the target DAW.

Each of these is described more in detail in the following sections.

21.4.1 Visual Feedback on the Displays

The nine displays on your keyboard provide following information:

- **Display 1** (leftmost display) shows the name of the loaded Template.
- **Display 2–9** (below Knobs 1–8) show the name (label) of the assignment for the Knob above. When you touch a Knob, its associated display shows the current value of that assignment for a few moments, before turning back to the assignment name. Additionally, a little bar at the top of each display provides an overview of the current value for each Knob. If a Knob is not assigned, the display underneath is off.

Depending on the assignment properties for each of the Knobs, the bar at the top of each display can either fill from left to right (unipolar) or from the middle position (bipolar) — this second setting can be useful for some types of controls (e.g. a stereo balance). This only affects the value/bar shown on the displays—the real MIDI values will be in the range defined in the Inspector’s [Assign](#) pane anyway. Please refer to section [↑23.6.8, Assignments for Analog Encoders](#) for more information on this.

21.4.2 Visual Feedback on the Light Guide

Right above the keys of your KOMPLETE KONTROL S-SERIES keyboard, the LEDs of the Light Guide provide a useful and intuitive feedback on the current assignments for your keys. Each LED describes the current state of the key below:

- If the key is disabled (i.e. controlling a key of a disabled Key Zone), its LED is off.
- If the key is enabled (i.e. controlling a key of an enabled Key Zone), its LED takes the color of the Key Zone:
 - When the key is unpressed its LED is dim lit.
 - When the key is pressed its LED is fully lit.

Note that the assignments for your keys change as you shift your keyboard up or down along the entire keyboard via the OCT-/OCT+ buttons—the Light Guide instantly follows these changes and keeps you informed on the new MIDI notes triggered by your keys.

21.4.3 Visual Feedback on the Touch Strips

Each touch strip is equipped with a two-colored (blue and white) LED chain that shows the position of the current value on the scale at any time (this position can also change over time, i.e. it shows a movement). The lighting behavior of these LEDs will define how the MIDI assignment is displayed on the touch strip. It varies with the mode selected for the touch strip in the [Mode](#) menu of the Inspector’s [Assign](#) pane, as described below.

Standard, Spring, and Ball Mode

In these modes a [LED Mode](#) menu at the bottom of the [Assign](#) pane allows you to select between two ways of displaying the value:

- *Dot*: The blue LED indicates the current value. White LEDs are disabled.

- *Bar*: The blue LED indicates the current value. Additionally, white LEDs fill the distance between the current value (in blue) and the zero.

The position of the zero itself varies with the selected mode:

- In Spring mode, the zero is in the middle of the range.
- In Ball mode, the zero is at the bottom of the range.
- In Standard mode, you can choose the position of the zero via the [Display](#) menu: By selecting *Unipolar* you place the zero at the bottom of the range; by selecting *Bipolar* you place it in the middle of the range.



The position of the zero only affects the way the MIDI value is *displayed*—it doesn't change the actual range of the MIDI value. For the Modulation/CC1 touch strip, range is defined by the [Range From](#) and [Range To](#) parameters in the [Assign](#) pane of the Inspector.

Stepped Mode

In Stepped mode the range of values is split into equally-sized sections. On your touch strip, white LEDs indicate the borders of the sections, while blue LEDs fill the section containing the current value.

The various modes of the touch strip not only affect the LED behavior but also the MIDI values actually sent. You will find all details on this in section [↑23.6.10, Assignments for Touch Strips \(KOMLETE KONTROL S-SERIES\)](#).

21.4.4 Visual Feedback on the Buttons

The LEDs below each button used in MIDI mode can have two states: dimmed and bright, indicating the Off and On state of the button, respectively.

LED State	Button State
Dimmed	Off
Bright	On

On your KOMLETE KONTROL S-SERIES keyboard, the following buttons are affected:

- **TRANSCOPE buttons** (OCT- and OCT+): By default your keyboard controls the octaves located in the middle of the entire keyboard, and the OCT- and OCT+ buttons are in Off state (dimmed). If the range currently controlled by your keyboard is above the default (middle)

key range, the OCT+ button turns on (fully lit); if it is below the default (middle) key range, the OCT- button turns on (fully lit). This way, the OCT- and OCT+ buttons provide a rough indication of the range currently controlled by your keys.

- **PRESET buttons:** In MIDI mode the PRESET buttons (which allow you to switch to the previous/next Template) are always on, that is, fully lit.
- **TRANSPORT section:** The LED states of the buttons in the TRANSPORT section are set by MCU messages received by your keyboard on the “Complete Kontrol DAW” virtual port—the same port used by your keyboard to send the transport commands to your DAW (see section [↑21.1, Basic Controls](#)). These feedback messages must be sent by your DAW in order to update the LED states on your keyboard. To know how to configure your DAW so that it sends these MCU messages back to your keyboard, please refer to the documentation of your DAW.



You can adjust the brightness of the buttons' On and Off states in the [Controller](#) page of the Preferences window. For more information, see section [↑23.2.2, Controller Page](#).

21.5 Using Two or More KOMPLETE KONTROL S-SERIES Units

You can use up to four KOMPLETE KONTROL S-SERIES units simultaneously. This allows you to further extend the number of parameters you can control in your target(s). For more information on how to set up more than one KOMPLETE KONTROL S-SERIES for use with the same computer, please refer to chapter [↑22, Using Two or More Units of the Same Type](#).

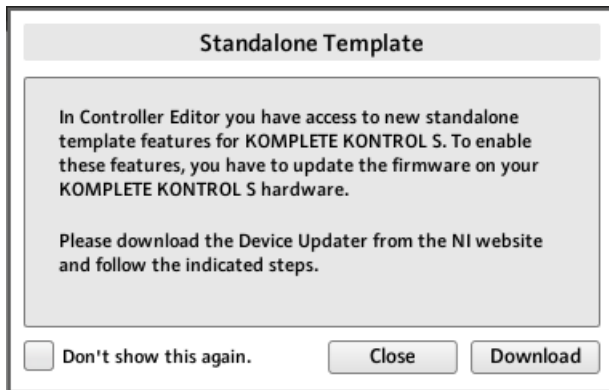
21.6 Stand-alone Operation

In addition to working in a computer-based music production environment, your KOMPLETE KONTROL S-SERIES keyboard can also be used as a regular MIDI keyboard and controller without a computer attached.

Important: Update the Controller Firmware to the Latest Version!

Stand-alone functionality was introduced in Controller Editor 1.8.0, and requires your KOMPLETE KONTROL S-SERIES keyboard's firmware to be version 52 or greater.

If Controller Editor is running, and you connect a KOMLETE KONTROL S-SERIES keyboard that has a firmware version lower than 52, a warning message pops up indicating how to update the firmware of your keyboard:



The warning message helps you update your controller's firmware.

If this message appears when you connect your KOMLETE KONTROL S-SERIES keyboard, do the following to update the keyboard firmware:

1. Click the [Download](#) button at the bottom of the message. This will automatically start your favorite internet browser and open a page of the Native Instruments website providing a link to the Device Updater application.
2. Click the link to download the archive containing the Device Updater application to your computer.
3. Once the archive has been downloaded, extract it to the desired folder.
4. In the Explorer (Windows) or Finder (OS X), navigate to the extracted folder and open it.
5. Within that folder, double-click the "DeviceUpdater.exe" file (Windows) or the "DeviceUpdater" file (OS X). The Device Updater starts up.
6. Follow the on-screen instructions to complete the firmware update.

In this manual we assume that the firmware of your KOMLETE KONTROL S-SERIES keyboard is version 52 or greater.



If your computer is not currently connected to the internet, click the [Close](#) button in the warning message: You will be able to use Controller Editor but the stand-alone feature of your KOMPLETE KONTROL S-SERIES keyboard won't be available. You can download the Device Updater at a later point by opening the page at <http://www.native-instruments.com/en/support/downloads/> in your internet browser, clicking the [Drivers and other files](#) link, scrolling to the [KOMPLETE KONTROL](#) section and choosing the Device Updater for your operating system.

Activating Stand-alone Operation

In order to use your KOMPLETE KONTROL S-SERIES keyboard in stand-alone mode, disconnect the USB cable from the device. After a brief moment, the default Template is loaded, and stand-alone mode is active.

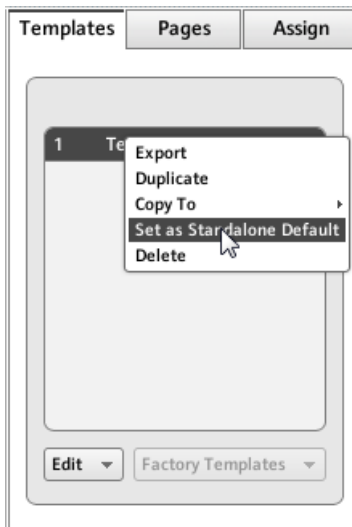
- By default, KOMPLETE KONTROL S-SERIES keyboards send notes to the 5-pin MIDI OUT port on MIDI channel 1.
- MIDI data can be received via the MIDI IN port.
- Templates cannot be switched.

Changing MIDI Channel and Controller Numbers

When switching to stand-alone operation, the KOMPLETE KONTROL S-SERIES keyboard loads the assignments made in the Default Template set up in Controller Editor.

You can change any assignments in the default **'Template 1'** in the [Templates](#) pane of the Inspector. Then, while the KOMPLETE KONTROL S-SERIES keyboard is connected:

- ▶ Right-click the *Template 1* entry (Ctrl-click on Mac OS X).
- ▶ In the context menu which opens, select *Set as Standalone Default*.



Setting a new Standalone Default Template.

- ▶ In the dialog window that opens, confirm that you want to overwrite the current Stand-alone Default Template.
- ▶ Disconnect the KOMLETE KONTROL S-SERIES keyboard from your computer.
- Your updated Standalone Default Template is loaded.



By creating additional Templates, you can switch between different stand-alone configurations. KOMLETE KONTROL S-SERIES keyboards can only load one stand-alone Template at a time, though.

22 Using Two or More Units of the Same Type

For some NI controllers, the Controller Editor allows you to connect more than one device to the same computer and use them simultaneously for controlling various MIDI targets. This can be useful if you wish to control virtual decks of a DJ software or any other application requiring an instant access to many parameters.

The affected NI controllers are listed in the following table:

NI Controller	Maximum Number of Devices Used Simultaneously
TRAKTOR KONTROL X1	4
TRAKTOR KONTROL X1 MK2	4
TRAKTOR KONTROL F1	4
KOMPLETE KONTROL S-SERIES	4

Using the Controller Editor, you can create and manage individual Templates, Pages and assignments for each unit. For better distinction of multiple devices, it is necessary to assign a specific name to each device by choosing from a list of four predefined names (e.g., Traktor Kontrol X1 - 1 .. Traktor Kontrol X1 - 4).

By default, all devices have the same name. Therefore you will need to change the names of all devices except one as soon as you want to use two or more devices simultaneously.



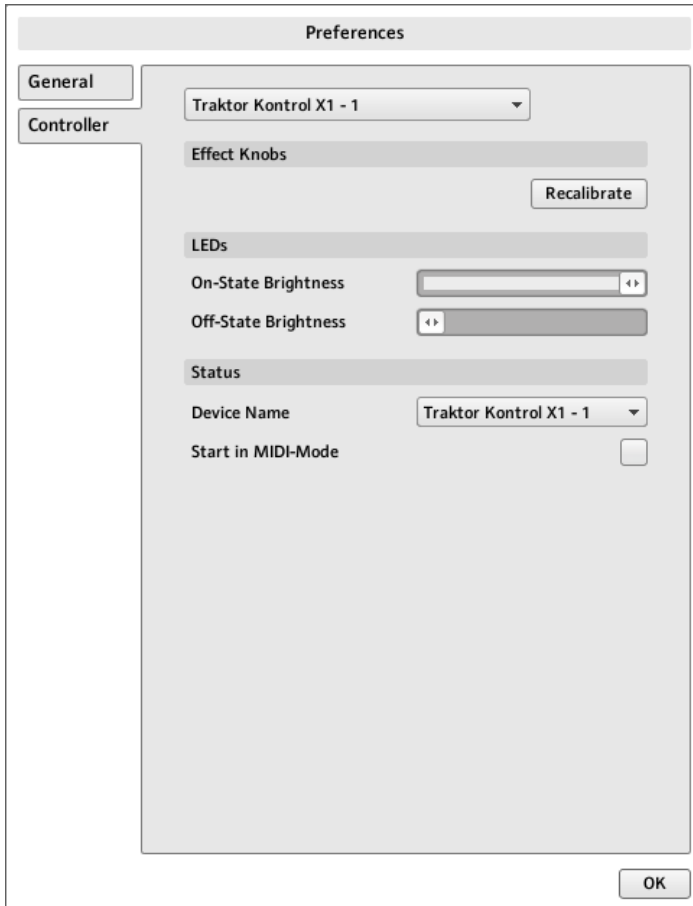
In the following sections, we will use the TRAKTOR KONTROL X1 as example. All instructions also apply to the other controllers in the table above.

22.1 Renaming the Units

We assume here that only one TRAKTOR KONTROL X1 unit is currently connected to your computer. We will rename this unit before connecting an additional one. To rename the connected unit, proceed as follows:

1. If the Controller Editor is not currently open, start it.
2. In the **File** menu, select *Preferences...*
This opens the Preferences window.

3. Click the **Controller** tab on the left to open the **Controller** page.
4. In this page, check that the Controller menu at the very top reads *Traktor Kontrol X1 - 1*. If not, click this menu and select *Traktor Kontrol X1 - 1* in the list. The **Controller** page now displays the settings for the connected TRAKTOR KONTROL X1:



The Controller page of the Preferences window showing the settings for the connected TRAKTOR KONTROL X1.

At the bottom of the page, the **Device Name** menu reads the current name assigned to your TRAKTOR KONTROL X1. By default, you see the name *Traktor Kontrol X1 - 1*.

1. Click the Device Name menu and select another name from the available entries (for example Traktor Kontrol X1 - 2). Upon your selection, a dialog warns you that you changed the device name:



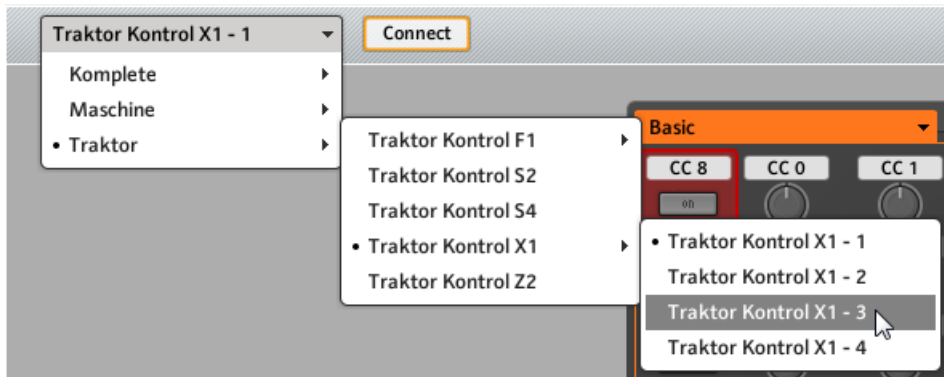
2. Follow the instructions in the warning dialog: unplug the unit, then reconnect it. The warning dialog disappears.
 3. Click [OK](#) at the bottom right corner of the Preferences window to close it.
 4. Connect the second TRAKTOR KONTROL X1 to your computer.
- You now have your two TRAKTOR KONTROL X1 devices connected to your computer. You can switch both to MIDI mode and use them simultaneously as MIDI remote controls.

