The First steps

Electra One is built to give you fast, hands-on control over your MIDI gear, with an interface that's both intuitive and powerful. It combines a touchscreen, 12 high-resolution touch-sensitive knobs, and a set of hardware buttons — all working together to help you adjust parameters, browse presets, manage settings, and access advanced features quickly.

The Electra One user interface revolves around four main elements:

- **Color display** – shows controls, presets, pages, menus, and configuration screens.
- **Touchscreen** – lets you interact directly with controls, switch pages, open menus, and adjust settings.
- **Buttons** – used to change sections, access features like snapshots and patch requests, and navigation or call wide variety of functions.
- **Touch-sensitive knobs** – provide precise parameter control and are also used to select items in lists, menus, and configuration screens.

Optionally, you can use external MIDI controllers to expand the number of available buttons and knobs. The chapter Settings explains how to set up and use that feature in detail.

In addition to its two standard MIDI IN and two MIDI OUT ports, Electra One also functions as both a USB host and a USB MIDI interface with MIDI routing capabilities, making it a powerful central hub for your entire music production setup.

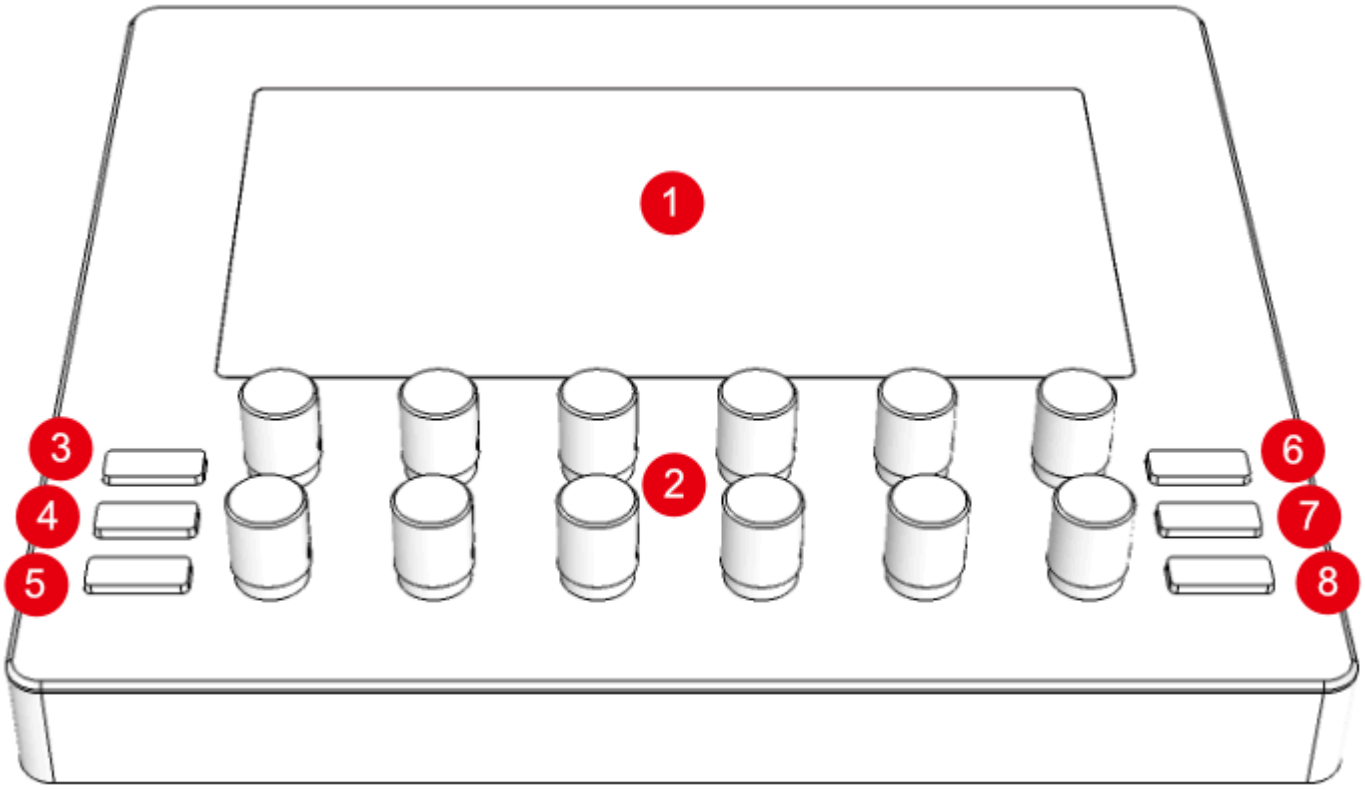
Default configuration

We'll begin with Electra One in its default configuration, which makes it easier to get familiar with how the device works. Later, you'll learn how to customize the controller to suit your needs. The default setup defines the behavior of the hardware buttons and how screen touches are handled.

Panel layout and connectors

Front panel

The front panel is where you interact with Electra One.



1. Touch-sensitive display – the main screen for interacting with controls, menus, and system features
2. Touch-sensitive 360-degree knobs - labeled `KNOB1` (top-left) to `KNOB12` (bottom-right), used for adjusting parameter values
3. `[LEFT-TOP]` button
4. `[LEFT-MIDDLE]` button
5. `[LEFT-BOTTOM]` button
6. `[RIGHT-TOP]` button
7. `[RIGHT-MIDDLE]` button
8. `[RIGHT-BOTTOM]` button

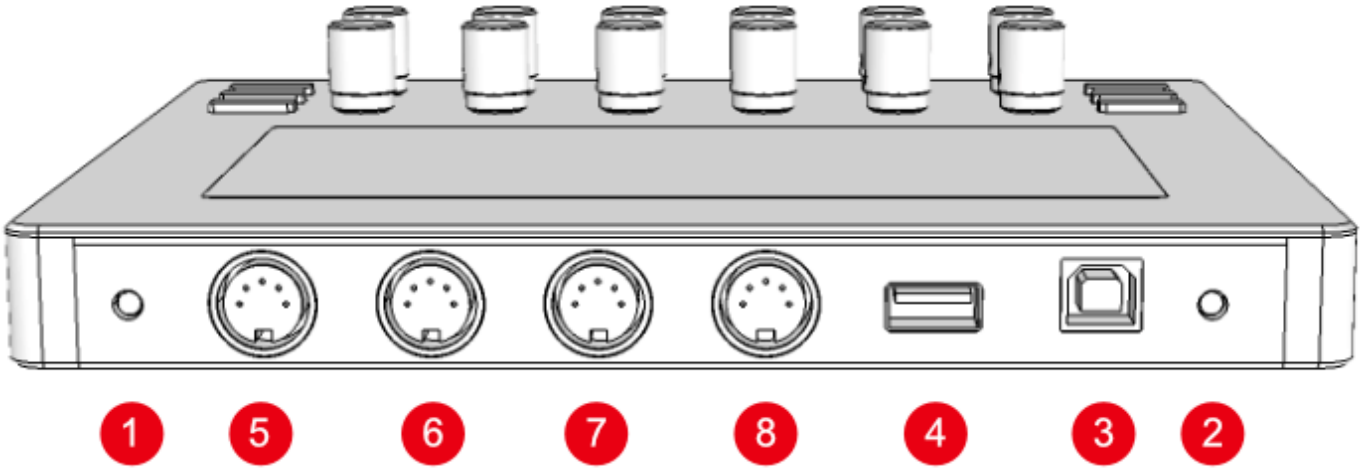
In default configuration the buttons provide the following functions:

3. `[SECTION 1]` button – activates the top row of control assignments
4. `[SECTION 2]` button – activates the middle row of control assignments
5. `[SECTION 3]` button – activates the bottom row of control assignments
6. `[PATCH REQUEST]` button – sends patch request messages to connected devices
7. `[SNAPSHOTS]` button – opens the snapshot management screen
8. `[MENU]` button – opens the system menu for configuration and advanced options

You can customize all button actions in the controller's configuration settings to better fit your workflow.

Rear panel

The rear panel is where you connect Electra One to your computer and other MIDI gear. It also includes buttons for resetting the device and initiating a firmware update.



1. `[UPDATE]` button – puts the controller into firmware update mode
2. `[RESET]` button – performs a hardware reset
3. `<USB DEVICE>` port - connects Electra One to your computer as a USB MIDI interface
4. `<USB HOST>` port – connects USB MIDI devices (e.g. synths, controllers) directly to Electra One
5. `<MIDI 2 IN>` port – standard 5-pin DIN MIDI input (Port 2)
6. `<MIDI 2 OUT>` port – standard 5-pin DIN MIDI output (Port 2)
7. `<MIDI 1 IN>` port – standard 5-pin DIN MIDI input (Port 1)
8. `<MIDI 1 OUT>` port – standard 5-pin DIN MIDI output (Port 1)

Ports `<MIDI 1 OUT>`, `<MIDI 1 IN>`, `<MIDI 2 OUT>`, `<MIDI 2 IN>` are often referred as to `<MIDI IO>`

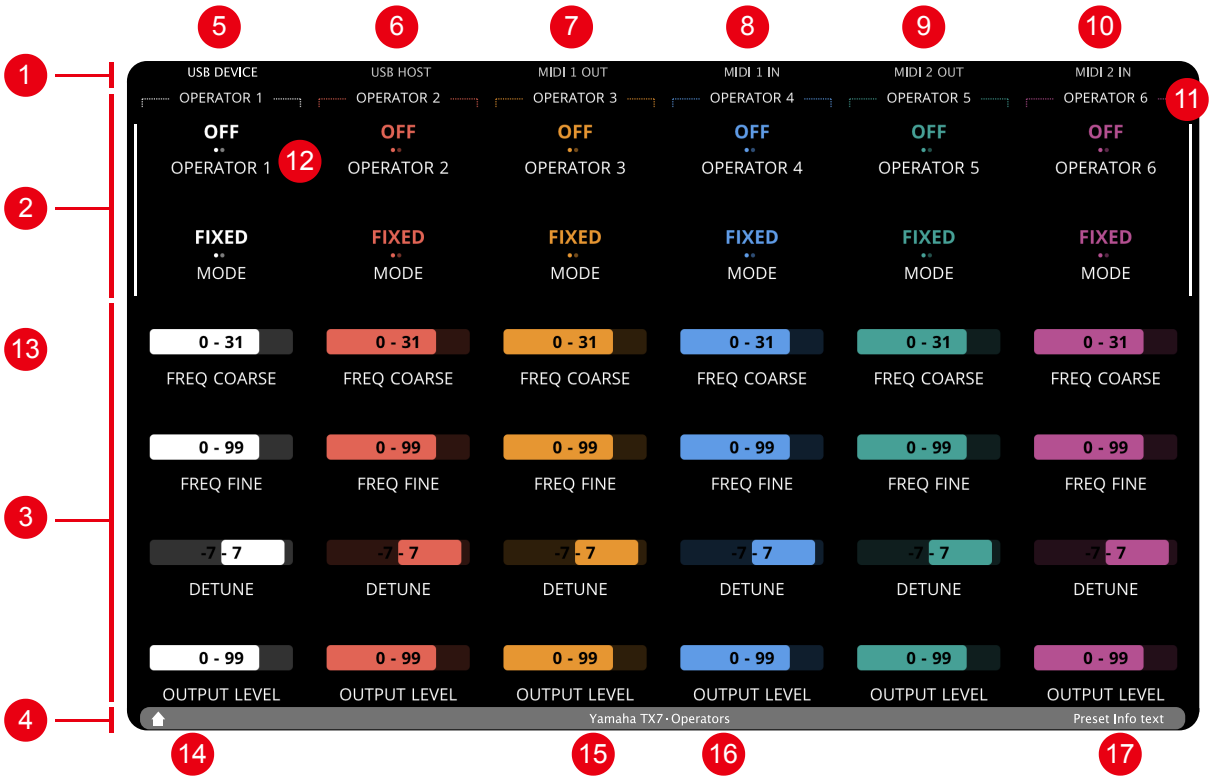
Display layout

The display is where all the magic happens. It shows the controls assigned to your synthesizer parameters, based on the currently loaded preset.

In addition to control elements, the display also provides useful system information, such as:

- Port activity (MIDI data in/out).
- The currently selected preset, page, and active control set.
- Current mode (e.g. Alt mode, MIDI learn, etc.)

Controls are typically arranged in a 6 × 6 grid, giving you access to up to 36 controls per page. However, more advanced presets may override this layout to suit specific use cases.



1. Status bar with MIDI port activity indicators
2. Active section of controls
3. Inactive sections of controls
4. Bottom bar with the preset name and current page name
5. Indicator of activity on `<USB DEVICE>` port
6. Devices connected to `<USB HOST>` port and indicator of activity
7. Indicator of activity on `<MIDI 1 OUT>` port
8. Indicator of activity on `<MIDI 1 IN>` port
9. Indicator of activity on `<MIDI 2 OUT>` port
10. Indicator of activity on `<MIDI 2 IN>` port
11. Group of Controls
12. List Control
13. Fader Control
14. Mode indicators
15. Preset name
16. Current page name
17. Optional info text defined by the preset

The Status bar

The status bar is located at the top of the display and provides real-time information about all MIDI ports: the USB Device port, connected USB Host devices, and MIDI IO ports.

The layout of the status bar mirrors the physical location of the ports on the back of the controller, making it easy to understand what's happening at a glance. MIDI activity is shown by flashing indicators on the corresponding port labels.

USB Device port

The leftmost item on the status bar shows the status and MIDI activity of the `<USB DEVICE>` port — that is, the communication between the controller and the computer.

USB Host devices

USB Host devices displays information about MIDI USB devices connected to Electra's USB Host port. The MIDI USB devices are identified by their "Product name". It means that when a USB device is connected to the `<USB HOST>` port, its name is shown.

Up to two USB MIDI devices can be connected using a standard USB hub. When two devices are connected, the label will read "2 devices".

MIDI IO ports

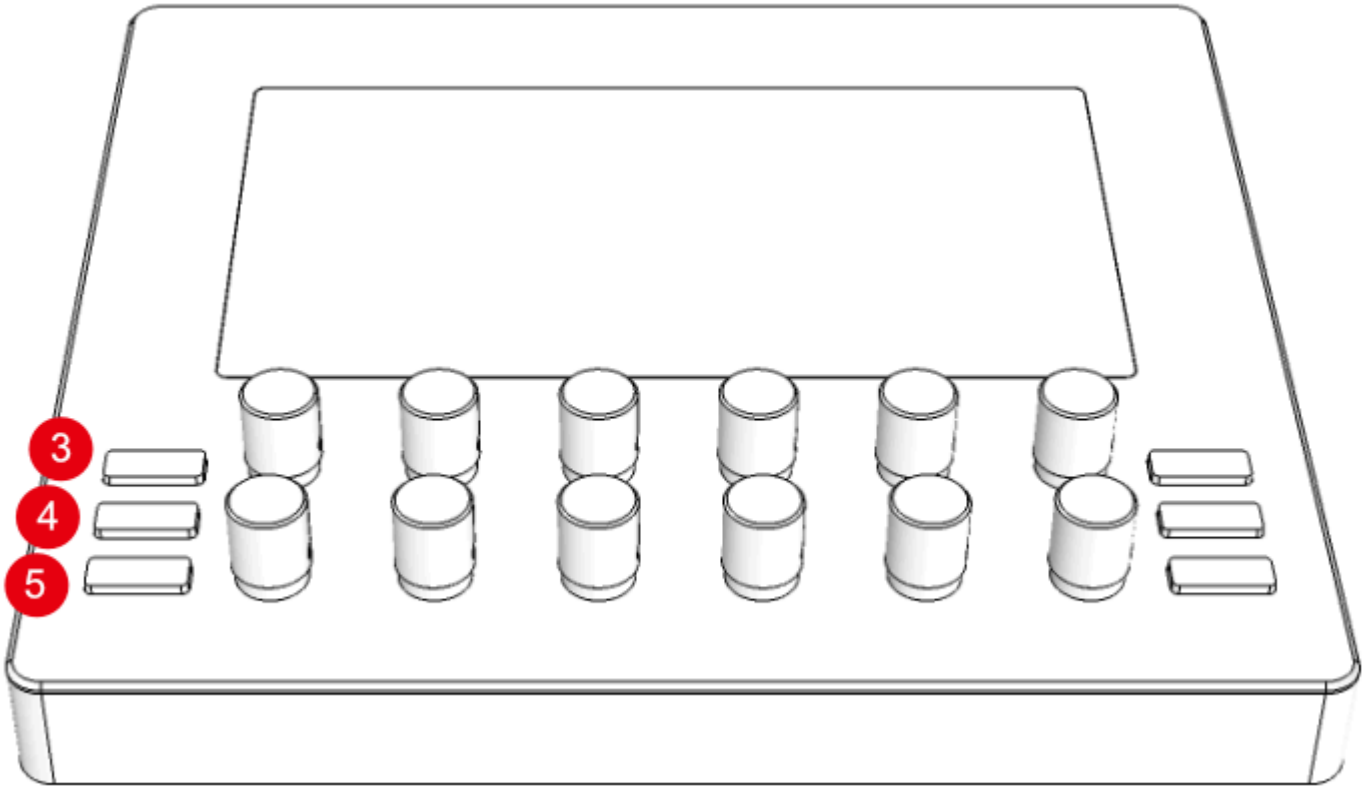
These indicators represent the two MIDI IN and OUT DIN-5 ports on the rear panel (referred to as `<MIDI IO>`). The labels flash when MIDI data is being received or transmitted through these ports.

Active Control Set

Electra's display can show up to 36 controls on a single page, but there are only twelve physical knobs. To make all controls easily accessible, the screen is divided into three sets — each containing up to twelve controls.

Only one set can be active at a time. The controls in the active control set are mapped to the twelve physical knobs, meaning that turning a knob will adjust the corresponding control's value.

In default configuration, the active control set is selected using the three buttons on the left side of the controller:



- Button 3, referred to as `[SECTION 1]`, activates the top set.
- Button 4, referred to as `[SECTION 2]`, activates the middle set.
- Button 5, referred to as `[SECTION 3]`, activates the bottom set.

The active control set is always indicated by white bars along the left and right edges of the screen. These visual indicators help you stay oriented and clearly show which set of controls is currently linked to the knobs.

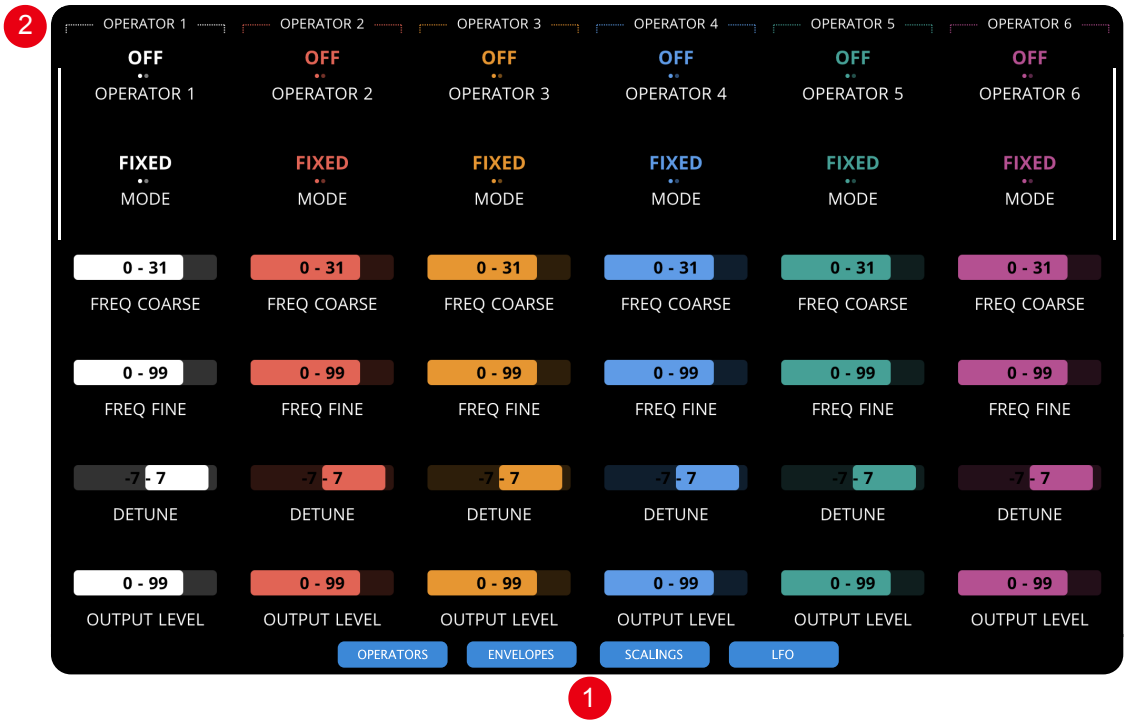
You can also switch the active control set by simply tapping a control on the touchscreen. The set containing the tapped control will become active. This feature is part of the default configuration and provides a quick, intuitive way to work with the controls.

The method for switching the active control set can be fully customized in the Electra's configuration.

The Bottom bar

The Bottom Bar helps you stay oriented by showing where you are, what you're working with, and which mode the controller is currently in.

The Bottom bar can be switched to **Bottom Menu mode**, which provides easy access to preset pages. In this mode, the Status bar is hidden, and the standard Bottom bar is replaced with on-screen buttons for quick page selection using the touchscreen. Bottom Menu mode is activated by swiping up on the display.



1. Buttons representing all pages of the current preset.
2. Status bar hidden, the MIDI activity is not indicated.

While in menu mode, simply tap one of the page buttons to jump directly to that page. By swiping the screen down you will return the display to the default mode with the Status Bar and Bottom Bar visible.

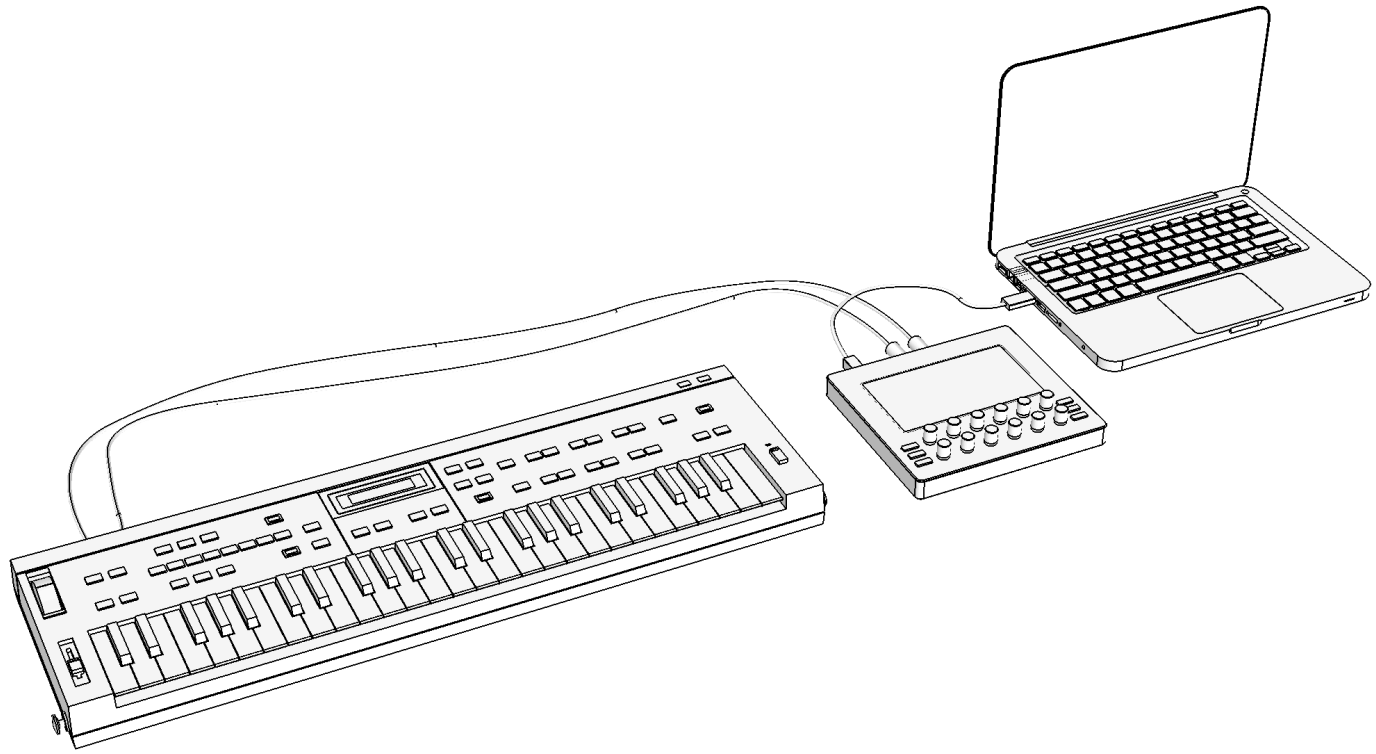
Connecting Electra

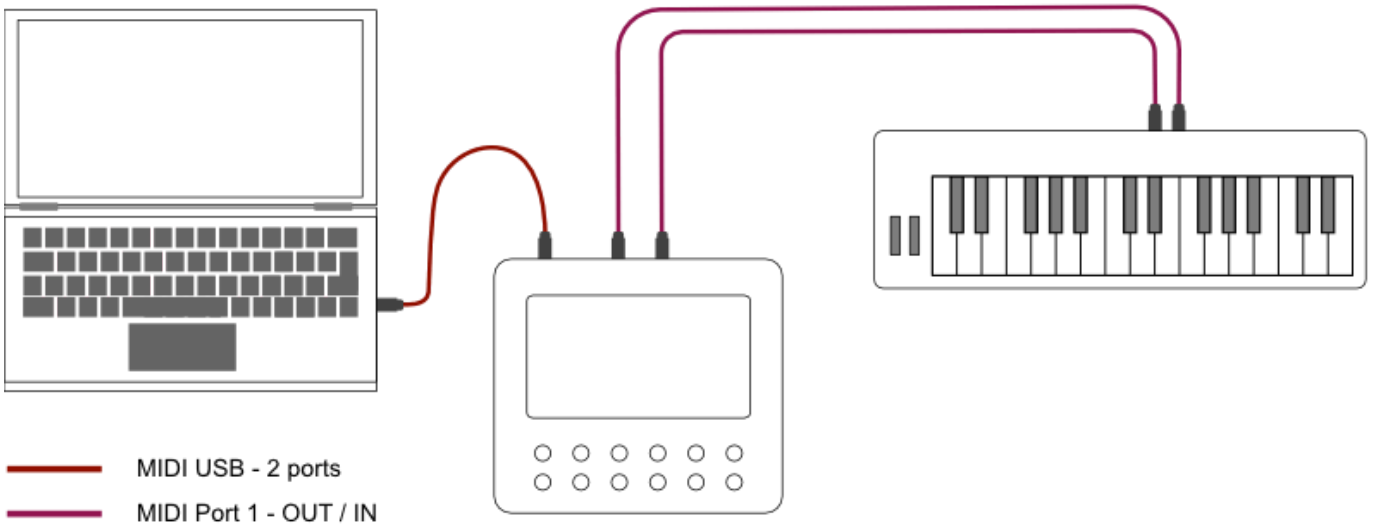
The next sections will show you how to connect Electra One to your setup. While there are many different ways to use it, the three examples below offer a solid starting point.

In many cases, adding Electra One to your rig may inspire you to rethink how your gear is connected, and possibly make your whole setup simpler and more efficient.

A basic setup

To begin with, the following setup is ideal:





In this setup, Electra can control sound parameters of the synthesizer connected to `<MIDI IO>` port. You will see Electra' USB Device ports on the connected computers, we refer to them as `<USB DEVICE>`. These ports can be used to send and receive MIDI messages to and from the synthesizer. It means Electra acts here as a MIDI controller as well as a MIDI USB interface.

In this setup, Electra One controls the sound parameters of a synthesizer connected to its `<MIDI IO>` port. On the connected computer, Electra appears as a set of USB MIDI ports — referred to as `<USB DEVICE>` in this guide. These ports can be used to send and receive MIDI messages between your computer and the synthesizer.

In this configuration, Electra acts both as a standalone MIDI controller and a USB MIDI interface, seamlessly bridging your hardware and software. The USB connection to your computer can also be used to access the Electra One web editor for editing presets and managing your controller.

Electra One MIDI controller has three USB device ports. On MacOS they are:

- `Electra Port 1`

- `Electra Port 2`
- `Electra CTRL`

On Windows, you will most likely see:

- `Electra Controller`
- `MIDIIN2 (Electra Controller)`
- `MIDIIN3 (Electra Controller)`

By default, any MIDI message sent to USB device Port 1 OUT on the computer, will be forwarded to `<MIDI 1 OUT>` port. Any message received on `<MIDI 1 IN>` port, will be forwarded to USB device Port 1 IN on the computer. Ports 2 work in the same way. The routhing of messages between the MIDI interfaces and ports can be fully customized by configuring Electra One internal MIDI router.

By default, any MIDI message sent from your computer to USB Device `Electra Port 1` OUT is forwarded to Electra's `<MIDI 1 OUT>` port. Similarly, any message received on `<MIDI 1 IN>` is forwarded to USB Device `Electra Port 1` IN on the computer. Port 2 behaves the same way.

The routing of MIDI messages between Electra's ports and interfaces can be fully customized using Electra One's internal MIDI router.

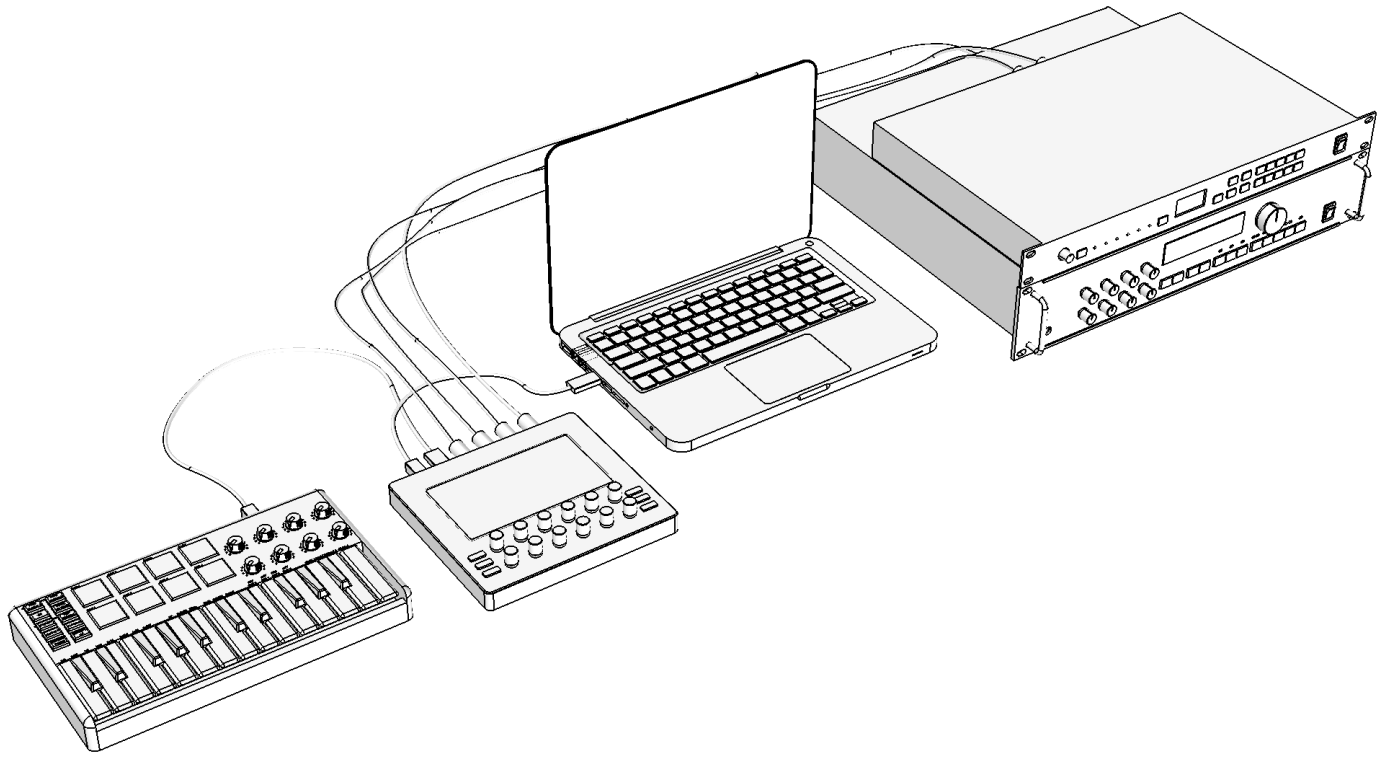
`Electra CTRL` is dedicated to communication between Electra and Electra Editor.

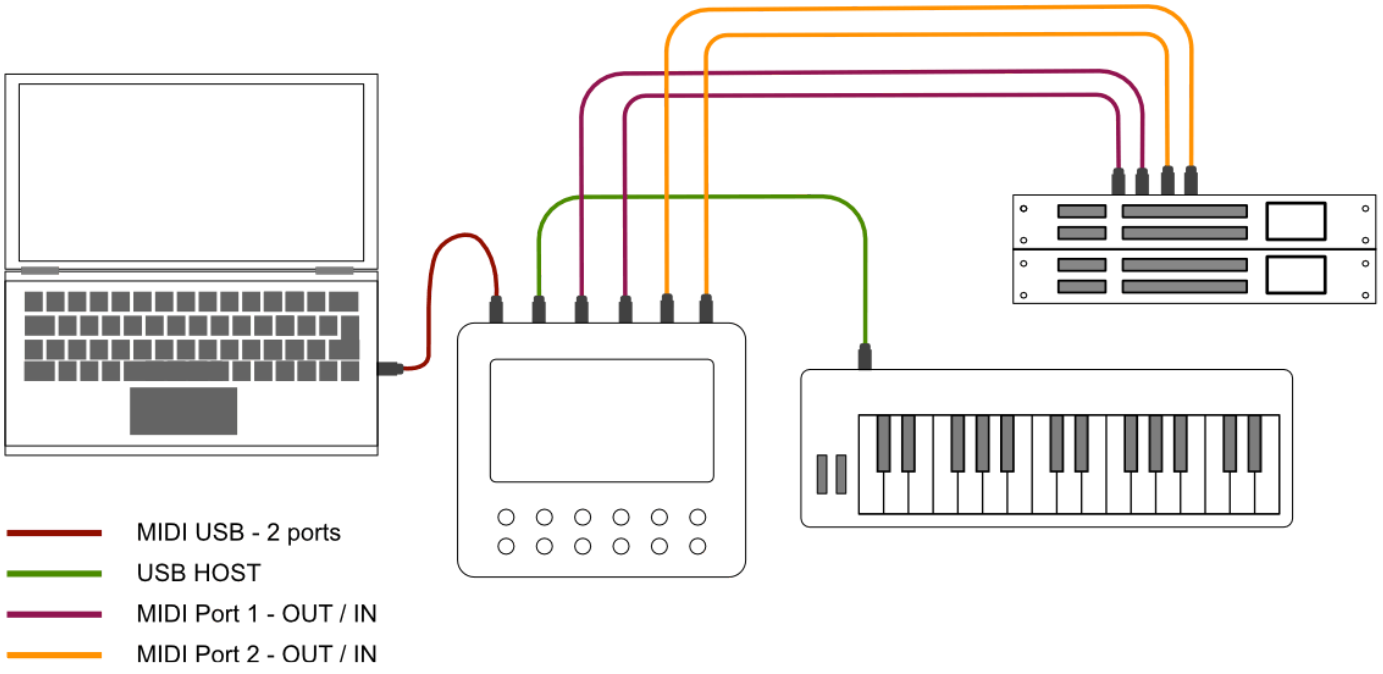
TIP

If you do not see Electra CTRL, it might be called `MIDIIN2` / `MIDIOUT2`. Some versions of operating systems do not read the port name correctly. Please review The Connection Troubleshooting Guide.

A complex setup

To illustrate Electra's capabilities let's take a look at a more complex setup:





Here we connect more gear to the `<MIDI IO>` ports. Next to that, the Master keyboard is connected to Electra's `<USB HOST>` port.

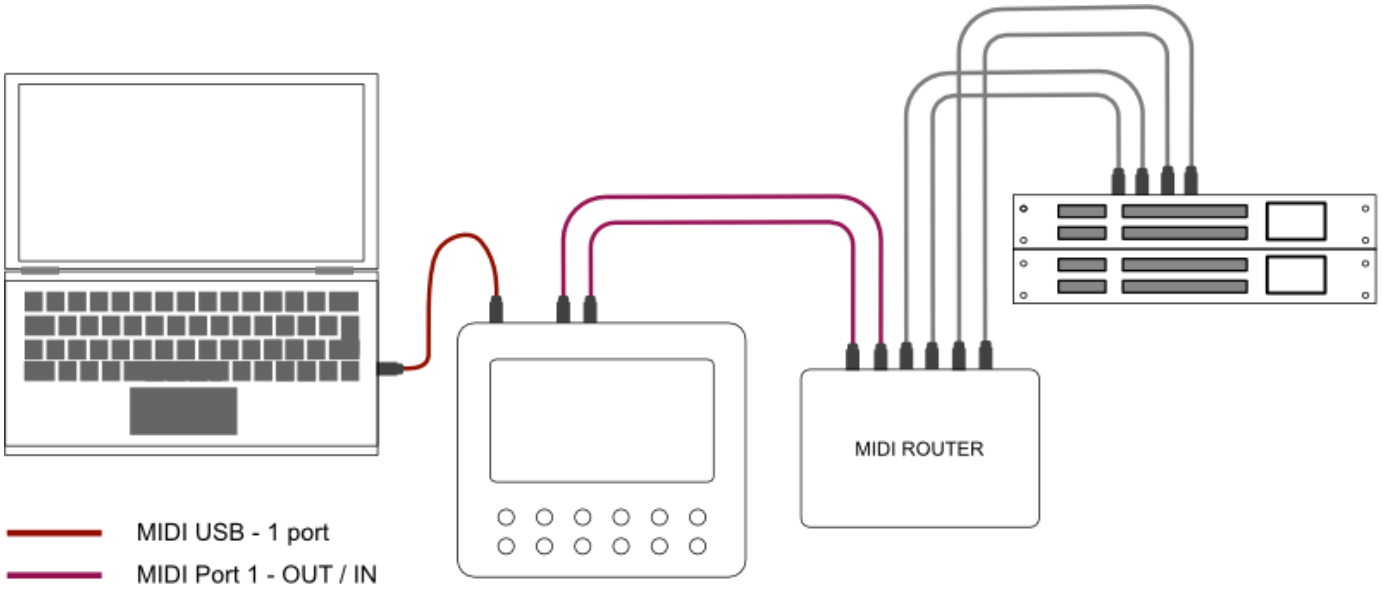
In this setup, you can have full bi-directional control over two hardware synth modules. The MIDI messages generated by the Master keyboard are automatically forwarded to both `<MIDI IO>` ports and to the `<USB DEVICE>` ports.

MIDI messages generated by turning the knobs are being merged to the flow of MIDI data according to Electra's settings. These messages will be sent to both `<USB DEVICE>` port as well as to `<MIDI IO>` ports.

A MIDI router setup

Combining Electra One with a MIDI router, such as the iConnectivity series, Blokas MIDIHub, or Conductive Labs MRCC, creates a powerful and flexible MIDI system. This setup allows smooth control over multiple synthesizers and MIDI devices from a single controller.

A basic example of a MIDI router–based setup:



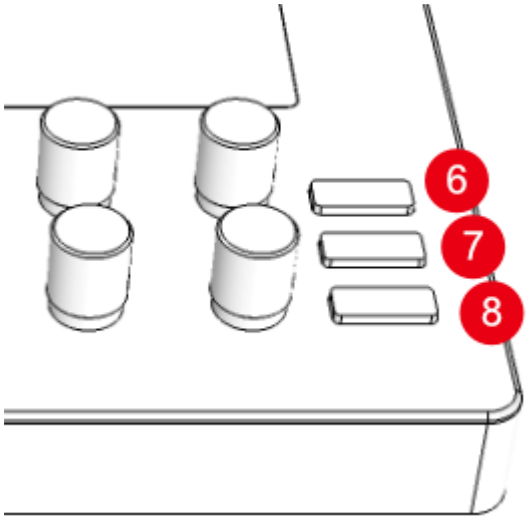
In the example above, the `<MIDI IO>` ports were used to connect the MIDI router. However, you can also connect a MIDI router to Electra One's USB Host port, or connect Electra One's USB Device port to the USB Host port of the router.

WARNING

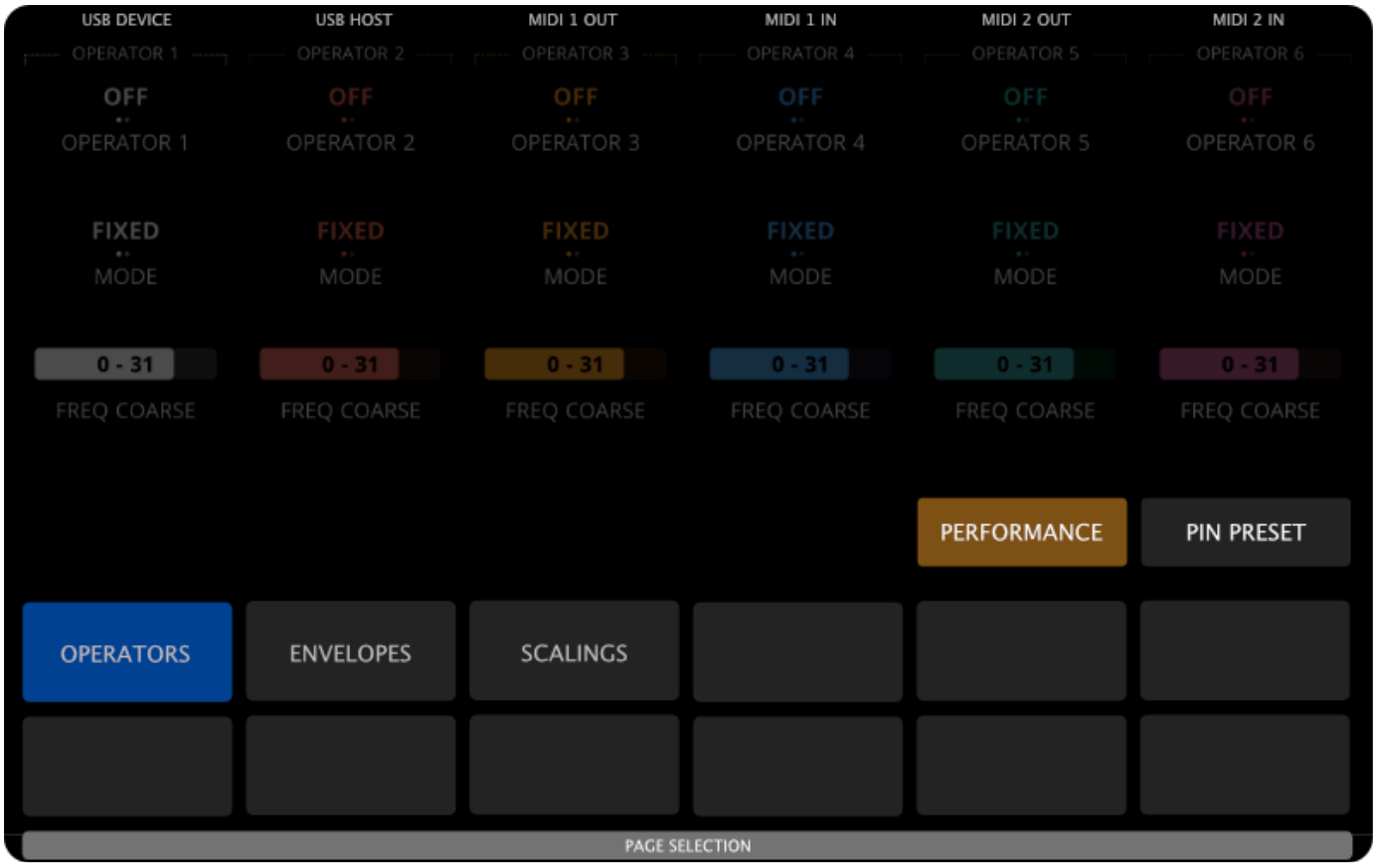
If you connect Electra One to a USB Host port, make sure the host can supply 500mA of current. If it cannot, use a powered USB hub or a USB Y-cable to provide the additional power required.

Changing pages

Each Electra preset can include up to twelve pages of controls. While pages can be selected through the main Menu, this action is so commonly used that it's typically assigned to a dedicated hardware button. As we are using the default configuration now, the Page selection window can be displayed by pressing the `[RIGHT-BOTTOM]` button (8).



If you simply press the button. The Page selection window will be openned and will stay open until you switch to any of the pages or you press `[RIGHT-BOTTOM]` (8) again.



The currently selected page is highlighted (shown in blue). Page names are positioned on screen to align visually with the knobs, making it intuitive to select a page by either tapping the on-screen page button or touching the corresponding knob.

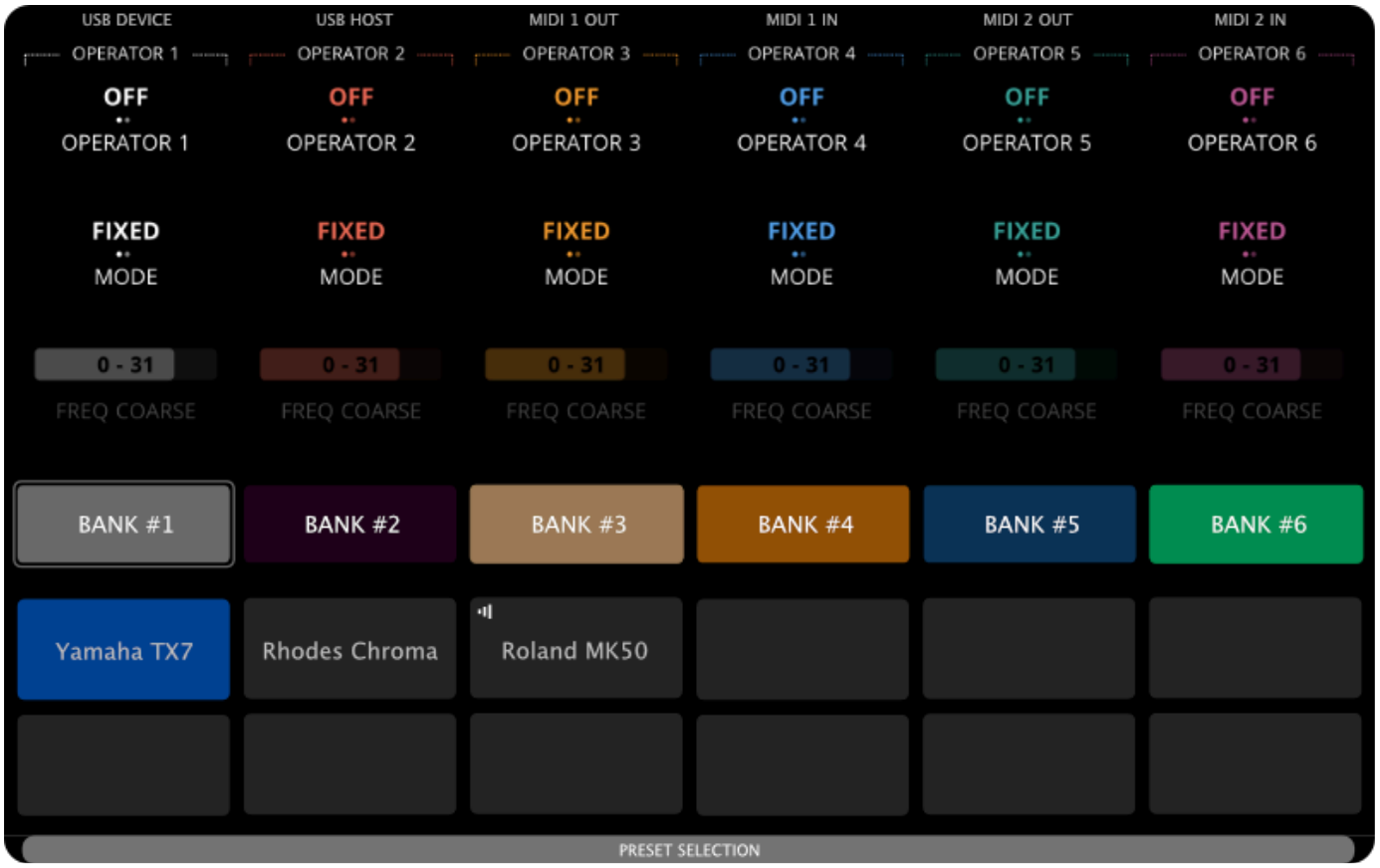
Tip: Press and hold the `[RIGHT-BOTTOM]` button to quickly preview all preset pages. While holding the button, simply touch any knob to view the page it belongs to.

There's much more to tell about changing pages - you'll find detailed information in the following chapters of this user guide.

Changing and Loading presets

When you have a Page selection window open, you can reach the Preset selection by pressing the `[RIGHT-MIDDLE]` button (7). Again, this is the default configuration set up. You can adjust this later on.

Once you're on the Preset Selection screen, simply tap the preset you want to load. Alternatively, you can activate it by touching the corresponding knob.



Note: The knob touch feature can be disabled in the controller's settings if preferred.

The highlighted preset (shown in blue) is the active one — it's the preset you're currently working with, and the one sending and responding to MIDI data.

To load a new preset, first choose the preset slot where you want it to be stored. The slot can be either empty or already contain another preset. Once you've selected the slot, open the Electra One web application and use the "Send to Electra" button. The new preset will be uploaded to the selected slot and will be ready to use immediately

Interacting with Controls

The Controls were described in the previous text, Concept of Control. Now, we will take a look how we interact with them on the comtroller.

Controls were introduced earlier in the Concept of Control section. In this chapter, we'll focus on how to interact with controls directly on the controller.

Active control

To make navigation easier, touching a knob highlights the corresponding control by underlining it on the screen. This lets you see which control is active — even if you don't turn the knob. Multiple knobs can be active in the same time.

You can change a control's value by turning the corresponding knob, or by swiping left or right on the control directly on the touchscreen.

Switching the Active Contro set

A single tap on a Control will switch to the Active section where the control is located. Unless it is disabled by the configuration.

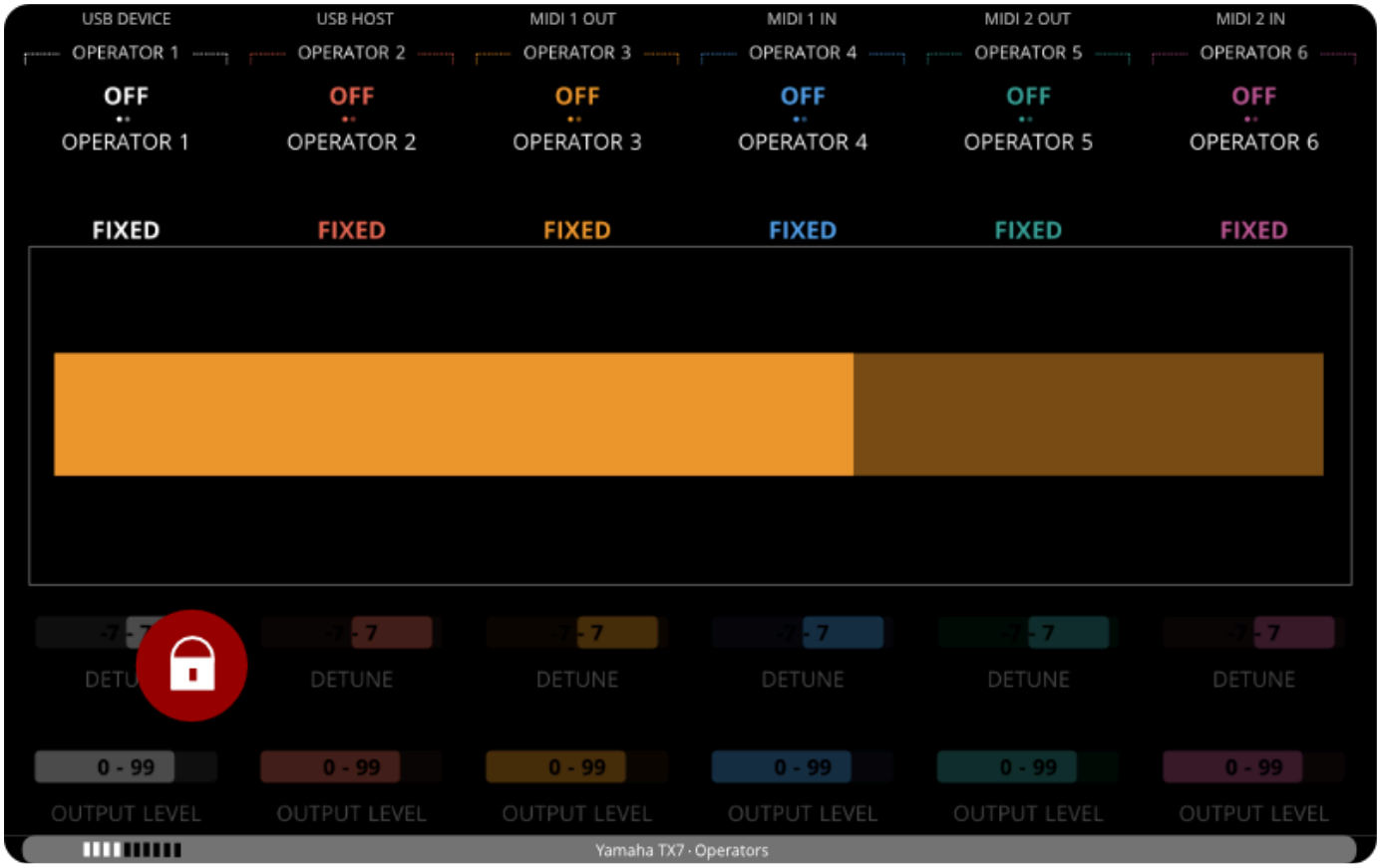
Control detail

Touching and holding a control opens the Control Detail window, displaying a full-size version of the control for more precise adjustments. You can also access the detail view by holding the corresponding knob and pressing the `[LEFT-TOP]` button.

Each type of control has its own dedicated detail window, tailored to provide enhanced interaction and fine value control.

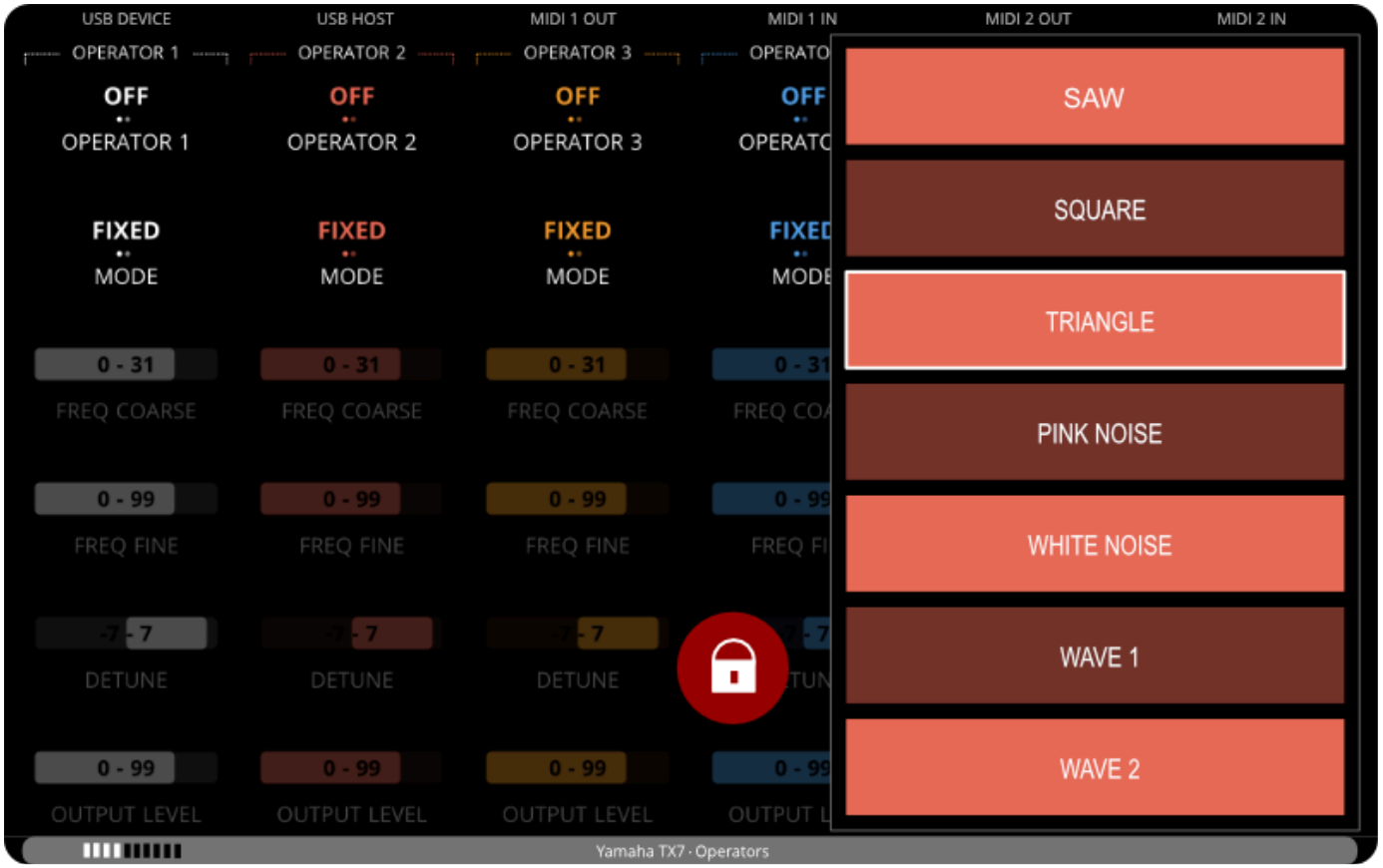
Fader detail

The fader detail view is designed to allow precise, full-range sweeps of the control value. The fader strip is wide and tall enough to provide comfortable space for your finger, making fine adjustments easy and accurate.



List detail

The list detail view presents a swipeable list of values, similar to a tablet interface. You can browse through the items by swiping up or down, and select a value by tapping it on the screen.

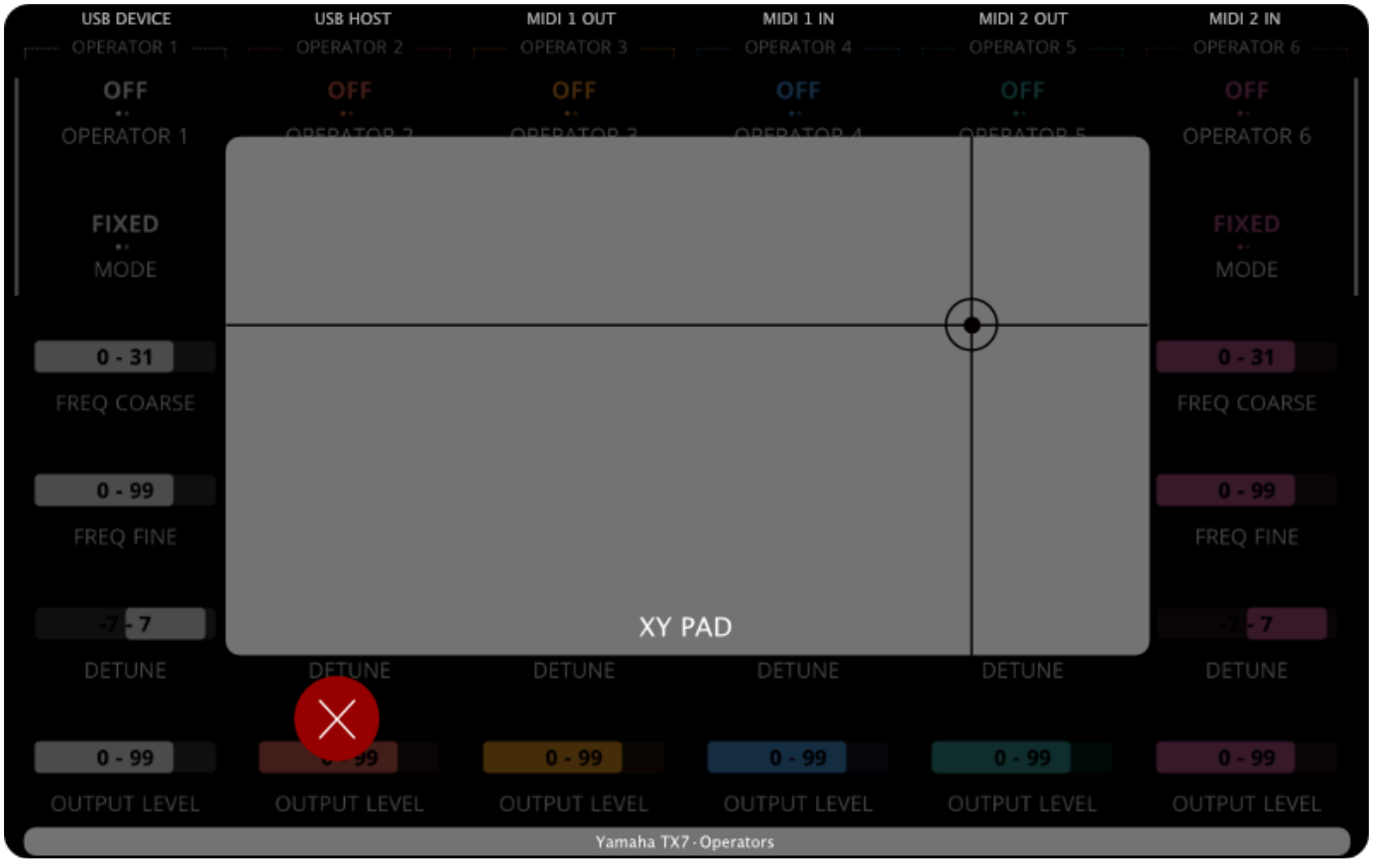


Envelope detail

The envelope detail view allows you to edit all envelope parameters in one place. When this view is active, Electra temporarily reassigns the knobs to control individual envelope values. These knob assignments are active only while the envelope detail window is open.

XY Pad detail

The XY pad detail view provides an interactive two-dimensional surface for controlling two parameters at once. Unlike other controls, the XY pad is operated entirely by touch—no knobs are used. You can move your finger across the pad to adjust both the X and Y values in real time.



Locking the detail window

By default, the detail window closes immediately after a value is changed or a selection is made. In some situations, this behavior may not be desirable. To keep the window open, you can lock it by tapping the lock icon:

When the lock icon is tapped, it becomes highlighted, indicating that the detail window is now locked. In this mode, you can make multiple changes without the window closing after each adjustment.

To close a locked detail window, simply tap the lock icon again or tap anywhere outside the detail window on the display.

Detail window knob assignment

The detail window retains the original knob assignment, allowing you to use the same knob to adjust the control's value even while the detail view is open.

Resetting to the default value

Double-tapping a control resets its value to the default setting defined in the preset.

Changing active value of multi-value controls

Some controls, such as envelopes, contain multiple values. When a preset is loaded, one value is assigned to a knob by default—this default assignment is defined in the Preset Editor.

However, there are situations where you may want to adjust a different value without opening the envelope detail window. In these cases, you can use a quick gesture to change which value is assigned to the knob.

There are two ways to switch the active (knob-assigned) value:

Touch and hold the envelope's knob (the control name will become underlined), then tap the envelope control on the display. The knob assignment will cycle to the next available value, which will be highlighted.

Touch and hold the envelope's knob, then press:

- `[SECTION 2]` to move to the next value within the envelope
- `[SECTION 3]` to move to the previous value

This allows quick switching between parameters like Attack, Decay, Sustain, and Release without entering the detail view.

Customizing Control Behavior

Both the long press to open the detail view and the double-tap to reset to the default value can be customized in the settings to suit your personal workflow.

Rear panel buttons

The `[RESET]` and `[UPDATE]` buttons are there to help you recover if something goes wrong. Since these situations are rare, the buttons are recessed and can be pressed using a pen or another thin object.

On newer Electra One units (2025 and later), the [UPDATE] button is no longer recessed — it sticks out slightly for easier access. In future firmware updates, this button may also support additional functions.

Reset button

The `[RESET]` button power-cycles the controller. Pressing it has the same effect as unplugging and reconnecting the USB cable.

Note: Resetting Electra will not delete any of your presets or saved settings. However, any unsaved values from the currently loaded preset will be lost.

It is always recommended to put Electra into Sleep Mode before resetting or disconnecting the USB cable.

Update button

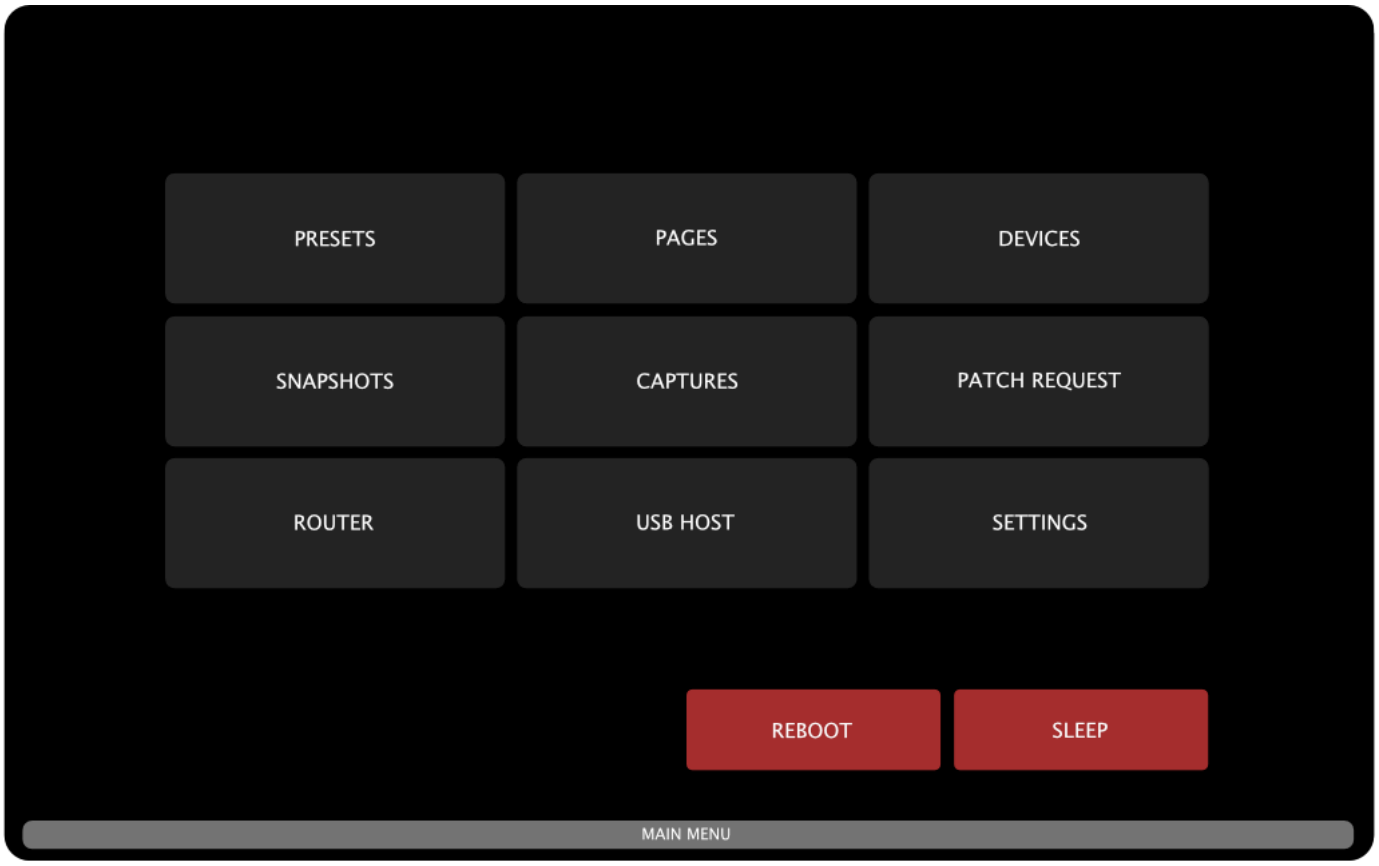
`[UPDATE]` button is used to initiate a forced firmware update. Under normal circumstances, firmware updates can be initiated from the Electra One web application without pressing the `[UPDATE]` button. If, however, your firmware update fails or if you upload a corrupted firmware file to Electra and it becomes bricked, pressing the `[UPDATE]` will allow you to restore the controller to the working state. Full description of the recovery procedure is described at Firmware recovery.

Power On & Sleep Mode

Electra One powers on automatically when connected to any USB power source, whether it's a computer or a USB power adapter.

To safely disconnect or reset the controller, it's recommended to switch it to Sleep Mode first. This puts the controller into a low-power standby state and ensures a clean shutdown of the internal file system and database.

Swipe down on the screen to open the main menu, then tap the on-screen `SLEEP` button. Once in Sleep Mode, it is safe to disconnect the USB cable or reset the controller.



To wake the controller, simply press the `[RIGHT-BOTTOM]` button.

Alternatively, if you're using the default button assignments, you can put the controller into Sleep Mode by pressing and holding the `[RIGHT-BOTTOM]` button, then pressing `[LEFT-BOTTOM` while still holding `[RIGHT-BOTTOM]`.

The Concept of Control

Before we go any further, it's important to understand how Electra One manages the parameters of connected MIDI devices. Grasping this concept will make it much easier to follow along in the rest of this User Guide.

Overview

Electra One can be seen as a smart MIDI device that:

1. **Generates** MIDI messages based on user interaction — such as turning knobs or using the touchscreen.
2. **Forwards** MIDI messages between its interfaces and ports (`<MIDI IO>` , `<USB HOST>` , and `<USB DEVICE>`).
3. **Merges** the messages it generates (1) with the incoming and outgoing MIDI traffic (2).