As you can see, the second TRAKTOR KONTROL X1 still has its factory name. We only changed the name of the first TRAKTOR KONTROL X1.

To connect further X1 devices to your computer, please repeat the steps described above (you can use up to four X1 devices simultaneously).

22.2 Accessing Templates and Pages of a Particular Unit

To see or edit the Templates, Pages and assignments of any TRAKTOR KONTROL X1 device, select its name in the Device menu of the Application Control Bar:



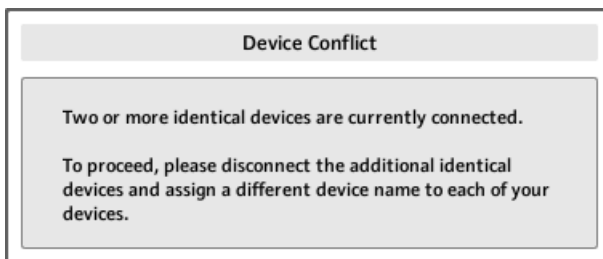
The Device menu.



You can change the name of your Controllers in the Controller Editor, provided that the relevant units are connected. If a unit is not connected to your computer, the settings in the [Controller](#) page of the Preferences window for that unit are grayed out and inactive.

22.3 Resolving Device Conflicts

If you connect an additional TRAKTOR KONTROL X1 with the same name as one of the already connected unit(s), a warning dialog will inform you about the device (name) conflict:



This message will appear if you connect at least two TRAKTOR KONTROL X1 without having renamed your devices beforehand.

Please follow the instructions in the dialog: unplug the additional device, rename the original devices as described above and then connect the new unit again.

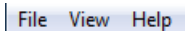
When selecting a name that is already occupied by another TRAKTOR KONTROL X1 unit, Controller Editor asks to swap the device name between the device you want to rename and the one that is currently assigned to the selected name. Should the selected name be used by a device that is currently not connected or the name is not used by another device at all, the chosen name is assigned to the selected controller. If a device name is currently in use, i.e. the device is connected, this is reflected by a leading dot (•) in front of the device name for visual distinction. To rename a controller, repeat the actions described above.

23 Reference

This chapter systematically describes all the user interface elements of the Controller Editor. The Controller Editor is the “control tower” of your NI controller’s remote control system. It stores the links between hardware actions (what you do on your NI controller) and MIDI events (what you want to achieve within a specific piece of MIDI-capable software or hardware).

23.1 The Application Menu Bar

The Controller Editor menu bar contains three menus: the [File](#) menu, the [View](#) menu and the [Help](#) menu.



The Application Menu Bar, with its three menus (Windows depicted).

23.1.1 File Menu

The [File](#) menu allows you to manage the Configuration files, to tweak the overall behavior of the application, and to quit the Controller Editor. The menu contains the following entries:

- **Open Configuration:** Opens a dialog allowing you to select the Configuration file you want to load. The Configuration file contains all data sets used by the Controller Editor. For one NI controller, the data set contains the list of all Templates, all data in the Templates in the list, and the index of the currently selected Template — to sum up, the Configuration file contains everything you can store for use with the Controller Editor. To load a Configuration file, select *Open Configuration* from the [File](#) menu, navigate to the desired Configuration file in the dialog that appears, and double-click it (or click it, then click [Open](#)). It will replace the current configuration.
- **Save Configuration...:** Opens a dialog allowing you to save the current Configuration file under another name. In the dialog, type the desired name for the new Configuration file, then click [Save](#).



You can also use the *Save Configuration...* command as a backup function: Save your Configuration file somewhere else (hard drive, USB key...), and you will be able to load it again.



There is no *Save* entry in the **File** menu. The Controller Editor will remember the current configuration the next time you open the software. Be aware that loading another Configuration file will overwrite the current configuration!

- **Open Template...**: Opens a dialog allowing you to select a Template file for loading for the currently selected NI controller. The Template will be appended to the Template list in the Inspector. See [↑23.5.1, Templates Pane](#) for more information on the Template list and the Template Edit menu.
- **Preferences...**: Opens the Preferences window. This window allows you to tune some global parameters of the Controller Editor. See [↑23.2, The Preferences Window](#) for a description of the available parameters.
- **Exit**: Quits the Controller Editor application. Note that all assignments stay active thanks to the NI Hardware Service running in background.

23.1.2 View Menu

The **View** menu controls the layout of the Controller Editor interface. This menu contains two entries:

- **Toggle Labels**: Hides/shows the assignment labels in the Hardware area. This command is equivalent to the [Show all labels](#) check box in the top right of the Hardware area.
- **Select Device**: This submenu lists all NI controllers currently activated as MIDI remote controls. By selecting an entry in this submenu, you choose the NI controller from which you want to see/modify the MIDI assignments. The Hardware area along with all Templates / Pages / assignments are updated accordingly. You can also select an NI controller via the Device menu located on the left in the Application Control Bar (see section [↑23.3.1, Device Menu](#)).

23.1.3 Help Menu

The **Help** menu gives you access to information that might help you in the use of the Controller Editor. The menu contains five entries:

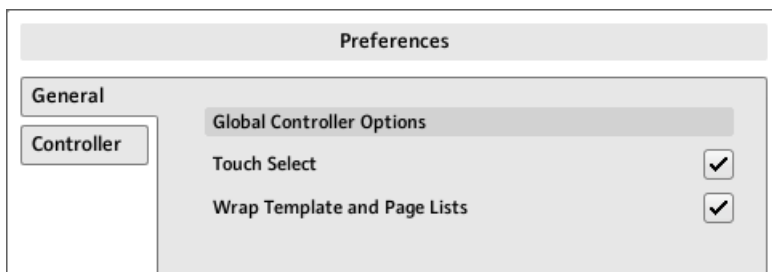
- **Open Manual...:** Opens the PDF version of this manual, located in the Controller Editor installation folder.
- **Open Template Documentation...:** Opens the PDF documentation which explains you how to use predefined factory Templates for use with specific Native Instruments and Third Party products.
- **Launch Service Center...:** Launches the NI Service Center. The NI Service Center helps you to activate your Native Instruments product (if activation is required) and afterwards lets you access product updates. Find more information about the NI Service Center in the separate Quick Start Guide, located in the Service Center installation folder.
- **Visit the Knowledge Base...:** Opens the Knowledge Base on the Native Instruments website in your web browser. This web page provides you with useful information about NI products, among them the Controller Editor.
- **Visit Native Instruments on the web...:** Opens the Native Instruments home page in your web browser.
- **About...:** Opens the About screen (like clicking the Native Instruments logo). This dialog contains valuable information about the software such as its version number.

23.2 The Preferences Window

The Preferences window holds parameters for the Controller Editor and for the various NI controllers.

- ▶ To open the Preferences window, click the **File** menu in the Application Menu Bar and select *Preferences...*

The Preferences window contains two pages, the **General** page and the **Controller** page, displayed by clicking the corresponding tabs:



The Preferences window and its General and Controller tabs on the left (General page displayed).

23.2.1 General Page

The [General](#) page offers two options:

- **Touch Select:** If this option is activated, you can select the desired control element directly from your NI controller, the selection of any control element becoming more intuitive. This can be useful to quickly assign the control elements: you don't need to move your mouse back and forth repeatedly between the Hardware area (where you select control elements) and the Inspector's [Assign](#) pane (where you can see or modify the corresponding assignments) — instead, as soon as you actuate the desired control element on your NI controller, it is automatically selected in the Controller Editor (the red Selection Frame focuses on it) and its assignment is automatically shown in the [Assign](#) pane of the Inspector. You can now focus on this [Assign](#) pane on your computer screen, making all selections from your hardware. This can be for example a very efficient way to work on large series of assignments. Moreover, this ensures you that you're really dealing with the control element you plan to use for that particular task.



For devices split into different sections in the Hardware area (and providing an Overview to select a particular section for displaying), the [Touch Select](#) option only works in the section currently displayed in the Hardware area.



For control elements allowing multiple actions (e.g., Push and Turn), the [Touch Select](#) option even allows to select the tab in the [Assign](#) pane corresponding to the particular action (e.g., turning) you apply to the control element.



KOMPLETTE KONTROL S-SERIES: The [Touch Select](#) option has no effect on the KOMPLETTE KONTROL S-SERIES devices.

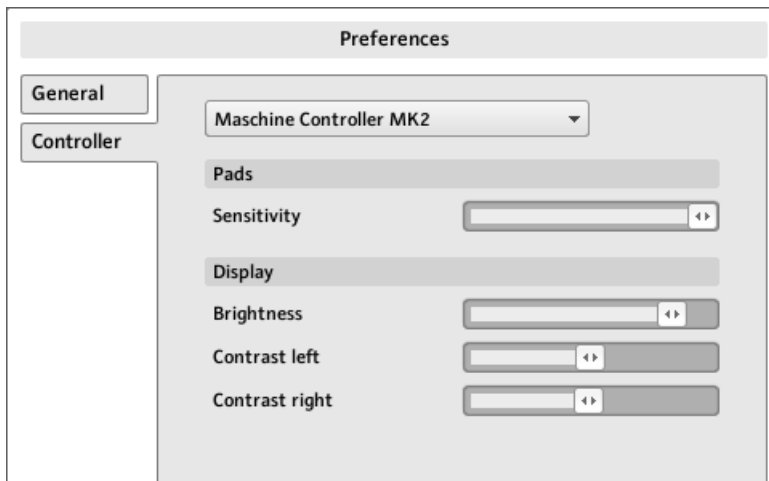
- **Wrap Template and Page Lists:** If activated, the selection jumps to the other end of the Template or Page list whenever you press the Up (or Down) arrow key on your computer keyboard or the corresponding shortcuts on your controller while the first (or last) entry is selected in the list — in other terms, you “loop” the lists by joining both ends.



MASCHINE controller families: This is also true when using your controller’s shortcuts for selecting Templates and (Knob) Pages. Note however that the [Wrap Template and Page Lists](#) option does not affect the lists appearing in the corresponding display modes of your controller.

23.2.2 Controller Page

The [Controller](#) page of the Preferences window allows you to adjust the settings for your various NI controllers:



The [Controller](#) page of the Preferences window, here showing the settings for the MASCHINE MK2 controller.

1. Click the Controller menu at the top. This menu lists all NI controllers installed on your computer.
 2. In the drop-down list, select the NI controller whose parameters you want to adjust.
- Upon your selection, the rest of the [Controller](#) page displays the available settings for that particular NI controller.

Settings for the MASCHINE and MASCHINE MK2 Controllers

For the MASCHINE and MASCHINE MK2 controllers, the settings are exactly the same as those available on the displays of your controller in Settings display mode. As a reminder, these settings are the following:

Section/control	Description
Pads Section	
Sensitivity slider	Changes the sensitivity of the pads.
Display Section	
Brightness slider	Changes the backlight of the displays.
Contrast left slider	Sets the contrast for the left display.
Contrast right slider	Sets the contrast for the right display.

Settings for the MASCHINE MIKRO and MASCHINE MIKRO MK2 Controllers

For the MASCHINE MIKRO and MASCHINE MIKRO MK2 controllers, the settings are exactly the same as those available on the display of your controller in Setup display mode. As a reminder, these settings are the following:

Section/control	Description
Pads Section	
Sensitivity slider	Changes the sensitivity of the pads.
Display Section	
Brightness slider	Adjusts the brightness of the display.
Contrast slider	Adjusts the contrast of the display.

Settings for the MASCHINE STUDIO Controller

For the MASCHINE STUDIO controller, the [Controller](#) page offers following settings:

Section/control	Description
Pads Section	
Sensitivity slider	Changes the sensitivity of the pads.

Section/control	Description
Touch Sensitivity Section	
Knobs slider	Adjusts the touch sensitivity of Knobs 1–8. The values range from 1 to 8. At low sensitivity values (slider to the left), you will need to apply a stronger pressure on Knobs 1–8 to send the MIDI message. At high sensitivity values (slider to the right), a softer pressure on the knobs will already send the MIDI message. The current sensitivity value is indicated by the number left of the slider. Additionally, this number provides a visual feedback that helps you quickly find the sensitivity that best fits your needs — see below for more info.
Display Section	
Brightness slider	Changes the backlight of the displays.



All these settings can also be adjusted on your MASCHINE STUDIO controller: the pad sensitivity and the knobs' touch sensitivity are found in the Settings display mode and the brightness setting is found in the Calibration display mode (see sections [19.4.2, Settings Display Mode](#) and [19.4.3, Calibration Display Mode](#), respectively).

To adjust the touch sensitivity of Knobs 1–8, use the sensitivity value displayed left of the slider as follows:



On the left, your touch is not detected; on the right, it is detected!

1. While looking at this sensitivity value, touch any Knob 1–8 under the controller displays. As soon as your pressure on the Knob is detected, the number turns red.
2. Apply various pressures on the Knob and readjust the slider accordingly until you are satisfied with the sensitivity.



For example, you could set the sensitivity high enough to avoid that slight, unwanted touches on the Knobs disturb your workflow, but still low enough to give the touch features a “natural” feel — the best setting will depend on your fingers and needs!

Settings for the TRAKTOR KONTROL X1 and X1 MK2 (1–4)

For the TRAKTOR KONTROL X1, the [Controller](#) page offers following settings:

Effect Knobs Section	Description
Recalibrate button	Allows you to recalibrate the eight Effect Knobs (the Knobs arranged on two columns at the top of your TRAKTOR KONTROL X1), in order to correct potential inaccuracies of both center position and range of the Knobs. To start the calibration process, click Recalibrate . The process consists of three steps, which ask you to turn the Knobs fully to the left, fully to the right and to the center position.



The device is pre-calibrated in the factory. Executing the calibration procedure is only necessary if you notice that some controls do not read the correct values.

LEDs Section	Description
On-State Brightness slider	Sets the brightness for the On state of the buttons on your Controller.
Off-State Brightness slider	Sets the brightness for the Off state of the buttons on your Controller.

Status Section	Description
Device Name menu	Allows to select a different name for the connected TRAKTOR KONTROL X1 Controllers. This is useful when using more than one X1 unit simultaneously. See chapter ↑21, Using Your KOMPLETE KONTROL S-SERIES Keyboard for more information.
Start in MIDI-Mode check box	If this check box is activated, your controller switches to MIDI mode as soon as you start your computer, so you don't have to switch it manually.