A Control represents one or more parameters of a synthesizer. For now, we'll focus on Controls that manage a single parameter, such as a simple filter cutoff. Controls that affect multiple parameters — like an ADSR envelope — will be explained later.

A Control serves two main purposes:

- It sends the appropriate MIDI message when the value is changed by the user.
- It respond to incoming MIDI messages, updating their display automatically when the connected device sends back parameter changes.

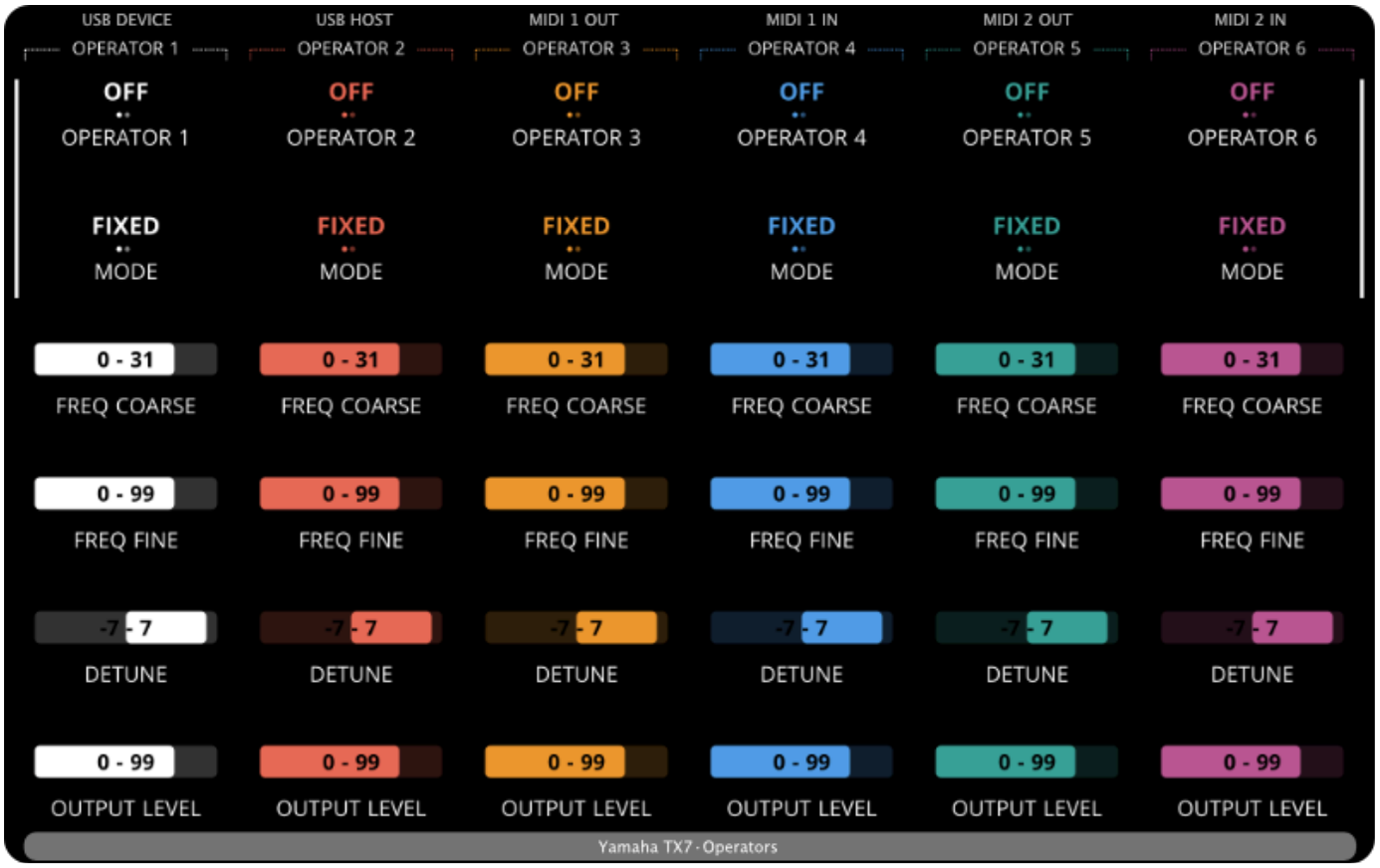
The image below shows a Fader Control assigned to the filter cutoff parameter, currently set to a value of 8:

Each Control has a set of attributes that define how it behaves and looks. These include:

- Control type (fader, list, button, etc.)
- MIDI message type (CC, NRPN, SysEx, etc.)
- Parameter number (e.g., MIDI CC number)
- Minimum and maximum values

Electra One users create Presets by arranging Controls into pages and layouts that match their workflow or synthesizer engine structure. These Presets are created and edited using the Electra One App and then uploaded to the controller via the USB.

Here's an example showing one page from a Preset:



In this case, the Preset contains Controls for editing parameters of a specific synthesizer. However, a single Preset can also include Controls mapped to multiple devices, allowing Electra One to go beyond being just a synth programmer, and instead giving you hands-on control of your entire MIDI rig.

Control types

Electra One supports seven types of Controls:

- Faders
- Lists
- Pads
- Envelopes
- Relative Controls
- XY Pads
- Custom Controls

The Control type determines both the visual appearance of the Control and how it interacts with MIDI data. Some Controls are designed for continuous values (like a fader or XY pad), while others are used for discrete values (such as a list or pad).

Each type is suited to specific use cases, depending on how you want to represent and control your synth parameters.

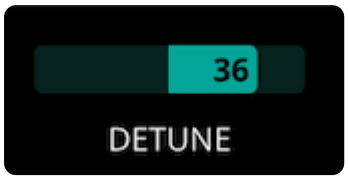
Fader

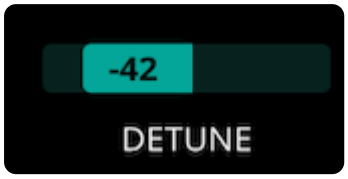
Faders are ideal for controlling parameters with a continuous range of values. Typical examples include filter cutoff, resonance, or oscillator detune, any parameter where smooth, gradual adjustment is needed.

Turning a knob assigned to a Fader smoothly changes the value of the parameter, and Electra One sends the appropriate MIDI messages in real time. The display also updates to reflect the current value.

The value range is defined by a minimum and maximum value.

If the minimum value is negative, the fader visually splits around zero: Positive values extend to the right, while negative values extend to the left, with the zero point positioned proportionally in between.





Faders can also use an Overlay, which replaces specific numeric values with custom text labels (for example, showing “Low,” “Mid,” or “High” instead of numbers). You’ll learn more about overlays in a later section.

Electra One distinguishes between two types of values, the display value and the MIDI value.

- The **display value** is what you see on the screen — the number shown next to or inside a control.
- The **MIDI value** is the raw value sent or received via MIDI messages.

Electra One automatically translates between these two values based on the ranges you define for each. This means you can work with meaningful, human-friendly values on the screen, while the controller handles the correct MIDI data under the hood.

For example, you might want a Balance control to show values from -50 to 50 on the display, but still send MIDI values between 0 and 127. Electra One takes care of this conversion automatically.

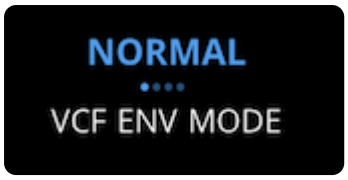
Lists

Lists are one of Electra One’s key features, especially useful when working with discrete MIDI values that have specific meanings.

Take, for example, a synthesizer parameter like VCF Envelope Mode, which uses the following values:

MIDI value	Text label
0	Normal
16	Inverted
32	Normal with Dynamics
48	Inverted with Dynamics

Using a fader for this kind of parameter wouldn't make much sense — the values aren’t continuous, and their meaning isn’t obvious numerically. A List Control, however, changes the behavior of the knob to work more like an encoder: turning the knob steps through the defined options one by one.



Each value in the list is represented as a dot, with the currently selected value highlighted, and its label shown next to it. Lists can contain up to 255 values.

If the list has more than 16 items, the visual layout adapts slightly — becoming more fader-like — but still shows the appropriate text labels instead of raw numbers.

List controls do not use minimum or maximum ranges like faders. Instead, they work entirely from values defined in their Overlay.

If the Control receives a MIDI value that isn’t part of its defined list, the value is ignored and no changes are made.

Pads

Pads are Controls used to switch between two states (On/Off) or to trigger specific MIDI messages.

Pads send MIDI messages when their state changes. You can configure whether messages should be sent:

- When switching from Off to On
- When switching from On to Off
- Or in both directions

When changing from Off to On, the configured On Value is sent. When switching from On to Off, the Off Value is sent.

Pads can operate in two modes:

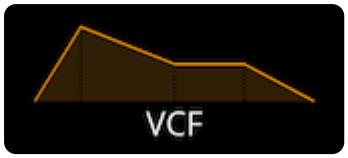
- **Toggle mode**: the pad stays in its new state until changed again.

- **Momentary mode**: the pad returns to the Off state automatically after being triggered.

Pads can be activated either by touching the display or by turning the corresponding knob. Turning the knob clockwise switches the pad On; turning it counter-clockwise switches it Off.

Envelopes

Envelopes are multi-value Controls designed to visually and intuitively represent envelope shapes such as ADSR, ADR, or ADDSR. They make it easier to adjust and monitor envelope parameters like Attack, Decay, Sustain, and Release directly on the screen.



Electra One allows you to link each segment of the envelope to individual MIDI parameters. The controller then updates the visual shape of the envelope when:

- You change a value using a knob
- Incoming MIDI data updates one or more of the envelope parameters

Supported envelope types:

- ADSR
- AR
- ADR
- ADSSR
- AHDSR
- FOUR STAGE

You can configure which envelope parameter (e.g. Attack) is controlled by the knob by default. However, this assignment can be changed at any time while using the preset, meaning one knob can be used to edit any part of the envelope as needed.

When you open the envelope's detail window, all parameters become accessible at once, and the knobs are temporarily remapped so you can adjust each envelope stage directly.

Relative Controls

Relative Controls are designed specifically for sending Relative Control Change (CC) messages. Unlike standard controls, which represent absolute values, Relative Controls focus on value changes (deltas) — how much a parameter should increase or decrease — rather than the current value itself.

The visual appearance of a Relative Control reflects this behavior. It does not display the actual value of the parameter. Instead, it shows a momentary indication of how much the value changes when the knob is turned.

Relative Controls are especially useful when working with synthesizers, software, or devices that expect relative (increment/decrement) messages rather than full absolute values.

Since the control's value is not stored or displayed, it cannot reflect incoming MIDI data. Its sole purpose is to send relative messages based on user input.

XY Pads

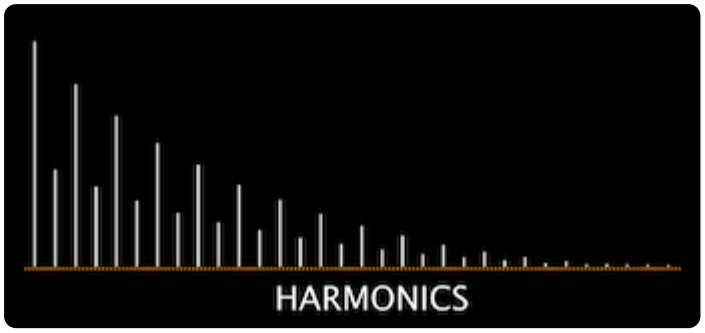
XY Pads are multi-value Controls that combine two continuous parameters, one for the X-axis and one for the Y-axis, into a single, touch-based control. They are ideal for controlling two related parameters simultaneously, such as filter cutoff and resonance, pan and level, or LFO rate and depth.

Like Envelopes, XY Pads are multi-value controls. That means they represent more than one MIDI parameter — in this case, two. By default, only one axis (X or Y) is assigned to the knob at a time. You can configure which one is active by default and switch between them as needed while using the preset. This allows you to fine-tune each parameter individually using the knob, while still having full dual-axis control through touch.

When you open the XY Pad's detail window, you can drag your finger across the pad to update both values at once. This makes the XY Pad especially useful for expressive sound shaping and real-time modulation.

Custom Controls

Custom Controls are a special type of Control that give users full freedom to define their visual appearance and behavior using the Electra One Lua Extension scripting language.



With a Custom Control, you can design entirely unique visual elements, handle input from both touch and knobs, and define how the control reacts to changes or incoming MIDI messages, all through Lua code.

This type of Control is ideal for advanced users who want to go beyond the standard control types and create highly specialized interactions or displays.

Custom Controls are most often used for:

- Creating non-standard visual layouts.
- Handling complex or device-specific Controls.
- Building dynamic or animated control surfaces.

Control Variants

Some control types offer variants — alternative versions of a control that retain the same basic behavior but differ in visual appearance or specific interaction modes.

An example of two variants of the fader:

Variants are useful for tailoring how a control looks and behaves to better suit its intended use.

- Faders can have compact or minimal styles to emphasize the numeric value display.
- Pads can operate as either toggles (stay on until switched off) or momentary switches (return to off automatically).
- Envelopes offer different shapes, such as ADSR, ADR, or ADDSR, to match the requirements of different synthesizers.

While variants don't change the underlying function of the control, they allow for more flexibility in layout and interaction, helping you build presets that are both visually intuitive and functionally precise.

Variants can be selected when adding or editing a control in the Electra One App.

Values and Messages

Each Control value, the actual data point within a control, is associated with a Message. While many controls have only one value (like a typical fader), some controls, such as envelopes or XY pads, contain multiple values. Each of these values has its own individual message.

A Message defines what happens when the control value changes — typically, it tells Electra One what kind of MIDI message to send. In most cases, that message is a standard MIDI message. However, there are also special message types that don't send any MIDI data but instead set internal values (like virtual control handling).

Electra One supports all standard MIDI message types, including:

- Control Change (7-bit, 14-bit, relative)
- NRPN (Non-Registered Parameter Number)
- RPN (Registered Parameter Number)
- Program Change
- Pitch Bend
- Note On / Note Off
- Channel Pressure
- Polyphonic Aftertouch
- System Exclusive (SysEx)
- System Real Time

Two non-MIDI messages are supported:

- Virtual
- None

Not every control type supports every message type. For example, it may not make sense to assign a Note On message to a fader. The Electra One Editor ensures only compatible combinations are offered when designing a preset. By combining Control types, value definitions, and MIDI messages, Electra One gives you flexible and powerful tools to interact with your MIDI devices.

Lua callbacks

In addition to sending MIDI messages, Electra One controls can be extended with two powerful Lua-based features, the Lua function and the Lua formatter.

- The **Lua function** is a custom piece of code that is executed whenever the control value changes, either because the user touched the screen, turned a knob, or because new data came in from MIDI. This gives you full control to run any Lua code you like — from triggering custom logic, updating other controls, to sending additional MIDI messages. What the Lua function does is entirely up to you.
- The **Lua formatter** is used to translate a numeric value into a readable text string that is shown on the display. Formatters are often used to provide clearer or more meaningful labels for the user — for example, showing "50%" instead of "64" or "Normal" instead of a number like "0".

These features are optional, but they open up a whole new level of flexibility when building interactive and dynamic presets.

For more details on how to use these callbacks, see the Lua Extension documentation.

Devices

With Electra One, every MIDI message is sent to or received from a MIDI device, whether it is:

- Hardware synth
- Sampler
- DSP
- DAW
- Software plugin

These devices can be connected via any of Electra's MIDI interfaces:

- `<MIDI IO>` ports
- `<USB HOST>` ports
- `<USB DEVICE>` ports on the host computer

To make this process efficient and flexible, Electra One uses a concept called a Device.

A Device is a named configuration that represents an actual instrument or MIDI-capable component connected to Electra One. Each Device defines:

- The MIDI port the instrument is connected to.
- The MIDI channel it listens on.
- Optionally, additional settings for SysEx communication (used to fetch or send patches).

Instead of having every control store its own port and channel settings, all Controls refer to a Device. That Device handles where (and how) MIDI messages are sent. This approach offers several benefits:

- You can change the port or channel in one place — the Device — and all linked Controls update automatically.
- Electra One always knows what instrument it's talking to, not just an arbitrary port and channel.
- You can manage and swap gear setups much more easily.
- Advanced features like patch requesting and SysEx communication become possible through Device configuration.

For example, if you have two Waldorf Microwaves, you'd create two separate Devices, each with its own port and channel settings. Then assign the appropriate Controls in your preset to the correct Device.

A single preset can define up to 32 Devices, and all of them can be used simultaneously. That is sufficient even for very large MIDI setups.

A Device can also include a Patch configuration, which defines how SysEx patch data is requested and received. This enables Electra One to fetch and manage patches directly from your hardware instruments.

The Main Menu

Overview

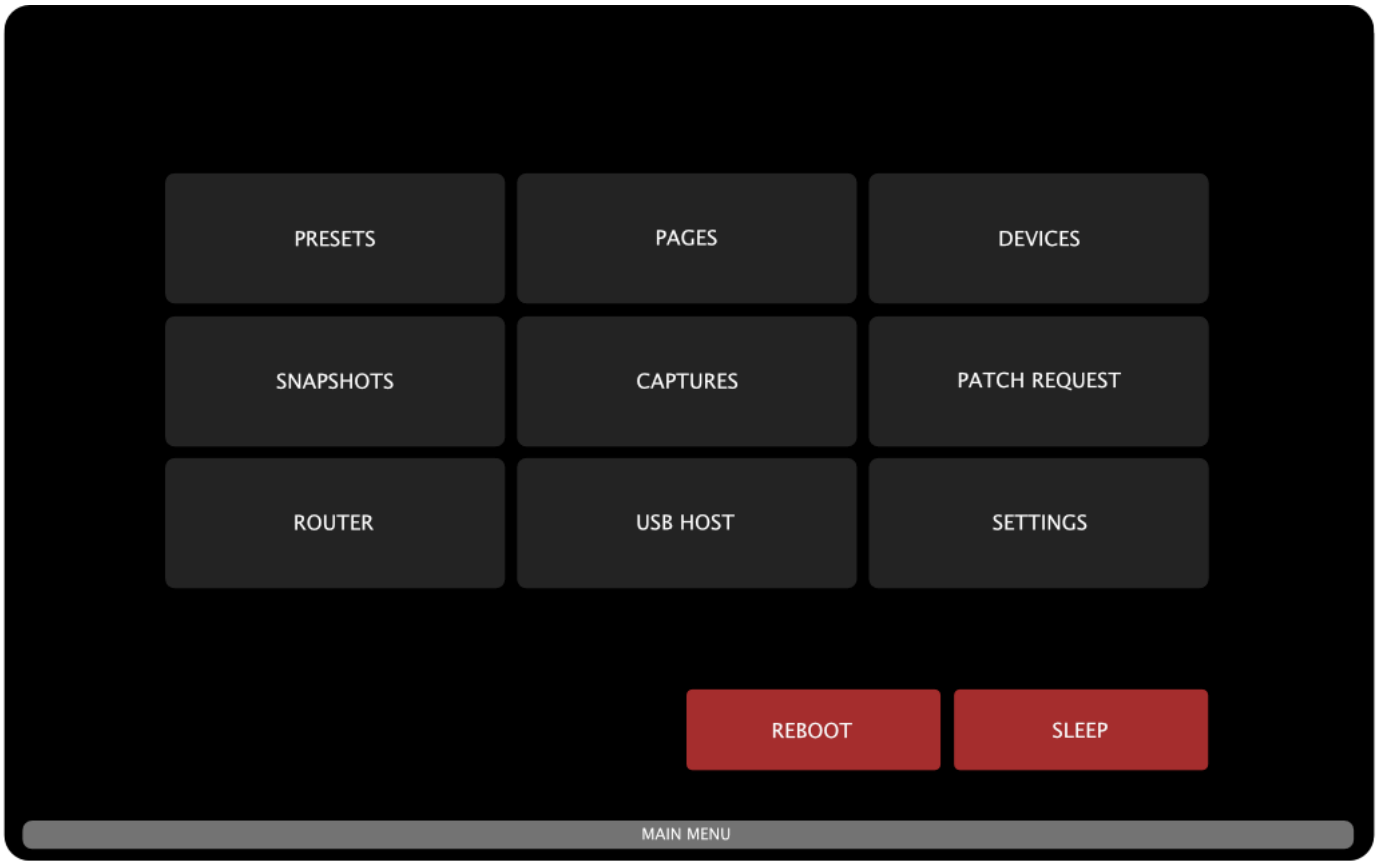
The main Menu gives you access to most of Electra One's features and configuration options. It's designed to keep essential functions within easy reach while leaving the hardware buttons free for actions you use more frequently.

To open the main Menu, swipe down on the right side of the touchscreen. Swiping down from the center or left side opens different windows, which are described later in this chapter. You may notice small dotted indicators in the Status Bar — these indicate the touch zones (left, center, and right) for vertical swipe gestures. To open the Menu, make sure you swipe down to the right of the rightmost indicator mark.

Once the menu is open, you can navigate using the on-screen buttons, or swipe down again to close it.

The main Menu provides access to the following features:

- Preset selection
- Page selection within the current preset
- Devices used in the current preset
- Snapshots associated with the current preset
- Captures (recorded MIDI data) for the current preset
- Patch request from a connected MIDI device
- Router configuration
- USB Host management
- Controller settings
- Reboot the controller
- Sleep mode (standby)

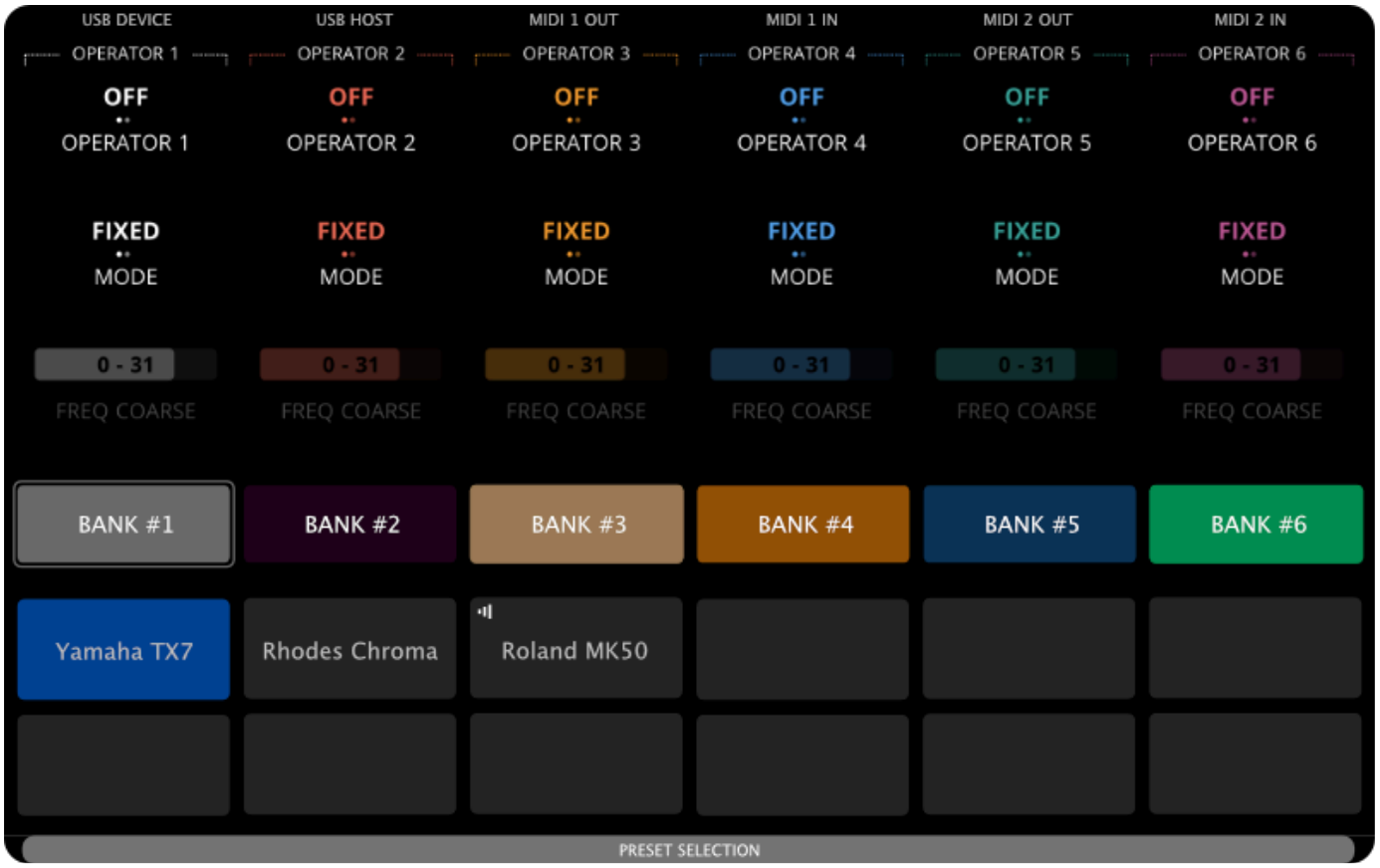


Preset selection

There can be up to 72 presets stored in the Electra One controller. They are organized in six banks of twelve presets.

Changing presets

Once you’re on the Preset Selection screen, simply tap the preset you want to load. Alternatively, you can activate it by touching the corresponding knob.

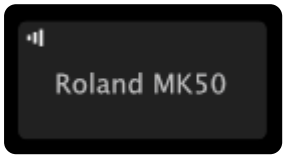


Note: The knob touch feature can be disabled in the controller's settings if preferred.

The highlighted preset (shown in blue) is the active one — it's the preset you're currently working with, and the one sending and responding to MIDI data.

Electra One also supports multiple active presets using a feature called **preset pinning**. When you pin a preset, it continues to run their Lua and process MIDI even after you switch to another preset. This is useful when you want to keep background controls or automation running from another preset.

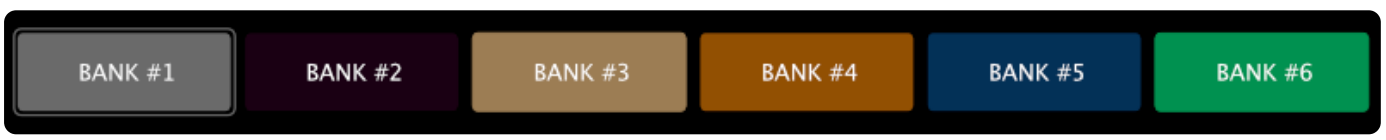
Pinned presets are marked with a small icon in the upper-left corner of their button. We'll cover how to pin and manage presets in more detail later in this guide.



It's also important to understand how loading works. A preset is physically loaded and initialized the first time you use it after powering on the controller. Once loaded, switching back and forth between presets does not reinitialize them — they retain their previous state. However, unselected (but previously loaded) presets remain inactive: they do not process MIDI or run Lua scripts unless they are pinned.

Changing banks

You can switch between preset banks by tapping the on-screen bank buttons:



Each bank can hold up to twelve presets. Once you select a bank, you can choose a preset from that bank using the method described above.

The active bank is indicated by a thin outline around its button:

The labels and colors of the bank buttons can be customized in the controller's settings.

Page selection

Each Electra preset can include up to twelve pages of controls. While pages can be selected through the main Menu, this action is so commonly used that it's typically assigned to a dedicated hardware button. Using a dedicated hardware button gives you an extra benefit of browsing the pages quickly while the button is held pressed.

The currently selected page is highlighted. Page names are positioned on screen to align visually with the knobs, making it intuitive to select a page by either tapping the on-screen page button or touching the corresponding knob.

Note: The ability to select pages using knob touch can be disabled in the controller's settings. When disabled, only touch gestures or hardware buttons will change pages.

Empty (unnamed) page buttons represent unused pages and cannot be accessed.

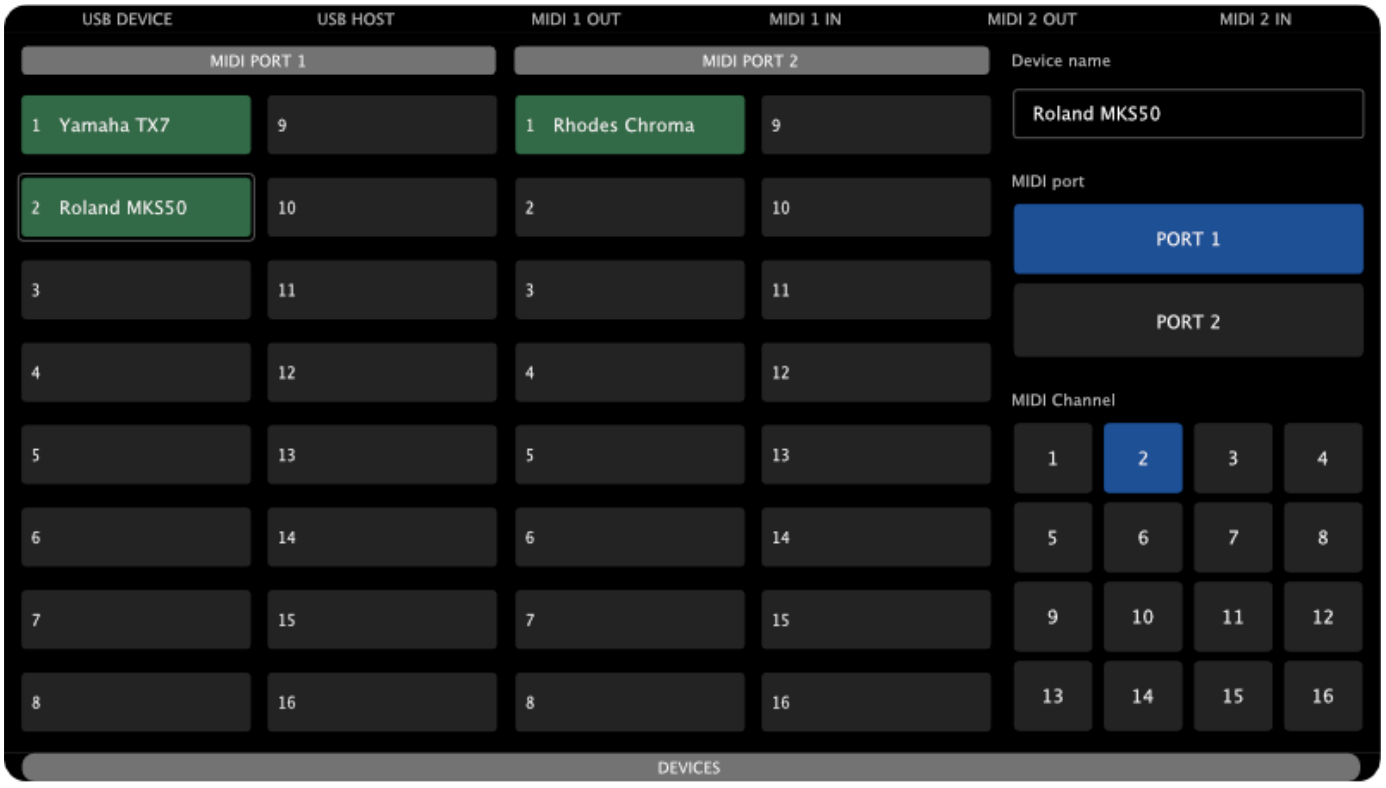
There are two special buttons on the Page selection: The Performance and the Pin Preset.

- **Performance button** - opens the Performace page if the currently active preset includes one. The Performance page allows you to control a custom selection of parameters across multiple preset pages — all in one place. It's ideal for performance setups, macro controls, and live tweaks.

- **Pin Preset** button - lets you pin or unpin the current preset. When pinned, the preset remains active and continues processing MIDI even after you switch to a different preset. A small icon appears in the top-left corner of the preset's button to indicate that it's pinned. When preset is pinned, the button is highlighted (shown in blue).

Devices

The Devices section of the main menu displays how the MIDI devices in the current preset are configured in terms of MIDI ports and channels. Users can use this screen to adjust the MIDI settings of each device to fit their specific setup.



Changes made here do not modify the original preset. Instead, they are saved separately as device overrides. This allows users to customize MIDI port and channel settings without altering the preset itself — ideal for adapting shared or downloaded presets to different hardware setups.

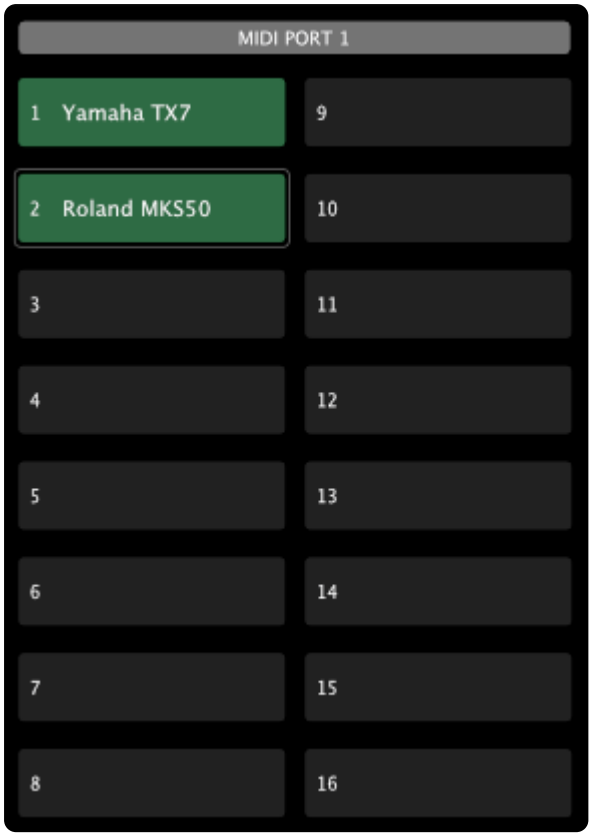
The screen is divided into three parts:

- A list of 16 devices connected to MIDI Port 1

- A list of 16 devices connected to MIDI Port 2
- A form to adjust the settings of the currently selected device

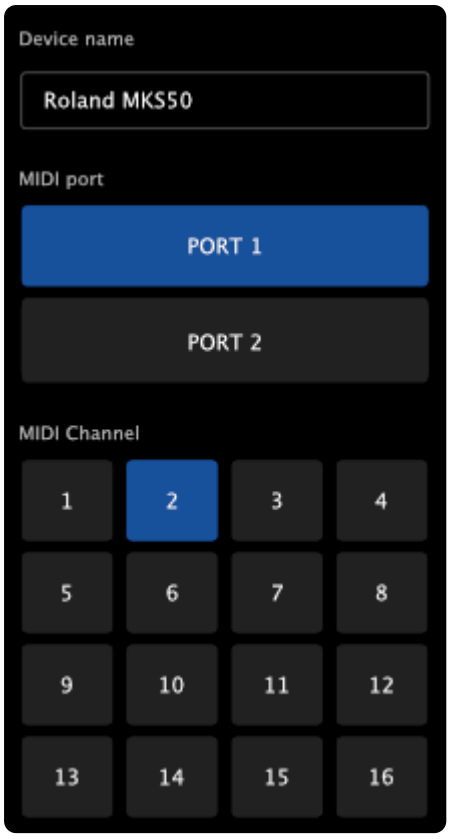
Configured devices are shown in green. The number in front of each entry indicates the MIDI channel. The currently selected device, i.e. the one whose details are shown in the form is highlighted with a light gray outline.

Let’s review the example below:



This list shows all MIDI devices connected to MIDI Port 1, whether it's `<MIDI IO>`, `<USB DEVICE>`, or `<USB HOST>`. The Yamaha TX7 is listening on MIDI channel 1, and the Roland MKS50 on channel 2. Other channels are unused.

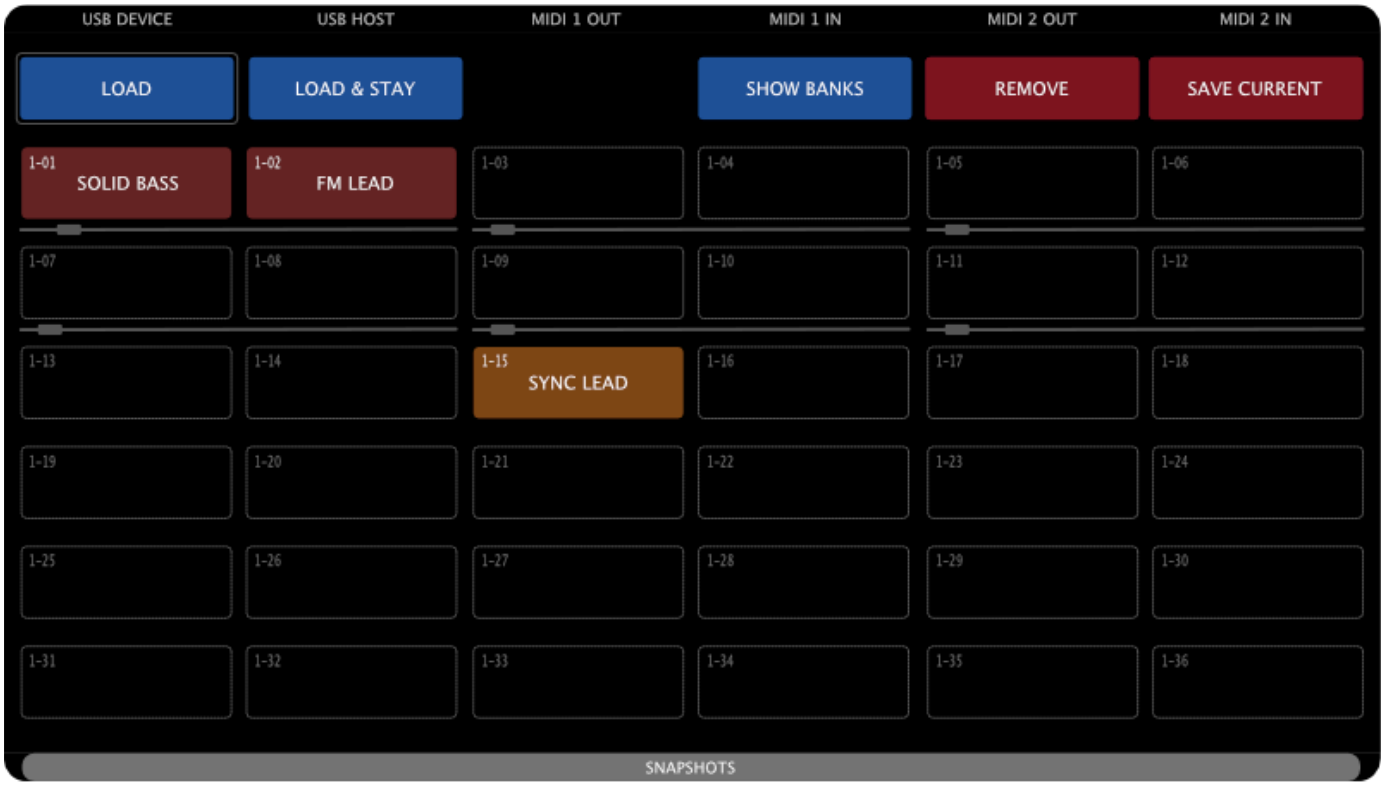
The Roland MKS50 is currently selected, so its details are displayed in the form:



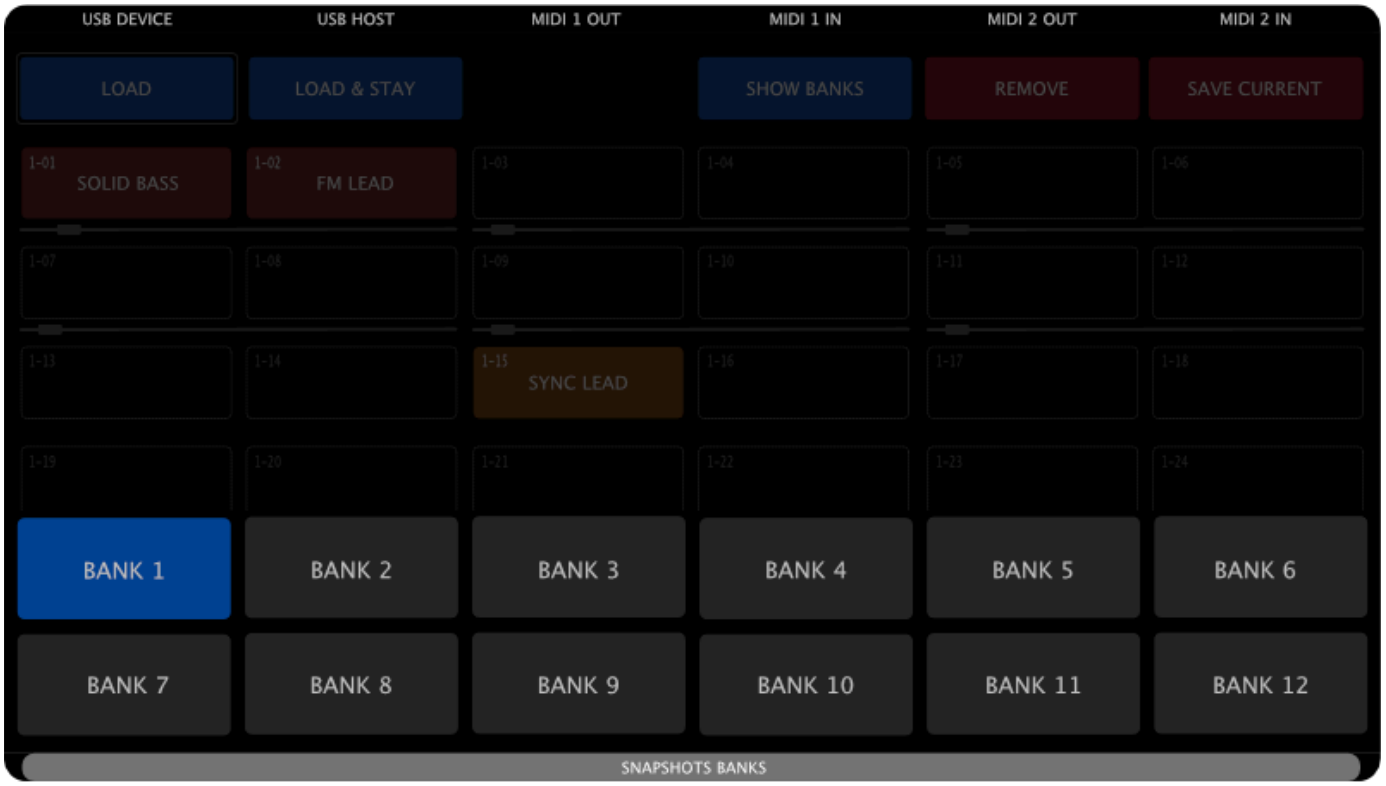
To select another device, simply tap its entry. Note that you cannot select unused channels. The form is easy to use - just tap the MIDI Port and Channel you want to assign. If the selected combination is already used by another device, the controller will swap the devices to accommodate the change.

Snapshots

Snapshots allow you to save and recall the full state of all controls in a preset—effectively capturing a moment in time that you can return to at any point. This is especially useful for performance, sound design, and working with complex setups.



Each preset can contain up to 12 banks, with 36 snapshots per bank, giving you a total of 432 snapshots per preset. The snapshot banks selection is revealed by tapping the `[SHOW BANKS]` button.



Snapshots are stored per preset project ID, meaning that if the same preset is loaded into multiple slots on your Electra One, those instances will share the same snapshots. If you want each instance to have its own independent set of snapshots, create a copy of the preset (which will get a new project ID) and upload it to the other slot.

When you save a snapshot, the current values of all controls in the preset will be stored in it. There is one exception, controls with the Message type set to `None` (used to create display-only or virtual controls that are intentionally excluded from snapshot saving)

The Snapshots screen is divided into two main parts: action buttons and a grid of snapshot slots.

The Action buttons

The action buttons allow you to select the operation you want to perform on the snapshot slots. There is one exception: the `[SHOW BANKS]` button simply opens the bank selection screen.

The currently selected action is highlighted with a light gray outline. In the example above, the Snapshots screen is in LOAD mode —meaning that tapping any snapshot slot will immediately load that snapshot. Tapping a different action button will change the mode accordingly.

Available actions:

- `[LOAD]` - snapshot load mode. A snapshot will be loaded and the snapshots screen closed.
- `[LOAD & STAY]` - persistant snapshot load mode. The snapshots screen will not be closed after the snapshot is loaded.
- `[SHOW BANKS]` - shows the selection of snapshot banks.

- `[REMOVE]` - snapshot remove mode. tapping on snapshot slots will clear them.
- `[SAVE CURRENT]` - save snapshot mode. tapping on a snapshot slot will save current values there.

The Snapshots grid

The Snapshots grid displays the available snapshot slots where you can save, load, or remove snapshots. Each bank contains 36 slots, arranged in a 6×6 grid.

The actions performed on the slots depend on the selected mode, which is set using the action buttons described above.

Each snapshot slot includes information about its bank number and position within the bank. For example:

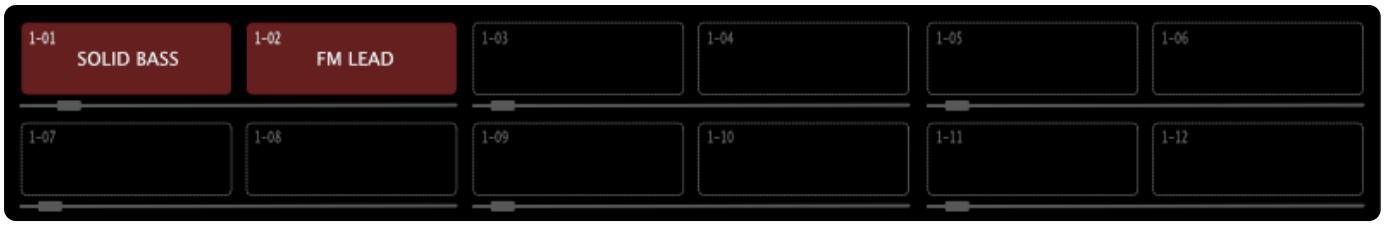
This represents an empty snapshot slot. The `1–19` label in the top-left corner indicates that this is Bank 1, Slot 19.

This represents a used snapshot slot. The `1–15` label indicates Bank 1, Slot 15. Used snapshot slots display a name and a color, making it easier to identify them.

When a new snapshot is saved, it is automatically assigned a default name and color. You can later rename and recolor your snapshots using the Electra One web editor, allowing for better organization and easier recall.

Morphing slots

The top two rows of snapshot slots offer an advanced feature designed for sound design and performance: snapshot morphing.



Under each pair of snapshot slots, you'll see a slider. There are six sliders in total, and each one is linked to two knobs on the controller.

When you touch any of the knobs, the corresponding slider is highlighted and will become armed to snapshot morphing or randomization.

Morphing

The left knob in the pair is used for morphing, ie. a smooth transition (morph) between the two snapshots linked to that slider.

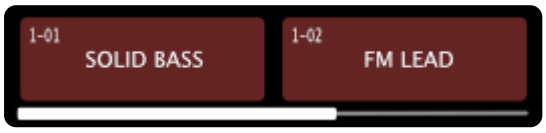
- When the slider is all the way to the left, the values from the left snapshot are used.
- When it is all the way to the right, the values from the right snapshot are used.
- Any position in between blends the values from both snapshots, creating an interpolated (crossfaded) version of the sound.

This feature makes it easy to experiment with new sounds by smoothly transitioning between saved configurations, giving you precise control over your sound in real time.

By using two snapshots in the morphing process, you gain additional control over which parameters are affected and how strongly the transition influences the sound.

Randomization

The right knob in each snapshot pair is used to apply randomization to the control values. While it works similarly to morphing, randomization generates new, random values within a defined range rather than blending existing ones.



The range of randomization is determined by the values in the left and right snapshot slots. For each parameter, the difference between the two snapshots defines the maximum allowed randomization range.

The slider beneath the pair controls the amount of randomization applied:

- With the slider fully left, no randomization is applied.
- Moving the slider towards the right increases the intensity of randomization.
- At the far right, values are randomized across the full range between the two snapshots.

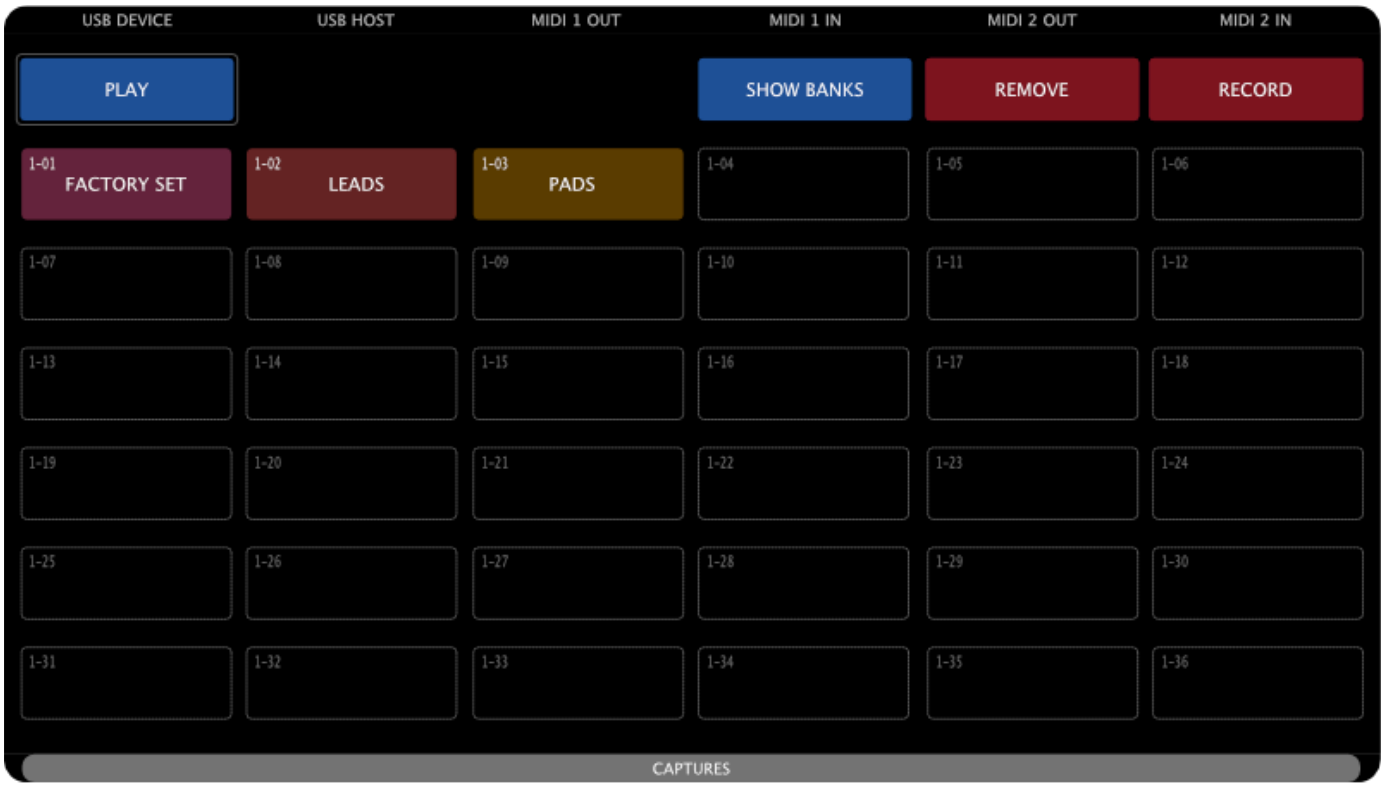
This allows for controlled sound variation while staying within predictable limits defined by the snapshot pair.

Saving morphed and randomized snapshots

Newly created sounds can be saved to snapshot slots by switching to `[SAVE CURRENT]` mode and tapping the desired snapshot slot.

Captures

The Captures feature allows you to record and play back SysEx messages directly from your Electra One controller. While similar in layout and function to Snapshots, Captures focus on storing full MIDI SysEx messages rather than individual control values. Captures are aimed towards working with SysEx patch and bank dumps.



Each preset has access to 12 banks, with 36 capture slots per bank, giving you a total of 432 capture slots.

Currently, each slot can contain one SysEx message only. We are planning to extend this functonality in near future.

Captures are stored per preset project ID, meaning that if the same preset is loaded into multiple slots on your Electra One, those instances will share the same captures. If you want each instance to have its own independent set of captures, create a copy of the preset (which will get a new project ID) and upload it to the other slot.

Action Buttons

The action buttons at the top of the Captures screen define what happens when you tap a capture slot.

Available actions:

- `[PLAY]` – Sends the stored SysEx message from the selected slot over MIDI.

- `[SHOW BANKS]` – Opens the capture bank selection screen.
- `[REMOVE]` – Deletes the SysEx message stored in the selected slot.
- `[RECORD]` – Records the next incoming SysEx message and stores it in the selected slot.

The currently active action is highlighted with a light gray outline. After selecting an action, tapping a slot will perform the corresponding operation.

Captures Grid

The Captures grid displays the slots available in the current bank A slot stores one SysEx message.

The Capture grid displays the available capture slots where you can record, play, or remove snapshots. Each bank contains 36 slots, arranged in a 6×6 grid.

The actions performed on the slots depend on the selected mode, which is set using the action buttons described above.

Each capture slot includes information about its bank number and position within the bank. For example:

This represents an empty capture slot. The `1-05` label in the top-left corner indicates that this is Bank 1, Slot 5.

This represents a used capture slot. The `1-01` label indicates Bank 1, Slot 1. Used capture slots display a name and a color, making it easier to identify them.

When a new capture is saved, it is automatically assigned a default name and color. You can later rename and recolor your capture using the Electra One web editor, allowing for better organization and easier recall.

Recording a new Capture

Recording a new Capture involves the following three steps:

1. Select the record mode by tapping the `[RECORD]` button. It will be highlighted with a light gray outline to indicate that recording mode is active.
2. Choose a capture slot by tapping it. The selected slot will be highlighted with a yellow outline, indicating it is armed and ready to receive a MIDI SysEx message.

3. Send the MIDI SysEx message to any of Electra One's MIDI interfaces.

The controller will automatically stop recording as soon as the first MIDI SysEx message is received. At that moment, the yellow outline will disappear, indicating that the message has been successfully recorded to the slot. The slot will then be assigned a default name and color.

If no SysEx message is received, or if you change your mind, you can disarm the slot by simply tapping it again.

Patch request

If the preset includes instructions to request patch data from a device, tapping the `[PATCH REQUEST]` button will send the necessary request messages. If the preset includes the patch dump parsing instructions, when the connected device responds with a patch dump via MIDI, the Electra One controller will automatically update the control values to reflect the received patch settings.

If the preset includes instructions to request and parse patch data from a device, tapping the `[PATCH REQUEST]` button will send the necessary request messages. When the connected device responds with a patch dump via MIDI, and if the preset includes parsing instructions, the Electra One controller will automatically update the control values to reflect the received patch settings.

Router

Electra One features a flexible low-latency internal MIDI router that allows you to route MIDI messages freely between all available interfaces:

- `<USB DEVICE>` - The Electra One USB interface as seen by your computer.
- `<USB HOST>` - MIDI devices connected to Electra One's USB host port.
- `<MIDI IO>` - MIDI devices connected to Electra One's 5-pin DIN MIDI connectors.

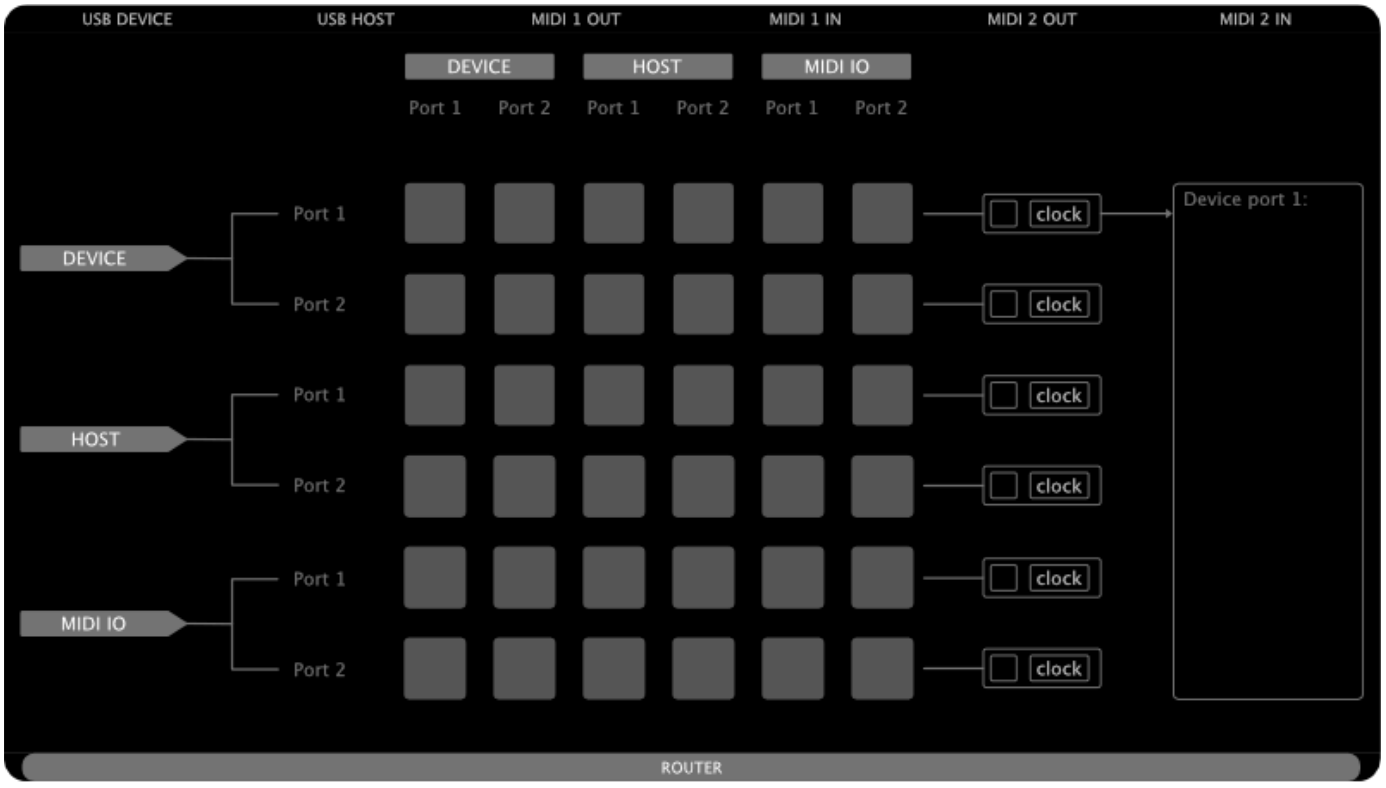
Each interface provides two independent MIDI ports: Port 1 and Port 2.

Flexible Routing

With the internal router, you can create custom MIDI paths by routing messages from any source interface/port to any destination interface/port. This gives you full control over how MIDI data flows through your setup, whether you're using external gear, software instruments, or both.

Router Configuration Screen

The Electra One router is fully managed on the Router configuration screen:



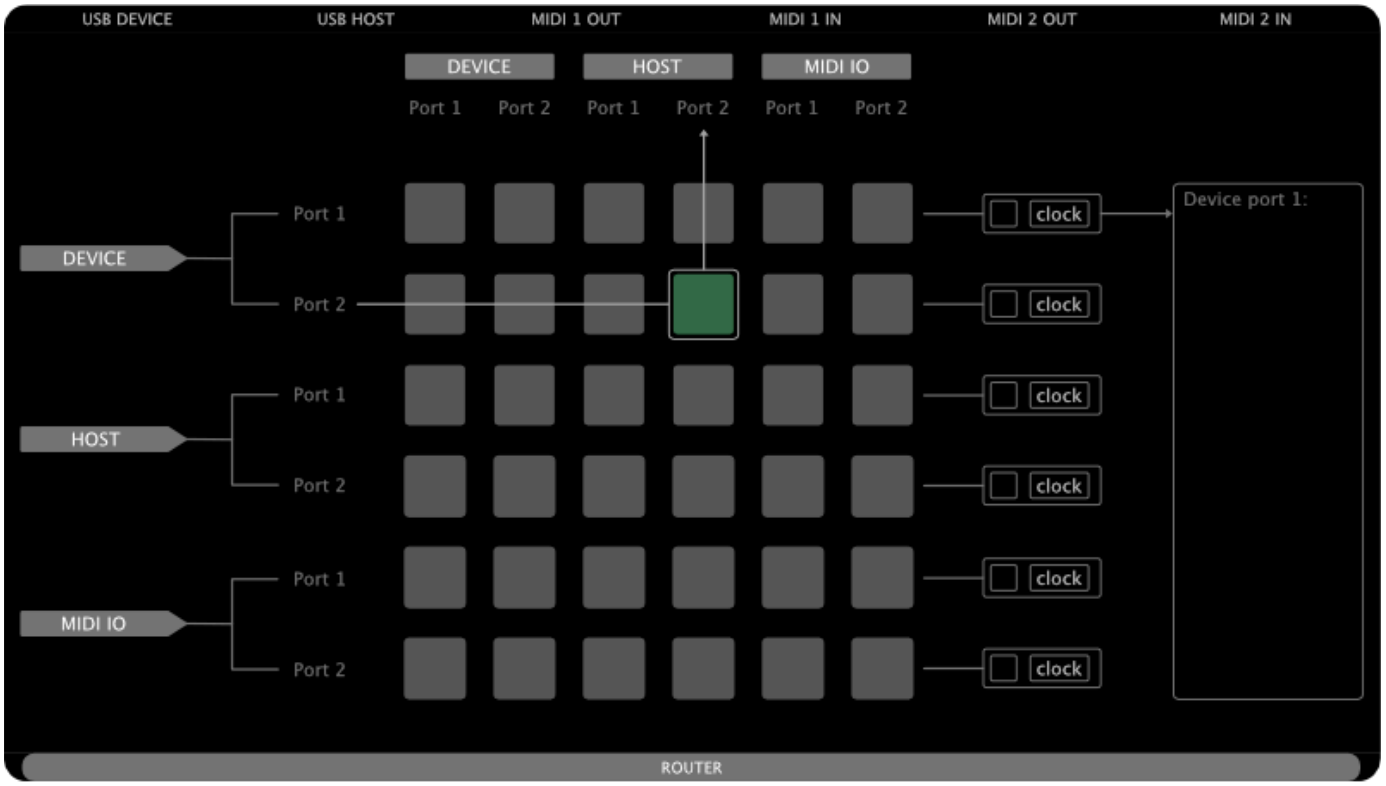
The screen is organized as a 6 × 6 grid, where:

- Rows represent MIDI sources
- Columns represent MIDI destinations

Each cell in the grid represents a possible connection between a source and a destination.

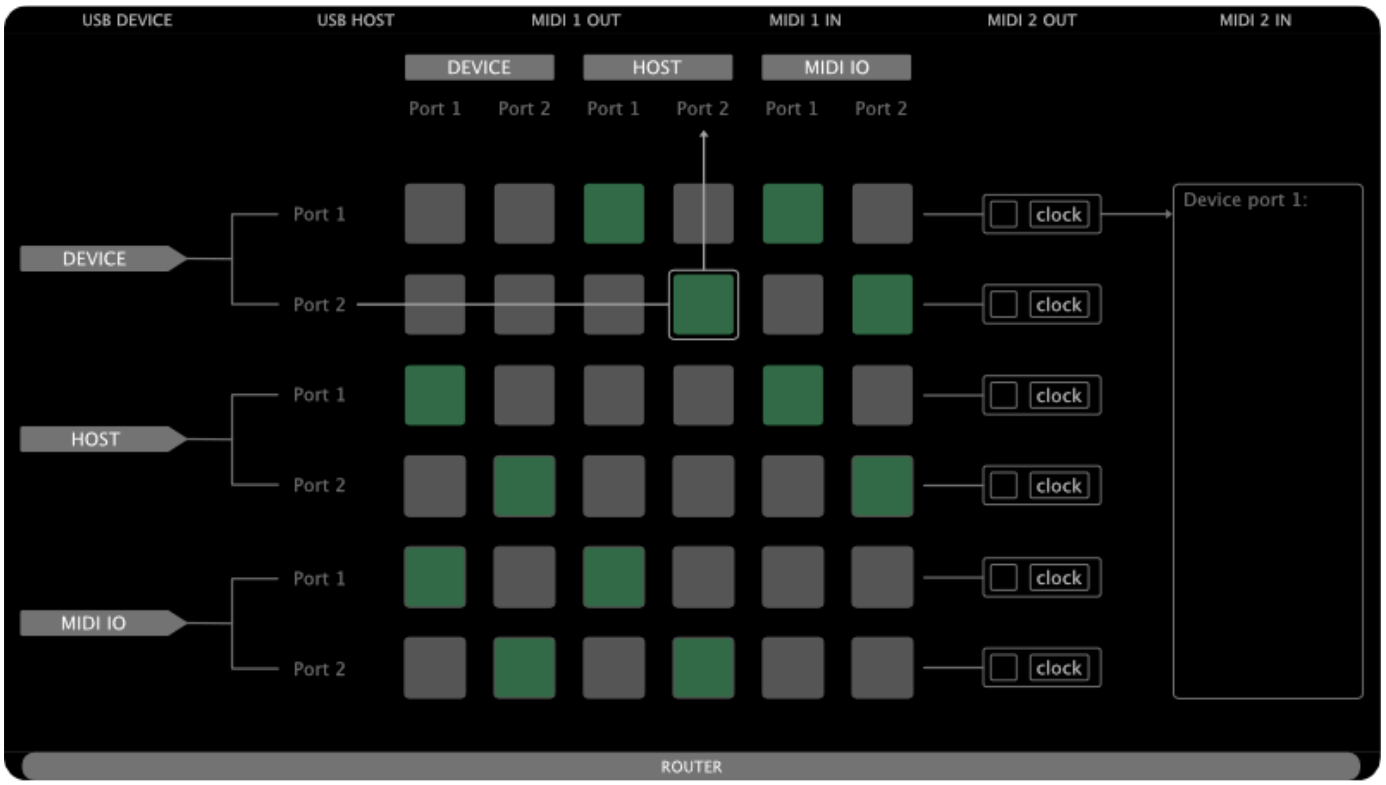
Enabling and Disabling Routes

- To enable a route, tap a cell in the grid. The cell will be highlighted in green, and an arrow will appear, indicating the direction of MIDI data flow.
- To disable a route, tap the same cell again. The highlight and arrow will disappear, and the route will be deactivated.



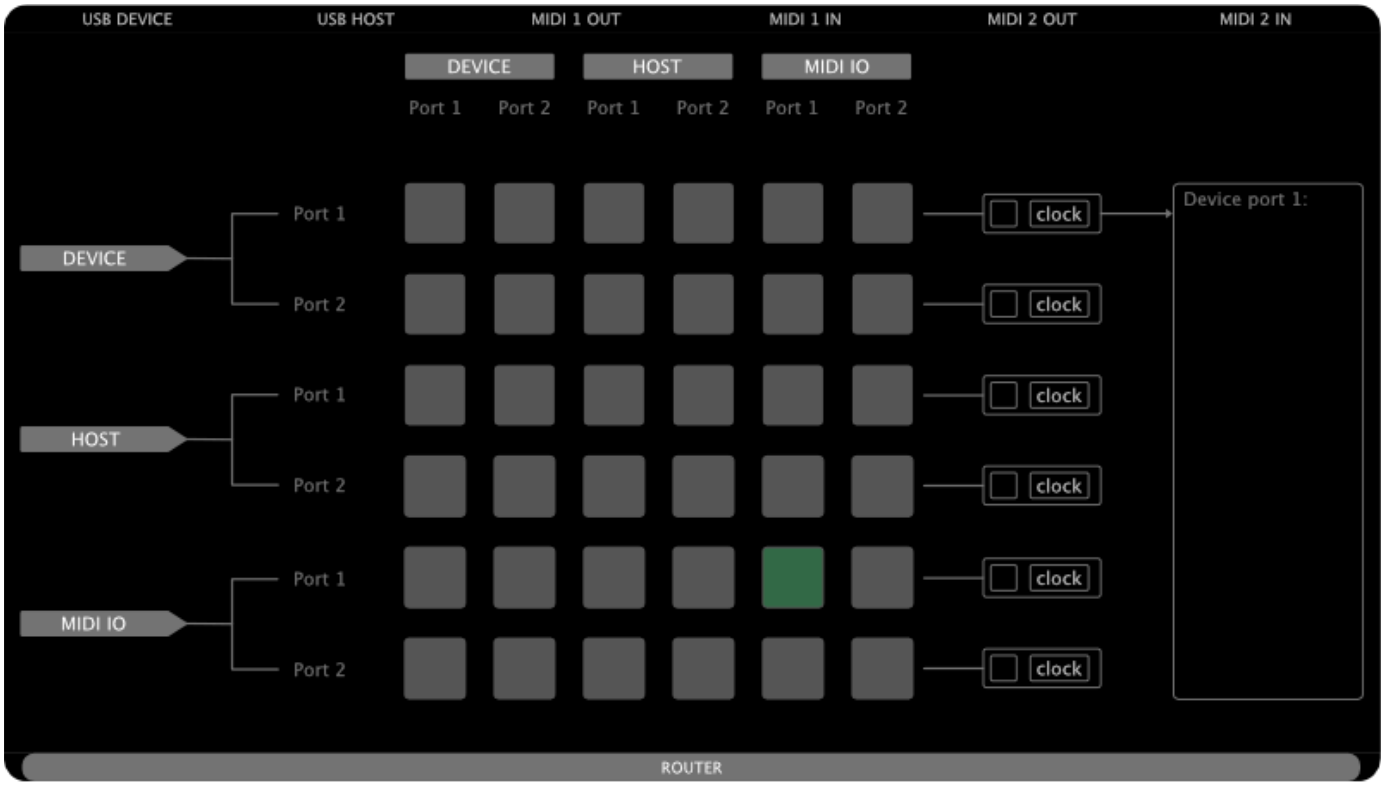
This makes it easy to visually manage and adjust routing in real time.