Settings for the TRAKTOR KONTROL F1 (1–4)

For the TRAKTOR KONTROL F1, the [Controller](#) page offers following settings:

Knobs Section	Description
Recalibrate button	Allows you to recalibrate the four FILTER knobs at the top of the F1. To start the calibration process, click Recalibrate . The process consists of three steps, which ask you to turn the knobs fully to the left, fully to the right and to the center position.



The device is pre-calibrated in the factory. Executing the calibration procedure is only necessary if you notice that some controls do not read the correct values.

Faders Section	Description
Recalibrate button	Allows you to recalibrate the vertical faders. Click Recalibrate to start the calibration process, then follow the on-screen instructions.

LEDs Section	Description
On-State Brightness slider	Sets the brightness for the On state of the buttons on your Controller.
Off-State Brightness slider	Sets the brightness for the Off state of the buttons on your Controller.

Status Section	Description
Device Name menu	Allows to select a different name for the connected TRAKTOR KONTROL F1 Controllers. This is useful when using more than one F1 unit simultaneously. See chapter ↑21, Using Your KOMPLETTE KONTROL S-SERIES Keyboard for more information.
Start in MIDI-Mode check box	If this check box is activated, your controller switches to MIDI mode as soon as you start your computer, so you don't have to switch it manually.

Settings for the TRAKTOR KONTROL S2, S2 MK2, S4, S4 MK2

For the TRAKTOR KONTROL S2/S4, the [Controller](#) page offers following settings:

Knobs Section	Description
FX Recalibrate button	Allows you to recalibrate the FX knobs. Click Recalibrate to start the calibration process, then follow the on-screen instructions.
EQs & Filters Recalibrate button	Allows you to recalibrate the EQ and FILTER knobs. Click Recalibrate to start the calibration process, then follow the on-screen instructions.

Faders Section	Description
Vertical Faders Recalibrate button	Allows you to recalibrate the vertical faders. Click Recalibrate to start the calibration process, then follow the on-screen instructions.
Crossfader Recalibrate button	Allows you to recalibrate the crossfader. Click Recalibrate to start the calibration process, then follow the on-screen instructions.

LEDs Section	Description
On-State Brightness slider	Sets the brightness for the On state of the buttons on your Controller.
Off-State Brightness slider	Sets the brightness for the Off state of the buttons on your Controller.

Footswitch Section (S4/S4 MK2 only)	Description
Active menu	Select here the type of wiring used by the footswitch currently connected to the FOOTSWITCH socket. You can choose between active ring (<i>Ring</i>) and active tip (<i>Tip</i>) wiring.

Status Section	Description
Start in MIDI-Mode check box	If this check box is activated, your controller switches to MIDI mode as soon as you start your computer, so you don't have to switch it manually.

Settings for the TRAKTOR KONTROL S8

For the TRAKTOR KONTROL S8, the [Controller](#) page offers following settings:

Knobs Section	Description
FX Recalibrate button	Allows you to recalibrate the FX knobs. Click Recalibrate to start the calibration process, then follow the on-screen instructions.
EQs & Filters Recalibrate button	Allows you to recalibrate the EQ and FILTER knobs. Click Recalibrate to start the calibration process, then follow the on-screen instructions.

Faders Section	Description
Short Faders Recalibrate button	Allows you to recalibrate the Slot Volume faders. Click Recalibrate to start the calibration process, then follow the on-screen instructions.
Channel Faders Recalibrate button	Allows you to recalibrate the channel faders. Click Recalibrate to start the calibration process, then follow the on-screen instructions.
Crossfader Recalibrate button	Allows you to recalibrate the crossfader. Click Recalibrate to start the calibration process, then follow the on-screen instructions.



The device is pre-calibrated in the factory. Executing the calibration procedure is only necessary if you notice that some controls do not read the correct values.

Display Section	Description
Brightness slider	Adjusts the brightness of the displays.



You can also adjust the brightness of the displays directly from your S8 by entering Settings display mode. For more details, see section [↑16.4.2, Adjust Color And Brightness](#).

LEDs Section	Description
On-State Brightness slider	Sets the brightness for the On state of the buttons on your Controller.
Off-State Brightness slider	Sets the brightness for the Off state of the buttons on your Controller.

Status Section	Description
Start in MIDI-Mode check box	If this check box is activated, your controller switches to MIDI mode as soon as you start your computer, so you don't have to switch it manually.

Settings for the TRAKTOR KONTROL D2

For the TRAKTOR KONTROL D2, the [Controller](#) page offers following settings:

Knobs Section	Description
Recalibrate button	Allows you to recalibrate the four knobs of the D2. To start the calibration process, click Recalibrate . The process consists of three steps, which ask you to turn the knobs fully to the left, fully to the right and to the center position.

Faders Section	Description
Recalibrate button	Allows you to recalibrate the four faders of the D2. To start the calibration process, click Recalibrate . The process consists of three steps, which ask you to turn the knobs fully to the left, fully to the right and to the center position.



The device is pre-calibrated in the factory. Executing the calibration procedure is only necessary if you notice that some controls do not read the correct values.

Display Section	Description
Brightness slider	Adjusts the brightness of the displays.



You can also adjust the brightness of the display directly from your D2 by entering Settings display mode. For more details, see section [↑15.4.2, Adjust Color And Brightness](#).

LEDs Section	Description
On-State Brightness slider	Sets the brightness for the On state of the buttons on your Controller.
Off-State Brightness slider	Sets the brightness for the Off state of the buttons on your Controller.

Status Section	Description
Start in MIDI-Mode check box	If this check box is activated, your controller switches to MIDI mode as soon as you start your computer, so you don't have to switch it manually.

Settings for the TRAKTOR KONTROL Z1

For the TRAKTOR KONTROL Z1, the [Controller](#) page offers following settings:

Knobs Section	Description
Recalibrate button	Allows you to recalibrate all knobs. Click Recalibrate to start the calibration process, then follow the on-screen instructions.

Faders Section	Description
Vertical Faders Recalibrate button	Allows you to recalibrate the vertical faders. Click Recalibrate to start the calibration process, then follow the on-screen instructions.
Crossfader Recalibrate button	Allows you to recalibrate the crossfader. Click Recalibrate to start the calibration process, then follow the on-screen instructions.



The device is pre-calibrated in the factory. Executing the calibration procedure is only necessary if you notice that some controls do not read the correct values.

LEDs Section	Description
On-State Brightness slider	Sets the brightness for the On state of the buttons on your Controller.
Off-State Brightness slider	Sets the brightness for the Off state of the buttons on your Controller.

Status Section	Description
Start in MIDI-Mode check box	If this check box is activated, your controller switches to MIDI mode as soon as you start your computer, so you don't have to switch it manually.

Settings for the TRAKTOR KONTROL Z2

For the TRAKTOR KONTROL Z2, the [Controller](#) page offers following settings:

Knobs Section	Description
Recalibrate button	Allows you to recalibrate all knobs. Click Recalibrate to start the calibration process, then follow the on-screen instructions.

Faders Section	Description
Vertical Faders Recalibrate button	Allows you to recalibrate the vertical faders. Click Recalibrate to start the calibration process, then follow the on-screen instructions.
Crossfader Recalibrate button	Allows you to recalibrate the crossfader. Click Recalibrate to start the calibration process, then follow the on-screen instructions.



The device is pre-calibrated in the factory. Executing the calibration procedure is only necessary if you notice that some controls do not read the correct values.

LEDs Section	Description
On-State Brightness slider	Sets the brightness for the On state of the buttons on your Controller.
Off-State Brightness slider	Sets the brightness for the Off state of the buttons on your Controller.

Status Section	Description
Start in MIDI-Mode check box	If this check box is activated, your controller switches to MIDI mode as soon as you start your computer, so you don't have to switch it manually.

Settings for the KOMLETE KONTROL S-SERIES Keyboards (1–4)

For the KOMLETE KONTROL S-SERIES keyboards, the [Controller](#) page offers following settings:

LEDs Section	Description
On-State Brightness slider	Sets the brightness for the On state of the TRANPOSE (OCT- and OCT +), TRANSPORT, and PRESET buttons on your keyboard.
Off-State Brightness slider	Sets the brightness for the Off state of the TRANPOSE (OCT- and OCT +) and TRANSPORT buttons on your keyboard. (The PRESET buttons are not affected since they are always on.)



For more info on the lighting behavior of these buttons, please refer to section [↑21.4.4, Visual Feedback on the Buttons](#).

Expression Pedal Section	Description
Recalibrate button	Allows you to recalibrate the EXPRESSION pedal input. Click Recalibrate to start the calibration process, then follow the on-screen instructions.

Status Section	Description
Device Name menu	Allows to select a different name for the connected KOMPLETE KONTROL S-SERIES keyboards. This is useful when using more than one keyboard simultaneously. See chapter ↑21, Using Your KOMPLETE KONTROL S-SERIES Keyboard for more information.

23.3 The Application Control Bar

The Application Control Bar provides you with some global features controlling the behavior of the Controller Editor.



The Application Control Bar contains some important features of the Controller Editor.

The next sections describe each of its elements in detail.

23.3.1 Device Menu



The Device menu.

The Device menu informs you which NI controller's assignments you are working on. Furthermore, it allows you to switch to another NI controller in order to display and edit its assignments. It is an alternative to the *Select Device* submenu located in the *View* menu of the Application Menu Bar. Moreover, all connected NI controllers are marked with a leading dot (•) for visual distinction.

To switch to another NI controller, do the following:

1. Click the Device menu to open a drop-down list containing all MIDI-capable NI controllers.
2. In the list, select the desired NI controller.

The Hardware area is updated accordingly and all Templates, Pages, and assignments are recalled for the newly selected NI controller.

All parameters and settings displayed in the Controller Editor's interface refer to the NI controller currently selected in this Device menu, with the exception of the MIDI Activity indicator and the NI Logo, at the far right of the Application Control Bar.



Worth to note is that all NI controllers currently in MIDI mode are still active, no matter which controller is displayed in the Controller Editor.

23.3.2 Connect Button



The Connect button.

The [Connect](#) button allows you to “call” your NI controller, in case it is currently controlling its dedicated software (i.e. TRAKTOR or MASCHINE). This is the software equivalent to the respective hardware shortcuts used to switch to MIDI mode.

Indeed, your NI controller can only connect to one application at a time:

- The NI controller can either be connected to its corresponding software, e.g. MASCHINE (or one of its various plug-in instances currently running on your computer),

or

- It can connect to the Hardware Service, which is the gate to remote controlling all MIDI targets from your NI controller — and whose assignments are defined via the Controller Editor.

When you start the Controller Editor, it automatically connects to your NI controller(s) — the rule is: the last application started takes control over your NI controller.

If the [Connect](#) button is off (the button is not lit), your NI controller is connected to an instance of its dedicated software (e.g. the MASCHINE software for the MASCHINE controller).




- ▶ To switch to MIDI mode and connect your NI controller to the Controller Editor, click the [Connect](#) button.

→ The [Connect](#) button turns on.



You don't need to have the Controller Editor open to switch your controller to MIDI. You can do this via a shortcut on your controller. See [↑3.1, Switching your NI Controller to MIDI Mode](#) for more information.

Here are the possible states for the [Connect](#) button:

NI Controller	Connect Button	
MIDI mode active	Lit	
MIDI mode inactive	Off (click it to switch your controller to MIDI mode)	
Not connected / not installed	Grayed out (inactive)	

To sum up, the [Connect](#) button always shows you the state of your NI controller.

23.3.3 MIDI Activity Indicator



The MIDI Activity indicator.

The MIDI Activity indicator displays incoming ([In](#)) and/or outgoing ([Out](#)) MIDI data for the controller currently selected in the Device menu (see section [↑23.3.1, Device Menu](#)). This can be useful to check if everything is fine between the Controller Editor and its hardware and software environment in your setup, and more generally, for any MIDI debugging purpose.



On the MASCHINE, MASCHINE MK2, and MASCHINE STUDIO controllers, you can use the Monitor display mode to see the detailed MIDI message being sent. See [↑5.4.6, Monitor Display Mode \(MASCHINE\)](#), [↑6.4.5, Monitor Display Mode \(MASCHINE MK2\)](#) or [↑9.4.7, Monitor Display Mode \(MASCHINE STUDIO\)](#) for more information.



The MIDI Activity indicator is not available if a KOMPLETE KONTROL S-SERIES device is selected.

23.3.4 NI Logo



The NI Logo.

When you click the NI Logo, located on the far right of the Application Control Bar, the About screen opens.

This About screen provides you with some interesting information about your Controller Editor installation, including the version number and the credits.



The About screen can also be opened by selecting the *About...* entry in the [Help](#) menu of the Application Menu Bar.

23.4 The Hardware Area

When shown the Hardware area represents the NI controller that you have selected in the Device menu. The Hardware area has two main purposes:

- It provides you with a graphical representation of your NI controller, for ease of use.
- It allows you to select a Page to load (if relevant) and the control element(s) that you wish to edit. For example, this can be particularly useful if your NI controller is not currently connected to your computer. That way, you can prepare your assignments even if the hardware is not currently there.



Pairs of mini buttons in the Hardware area: If mini buttons are not selected when you click them, click their Label Field instead!

In addition to the exact representation of your NI controller, the Hardware area holds a few extra graphical elements that extend its usability: the Label Fields, the Selection Frame, and the Page areas / Page menus (except for the TRAKTOR KONTROL S2 and KOMPLETTE KONTROL S-SERIES). Let's describe each of these.

23.4.1 Label Fields



Some Label Fields next to control elements in the Hardware area.

For every control element of the Hardware area that can be assigned to some MIDI message, you find a Label Field above or below it. This field mirrors the Label Field located in the upper part of the [Assign](#) pane in the Inspector, so that you can see all control elements along with their names.

If no name has been defined yet for a control element, its Label Field displays by default the MIDI message assigned to that control element.

Like all other assignments properties, these names are of course saved within the Pages and Templates.



Many of the control elements already have a name on them in the Hardware area: this name only refers to their original function in their dedicated software (MASCHINE and TRAKTOR.)

Showing/Hiding All Labels

For the MASCHINE STUDIO, TRAKTOR KONTROL X1 MK2, S2 MK2, S4 MK2, S8, and Z1, a [Show all labels](#) check box in the top right corner of the Hardware area allows you to show/hide the labels of all control elements that are not selected. Hiding labels of the other control elements can help you focus on the assignments you are currently working on.



Show all labels

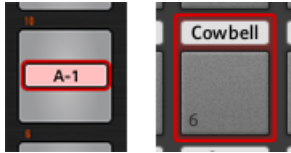
The [Show all labels](#) check box.



Labels for the selected control elements are always shown.

The [Show all labels](#) check box is equivalent to the *Toggle Labels* entry in the Application Menu Bar's [View](#) menu (see section [↑23.1.2, View Menu](#)). To enable/disable it, you can also press [Ctrl] + [L] on your computer keyboard ([Cmd] + [L] on Mac OS X).

23.4.2 Selection Frame



The Selection Frame highlights the control element that is currently focused.

The Selection Frame is a red frame highlighting the currently selected control element. Whenever you select another control element in the Hardware area (or, with the Touch Select option activated in the Preferences, on your NI controller), the Selection Frame highlights this control element. At the same time, the [Assign](#) pane in the Inspector shows the assignment properties for that element.



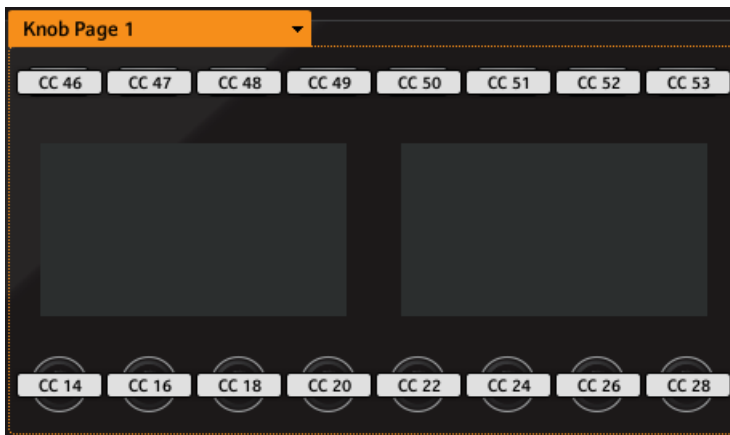
You can select two or more control elements of the same type in the Hardware area for batch editing: Simply hold [Shift] on your computer keyboard and click the desired control elements! You can also click and drag your mouse to draw a selection rectangle around several control elements (only control elements of the same type will be included in the selection).

23.4.3 Page Areas and Page Menus



There is no Page area nor Page menu available for the TRAKTOR KONTROL S2 and COMPLETE KONTROL S-SERIES.

Page Areas



The Page area holds all control elements included in a Page (here the Knob Page area on the MASCHINE STUDIO controller).

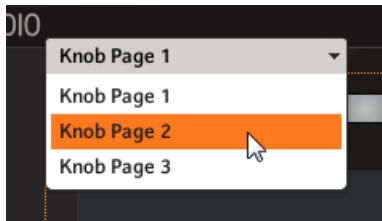
Inside the Hardware area, one or more colored frames highlight some of the control elements. These frames define the various page areas, which hold all control elements included in the corresponding paging system:

- TRAKTOR controller family, KOMPLETE KONTROL S-SERIES: The unique orange frame indicates the area of the **Pages**.
- MASCHINE controller family: Additional frames are visible (if enabled):
 - Orange frame: **Knob Pages**.
 - Blue frame: **Pad Pages**.
 - Red frame (MASCHINE STUDIO only): **I/O and Level Pages**.
 - Violet frame (MASCHINE STUDIO only): **Jog Wheel Pages**.



As a short reminder: The control elements located in a Page area can have multiple assignments, which are grouped on so-called Pages — with, on each Page, one assignment for one control element (for a general explanation of the Controller Editor's mapping system, see section [↑4.3, The Mapping System](#)).

Page Menus



The Page menu allows you to select another Page (here the Knob Page menu on the MASCHINE STUDIO controller).

At the Page area's upper left corner, the Page menu shows you the name of the Page currently selected. Moreover, it allows you to select another set of assignments:

- ▶ To select a particular Page, click the Page menu and choose the desired entry from the list — this list mirrors the corresponding Page list in the Inspector's [Pages](#) pane.

The selected Page loads automatically, replacing the Page currently loaded.

23.5 The Inspector

Located on the right of the Controller Editor's window, the Inspector is THE definitive place to edit and organize your Templates, and its possible Pages, and all your control assignments. For that reason, the Inspector is always visible.



If you are not sure about the terms "Template," "Page," etc., read section [↑4.3, The Mapping System](#) again, where these basic concepts are explained.

As we already mentioned, the basic mapping workflow practically dives into the assignment hierarchy. Let's quickly look at it again, focusing on the Controller Editor window:

1. From the Application Control Bar's Device menu, select the NI controller which you want to work with. If you have only one Controller installed, it is automatically selected.
2. Choose a Template. This can be done for example via the [Templates](#) pane of the Inspector (see below). As the Template loads, all its included Pages and assignments are loaded.

3. If the control element that you want to edit is located within a Page area, you also have to select the desired Page. This can be done either via the corresponding Page menu or via the [Pages](#) pane of the Inspector (see below). If the control element is somewhere else on the NI controller, skip this step.

If you only want to use the assignments as they are, that's all. But if you want to check the assignments or modify them, you then follow the next steps:

1. Put the focus on the control element that you want to edit. This can be done either in the Hardware area or directly on your controller (if the [Touch Select](#) option is activated in the [General](#) page of the Preferences window) by clicking/touching the desired control element.
2. Go to the [Assign](#) pane of the Inspector (see below) and tweak the assignment properties for this control element.

Panes in the Inspector

The Inspector is divided into three panes, each of them taking care of a specific level in the Controller Editor's mapping system:

- The [Templates](#) pane allows you to manage your Templates.
- The [Pages](#) pane allows you to organize your Pages. This pane is not available for the TRAKTOR KONTROL S2. When working with the MASCHINE controllers, this [Pages](#) pane also allows you to activate and organize the Pad Pages.
- Last but not least, the [Assign](#) pane allows you to edit very precisely the MIDI assignment for the control element currently selected in the Hardware area.

Let's describe each of these three panes thoroughly. We will start with the Templates, then look at the Pages, and finally describe all details of the assignments.

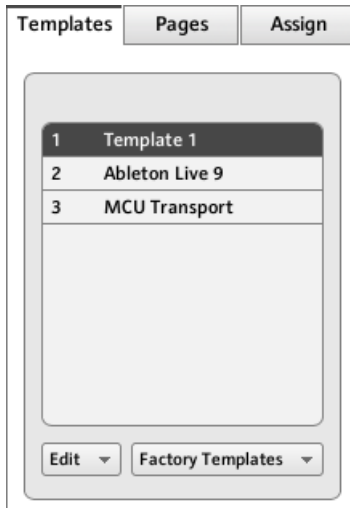
23.5.1 Templates Pane

The [Templates](#) pane allows you to **select and manage your Templates**. The Templates can be used to store a whole set of assignments and Pages, for example for a specific use: a particular hardware instrument, a particular software configuration for a live set, a particular song of your set, etc.

- ▶ To show the [Templates](#) pane, click the [Templates](#) tab at the top of the Inspector.

Template List

The Template list displays all available Templates:



The Template list, at the top of the [Templates](#) pane.

In this list, each entry represents a Template. The currently selected Template is highlighted in the list.

- ▶ To select another Template, simply click its entry.
- The selected Template is automatically loaded, with all its Pages and control assignments.

Each entry in the Template list has two elements: the Template number and the Template name. The Template number is not editable — it defines the order of appearance of the Template in the list. The Template name is editable:

- ▶ To rename the Template, double-click its name (it is then highlighted), type a new name, and press [Enter] on your computer keyboard.

For your convenience, you can reorder the Templates in the list by drag and drop. Reordering your Templates can be useful if you plan to use several Templates for a live performance and you need to have them available in a specific order.



MASCHINE controller family and KOMPLETTE KONTROL S-SERIES: You can also select directly Templates from your controller. For more details, please refer to the chapter describing your controller in this manual.

If the number of Templates is too big to fit in the displayed Template list, a scrollbar appears on the right to navigate through the list.

Edit Menu

Located below the Template list, the [Edit](#) menu gives you access to important management functions. To access any of these functions, click the menu and select the desired entry:



The [Edit](#) menu below the Template list.

The following commands are available:

- **New:** Creates a new default Template. This new Template is appended at the end of the list. You can have as many Templates as you want in your list.
- **Open:** Opens a dialog allowing you to navigate to the desired Template file on your hard drive to load it. Select the Template file and click [OK](#) (or double-click the Template file): the Template will be appended at the end of the list and will automatically be loaded as current Template.
- **Export:** Opens a dialog allowing you to export the selected Template as a file on your hard drive. Select the destination and type the name of the Template file to be exported. Please note that the filename that you choose can be different from the Template's name inside the Controller Editor. Once this is done, click [Save](#) to export the file.
- **Duplicate:** Duplicates the selected Template and insert it into the list at the position below.
- **Delete:** Removes the selected Template. The entries below are moved up to fill the gap.

Factory Templates Menu

Next to the [Edit](#) menu, the [Factory Templates](#) menu allows you to load factory Templates provided with the Controller Editor. To load a Template, click the menu and select the desired entry:



The [Factory Templates](#) menu below the Template list.



The Templates selected in the [Factory Templates](#) menu are loaded into your Template list above. If you modify or delete the Template once it is loaded in the Template list, the factory Template will stay untouched, ready to be loaded again later!

Furthermore, if new factory Templates are available since the last use of the Controller Editor, a little bubble will appear at the upper right corner of the menu indicating the number of new Templates:



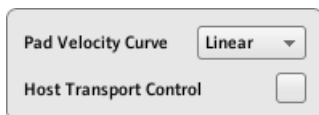
The menu contains two new factory Templates.

Template Properties



There is no Template Properties area for the TRAKTOR KONTROL X1/X1 MK2/F1/S2/S2 MK2/S8/Z1/Z2, and KOMplete KONTROL S-SERIES.

The Template Properties area contains settings for the Template selected in the Template list:



The Template Properties on the [Templates](#) pane (here for the MASCHINE controller).

Depending on the selected controller, you will find in the Template Properties up to three elements: the [Pad Velocity Curve](#) menu, the [MIDI Port](#) menu and the [Host Transport Control](#) check box. These elements are described in the following paragraphs.

Pad Velocity Curve menu (MASCHINE Controller Family Only)

The [Pad Velocity Curve](#) menu allows you to choose from a list of seven velocity curves that affect the behavior of the pads on your controller. A velocity curve defines how the pressure on the pads will be translated into velocity values. In the [Pad Velocity Curve](#) menu, you can choose between three soft, three hard and one linear curve. The soft curves are boosting lower pressure values and damping higher pressure values (logarithmic response), the hard curves are damping lower pressure values and boosting higher pressure values (exponential response). The linear curve will translate pressure values into velocity values proportionally.

MIDI Port menu

For the NI controllers equipped with a MIDI output socket, the [MIDI Port](#) menu allows you to specify whether you want to send the MIDI messages to the internal (virtual) MIDI port or to the external (physical) MIDI port of your NI controller. When you click this menu, you see two options:

- **Internal:** The MIDI messages are routed through the internal MIDI port. This way, they can target other MIDI-capable applications running on your computer (provided that these applications are listening to this MIDI port — this has to be set in the target application's preferences).
- **External:** The MIDI messages are routed through the MIDI output socket of your NI controller. That way, your Template can target other MIDI-capable hardware devices connected to the MIDI output socket of your controller.



There is no [MIDI Port](#) menu for the MASCHINE controller family nor for the COMPLETE KONTROL S-SERIES keyboards. For these controllers, all MIDI messages are routed through the internal MIDI port.

Host Transport Control (MASCHINE Controller Family Only)

Host Transport Control is a special feature to be used when the MASCHINE software is running as plug-in in a host environment. It allows you to split the controls on MASCHINE (all controllers) so that some controls have the regular MASCHINE functions, while others control your host. The controls are split as follows:

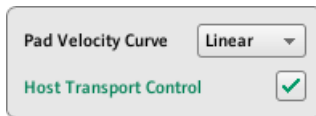
- On one hand, the PLAY, RESTART, Step Backwards, Step Forwards, and ERASE buttons in the TRANSPORT section of your controller will send MIDI messages as defined in the Template.

- On the other hand, all other control elements will control the MASCHINE plug-in loaded in your host.

This notably allows you to control the transport functions of your sequencer via MIDI while you control the MASCHINE plug-in with the rest of your controller!



The Host Transport Control feature works only if MASCHINE is running as a plug-in in a host environment.



The Host Transport Control check box.

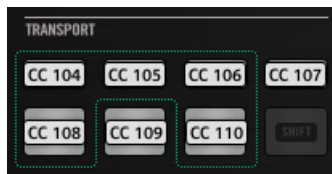
- ▶ Click the [Host Transport Control](#) check box to enable/disable the Host Transport Control feature for the selected Template.



Keep in mind that the Host Transport Control option belongs to the Template Properties, thus you can enable/disable it for each Template individually.

When Host Transport Control is active and your controller is focused on a MASCHINE plug-in instance in your host environment, the following happens:

- On your controller, the PLAY, RESTART, Step Backwards, Step Forwards, and ERASE buttons are dimmed to indicate that they are in MIDI mode.
- All other control elements on your controller have their usual MASCHINE behavior, including the display(s).
- In the Controller Editor, the affected buttons are highlighted in the Hardware area:



23.5.2 Pages Pane



The [Pages](#) pane is not available for the TRAKTOR KONTROL S2.

The [Pages](#) pane allows you to **select and manage your Knob Pages, Pad Pages, I/O and Level Pages**, and **Jog Wheel Pages** where relevant.

- ▶ To show the [Pages](#) pane, click the [Pages](#) tab at the top of the Inspector.



Remember that, according to the Controller Editor's mapping system, all operations made in the [Pages](#) pane affect the Pages located in the Template that is currently loaded!

The Pages are sets of assignments for the control elements located in the Page area of the Hardware area. For example, Pages can be used to store the assignments for particular patches of your target instrument, or for specific sections (filter section, effect section, etc.) of your instrument, or for different instruments in your setup. See section [↑4.3, The Mapping System](#) for more information.

Pages List

The [Pages](#) pane has some similarities with the [Templates](#) pane explained above. Similarly to the [Templates](#) pane, the upper part of the [Pages](#) pane holds a [Pages](#) list (labeled [Knob Pages](#) list for controllers of the MASCHINE family). This list displays all (Knob) Pages available in the current Template:



The [Knob Pages](#) list, at the top of the [Pages](#) pane.

In this list, each entry represents a Page. The Page currently loaded is highlighted.

- ▶ To select another Page, simply click its entry.
- The selected Page is automatically loaded, with all its control assignments.



You can also select another Page via the Page menu on the top of the Page area in the Hardware area (see section [↑23.4.3, Page Areas and Page Menus](#)), or possibly from your NI controller (see the relevant controller-specific chapter).



KOMPLETE KONTROL S-SERIES: The [Pages](#) list only contains one entry and it is always selected. Multiple Pages will be available in a future KOMPLETE KONTROL update.

Each entry in the [Pages](#) list (or [Knob Pages](#) list) consists of a number and a name. The Page's number is not editable — it defines the order of appearance of the Page in the list. The Page's name is editable:

- ▶ To rename the Page, double-click its name (it is then highlighted), type a new name, and press [Enter] on your computer keyboard.

Like in the Template list, you can reorder the Pages in the list by drag and drop:

- ▶ To move a Page in the list, click its entry, move your mouse vertically while holding the mouse button depressed, and release the mouse button at the desired location.
- The Page takes its new place in the list.

This can be useful in a live situation, for example if you plan to use several Pages for different parts of a song, and you need to have them in a specific order: When they are well ordered, you can easily switch to the previous/next one by using the Page buttons on your NI controller (if available).