This is the default router configuration that Electra One ships with:



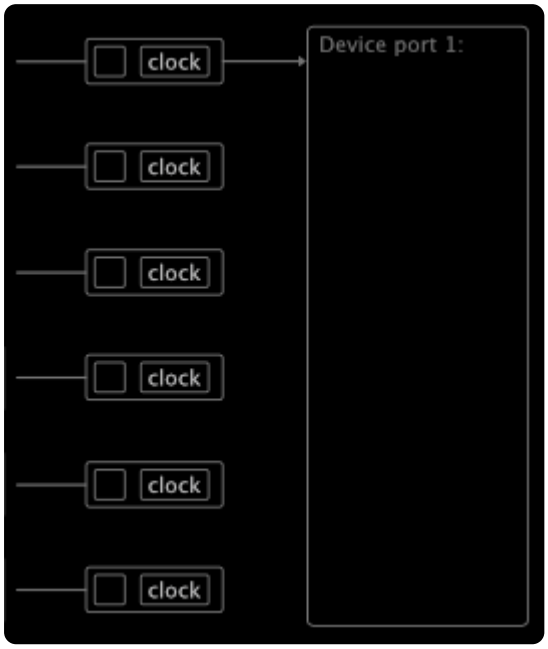
As shown, each MIDI interface forwards both of its ports to the corresponding ports on the other two interfaces.

To help illustrate how routing works, here's another example showing a simple MIDI Thru setup on `<MIDI IO>` Port 1. In this configuration, any MIDI data received on `<MIDI IO>` Port 1 input will be automatically forwarded to the `<MIDI IO>` Port 1 output.



Built-in MIDI Monitor

To make setting up MIDI routes easier, the Electra One router includes a built-in MIDI monitor.



The monitor displays real-time activity for all MIDI interfaces and their ports, allowing you to quickly confirm that data is being received from connected devices.

There are six activity indicators, one for each interface and port.

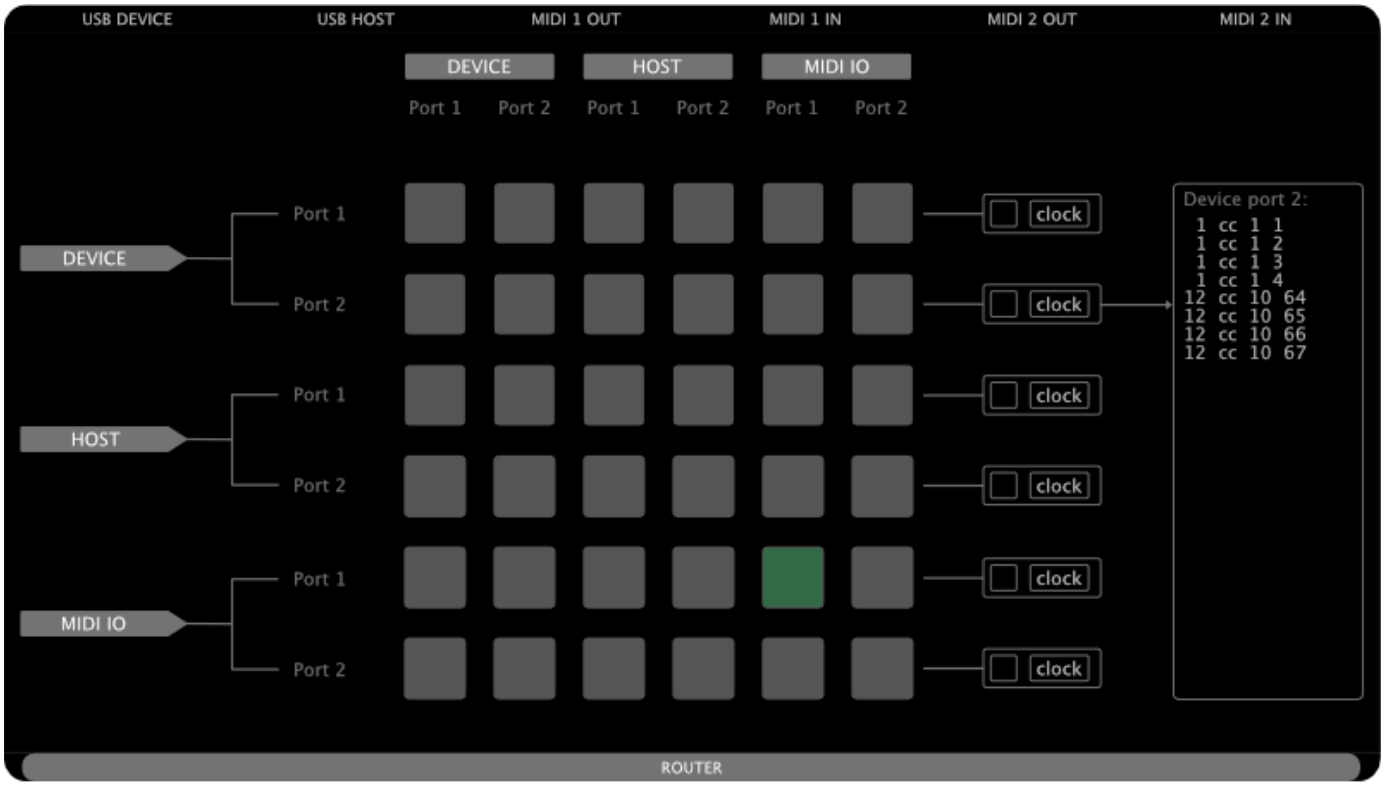
Each indicator provides two visual signals:

- One for incoming MIDI Clock
- One for all other types of MIDI messages

When MIDI data is received, the corresponding part of the indicator flashes to show activity.

Any of these indicators can be linked to the MIDI monitor log window, which displays detailed information about the incoming messages. A visible arrow between an indicator and the log window shows that a link is active.

To assign an indicator to the log window, simply tap on the indicator.



The log window will then show individual MIDI messages along with information about which interface and port they were received from.

Note: The log window monitors MIDI data only from the interface and port selected by tapping the activity indicator. Tapping the routing grid cells has no effect on what is shown in the monitor.

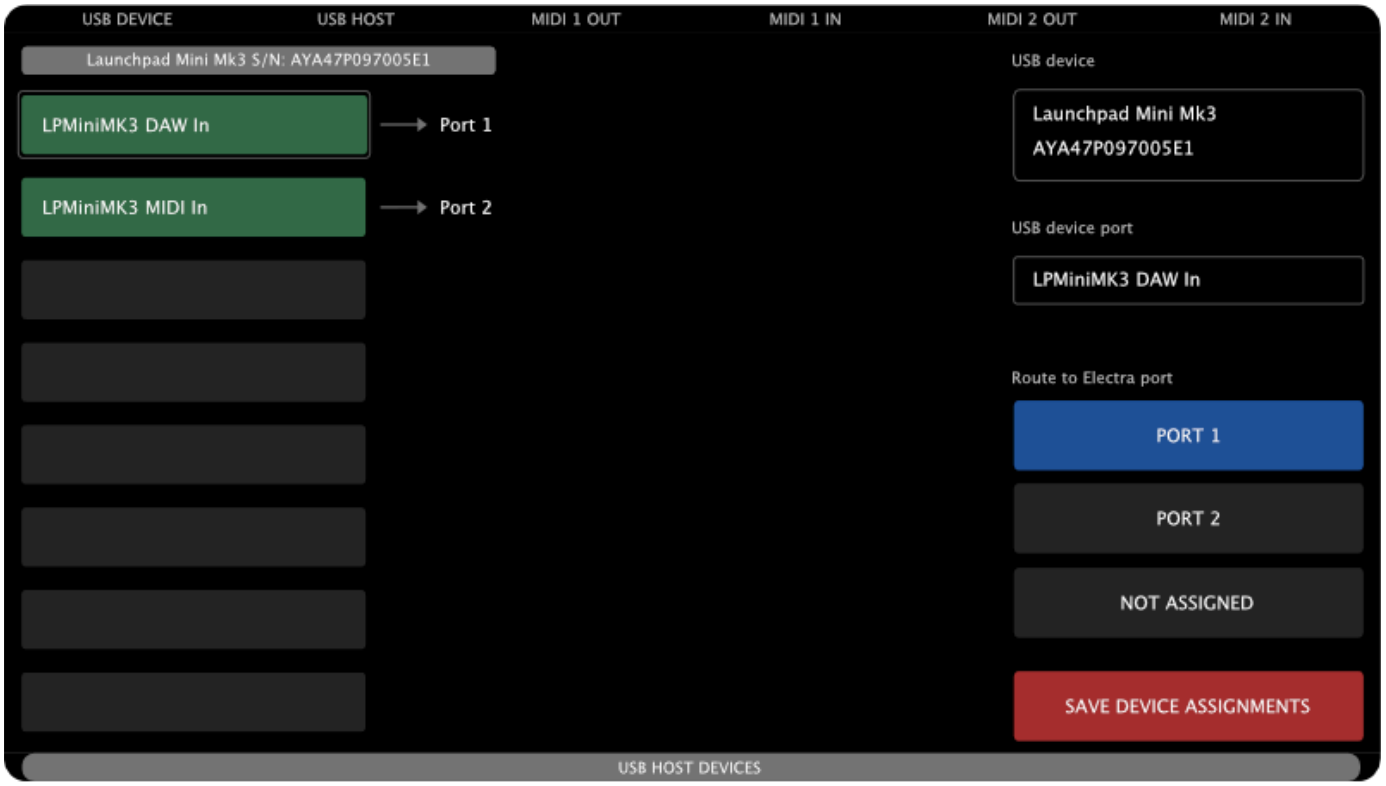
USB Host

As you've learned already, Electra One functions as a USB Host, allowing you to connect up to two USB MIDI devices at the same time.

- One device can be connected directly to Electra's USB Host port.
- To connect two devices, a standard USB hub must be used.

Device Detection and Port Assignment

When a USB MIDI device, such as a controller or synthesizer, is connected, Electra One automatically detects it and displays its available ports on the USB Host configuration screen.

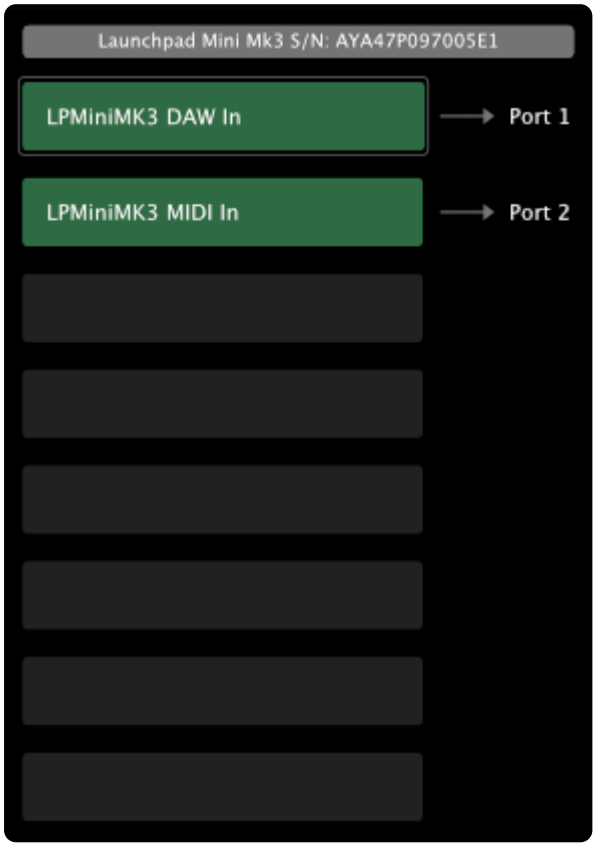


This screen allows you to assign each detected MIDI device port to one of Electra One's internal ports:

- Port 1
- Port 2

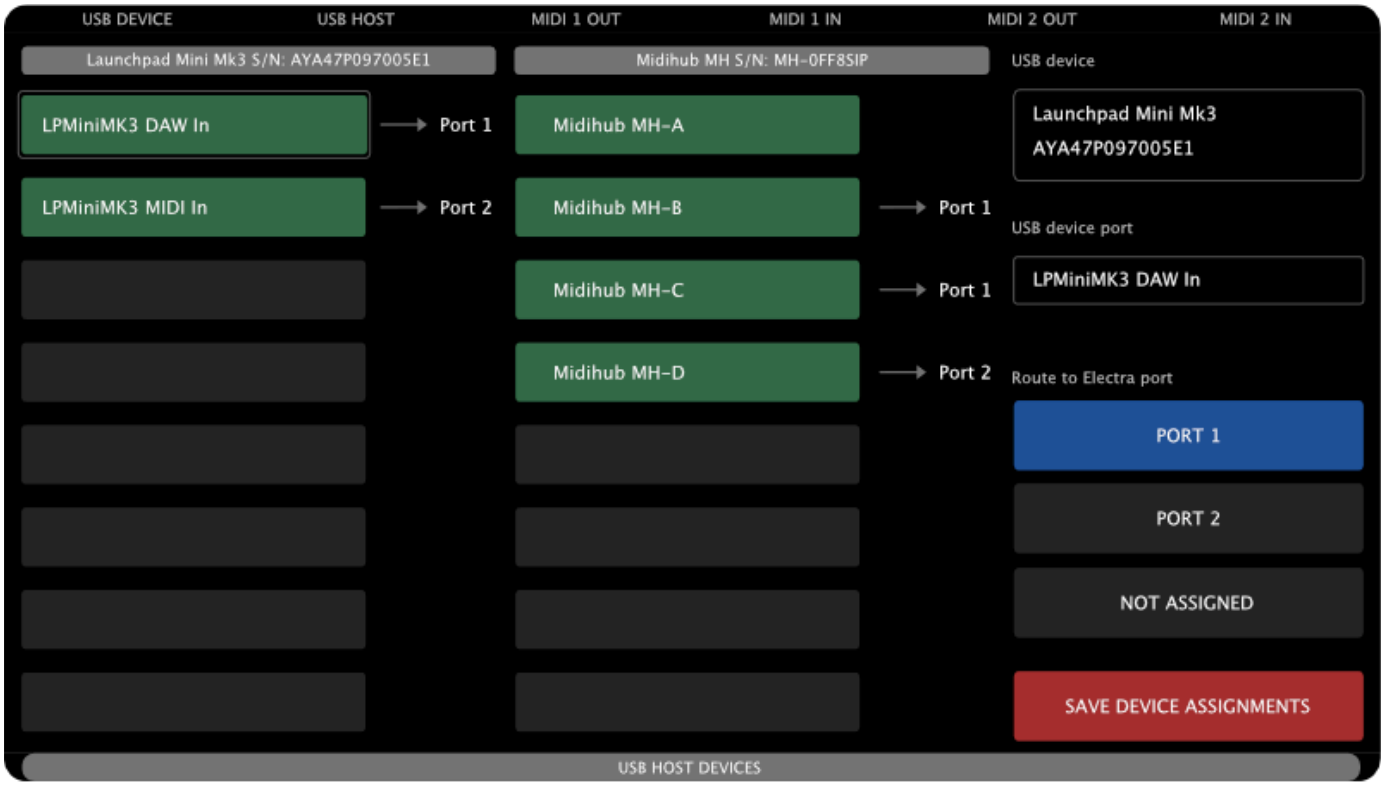
You can also choose to leave a port unassigned if you don't want Electra to use it.

Each connected USB MIDI device is displayed with its name and serial number at the top, along with a list of all its available ports and their current assignments to Electra's nternal ports.

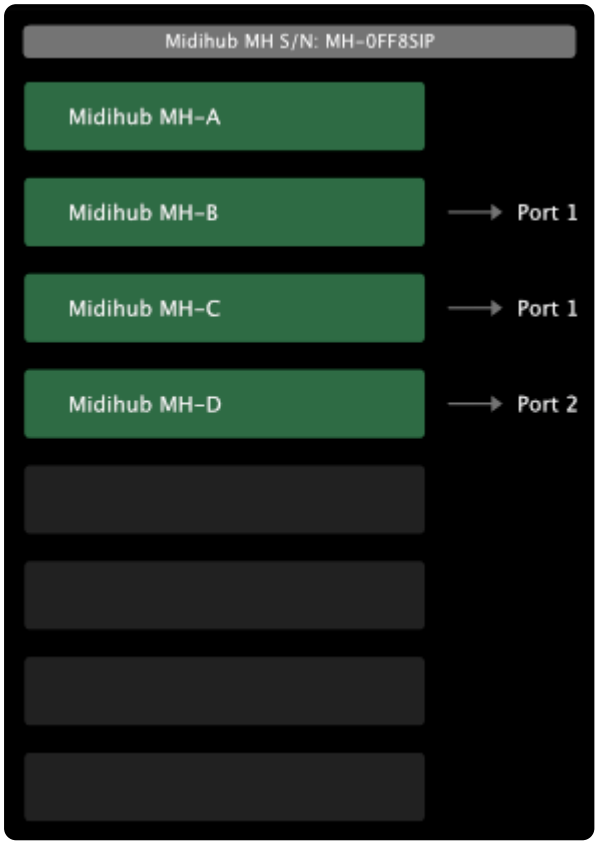


The example above shows a Novation Launchpad connected to Electra One, with its LPMiniMK3 DAW In port assigned to Electra's internal Port 1, and its LPMiniMK3 MIDI In port assigned to Port 2.

When two devices are connected, two columns (one for each device) will be displayed.



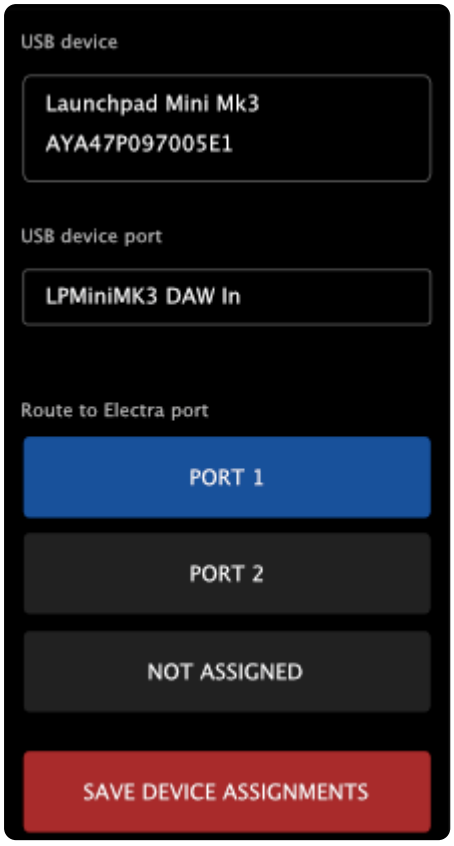
The second device is a Blokas Midihub:



- port MH-A is not assigned

- port MH-B is assigned to Port 1
- port MH-C is assigned to Port 1
- port MH-D is assigned to Port 2

To assign or unassign a port, tap the MIDI device's port (highlighted in green). The selected port will then be outlined in light gray. The right sidebar will update to display relevant information and available actions for that port.



The sidebar shows details about the MIDI device, the selected port, and allows you to assign it to one of Electra One's ports using `[Port 1]` or `[Port 2]` buttons, or to cancel the assignment with `[NOT ASSIGNED]`.

It also includes a button to save all device port assignments (see below).

Saving and Recalling Assignments

Any port assignments you make can be saved. You can do that simply by tapping the `[SAVE DEVICE ASSIGNMENTS]` button. The next time the device is connected, Electra One will automatically apply the saved settings.

If you connect multiple USB MIDI devices at different times and save their port assignments, Electra One will remember the configuration for each device individually.

This makes it easy to maintain a consistent setup across sessions—whether you're working in the studio or performing live.

Settings

The Settings is used to configure your Electra One controller. Since it contains a wide range of options, it is covered in detail in its own dedicated Settings chapter.

Reboot

The REBOOT button, restarts the Electra One controller.

In addition to performing a standard reboot, this button can be used in combination with key holds to trigger special startup modes.

While tapping the on-screen REBOOT button, you can hold one of the following hardware buttons to modify the startup behavior. Note: You must continue holding the hardware button until the startup animation finishes for the selected mode to take effect.

- Hold `[LEFT-TOP]` while tapping REBOOT → The controller will start without loading the default preset.
- Hold `[RIGHT-BOTTOM]` while tapping REBOOT → The controller will enter bootloader mode for firmware updates, recovery, and the SD card file management.

These combinations are useful for advanced tasks such as troubleshooting and maintenance.

Sleep

The SLEEP button activates Sleep Mode on the controller.

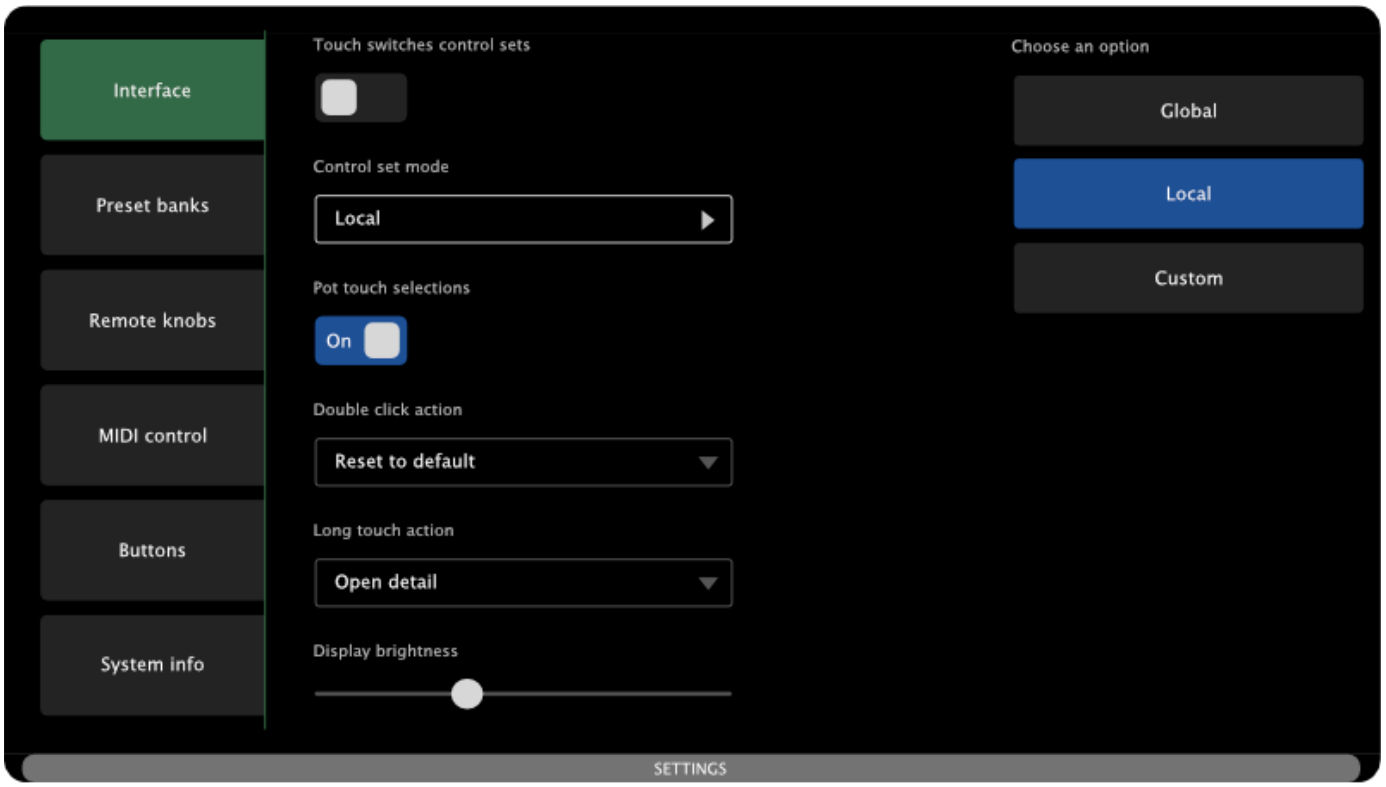
When tapped, the controller enters a low-power state with the display turned off. It also prepares for safe power disconnection by completing any pending file operations and closing its internal database.

While in Sleep Mode, it is safe to disconnect the USB cable, or you can simply leave the controller in Sleep Mode while still connected.

To wake the controller from Sleep Mode, press the `[RIGHT-BOTTOM]` hardware button.

Settings

The Settings screen allows you to customize and manage various aspects of the controler's behavior and functionality. The Settings screen can be accessed from the main Menu.



The screen is divided into several tabs, each focused on a specific configuration domain:

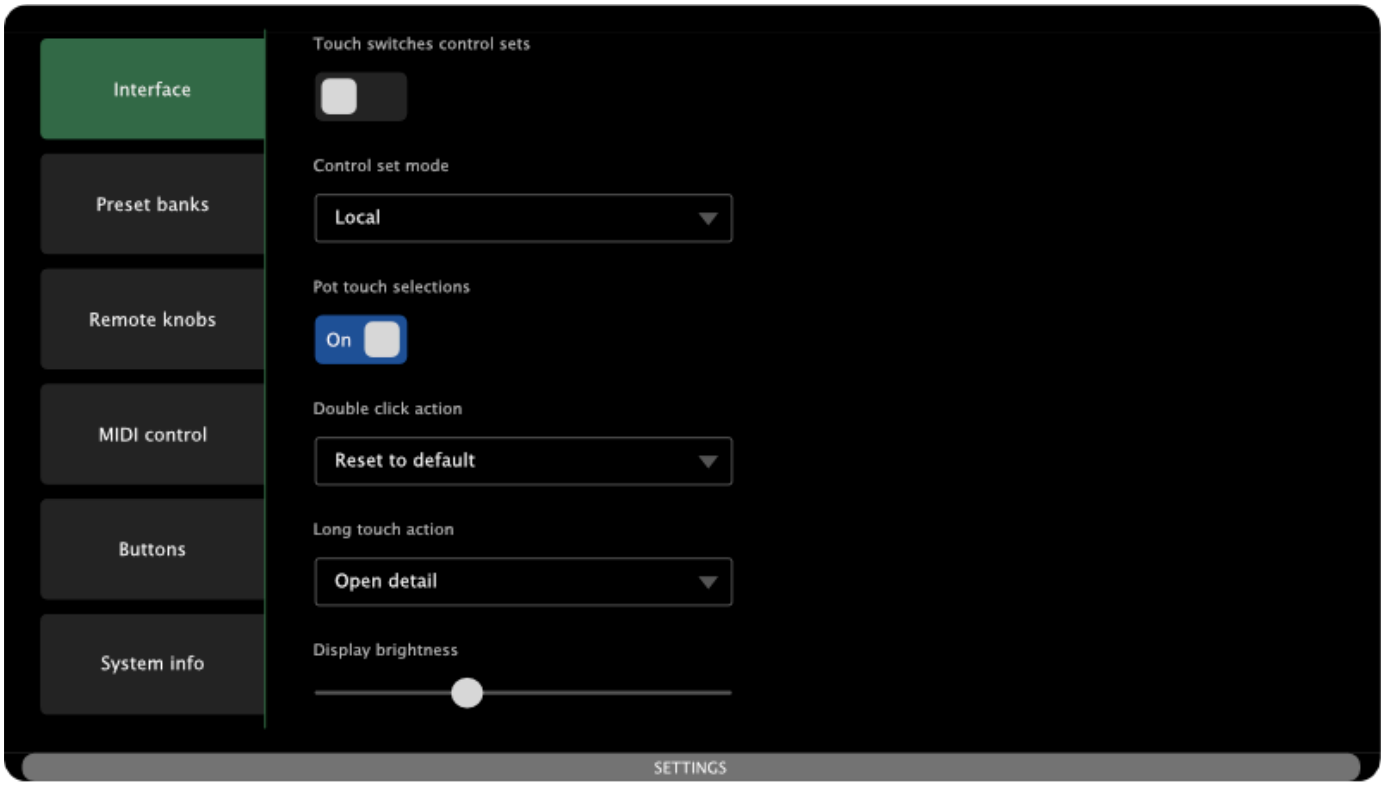
1. **Interface** – Adjust settings that affect the behavior of the user interface.
2. **Preset Banks** – Manage preset banks stored on the device.
3. **Remote Knobs** – Configure support for external MIDI controllers used to extend Electra One's knobs.
4. **MIDI Control** – Set up control of Electra One using incoming MIDI messages.
5. **Buttons** – Customize the functions assigned to Electra One's hardware buttons.
6. **System Info** – View information about the Electra One hardware and runtime resources.

To switch between tabs, simply tap the corresponding tab.

Each tab is covered in detail in the following sections.

Interface

The Interface tab allows you to configure how you interact with the Electra One controller. These settings control how touch, knob actions, and display behavior are interpreted, enabling you to tailor the experience to your preferences.



The tab includes the following options:

Touch Switches Control Sets

When enabled, touching the screen will automatically switch to the corresponding active control set. When disabled, you'll need to use hardware buttons (configured accordingly) to switch between control sets.

Control Set Mode

Defines how control sets are handled:

- **Global** – The active control set is shared across all preset pages. Changing the page does not change the control set.
- **Local** – Each preset page remembers its own active control set. When you return to a page, it restores the control set that was active when you last left it.
- **Custom** – Each preset page uses a default control set, as defined in the preset. If no default is specified, the first control set is selected when switching to that page.

Pot Touch Selections

When enabled, pot (knob) touch can be used to make selections on pages such as Preset Selection, Page Selection, Snapshot Bank Selection, and others. When disabled, selections must be made using the touchscreen only.

Double Click Action

Defines what happens when you double-tap a control on the touchscreen:

- **None** – No action is triggered.
- **Reset to default** – Resets the control's current value to its default setting.
- **Open detail** – Opens the detail window for the selected control.

Long Touch Action

Defines what happens when you touch and hold a control on the touchscreen. The available actions are the same as for the double-tap gesture:

- **None** – No action is triggered.
- **Reset to default** – Resets the control's current value to its default setting.
- **Open detail** – Opens the detail window for the selected control.

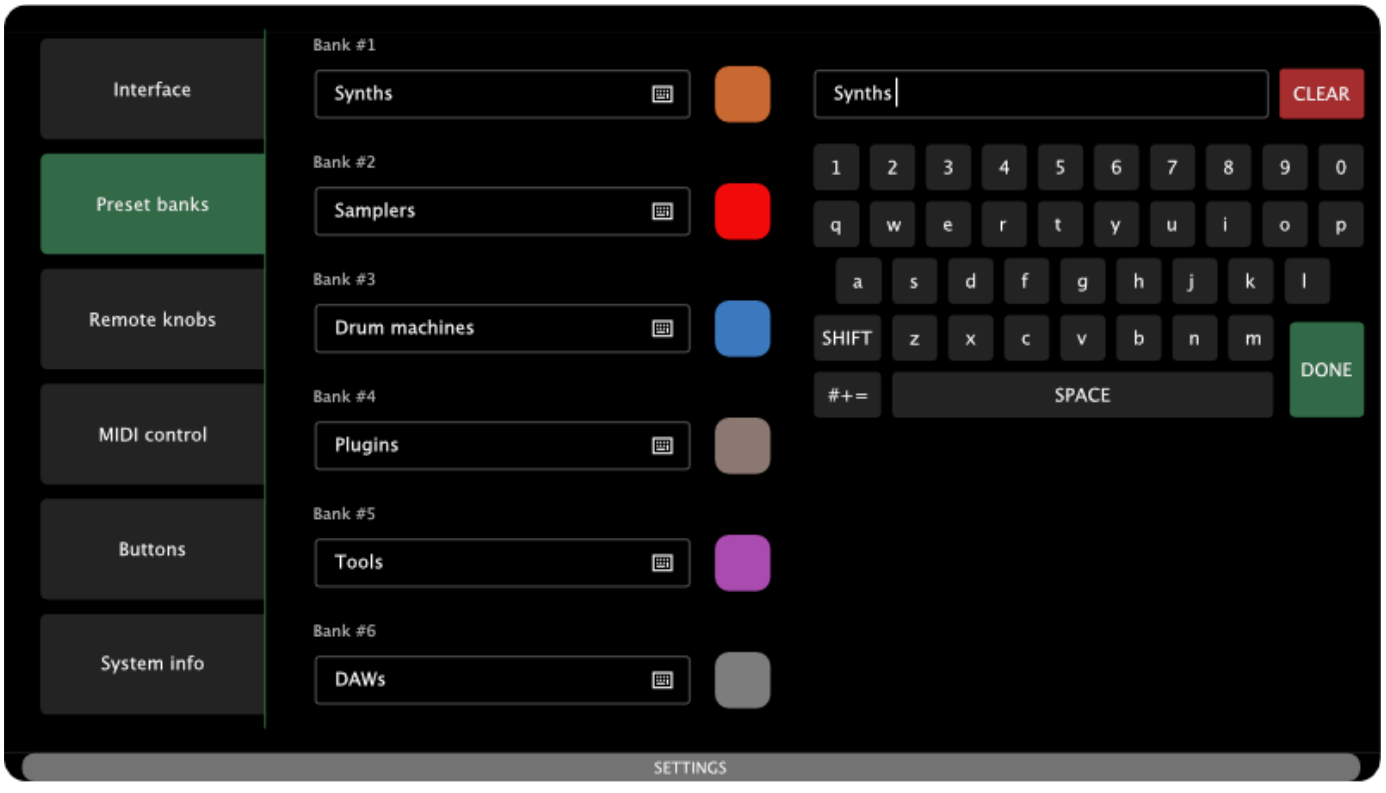
Display Brightness

Adjusts the screen brightness to suit different lighting conditions. This setting helps reduce eye strain and power consumption, especially in low-light or on-stage environments.

If your USB host (e.g. a MIDI router) does not supply enough power for the Electra One, lowering the backlight brightness can help reduce the controller's power requirements.

Preset Banks

Electra One provides six preset banks for organizing and accessing your presets. Each bank can be customized to help you organize the color-coding to your needs.



For each bank you can set:

- **Name** – You can assign a custom name to each bank using the on-screen keyboard. This helps identify the purpose or contents of each bank at a glance. To open the on-screen keyboard, tap on the Bank name text field.
- **Color** – A color can be selected from a set of predefined options, making it easier to visually distinguish between banks. To change the color, tap on the color button next to the Bank name text field.

Remote Knobs

The Remote Knobs feature allows you to control on-screen parameters using external MIDI controllers that send MIDI CC (Control Change) messages. This expands Electra One's control surface, enabling more hands-on control or automation from software and hardware.

Key capabilities:

- Map external CC messages to Electra One controls, enabling real-time interaction with on-screen parameters.
- Use external MIDI controllers to expand the number of physical knobs available for hands-on control.
- Automate control changes from a computer or DAW by sending CC messages to Electra One.
- Send CC messages back out when controls are adjusted using Electra One's knobs or touchscreen.

Because Electra One sends out the same CC messages it receives via Remote Knobs, these messages can be recorded as automation in a DAW and played back later. This allows users to automate even non-CC parameters—such as SysEx, NRPN, or Lua-triggered functions—by simply recording and replaying standard CC automation.

Example: Automating SysEx with a DAW

Let's say you're controlling a vintage synthesizer that only accepts SysEx messages for parameter changes. Normally, automating SysEx in a DAW is difficult or unsupported, but with Electra One's Remote Knobs, this becomes easy.

1. Assign a Remote Knob CC (e.g., CC #21 on MIDI Channel 1) to a control in your preset that sends a SysEx message.
2. In your DAW, record automation for CC #21 by adjusting that parameter on Electra One, or by sending CC messages from another controller.
3. When you play the automation back, the DAW sends CC #21, which Electra One interprets through the Remote Knobs mapping and converts to the appropriate SysEx message.

This lets you automate complex SysEx messages using simple CC data, without needing SysEx support in your DAW.

Configuration

The Remote Knobs feature allows up to 36 MIDI CC messages to be mapped to 36 control slots, arranged in a 6×6 grid. These slots correspond to fixed positions on Electra One's preset pages and the performance page.

You can configure each Remote Knob slot by assigning:

- A MIDI CC number
- A MIDI CC type: absolute or relative
- A MIDI channel
- A MIDI interface from which the CC messages will be received

When a mapped CC message is received, Electra One updates the corresponding control in real time.

The configuration of Remote Knob assignments is global—shared across all preset pages and the performance page. This means, for example, that if CC #21 is mapped to control the first slot (row 1, column 1), it will control the control in that same position on every preset page and also on the performance page.

This consistent mapping makes it easy to build external controller templates and automation workflows that function seamlessly throughout your preset. By using the Performance page, you can create a dedicated selection of preset controls you want to automate or control remotely, without needing to rearrange or modify the original preset layout.

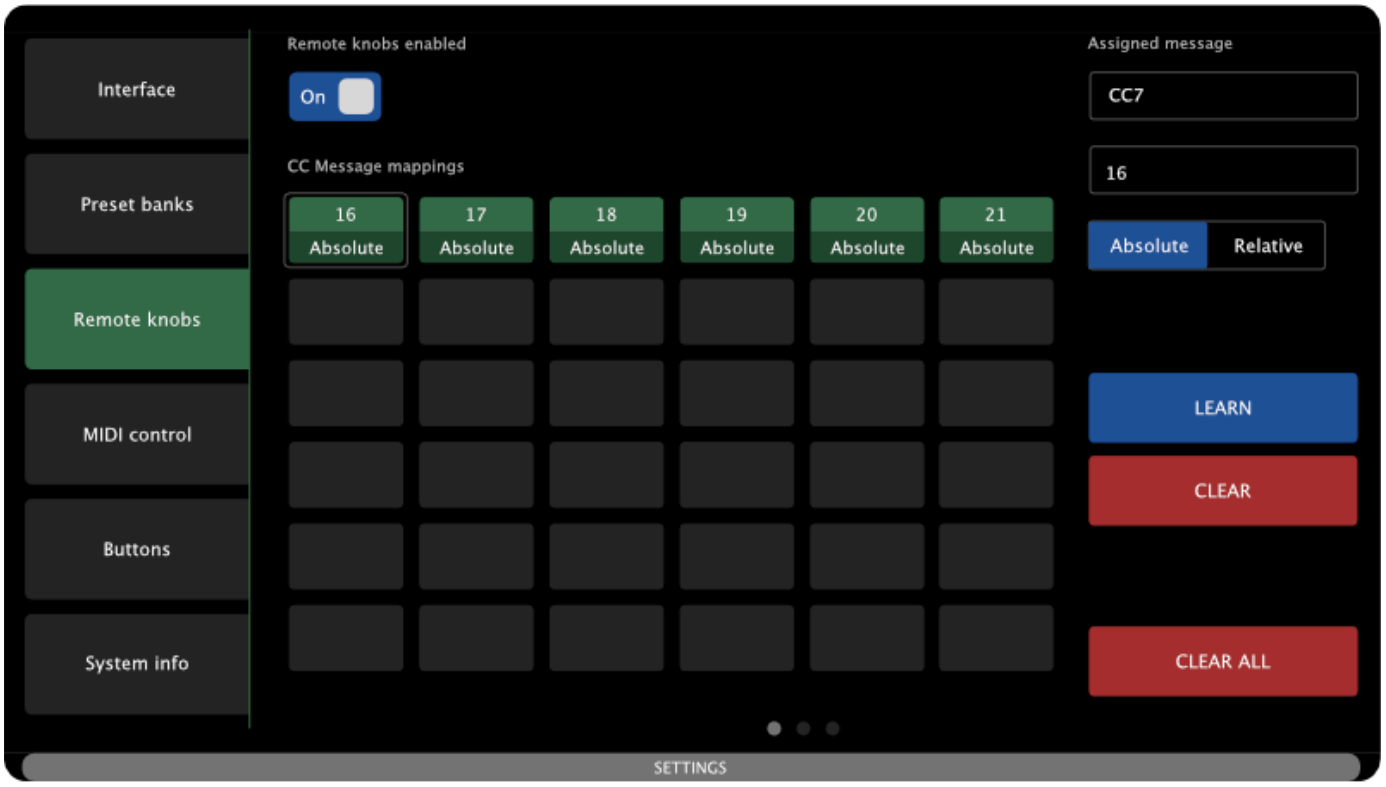
The configuration of Remote Knobs is divided into three sections, each accessible from its own screen within the Remote Knobs tab:

1. Message Mappings
2. Inbound MIDI Routing
3. Outbound Interface

You can switch between these screens by swiping left or right on the touchscreen.

Midi Mappings

The MIDI Mappings screen allows you to assign incoming MIDI CC messages to individual control slots using MIDI Learn. This is where you define which CC messages will control which on-screen controls via the Remote Knobs feature.



You can select any slot on the 6×6 grid by tapping it. The selected slot is highlighted with a light gray outline.

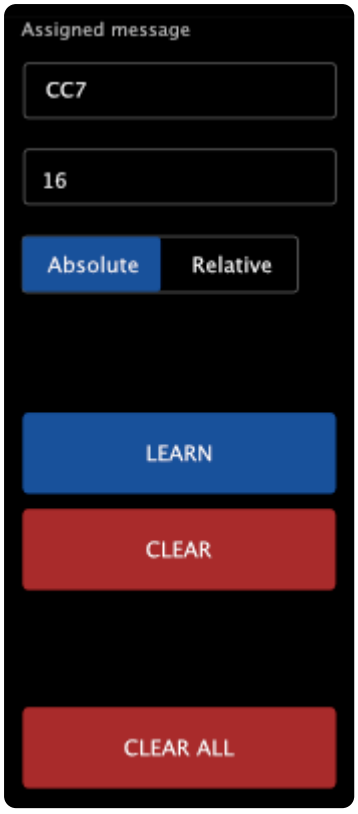
- Unused slots are shown in dark gray.
- Mapped slots are shown in green, displaying the assigned CC number and message type (absolute or relative).

An example:

Represents a CC #16, send as a absolute value.

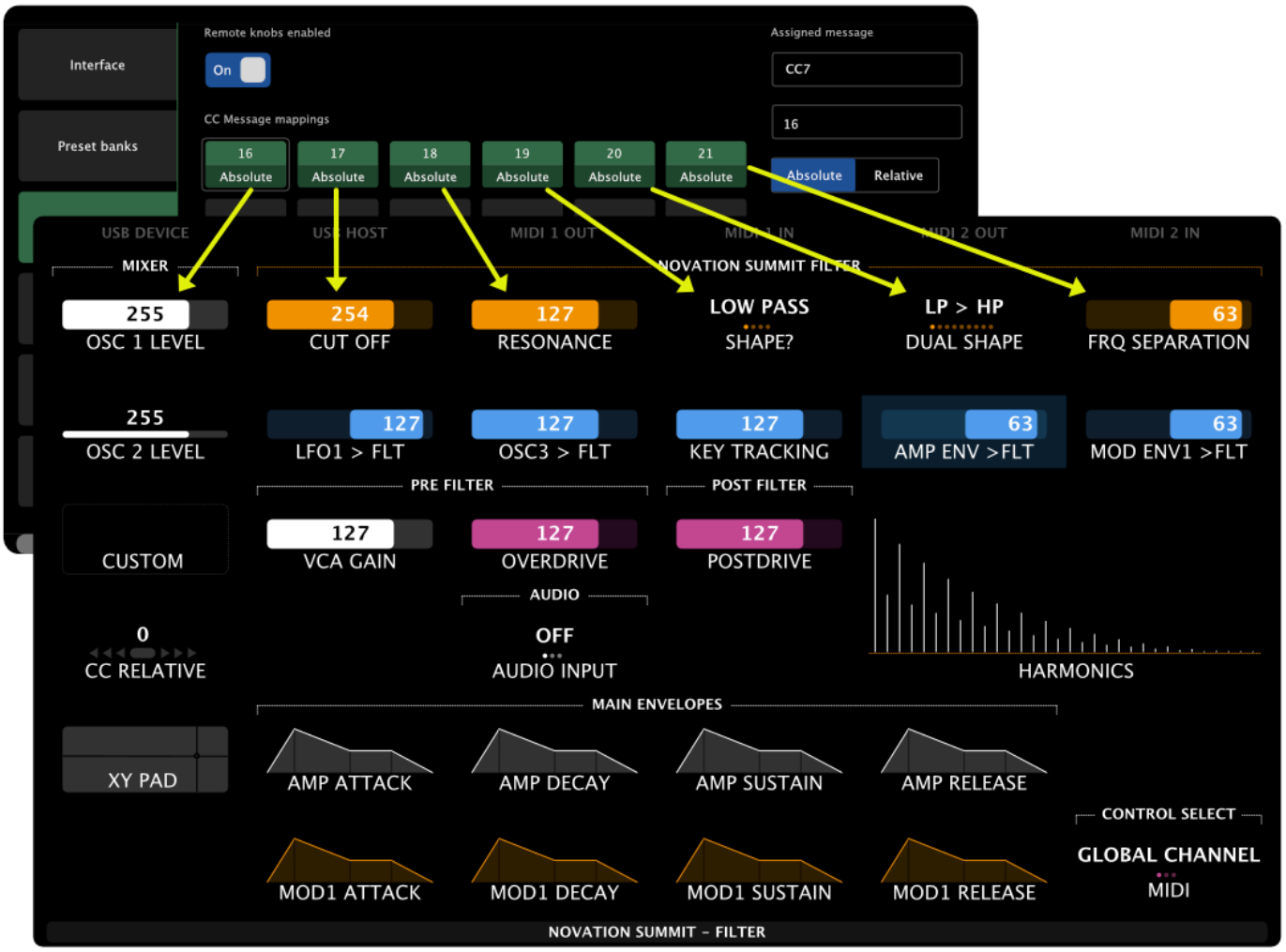
The sidebar on the right displays information and options for the currently selected slot, including:

- The CC message number
- The CC message type (absolute or relative)
- A button to re-learn the MIDI message
- A button to clear the mapping and to clear all mappings



The screen also includes a global enable/disable switch for the Remote Knobs feature. Disabling this switch does not delete your mappings, it simply suspends the Remote Knobs functionality until re-enabled.

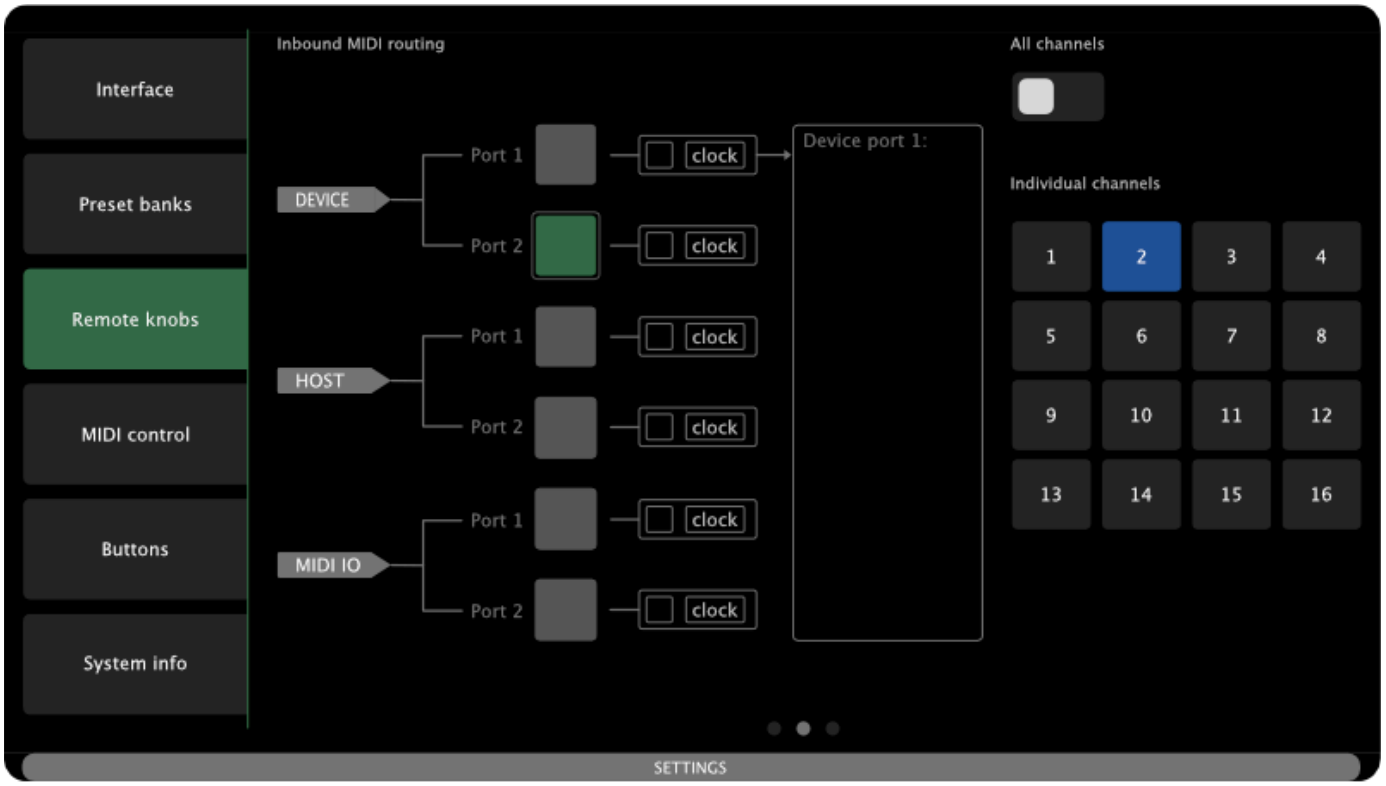
An example of mappings:



The image above shows CC #16 assigned to control the first slot of the preset page, CC #17 assigned to the second slot, and so on.

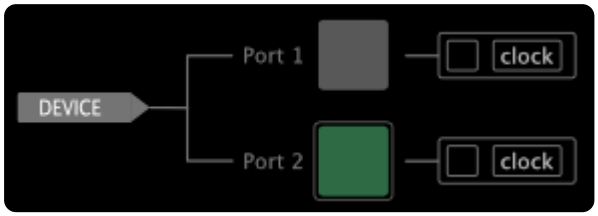
Inbound MIDI Routing

The Inbound MIDI Routing screen determines which MIDI inputs Electra One will listen to for Remote Knobs messages. The layout is similar to the Router Configuration screen, with each input source (MIDI interface and port) displayed in a separate row.

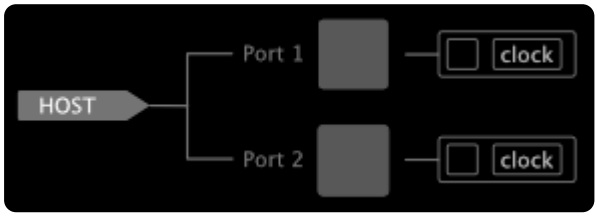


Each row includes a checkbox to turn Remote Knobs processing on or off for that input source.

- When active, the checkbox appears green, and incoming CC messages will be interpreted as Remote Knobs input.

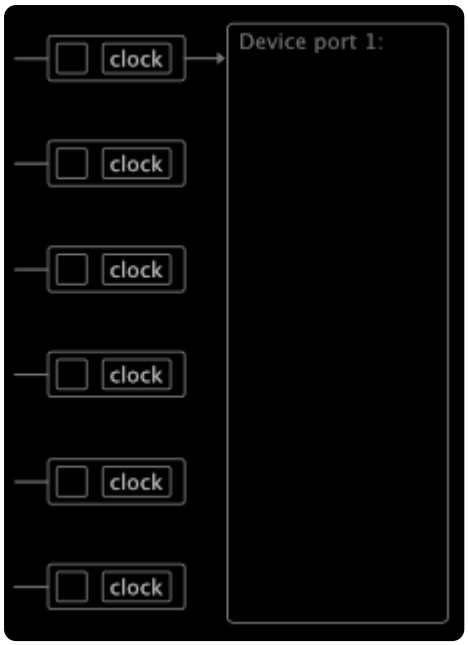


- When inactive, it appears gray, and messages from that source are ignored.



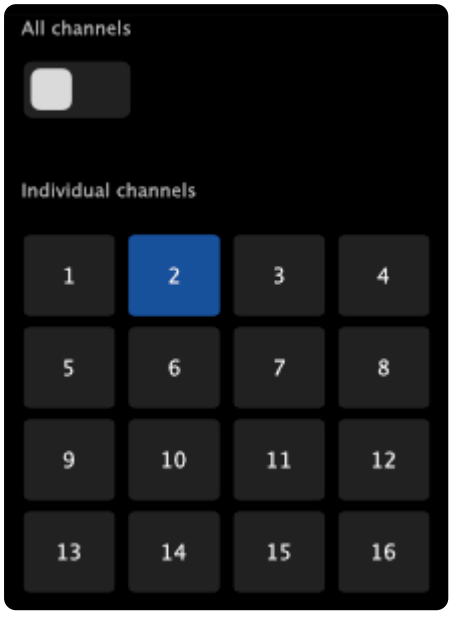
To assist with setup and troubleshooting, the screen also includes:

- MIDI activity indicators
- A MIDI log window



These tools display incoming MIDI data in real time. See the Router section of this manual for more details on how they work.

A sidebar on the right lets you configure which MIDI channels are used for each selected input. When you select a row, its checkbox is highlighted with a light gray outline, and the sidebar displays the channel settings for that input.



You can choose to listen on:

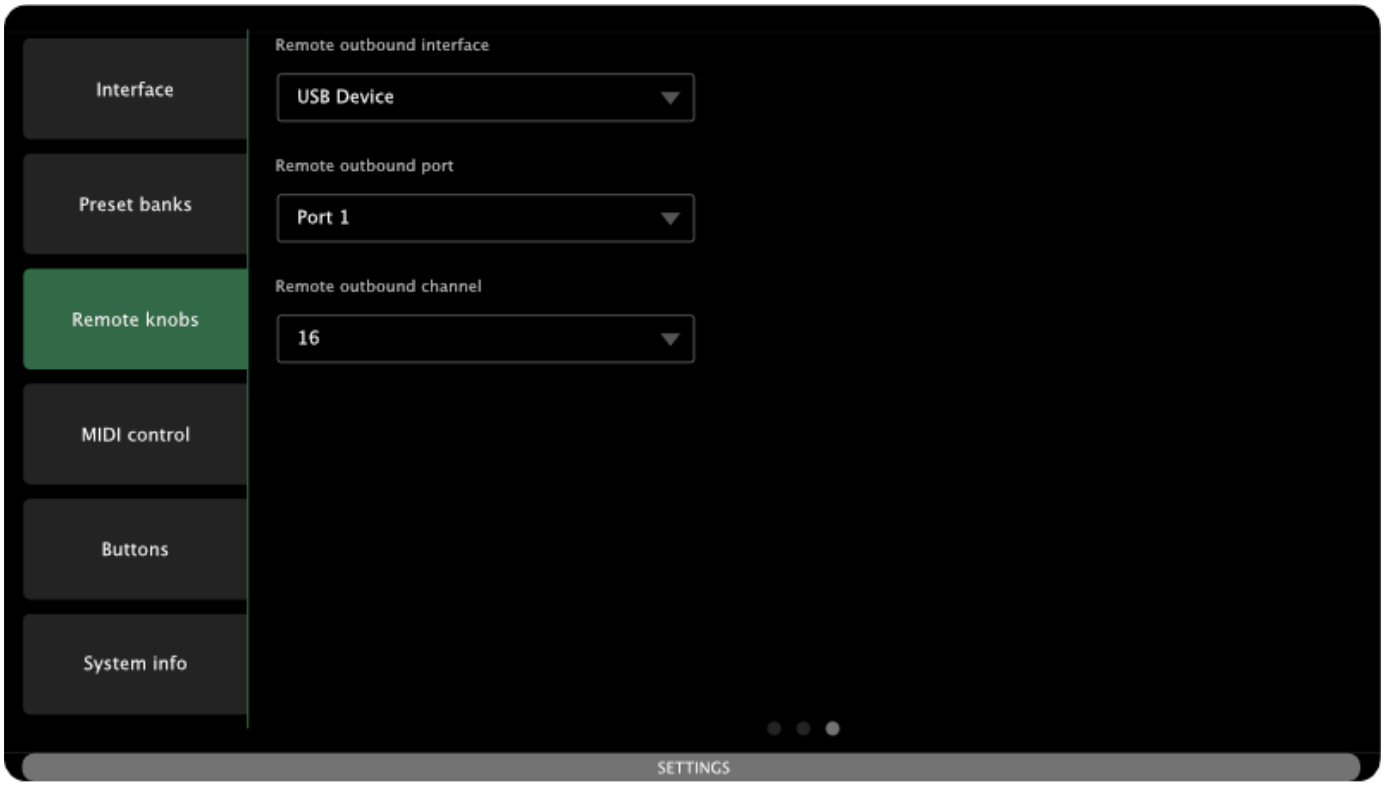
- All MIDI channels, or
- One or more specific channels

This gives you precise control over which connected devices or software sources can send Remote Knobs data to Electra One.

Note: MIDI messages received on the ports and channels assigned to Remote Knobs are handled internally by the controller and are not forwarded or processed by other parts of the system.

Outbound Interface

The Outbound screen lets you configure where Electra One will send Remote Knobs messages when preset controls are adjusted on the controller (with knobs or touchscreen).

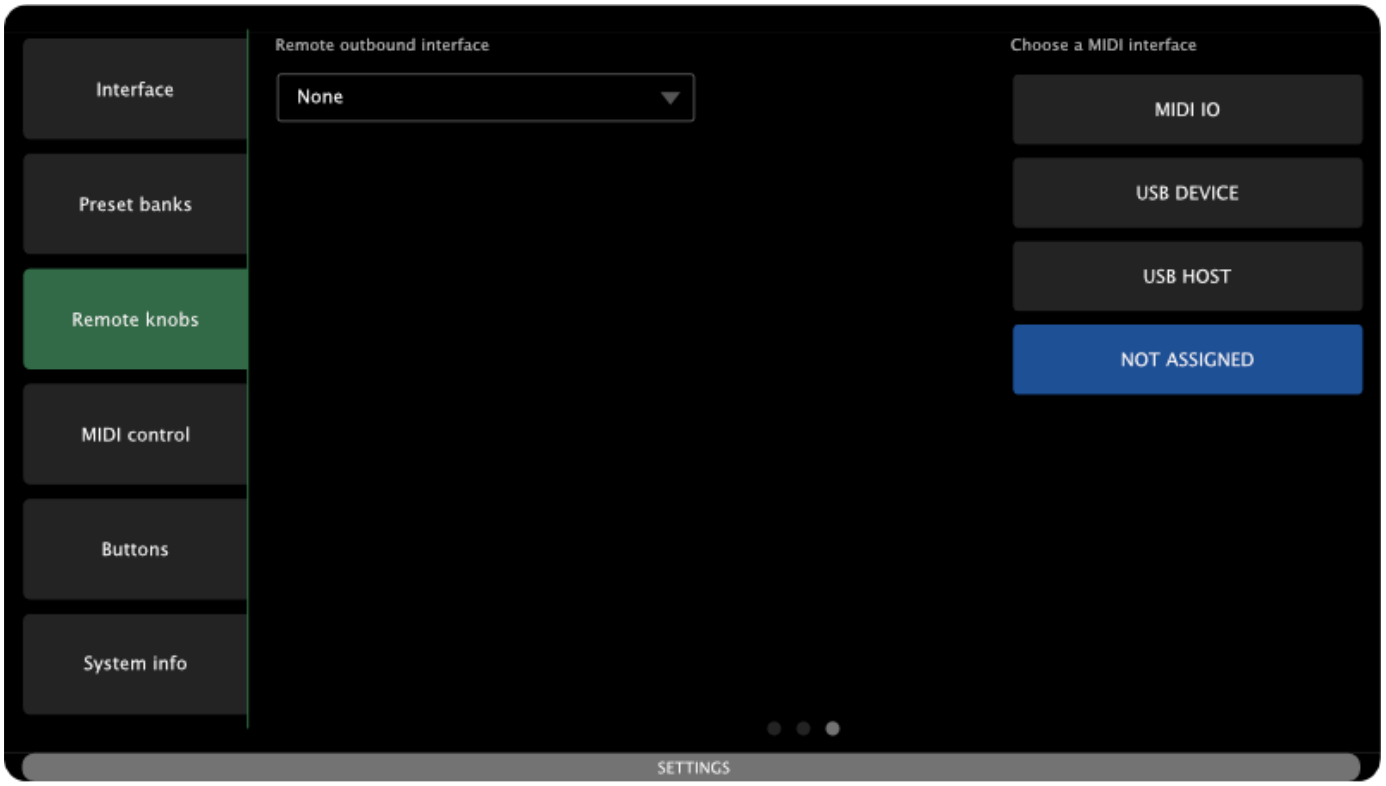


You can choose a MIDI interface for sending these messages, or disable outbound transmission entirely. If an interface is selected, you must also specify:

- A MIDI port (Port 1 or Port 2)
- A MIDI channel

Unlike the inbound configuration, where multiple sources can be enabled, the outbound routing supports only one MIDI destination at a time. A valid MIDI channel must be selected, as Electra One needs to know exactly where to send the Remote Knobs messages.

This setup allows Remote Knobs activity on Electra One to be recorded or processed externally, such as by a DAW or another MIDI device. If you do not need this, keep the Outbound messages disabled.



MIDI Control

The MIDI Control feature allows you to map external MIDI messages to internal Electra One commands and actions. It works similarly to Remote Knobs, but instead of controlling on-screen parameters, it triggers system-level functions.

Configuration

You can assign incoming MIDI CC, Note, or Program Change messages to a wide range of Electra One actions, such as:

- Switching presets or pages
- Opening windows (e.g., Snapshots, Captures, Settings)
- Toggling performance and alt mode

This makes it possible to control Electra One using an external MIDI controller or a computer, greatly expanding performance and integration options.

For example, using a pad controller like the Novation Launchpad Mini, you can easily map its pads to act as extra buttons for triggering Electra One functions, such as switching pages, sending patch requests, or opening snapshot banks.

A full list of available actions is provided in the section below.

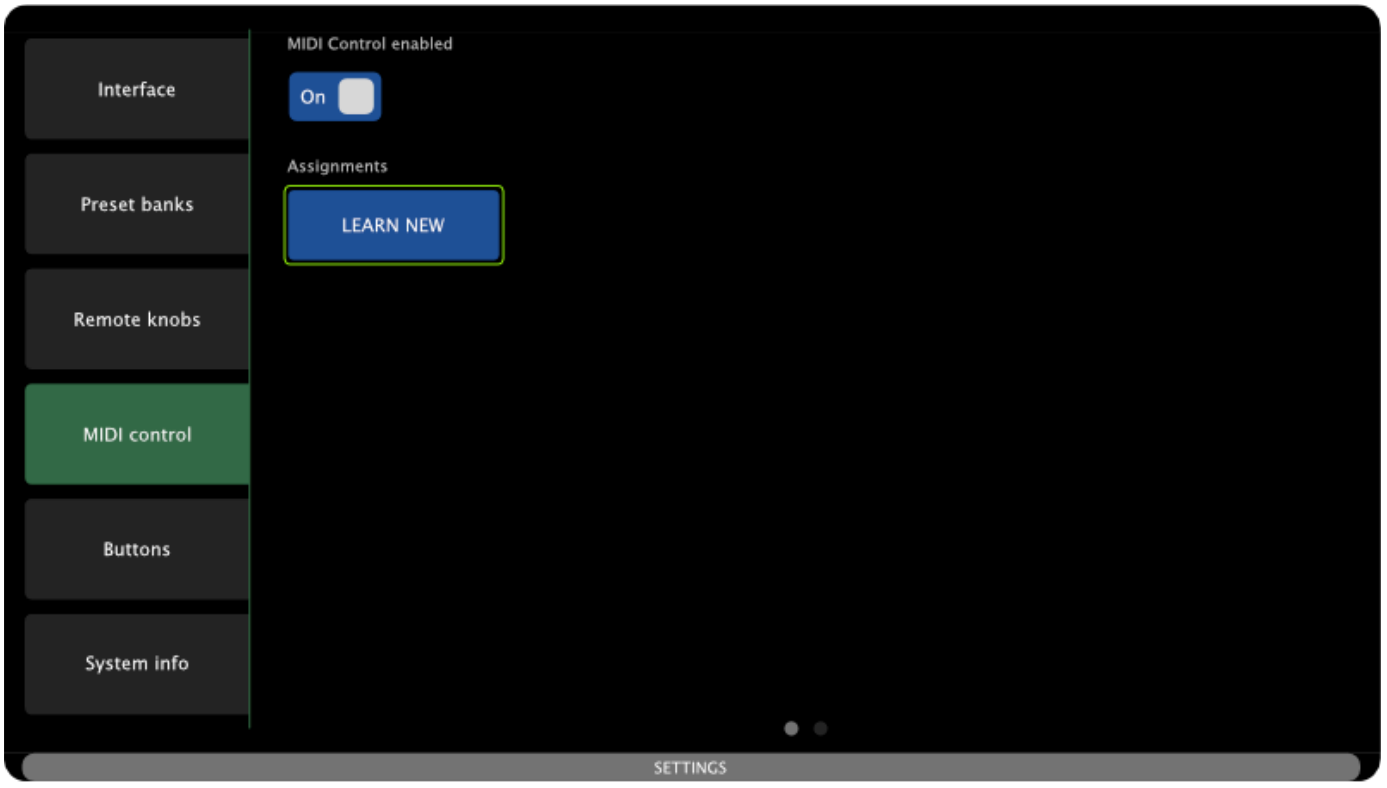
The MIDI Control feature is configured using two dedicated screens, accessible within the MIDI Control tab:

1. Mapping Screen
2. Inbound MIDI Routing

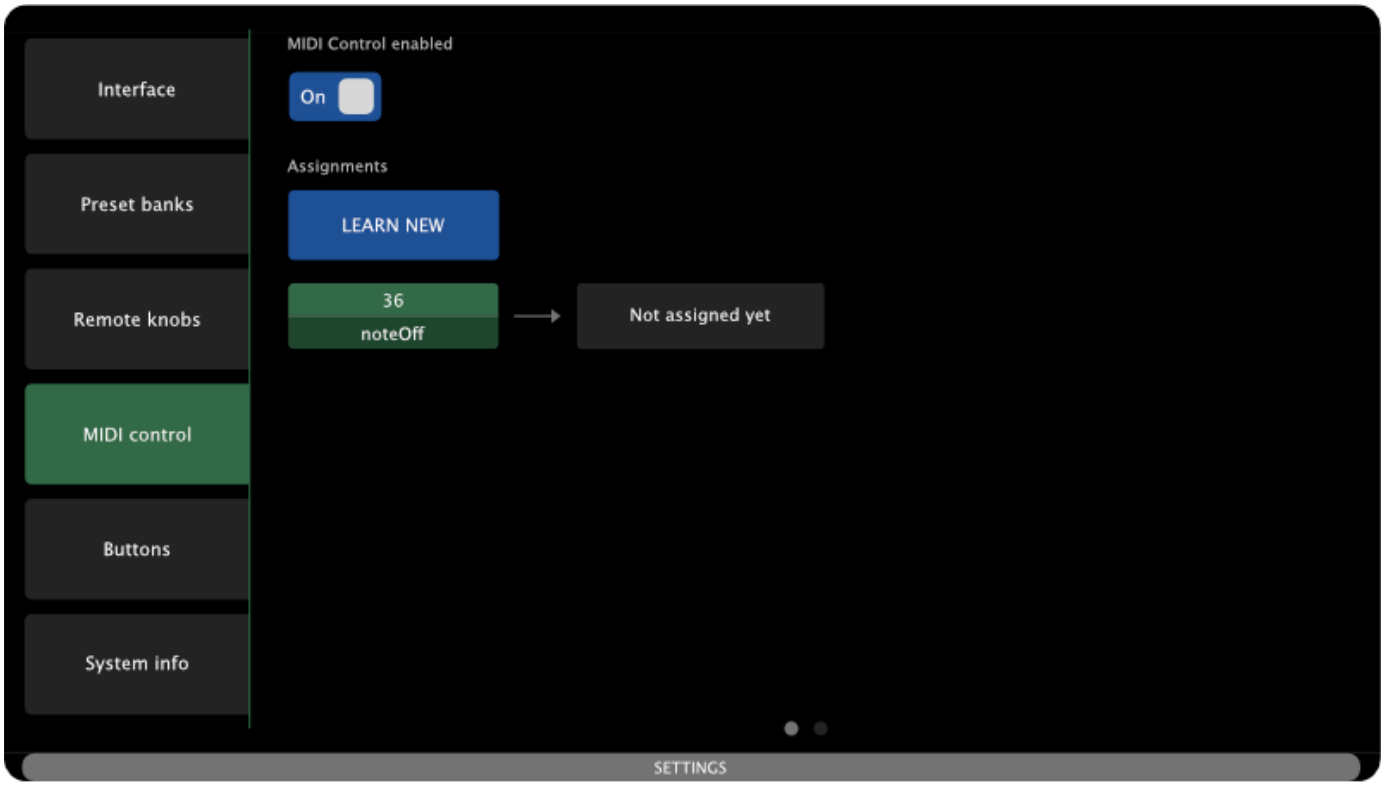
Mapping Screen

This screen allows you to create MIDI control assignments using MIDI Learn.

To create a new assignment, tap the `[LEARN NEW]` button. It will be highlighted with a yellow outline, indicating that the controller is now waiting for a MIDI message to learn. If you want to cancel the process, simply tap the button again to disarm it.