You can reorder Pages only for controllers providing an unlimited number of pages (MASCHINE controller family and TRAKTOR KONTROL Z1).

Edit Menu (MASCHINE Controller Family Only)

Right under the [Pages](#) list (or [Knob Pages](#) list), the [Edit](#) menu grants access to management functions.

- ▶ To access any of these functions, click the [Edit](#) menu and select the desired entry.



The [Edit](#) menu, below the [Pages](#) list (or [Knob Pages](#) list).

The following commands are available:

- **New:** Creates a new default Page. This new Page is appended at the end of the list. You can have as many Pages as you want in your Template.
- **Duplicate:** Duplicates the selected Page and insert it at the next lower position in the list. This can be useful to generate several Pages with only a few differences, without having to start from scratch each time.
- **Copy:** Stores the selected Page into your operating system's clipboard. This is very useful to move or copy a particular Page to another Template: after having selected the desired Page, choose this *Copy* command, then switch to another Template (using one of the methods described in this manual), go back to the Inspector's [Pages](#) pane, in the [Pages](#) list select the entry below which you want to insert the copied Page, and use the *Paste* command (see below).
- **Paste:** Inserts the Page stored in the clipboard below the Page currently selected in the list. The inserted Page is then automatically loaded. You can use this command in conjunction with the *Copy* command described above to transfer Pages between Templates.
- **Delete:** Removes the selected Page. The lower entries will move up and fill the gap.

Shift Mode Menu (TRAKTOR KONTROL X1, X1 MK2, F1, Z1, Z2, S2 MK2, S4, S4 MK2, S8)

Right under the [Pages](#) list, the [Shift Mode](#) menu allows you to adapt the behavior of the SHIFT button used to switch between both Pages available on your controller. Two settings are available:

- *Gate:* The Page is activated for the time the button is hold depressed.
- *Toggle:* The Page is activated until the next time you press the button again.

The Pad Pages Functionality (MASCHINE Controller Family Only)

For the MASCHINE controllers, the [Pages](#) pane offers an additional area that allows you to manage the optional Pad Pages.

The Pad Pages are sets of assignments for the sixteen pads of your controller. For example, the Pad Pages can be used to store the assignments for various patches of your target instrument, or for different instruments in your setup.



Please refer to section [↑4.3.3, Pad Pages \(MASCHINE Controller Family Only\)](#) for more information on the Pad Pages.



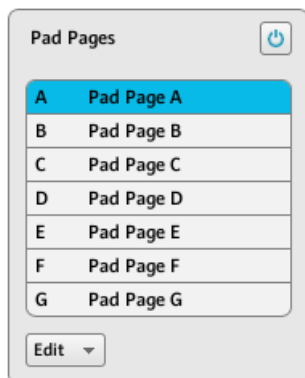
The Enable Pad Pages button on the right allows you to activate/deactivate the Pad Pages functionality.

At the top right of this area, you first see the **Enable Pad Pages button**. This button allows you to activate/deactivate the Pad Page feature for your controller.

- ▶ To activate the Pad Pages, click the Enable Pad Pages button to enable it.
 - The button switches on (blue) and the rest of the area is activated.
- ▶ To deactivate the Pad Pages, click the Enable Pad Pages button again.
 - The button switches off and the rest of the area becomes minimized and grayed out.

While describing the rest of this area we assume that this Enable Pad Pages button is activated...

Below the Enable Pad Pages button, you see the **Pad Pages list**. This list shows all Pad Pages available in the current Template:



The [Pad Pages](#) list in the [Pages](#) pane.

In this list, each entry represents a Pad Page. The Pad Page currently loaded is highlighted in the list.

► To select another Pad Page, simply click its entry.

→ The selected Pad Page is automatically loaded, along with its control assignments for the sixteen pads.



You can also select another Pad Page via the Pad Page menu on the top of the Pad Page area, as well as via the Group buttons labeled [A](#) to [H](#), in the Hardware area or on your MASCHINE (MK2) controller. On the MASCHINE MIKRO (MK2) controller, you can hold the GROUP button and press one of the pads 9–16.

Each entry in the [Pad Pages](#) list has two elements: the Pad Page letter and the Pad Page name. The Pad Page letter is not editable — it defines the order of appearance of the Pad Page in the list. Moreover, it links the Pad Page to the corresponding button on your controller:

- The corresponding Group button in the Hardware area and on your MASCHINE STUDIO, MASCHINE MK2 or MASCHINE controller.
- The corresponding pad 9–16 in the Hardware area and on your MASCHINE MIKRO MK2 and MASCHINE MIKRO controller (used together with the GROUP button).

The Pad Page name is editable:

- ▶ To rename the Pad Page, double-click its name (it is then highlighted), type a new name, and press [Enter] on your computer keyboard.

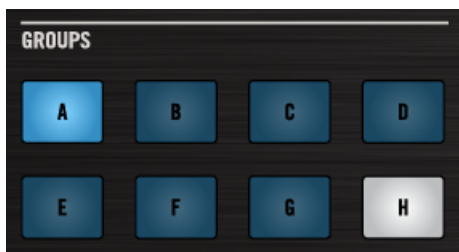
Like in the other lists, you can reorder the Pad Pages in the list via drag and drop:

- ▶ Click the desired Pad Page in the list, move your mouse vertically while holding the mouse button depressed, and release the mouse button at the desired location.

→ The Pad Page takes its new place in the list.

This can be useful in a live situation, for example if you plan to use several Pad Pages for addressing different parts of a song or sequence, and you need to have them in a specific order.

The number of Pad Pages is limited to eight. You'll notice that your controller mirrors the number of existing Pad Pages: if some slots in the list are empty, the corresponding Group buttons (or pads) are off:



Pad Pages A–G are assigned, Pad Page A is loaded, and there is no Pad Page H (here on the MASCHINE STUDIO controller).

The I/O and Level Pages Functionality (MASCHINE STUDIO Only)

For the MASCHINE STUDIO controller, the [Pages](#) pane offers an additional area that allows you to manage the optional I/O and Level pages.

The I/O and Level pages contain different assignments for the Level knob of your controller. For example, I/O and Level pages can be used to control the level of various channels via the Level knob.



Please refer to section [↑4.3.4, I/O and Level Pages \(MASCHINE STUDIO Only\)](#) for more information on the I/O and Level Pages.

When the I/O and Level pages are activated the Input buttons (IN1, IN2, IN3, IN4), and Level meter buttons (MST, GRP, SND, CUE) act as page selectors for assignments made on the Level knob. Assignments can only be made for these Input buttons and Level meter buttons when the I/O and Level Pages are deactivated.



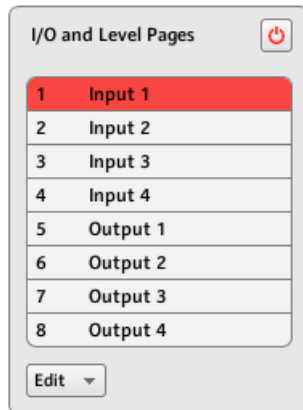
The [Enable I/O and Level Pages](#) button on the right allows you to activate/deactivate the I/O and Level Pages functionality.

At the top right of this area, you first see the **Enable I/O and Level Pages button**. This button allows you to activate/deactivate the I/O and Level Pages feature for your controller.

- ▶ To activate the I/O and Level Pages, click the Enable I/O and Level Pages button to enable it.
 - The button switches on (red) and the I/O and Level Pages are activated.
- ▶ To deactivate the I/O and Level Pages, click the I/O and Level Pages button again.
 - The button switches off and the I/O and Level Pages become minimized and grayed out.

While describing the rest of this area we assume the I/O and Level Pages are activated...

Below the Enable I/O and Level Pages button, you see the and the **I/O and Level Pages list**. This list shows all the I/O and Level Pages available in the current Template:



The *I/O and Level Pages* list in the *Pages* pane.

In this list, each entry represents an I/O and Level Page. The I/O and Level Page currently loaded is highlighted in the list.

► To select another I/O and Level Page, simply click its entry.

→ The selected I/O and Level Page is automatically loaded, along with its assignment for the Level knob.

Each entry in the *I/O and Level Pages* list has two elements: the page's number and name. The I/O and Level number is not editable — it defines the order of appearance of the I/O and Level Page in the list. Moreover, it links the I/O and Level Pages to the corresponding button on your controller:

- Input buttons (*IN1*, *IN2*, *IN3*, *IN4*).
- Level meter buttons (*MST*, *GRP*, *SND*, *CUE*).

The I/O and Level Page names are editable:

► To rename the I/O and Level Page, double-click its name (it is then highlighted), type a new name, and press [Enter] on your computer keyboard.

Like in the other lists, you can reorder the I/O and Level Pages in the list via drag and drop:

► Click the desired I/O and Level Page in the list, move your mouse vertically while holding the mouse button depressed, and release the mouse button at the desired location.

→ The I/O and Level Page takes its new place in the list.

This can be useful in a live situation, for example if you plan to use several I/O and Level Pages for addressing different parts of a song or sequence, and you need to have them in a specific order.

The number of I/O and Level Pages is limited to eight. You'll notice that your controller mirrors the number of existing I/O and Level Pages: if some slots in the list are empty, the corresponding Input buttons (**IN1**, **IN2**, **IN3**, **IN4**) or Level meter buttons (**MST**, **GRP**, **SND**, **CUE**) are off:

The Jog Wheel Pages Functionality (MASCHINE STUDIO Only)

For the MASCHINE STUDIO controller, the **Pages** pane offers an additional area that allows you to manage your optional Jog Wheel Pages.

The Jog Wheel Pages are sets of assignments for the jog wheel and its LED ring. For example, the Jog Wheel Pages can be used to store the assignments for various patches of your target instrument, or for different instruments in your setup.



Please refer to section [↑4.3.5, Jog Wheel Pages \(MASCHINE STUDIO Only\)](#) for more information on the Jog Wheel Pages.

Jog Wheel Pages



The Enable **Jog Wheel Pages** button on the right allows you to activate/deactivate the Jog Wheel **Pages** functionality.

At the top right of this area, you first see the **Enable Jog Wheel Pages button**. This button allows you to activate/deactivate the Jog Wheel Pages feature for your controller.

- ▶ To activate the Jog Wheel Pages, click the Enable Jog Wheel Pages button to enable it.
- The button switches on (violet) and the lower part of the **Pages** pane is activated.
- ▶ To deactivate the Jog Wheel Pages, click the Enable Jog Wheel Pages button again.
- The button switches off and the lower part of the **Pages** pane becomes minimized and grayed out.

While describing the rest of this area we assume that this Enable Jog Wheel Pages button is activated...

Below the Enable Jog Wheel Pages button, you see the **Jog Wheel Pages list**. This list shows all Jog Wheel Pages available in the current Template:



The [Jog Wheel Pages](#) list, at the bottom of the [Pages](#) pane.

In this list, each entry represents a Jog Wheel Page. The Jog Wheel Page currently loaded is highlighted in the list.

- ▶ To select another Jog Wheel Page, simply click its entry.
- The selected Jog Wheel Page is automatically loaded, along with its control assignments.



You can also select another Jog Wheel Page via the Jog Wheel Page menu on the top of the Jog Wheel Page area, as well as via the FUNCTION buttons on your MASCHINE STUDIO controller.

- Each entry in the [Jog Wheel Pages](#) list has a name.

The Jog Wheel Page name is editable:

- ▶ To rename a Jog Wheel Page, double-click its name (it is then highlighted), type a new name, and press [Enter] on your computer keyboard.

Like in the other lists, you can reorder the Jog Wheel Pages in the list via drag and drop:

- ▶ Click the desired Jog Wheel Page in the list, move your mouse vertically while holding the mouse button depressed, and release the mouse button at the desired location.
- The Jog Wheel Page takes its new place in the list.

This can be useful in a live situation, for example if you plan to use several Jog Wheel Pages for addressing different parts of a song or sequence, and you need to have them in a specific order.

The number of Jog Wheel Pages is limited to six.

23.5.3 Assign Pane

The [Assign](#) pane allows you to define all necessary MIDI assignment attributes for a particular control element.

▶ To show the [Assign](#) pane, click the [Assign](#) tab at the top of the Inspector.

Indeed, it displays and allows to modify the assignment attributes for the control element that is currently selected in the Hardware area — the one on which the red Selection Frame focuses.

As a reminder, to select a particular control element for editing, do the following:

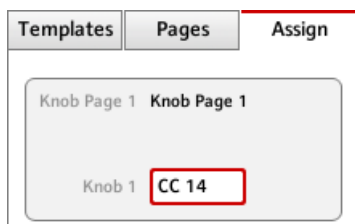
1. Select a Template.
2. Select a Page if the desired element is located in a Page.
3. Click the control element in the Hardware area or touch it on your NI controller — provided that the [Touch Select](#) option is activated.

→ The [Assign](#) pane then displays the assignment properties for that control element.

The Description Area

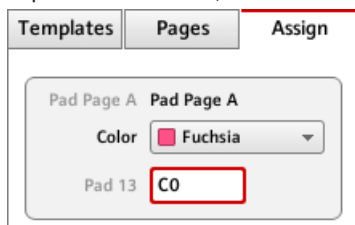
At the top of the [Assign](#) pane, the Description area displays some descriptive attributes for the selected control element. The content of this section depends on the controller and the location of the control element on the controller:

- If the selected control element belongs to a Page, the first line contains the number/letter of the page followed by its name (as defined in the corresponding Page list of the [Pages](#) pane, see [↑23.5.2, Pages Pane](#)).



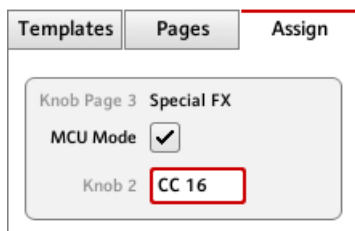
This is useful to quickly see which Page the assignment you are editing is belonging to. This line is empty for control elements which are not included in any Page area. This is not editable.

- MASCHINE STUDIO, MASCHINE MK2, and MASCHINE MIKRO MK2 controllers only: If a pad is selected, the second line allows you to choose a color for the whole Pad Page.



Click the [Color](#) menu and select a color from the palette. On your controller, the selected color will be mirrored by the corresponding Group button (MASCHINE STUDIO and MASCHINE MK2) or by the GROUP button when that Pad Page is selected (MASCHINE MIKRO MK2).

- MASCHINE STUDIO only: If any of Knob 1–8 or Button 1–8 (below or above the displays) is selected, the second line allows you to enable/disable the [MCU Mode](#) check box.



The [MCU Mode](#) check box allows you to set your MASCHINE STUDIO controller displays

to MCU mode in order to receive Mackie Control feedback from your DAW while keeping the original assignment of the Buttons and Knobs in the Knob Page area. The [MCU Mode](#) setting applies Page-wide.

- The last (or only) line displays on the left the element description, its “name” referring to its original function in its dedicated software, which is for information only. On the right, it displays the **Label Field**, which holds its user-definable name.



- ▶ To modify the name in the Label Field, click it, type a new name and press [Enter] on your computer keyboard.
- Both Label Fields (in the [Assign](#) pane and in the Hardware area) are updated accordingly. For particular control elements of some NI controllers, the name will also appear in the controller’s hardware display(s).



KOMLETE KONTROL S-SERIES: Modifying the name in the Label Field automatically re-sets the assignment to its default value.

If no name has been defined yet for a control element, its Label Field displays by default the MIDI message assigned to this control element.



To reset a Label Field to its default name, clear the field, then press the [Enter] key on your computer keyboard.

The Definition Area

Below the Description area, the assignment properties explicitly define what has to be sent when you actuate the control element on your NI controller: this is called the Definition area.

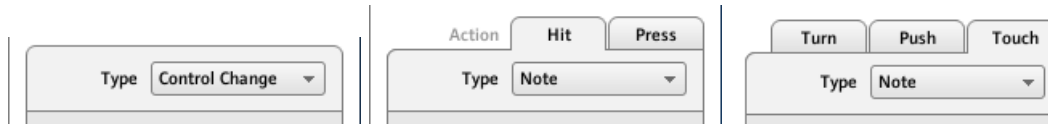
The properties in the Definition area differ according to the type of control element currently selected: since a button, a knob, and a pad don’t have the same physical properties and behavior, they won’t be able to trigger the same types of MIDI events.

Furthermore, some control elements on certain NI controller can **respond to different actions**:

- MASCHINE Controller Family: The pads can be hit, but they can also be pressed. Furthermore:
 - On the MASCHINE MIKRO, MASCHINE MK2, MASCHINE MIKRO MK2, and MASCHINE STUDIO controllers, the Control encoder can be both turned and pushed.
 - On the MASCHINE STUDIO controller, the jog wheel can be both turned and pushed, and Knobs 1–8 under the displays can be both turned and touched.
- TRAKTOR KONTROL X1: The Push Encoders can be both turned and pushed.
- TRAKTOR KONTROL X1 MK2: The Push Encoders can be turned, pushed and touched. Additionally, the Touch Strip has a position action, too.
- TRAKTOR KONTROL F1: The encoder knob can be both turned and pushed.
- TRAKTOR KONTROL S2/S4: The encoders (LOOP MOVE and LOOP SIZE on the Decks, BROWSE on the Mixer) and the jog wheels can be both turned and pushed.
- TRAKTOR KONTROL S2 MK2/S4 MK2: The encoders (LOOP MOVE and LOOP SIZE on the Decks, BROWSE on the Mixer) and the jog wheels can be both turned and pushed.
- TRAKTOR KONTROL S8: The BROWSE and Loop encoders can be turned, pushed and touched. The TEMPO encoder can be turned and pushed. The FX knobs and the Performance knobs can be turned and touched. The Slot Volume faders can be slid and touched. The touch strips detect both the touch and the position of your finger.
- TRAKTOR KONTROL D2: The BROWSE and Loop encoder can be turned, pushed and touched. The TEMPO encoder can be turned and pushed. The FX knobs and the Performance knobs can be turned and touched. The Slot Volume faders can be slid and touched. The touch strip detects both the touch and the position of your finger.
- TRAKTOR KONTROL Z1: The Push Encoders can be both turned and pushed.
- TRAKTOR KONTROL Z2: The Push Encoders (Auto-loop and BROWSE) can be both turned and pushed.
- KOMPLETTE KONTROL S-SERIES: The SUSTAIN footswitch input is stereo, i.e. it can receive signals both on the tip and on the ring.

For these multifunctional elements, the possible actions lead to **two or more MIDI messages**. Hence, the Definition area displays corresponding [Action](#) tabs, each of them allowing to define the MIDI event for one specific action.

For control elements with only one function, the Definition area does not display any tabs, but directly displays the assignment properties for the unique MIDI assignment of this control element.



The top of the Definition area differs if the control element has one or more functions.

In the picture above, on the left you see the assignment for a button: in the middle you see the two tabs (labeled **Hit** and **Press**) for a pad on the MASCHINE controller; on the right you see the three tabs (labeled **Turn**, **Push**, and **Touch**) for the Capacitive Encoders on the TRAKTOR KONTROL X1 MK2.

The label on each tab indicates the particular hardware action that will trigger the MIDI message specified in that page.

The next section will describe each and every settings available for the assignments of MIDI messages.

23.6 MIDI Message Parameters

You will find here the description of all possible parameters to be found within the Definition area of the Inspector's **Assign** pane, for all kinds of control elements and all NI controllers.

We will first give a few general rules valid for various sorts of control elements.

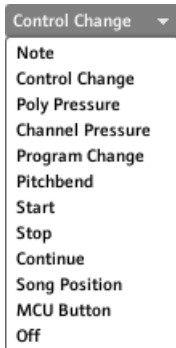
We will then detail the MIDI messages settings for each sort of control elements.

23.6.1 MIDI Message Types – Type Menu

For all control elements, the assignment definition starts with the same menu: the **Type menu**, at the very top of the Definition area.



The [Type](#) menu specifies the type of MIDI message that has to be sent upon action on this control element. Depending on the type of hardware control element, the entries in this menu will differ (for example, sending a “play” command from a knob wouldn’t make much sense).



The [Type](#) menu allows you to choose from various MIDI message types.

- ▶ To select a MIDI message type, click the [Type](#) menu and select the desired entry from the list.

All other parameters displayed in the [Assign](#) pane’s Definition area depend both on the type of control element that you are working on, and on the MIDI message type selected in this [Type](#) menu.

Below is a list of all possible MIDI message types to be found in the [Type](#) menu.



Keep in mind that depending on the selected device and the particular control element, some of them are not available in its [Type](#) menu. In the next sections, we will explain the particularities for each control element available on your NI controller.

- **Note:** Sends a MIDI Note On/Off message. This message is sent over a specific MIDI channel set by the [Channel](#) parameter (range from 1 to 16, 1 by default). It tells your target to play or stop the MIDI Note specified via the [Note](#) parameter (range from C-2 to G8). The message also defines the velocity at which the note is played. This velocity is specified in various ways, depending on the type of the selected control element (see next sections).
- **Note (Relative):** Sends a MIDI Note On message. This message type is actually made for specific situations where some function in the target software must be triggered by an incoming Note On event. This can be the case, for example, for scrolling through lists, where the target software only offers a trigger control for selecting the “next” or the “pre-

vious” item in the list. With this Note (Relative) message type, you can use for example a jog wheel on your TRAKTOR KONTROL S4 MK2 or a Push Encoder on your TRAKTOR KONTROL X1 to scroll through the list in the target software. The message is sent over a specific MIDI channel set by the [Channel](#) parameter (range from 1 to 16, 1 by default). Two additional [Note](#) parameters define the MIDI note numbers triggered when turning the control counter-clockwise and clockwise, respectively (both ranges from 0 to 127, that is from MIDI Note C-1 to G9).

- **Control Change:** Sends a MIDI Control Change message. This message is sent over a specific MIDI channel set by the [Channel](#) parameter (range from 1 to 16, 1 by default). This message tells your target to change the value of a specific continuous controller — controlling for example some effect’s depth in your music application. The continuous controller (CC) number is specified via the [Number](#) parameter (range from 0 to 127). The values to be sent for that controller are specified in various ways, depending on the type of the selected control element (see next sections).
- **Poly Pressure:** Sends a MIDI Poly Pressure message (also called Polyphonic Aftertouch). This message is sent over a specific MIDI channel set by the [Channel](#) parameter (range from 1 to 16, 1 by default). It specifies the pressure at which a particular MIDI note is held down. The MIDI note is specified via the [Note](#) parameter. The pressure values to be sent are specified in various ways, depending on the type of the selected control element (see next sections).
- **Channel Pressure:** Sends a MIDI Channel Pressure message (also called Channel Aftertouch). This message is sent over a specific MIDI channel set by the [Channel](#) parameter (range from 1 to 16, 1 by default). It specifies a common pressure at which all notes of the MIDI channel are held down. The pressure values to be sent are specified in various ways, depending on the type of the selected control element (see next sections).
- **Program Change:** Sends a MIDI Program Change message. This message is sent over a specific MIDI channel set by the [Channel](#) parameter (range from 1 to 16, 1 by default). It tells the target to switch to another program (or patch, preset...). The program number to be sent can be specified in various ways, depending on the type of the selected control element (see next sections).
- **Pitchbend:** Sends a MIDI Pitchbend message. This message is sent over a specific MIDI channel set by the [Channel](#) parameter (range from 1 to 16, 1 by default). It is used to control the Pitchbend Wheel (and anything that would respond to the MIDI Pitchbend message in your target). This is quite similar to a Control Change message, but for histori-

cal and practical reasons (on most hardware controllers/keyboards, the Pitchbend wheel is a very specific control element), the Pitchbend is a distinct message in the MIDI specifications.

- **Start:** Sends a MIDI Start Song message. As its name implies, this message should be understood by your sequencer as a Start command. This message tells your sequencer to start playback of the song/sequence from the beginning. There is no parameter needed for this message.
- **Stop:** Sends a MIDI Stop Song message. This should be understood by your sequencer as a Stop command. This message tells your sequencer to pause the playback of the song/sequence at its current position. There is no parameter needed for this message.
- **Continue:** Sends a MIDI Continue Song message. As its name implies, this message should be understood by your sequencer as a Continue command. This message tells your target to start playback of the song/sequence from the current position. There is no parameter needed for this message.
- **Song Position:** Sends a MIDI Song Position message. This message tells your target to cue the playback to a specific position in the song/sequence. Note that it does not start the playback itself. The message is implemented in a specific way that allows you to switch between two positions in the song or sequence. The position(s) in the song or sequence can be specified in various ways, depending on the type of control element (see below). The position in the song is counted in MIDI beats.
- **MCU V-Pot:** Emulates one of the Mackie Control's 8 V-Pots.
- **MCU Channel:** Emulates one of the Mackie Control's 8 channel faders.
- **MCU Master:** Emulates the master fader of the Mackie Control.
- **MCU Wheel:** Emulates the Wheel of the Mackie Control.
- **MCU Button:** Emulates the buttons of the Mackie Control.
- **Off:** Deactivates MIDI for the control element. Select this entry to disable that control element or action. The control element / action won't send any MIDI message, hence no parameter is displayed.

See also

 [Assignments for Key Zones \[→ 280\]](#)

23.6.2 Assignments for Buttons

The assignments described here are valid for following control elements:

NI Controller	Control elements
KOMPLETE KONTROL S-SERIES	SUSTAIN footswitch input (both Tip and Ring actions)
MASCHINE STUDIO	Buttons, jog wheel (Push action), Knobs 1–8 (Touch action), foot-switch inputs (both Tip and Ring actions)
MASCHINE MK2	Buttons, Control encoder (Push action)
MASCHINE MIKRO (MK2)	Buttons, Control encoder (Push action)
MASCHINE	Buttons
TRAKTOR KONTROL X1	Buttons, Push Encoders (Push action)
TRAKTOR KONTROL X1 MK2	Buttons, Push Encoders (Touch and Push action), Touch Strip (Touch action)
TRAKTOR KONTROL F1	Buttons, pads, encoder knob (Push action)
TRAKTOR KONTROL Z1	Buttons, encoder knob (Push action)
TRAKTOR KONTROL Z2	Buttons, encoders (Push action)
TRAKTOR KONTROL S2/S4	Buttons, encoders (Push action), jog wheels (Push action), footswitch input (S4 only)
TRAKTOR KONTROL S2 MK2/ S4 MK2	Buttons, encoders (Push action), jog wheels (Push action), footswitch input (S4 MK2 only)
TRAKTOR KONTROL S8	Buttons, Pads, encoders (Push action and Touch action, if any), as well as the Touch action on the FX knobs, Performance knobs, Slot Volume faders, and Touch Strips
TRAKTOR KONTROL D2	Buttons, Pads, encoder (Push action and Touch action, if any), as well as the Touch action on the FX knobs, Performance knobs, Slot Volume faders, and Touch Strip

For these control elements, the [Type](#) menu offers the following entries: *Note*, *Control Change* (default setting), *Poly Pressure*, *Channel Pressure*, *Program Change*, *Pitchbend*, *Start*, *Stop*, *Continue*, *Song Position*, *MCU Button*, and *Off*.



KOMPLETTE KONTROL S-SERIES: For the SUSTAIN footswitch input, the *Pitchbend*, *Start*, *Stop*, *Continue*, *Song Position*, and *MCU Button* entries are not available in the **Type** menu. Indeed, these commands are already available via the dedicated TRANSPORT section or via the touch strips on your keyboard.



For a general description of these MIDI message types, see [↑23.6.1, MIDI Message Types – Type Menu](#).

Mode Menu



The **Mode** menu for buttons.

For the button-like control elements listed in the above table, and only for some of the MIDI message types available for these control elements, you can choose from different behaviors for the way the data is sent. This is controlled by the **Mode** menu. This menu can have up to four entries, depending on the message type that you have selected in the **Type** menu. Here is the list of all possible entries:

- **Toggle:** In this mode, the control element has two states, On and Off. If you press once, it switches to the On state — if you press again, it switches to the Off state. This can be useful for example for activating some effect, then deactivating it later. This is usually the default mode. In this mode, you find two numeric fields: **Off Value** defines the value for the Off state (from 0 to 127, 0 by default), and **On Value** defines the value for the On state (0 to 127, 127 by default). For the Note message type, since the Off state is predefined (it's the MIDI Note Off message), you find instead a single **Value** parameter defining the velocity of the MIDI Note On message.
- **Gate:** In this mode, the element switches to the On state for the time it is held depressed. As soon as you release it, it switches back to the Off state. It is similar to the behavior of a key on a keyboard: the note is played when you hold the key depressed, and the note is switched off when you release the key. Like in Toggle mode, you find two numeric fields: **Value Off** defines the value for the Off state (from 0 to 127, 0 by default), and **Value On** defines the value for the On state (0 to 127, 127 by default). For the Note message type, since the Off state is predefined (it's the MIDI Note Off message), you find instead a single **Value** parameter defining the velocity of the MIDI Note On message.

- **Trigger:** In this mode, only one message is sent when you hit the control element. There are no On or Off states. For example, this can be useful for switching to another program (preset, patch...) or for triggering one-shot samples (e.g. drum sounds or any other envelope-controlled sounds). In this mode, you thus find only one numeric field called **Value**, defining the value to be sent when you hit the control element. It goes from 0 to 127 (127 by default).



TRAKTOR KONTROL X1 MK2 and S8: The Trigger mode is not available for the Touch action of the touch strip(s).

- **Inc (Increment):** In Increment mode, each action on the control element increases/decreases the parameter value. Two numeric fields **Range From** and **To** define the min and max values of the interval, respectively, each of them going from 0 to 127 (by default, 0 for the min and 127 for the max). Below, another numeric field called **Step** defines the increment to add (or to subtract if negative) each time that you press the button (it goes from -127 to 127, with 1 as default value). Finally, the **Wrap** button allows you to “cycle” the interval: If this button is activated, once the parameter reaches one of its limits, it jumps to the other one upon the next time you hit the control element. If the **Wrap** button is deactivated, the message sent upon the next hit keeps the maximal (or minimal) value for the parameter.