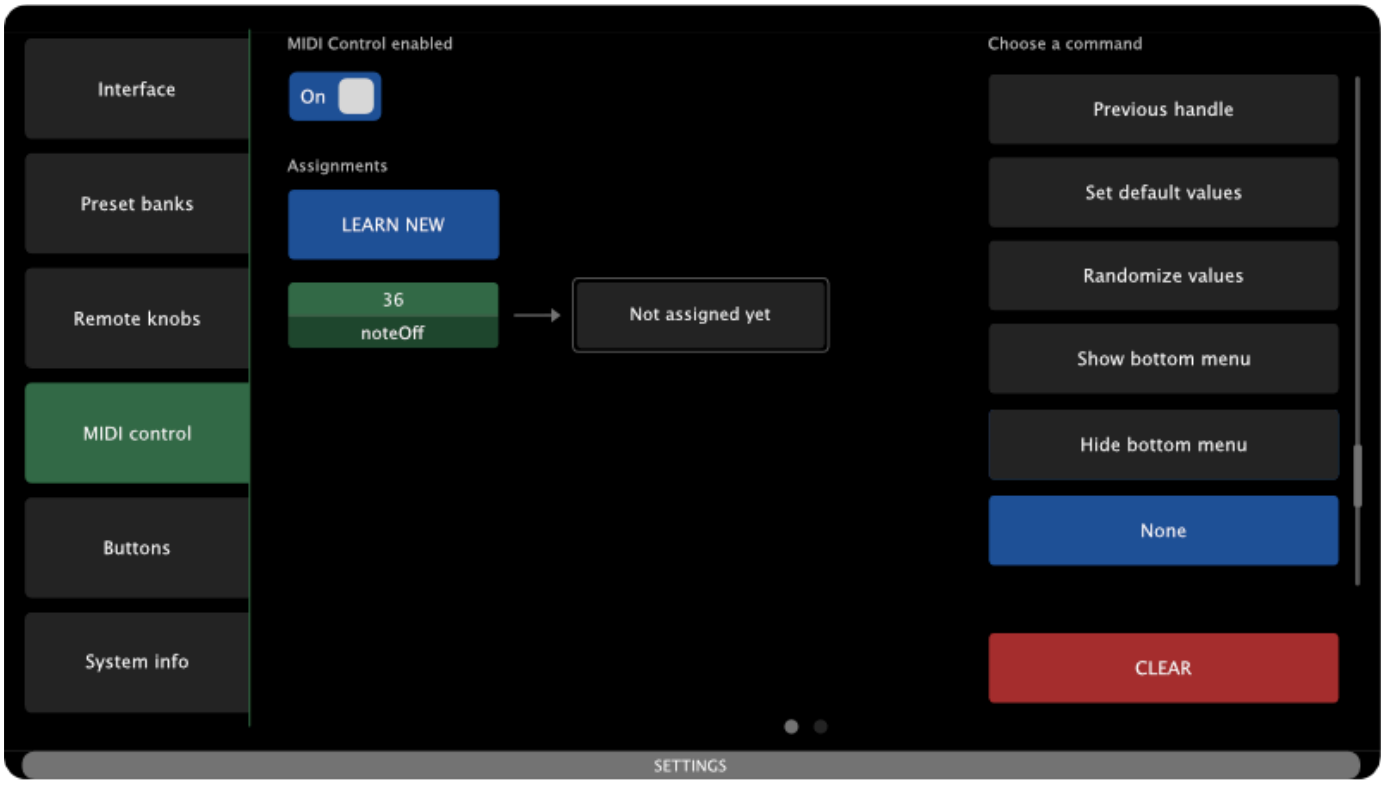


When MIDI Learn is armed, press a pad, turn a knob on a connected MIDI controller, or send a MIDI message to Electra One. The controller will capture the first valid MIDI message it receives and create a new assignment based on it.



The image above shows `Note On #36` as the learned MIDI message. It currently has no Electra One command or action assigned, which is indicated by the `Not assigned yet` box.

To assign a command, tap the `Not assigned yet` box. It will be highlighted with a light gray outline, and a swipeable list of available commands will appear in the right sidebar. Swipe through the list and tap the command you want to assign to the previously learned MIDI message.

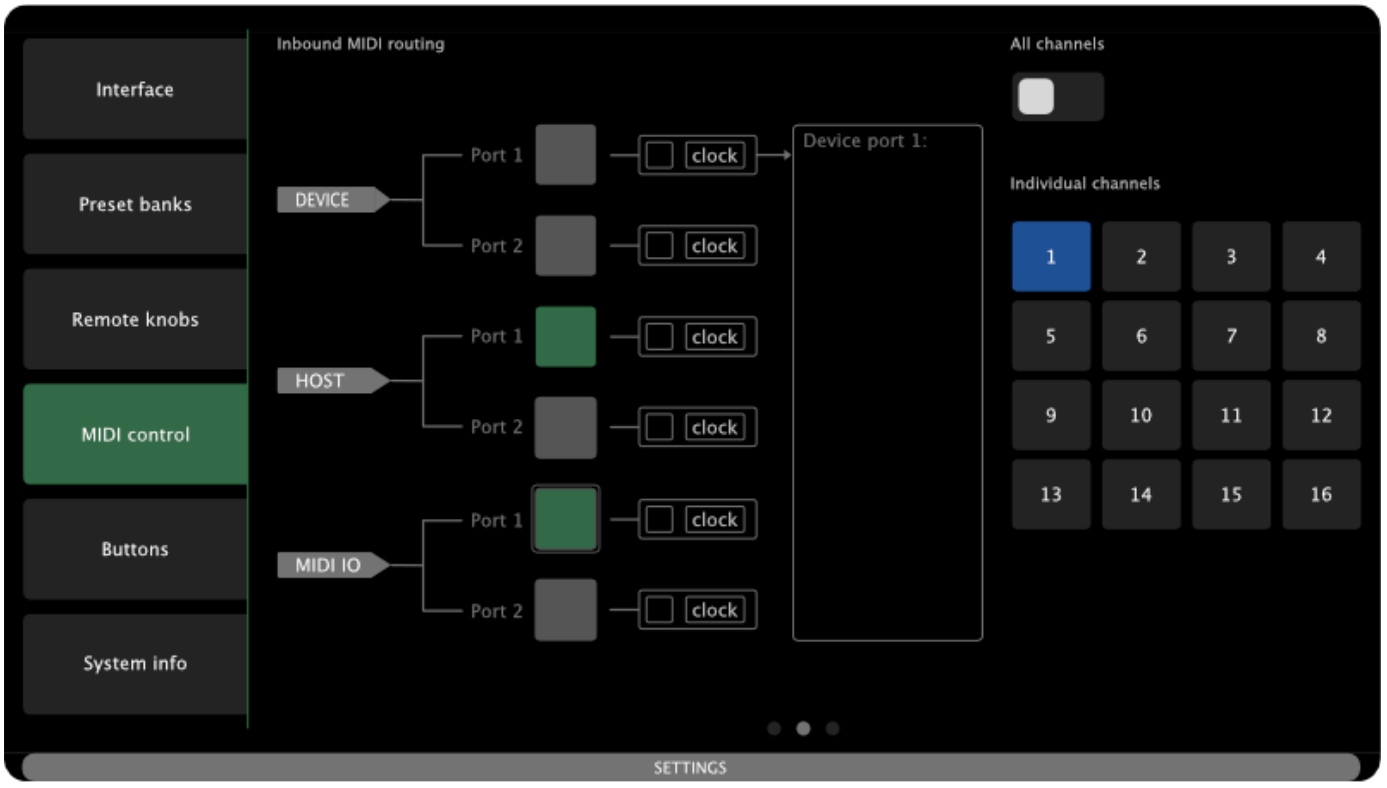


To change the MIDI message of an existing assignment, tap the MIDI message you wish to change. It will be highlighted with a light gray outline, and detailed information about the message will appear in the right sidebar.

In the sidebar, you'll find a `[LEARN]` button. Tap this button to arm the learning mode and assign a new MIDI message, which will replace the existing one. To remove the assignment, tap the `[CLEAR]` button.

Inbound MIDI Routing

This screen determines which MIDI inputs Electra One listens to for MIDI Control messages. It is identical in layout and function to the Inbound Routing screen in the Remote Knobs configuration.



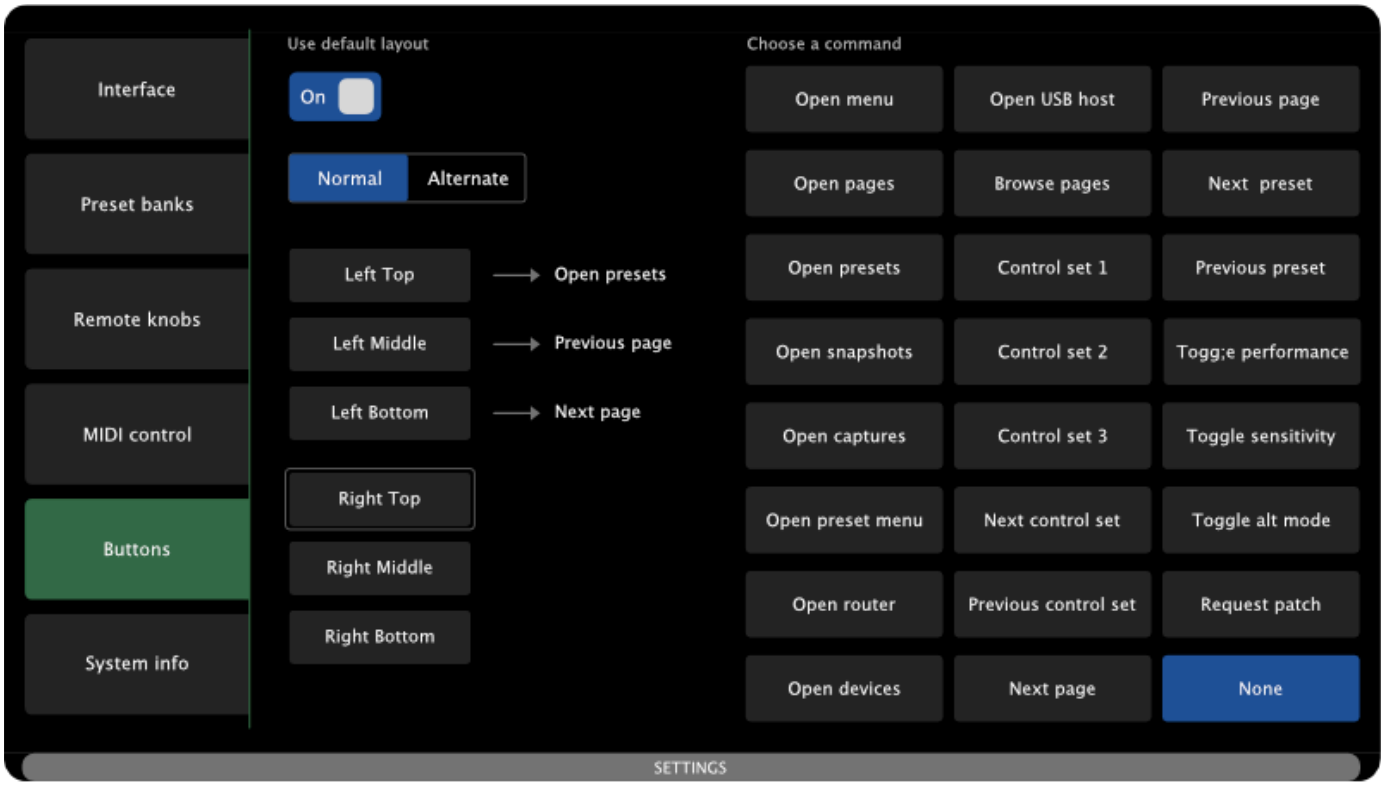
MIDI input sources are listed in rows. Each row includes a checkbox to enable or disable that input. Active inputs appear green; inactive ones appear gray. A sidebar on the right lets you choose which MIDI channels are monitored for the selected input.

MIDI activity indicators and a log window help you verify incoming messages in real time. Messages routed to MIDI Control are consumed internally—they are not forwarded through the MIDI router and are not processed elsewhere in the system.

For futher information please refer to the Remote Knobs Inbound routing description.

Buttons

The Buttons settings screen allows you to customize the commands and actions assigned to Electra One's hardware buttons. The available commands are nearly identical to those used in the MIDI Control feature, providing consistent control options across both systems.



For the physical layout of the hardware buttons, refer to the First steps section.

Default Layout

A global switch lets you enable or disable the default layout (the factory-defined set of button assignments).

When the default layout is enabled, your custom button configuration is temporarily ignored, but not deleted. Disabling the default layout will restore your custom assignments without the need to reconfigure anything. This makes it easy to switch between factory and user-defined setups as needed.

Modes

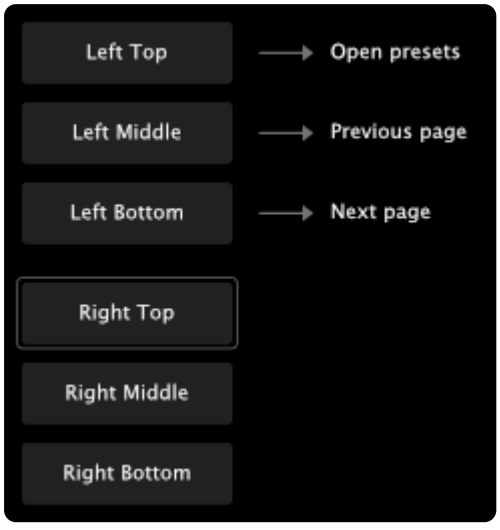
To expand the number of assignable functions, Electra One supports two button modes:

- **Normal Mode** – The default set of button assignments.
- **Alternate Mode** (Alt Mode) – A secondary set of button assignments, activated by triggering the `Toggle Alt Mode` command. To use it, you must assign the `Toggle Alt Mode` command to either a hardware button or a MIDI Control assignment. This allows each hardware button to perform two different actions, depending on the current mode.

To switch between the two modes use the mode switch:

Button Assignments

The screen displays a column of six buttons, arranged in two groups of three, representing the physical hardware buttons on the controller and their assigned commands.



To change a button's assignment, tap on the desired button. It will be highlighted with a light gray outline, and a list of available commands will appear. Simply tap the command you want to assign to that button.

System Info

The System Info screen provides a summary of key details about your Electra One controller.

It provides info about:

- Hardware revision
- Serial number
- Installed firmware version
- Current RAM usage

This information is useful for troubleshooting, verifying your setup, or when contacting technical support.

Performance

Work to be done

While the Performance page is fully supported in the Electra One firmware and thoroughly documented in the Developers section, it is not yet integrated into the Electra One Web Editor.

This means that creating and editing Performance pages currently requires manual editing of the Performance JSON file and using SysEx API.

However, developers can already start working with the feature, and full editor integration is planned for an upcoming release of the web application.

This section of the user guide will be expanded as the Performance feature evolves.

The Performance page is an optional, extra page that can be added to any existing preset. Its purpose is to give users a dedicated space for quick access to key preset controls, without altering the original preset.

On this special page, users can place references to existing preset controls. These references behave as linked copies: they reflect the current value of the original control, and any changes made via the Performance page are immediately propagated back to the original control.

The Performance page is particularly useful in live performance or studio recording contexts, where having essential controls gathered in one place can improve speed, focus, and flexibility.

In addition to simple one-to-one references, the Performance page also supports multi-references. These allow a single on-screen Macro control affect multiple preset controls at once. This enables the creation of macro-style controls, similar to those found on advanced MIDI controllers and grooveboxes.

The Performance page also fully supports the Remote Knobs feature, meaning all activity on the Performance page can be:

- Recorded to a DAW as MIDI CC automation
- Replayed during sessions
- Or controlled live via an external MIDI controller

Simple References

A simple reference allows you to place a copy of any control from your preset onto the Performance page. This type of reference is ideal for gathering frequently used controls in one place, without altering the original preset layout.

When added to the Performance page, a simple reference mirrors the following properties of the original control:

- Control type (e.g., fader, button, list)
- Variant
- Color
- Current value
- Name
- Assigned MIDI messages and linked Lua functions

Any change in the value of a referenced control, whether adjusted from the Performance page or the original preset page, is reflected in both locations in real time.

Fixed Layout

Performance page references are intentionally isolated from dynamic layout changes made to the original control via Lua. This means the position, size, and visibility of a reference on the Performance page remain constant, even if those attributes are dynamically modified in the original preset.

This behavior ensures that controls on the Performance page maintain a stable visual layout, which is essential for live use, and for features like Remote Knobs, where grid position determines MIDI CC mapping. Users can rely on each reference to remain in a fixed slot, ensuring predictable and consistent behavior.

Multi-References

Multi-references are a powerful extension of the Performance page. Unlike simple references, which mirror individual preset controls, a multi-reference is a new control that can be used to modulate or control the values of multiple preset controls simultaneously.

Rather than referencing entire controls, a multi-reference targets individual values within controls in the original preset. For example, you can:

- Use a single multi-reference to simultaneously adjust the Attack and Release of an ADSR envelope.
- Control multiple faders together with a single macro-style knob.
- Apply modulation across several parameters using one dynamic source.

This makes multi-references ideal for creating macro controls, enabling expressive performance techniques similar to those found on grooveboxes.

Value Mapping Modes

Each value targeted by a multi-reference can be assigned one of three value mapping modes, allowing for flexible control behaviors:

- **Set Value** - the value of the original control is set directly, proportionally to the multi-reference's current position.
- **Modulation** - the original control's base value remains unchanged, but a positive offset (modulation) is applied based on the multi-reference's value.
- **Datapipe** - similar to Modulation mode, but the modulation amount is calculated as a product of: The multi-reference's value, and a dynamic signal (e.g. LFO) from a Datapipe source, such as a MIDI LFO preset.

Creative Potential

Multi-references offer enormous creative potential, especially when used in combination with Data pipes. You can build interactive performance tools, real-time modulation layers, or even automation surfaces—all without scripting or custom logic.

By combining multiple mappings and modes, you can design expressive, complex behaviors using a single control, while keeping the Performance page clean and intuitive and the original preset unchanged.

Toggling Performance

The Performance page is designed for quick access and smooth transitions during live use or studio work. You can easily switch between the Performance page and your regular preset pages using touch gestures or hardware buttons.

Accessing Performance

There are two ways to open the Performance page on the Electra One controller:

- **Swipe Gesture** - swipe downward from the center of the screen. This gesture provides quick access without requiring any special configuration.
- **Hardware Button Assignment** - assign the `Toggle Performance` command to any of the controller's hardware buttons via the button settings. Pressing the assigned button will switch between the current preset page and the Performance page.

When the Performance page is active, it is clearly indicated by:

- The word Performance displayed as the page title in the bottom bar.
- An orange-colored bottom bar, distinguishing it from standard preset pages

Leaving Performance

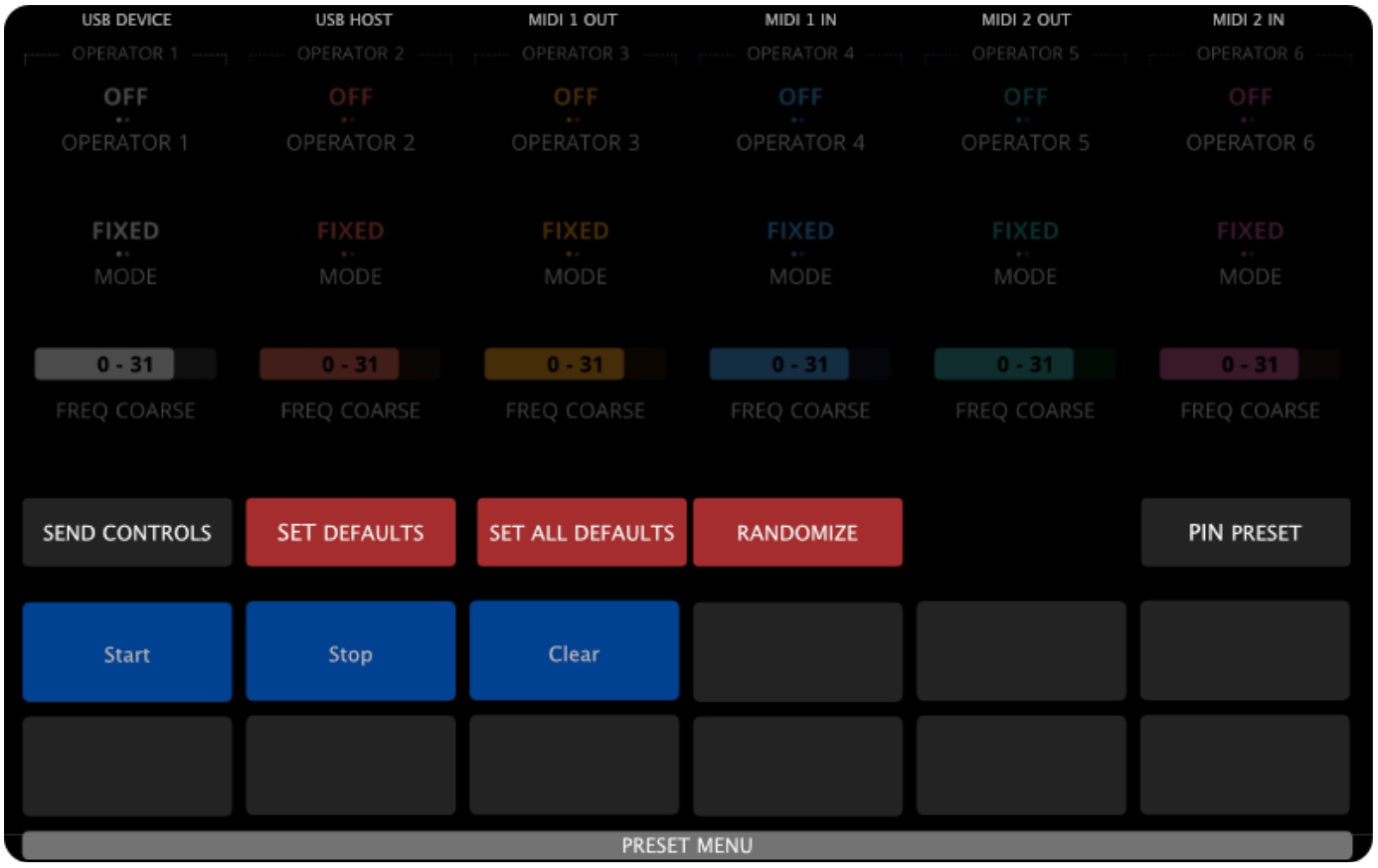
To return to the regular preset page:

- Swipe down again from the center of the screen
- Or press the same hardware button mapped to the `Toggle Performance` command

Either method will close the Performance page and bring you back to your last viewed preset page.

Preset Menu

The Preset Menu provides access to a set of actions related to the currently loaded preset. These actions help you manage control values, reset them, and trigger custom behavior.



Available Actions:

- **Send All Control Values** – Resend the current value of every control in the preset.
- **Set Defaults** – Reset only the controls with a defined default value.
- **Set All Defaults** – Reset all controls to their default or to zero if no default is defined.
- **Randomize Values** – Apply randomized values to all preset controls based on their type.
- **Pin Preset** – Keep preset running on background.
- **Preset User Functions** – Access up to twelve user-defined Lua functions mapped to buttons.

Send All Control Values

Tapping the `[SEND CONTROLS]` button forces the controller to retransmit the current value of every control in the preset. This is useful for resynchronizing connected MIDI devices or reinitializing external gear.

Setting Defaults

Each control in a preset may optionally have a default value defined by the preset author. This value is used when resetting or initializing the control, and can be tailored to the musical or functional purpose of the preset.

If a control does not have a defined default, the controller will apply a fallback rule:

- If the control allows 0, that becomes its default
- If 0 is not within the control's valid range, the minimum allowed value is used instead

This behavior also determines how the preset behaves when it is first loaded, or when a user resets an individual control to its default, for example, by double-tapping the control, if that action is enabled in the configuration.

By thoughtfully assigning default values, preset authors can define which controls are resettable and what their ideal starting state should be. This gives users precise control over what the defaulting actions will affect.

Set Defaults

The `[SET DEFAULTS]` button resets the values of only those controls that have a default value explicitly defined in the preset. Controls without a defined default will be left unchanged.

This is useful when you want to restore just the intended default state, without affecting experimental values or undefined parameters.

Set All Defaults

The `[SET ALL DEFAULTS]` button resets the value of every control in the preset.

For controls with a defined default, that value is used. For controls without a default, the controller uses 0 or the control's minimum value, depending on what is allowed as described above.

Randomize

The `[RANDOMIZE]` performs a full randomization of all preset controls:

- Faders and numeric inputs: random value within defined range
- Lists: random list item
- Pads: randomly set to on or off

If you need a more refined control over the randomization or if you need to morph sound parameters between two existing sounds refer to the Snapshots section of the User Guide.

Pin Preset

By default, when you switch from one preset to another, the previous preset is suspended. This means it temporarily stops all activity:

- It no longer listens to incoming MIDI messages
- Any running Lua timers, callbacks, or Data pipe logic are paused
- The preset will remain suspended until you switch back to it, either manually via the Preset Selection screen or programmatically (e.g. using a MIDI Control command)

Keeping a Preset Active

When you pin a preset by tapping the `[PIN PRESET]` button, you instruct Electra One to keep that preset active in the background, even after switching to a different one. A pinned preset continues to:

- Respond to incoming MIDI messages
- Execute Lua functions, including timers and callbacks
- Generate Data pipe output, such as MIDI LFOs, step sequencers, or automation sources

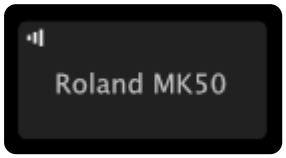
The preset stays pinned until you either unpin it by tapping the `[PIN PRESET]` button again, or you replace it by uploading a new preset to the same preset slot. In both cases, the pinned status is cleared and the preset will no longer remain active in the background.

Indicating pinned presets

When a preset is pinned:

- The `[PIN PRESET]` button appears in blue and is highlighted with a light gray outline.

- In the Preset Selection window, pinned presets are marked with a small visual indicator, so you can quickly see which presets are currently running in the background



Parallel Operation

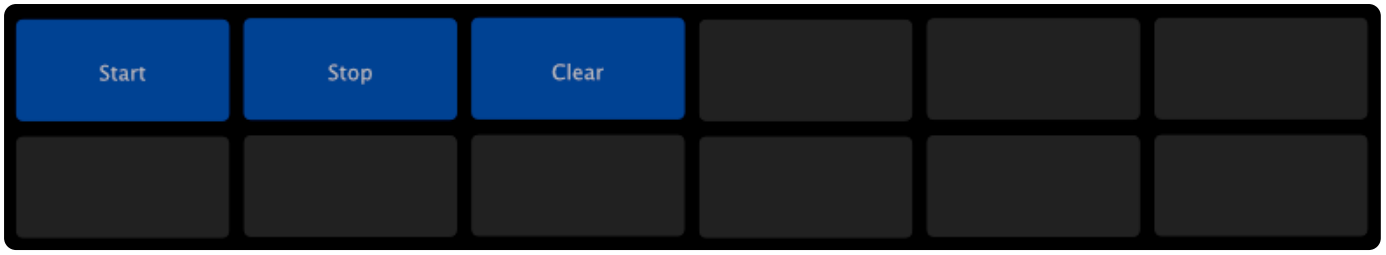
Pinning allows Electra One to become a multi-layered control environment, where one preset may drive background behavior while another handles foreground interaction, or several presets operate in parallel.

This is especially useful when:

- You want multiple presets to stay in sync with connected MIDI devices
- A preset is acting as a sequencer, clock source, or MIDI generator
- You rely on background activity, like modulation, even while focusing on a different preset

User Functions

User Functions are custom Lua functions defined by the preset developer to provide additional actions or behaviors tailored to the preset. These functions are registered in the preset's Lua script using the `preset.userFunctions` table.



Up to twelve functions can be registered per preset, each represented as a button in the Preset Menu.

- Buttons with an assigned user function are shown in blue
- Tapping a button on the touchscreen triggers the corresponding function
- If enabled in the preset's configuration (see Pot Touch Selections under Settings → Interface), touching the corresponding knob can also trigger the function

User functions can perform virtually any task supported by the Lua environment, such as sending MIDI messages, triggering patch requests, adjusting control states, or interacting with external gear. This makes them a powerful tool for extending the preset's capabilities.

For more information on how to register and implement user functions, see the Lua Extension preset section of the Developer Documentation.

Toggling Preset Menu

The Preset Menu window is designed for quick access and smooth transitions during live use or studio work. You can easily switch between the Preset Menu and your regular preset pages using touch gestures or hardware buttons.

Accessing Preset Menu

There are two ways to open the Preset Menu window on the Electra One controller:

- **Swipe Gesture** - swipe downward from the left of the screen. This gesture provides quick access without requiring any special configuration.
- **Hardware Button Assignment** - assign the `Open Preset Menu` command to any of the controller's hardware buttons via the button settings. Pressing the assigned button will switch between the current preset page and the Preset Menu window.

Leaving Preset Menu

To return to the regular preset page:

- Swipe down again
- Or press any of the hardware buttons

Either method will close the Preset Menu window and bring you back to your last viewed preset page.

Electra One Account

WARNING

Please note, browser with WebMIDI support is required. WebMIDI is currently supported with Chrome and Edge browsers.

The Electra One Account is a free web application that gives you full access to the Electra One ecosystem. With an account, you can connect your Electra One controller to the cloud-based preset library, manage your controller, and create or share your own presets.

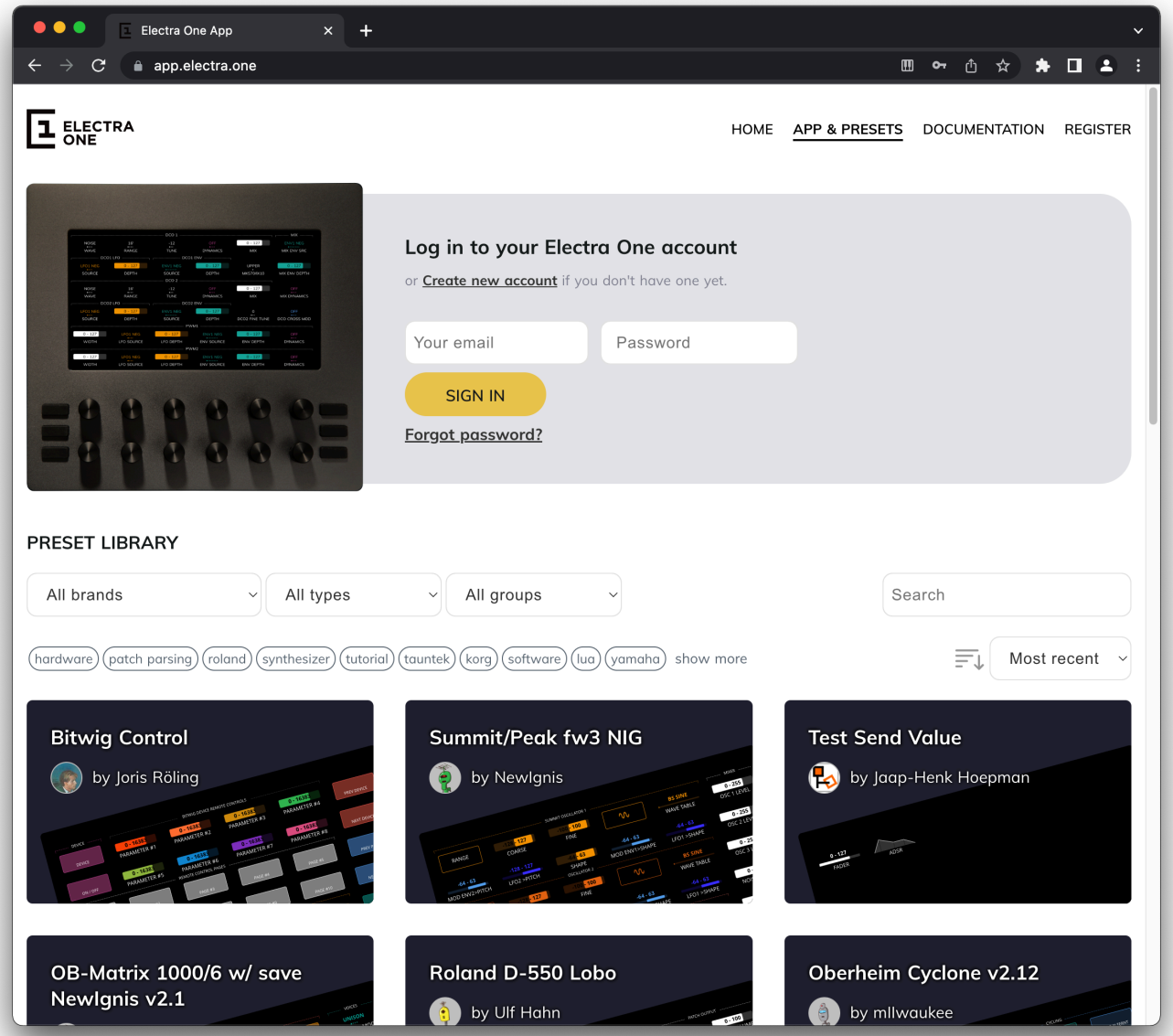
Whether you're building new presets, editing existing ones, or simply organizing your controller, the Electra One Account is your central hub.

What You Can Do with an Electra One Account?

- Browse and upload presets from the Electra One library to your controller.
- Create and edit your own presets using the built-in web editor.
- Manage your controller: upload presets, organize preset slots, configure MIDI routing, and more.
- Share your presets with the community or keep them private.
- Access advanced tools like: Lua scripting, Snapshot management, Preset version history, and MIDI console.

Signing in

To access the Preset Library and Preset Editor, you need to sign in to your Electra One account.



After signing in, you'll have access to two distinct preset libraries: Your personal library – contains presets you've created or uploaded and the shared library – a collection of presets shared by other Electra One users.

If you don't have an account yet, click the Create new account link to sign up. You'll only be asked to provide a nickname and an email address.

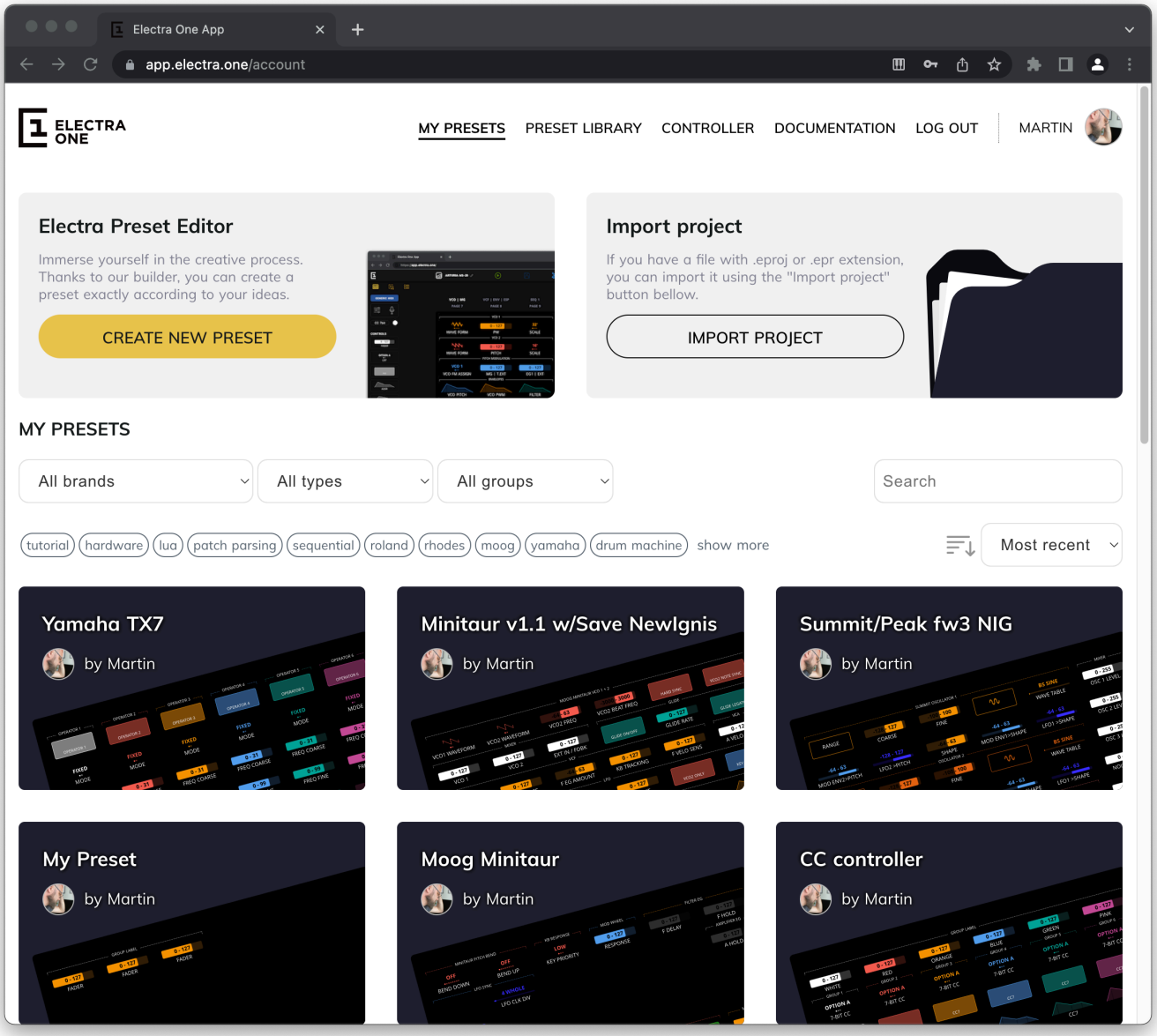
After signing in, you'll arrive at the Account home page. In the following text, we'll go over what you can do there.

My presets

My Presets is your personal library of Electra One presets. It stores all the presets you've created, imported, or copied from others for private use or future editing.

You can add presets to your My Presets library in four ways:

1. Create a new preset from scratch using the web editor
2. Copy a shared preset from the public Preset Library
3. Import a preset file (.epr or .eproj) from your computer
4. Import a preset from your connected Electra One controller



Your presets are displayed as a list of tiles, each one representing a single preset. Clicking a tile opens the Preset Detail page, where you can view, edit, or manage that preset.

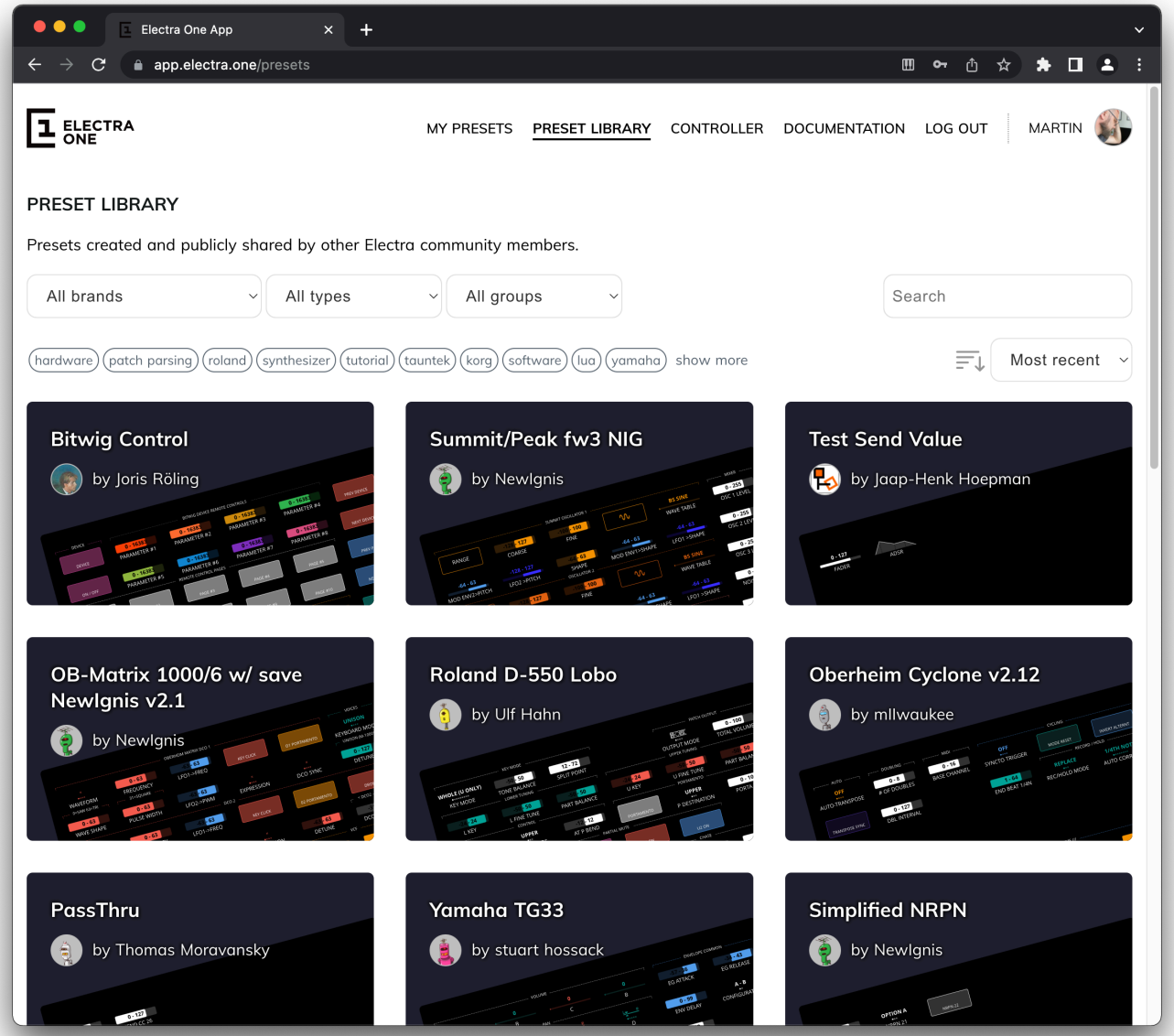
You can also send a preset directly to your controller using the `[Send to Electra]` button shown on each tile.

Preset library

The Preset Library is a collection of presets shared by other Electra One users. It's a great place to discover new ideas, explore ready-made setups, and find starting points for your own presets.

Each preset is displayed as a tile in the same way as in My presets. Clicking a tile opens the Preset Detail page, where you can view more information and preview the preset layout, and copy the preset to your own My presets library.

You can also send a preset directly to your controller by clicking the `[Send to Electra]` button on the tile.



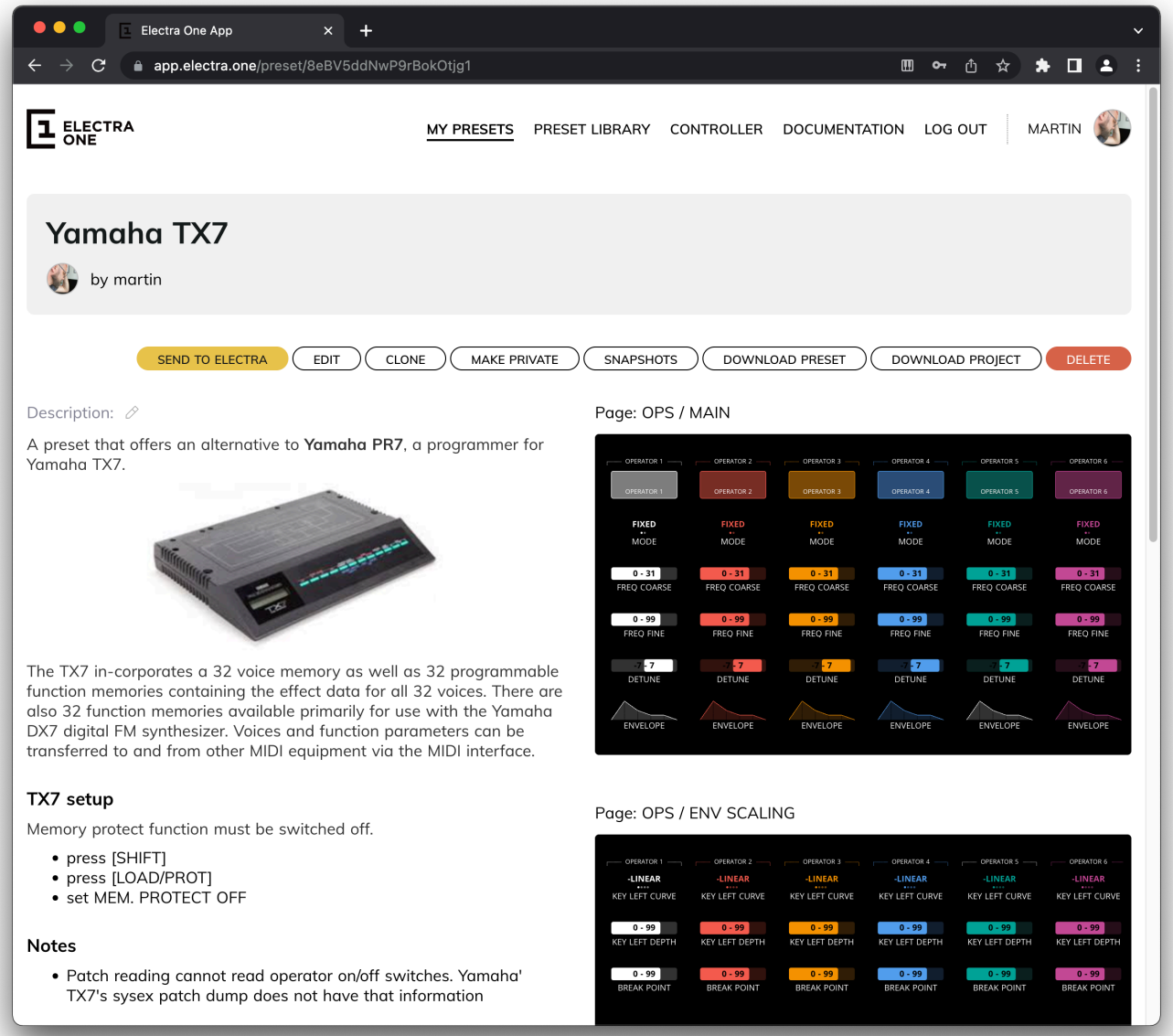
Preset detail

The Preset Detail page provides a full overview of the preset along with several actions you can take, depending on whether it's a preset you own or a shared public one.

Overview

At the top of the page, you'll see a banner with the preset name and author. Just below it, you'll find available actions such as sending the preset to your controller, opening it in the editor, or downloading it.

Further down, the left panel includes the preset description, assigned categories, and the version history. The right panel shows previews of all preset pages, allowing you to review the layout without opening the Electra Editor or loading it onto your controller.

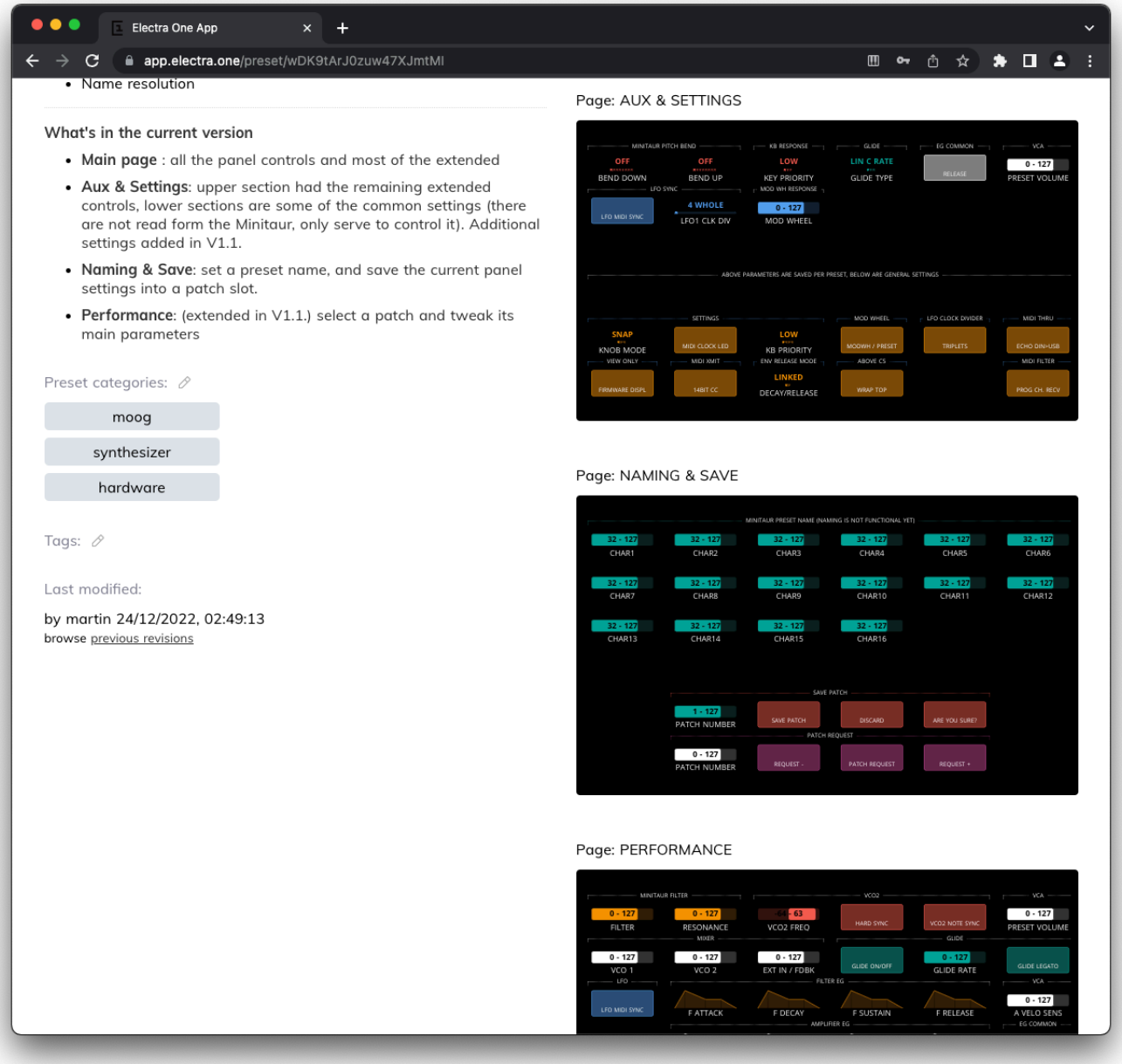


Actions for Your Own Presets

If the preset belongs to you, the following actions are available:

- Send to controller – Upload the preset to your Electra One.
- Open in editor – Launch the Electra Editor to make changes.
- Download preset – Save the preset file to your computer.
- Download project – Includes the preset file and all related Lua script source code.
- Make a copy – Clone the preset to create a duplicate in your library.
- Share the preset – Make it publicly available to other Electra One users.
- Manage snapshots – View, add, or delete snapshots linked to this preset.
- Delete the preset – Remove the preset from your account.
- Set categories and tags – Helps organize and classify your presets.
- Manage revisions – View and access previous versions of the preset.

Preset categories, tags, and revision history are found at the bottom of the preset description panel:



Categories and tags help you and others, if the preset is public, find presets more easily. They are also used to filter results in both the Preset Library and My Presets views.

> **TIP**
>
> Deleting a preset only removes it from your Electra One account. It does not remove the preset from your controller. To permanently remove it from the hardware, use the Preset Slots page in the Controller section.

Actions for Public Presets

When viewing a public preset (shared by another user), you can:

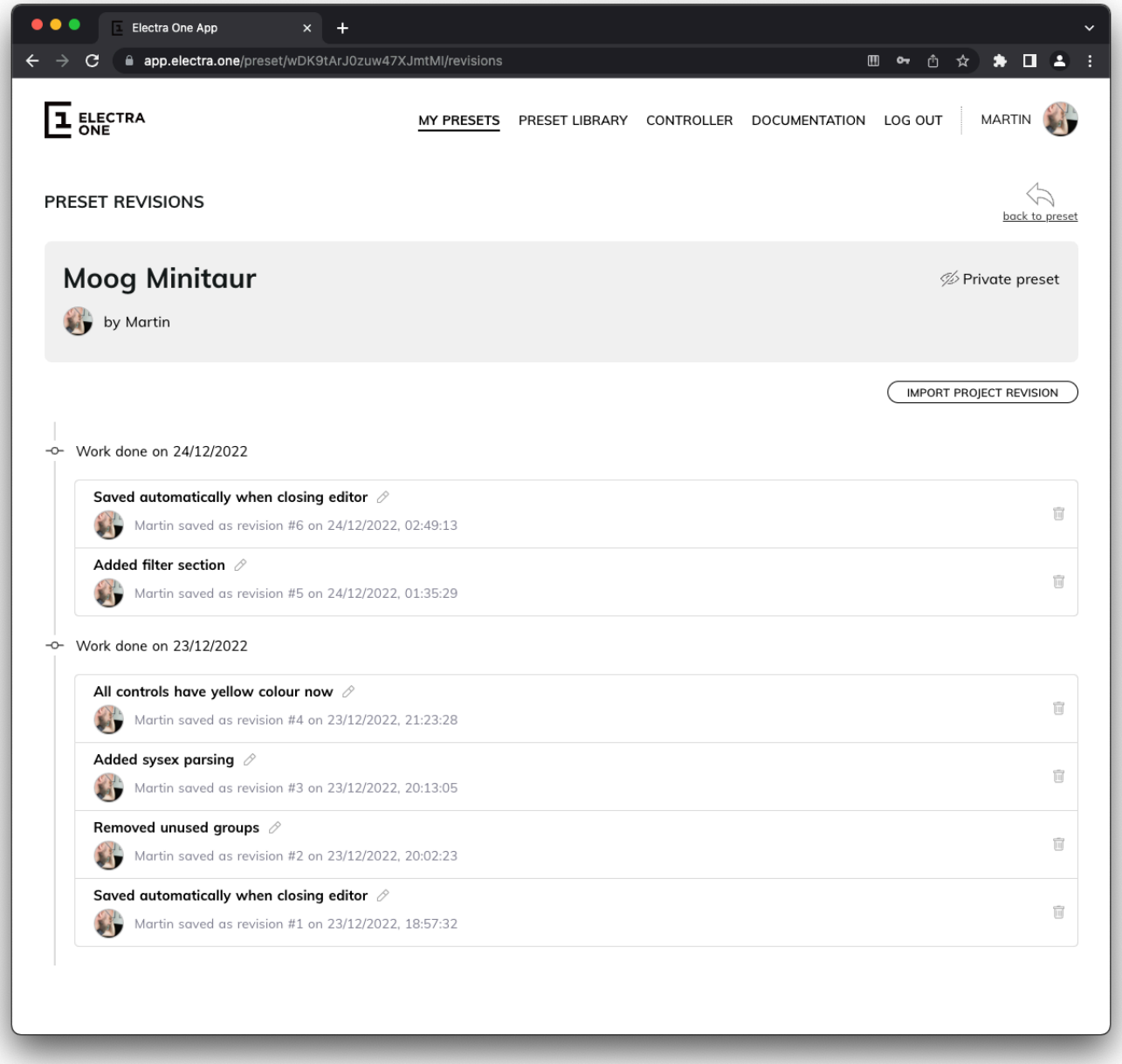
- Send to controller – Try the preset instantly on your Electra One.
- Clone to your library – Make a private copy of the preset that you can edit and manage.
- Download preset – Save the preset file to your computer.

- Download project – Includes the preset and any associated Lua script source files.
- Manage snapshots – Save and manage your own snapshots linked to this public preset.

Preset revisions

The Preset Revisions feature is a powerful but often overlooked tool that allows you to track the development of your presets over time. It helps you save important milestones, experiment safely, and return to earlier versions whenever needed.

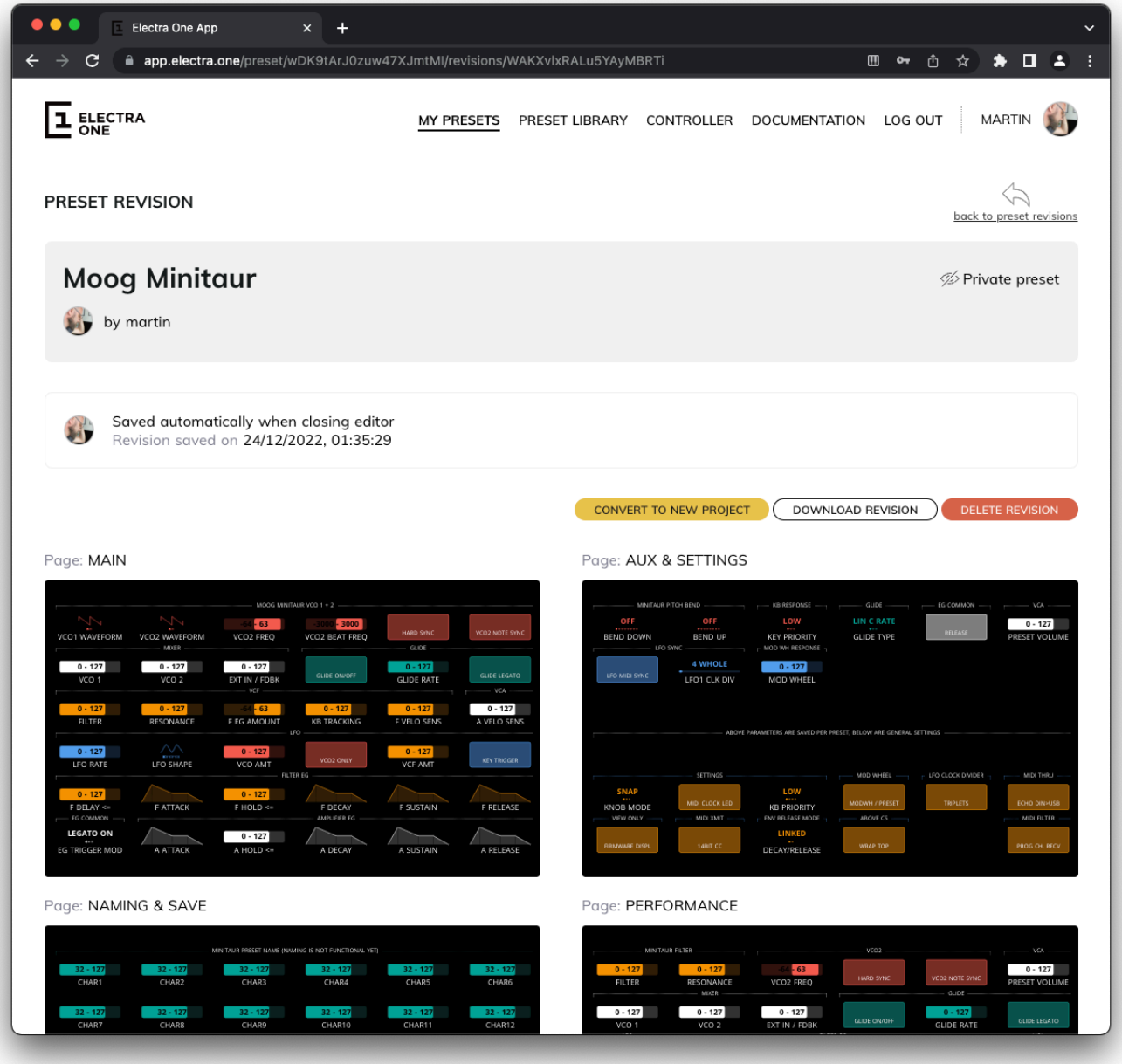
You can access a Preset revision history page by clicking the `previous revisions` link in the Last updated section of the Preset Detail page.



A new revision is created each time you save a preset. When saving, you have the option to add a short description of the changes made—this makes it easy to identify versions later.

Revisions are also created automatically in certain cases, for example when you send a preset with unsaved changes to the controller, or when you close the editor without saving. These automatic snapshots ensure that your progress is not lost even if you forget to save manually.

Each revision can be opened, reviewed, and even restored. You can also convert any revision into a brand-new preset, allowing you to branch off and explore new ideas without affecting your original work.



Revisions are especially useful when working with shared presets. Imagine you've lready made a preset public, but want to improve it without immediately publishing your changes. You can clone the shared preset to create a private copy, do your work there, and once you're satisfied, import the final revision back into the public version. This allows you to test and refine your work privately while keeping the published preset stable for other users.

For more on saving revisions, see Revisions in the Preset Editor documentation.

Controller

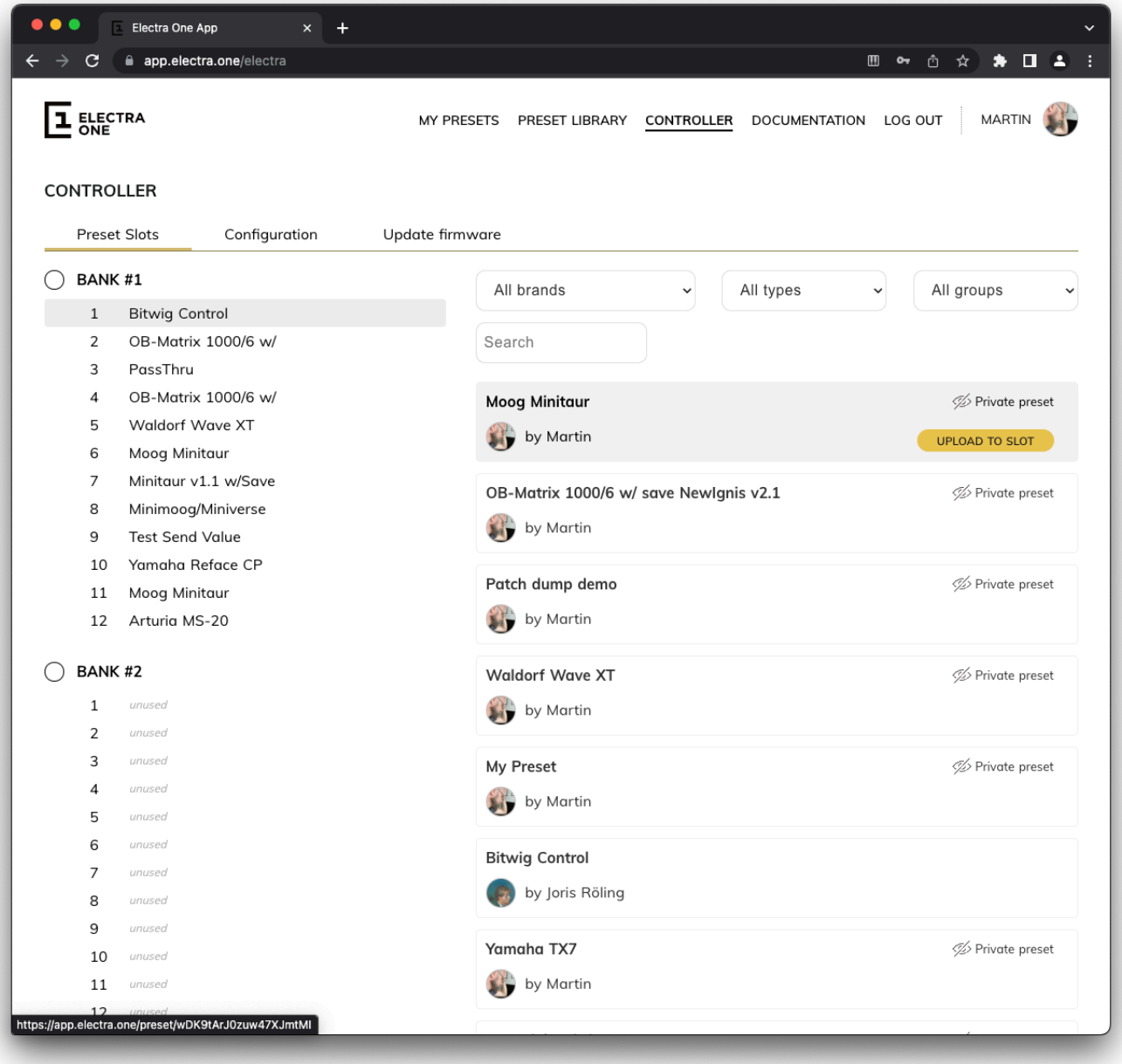
The Controller section allows you to manage your connected Electra One hardware directly from the web app. It provides tools to:

- View, load, and delete presets in the controller's preset slots
- Adjust device settings and configuration

- Perform firmware updates and recovery actions
- Manage MIDI port assignments used for communication with the editor and account services

Preset slots

Preset slots represent all available locations where presets can be loaded and stored on your Electra One controller. Each Electra One controller provides 6 banks, with 12 preset slots in each bank.

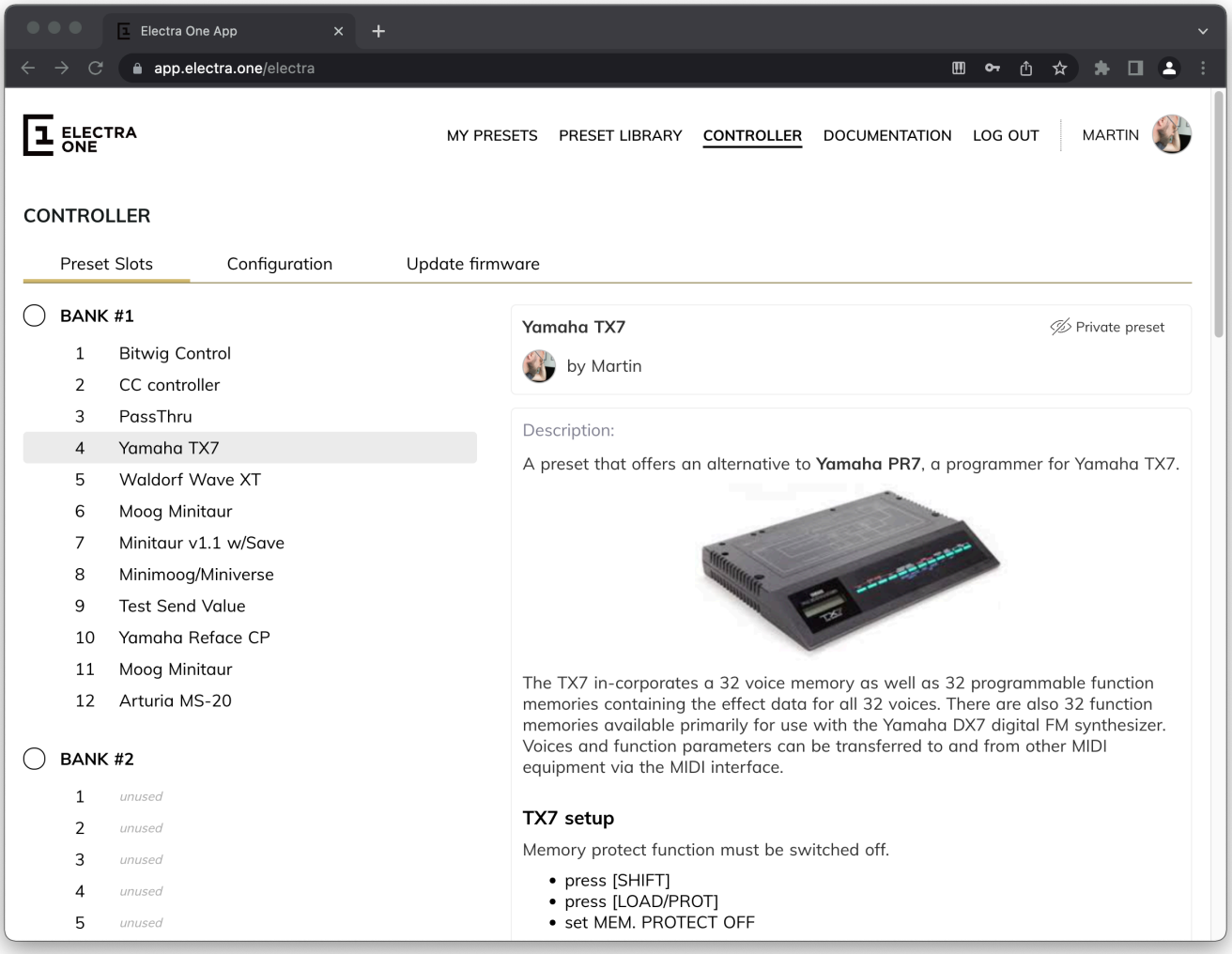


To load a preset onto the controller:

- Select a preset slot on the left side of the page.
- Choose a preset from your library on the right.
- Click `[UPLOAD TO SLOT]` button to send the selected preset to the chosen slot.

If a preset is already loaded on the controller but missing from your Preset Library, for example, if it was accidentally deleted, you can recover it by clicking the `[IMPORT FROM ELECTRA]` button. This will add the preset back to your online library.

Selecting a slot does more than just display its details: it also activates that slot on your Electra One hardware, switching the controller to use the selected preset.



To remove a preset from a slot, click the trash bin icon next to the slot.

Configuration

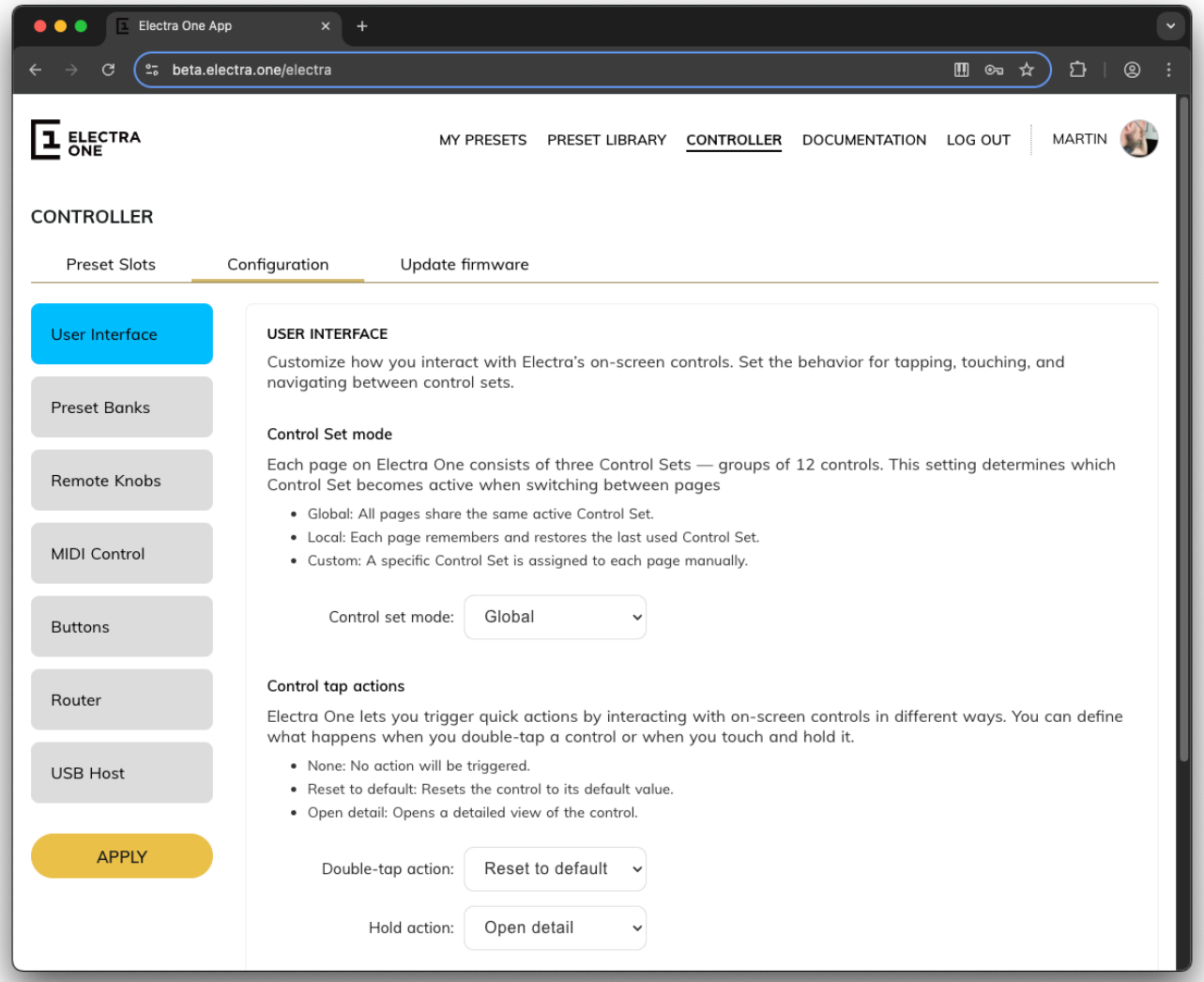
The Configuration section allows you to adjust how your Electra One controller behaves. All settings available here can also be configured directly on the controller itself.

The configuration options are grouped into the following areas:

- **User Interface** – Adjusts how the interface responds to touch and knob interactions
- **Preset Banks** – Set custom names and colors for your preset banks
- **Remote Knobs** – Configure how Electra One maps incoming and outgoing CC messages
- **MIDI Control** – Set up how external MIDI messages trigger internal Electra commands
- **Buttons** – Assign actions or commands to the hardware buttons
- **Router** – Define routing rules between Electra's internal and external MIDI ports
- **USB Host** – Control how connected USB MIDI devices are recognized and assigned

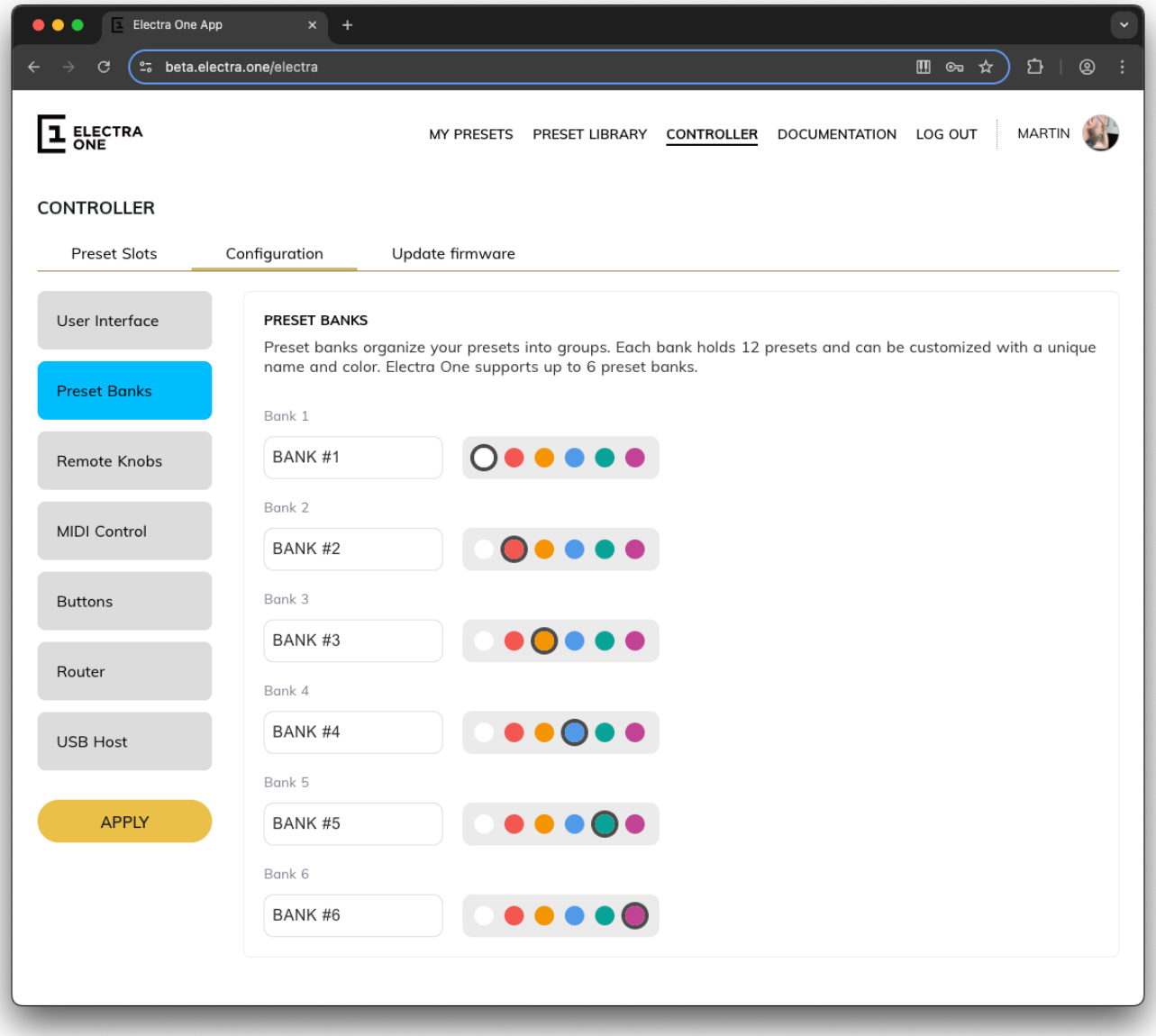
User Interface

This section allows you to customize how Electra One responds to user input. You can configure gestures such as knob touch behavior, double-tap and long-touch actions, and control set switching.. These settings help tailor the controller's interface for live use, automation control, or personal preference.



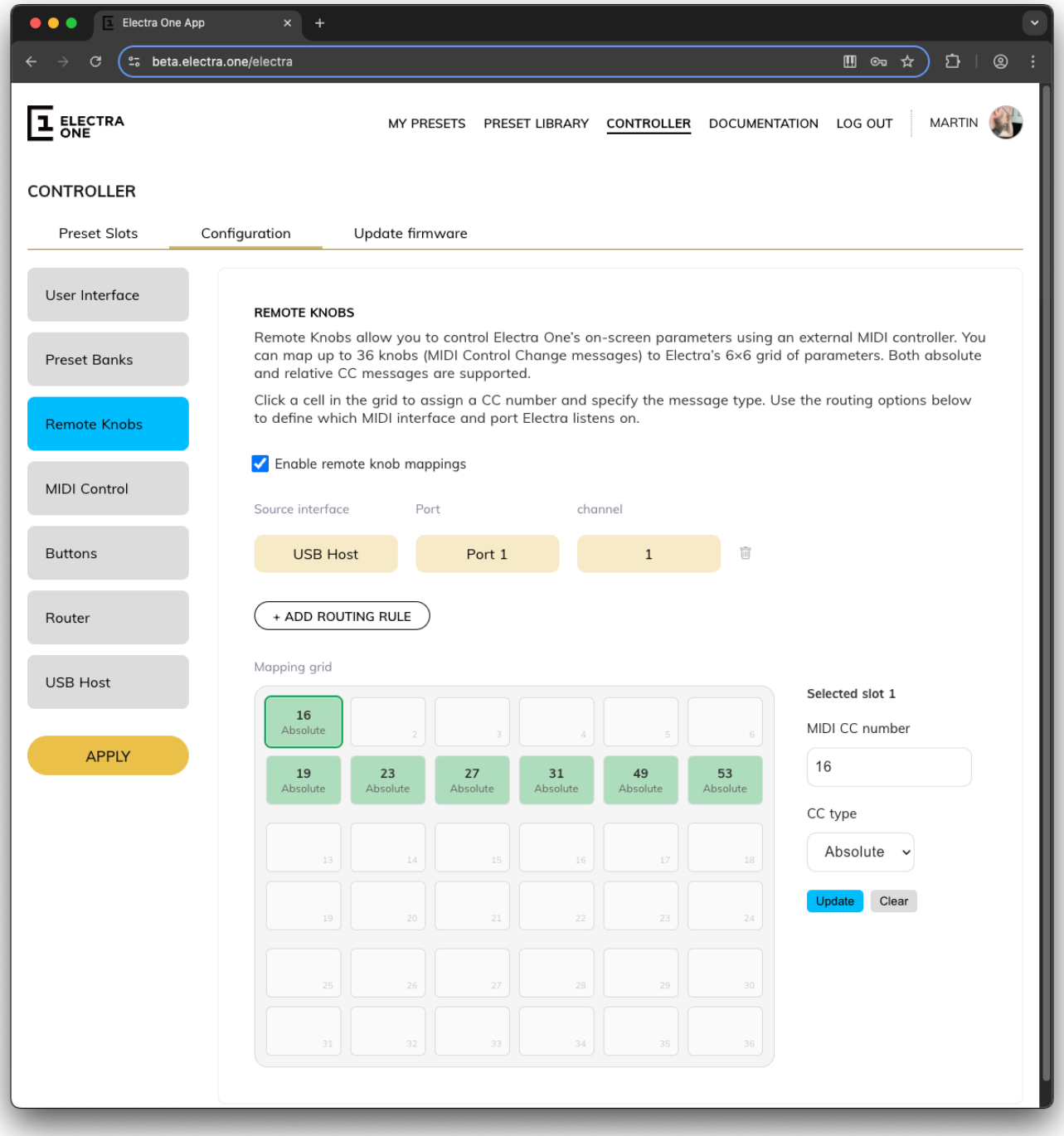
Preset Banks

Each Electra One controller supports 6 preset banks. In this section, you can assign custom names and colors to each bank to make navigation easier, especially when using many presets in performance or studio workflows.



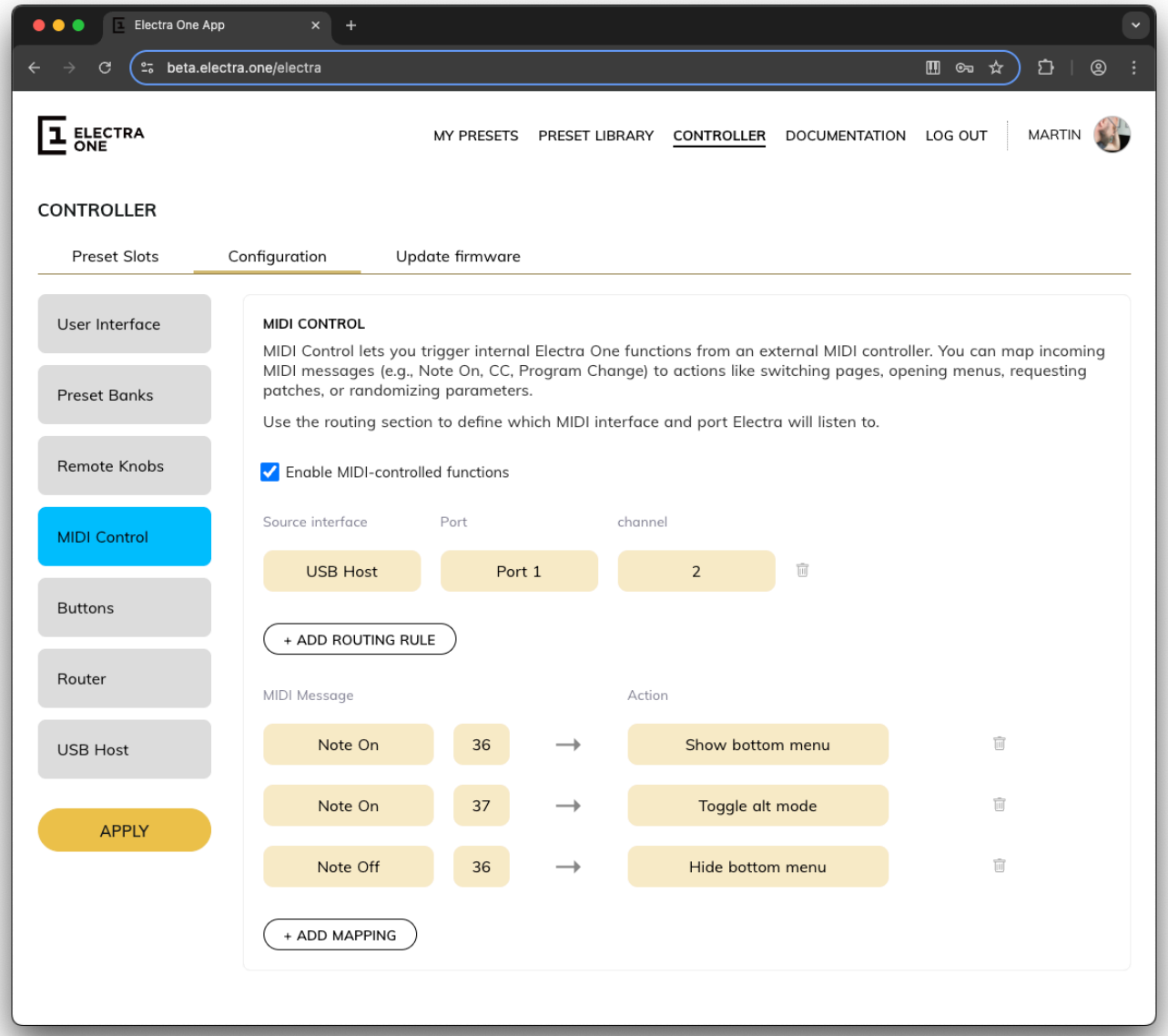
Remote Knobs

This feature lets you extend Electra One's controls using external MIDI devices. You can map up to 36 incoming CC messages to on-screen controls and optionally send those CCs back out when controls are adjusted on Electra One. This setup supports real-time automation, bidirectional feedback, and can even control non-CC messages like SysEx via virtual translation.



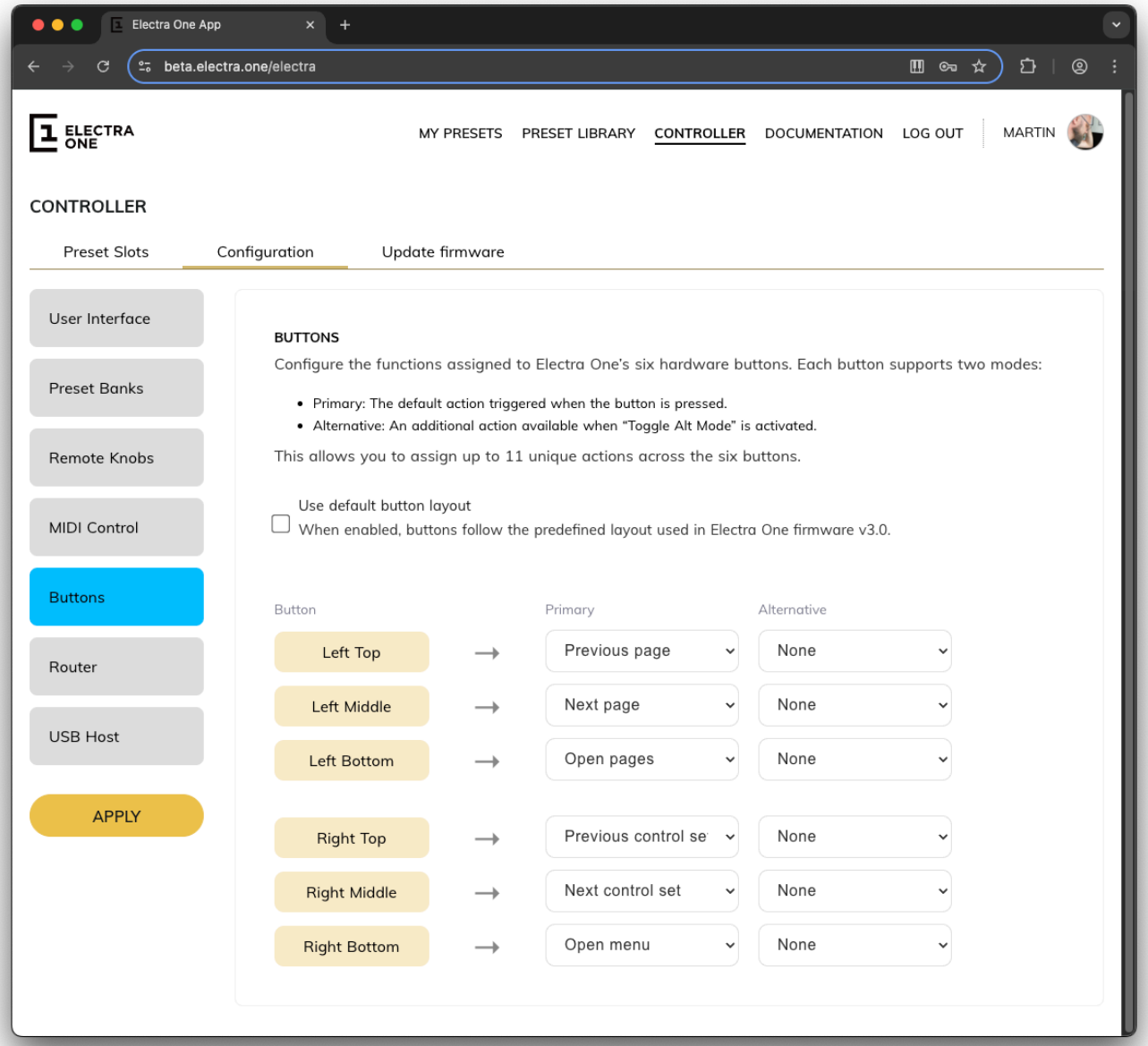
MIDI Control

Map incoming MIDI messages such as CCs, notes, or program changes to internal commands, like switching pages, presets, or opening the snapshot window, making it easy to integrate Electra One into larger MIDI setups or use pad controllers as additional input.



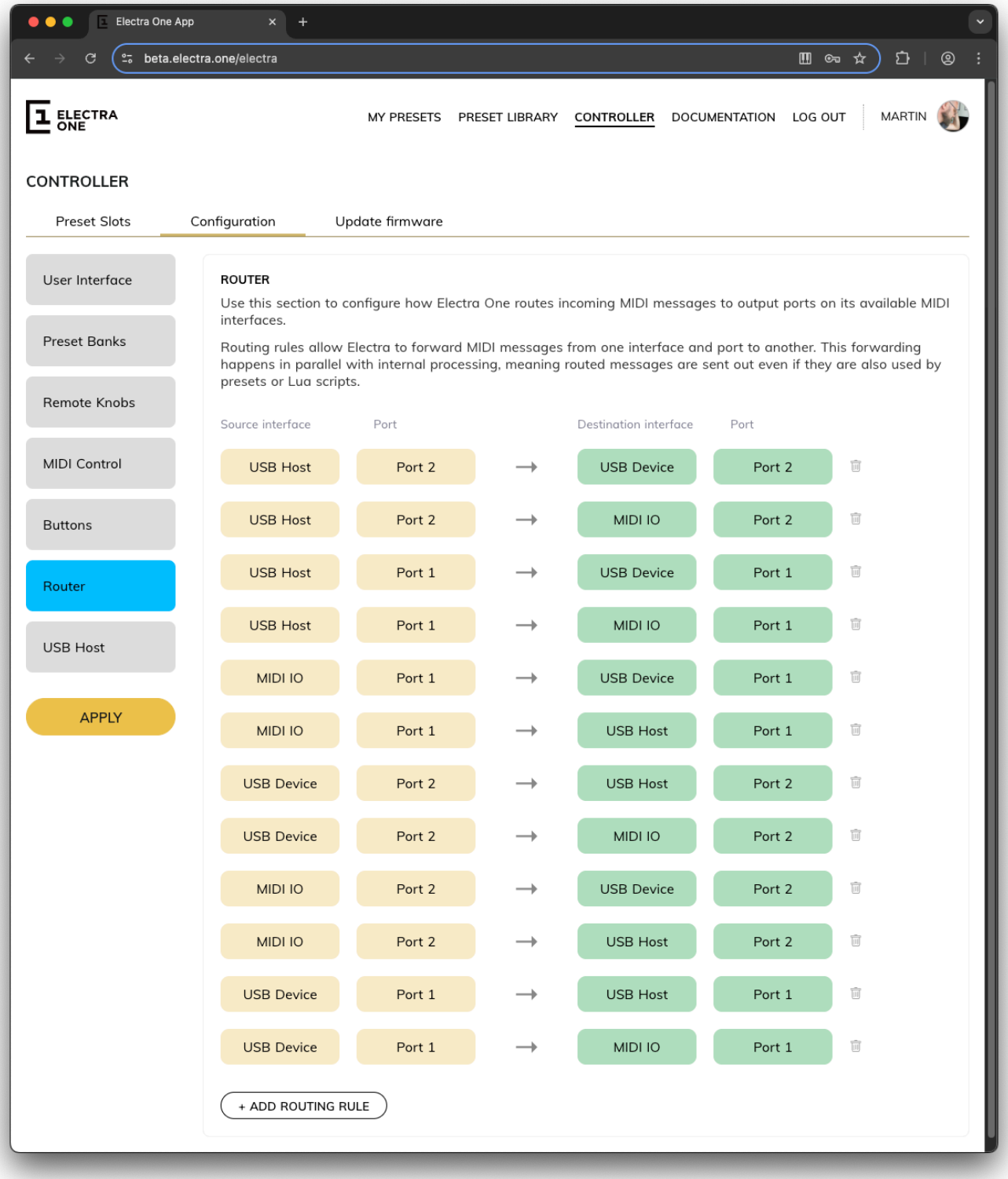
Buttons

Electra One has six hardware buttons. In this section, you can assign each button a command or action from the internal list. To expand their functionality, Electra also supports an “alternate mode” triggered by a user-defined toggle. This allows each button to perform two different actions depending on the current mode.



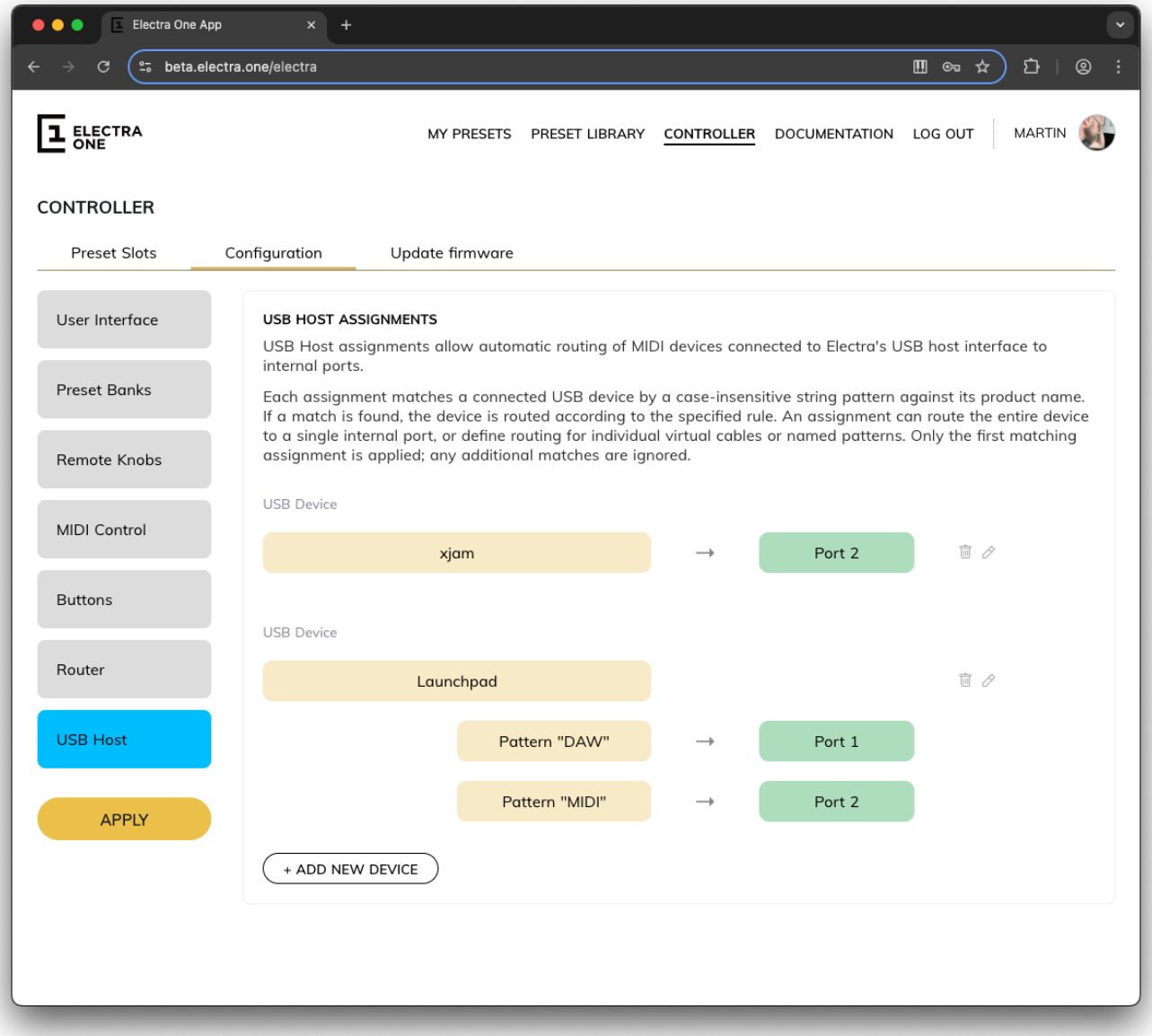
Router

Electra One includes a powerful internal MIDI router. This section allows you to configure routing between all available MIDI interfaces—USB Device, USB Host, and 5-pin MIDI—in both directions. Unlike on the controller, where routing is configured using a 6×6 input/output matrix, the web interface presents routes as a list of individual connections, making it easier to view and manage them one by one.



USB Host

When using the USB Host port, Electra One can detect and manage connected USB MIDI devices. In this section, you can define rules for how device ports are assigned to Electra's internal MIDI ports: Port 1 and Port 2. To identify USB MIDI devices, the system supports string pattern matching, as well as matching by USB VID and PID (Vendor and Product identifiers).

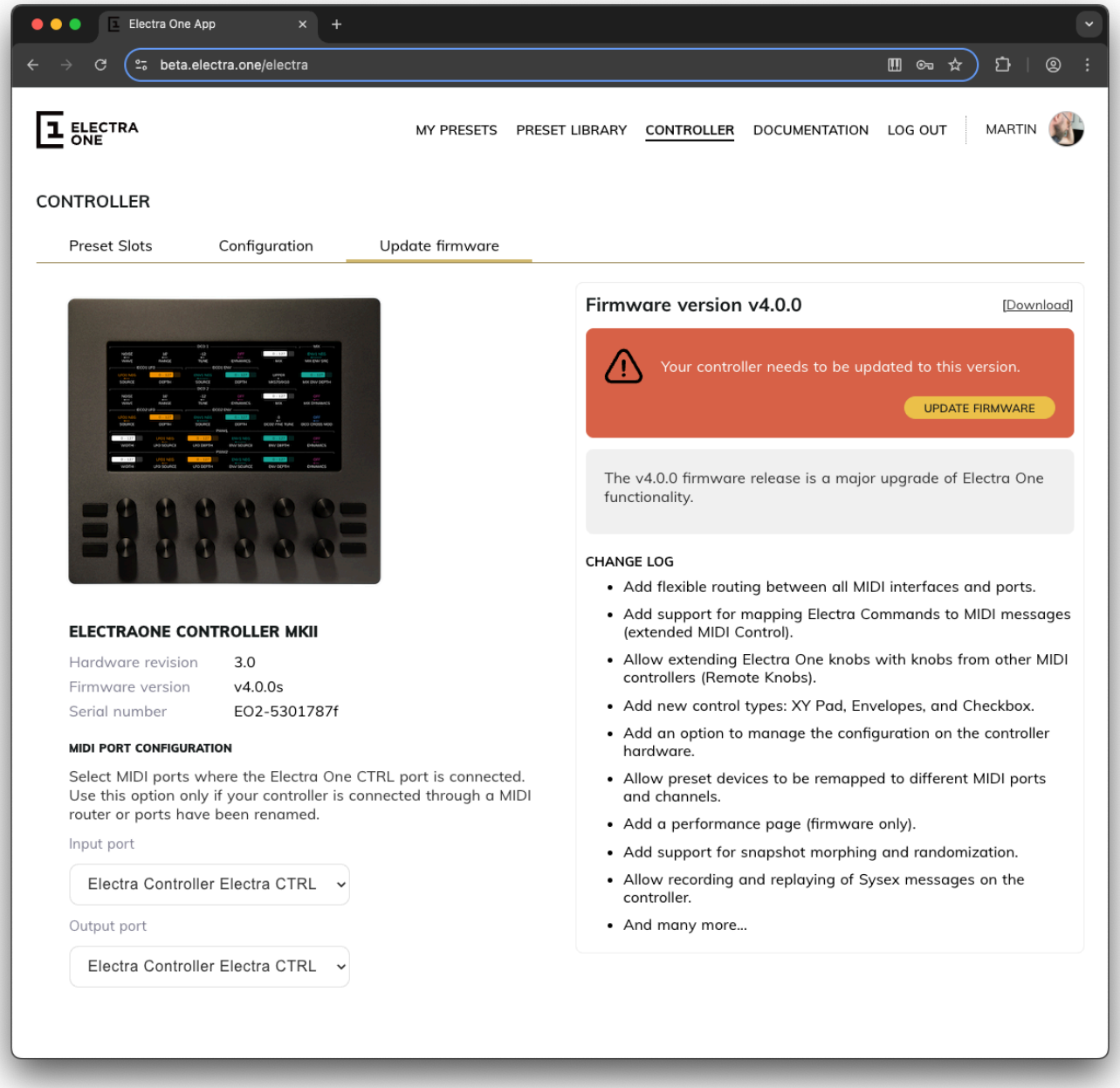


Firmware update

The Firmware Update section allows you to manage your Electra One controller's firmware directly from the web application. On this page you can:

- Update to the latest firmware version with a single click using `[UPDATE FIRMWARE]` button.
- Download firmware update files (.srec) for manual updates via the controller's bootloader and USB Disk mode use the `[Download]` link for that.
- View change log information for the latest firmware release.
- View important device information, including:
  - Hardware revision
  - Currently installed firmware version
  - Serial number of the controller
  - Adjust which MIDI ports are used for communication between the controller and the Electra One web tools

For advanced update methods, such as using the bootloader or performing recovery, you can refer to the Bootloader chaper of the User Guide.


Electra One App
beta.electra.one/electra
ELECTRA ONE
MY PRESETS
PRESET LIBRARY
CONTROLLER
DOCUMENTATION
LOG OUT
MARTIN
CONTROLLER
Preset Slots
Configuration
Update firmware
ELECTRAONE CONTROLLER MKII
Hardware revision 3.0
Firmware version v4.0.0s
Serial number EO2-5301787f
MIDI PORT CONFIGURATION
Select MIDI ports where the Electra One CTRL port is connected. Use this option only if your controller is connected through a MIDI router or ports have been renamed.
Input port
Electra Controller Electra CTRL
Output port
Electra Controller Electra CTRL
Firmware version v4.0.0
[Download]
Your controller needs to be updated to this version.
UPDATE FIRMWARE
The v4.0.0 firmware release is a major upgrade of Electra One functionality.
CHANGE LOG
Add flexible routing between all MIDI interfaces and ports.
Add support for mapping Electra Commands to MIDI messages (extended MIDI Control).
Allow extending Electra One knobs with knobs from other MIDI controllers (Remote Knobs).
Add new control types: XY Pad, Envelopes, and Checkbox.
Add an option to manage the configuration on the controller hardware.
Allow preset devices to be remapped to different MIDI ports and channels.
Add a performance page (firmware only).
Add support for snapshot morphing and randomization.
Allow recording and replaying of Sysex messages on the controller.
And many more...

Preset Editor

WARNING

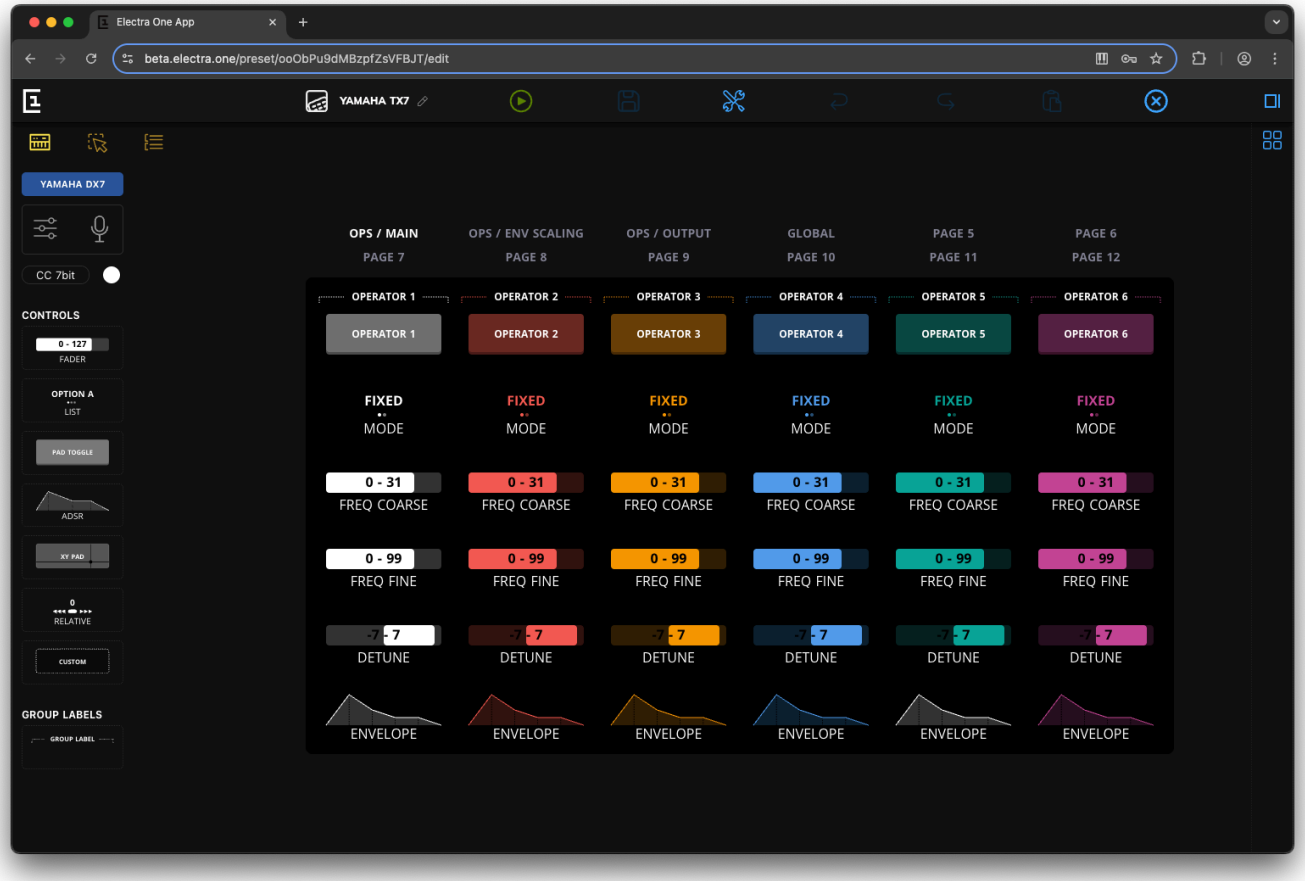
Please note, browser with WebMIDI support is required. WebMIDI is currently supported with Chrome and Edge browsers.

The Electra One Preset Editor is a comprehensive web-based tool for creating, editing, and managing presets for your Electra One controller. It gives you complete control over the layout, behavior, and MIDI logic of your presets, whether you're building simple control pages or advanced interactive setups with Lua scripting and SysEx handling.

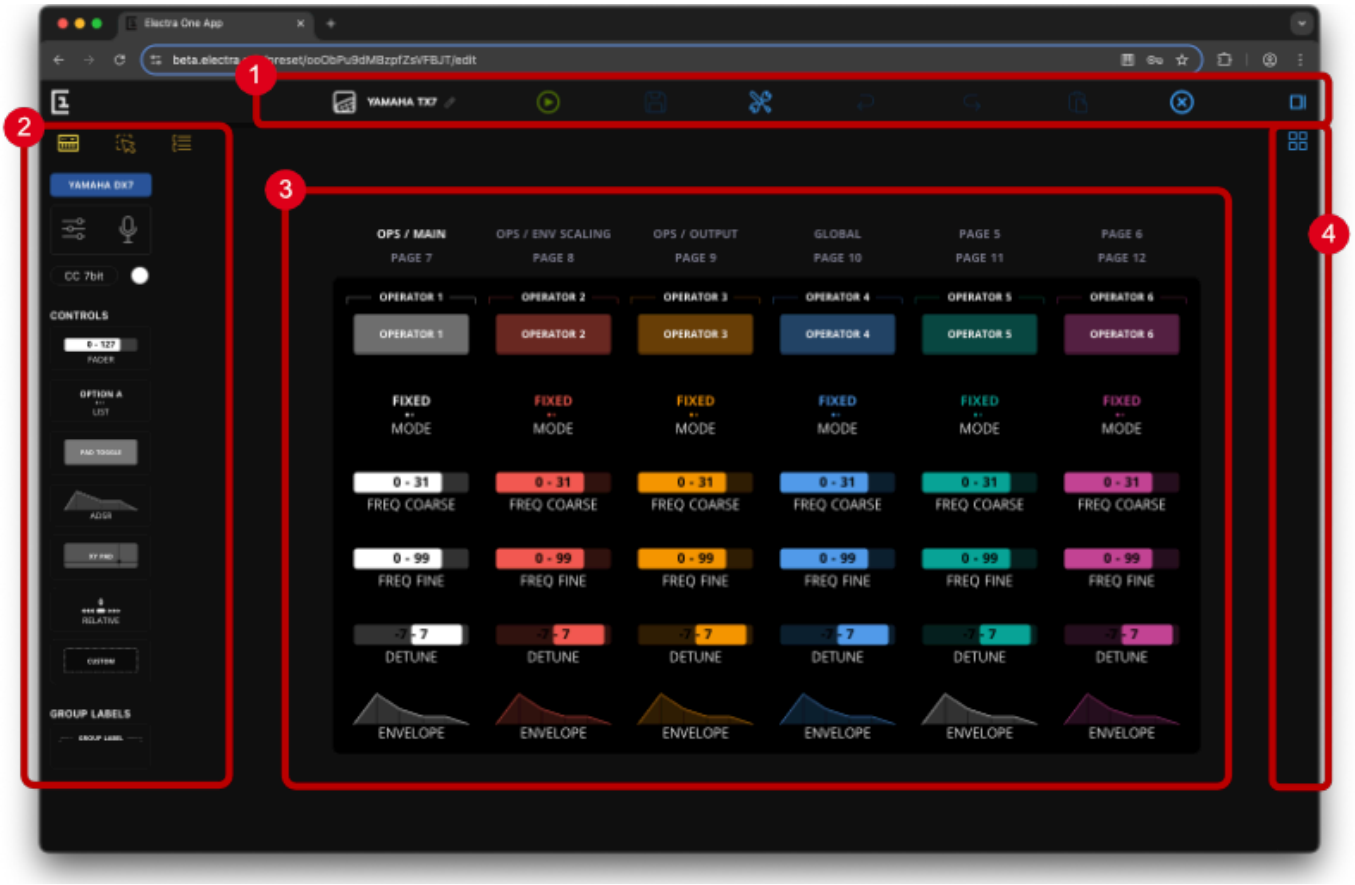
The editor is divided into several key areas:

- **Visual Editor** – A drag-and-drop interface to arrange controls, groups, and pages
- **Lua Script Editor and Debugger** – Add custom logic, handle incoming MIDI data, and extend preset behavior with Lua
- **Device Editor** – Define target MIDI devices and edit SysEx request/response handling for patch dumps
- **MIDI Console** – Send test MIDI messages and monitor all incoming and outgoing traffic for debugging

In the following sections, we'll walk through each part of the editor in detail.



The Preset Editor window is divided into four main sections:



1. Top menu
2. Sidebar
3. Grid (the main layout area)
4. Tools pane

Top menu

The Top Menu provides actions for managing your preset and controlling the editing process.

Preset name

Displays the name of the current preset. To rename it, simply click on the name and type the new one.

Send to Electra

Uploads the current version of the preset to your Electra One hardware controller. If there are unsaved changes, a new revision will be automatically saved to the revision history.

Save a revision

Saves the preset and stores a new revision. You can add a note to describe the changes made. For more details, see the Preset revisions section.

Open Toolbox

Opens the Toolbox, which contains helpful tools such as:

- Lua script editor, debugger, log viewer
- MIDI Console for sending and receiving test messages
- Preset JSON source

Undo

Reverts the most recent change made to the preset layout or properties.

Redo

Reapplies the last undone change.

Paste

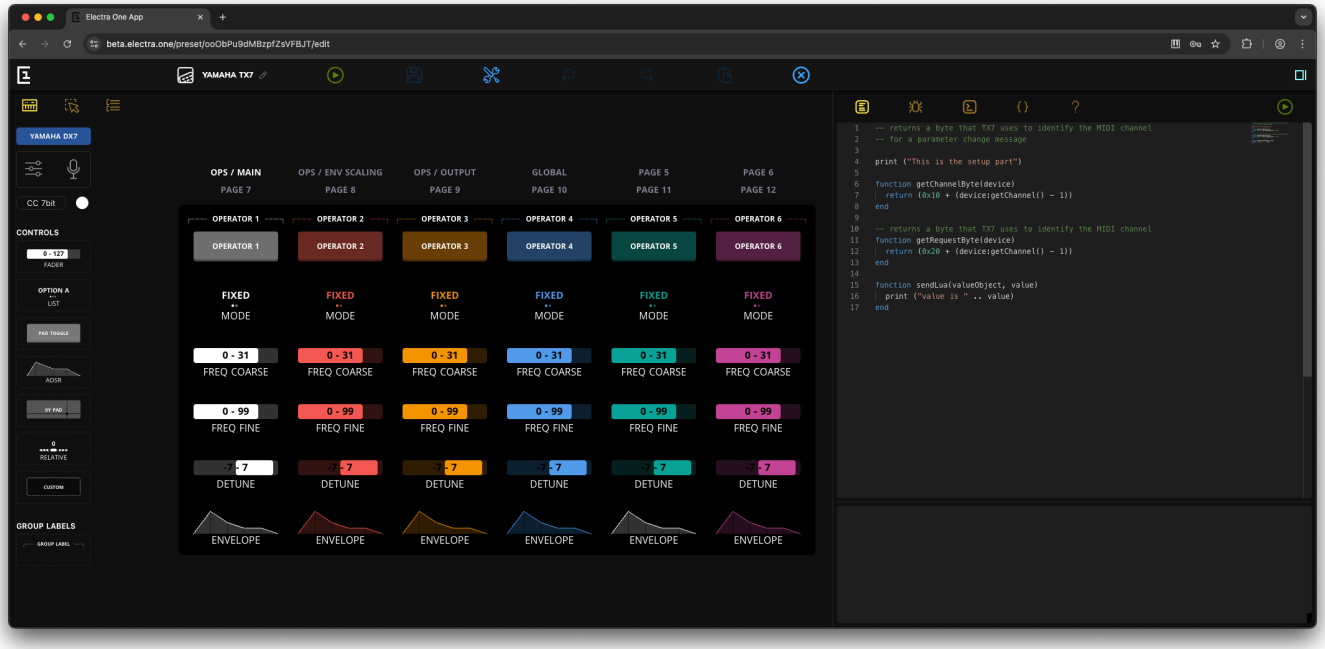
Inserts the contents of the clipboard into the Grid at the currently selected position. Use `Cmd+C` (on macOS) or `Ctrl+C` (on Windows) to copy controls to the clipboard.

Leave the editor

Closes the Preset Editor and returns you to the Preset Library. Any unsaved changes are automatically saved before exiting.

Open the Tools pane

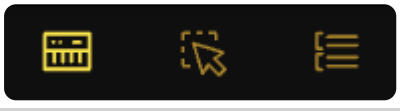
Opens the Tools Pane—a collapsible sidebar on the right side of the editor. It contains the same tools as the Toolbox but remains visible alongside the Grid for easier access during editing.



The Tools Pane requires a wide enough screen to display alongside the Grid. You can adjust its width using the resize handle (the thin gray vertical bar between the Grid and the pane).

The Sidebar

The Sidebar is located on the left side of the editor window. It consists of three panels that allow you to manage devices, edit controls, organize pages, and assign categories. You can switch between these panels using the Sidebar menu:

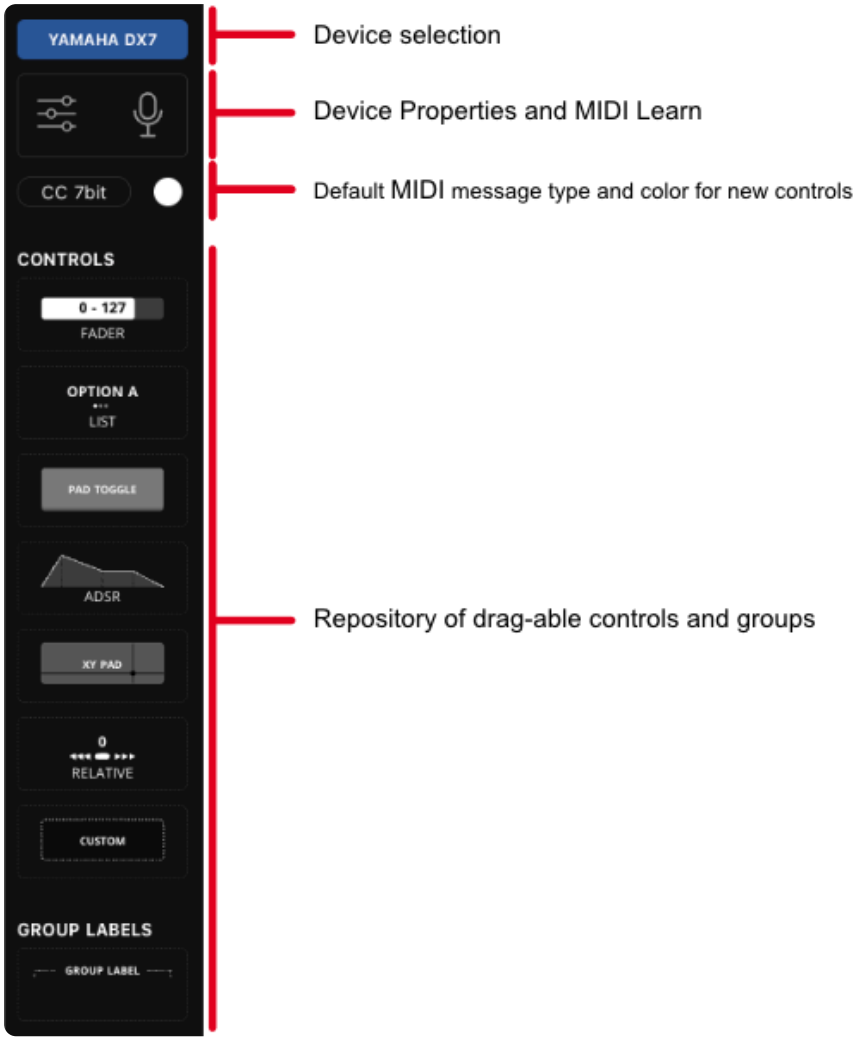


The Repository panel

The Repository panel is the default view in the Sidebar. It gives you access to:

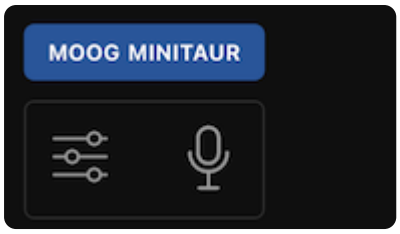
- The currently selected MIDI device
- Basic device editing and MIDI Learn activation
- Defaults for adding controls (Message Type and color)
- A repository of controls that you can drag onto the preset layout (Grid)

Controls can be added to the Grid by dragging them from the panel with your mouse.



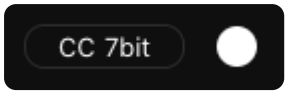
The device section

The Device section allows you to switch the currently selected device, edit its details, and enable or disable the MIDI Learn function. A more detailed description of this section is provided later in this document.



The defaults

The Defaults section allows the user to set the default MIDI message type and color for controls that will be dragged onto the Grid. A handy shortcut for changing the default color: press keys 1 to 6 (while no controls are selected) to set the default color from the Electra One color palette.



The Repository of controls

The Repository of controls displays a selection of controls available for the currently selected device. Users can drag and drop these controls onto the Grid to build their preset. The MIDI message type and color of each newly created control will reflect the current Defaults settings (see above).

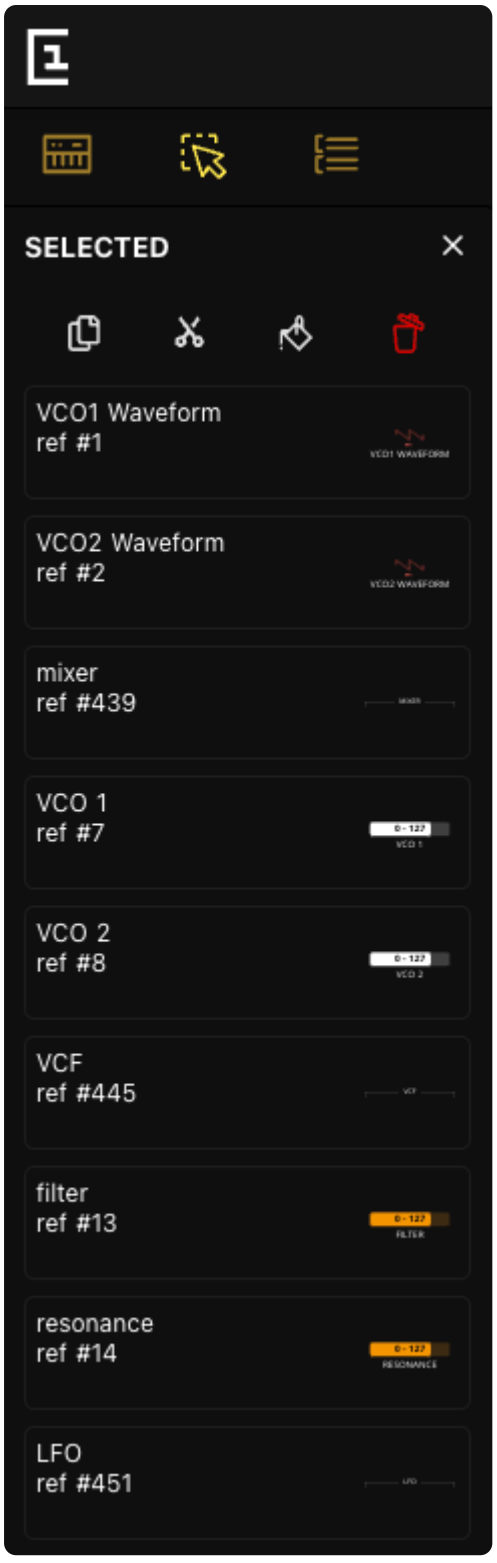
The Selected panel

The Selected panel is activated whenever the user selects one or more objects in the Grid. These objects can be controls, groups, or pages.

When a single object is selected, the panel displays its editable properties. If multiple objects are selected, a list is shown, and bulk actions can be performed.

Currently, the following actions are available for selected objects:

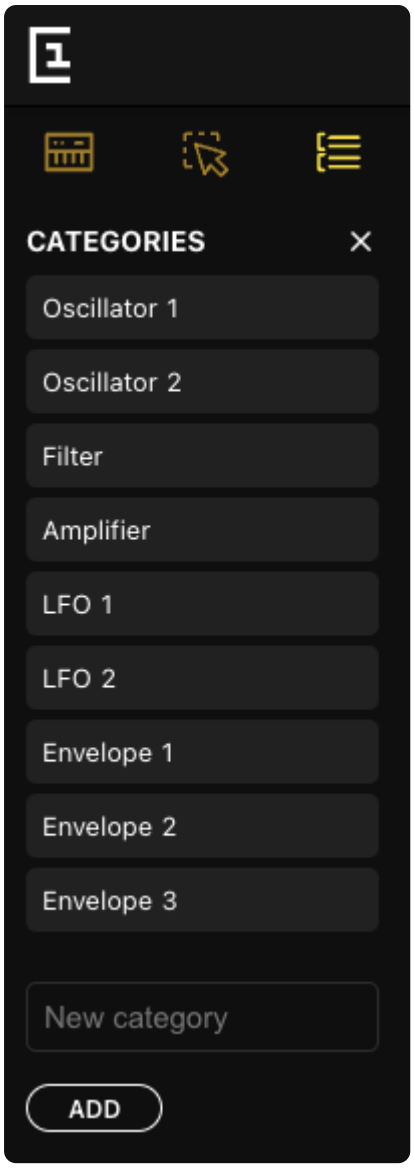
- Cut or copy to clipboard
- Change color
- Delete



A detailed description of the Selected panel with a single selected object is provided further below in this document.

The Categories panel

The Categories panel allows you to organize your controls into logical groups. When a control has a category assigned, the category name appears alongside the control’s label on various places such as SysEx editor, making it easier to navigate and understand your preset layout.

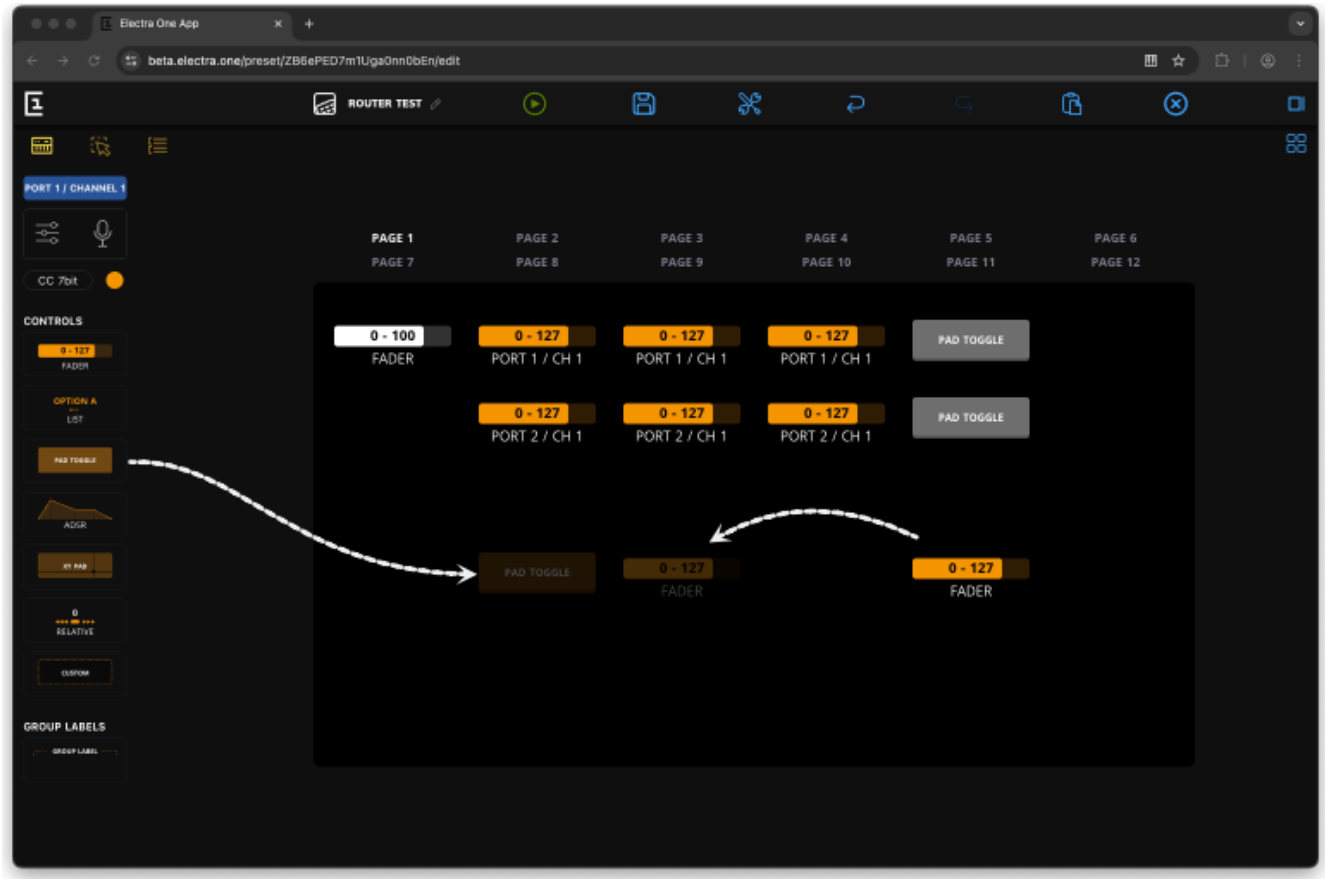


Grid

The Grid represents the layout of the Electra One controller's display. This is where you build your preset by placing, arranging, and editing controls.

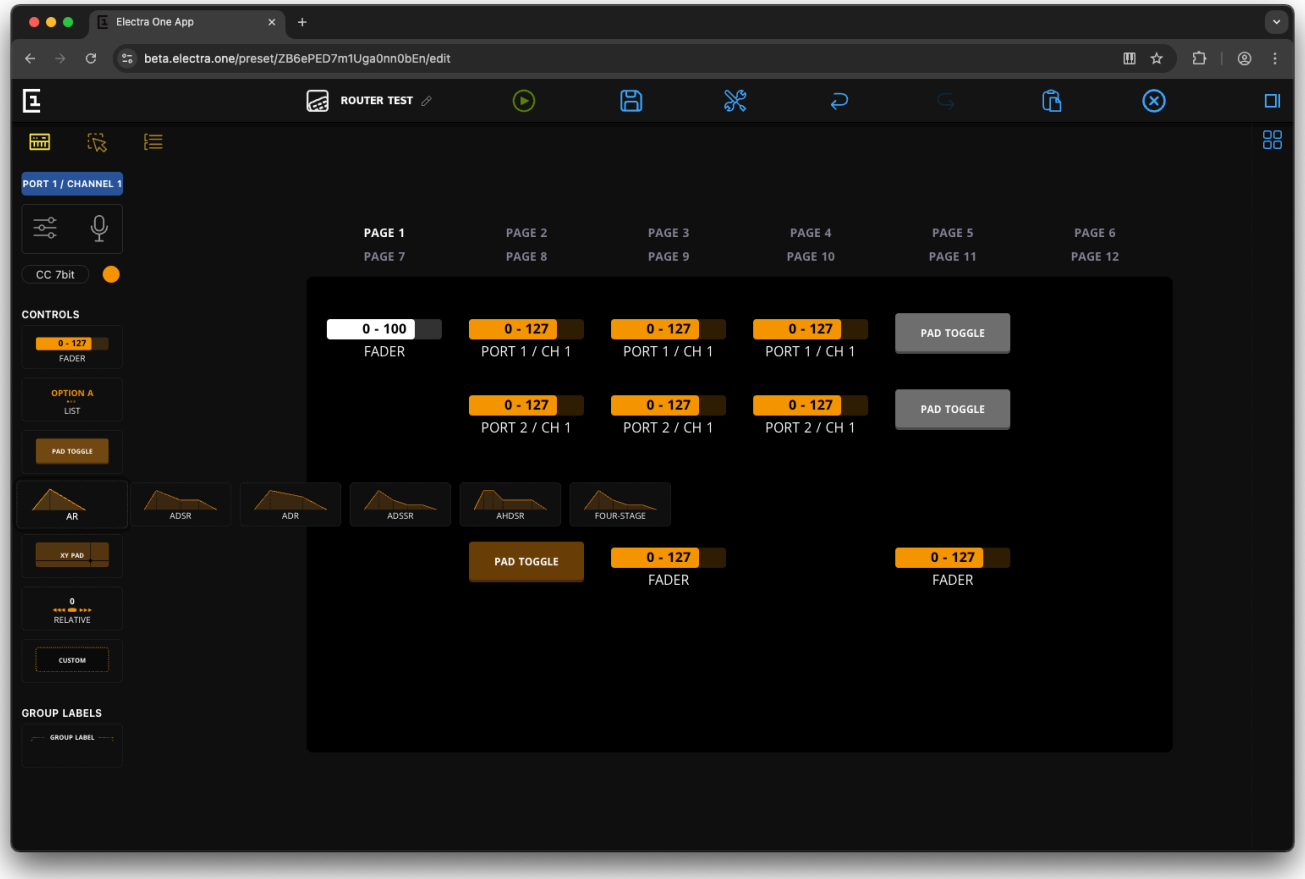
Adding controls

To add a control, simply drag it from the Repository panel onto the Grid using your mouse. You can also use drag-and-drop to reposition controls within the Grid.



Changing control variants

You can view and select different control variants by clicking on a control icon in the Repository panel.



When you click a control, a list of all its available variants will expand to the right. To set a new default variant (used when dragging from the Repository), simply click on your preferred variant in the list.

Alternatively, you can drag and drop any variant directly from the expanded list onto the Grid.

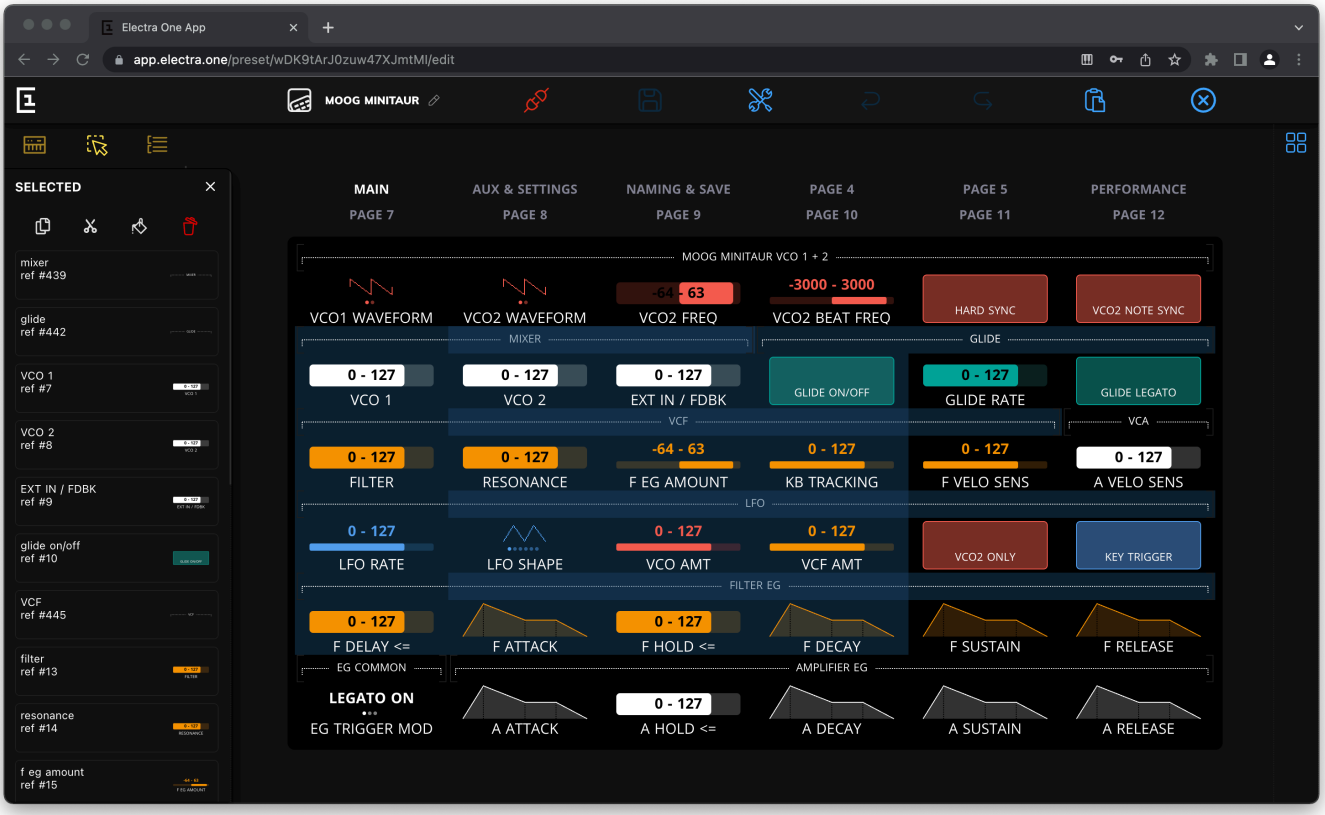
To close the variant list, click either on a variant or on the original control icon again.

Selecting controls

You can select individual controls with a single mouse click or by navigating the Grid using the arrow keys. To select multiple controls:

- Click the top-left control of the desired selection area
- Hold Shift and click the bottom-right control

All selected controls and groups will be highlighted with a dark blue background.



Once any object is selected, the left Sidebar updates to reflect the selection— either by showing the attributes (properties) panel for a single object, or a list of selected objects with action buttons for performing operations on multiple items.

Keyboard shortcuts

The Grid can also be navigated using the arrow keys, and several useful keyboard shortcuts are supported for quicker editing:

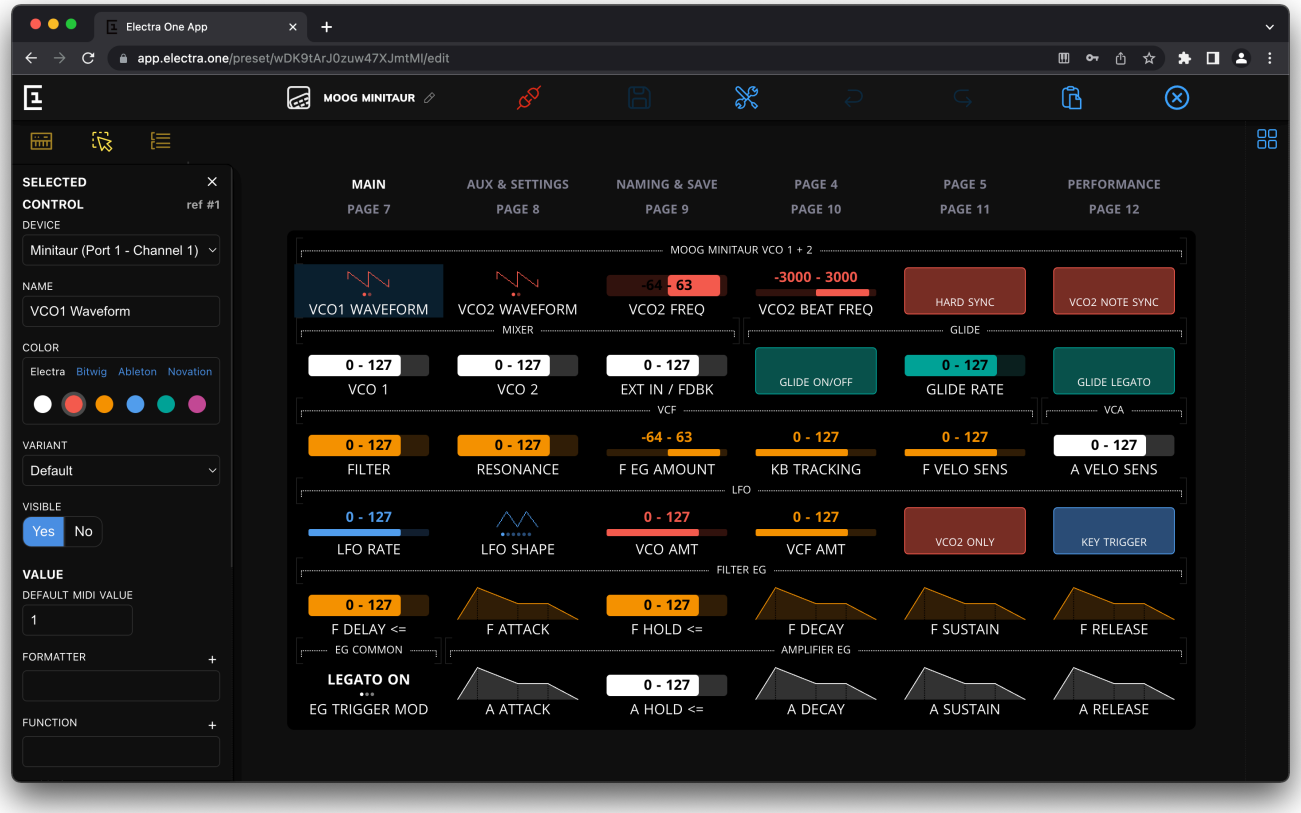
Keyboard shortcut	Action
SHIFT + mouse click	select a continuous range of Controls
CMD / CTRL + C	copy to the clipboard

Keyboard shortcut	Action
CMD / CTRL + X	cut to the clipboard
CMD / CTRL + V	paste from the clipboard
BACKSPACE	remove
ARROWS	navigating within the grid
SPACE	will display information about Category and Parameter assignment for all Controls on the page
1 .. 6	set a color of selected controls and groups

Keyboard shortcuts are especially helpful when working with multiple selected controls. You can use cut and paste to quickly move groups of controls between pages.