If the values set in the **Range From** and **Range To** fields are equal, they turn red to indicate a possible mistake when entering the values!



TRAKTOR KONTROL X1 MK2 and S8: The Increment mode is not available for the Touch action of the touch strip(s).

LED On Menu



The **LED On** menu.

For all control elements with LEDs and in Trigger, Gate, or Increment mode, a **LED On** menu allows you to choose from two LED lighting behaviors:

- **For MIDI In** (default): Selects the **MIDI feedback mode**. In this mode, the LED behavior is controlled by the MIDI target via a MIDI feedback channel. The MIDI target sends a MIDI message back to the controller to define the LED's state. This control mode notably allows

the button LED to be always reflecting the current state of the target's parameter, even if you changed this parameter via another way (e.g. with your mouse or via a keyboard shortcut in the target software). For this to work, you have to define in your target the MIDI message to be sent accordingly.

- *For MIDI Out*: Selects the **internal control mode**. In this mode, the LED behavior solely depends on your actions on the button.



When the control element is set to Toggle mode, the [LED On](#) menu is not available because both behaviors are used — the LED reacts both to your actions and to the (possibly) incoming MIDI feedback messages.

Action On Menu

For the Toggle, Trigger, and Increment modes, an [Action on](#) menu at the bottom of the Definition area allows you to choose when the message has to be sent.



The [Action on](#) menu.

The two options proposed by the [Action on](#) menu are:

- *Down* (default setting): The message is sent when the button is switched to the Down state (i.e. when you hit the button)
- *Up*: The message is sent when the button is switched to the Up state (i.e. when you release the button).



For Touch actions on all controllers, the *Down* and *Up* entries are called instead *Touch* and *Release*, respectively.



When the control element is set to Gate mode, this menu is not available — it wouldn't make sense, since both Down and Up state already define the Values On and Off to be sent.

Color Control

The parameters described here are valid for following control elements only:

NI Controller	Control elements
TRAKTOR KONTROL S2 MK2	Cue/Sample Trigger buttons (1–4) on either side
TRAKTOR KONTROL S4 MK2	Cue/Sample Trigger buttons (1–4) on either side
TRAKTOR KONTROL S8	Pads
TRAKTOR KONTROL X1 MK2	Cue/Sample Trigger buttons (1–4) on either side
TRAKTOR KONTROL F1	Pads
TRAKTOR KONTROL Z2	Cue/Sample Trigger buttons (1–4) on either side
MASCHINE STUDIO	Pads, GROUP buttons
MASCHINE MK2	Pads, Group buttons (A–H)
MASCHINE MIKRO MK2	Pads, GROUP buttons

For these control elements, you can define which color(s) should be used for the On and Off states. This is done via the menus located at the bottom of the Definition area.

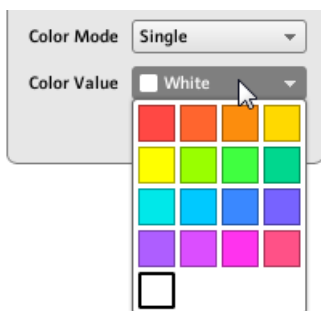
The [Color Mode](#) menu allows you to choose from three coloring modes:



The [Color Mode](#) menu.

These modes are available:

- *Single*: You can choose a color that will be used bright and dimmed for the On and Off states, respectively. The [Color Value](#) menu below allows you to choose this color from the seventeen colors available in the picker.



- *Dual*: You can choose a color for the On state and another color for the Off state. Both colors will be used at full brightness. The [Color On](#) and [Color Off](#) menus allow you to choose both colors from color pickers.

- *HSB* (Hue, Brightness, Saturation): This mode is only available when the pad's state is controlled via MIDI feedback — in other terms, when the pad is in Toggle mode or when *For MIDI In* is selected in the [LED On](#) menu (see above). In HSB mode, you can precisely define from within your MIDI target which color the pad will use. Hence, in this mode there is no color picker available in the [Assign](#) tab.

When the pad is in HSB mode, the Hue, Brightness, and Saturation levels are sent via MIDI to the controller using the pad's assigned CC or Note. The MIDI channel used to transmit those messages will determine its intent. For example, for a pad assigned to MIDI CC 9, you could:

- Send the CC 9 value 127 on channel 3 to set the pad to full brightness.
- Send the CC 9 value 16 on channel 1 to set the pad's color to yellow.

For the TRAKTOR KONTROL F1 and TRAKTOR KONTROL X1 MK2, the following table lists the MIDI channels used to define the pads' colors on the four simultaneously available F1 or X1 MK2 devices:

Parameter	MIDI Values	Device 1 (default)	Device 2 *	Device 3 *	Device 4 *
Hue	0–127	Channel 1	Channel 4	Channel 7	Channel 10
Saturation	0–127	Channel 2	Channel 5	Channel 8	Channel 11
Brightness	0–127	Channel 3	Channel 6	Channel 9	Channel 12

* These channels will be used when two or more units of the same type are connected to your computer. For example, if two TRAKTOR KONTROL F1 units are connected, the unit named "Traktor Kontrol F1 - 2" will receive HSB parameters on channels 4–6.



For more information on using two or more units of the same type simultaneously, please refer to chapter [↑22, Using Two or More Units of the Same Type](#).

For the TRAKTOR KONTROL Z2, S2 MK2, S4 MK2, S8, MASCHINE MK2, MASCHINE MIKRO MK2, and MASCHINE STUDIO controllers, only channels 1–3 are used in the table above.



Please note that updating the control elements' colors via HSB mode at a very high rate can lead to MIDI bus overload, making your controller temporarily unresponsive! This is a limitation of the MIDI protocol architecture. If this happens, decrease the amount of HSB messages sent to your controller.

23.6.3 Assignments for Key Zones

The assignments described here are valid for the Key Zones defined for the KOMPLETE KONTROL S-SERIES keyboards. For more info on defining Key Zones for your keyboard, please refer to section [↑21.3, Defining Key Zones](#).

For Key Zones, the **Type** menu offers the following entries: *Note Range* and *Off*.

- **Note Range:** Sends MIDI Note On/Off messages. These messages are sent over a specific MIDI channel set by the **Channel** parameter (range from 1 to 16, 1 by default). It tells your target to play/stop the note corresponding to the key you press/release on your keyboard, shifted by the **Transpose** value. The velocity at which the note is played depends on how hard you hit the key and the velocity curve selected in the **Velocity** menu. The **Velocity** menu provides following curves:
 - *Soft 3, Soft 2, Soft 1:* Velocities you play on the keyboard will be amplified. *Soft 3* is the most extreme setting: The softest hit on the key will be already audible.
 - *Linear* (default): Velocities you play on your keyboard will be transmitted “as is” to the target.
 - *Hard 1, Hard 2, Hard 3:* Velocities you play on the keyboard will be attenuated. *Hard 3* is the most extreme setting: You will have to hit your keys with (quite a lot of) force to hear the corresponding notes.
 - *Fixed to Max:* Whichever strength you use to hit the keys, the resulting notes will have the maximum velocity (127).
- **Off:** As for any other control element, this simply removes the MIDI assignments. Note that this is equivalent to disabling the Key Zone via the context menu in the Keybed area — for more information, see section [↑21.3.2, Editing Key Zones](#).

Color Control

For the *Note* message type, in addition to the parameters described in section [↑23.6.1, MIDI Message Types – Type Menu](#), the **Color** setting allows you to define which color should be used in the Light Guide (the LEDs above the keys on your keyboard) for the selected Key Zone:

- ▶ Click the **Color** menu and select the desired color from the color picker that opens:



- The selected color is applied to the Key Zone, as shown at the bottom of the Hardware area. On your keyboard, the Light Guide mirrors this color above the keys in that Key Zone.



To actually see the selected color in the Light Guide on your keyboard, you might need to shift the keyed to keys within that Key Zone by pressing the OCT-/OCT+ buttons.

For more information on Key Zones, please refer to section [↑21.3, Defining Key Zones](#).

23.6.4 Assignments for the Pads – Hit Action

The assignments described here are valid for the pads of the whole MASCHINE controller family (MASCHINE, MASCHINE MK2, MASCHINE MIKRO, MASCHINE MIKRO MK2, MASCHINE STUDIO). The Hit action on a pad is very similar to actuating a button (see [↑23.6.2, Assignments for Buttons](#) above).

The only differences between hitting a pad and pressing a button are the following:

- The *Pitchbend* entry is not available in the **Type** menu.



However, you can control the Pitchbend via the Press action of the same pad. This allows you to create a very intuitive tuning control: With the Hit action of the pad triggering a MIDI Note, you can then detune this note by varying the pressure that you're applying to the pad!

- There is no [Action on](#) menu.

Additionally, the pads of the MASCHINE MK2 and MASCHINE MIKRO MK2 controllers are equipped with multicolor LEDs. You can define which color will be used for each pad state. Please refer to section [↑23.6.2, Assignments for Buttons](#) above for more information on this.

23.6.5 Assignments for Knobs and the Like

These virtually continuous control elements are characterized by a physically limited range.

The assignments described here are valid for following control elements:

NI Controller	Control elements
KOMPLETTE KONTROL S-SERIES	EXPRESSION pedal input
TRAKTOR KONTROL X1	FX Knobs
TRAKTOR KONTROL X1 MK2	FX Knobs
TRAKTOR KONTROL F1	FILTER knobs, vertical faders
TRAKTOR KONTROL Z1	Knobs (Macro FX, Deck C/D Volume, Mixer), vertical faders (channels), crossfader
TRAKTOR KONTROL Z2	Knobs (Macro FX, Deck C/D Volume, Mixer), vertical faders (channels), crossfader
TRAKTOR KONTROL S2/S4	Knobs (FX, Mixer), vertical faders (TEMPO, channels), crossfader
TRAKTOR KONTROL S2 MK2/S4 MK2	Knobs (FX, Mixer), vertical faders (TEMPO, channels), crossfader
TRAKTOR KONTROL S8	Deck Units: FX and Performance knobs (Turn action), Slot Volume faders (Slide action) Mixer: channel knobs, channel faders, and crossfader
TRAKTOR KONTROL D2	Deck Unit: FX and Performance knobs (Turn action), Slot Volume faders (Slide action)

For these control elements, the **Type** menu offers the following entries: *Control Change* (default setting), *Poly Pressure*, *Channel Pressure*, *Program Change*, *Pitchbend*, *MCU Channel*, *MCU Master*, and *Off*.



KOMPLETTE KONTROL S-SERIES keyboards: The *MCU Channel* and *MCU Master* entries are not available for the EXPRESSION pedal input.



For a general description of these MIDI message types, see [↑23.6.1, MIDI Message Types – Type Menu](#).

For Control Change, Poly Pressure, Channel Pressure, Program Change, and Pitchbend, two numeric fields labeled **Range From** and **To** define the min and max values of the interval, respectively. Both numeric fields go from 0 to 127 (by default, 0 for the min and 127 for the max), except for the type Pitchbend, for which they go from -1.00 to 1.00.



If the values set in the **Range From** and **Range To** fields are equal, they turn red to indicate a possible mistake when entering the values!

23.6.6 Assignments for the Pads – Press Action

The assignments described here are valid for the pads of the whole MASCHINE controller family (MASCHINE, MASCHINE MK2, MASCHINE MIKRO, MASCHINE MIKRO MK2). The Press action on a pad (i.e. maintaining a continuous pressure on the pad) is quite similar to actuating a knob (see [↑23.6.5, Assignments for Knobs and the Like](#) above).

The **Type** menu offers the following entries: *Note*, *Control Change*, *Poly Pressure* (default setting), *Channel Pressure*, *Pitchbend* (very useful for bending the tuning of sounds by pressure!), and *Off*.



For a general description of these MIDI message types, see [↑23.6.1, MIDI Message Types – Type Menu](#).

The types Control Change, Poly Pressure, Channel Pressure, and Pitchbend provide the same parameters as with knobs: two numeric fields labeled **Range From** and **To** define the min and max values of the interval, respectively. Both numeric fields go from 0 to 127 (by default, 0 for the min and 127 for the max), except for the type Pitchbend, for which they go from -1.00 to 1.00.



If the values set in the [Range From](#) and [Range To](#) fields are equal, they turn red to indicate a possible mistake when entering the values!

For the type Note, you have instead following parameters:

- **Value:** Sets the velocity of the note to be played.
- **Threshold Off** and **On:** Define the pressure threshold above (below) which the Note On (Off) message is sent. The [Threshold Off](#) value should always be smaller than the [Threshold On](#) value (have you ever considered stopping a note before playing it?). Both parameters range from 0 % to 100 % (as a ratio with the maximum pressure).

As you can see, the settings for the Press action on a pad are quite similar to those of the usual knobs. Here is a list of the differences:

- The Note type is added — and, for that, the on and off thresholds are needed.
- Program Change is not available because it would not be controllable.

23.6.7 Assignments for Digital Encoders

With “encoder” we mean a rotary, virtually continuous control element characterized by an endless range.

The assignments described here are valid for following control elements:

NI Controller	Control elements
MASCHINE STUDIO	Jog wheel
MASCHINE MK2	Control encoder
MASCHINE MIKRO (MK2)	Control encoder
TRAKTOR KONTROL X1	Push Encoders (Turn action)
TRAKTOR KONTROL X1 MK2	Push Encoders (Turn action)
TRAKTOR KONTROL F1	Encoder knob (Turn action)
TRAKTOR KONTROL Z1	Encoders (Turn action)
TRAKTOR KONTROL Z2	Encoders (Turn action)
TRAKTOR KONTROL S2/S4	Encoders (Turn action), jog wheels (Turn action)
TRAKTOR KONTROL S2 MK2/S4 MK2	Encoders (Turn action), jog wheels (Turn action)

NI Controller	Control elements
TRAKTOR KONTROL S8	Encoders (Turn action)
TRAKTOR KONTROL D2	Encoders (Turn action)

For these control elements, the **Type** menu offers the following entries: *Note (Relative)*, *Control Change* (default setting), *Poly Pressure*, *Channel Pressure*, *Program Change*, *Song Position*, *MCU Wheel*, and *Off*.



For a general description of these MIDI message types, see [↑23.6.1, MIDI Message Types – Type Menu](#).

For all types except Note (Relative), Control Change and MCU Wheel, you find following parameters:

- Two numeric fields labeled **Range From** and **To** define the min and max values of the interval, respectively. Both numeric fields go from 0 to 127 (by default, 0 for the min and 127 for the max).



If the values set in the **Range From** and **Range To** fields are equal, they turn red to indicate a possible mistake when entering the values!

- A numeric field **Step** defines the increment to add (or to subtract if negative) for each step of control element (it goes from -128 to 127, with 1 as default value).
- The **Wrap** button allows you to “cycle” the interval: If this button is activated, once the parameter reaches one of its limits, it jumps to the other one upon the next movement of the encoder. If the **Wrap** button is deactivated, the message sent upon the next movement keeps the maximal (or minimal) value for the parameter.
- S2/S4 jog wheels only: A **Tick** numeric field allows you to reduce the transmission sensitivity in order to counterbalance the high number of counts per revolution, which is specific to this control element. This parameter goes from 20 to 1000.



For the S2/S4 jog wheels, the **Step** parameter ranges from -32 to 31 only.

Control Change

For the type Control Change, a **Mode** menu allows you to select between three operating modes:

- **Absolute:** In this mode the control element sends absolute values. Its parameters are the same as those described above: two numeric fields [Range From](#) and [To](#), a numeric field [Step](#) and a [Wrap](#) button (see above).
- **Relative:** In this mode, the sent message is in a +1/-1 fashion — actually 1/127, which is then understood by the target software as +1/-1 in that case. This allows the control element to set the new Control Change value relatively to its current value. There is only one parameter called [Step](#) which defines the increment to use. Increase the [Step](#) value to trigger greater jumps in the target parameter value. If you choose a negative value for [Step](#), the control will be inverted.
- **Relative (Offset):** This mode is similar to the Relative mode explained above, with the difference that here the values sent for the “+1” and “-1” messages are 65 and 63, respectively — in other terms, they are centered around 64 instead of 0. This is well suited for some particular software implementations. As in Relative mode, a [Step](#) parameter defines the increment to use.



The appropriate mode mostly depends on the requirements of your target! Please refer to your target’s documentation to know which mode is best suited.

Note (Relative)

For the type Note (Relative), two [Note](#) parameters define the MIDI note numbers triggered when turning the control counter-clockwise and clockwise, respectively (both ranges from MIDI Note C-2 to G8). See section [↑23.6.1, MIDI Message Types – Type Menu](#) for more information on this message type.

23.6.8 Assignments for Analog Encoders

In contrast to the digital encoders described above, analog encoders output analog values. The available MIDI message types are slightly different.

The assignments described here are valid for following control elements:

NI Controller	Control elements
KOMPLETTE KONTROL S-SERIES	Knobs 1–8 above the displays
TRAKTOR KONTROL S8	Performance knobs (Turn action) under the displays

NI Controller	Control elements
TRAKTOR KONTROL D2	Performance knobs (Turn action) under the displays
MASCHINE STUDIO	Knobs 1–8 (Turn action) under the displays, Level knob
MASCHINE (MK2)	Knobs 1–8 under the displays

For these control elements, the **Type** menu offers the following entries: *Control Change* (default setting), *Poly Pressure*, *Channel Pressure*, *Program Change*, *Pitchbend*, *MCU V-Pot*, *MCU Channel*, *MCU Master*, and *Off*.



KOMLETE KONTROL S-SERIES: The *Pitchbend*, *MCU V-Pot*, *MCU Channel*, and *MCU Master* entries are not available for Knobs 1–8.



For a general description of these MIDI message types, see [↑23.6.1, MIDI Message Types – Type Menu](#).

For all types except Control Change and the MCU types, you find following parameters:

- Two numeric fields labeled **Range From** and **To** define the min and max values of the interval, respectively. Both numeric fields go from 0 to 127 (by default, 0 for the min and 127 for the max), except for the type Pitchbend, for which they go from -1.00 to 1.00.



If the values set in the **Range From** and **Range To** fields are equal, they turn red to indicate a possible mistake when entering the values!

- A numeric field labeled **Resolution** defines the physical angle on your encoder that is needed to reach both limits of the interval (as defined by the **Range From** and **To** values). Its values go from 30 to 3600 degrees (360 by default, i.e. one full revolution). For example, if you choose 3600 (degrees), you will need to turn your knob ten times in order to go from the minimum value to the maximum value defined by Range.



KOMLETE KONTROL S-SERIES: The **Resolution** parameter is not available for Knobs 1–8.

Control Change

For the type Control Change, a **Mode** menu allows you to select between three operating modes:

- **Absolute:** In this mode the control element sends absolute values. The [Range From](#), [To](#), and [Resolution](#) parameters are the same as for the other message types (see above).
- **Relative:** In this mode the sent message is in a +1/-1 fashion — actually 1/127, which is then understood by the target software as +1/-1 in that case. This allows the control element to set the new Control Change value relatively to its current value. Two parameters are available:
 - **Step:** Defines the increment to use. Increase the [Step](#) value to trigger greater jumps in the target parameter value. If you choose a negative value for [Step](#), the control will be inverted.
 - **Resolution:** Adjusts the sensitivity of the control element to your actions. At high [Resolution](#) values, a little movement of the control element will be enough to trigger the message. At lower [Resolution](#) values, you will have to move it more frankly to trigger the message.
- **Relative (Offset):** This mode is similar to the Relative mode explained above, with the difference that here the values sent for the “+1” and “-1” messages are 65 and 63, respectively — in other terms, they are centered around 64 instead of 0. This is well suited for some particular software implementations. As in Relative mode, a [Step](#) parameter defines the increment to use, and a [Resolution](#) parameter adjusts the sensitivity of the control element to your actions.



KOMPLETE KONTROL S-SERIES: The [Resolution](#) parameter is not available for Knobs 1–8.



The appropriate mode mostly depends on your target's requirements! Please refer to the documentation of your target to know which mode is best suited.

Display Menu (MASCHINE Controllers and KOMPLETE KONTROL S-SERIES Only)

For the types Control Change (Absolute mode only), Poly Pressure, Channel Pressure, and Pitchbend, the knobs show a [Display](#) menu that lets you decide how the parameter should *appear* on the display(s) of your controller: with the zero in the middle (*Bipolar*) or at the beginning (*Unipolar*, by default) of the interval. This is up to you, since it depends on what you plan to control with this assignment.



The Program Change type does not offer this parameter, since it is always unipolar.

23.6.9 Assignments for Touch Strips – Position Action (TRAKTOR KONTROL Devices)

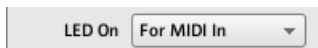


The assignments described in this section are valid for the Position action of the touch strip on the TRAKTOR KONTROL X1 MK2, TRAKTOR KONTROL S8 and TRAKTOR KONTROL D2. The touch strips available on the KOMLETE KONTROL S-SERIES have different assignment parameters which are described in section [↑23.6.10, Assignments for Touch Strips \(KOMLETE KONTROL S-SERIES\)](#).

The touch strip (Position action) on the TRAKTOR KONTROL X1 MK2, S8 and D2 is very similar to the analog encoders described in section [↑23.6.8, Assignments for Analog Encoders](#). The only differences are the following:

- The **Type** menu offers an additional *Note (Relative)* message type: For this type, two **Note** parameters define the MIDI note numbers triggered when dragging your finger to the left or to the right on the touch strip, respectively (both ranges from MIDI Note C-2 to G8). See section [↑23.6.1, MIDI Message Types – Type Menu](#) for more information on this message type.
- For all message types except the MCU types, you can define the behavior of the touch strip's LED chain via the **LED On** and **LED Mode** menus, as described in the following paragraphs.

LED On Menu



The **LED On** menu.

The **LED On** menu allows you to choose from two LED chain lighting behaviors:

- *For MIDI In* (default): Selects the **MIDI feedback mode**. In this mode, the LED chain behavior is controlled by the MIDI target via a MIDI feedback channel. The MIDI target sends a MIDI message back to the controller to define the LEDs' state. This control mode notably allows the LED chain to be always reflecting the current value of the target's parameter, even if you changed this parameter via another way (e.g. with your mouse or via a keyboard shortcut in the target software). For this to work, you have to define in your target the MIDI message to be sent accordingly.

- *For MIDI Out:* Selects the **internal control mode**. In this mode, the LED chain behavior solely depends on your actions on the touch strip.

LED Mode Menu

The **LED Mode** menu allows you to adjust how the LEDs react to the incoming MIDI message, independently of its origin (this is set by the **LED On** menu described above). Following LED modes are available:

- *Orange Dot:* In this mode the current value is represented by a single orange LED. Receiving a MIDI value of 0 will result in the leftmost LED being illuminated, whereas a MIDI value of 127 would result in the rightmost LED being illuminated. A MIDI value of 64 would result in the center LED being illuminated. The other LEDs would have their values assigned over this range accordingly.
- *Blue Dot:* Same as the Orange Dot mode above, except that a blue LED is used instead of orange.
- *Orange Bar:* In this mode the current value is represented by a series of orange LEDs which fill in starting from the leftmost LED up to the current value. For example, with a MIDI value of 127, all LEDs would be on. With a MIDI value of 64, the first 11 LEDs would be on (starting from the left) thus creating a bar which is half full. A MIDI value of 1 would result in only the left LED being on, while a MIDI value of 0 would result in all LEDs being off.
- *Blue Bar:* Same as the Orange Bar mode above, but using blue LEDs instead of orange.
- *Orange Pan:* This mode is similar to the Bar modes described above, except that the bar fills from the middle of the LED chain out to the specified value. For example, with a MIDI value of 64, only the center LED on the chain would be lit in orange. With a MIDI value of 0, the left 11 LEDs would be lit (starting from the center LED and extending left to the MIDI value). Similarly, a MIDI value of 127 would result in the right 11 LEDs being on (starting from the center and extending to the right).
- *Blue Pan:* Same as above, but using blue LEDs instead of orange.

23.6.10 Assignments for Touch Strips (KOMPLETE KONTROL S-SERIES)

The assignments described here are valid for the touch strips of the KOMPLETE KONTROL S-SERIES keyboards.



The assignments described here are valid for the touch strips of the KOMPLETE KONTROL S-SERIES keyboards. The touch strip available on the TRAKTOR KONTROL X1 MK2, TRAKTOR KONTROL S8 and TRAKTOR KONTROL D2 has different assignment parameters which are described in section [↑23.6.2, Assignments for Buttons](#) (Touch action) and [↑23.6.9, Assignments for Touch Strips – Position Action](#) (TRAKTOR KONTROL Devices) (Position action).

For these control elements, the **Type** menu offers the following entries: *Control Change*, *Pitchbend*, and *Off*.



For a general description of these MIDI message types, see [↑23.6.1, MIDI Message Types – Type Menu](#).

For both Control Change and Pitchbend types, two numeric fields labeled **Range From** and **To** define the min and max values of the interval, respectively. For Control Change, both numeric fields go from 0 to 127 (by default, 0 for the min and 127 for the max). For Pitchbend, both numeric fields go from -1.00 to 1.00 instead.



If the values set in the **Range From** and **Range To** fields are equal, they turn red to indicate a possible mistake when entering the values!

Mode Menu

You can choose from different behaviors affecting how the touch strip reacts to your actions and generates the MIDI data to be sent. This is controlled by the **Mode** menu of the **Assign** pane.



The **Mode** menu for touch strips.

The **Mode** menu has four entries, corresponding to four different behaviors:

- **Standard:** This is the default mode for the right touch strip on your KOMPLETE KONTROL S-SERIES keyboard and corresponds to the usual behavior for a modulation control. In this mode the touch strip directly translates the position of your finger onto the range specified by the **Range From** and **To** parameters above. When you put your finger somewhere on the strip, the value instantly jumps to the corresponding position and stays

there. The [Display](#) and [LED Mode](#) menus allow you to define how the value should be indicated on the strip's LED chain — see section [↑21.4.3, Visual Feedback on the Touch Strips](#) for more details.

- **Spring:** This is the default mode for the left touch strip on your KOMPLETE KONTROL S-SERIES keyboard and corresponds to the usual behavior for a pitchbend control. This mode simulates a simple spring holding back the current MIDI value when it moves away from its default position, which is in the middle of the strip. When you put your finger somewhere on the strip, the value instantly jumps to the corresponding position and stays there as long as you keep your finger on the strip. When you remove your finger, the value moves back to the default position. The speed of this return trip can be adjusted via the [Strength](#) slider: Using the analogy of the spring holding back the MIDI value, the higher the [Strength](#) setting, the quicker the MIDI value will return to its default position.
- **Ball:** This mode simulates a ball (the current MIDI value) that would be attracted by the gravity of your finger. If you put your finger at a particular location on the strip, the ball will move from its current position towards your finger. If you keep your finger in place until the ball reaches it, the ball stops there. If you remove your finger before, the ball sustains its momentum and continues on its way beyond your finger. Note that the longer you keep your finger on the strip, the faster the ball will get. Alternatively, you can “throw” the ball by putting your finger on the ball's current position (blue LED), dragging it in any direction, and removing your finger. The faster you drag your finger, the faster the ball will get. The movement of the ball is also affected by following parameters:
 - [Friction](#) slider: Adjusts the air friction that slows down the ball once you have removed your finger. The higher the [Friction](#) value, the quicker the ball will decelerate and stop. When fully left, the ball never stops. When fully right, the ball stops instantly.
 - [Gravity](#) slider: Adjusts the attraction of your finger on the ball: The higher the [Gravity](#) value, the faster the ball will move. This parameter doesn't affect the ball movement if you throw the ball with your finger (see above).
 - [Walls](#) menu: Adjusts the behavior of the ball when it reaches the range limits. If [Walls](#) is set to *On*, the ball bounces off the range limit and continues its trip in the opposite direction. If [Walls](#) is set to *Off*, the ball jumps to the opposite range limit and continues from there in the same direction.

- **Stepped:** In Stepped mode, the touch strip is split into a certain amount of equally-sized segments. Each segment is assigned to a unique MIDI value: When you touch that segment, its associated MIDI value is sent. The number of segments is defined via the [Steps](#) numeric field. You can split the touch strip into 2, 3, 4, or 5 steps. The lower segment will always output the lowest MIDI value, and the upper segment the highest value, as defined by the [Range From](#) and [Range To](#) parameters. The other segments (if any) will output MIDI values equally spread inbetween.

For example, if [Range From](#) and [Range To](#) are set to 0 and 127 (respectively) and [Steps](#) is set to 4, the possible MIDI values will be 0, 42, 84, and 127.

LED Controls and Visual Feedback

The LED chain next to the touch strip provides an intuitive visual feedback for each of the behaviors described above. Depending on the mode selected for the touch strip, its LED chain can be further adjusted via the [Display](#) and [LED Mode](#) menus. These menus, along with the various behaviors of the LED chain, are described in section [↑21.4.3, Visual Feedback on the Touch Strips](#).

23.6.11 Assignments for LED Chains and 7-segment Displays

The assignments described here are valid for following control elements:

NI Controller	Control elements
TRAKTOR KONTROL S2/S4/S2 MK2/ S4 MK2	LED chains
TRAKTOR KONTROL Z1	7-segment display
TRAKTOR KONTROL F1	7-segment display

The LED chains and 7-segment displays are a bit particular. They actually don't send any MIDI message, but are used for MIDI feedback instead: the [Assign](#) pane allows you to define the MIDI message they should react to.

For these control elements, the [Type](#) menu offers the following entries: *Note*, *Control Change*, and *Off*.

- For the Note type, use the [Note](#) numeric field to select the desired MIDI Note. The control element will then display the velocity at which this MIDI Note is played.

- For the Control Change type, use the [Number](#) numeric field to select the desired Control Change. The control element will then display the value of that Control Change.