Control attributes

When a single control is selected on the Grid, its attributes are shown in the Selected panel on the left side of the editor window.



This attribute panel allows you to edit various properties of the selected control. It is where most of the detailed work on a preset takes place.

Each control has a set of configurable attributes. Some attributes are common to all control types, while others are specific to a particular control type.

Control attributes are grouped into four sections:

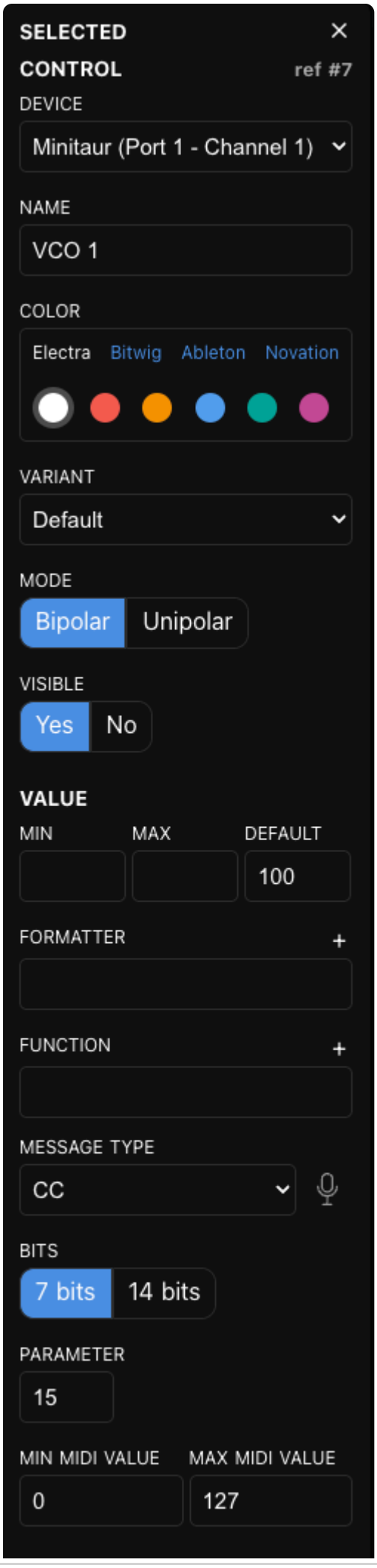
- **Common Attributes** – Basic properties such as the control's name and color

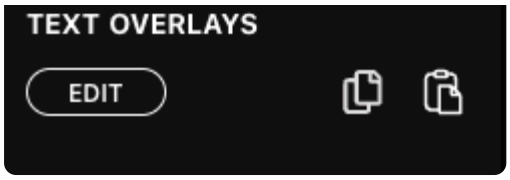
- **Value Attributes** – Define how the control's value is displayed and interpreted
- **Message Attributes** – Specify which MIDI message is linked to the control's value
- **Text Overlays & List Values** – Used to define overlays or list items, where applicable

Multi-value controls, such as envelopes, include a Value section for each parameter. For example, an ADSR envelope will show separate sections for Attack, Decay, Sustain, and Release.

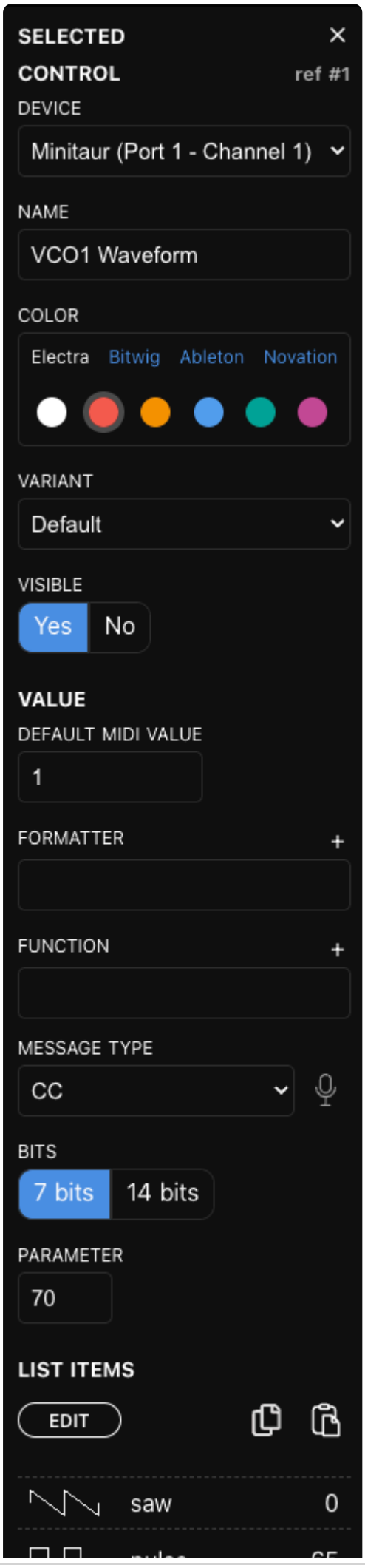
Examples of Control attributes

The fader

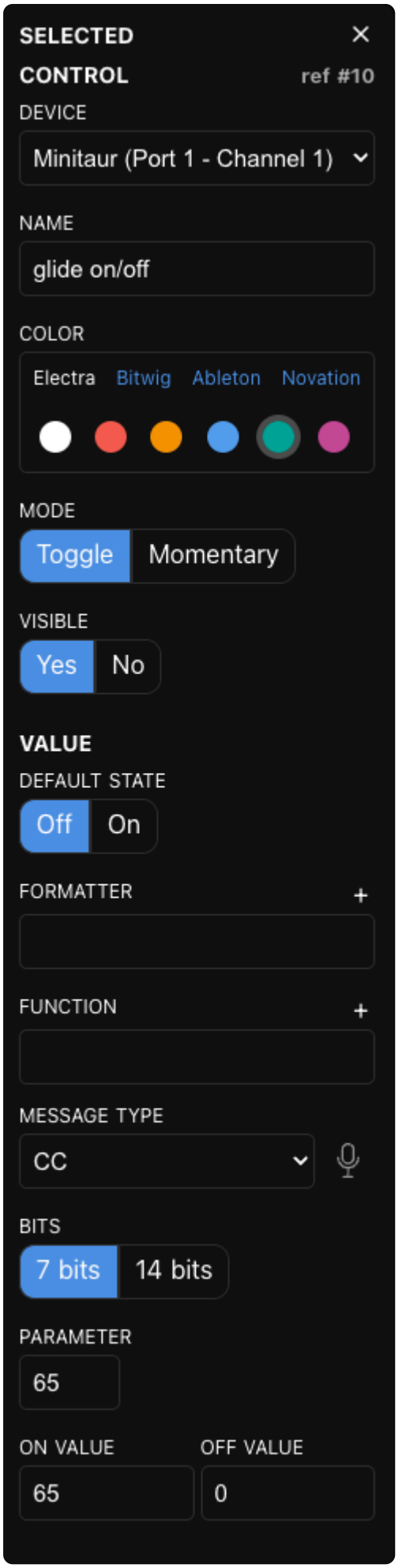

SELECTED
CONTROL
ref #7
DEVICE
Minitaur (Port 1 - Channel 1)
NAME
VCO 1
COLOR
Electra
Bitwig
Ableton
Novation
VARIANT
Default
MODE
Bipolar
Unipolar
VISIBLE
Yes
No
VALUE
MIN
MAX
DEFAULT
100
FORMATTER
FUNCTION
MESSAGE TYPE
CC
BITS
7 bits
14 bits
PARAMETER
15
MIN MIDI VALUE
MAX MIDI VALUE
0
127



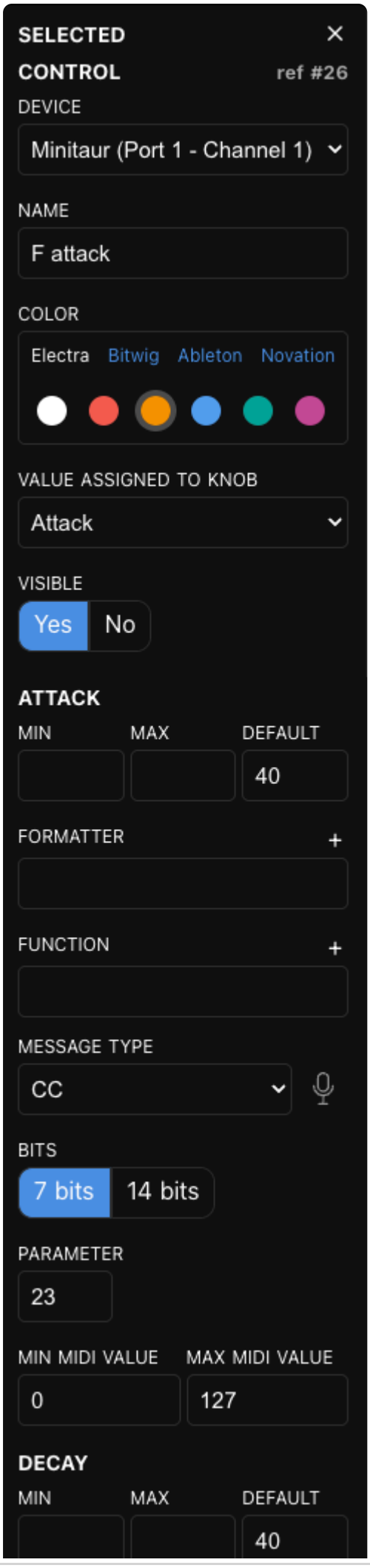
The list


SELECTED
CONTROL
ref #1
DEVICE
Minitaur (Port 1 - Channel 1)
NAME
VCO1 Waveform
COLOR
Electra
Bitwig
Ableton
Novation
VARIANT
Default
VISIBLE
Yes
No
VALUE
DEFAULT MIDI VALUE
1
FORMATTER
FUNCTION
MESSAGE TYPE
CC
BITS
7 bits
14 bits
PARAMETER
70
LIST ITEMS
EDIT
saw
0

The pad



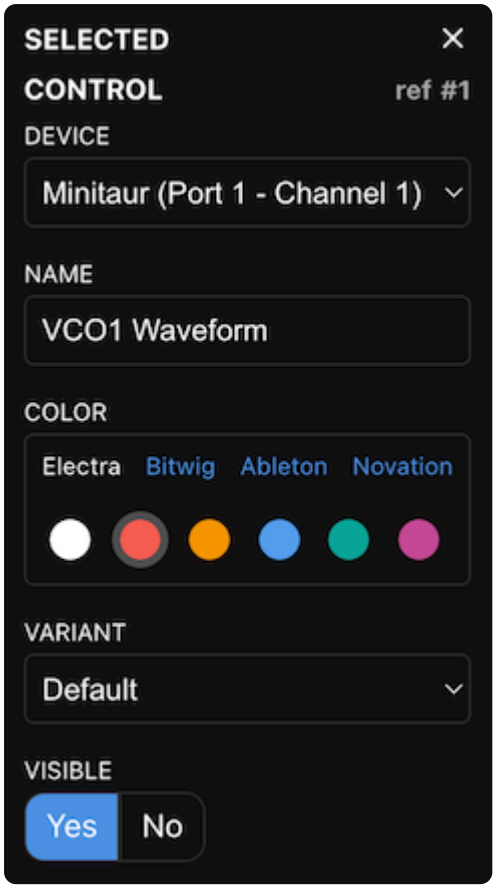
The envelope

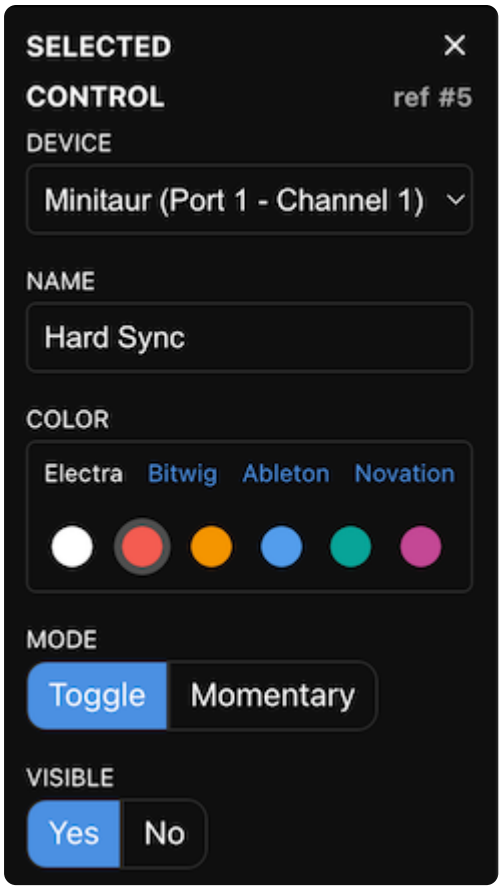

SELECTED
CONTROL
ref #26
DEVICE
Minitaur (Port 1 - Channel 1)
NAME
F attack
COLOR
Electra
Bitwig
Ableton
Novation
VALUE ASSIGNED TO KNOB
Attack
VISIBLE
Yes
No
ATTACK
MIN
MAX
DEFAULT
40
FORMATTER
FUNCTION
MESSAGE TYPE
CC
BITS
7 bits
14 bits
PARAMETER
23
MIN MIDI VALUE
MAX MIDI VALUE
0
127
DECAY
MIN
MAX
DEFAULT
40

General Attributes

As the name suggests, the general group of attributes covers attributes common to all types of Controls.

The general attributes allow user to assign the Control to a device, set the name, color, variant, and mode. When the preset includes a Lua script, the visibility toggle is shown too.





Device

An identification of the synthesizer, sampler, VST plugin, or any other MIDI device where the MIDI messages generated by the Control will be sent. An example of a device is “Yamaha DX7, Rack 1”. The device represents a particular synthesizer connected to a MIDI port and channel.

Name

The name of the Control that will be shown on the display. The name is shown below the value. For example, a “Filter cutoff”

Color

Color of the Control. It is up to the user how the colors are used. They are meant to improve the readability of the presets and to help to organize controls to logical clusters of parameters. For example, users might want to have all Controls of one device sharing the same color or to have one color for all parameters related to the VCF.

Variant

Variant of the Control. The variant affects how the Control looks like. For example, you can choose between regular and thin faders. Some controls have more variants while others may have only the default variant.

Mode

Mode of the Control operation. The mode affects how the Control behaves. For faders you can choose between unipolar and bipolar functionality. For pads, you can choose between momentary pads and toggles.

- Momentary pads always return to the *Off* position after they are released
- Toggle pads act as switches between the *Off* and *On* values

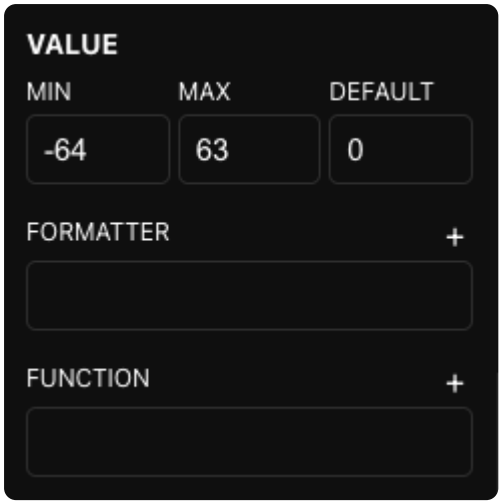
Value attributes

The value attributes tell Electra One how the values should be displayed on the screen and how they behave towards the user. The values can be considered to be display values that are at some point translated to the MIDI data sent out or received.

The value section also allows user to enter Lua callback functions for processing the display value and for triggering custom Lua programatic sequences.

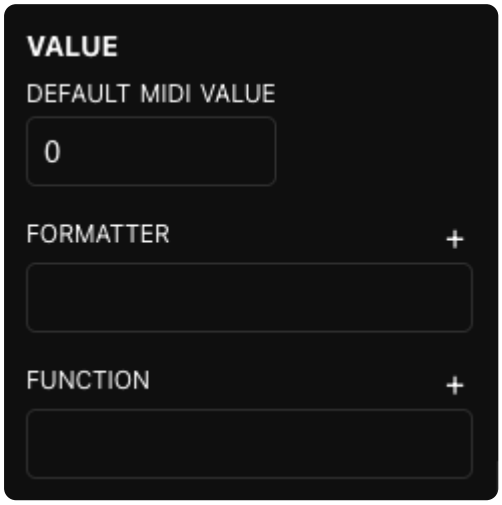
Fader values

For faders, users can define the minimum, maximum, and default value. The Lua formatter and function attributes are available.



List values

For lists, users can define default MIDI value associated with a list item. The Lua formatter and function attributes are available.

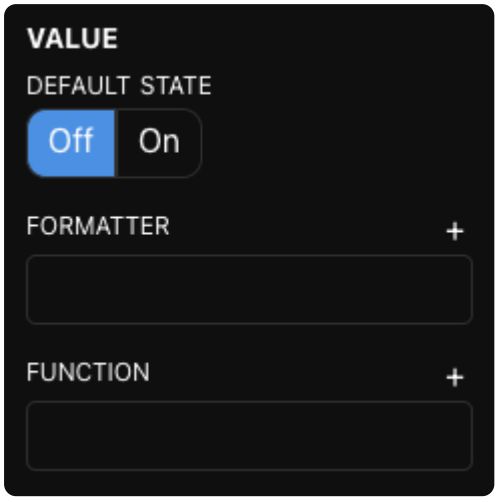


Envelope values

For envelopes, users can define the minimum, maximum, and default value. The Lua formatter and function attributes are available. Envelopes have multiple values, each covering specific part of the envelope. For example, an ADSR envelope consists of Attack, Decay, Sustain, and Release values.

Pad values

For pads, users can define whether the pad is *On* or *Off* when the preset is loaded. The Lua formatter and function attributes are available.



Min display value

Defines the minimum value of the data range controlled with a fader. The minimum may be negative.

Max display value

Defines the maximum value of the data range controlled with a fader.

Default value

A default value to be pre-filled when the preset is loaded. The default value is set to 0 when not filled in. Double-tap on the Control will reset the current value of the Control to the default value.

Default state

Tells Electra if the pad is set to *On* or *Off* state, when the preset is loaded.

Default MIDI value

A default MIDI value is relevant only for lists. It is the MIDI value that identifies the list item to be selected when the preset is loaded.

Formatter

A name of a Lua function that will be used to format the display value.

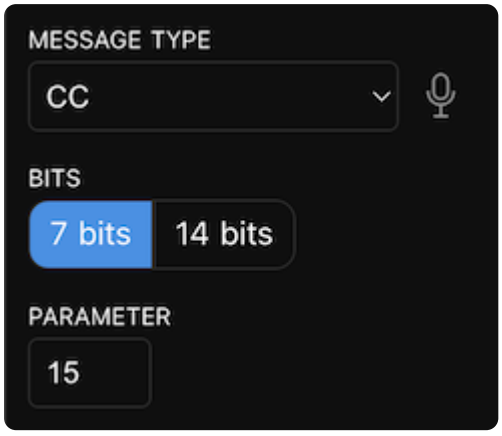
Function

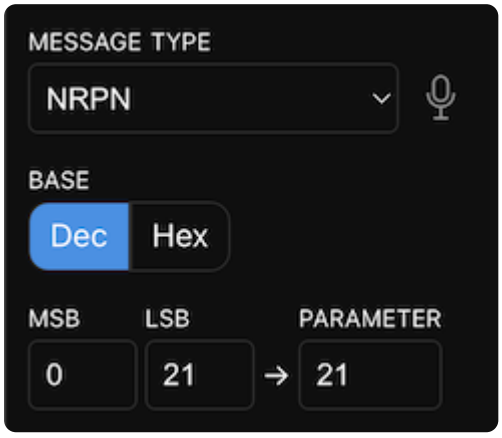
A name of a Lua function that will be called when the display value changes.

> **TIP**
>
> The "+" sign next to the Formatter and Function fields add an empty Lua function definition to the Lua script source code, making it easier do develop the Lua script.

Message attributes

The message attributes are used to describe the MIDI message associated with the Control value. It means what MIDI message will be send out when user changes the value and how the MIDI message value will be calculated.





Type

The parameter type defines the type of MIDI message assigned to the Control. Whenever the value of Control is changed by turning the knob or with touch, a given MIDI message will be sent to the connected synthesizer. On the receiving side, whenever there is a MIDI message coming from a connected synthesizer and it matches a parameter settings of the Control, the value of the Control will be updated accordingly.

Electra supports the following MIDI message types:

CC

7-bit or 14-bit Control Change MIDI message. The value of 7-bit Control change is restricted to a range of 127 values. There is an option to switch CC to 14-bit Control Change mode. 14-bit Control change follows the MIDI standard which says that the first 32 7-bit control change messages (CC #0 .. CC #31) can be used as 14-bit messages. The parameter that users specify is the MSB part of the control change, LSB part is automatically calculated by Electra. It is always MSB parameter + 32.

NRPN

NRPM MIDI message type is used to send a standard MIDI NRPN message. The parameter and the value are both 14-bit numbers.

RPN

RPM MIDI message type is used to send a standard MIDI RPN message. The parameter and the value are both 14-bit numbers.

Sysex

SysEx MIDI message type is used to send templated MIDI SysEx messages. Users are allowed to specify an array of bytes that will be sent whenever the Control's value is changed. The fact that the message is *templated* means that users are not restricted to sending constant bytes only, instead, they can insert Variable, Checksum, Parameter placeholders to the message. The placeholders will be transformed to values at the time of sending the templated SysEx MIDI message. More detailed information about SysEx templates can be found in Writing SysEx templates.

Note

Note is used to send note on and off MIDI messages. The note type is supported only by pads. The note on is triggered when pad is pressed and note off is send when the pad is released.

Program change

Program change type sends a standard MIDI Program change message.

Aftertouch poly

Aftertouch poly type sends a standard MIDI polyphonic pressure message.

Aftertouch channel

Aftertouch channel type sends a standard MIDI channel pressure message.

Pitchbend

Pitchbend type sends a standard MIDI pitchbend message.

Song position

Song position type sends a standard MIDI song position pointer message.

Start

START type sends a standard MIDI real-time Start message. The start can be used only with pads.

Stop

STOP type sends a standard MIDI real-time Stop message. The stop can be used only with pads.

Continue

STOP type sends a standard MIDI real-time Stop message. The stop can be used only with pads.

Tune request

TUNE type sends a standard MIDI Tune request message. The tune can be used only with pads.

Virtual

Virtual is a special type of message. It is not associated with any MIDI message type. Instead it just sets the value Electra's internal parameter map storage. Virtual parameters are used in combination with Lua scripts.

Parameter

Identifier of the parameter to be assigned to the Control value. When control is used to send CC MIDI message and parameter is set to 56, the value of the Control will be sent as CC #56 MIDI message. There are situations when there is no real parameter identifier, for example, if the parameter is represented only by a few bits with a byte of a SysEx message. In such situations, users must invent their own Parameter Ids. More information on this can be found in Writing SysEx templates.

When working with NRPN and RPN Controls, the MSB and LSB fields are shown. These fields make it easier to enter the parameter Id if the synthesizer manual uses MSB and LSB notation. The MSB and LSB must be entered in decimal notation.

Min MIDI value

Defines the minimum midi value mapped to the Min display value. A typical example is mapping Min MIDI value of 0 to the Min display value of -64. In such a case, the Control will show negative figures while it will still send out positive data in MIDI messages according to this setting.

Max MIDI value

Defines the maximum MIDI value mapped to the Max display value.

On Value

A MIDI value to be sent when the pad goes from the *Off* state to the *On* state. If the field is left empty, no MIDI message will be sent.

Off Value

A MIDI value to be sent when the pad goes from the *On* state to the *Off* state. If the field is left empty, no MIDI message will be sent.

Bits

When the control is set up to send CC MIDI messages, you can specify whether it will be a simple 7-bit message or a two-byte 14-bit message.

Bits order

14-bit CC, NRPN, and RPN MIDI messages send the value of the parameter in the form of two 7-bit bytes. These two bytes represent MSB (most significant/coarse) and LSB (least significant/fine) part of the 14-bit value. Although the MIDI standard says what part is the MSB and what the LSB is, some synthesizers do not follow the standard. Bits order option gives you a chance to swap MSB and LSB part of the 14-bit value.

Two's complement

When the display value configuration allows going below zero to negative values, the Two's complement option tells Electra One controller if two's complement representation of the negative numbers should be used.

No reset

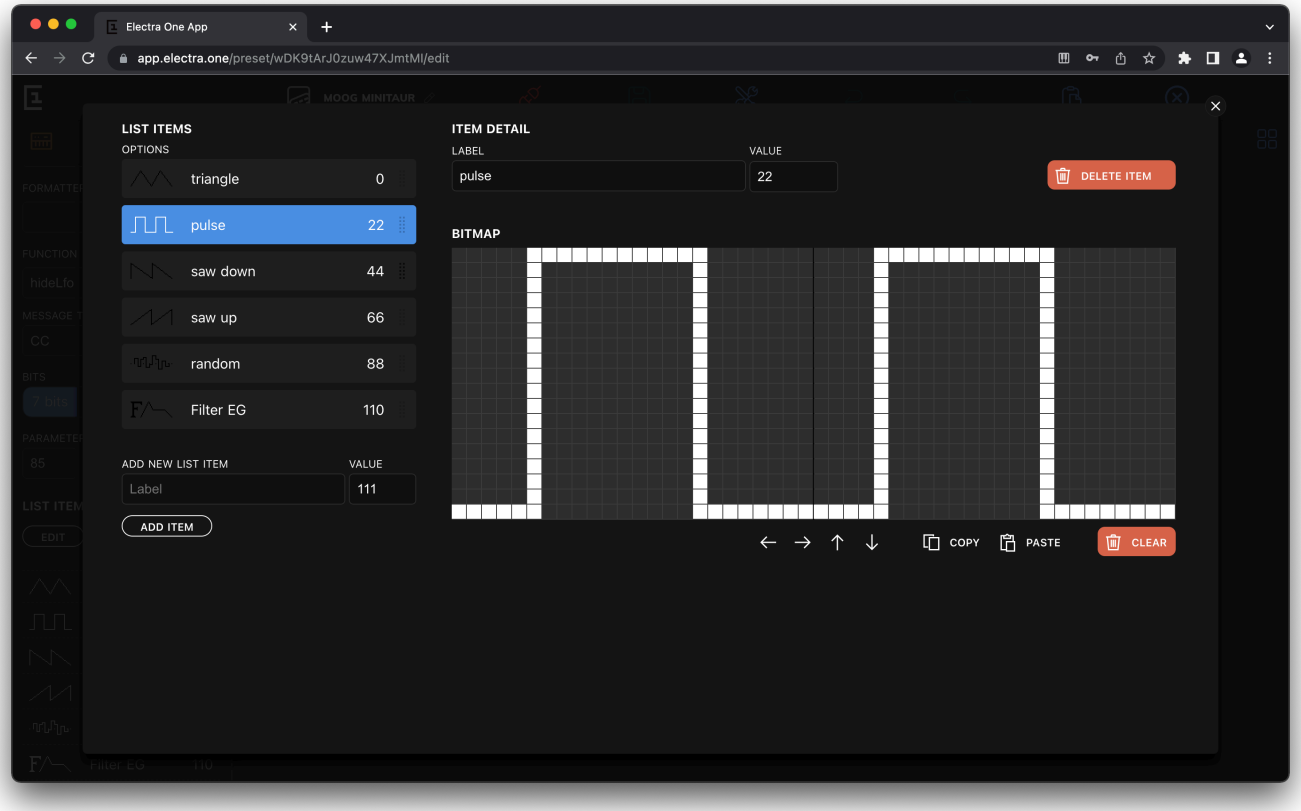
It has become quite a common practice that each NRPN or RPN message is followed by the Reset instructions (sending CC #100 and CC #101). If this is not appropriate for your instrument, set No reset to Yes.

Edit Sysex Data

The Edit Sysex Data button opens a Sysex Template editor, a tool to create sequences of Sysex bytes with message values and Lua function calls included in them. The Sysex editor is described further below in this document.

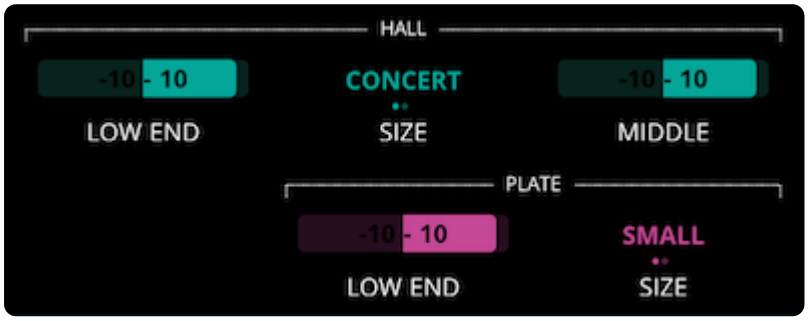
List items / Overlays

The List items / Overlays are text labels that can be assigned to specific values of fader and lists. List items are required to be used with List Controls. They define the actual entries on the list. Overlays are used for faders. Detailed information about List items / Overlay editor is described further below in this document.

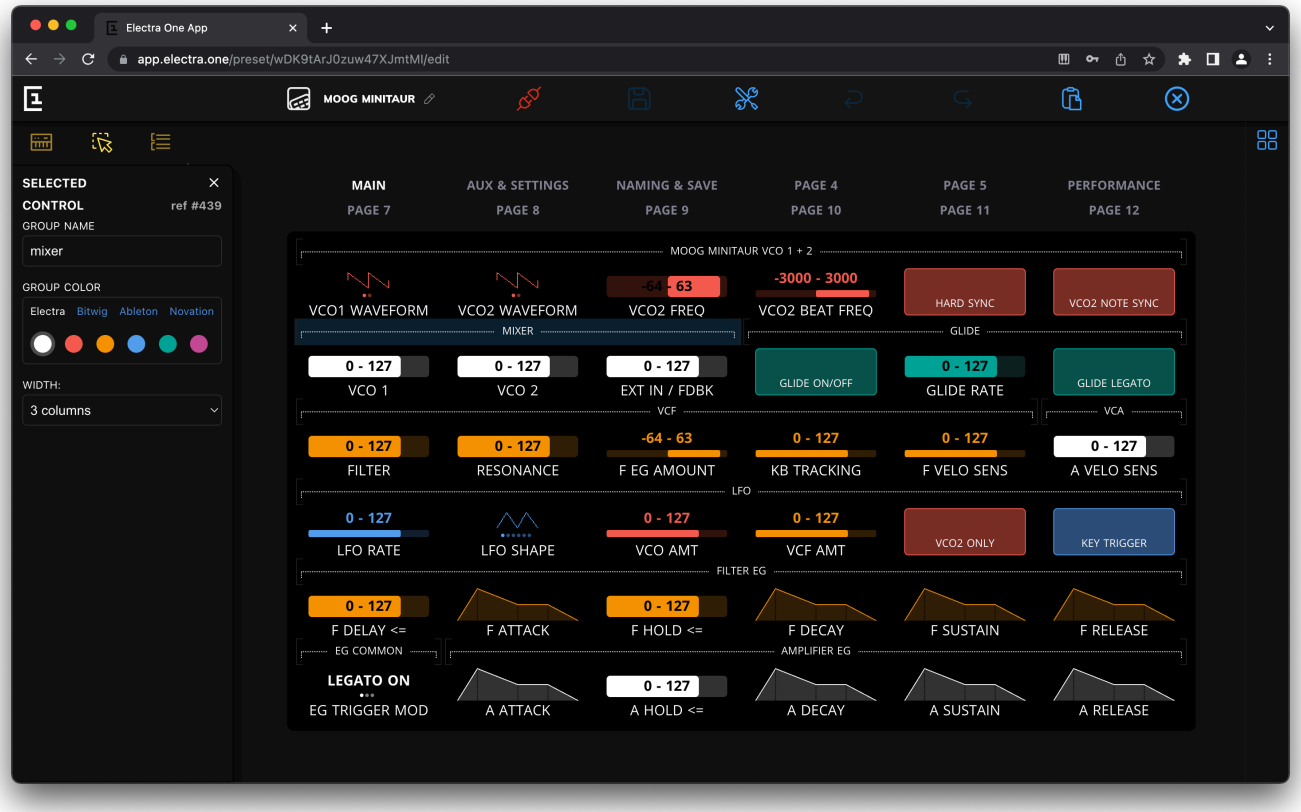


Groups

Groups are meant to improve the visual layout of the preset and give it more structure. They can be used to make collections of Controls that are related to a specific type of parameters, for example, parameters of VCF section. Groups, however, do not impose any functionality. It is fully up to users how the groups will be used.



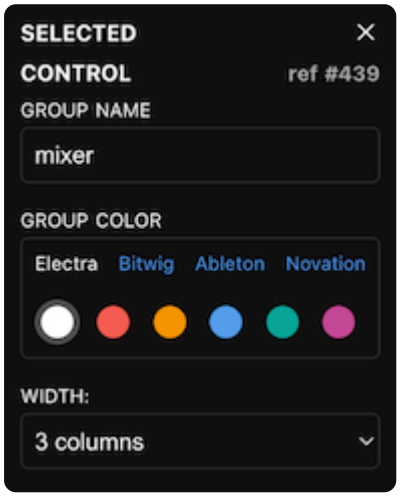
To add a group, drag it from the Repository panel on to the Grid.



Each group can be customized to suit your needs. The following can be adjusted:

- Name of the group
- Color
- Width of the group

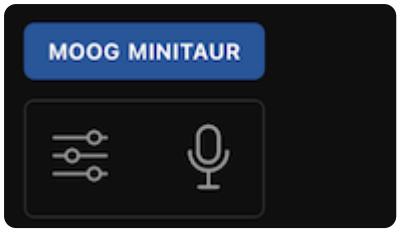
> **TIP**
>
> The size of the group can be changed by dragging the corners of the group directly on the Grid.



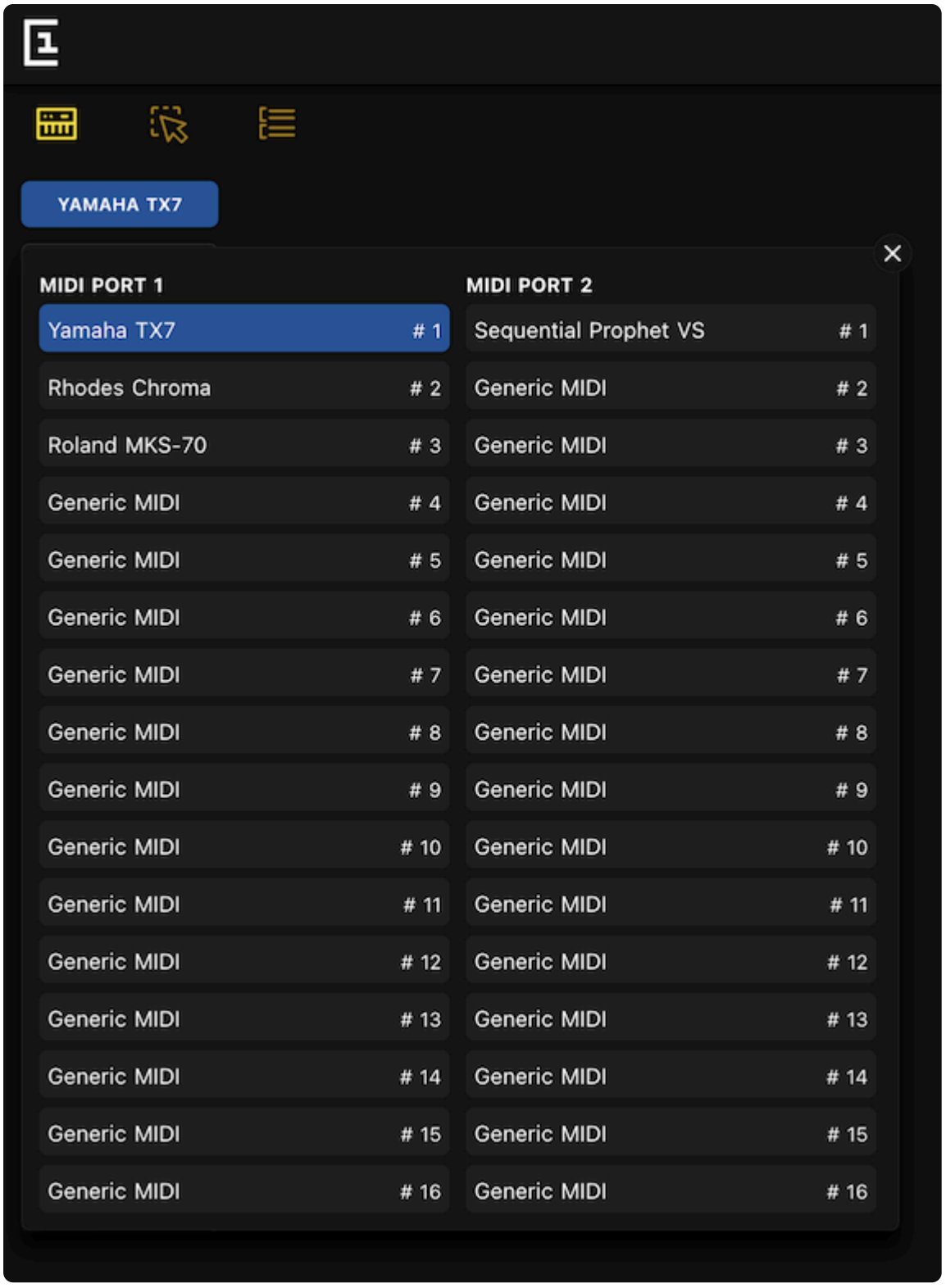
Devices

As it is important to understand the concept of devices, their meaning is fully described in a separate chapter of this User Guide. The following paragraphs just describe how to manage devices in the Preset editor.

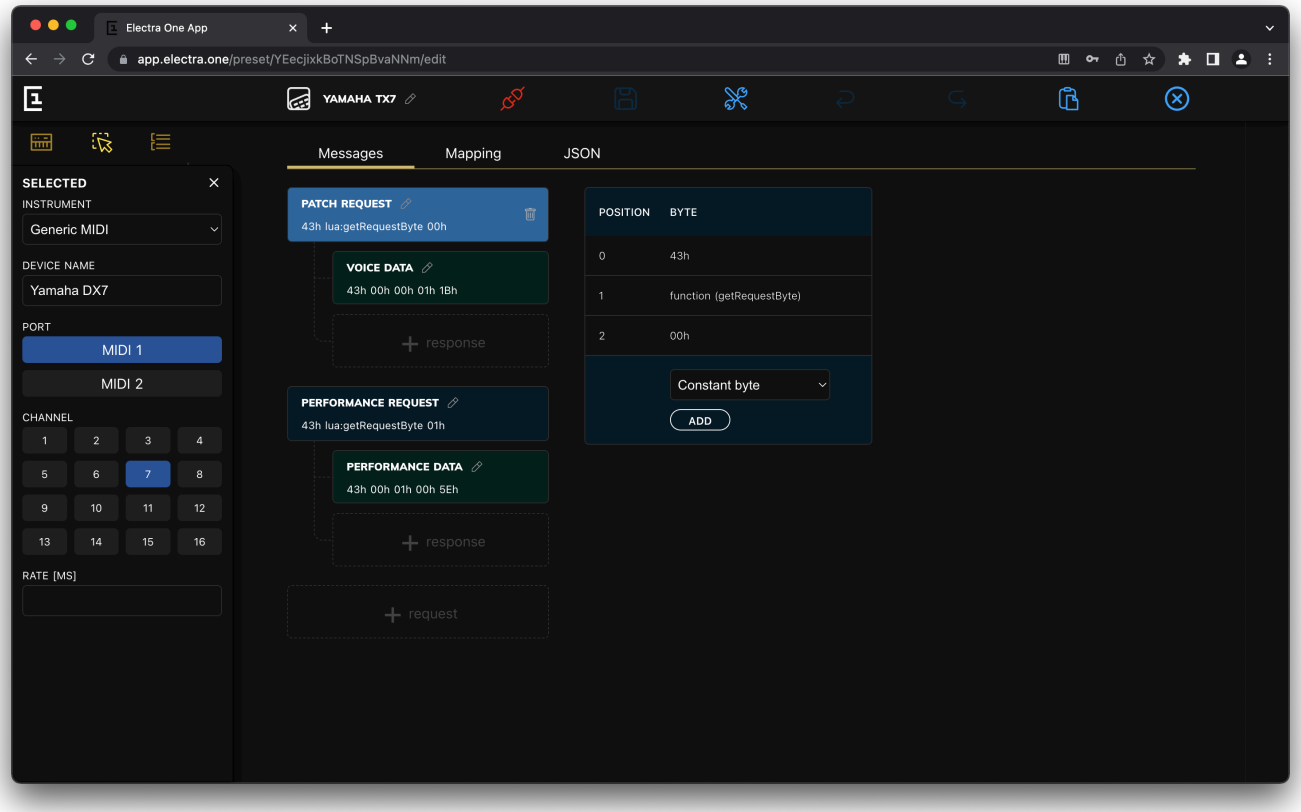
The new controls are always picked from the Repository panel in the context of currently selected device. The currently selected device can be seen at the top of the Repository panel. All Controls you pick and place on the grid will be always associated with that device.



If your preset uses more than one device, you can switch between them, by clicking the device name in the sidebar. A list of all available devices will be shown. You can choose the device that you want to work with.



If you need to adjust the settings of a device, for example when the MIDI channel of the device was changed, click the Edit device icon in the device section. The device details will be shown.



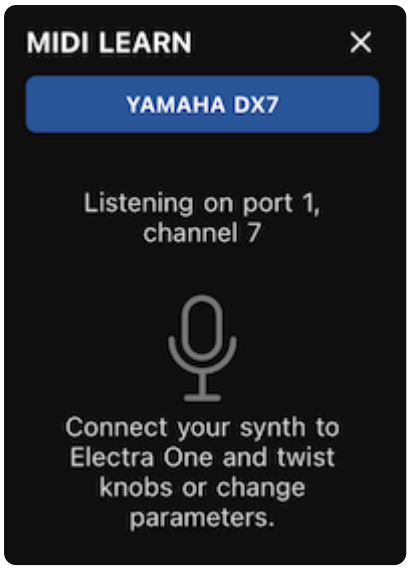
You can set here:

- Name of the device
- MIDI port
- MIDI channel

Users, who wish to create a preset that supports exchange of Patch data between the Electra One controller and the MIDI device, can use the Patch editor in the main part of the device edit window.

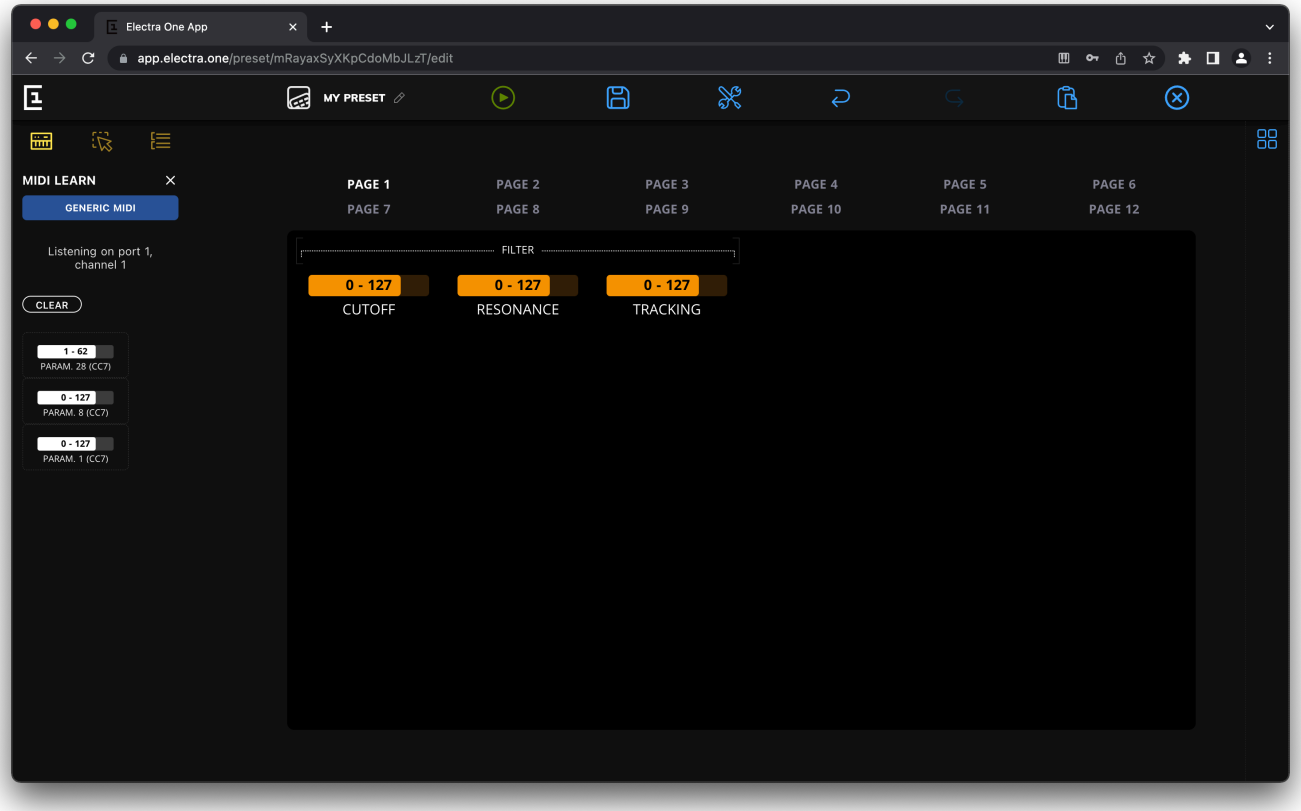
MIDI learn

The MIDI learn function is another tool that makes the preset development less tedious. The MIDI Learn is activated by clicking the MIDI Learn (microphone) icon.

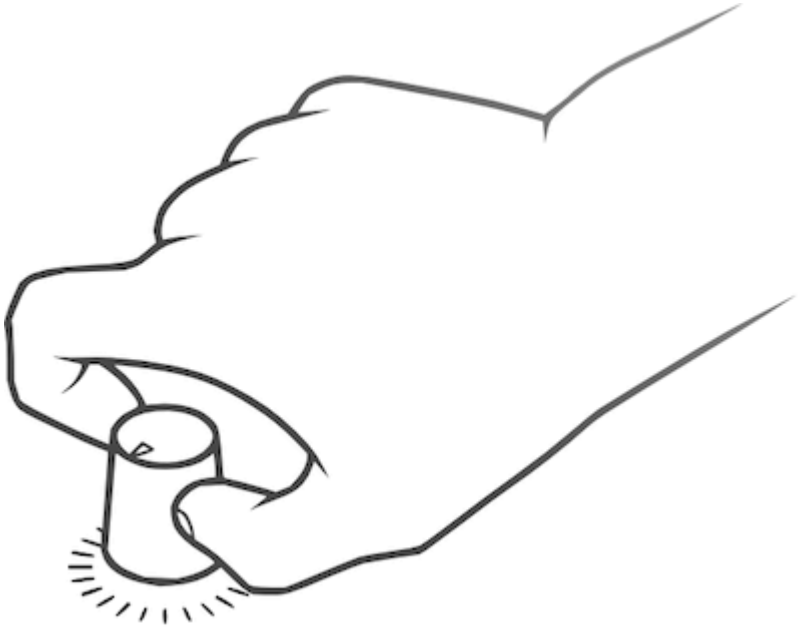


Enabling the MIDI learn switches Electra One controller to a special mode when it listens to the incoming MIDI data and reports it to the editor. If the MIDI message matches currently selected devices (MIDI port and MIDI channel), a new Control with a corresponding MIDI message is created and shown in the MIDI learn panel.

The MIDI learn icon is pulsating when the MIDI learn is enabled. Note, Electra does not process MIDI messages in an ordinary way when it is in the MIDI learn mode. It merely collects the MIDI learn information for the Preset editor.



The best approach to let Electra One controller and the editor to understand the MIDI implementation of your instrument is to twist the knobs of the instrument for various parameters while the MIDI learn is enabled.

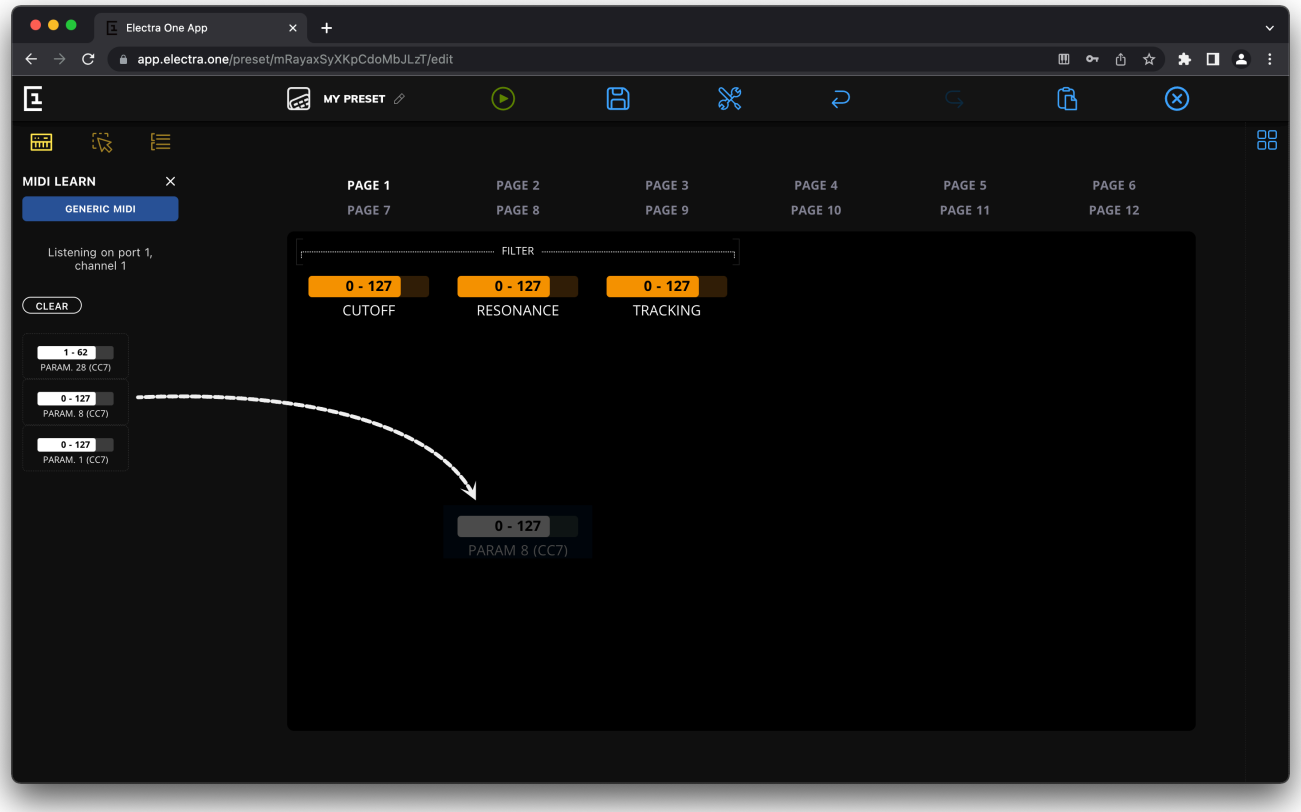


That way MIDI learned Controls are created for each parameter and shown in the MIDI learn panel. The MIDI learn does not detect MIDI message type and parameter number only, it can also detect the minimum and the maximum MIDI value.

TIP

Always try to twist the knob all the way to the left and then to the right. That way Electra One will be able to detect the full range of the values of given parameter.

The Controls collected in the MIDI learn panel can be dragged on to the grid as any other Control on the Repository panel. The `CLEAR` button removes all MIDI learned Controls from the sidebar so that you can start the process of learning all over again.



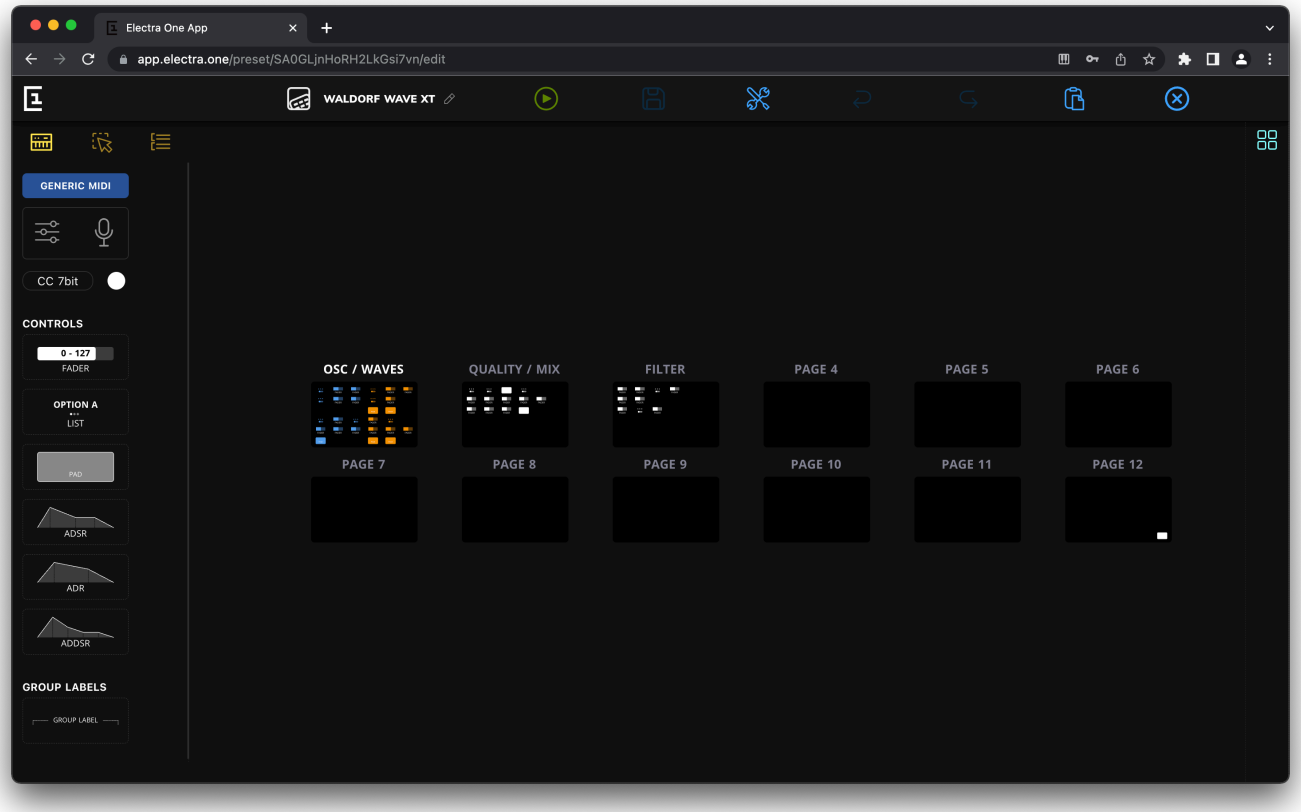
Page selection

Pages are an important element of Electra One. They multiply the number of available Controls in the preset. It is up to the user how the pages will be used. They do not provide any other function, they are merely a tool to organize the controls within the preset. Usually, users use pages to hold sets of related Controls. Other uses are possible too, for example, a page may represent a set of Controls for each song or a scene of your performance.

The Page selection at the top of the editor allows users to switch between the pages. Clicking on the page name will switch the active page and the Page detail will be shown on the Selected panel. The Page detail allows you to rename the page and define its default active set of Controls.

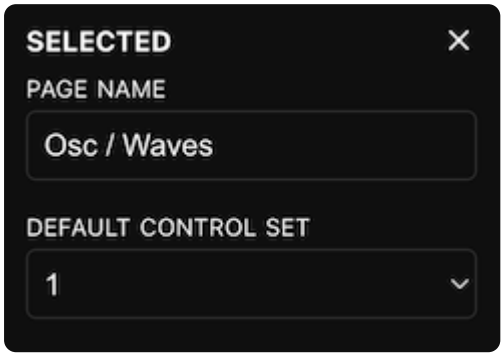
Pages can be rearranged by dragging them to different page location with a mouse.

If better overview of the pages is needed in order to rearrange them, a bird view can be activated by clicking the Pages overview icon on the right side of the window (tiles icon). Drag and drop can be used to change order of the pages in the preset.



Page attributes

The pages come only with two attributes. The name and the default active control set.



Name

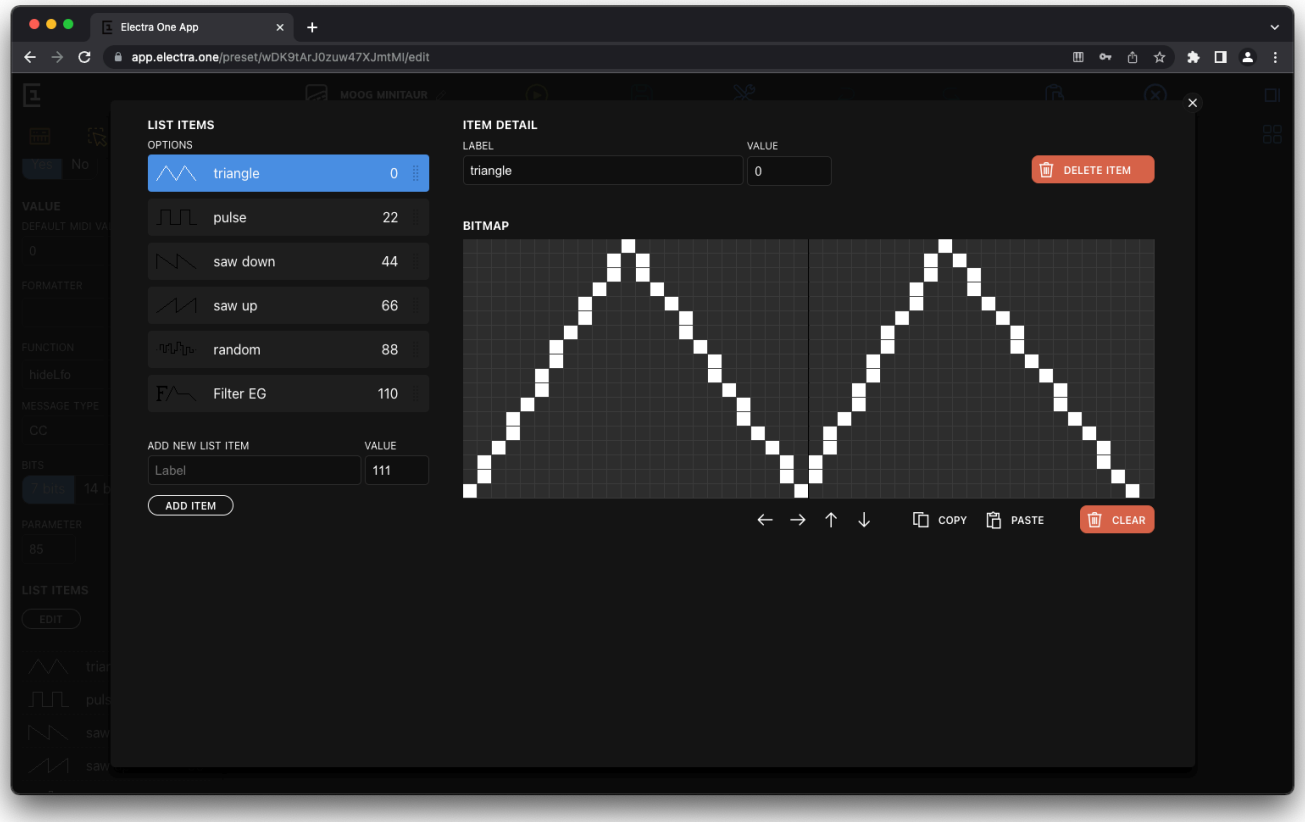
Name of the page that will be shown in the Page selection window on the controller.

Default control set

An identifier of the default control set, a row of 12 controls assigned to the knobs. Setting a default control set allows you to change what section of the page will have knobs assigned when the user opens the page.

List Item / Overlay Editor

List items and Overlays are texts to be used wherever a numeric value of the Control does not have a real meaning for the user. A text label and image may be assigned to such values and displayed instead.



Two types of lists

The editor is used to edit both, the List items and the Overlays. Both types of lists share common functionality but there are a slight differences between them too.

List items

The List items represent discrete entries of the List control. They represent the data that List control allows to choose from. The value associated with each list item is the MIDI value that will be sent and received, when the list item is selected.

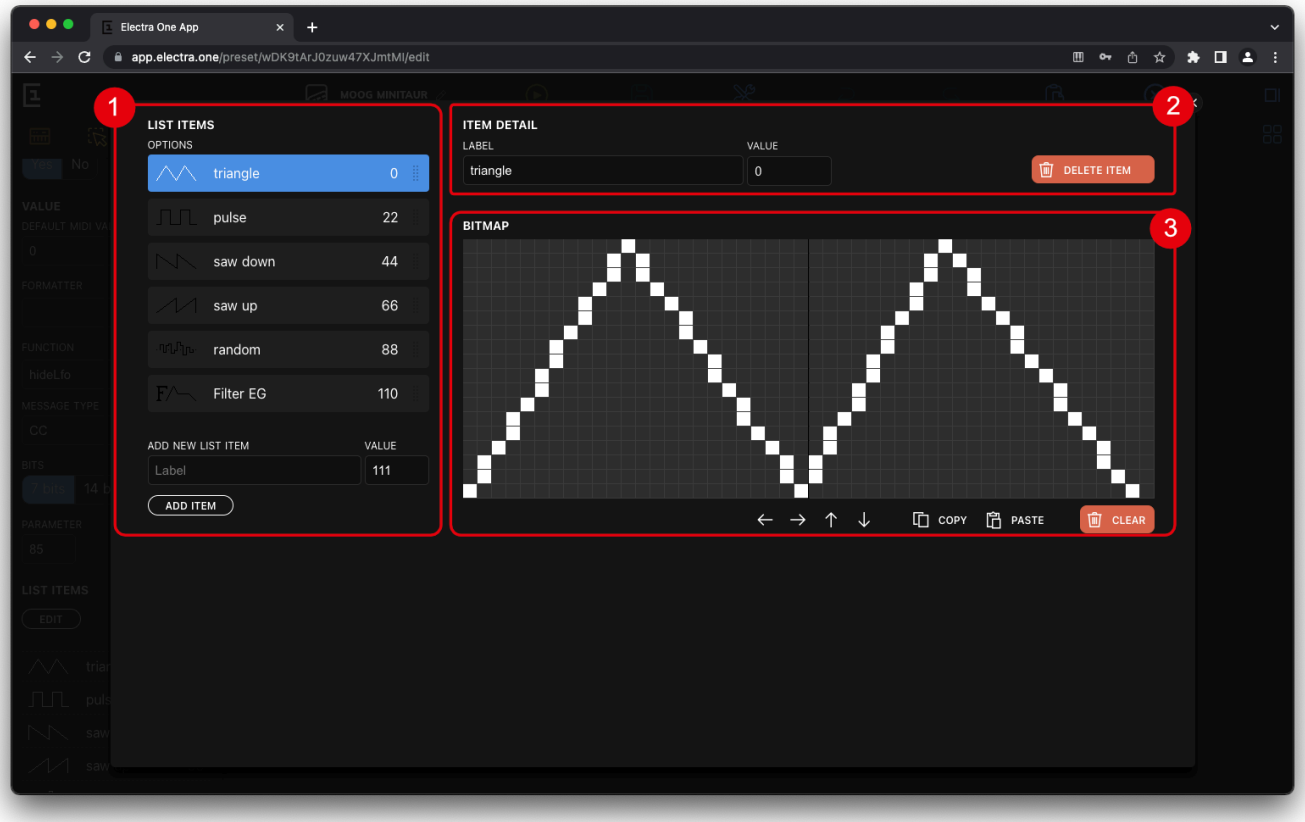
Overlays

Overlays are used with Fader controls. They are replacement text labels for specific fader values. For example, a text "Zero" can be displayed instead of numeric value 0. Overlays usually cover only a few specific values of the continuous value range. The value assigned to an overlay item is the display value, it means not the MIDI value to be sent or received, but the value displayed on the controller screen.

The editor

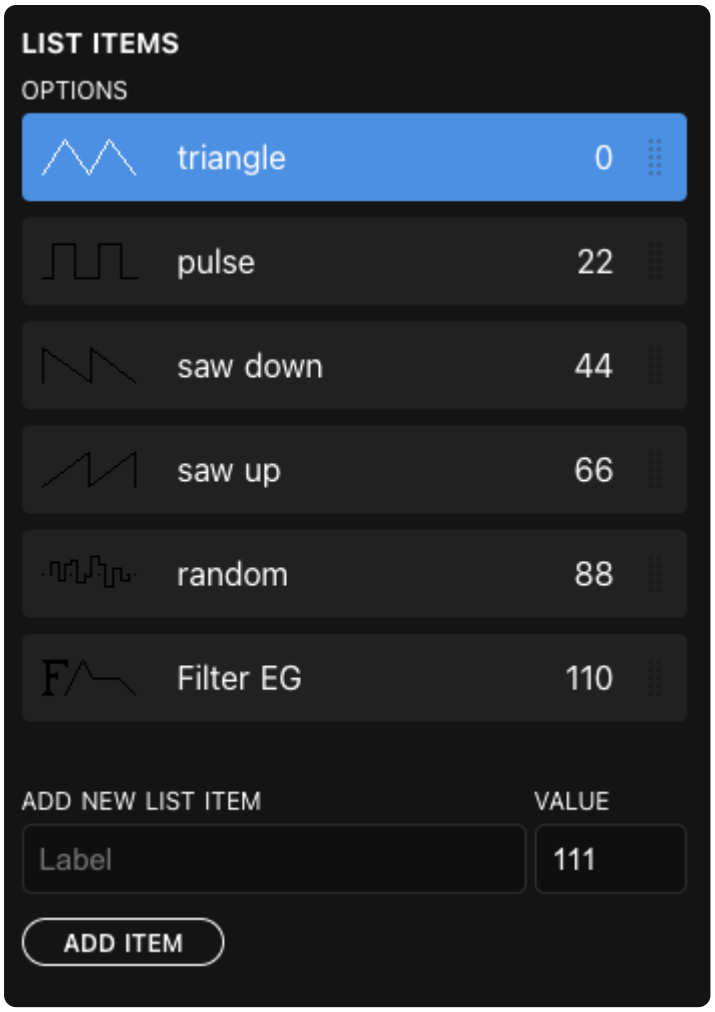
The editor is used to assign text labels, values, and optionally images to the list items and overlays. The editor window is composed of three sections:

1. List of items
2. Item detail
3. Bitmap editor



List of items

The list of items can be used to add new items and reorder existing ones.

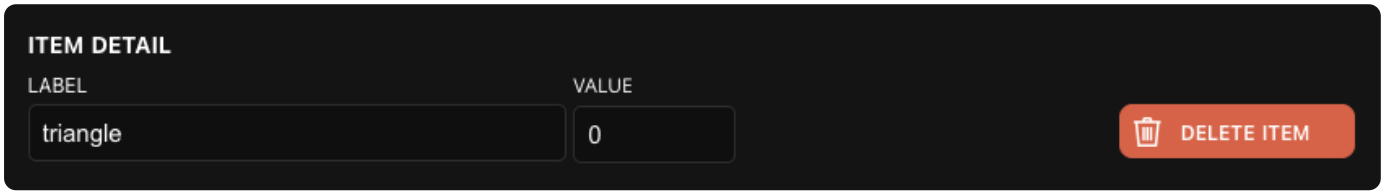


To add a new item, simply fill the text label and associated value in the *Add new item* section of the list and click the **ADD ITEM** button. Please note, when editing the text overlays the wording is different. The field for adding a new overlay is named *Add a new text overlay* and the button **ADD OVERLAY**.

The order of items in the controller is identical with their order in the editor. The list of items can be rearranged by dragging the items to new locations on the list.

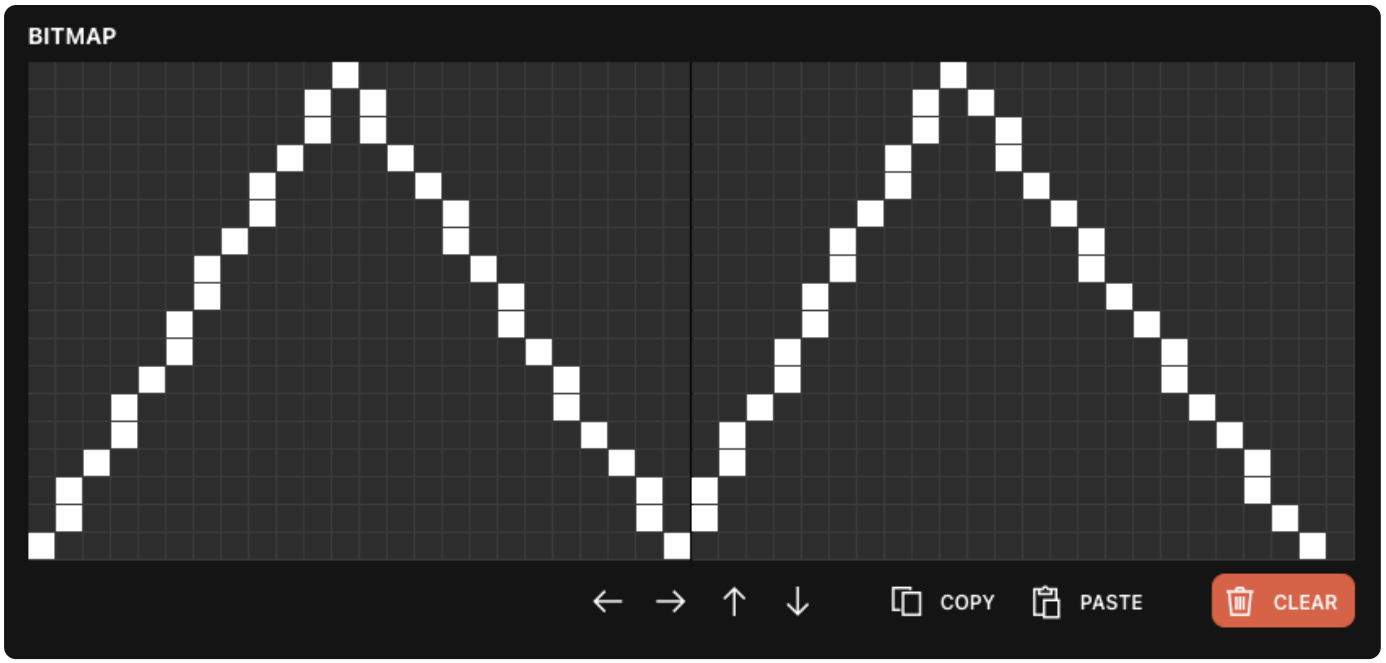
Item detail

Text labels and values can be reviewed and edited in the item detail section. The **DELETE** button is used to permanently remove the item from the list.



Bitmap editor

A bitmap image can be optionally assigned to a list item. Such an image is displayed instead of the text label wherever it is possible.



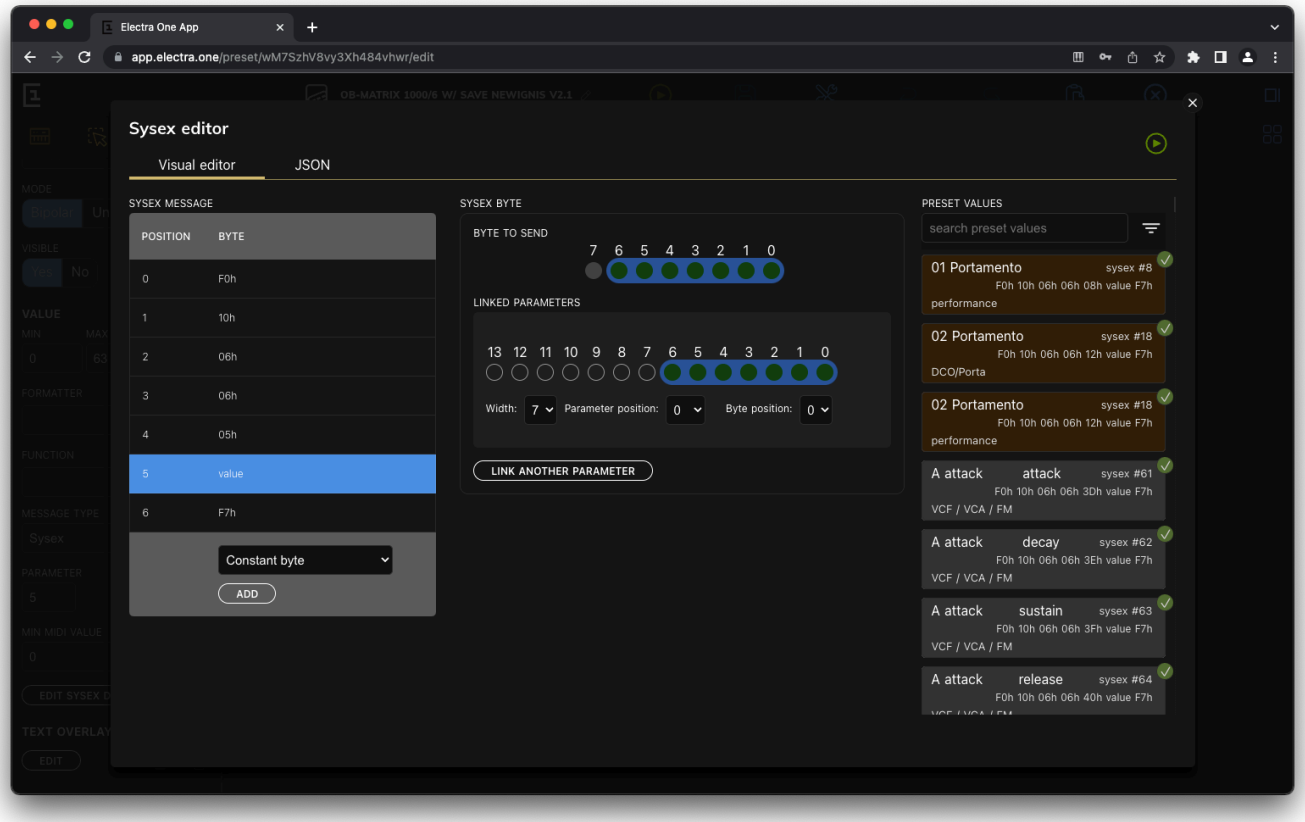
The bitmap images can be drawn using the mouse as a painting tool. White dots represent dots that will be displayed on the controller.

Images can be copied and pasted to other list entries. The arrow buttons allow moving the image around on the grid.

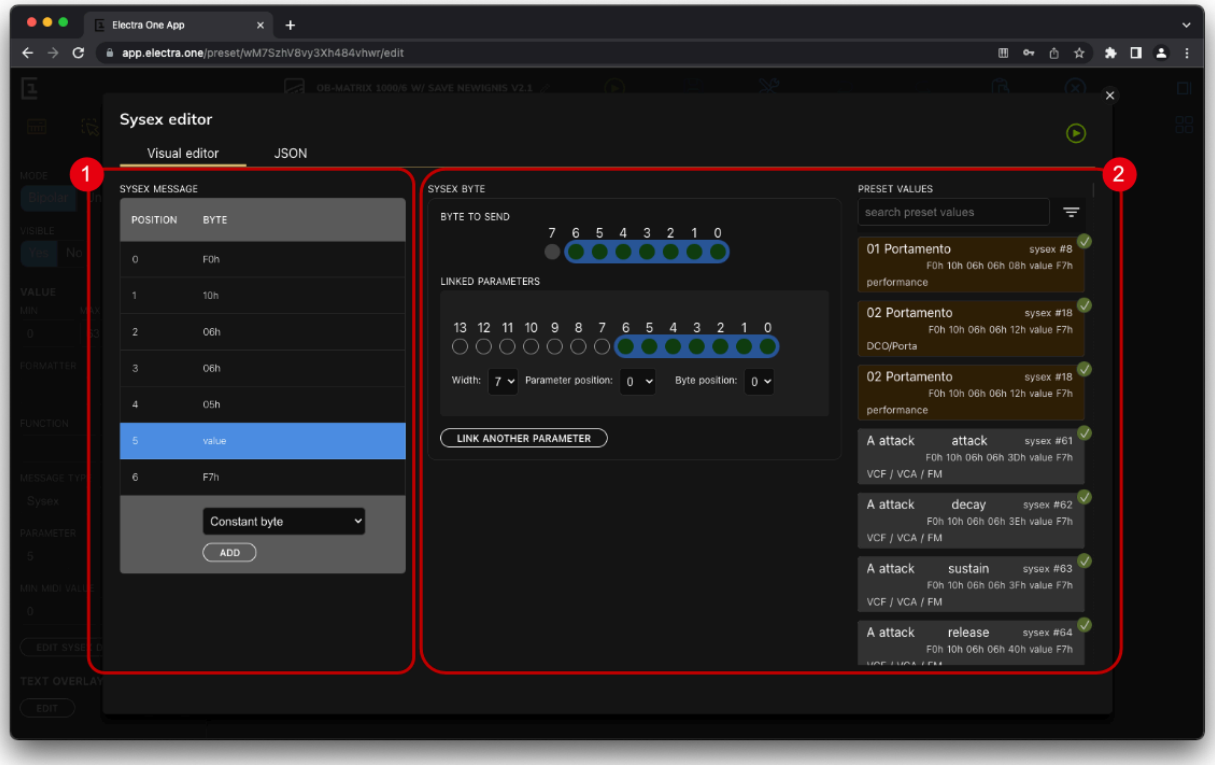
The **CLEAR** button, clears all drawings. It does not, however, delete the list item.

Sysex Editor

The Sysex Editor simplifies working with outgoing Sysex messages. It can be used to compose sequences of Sysex bytes that will be sent out when Control values change. The sequence of bytes is not limited to constant numbers only. Instead, user may inject bytes that are generated dynamically. This adds enormous potential to controlling Sysex based device parameters.



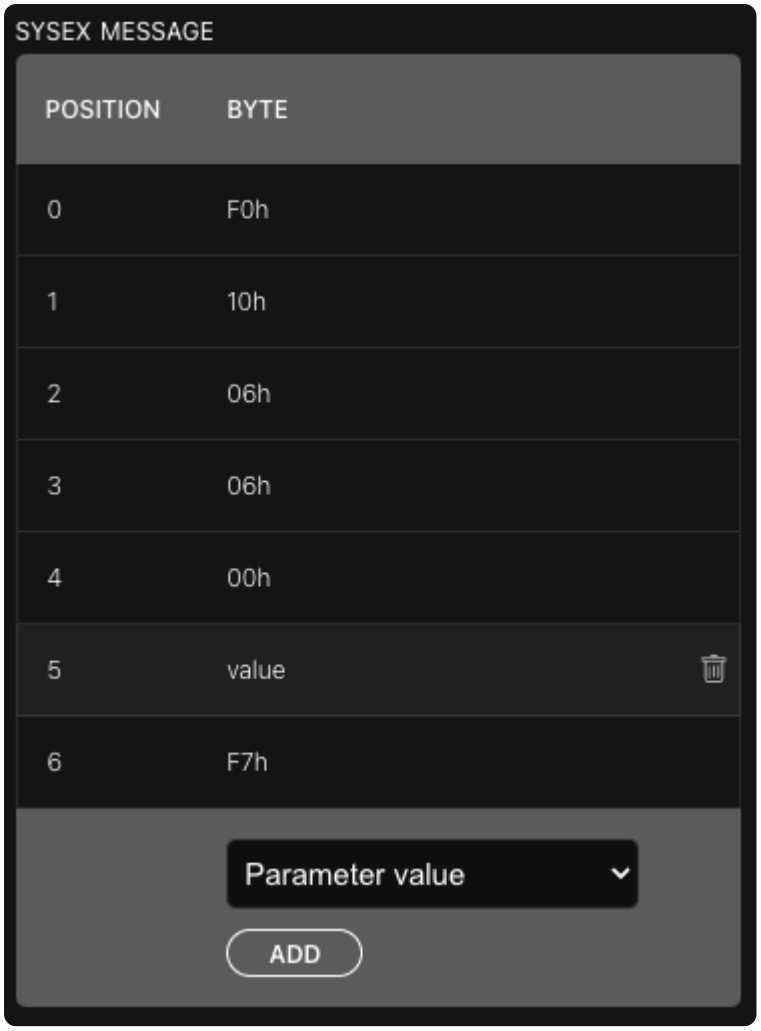
The Sysex editor window is composed of two sections:



1. The Sysex message
2. The Sysex byte detail

Sysex message

The Sysex messages is a list of individual bytes of the Sysex message to send out. Each row represents one byte of the Sysex message. New bytes chan be added by choosing a byte type and clicking the **ADD** button.



The `F0h` and `F7h` Sysex bytes may be included in the beginning and end of the Sysex message. If they are not present, Electra One controller will add them automatically when sending the message.

Clicking on the Bin icon removes the byte from the Sysex message.

When the byte record is clicked, it becomes selected and the detailed information about the byte is shown on the right side of the window.

There are four types of bytes to be added to Sysex messages:

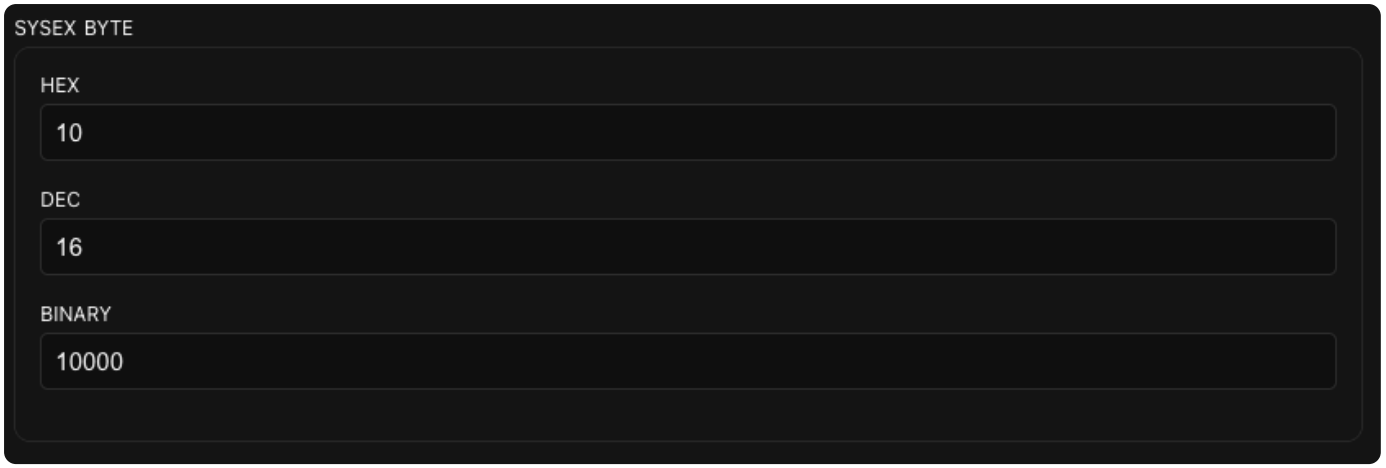
1. Constant numbers
2. Parameter values
3. Lua function calls
4. Checksum calculations

Each byte type comes with different editor in the byte detail section

Sysex byte detail

Constant number

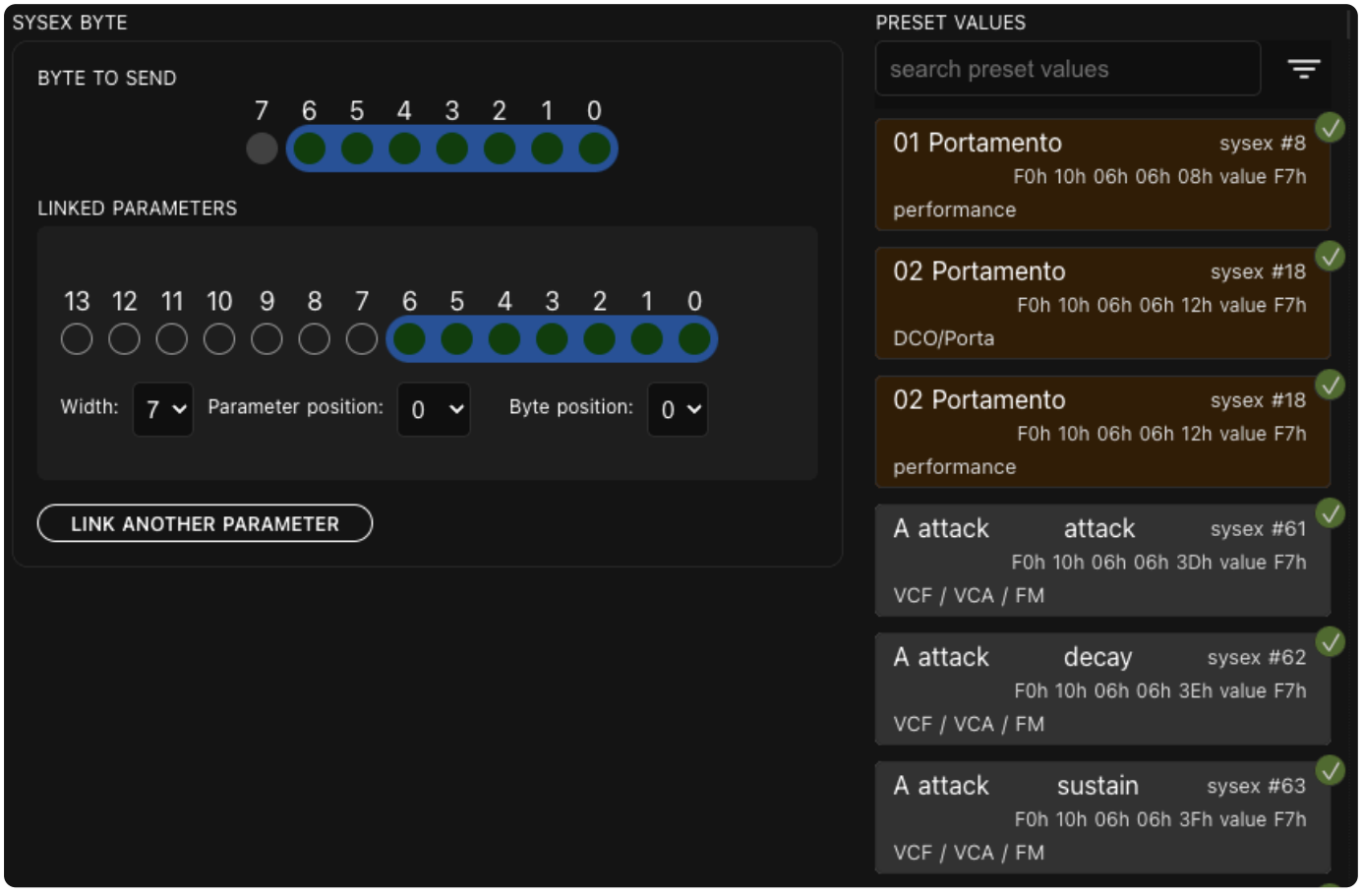
The constant number is the most simple Sysex message entry. It represents a plain number to be sent out. The number can be entered in Hexadecimal, Decimal, or Binary format.



Parameter value

The parameter value is one of Electra One's hidden gems. It allows users to create Sysex bytes out of parameter value of preset Controls. The final Sysex byte can be either an assignment of single parameter value or a product of complex transformation of several parameter values or their parts.

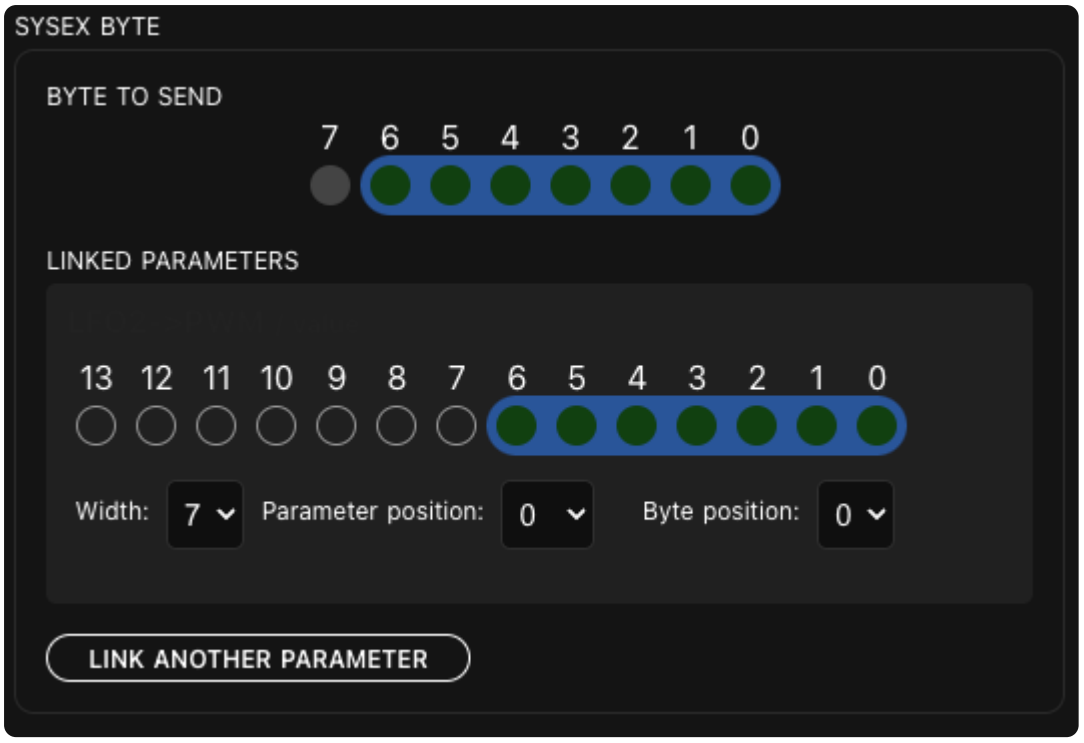
The parameter value detail section consists of two parts, the Sysex byte detail and the list of all available parameter values in the preset.



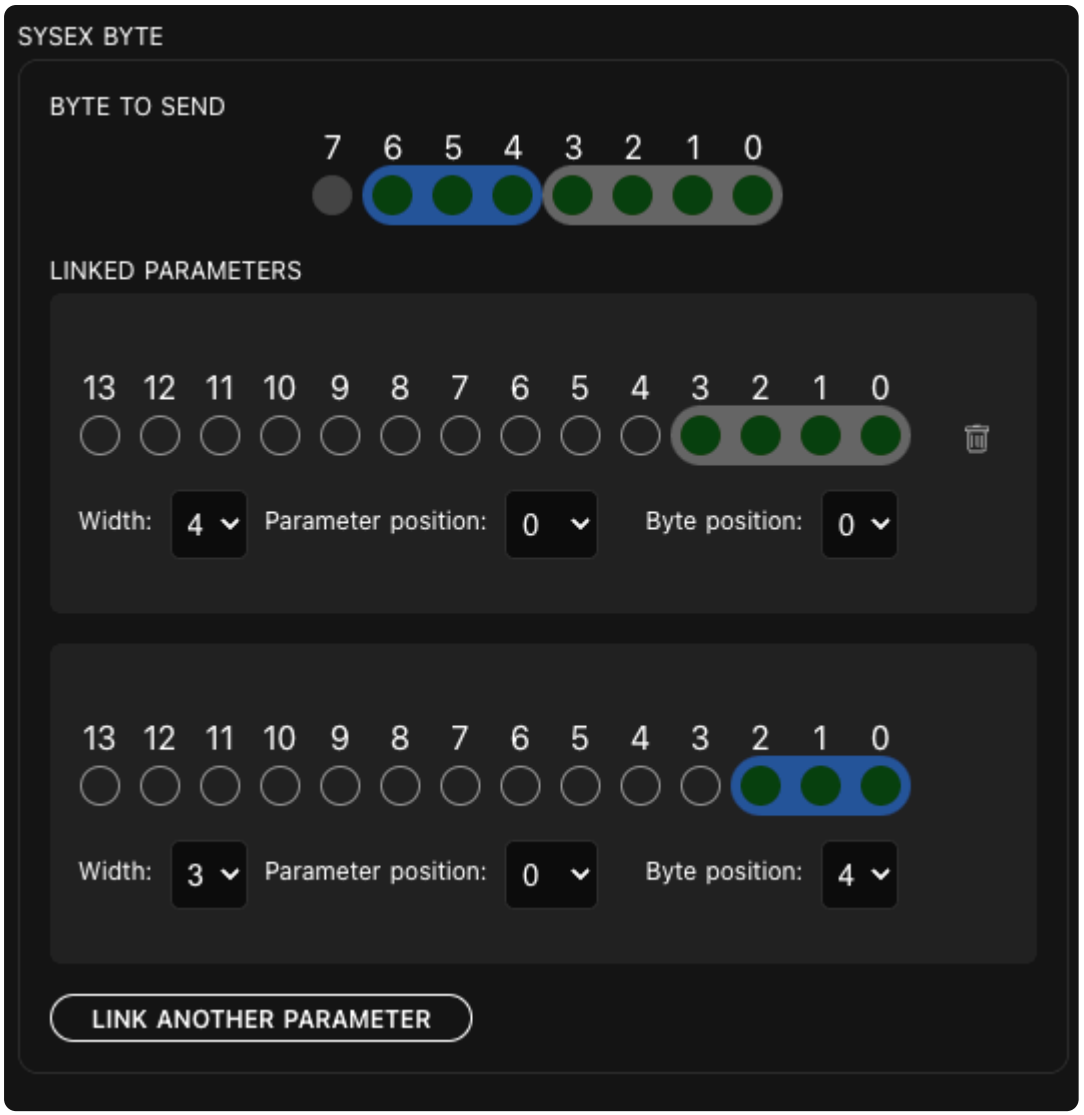
Parameter value byte detail

It shows how the Sysex byte is composed out of the one or several parameter vales. The *Byte to send* represent individual bits of the Sysex byte. The bits marked with blue highlight are linked to a parameter value. Each group of highlighted bits corresponds to one linked parameter.

An example of a Sysex byte composed of whole value of 7-bit parameter value:



An example of a Sysex byte composed of combination of values of two parameters, 4 bits taken out of the first parameter and 3 bits taken out of the second parameter:



The user can specify how many bits are taken out of the parameter value, from what position within the parameter value, and to what position they (the bits) should be placed in the Sysex byte.

Width

The width specifies number of bits to be copied from the parameter value to the Sysex byte.

Parameter position

The position of the LSB (least significant bit) of the bits to be copied from the parameter value to the Sysex byte.

Byte position

The position of the LSB (least significant bit) of the Sysex byte where the bits identified with *Width* and *Parameter position* will be placed.

A few examples to ilustrate it:

```
Width: 7
Parameter position: 0
Byte position: 0
```

Tells Electra One to use all 7-bits of the parameter value and place them to the Sysex byte.

```
Width: 4
Parameter position: 0
Byte position: 0
```

Tells Electra One to copy 4 lowest bits of the parameter value and place them to the 4 lowest bits of the Sysex byte.

```
Width: 3
Parameter position: 0
Byte position: 4
```

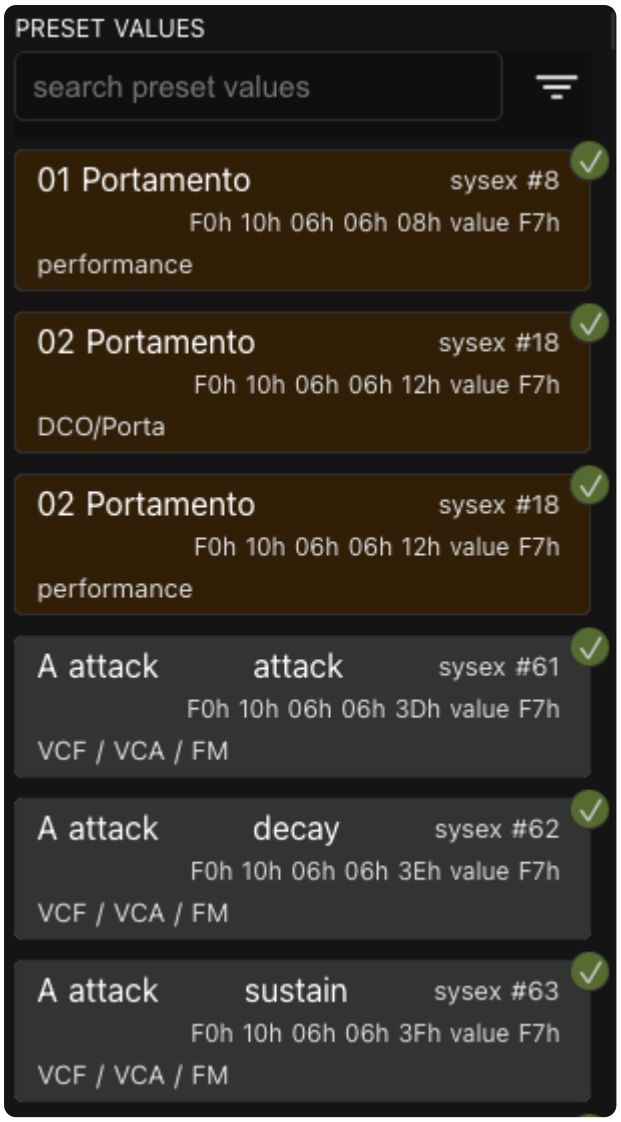
Tells Electra One to copy 3 lowest bits of the parameter value and place them to the Sysex byte at position 4, ie. bits 4, 5, and 6.

Preset parameter value list

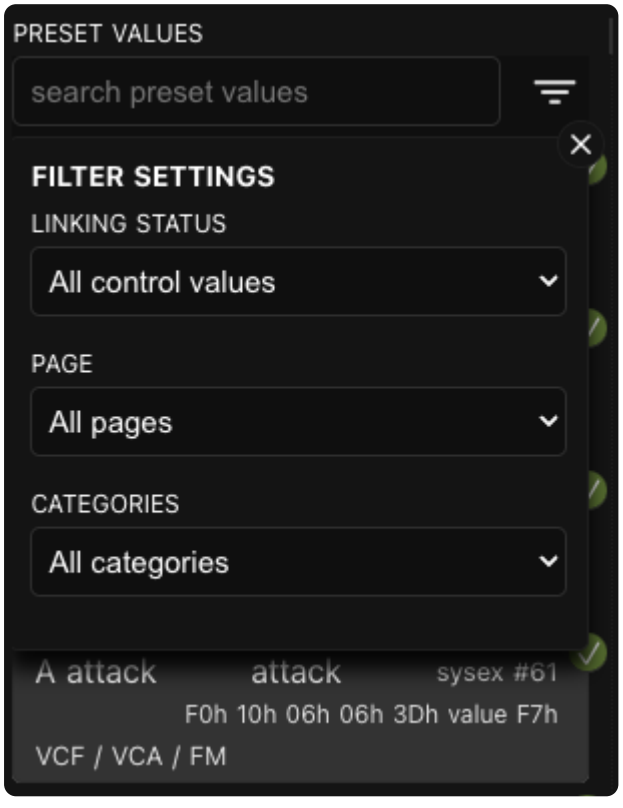
The preset parameter list is used to select the parameters to be linked to the Sysex byte bits. Users use the list to find the parameter they wish to work with. The parameter is selected by clicking on it. Once the parameter is selected, all the work of linking the parameter bits to the Sysex byte is done using that selected parameter.

The list provides information about:

- The name of the Control where the parameter is used.
- The name of the Value within the Control where the parameter is used, eg. Sustain for envelope.
- The name of the Page where the Control is located.
- The name of the category that the Control has assigned.
- Information about the MIDI messages associated with the parameter.
- Information whether or not the parameter value is used in the Patch parsing (the check off mark). Detailed information about the Patch parsing can be found further below in this document.

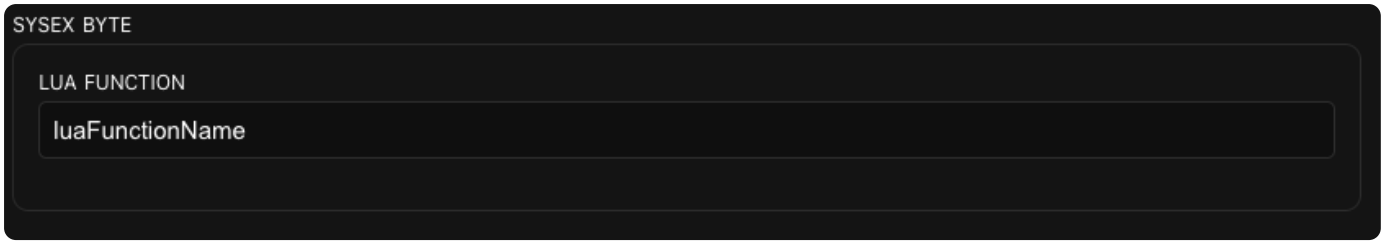


The list of parameter values can be filtered to make it easier to find the parameter values.



Lua function

The Lua function is another handy tool to calculate the Sysex byte. Electra One calls the Lua function when it needs to send given Sysex byte. The value returned by the function is sent. More information on using the Sysex byte Lua functions is available in the Preset Lua extension document.



The Lua function form is used to enter the name of the Lua function to be called.

Checksum calculation

The checksum calculates the Sysex byte value using one of the well-known checksum calculation algorithms.

In order to calculate the checksum user must tell Electra One controller the position of the first byte of the block of bytes used for the checksum calculation and the total length of the block of bytes.

Checksum type

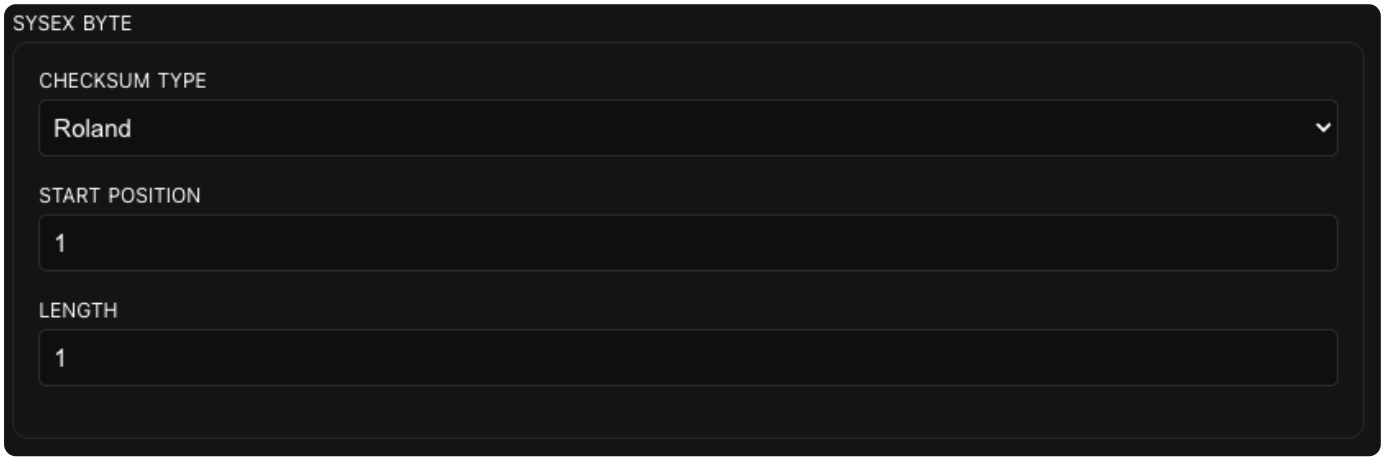
A list of all possible checksum calculation algorithms.

Start position

The position of the first byte of the block of Sysex bytes to be used for the checksum calculation. The position 1 corresponds to the first byte after the F0h leading byte.

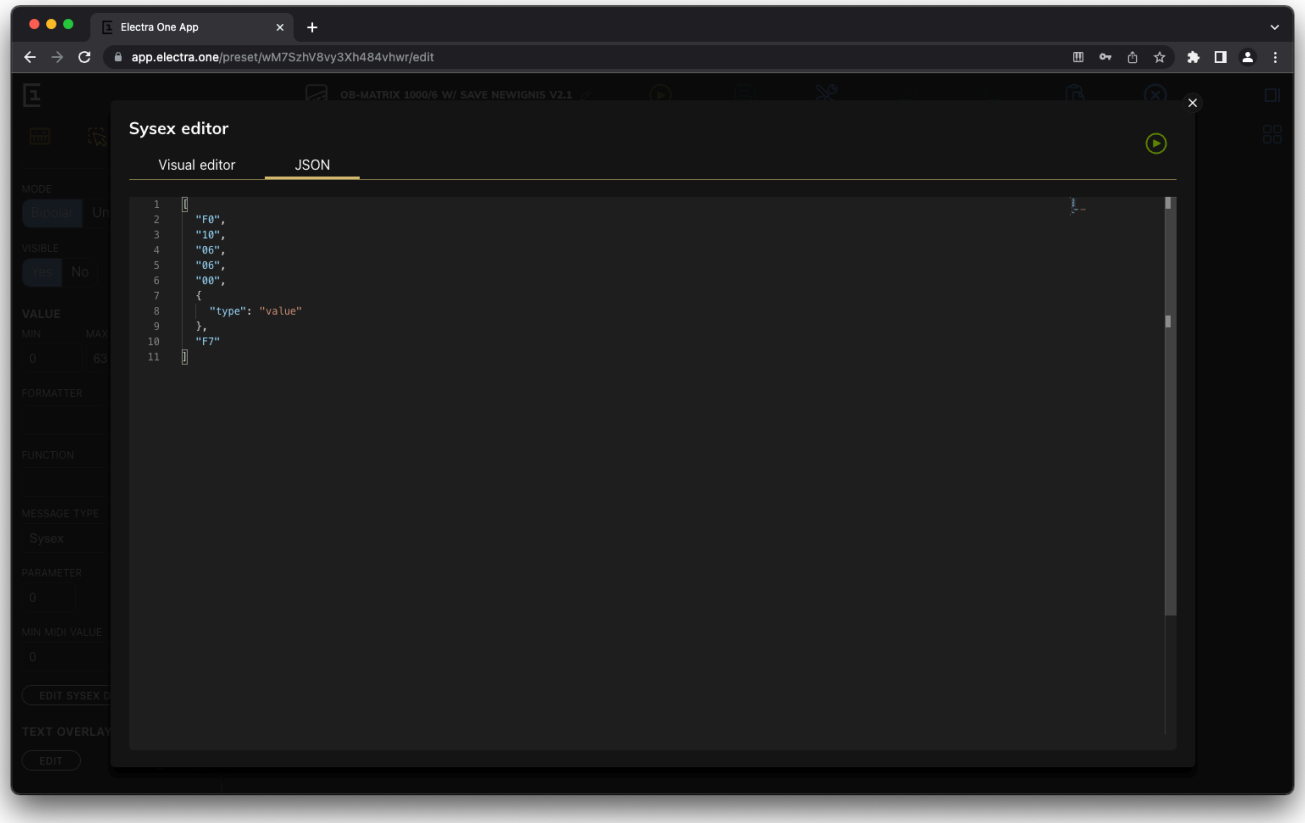
Length

Total number of bytes to be included in the calculation.



JSON editor

Users may opt to define their Sysex messages using the JSON formatted source code. The JSON editor allows editing of the raw JSON file. The work in the visual and JSON editor can be freely combined.

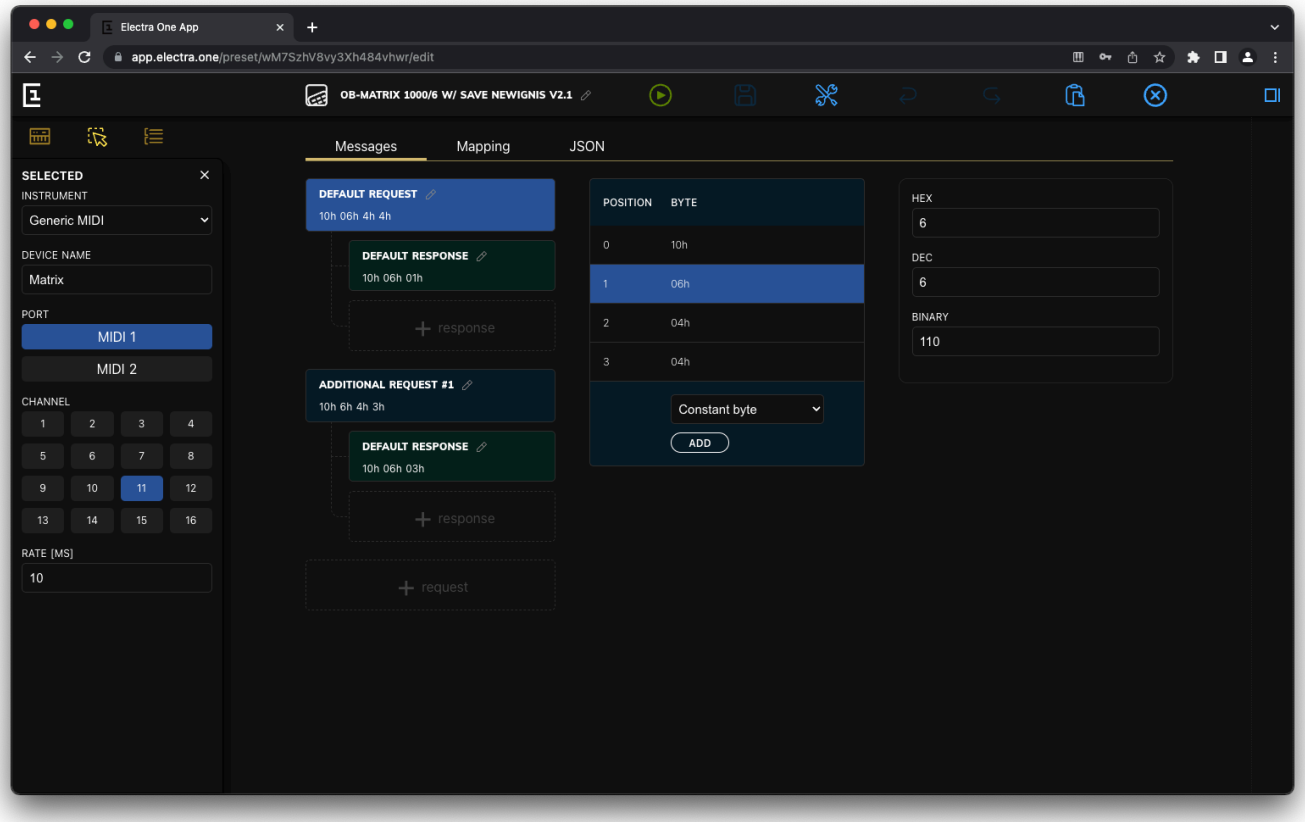


Detailed information about developing Sysex templates in JSON format can be found in Writing Sysex Templates document.

Patch Editor

The Electra One Patch editor is one of the most advanced Sysex editors around. The Patch editor and the Toolbox provide powerful toolset to build presets that fully cover Sysex implementation of complex MIDI devices.

The Patch editor is part of the Device detail. It can be opened by clicking the **Edit device** button in the repository panel.



The Sysex communication is based on protocol of exchanging Sysex data messages in request - response manner. It means that the MIDI device responds with a Sysex data response upon receiving a Sysex request. There can be, of course, situations when a Sysex request just makes changes in the MIDI device and the device does not respond with any response. There are also situations when a MIDI device sends a response even if there was not any Sysex request sent to it, for example upon a user action, such is pressing a button on the MIDI device's panel.

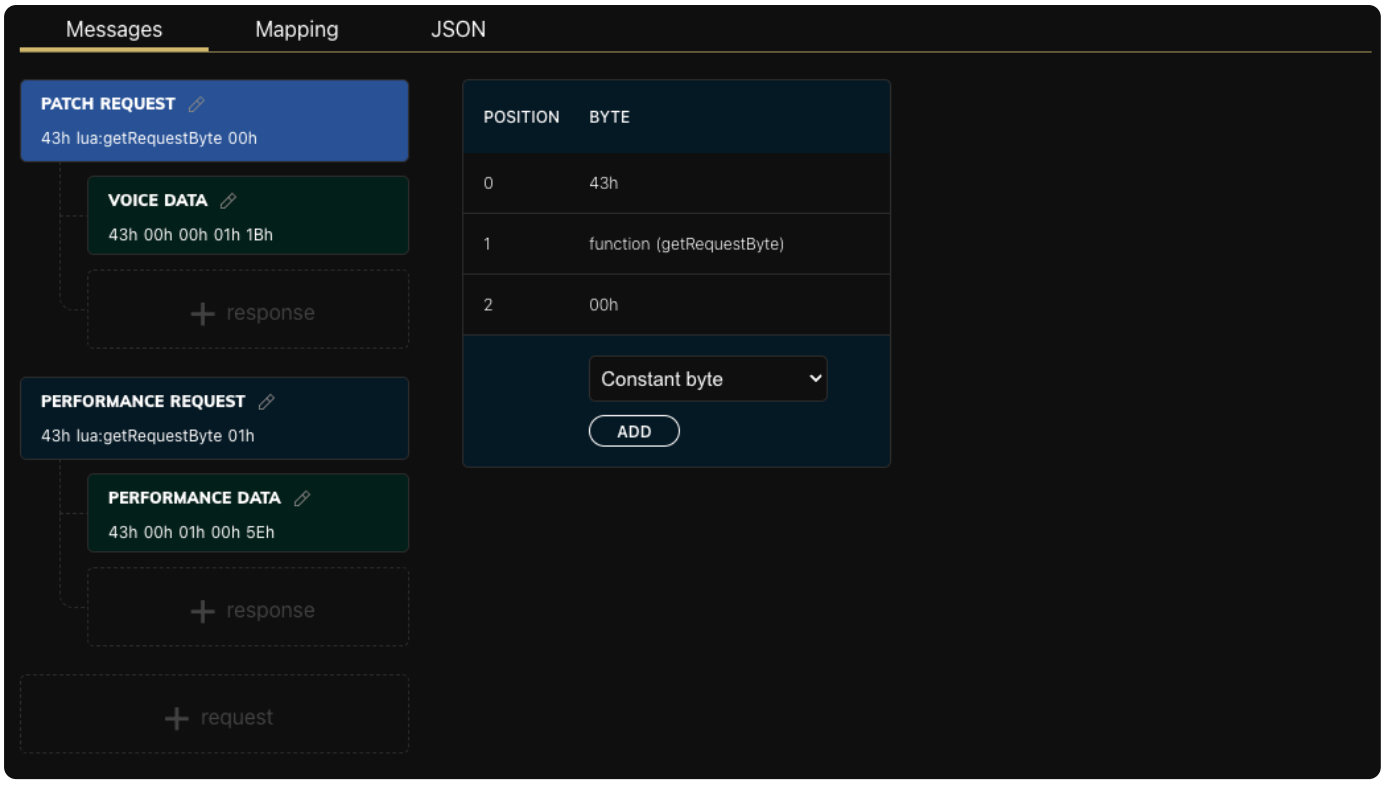
The Patch editor is built around the idea of defining the Sysex requests and their responses. They are referred as to Messages in the Patch editor.

The messages

The messages can be organized in hierarchical structure, where one request may have none, one, or multiple responses.

The request

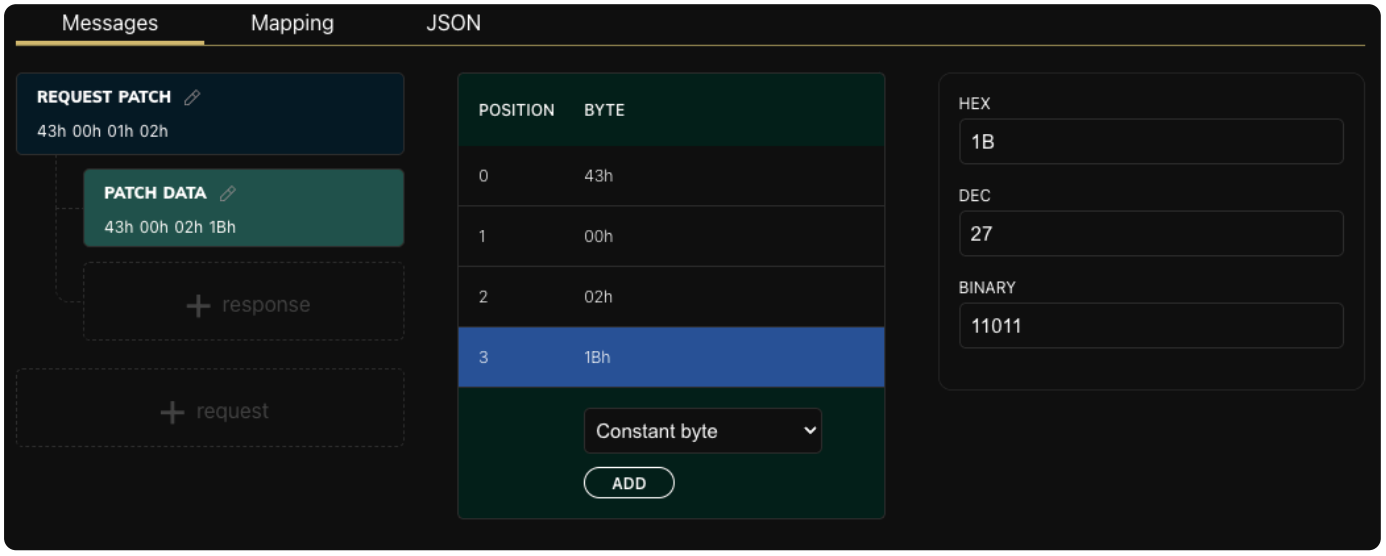
The request is a Sysex message composed of constant or dynamically calculated bytes. The requests are sent out when the `[PATCH REQUEST]` button is pressed on the Electra One controller or programatically with Lua functions, see the Patch section of the Lua Extension documentation.



In the Patch editor, the request always has a name and it is associated with a Sysex message. New requests can (be):

- Added with the + **Request** button.
- Deleted with the Bin icon.
- Have name edited by clicking the Edit icon.

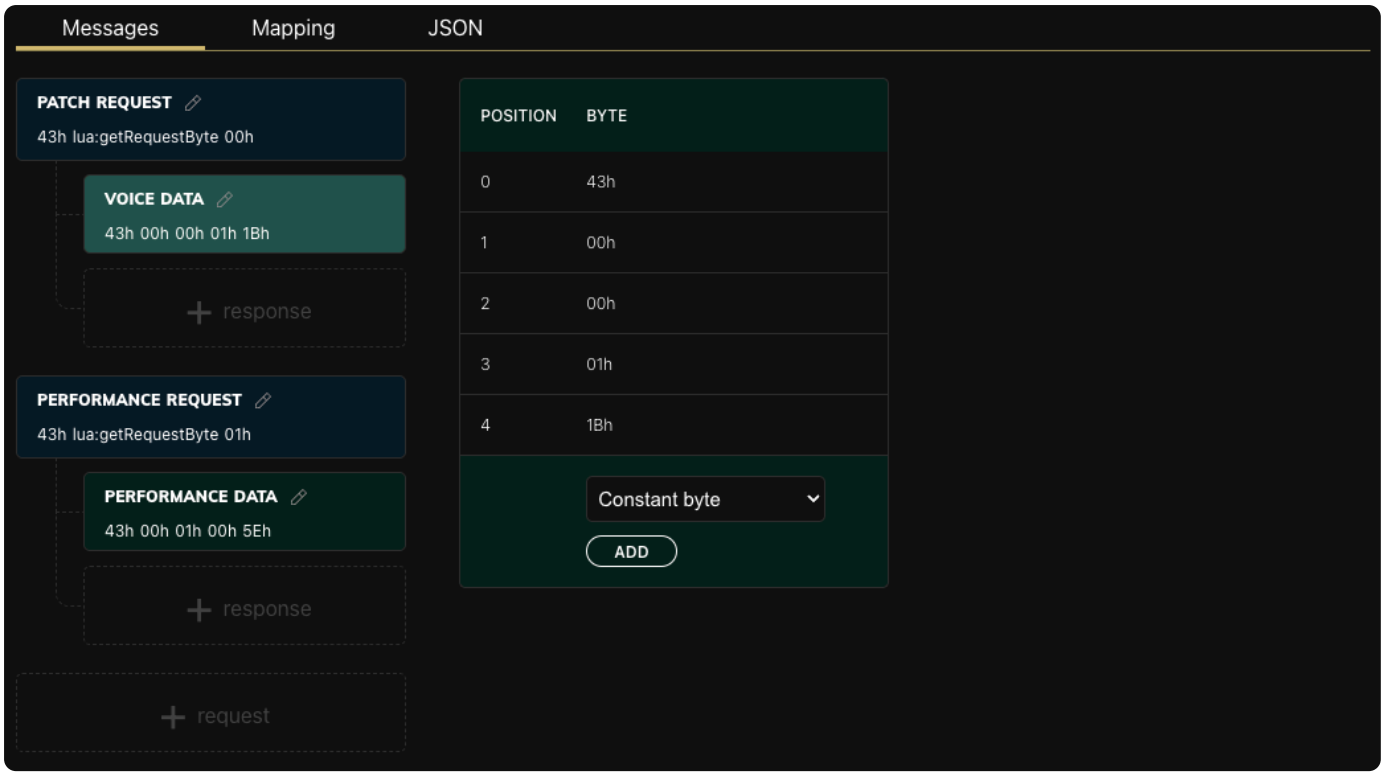
The Sysex message editor is identical with the one used in the Sysex editor. It allows users to enter constant bytes in the Hexadecimal, Decimal, or Binary format.



The Lua functions can be be used as well. When Lua function is used, it is expected to return a byte value that will be send as part of the request Sysex message. For more information about Lua functions to generate Sysex bytes, visit Sysex byte functions of the Preset Lua Extension guide.

The response

The response is a Sysex message that a MIDI device sends back to the Electra One controller. The responses are identified with so-called header bytes, a sequence of leading bytes of a Sysex message. When there is an incoming Sysex message with its leading bytes matching the header bytes, it is accepted for further processing. Such processing is either a parameter value parsing or a Lua function can be called to process the response Sysex message.



The responses can (be):

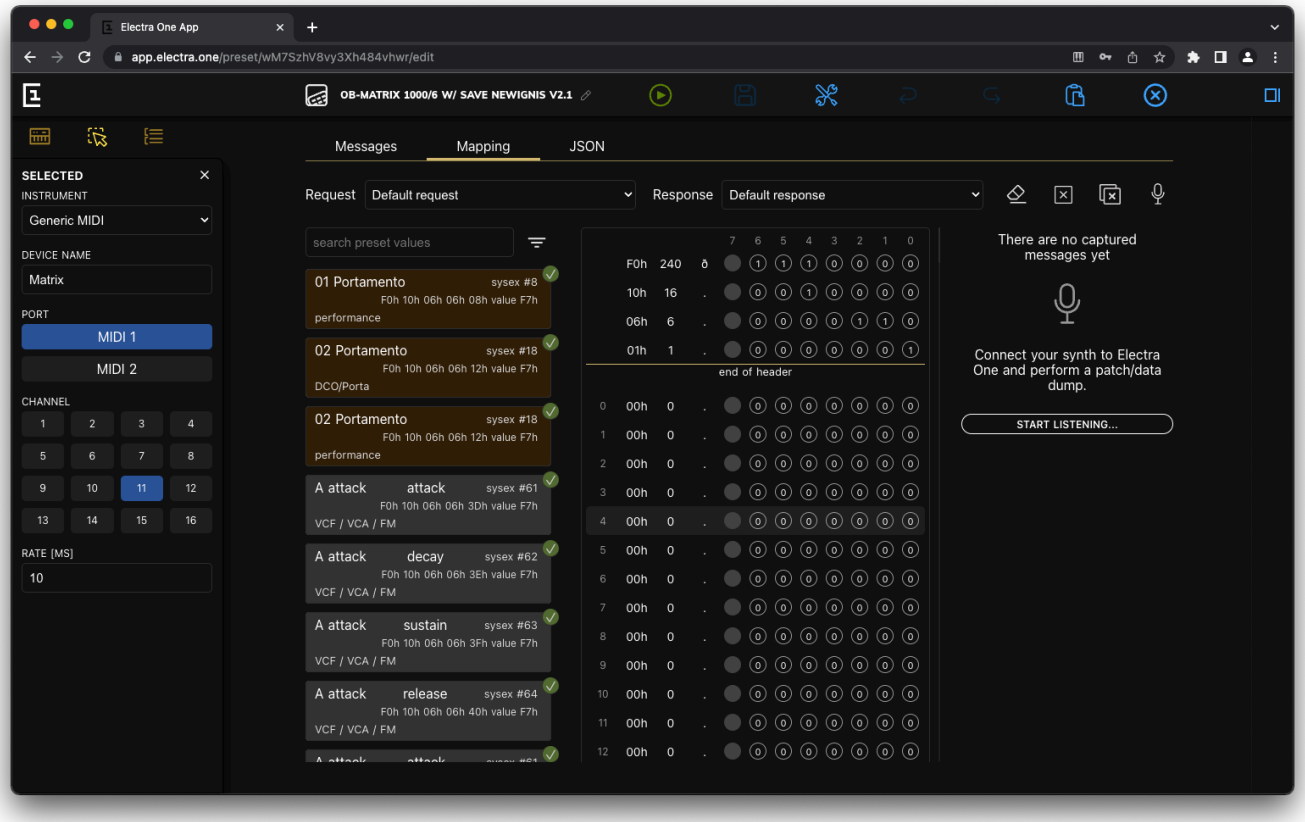
- Added with the + **Response** button.
- Deleted with the Bin icon.
- Have name edited by clicking the Edit icon.

The Sysex message editor is identical with the one used in the Sysex editor. It allows users to enter constant bytes in the Hexadecimal, Decimal, or Binary format.

The value mappings

Once the requests and responses are defined, the response Sysex message bytes can be mapped to the preset parameter values.

The general idea of the mapping is very similar to how the Sysex editor works. Each mapping represents a rule that tells which bytes and bits of the response Sysex message are translated to particular preset parameter values. It is just done in the reversed direction.



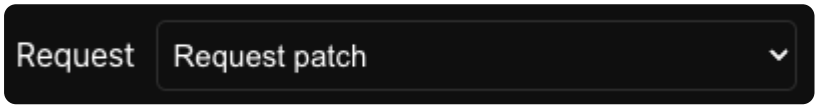
The window with mappings consists of four sections:

- Menu
- List of preset parameter values
- Response Sysex message bytes
- List of captured Sysex messages

Menu

The menu allows user to navigate between the requests and responses. There are also buttons to manage the captured messages.

Request selection



Request selection list changes current request. Upon changing the request the selection list of Responses is updated.

Response selection

Response selection list changes current response.

Clear marked bits

Clears marks identifying changes in the Sysex messages.

Clear Sysex message

Clear currently shown Sysex messages by setting all bytes to 0.

Clear Captured messages

Clear all captured messages.

Enable / Disable MIDI learn

Enable or disable the MIDI learn function on the hardware controller. The MIDI learn icon is pulsating when the MIDI learn is active.

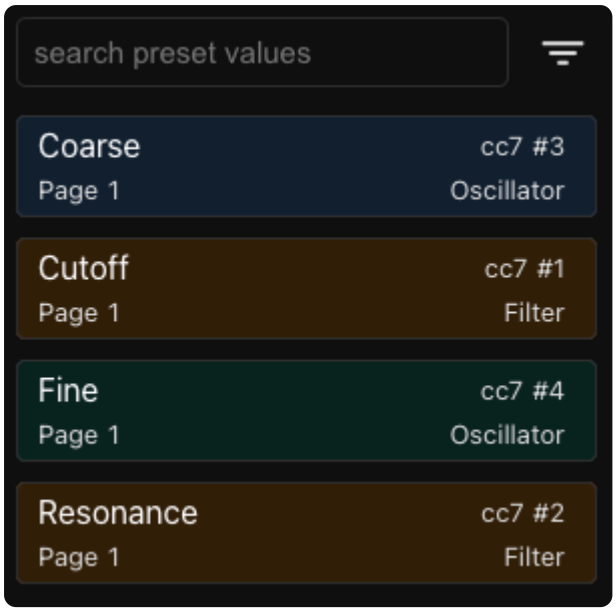
Preset parameter value list

The preset parameter list is used to select the parameters to be associated with the response Sysex byte bits. Users use the list to find the parameter they wish to associated with the Sysex byte. The parameter is selected by clicking on it. Once the parameter is selected, all the work of linking the Sysex byte bits is done using that selected parameter.

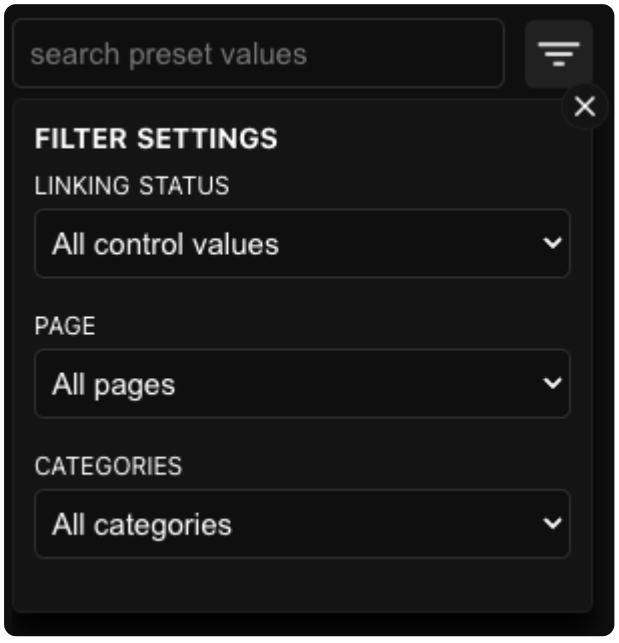
The list provides information about:

- The name of the Control where the parameter is used.
- The name of the Value within the Control where the parameter is used, eg. Sustain for envelope.
- The name of the Page where the Control is located.

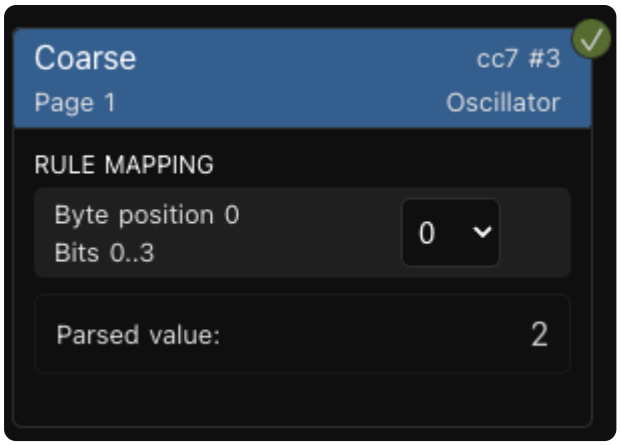
- The name of the category that the Control has assigned.
- Information about the MIDI messages associated with the parameter.
- Information whether or not the parameter value is already associated with any byte of the response Sysex message (the check off mark)



The list of parameter values can be filtered to make it easier to find the parameter values.



The list of parameter value mappings is shown when a parameter value is selected with the mouse:



The above example tells Electra One that bits 0 .. 3 of the Sysex byte at position 0 (within the response Sysex message) are copied to the parameter value at the LSB (least significant bit) position 0.

The position where the parsed bits will be copied can be changed by using the selection list on the right side of the mapping rule.

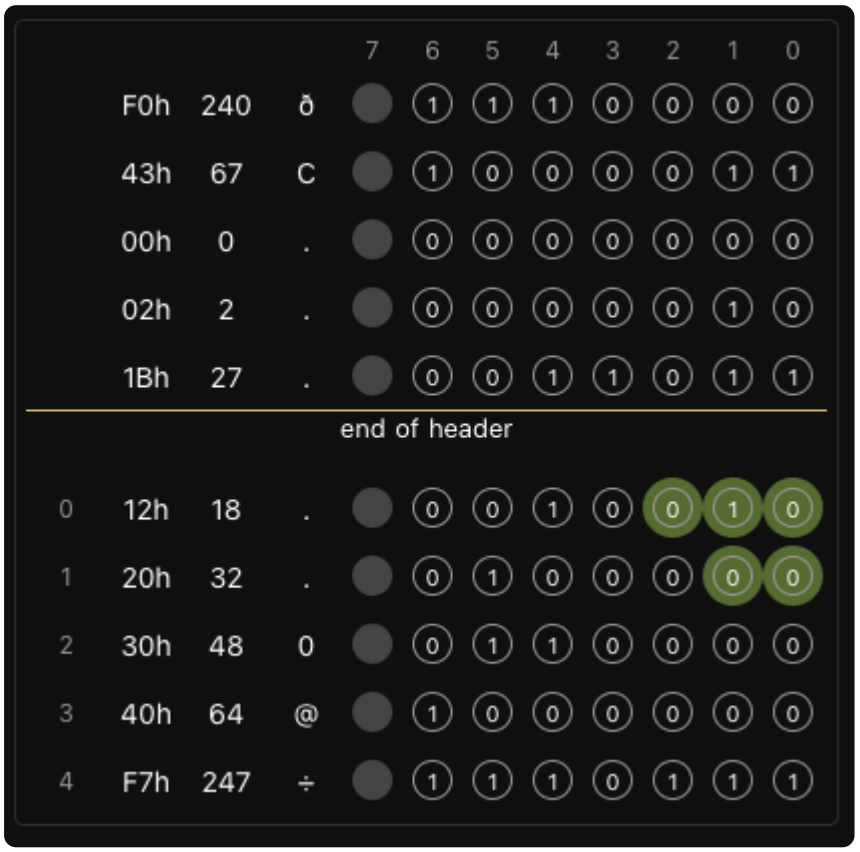
Parsed value field calculates value using currently selected captured message and all mapping rules of given parameter value.

The Bin icon can be used to remove a mapping rule.

The Response Sysex message

The Response Sysex message allows user to review the Sysex messages received from the MIDI devices - captured messages.

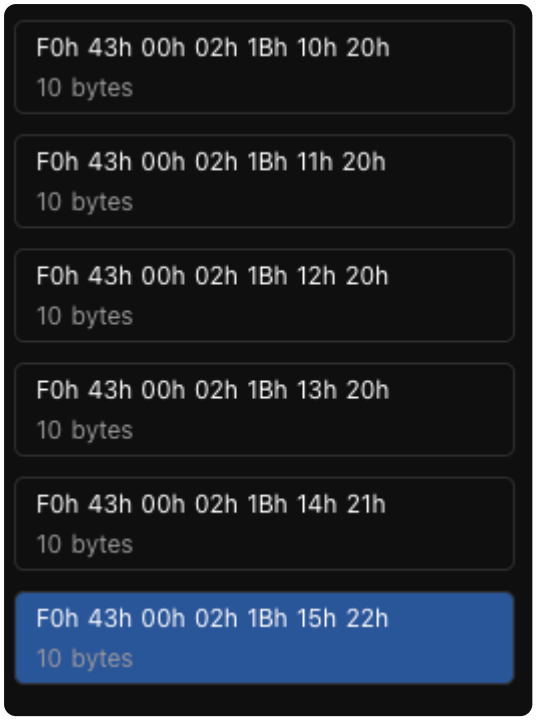
The Response Sysex message is a view of currently selected captured message. If there are not any captured messages available, the response header bytes are shown instead, and the user is advised to enable the MIDI learn function by clicking the **START LISTENING...** button.



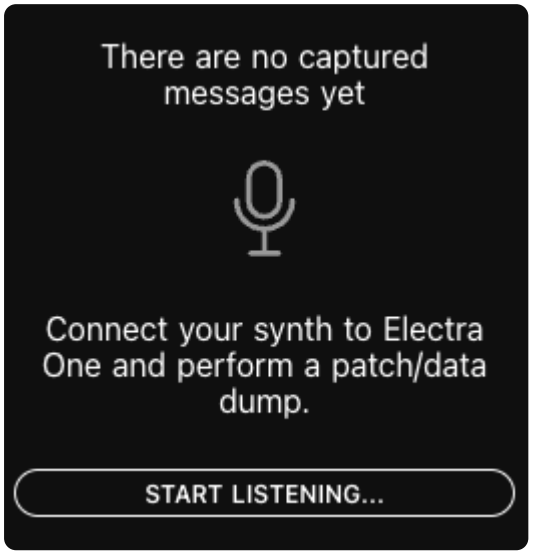
The data bytes of captured messages are shown only if selected captured message matches the response header bytes.

Captured messages

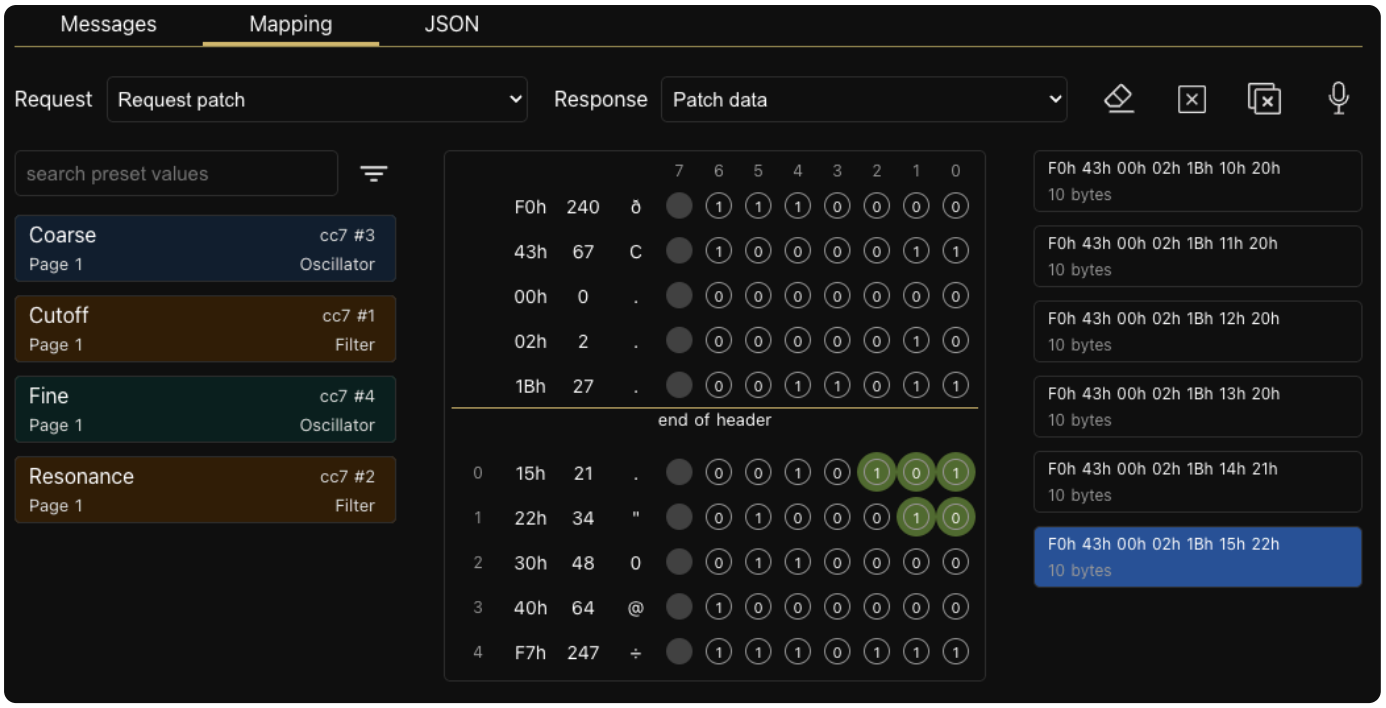
The right-most section of the Mapping provides a list of all Sysex messages received from the MIDI device.



When there have not been any captured messages received yet, the Patch editor instructs the user to enable the MIDI learn by clicking the **START LISTENING...** button.



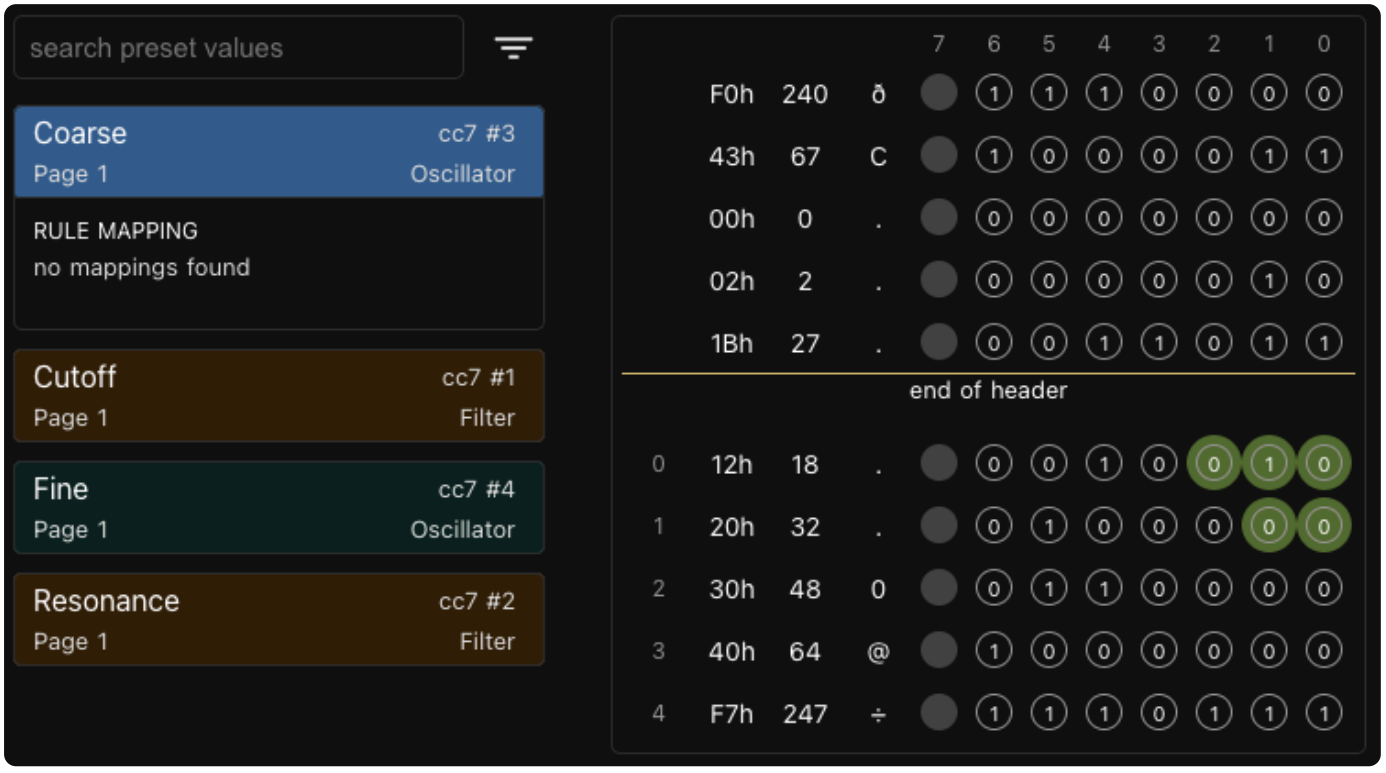
When a captured message is selected and its leading bytes match the response header, the data bytes of the captured message are shown in the Response Sysex message section in the middle of the window.



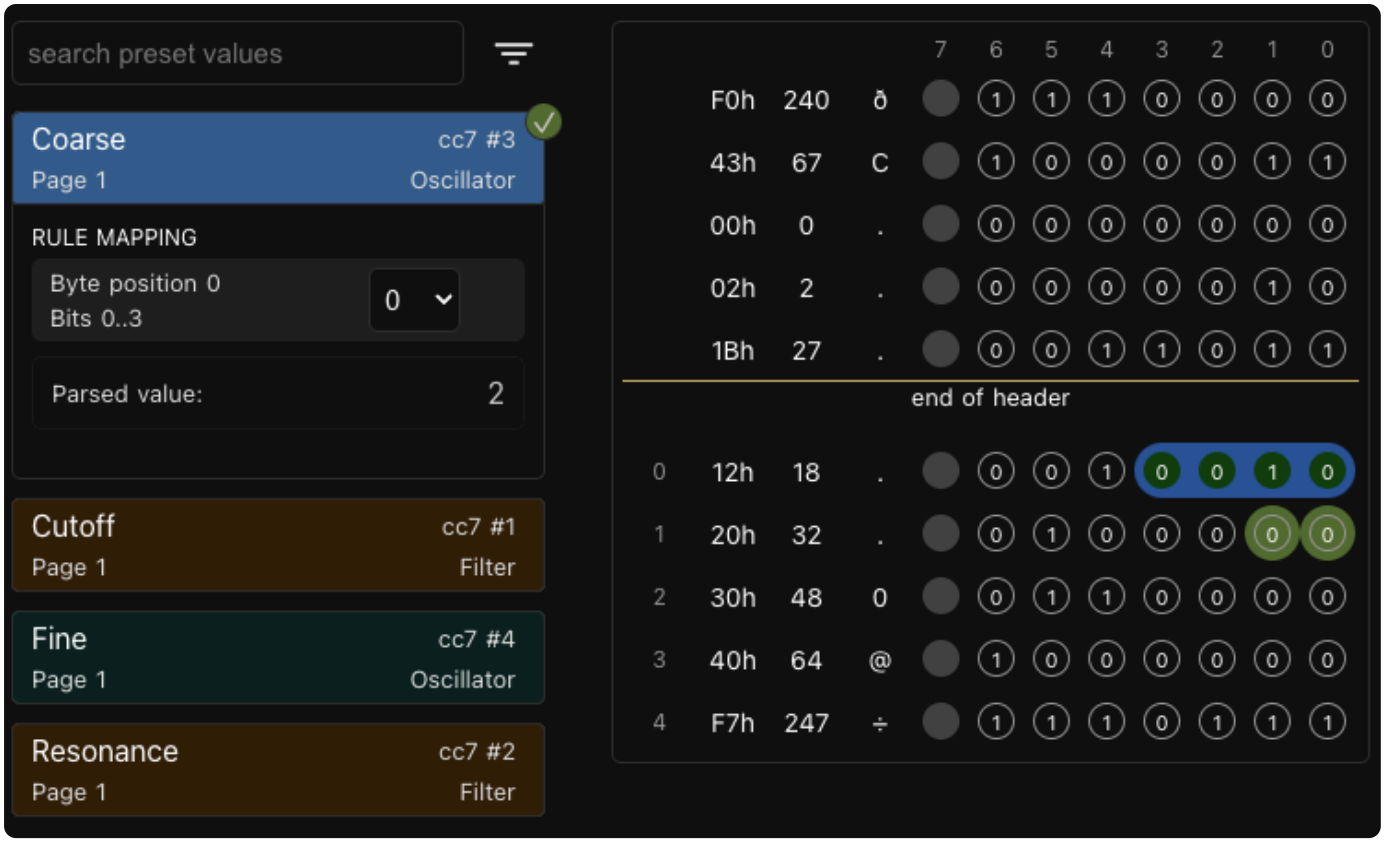
Mapping the parameters

Once the Response Sysex message is successfully matched and shown, a process of assigning the Sysex bytes values to preset parameter values can be started.

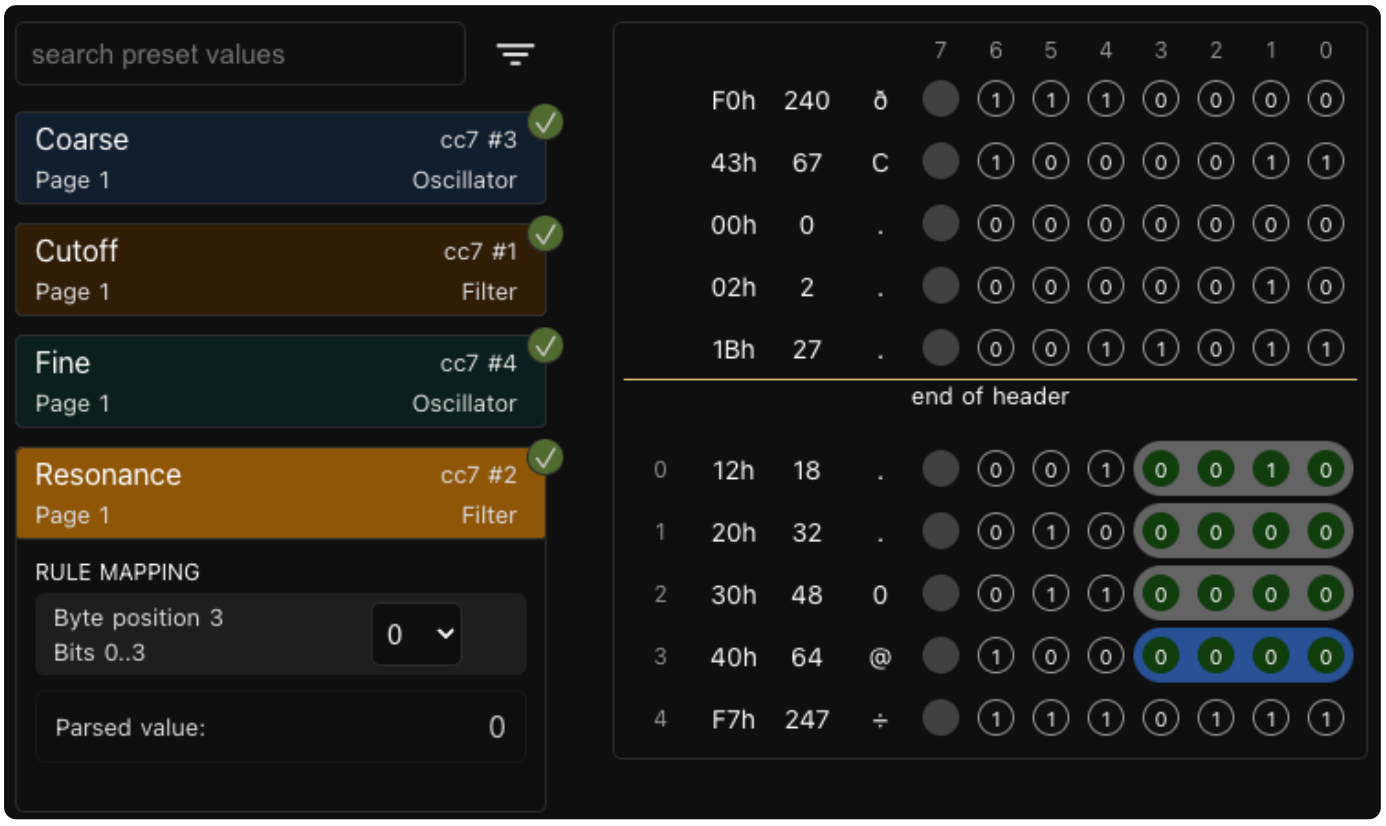
Start with choosing the parameter you want to map:



Locate corresponding bits in the Sysex message and assign them to the mapping rule by clicking on each bit. All consecutive bits will form one mapping rule:



Should the parameter value be composed of bits from more than one Sysex byte, mark all bits in these bytes too.

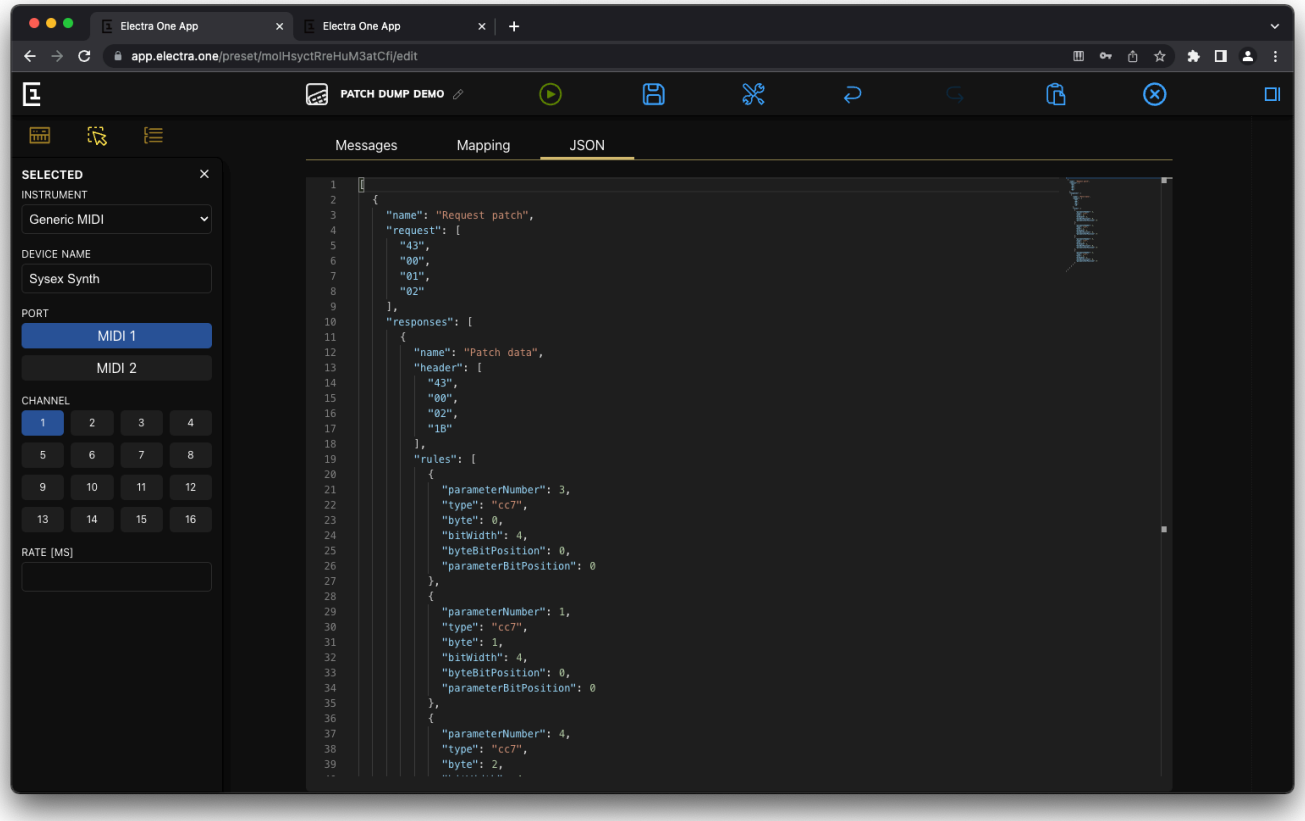


TIP

When you have more captured messages available for one parameter, eg. you twisted the parameter knob, the Patch editor will highlight the changing bits with green background. This makes it possible to easily reverse-engineer Sysex messages even if there is not technical documentation available.

JSON editor

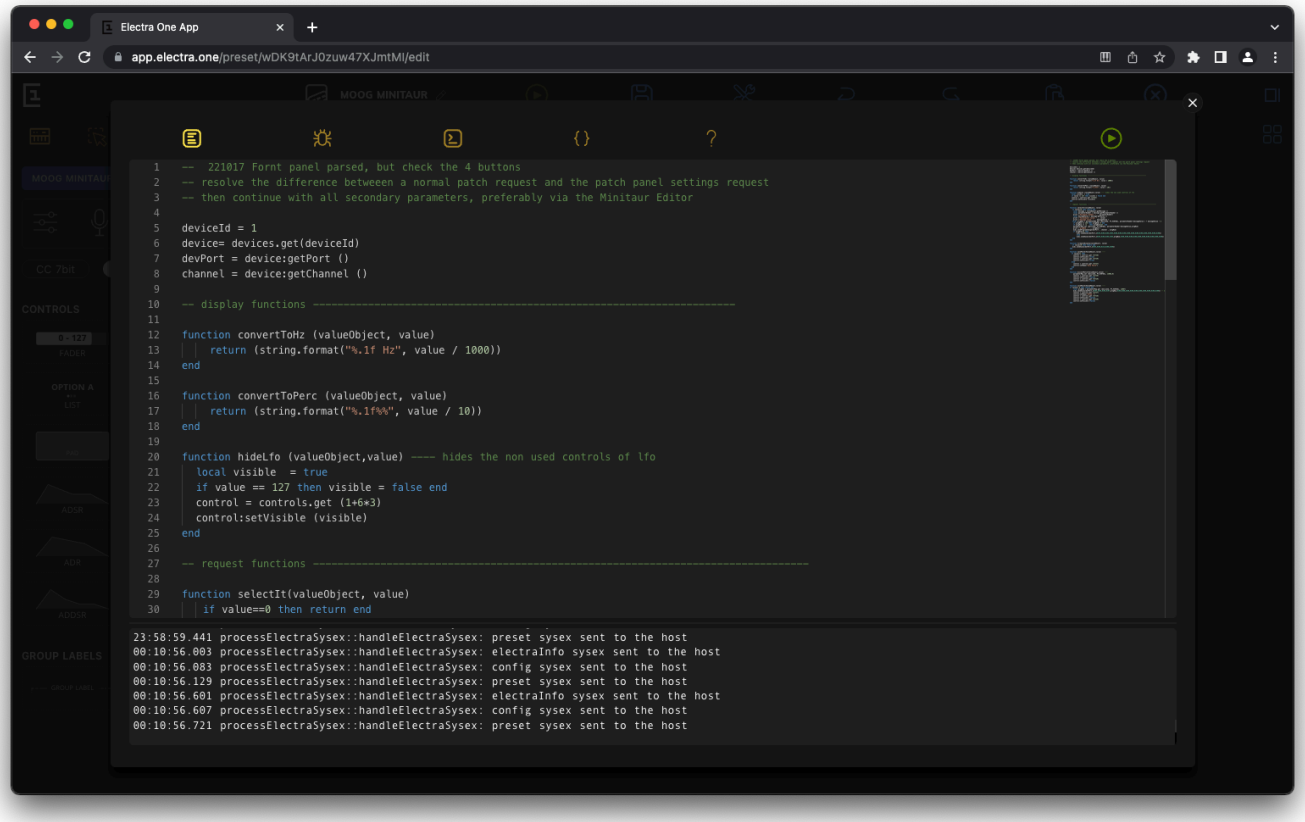
Users may opt to define their Patch parsing definition using the JSON formatted source code. The JSON editor allows editing of the raw JSON file. The work in the visual and JSON editor can be freely combined.



Detailed information about developing Patch parsing mappings in JSON format can be found in Parsing Sysex messages document.

The Toolbox

The Toolbox is a set of handy tools to develop and debug Lua scripts and to work with MIDI messages. The Toolbox is displayed either in the dedicated Toolbox window or in the Tools pane sidebar on the right side of the Preset editor window.

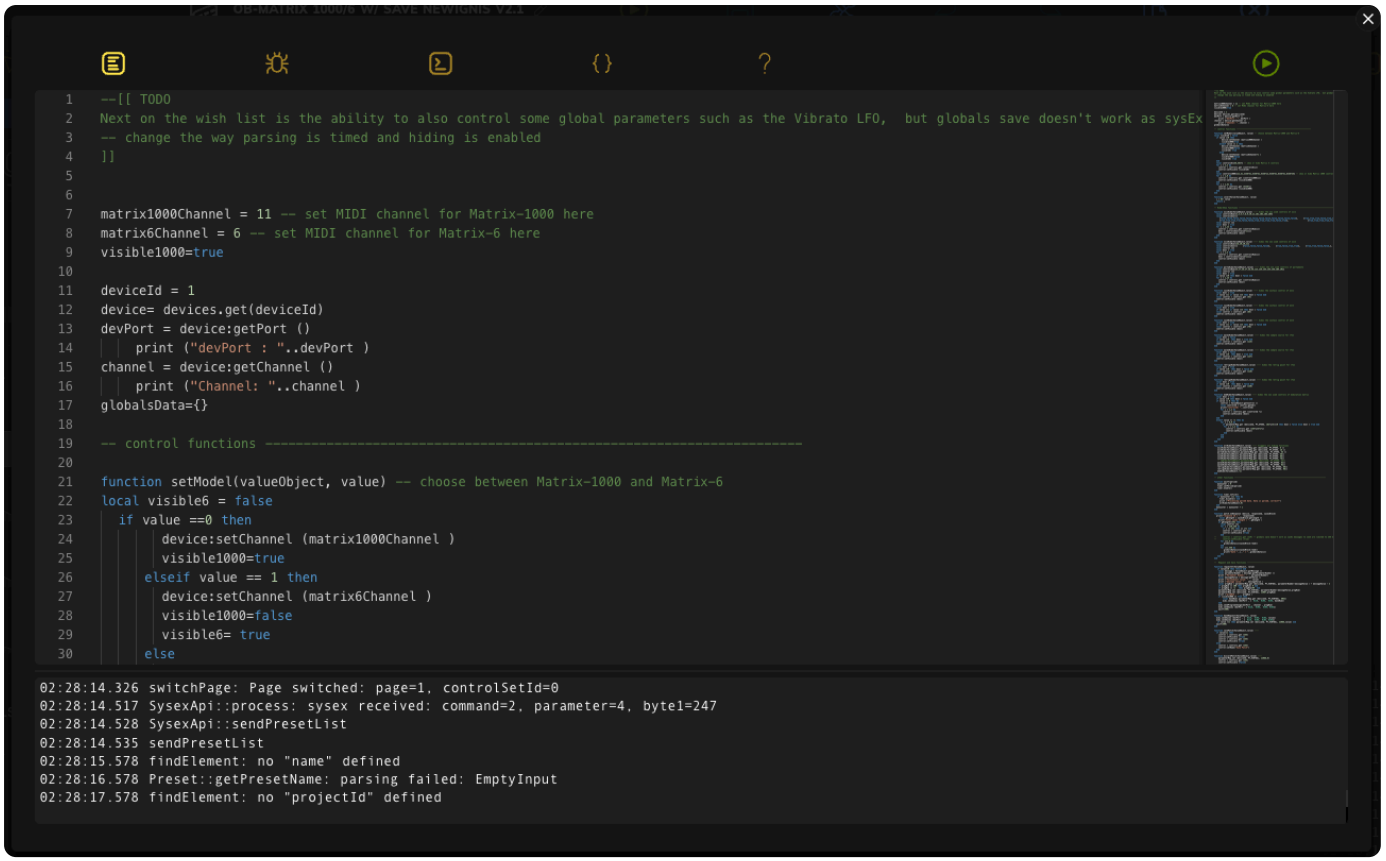


The Toolbox consists of:

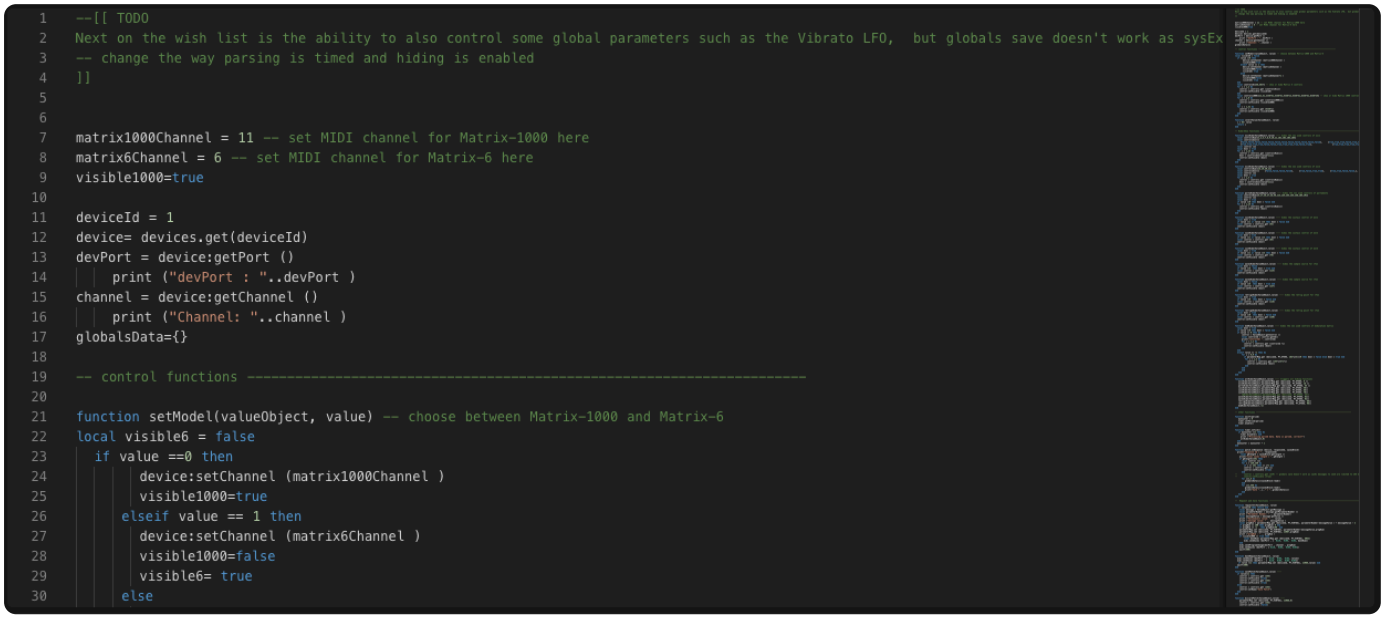
- Lua Editor
- Lua Debugger
- MIDI Console
- Preset JSON

Lua Editor

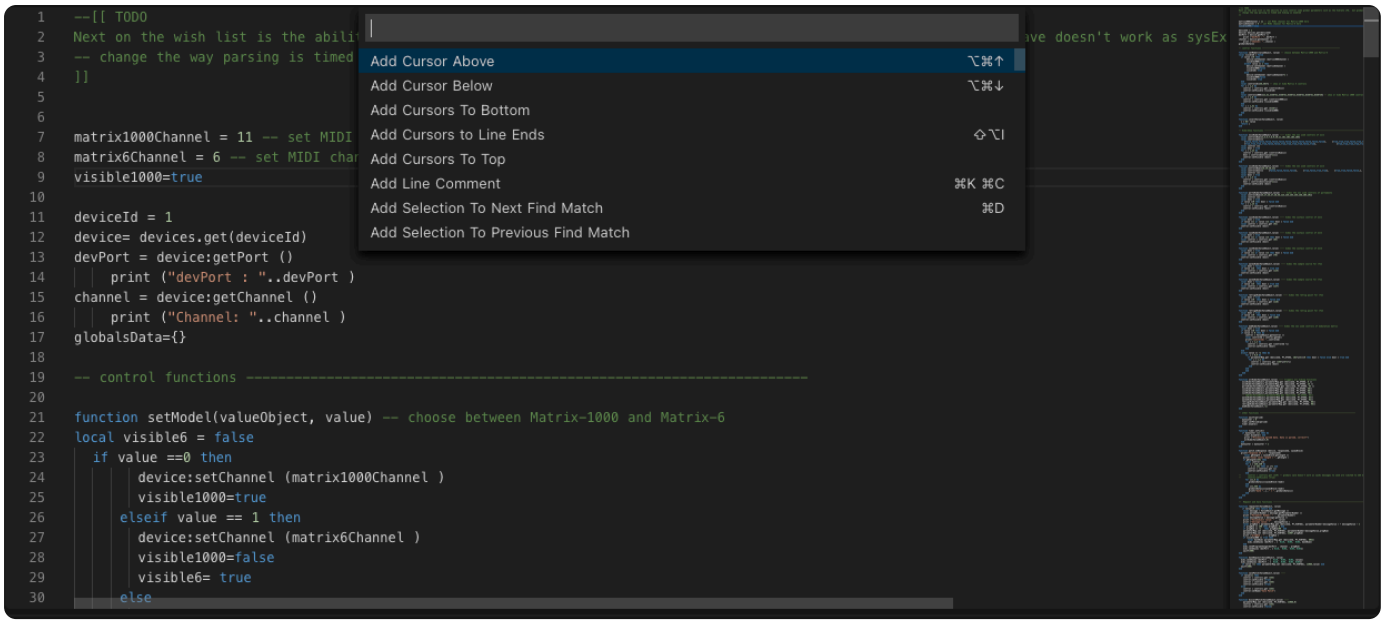
The Lua editor is a programmer-grade text editor for editing Electra One Extension Lua script.



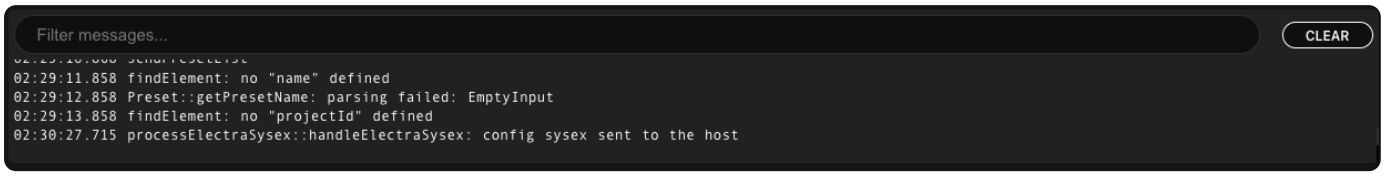
The editor consists of two sections. The editor and the log window. The editor is in the upper part while the log window is below the editor. There is a handle to resize the editor window between the editor and log window.



The editor has wide variety of commands mapped to keyboard shortcuts. All available commands can be shown by pressing the F1 key or right-clicking the editor window and selecting the Command palette.

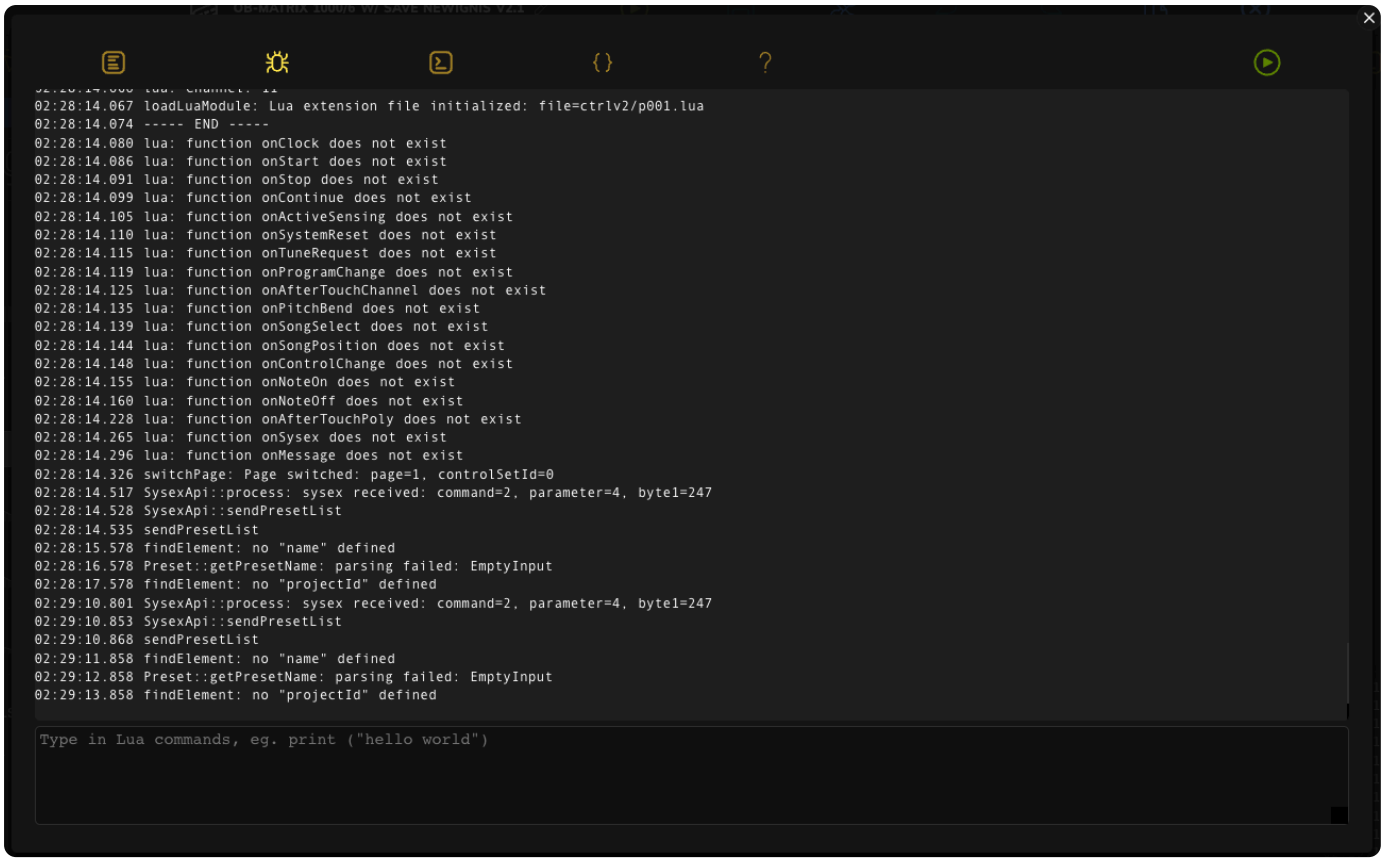


The log window shows a stream of log messages from the hardware controller. When mouse pointer is hovered above the log window an input field on filtering and clearing the log messages is shown.

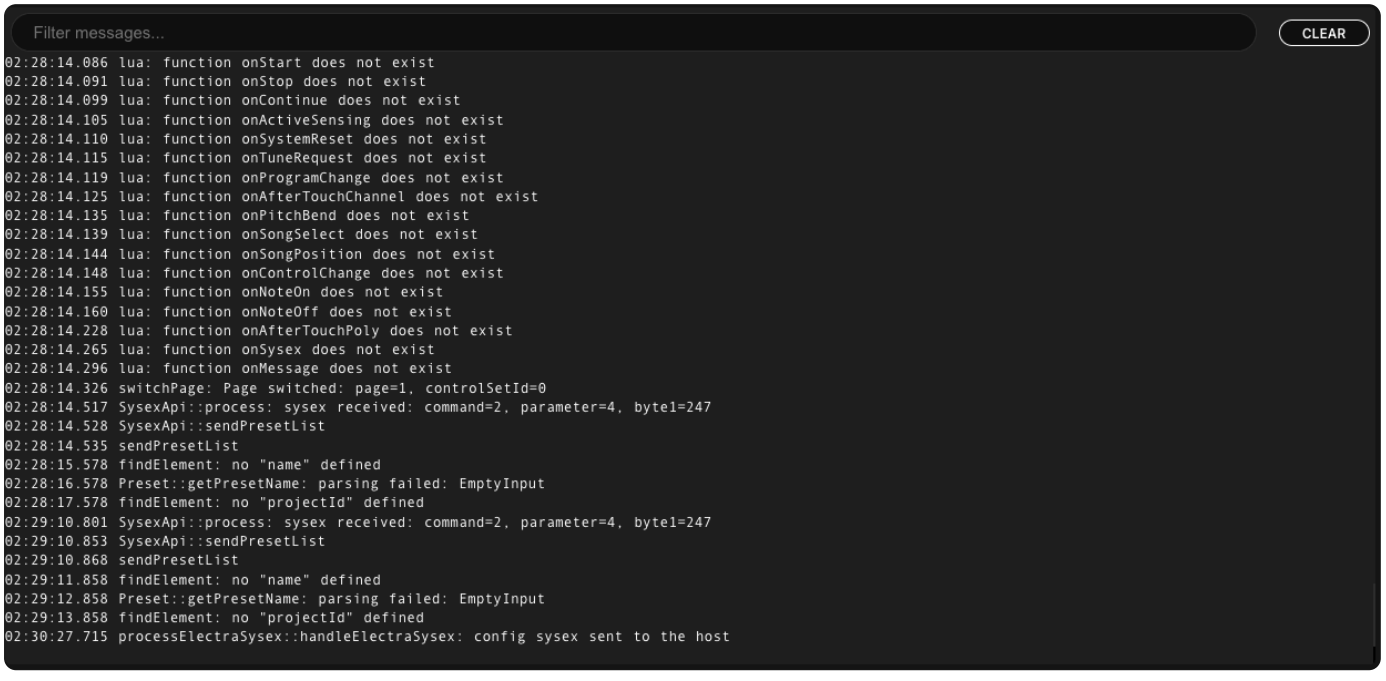


Lua Debugger

Lua debugger is a tool to interact with the Electra One Lua script interpreter. Please note, the Lua debugger can be used only if the preset has Lua script defined and running.



The Lua debugger consists of two sections. The log window and the Lua command prompt. The log window is in the upper part while the Lua command prompt is below the log window.



The log window shows a stream of log messages from the hardware controller. When mouse pointer is hovered above the log window an input field on filtering and clearing the log messages is shown.

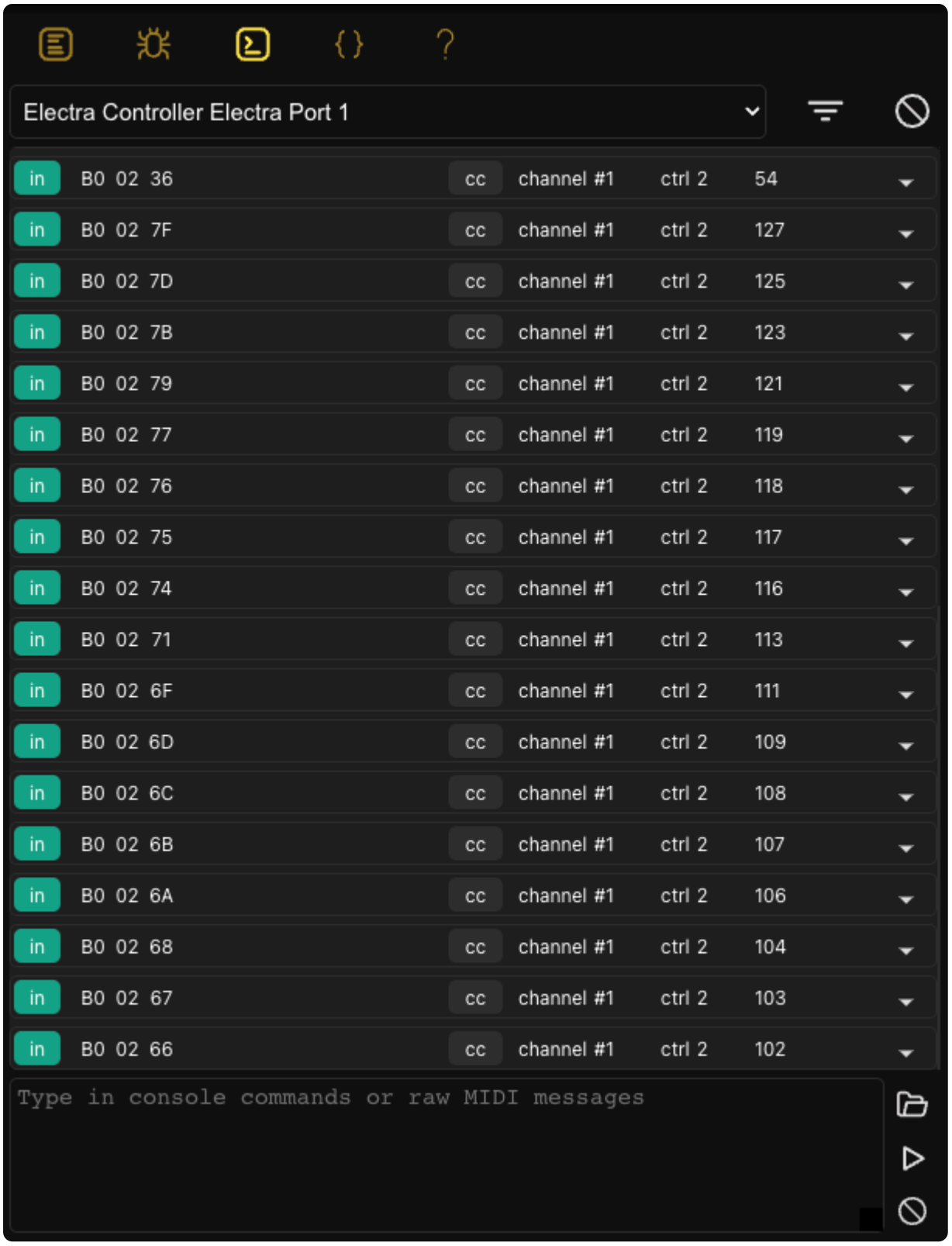
The Lua command prompt allows users to type in Lua commands and call Lua functions. The commands and function calls are executed by pressing the Enter key.

An example of a Lua command to enter is:

```
print ("variable X = " .. x)
```

MIDI Console

The MIDI Console is a tool to send MIDI messages and monitor MIDI communication between the Preset editor and the MIDI devices, including Electra One controller.



The MIDI Console consists of three sections:

- Menu
- Monitor window
- Message prompt

Menu

The menu allows user to select the MIDI device / port to interact with and filter and clear MIDI messages in the monitor window.

Filter

Configures the MIDI message filter. MIDI messages that are not chosen are completely ignored by the MIDI console.

Clear

Clears the content of the Monitor window.

Message prompt

The message prompt is used to enter the MIDI messages, MIDI commands, and load files with MIDI messages.

The MIDI messages can be entered either as MIDI command with the syntax inspired by the sendmidi tool, or as raw strings of MIDI data.

There are three actions associated with the Message prompt:

Load message file

Loads raw MIDI data from a file and executes them.

Send the message

Sends MIDI messages currently present in the Message prompt to selected MIDI device. Clicking the Send button has the same function as pressing the Enter key.

Clear the Message prompt

Clears content of the Message prompt.

Commands syntax

The raw MIDI messages can be entered in decimal and hexadecimal format. The decimals use format of whole numbers (0, 10, 12, 127, 240). The hexadecimals must have 'h' letter attached to them (01h 10h 1ah 2Bh F0h).

Notes can be entered as numbers, in both decimal or hexadecimal format, or as a text strings (a4, g#3, db2, c-1, f#-1).

Next to that messages can be entered using a simple syntax much inspired by the sendmidi command line tool:

- `ch <nn>` channel selection
- `on <note> <velocity>` note on
- `off <note> <velocity>` note off
- `cc <ctrl number> <value>` control change
- `pc <program number>` program change
- `pp <note> <pressure>` poly pressure
- `cp <pressure>` channel pressure
- `pb <msb> <lsb>` pitch bend (this needs doing)
- `syx <byte1, byte2, ...>` sysex, do not include F0h and F7h
- `start`
- `stop`
- `cont`
- `tun` - tune request
- `spp <msb> <lsb>` song pointer position
- `ss <song number>` song select

a few examples of MIDI Console commands:

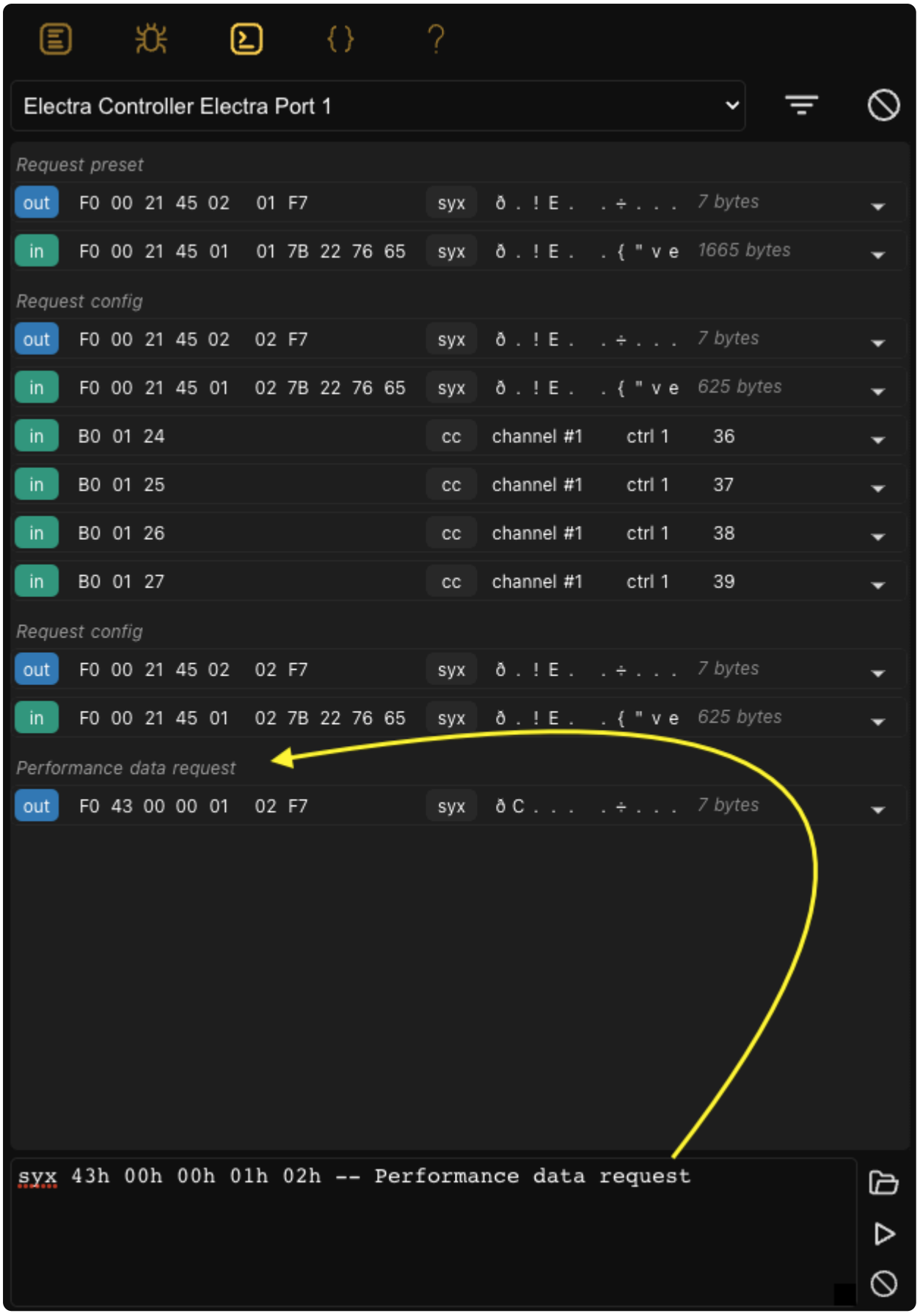
```
cc 1 64
ch 2 cc 1 127
syx 43h 00h 01h 1bh
syx 10 20 30 10h 20h 30h
ch 4 on c4 127
off 3Ch 64
start
b0h 1ah 10h
f6h
82 60 100
```

Please note, when channel is not set, it defaults to channel 1

When lua style comment is added at the end of the MIDI console command, it will be shown in the stream of MIDI messages in the Monitor window.

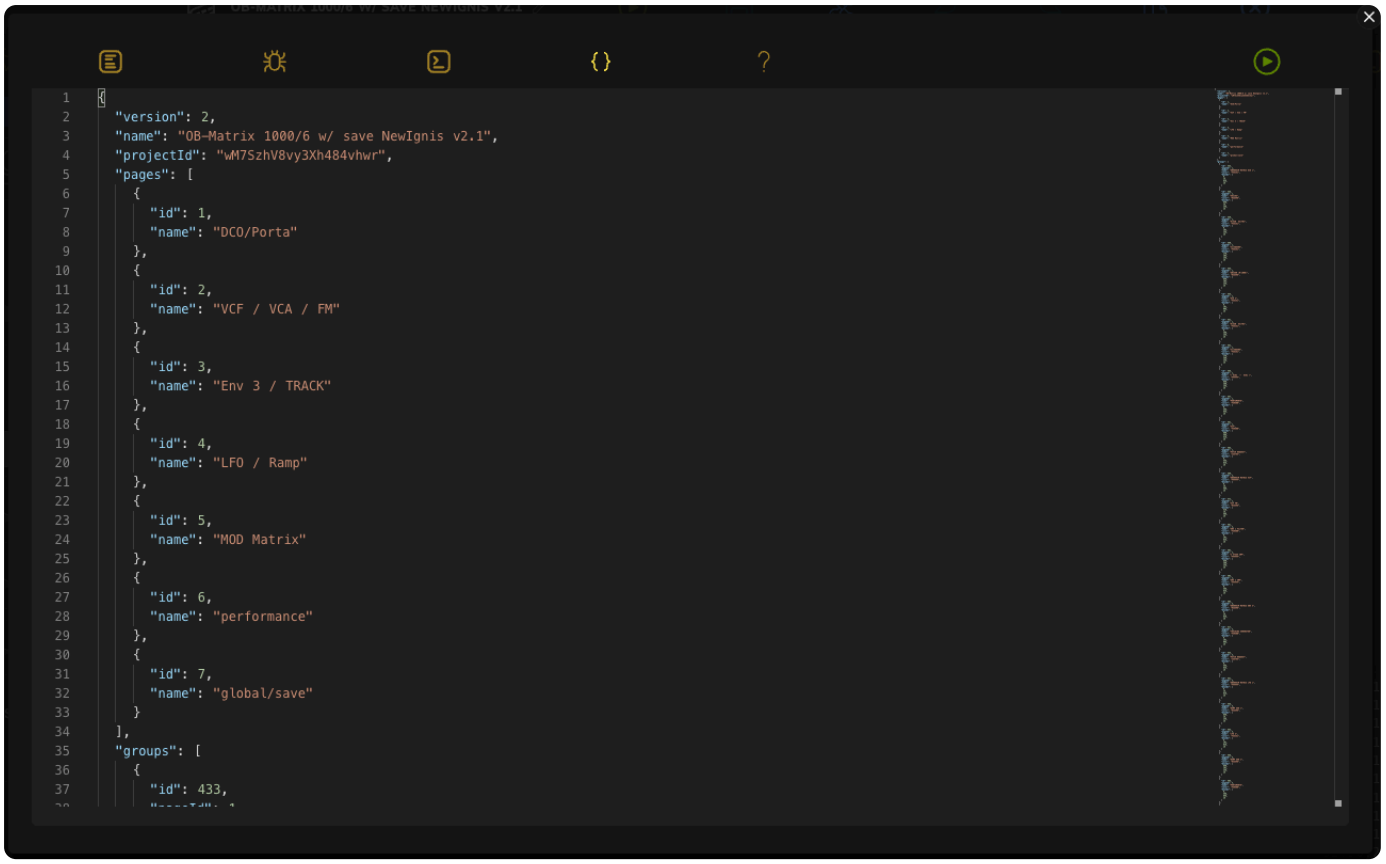
eg.

`syx 43h 00h 00h 01h 02h -- Performance data request` will result in:



Preset JSON

The Preset JSON shows source code of current preset. All changes done in the Preset editor are immediately reflected in the JSON source code. It is important, however, that all changes made to the JSON source in the editor are ignored. The Preset JSON is meant for debugging and observing the raw preset JSON.



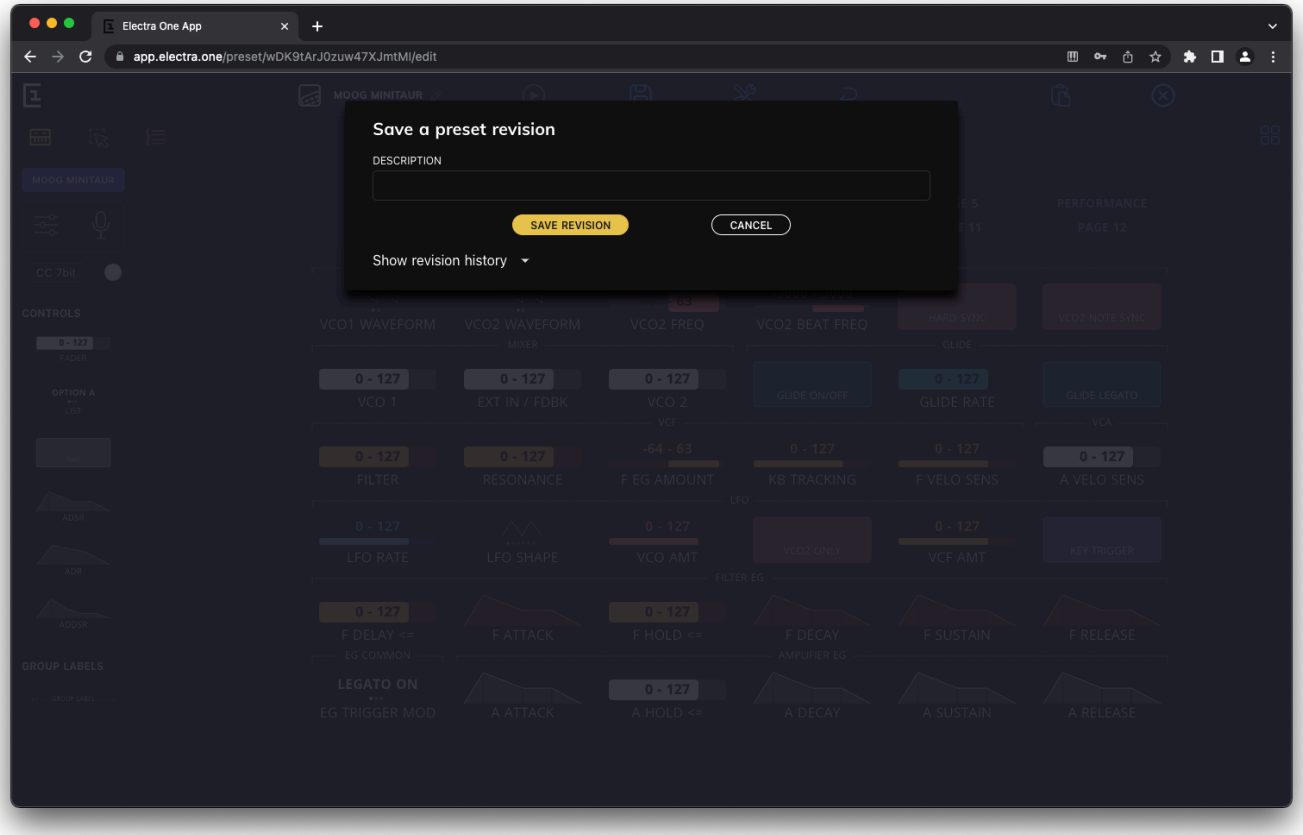
Revisions

The Preset editor supports a system of saved Preset revisions. Whenever there are unsaved changes in the preset and the user:

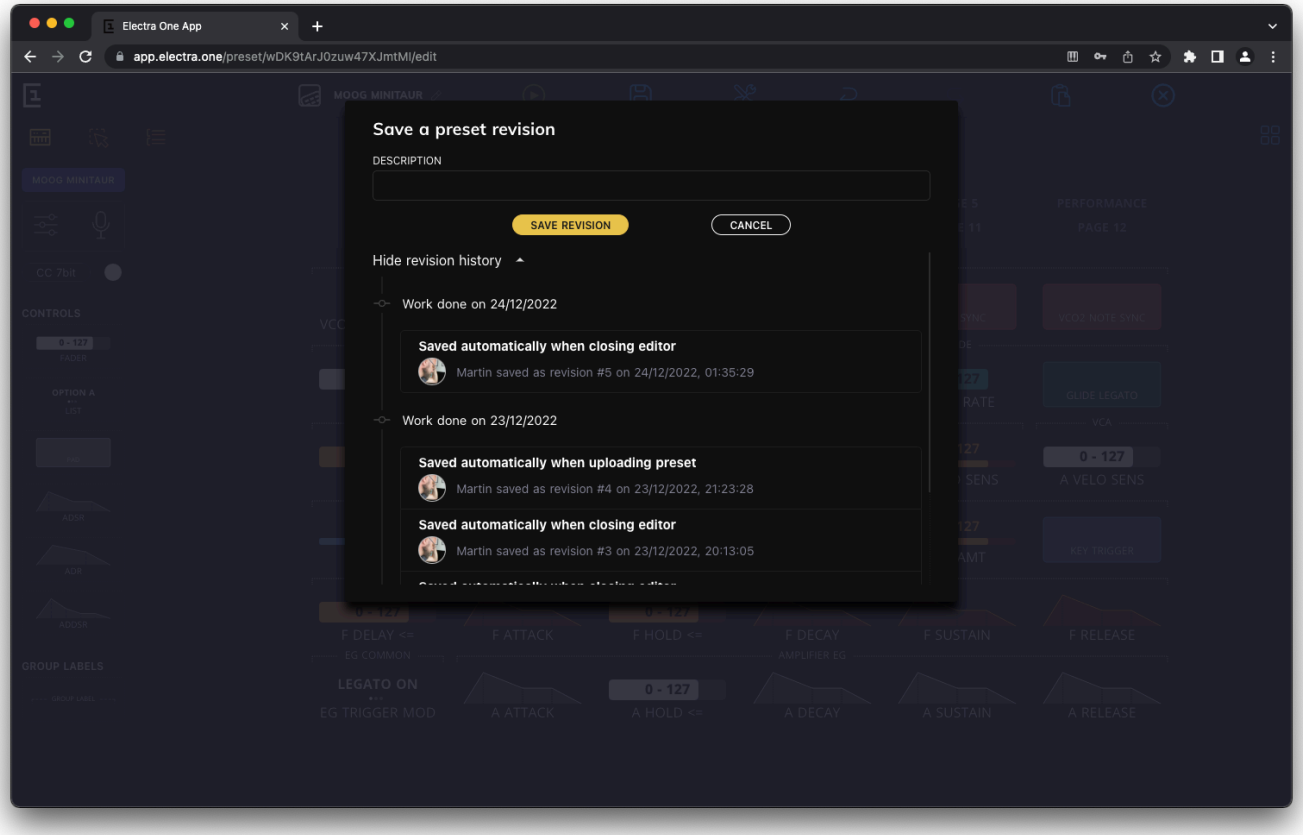
- Saves the preset.
- Sends the preset to the Electra One controller.
- Closes the Preset editor.

The preset is saved and a separate saved revision is created. The saved revisions can be later browsed and managed in the Account application. For more details, please refer to Preset detail - section Preset revisions.

When saving a preset, user may provide a description of the revision, ie. a short annotation of what was changed. The annotation is always showed along with the revision number. When the description is not provided, the Preset editor will use a default annotation.



It is possible to review earlier preset revisions before saving a new revision.



Bootloader

Every Electra One controller comes with a built-in bootloader—a special low-level application that runs independently of the main firmware. The bootloader allows you to manage essential maintenance tasks, such as updating the firmware and accessing files stored on the controller's internal SD card.

Key Features

- **Firmware Update** – Install new firmware versions to keep your Electra One up to date.
- **Firmware Management** – Store, select, and delete multiple firmware files for testing or recovery.
- **USB Disk Mode** – Access the controller's SD card as a USB drive for file transfer and management.
- **Failsafe Recovery** – Enables recovery from failed updates by remaining fully functional even without the main firmware. It also allows you to restore factory files on the SD card using provided disk images.

Entering Bootloader Mode

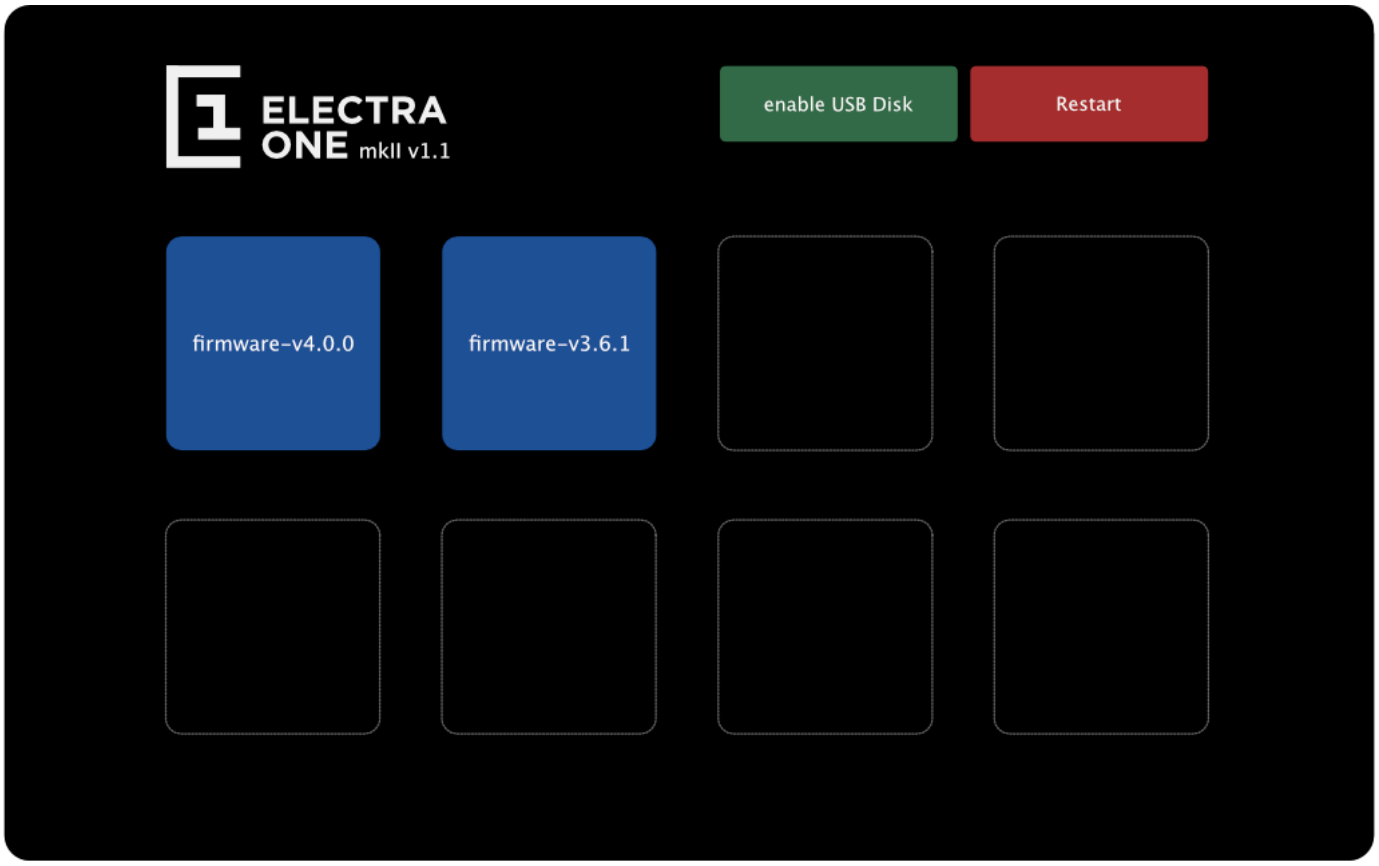
There are three ways to access the bootloader, depending on the condition of your controller, for example, whether the main firmware is functioning properly or the device is unresponsive, as well as your configuration and convenience.

On Power-On

The Power-On procedure is useful when your controller is powered off or if the main firmware is not functioning properly—for example, after a failed firmware update.

1. Make sure your controller is disconnected from the USB power.
2. Press and hold the `[RIGHT-BOTTOM]` hardware button.
3. Power on the controller.
4. Release the `[RIGHT-BOTTOM]` button.

If entered correctly, you will see the Electra One Bootloader menu.



Using buttons

If your controller is running and you are using the default button layout, you can access the bootloader using a hardware button combination:

1. Ensure you are on the preset page, with no Page or Preset selection screens open.
2. Press and hold the `[RIGHT-BOTTOM]` button (bottom-right).
3. While holding it, briefly press the `[LEFT-TOP]` button.
4. Release the `[RIGHT-BOTTOM]` button.

If performed correctly, the controller will restart and enter the bootloader.

Using Menu

You can access the bootloader at any time using the Menu, regardless of whether you're using the default button layout.

1. Ensure you are on the preset page, with no Page or Preset selection screens open.
2. Swipe the screen down to open the Menu.
3. Press and hold the `[RIGHT-BOTTOM]` button (bottom-right).
4. While holding it, briefly tap the on-screen `[REBOOT]` button.
5. Release the `[RIGHT-BOTTOM]` button.

If performed correctly, the controller will restart and enter the bootloader.

Bootloader screen

The bootloader screen is divided into two three sections:

1. Bootloader version info
2. On-screen Buttons
3. Firmware images

Bootloader version

The bootloader version is shown at the top-left corner alongside the Electra One logo. It is important that you have the latest version of the bootloader installed. At present the most recent version is v1.1.

On-screen Buttons

There are two buttons. One to enable the USB Disk Mode and the other to restart the controller.

USB Disk Mode

One of the key functions of the bootloader is USB Disk Mode. When enabled, this mode exposes the Electra One's SD card to your computer as a USB storage device.

To enabling USB Disk Mode, tap the green `[Enable USB Disk]` button on the bootloader screen. Once enabled, the button changes to `[USB Disk enabled]` and your computer will detect a USB drive named ELECTRA.

While in this mode, you can perform common file management tasks, including:

- Copying, moving, renaming, or deleting firmware files
- Managing presets, Lua scripts, and configuration files
- Completely replacing the contents of the drive using a factory disk image

There are some limitations, however, you cannot however:

- You cannot format the Electra One disk
- You cannot run file system checks or repairs

If the SD card becomes corrupted or unresponsive, you must remove it from the controller and use a computer with an SD card reader to format or repair it.

Note: Always eject the disk safely before unplugging or restartingthe controller to avoid file corruption.

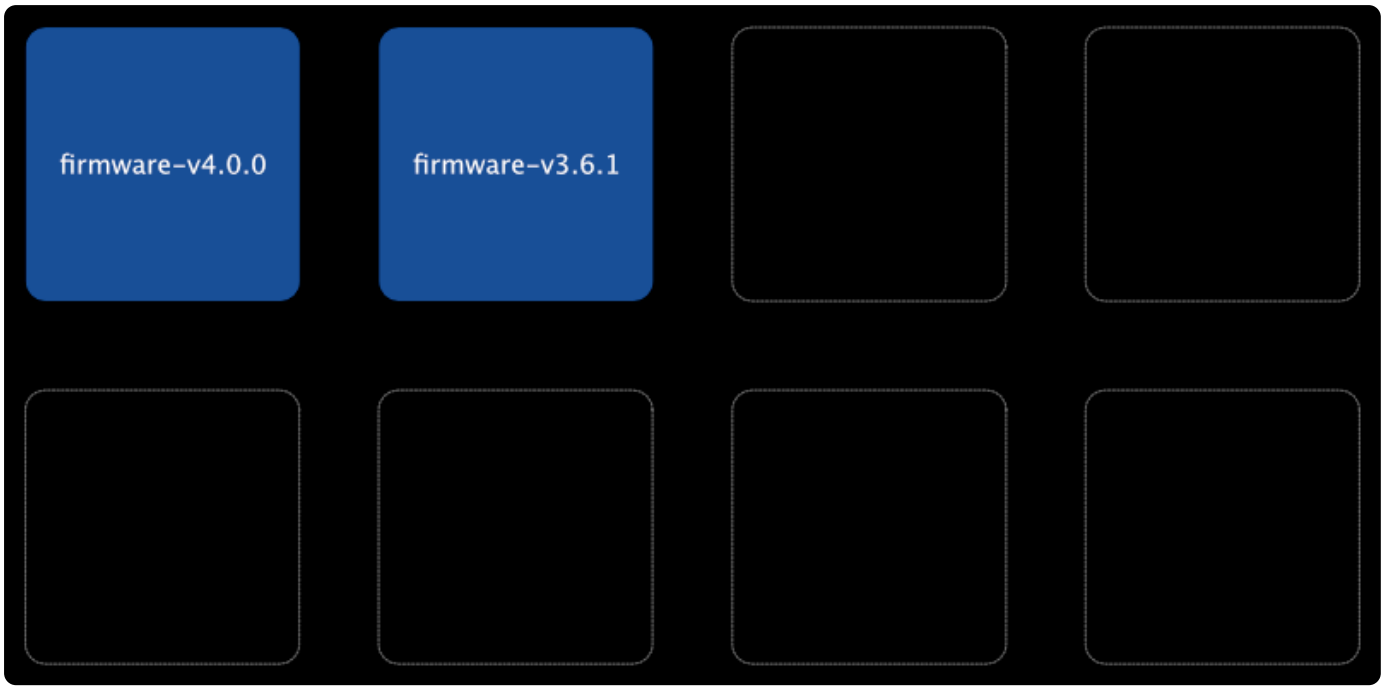
Restart

The `[Restart]` button restarts the controller.

- If no hardware buttons are pressed when tapping `[Restart]`, the controller will boot normally into the main firmware.
- If you hold the `[RIGHT-BOTTOM]` hardware button while tapping `[Restart]`, the controller will restart and return to the bootloader instead.

Firmware images

The Electra One bootloader supports up to eight firmware slots, allowing you to store and manage multiple firmware images on the controller at the same time. These can include the current version, older releases, beta builds, or even alternative firmware versions. You can switch between them at any time.



Each used slot corresponds to a `.srec` file located in the `boot` folder on the controller's internal SD card:

- Used slots are shown as blue tiles with the firmware filename.
- Empty slots appear as grayed-out tiles.

A maximum of eight `.srec` files can be stored in the folder. Any additional files will be ignored by the bootloader and will not be shown.

To add, rename, or remove a firmware image, simply perform the corresponding action on the `.srec` file(s) in the `boot` folder on the internal SD card, either via USB Disk Mode or by accessing the SD card directly using your computer.

To flash (activate) a different firmware version:

- Tap the tile of the firmware you want to use.
- The update process will begin automatically.

Once complete, the controller will reboot and start running the selected firmware version.

Firmware Update

As of firmware version 4.0.0 and bootloader version 1.1, firmware updates can be fully managed using the Electra One online web application. However, the bootloader can still be used to update the firmware manually, just as in earlier firmware versions.

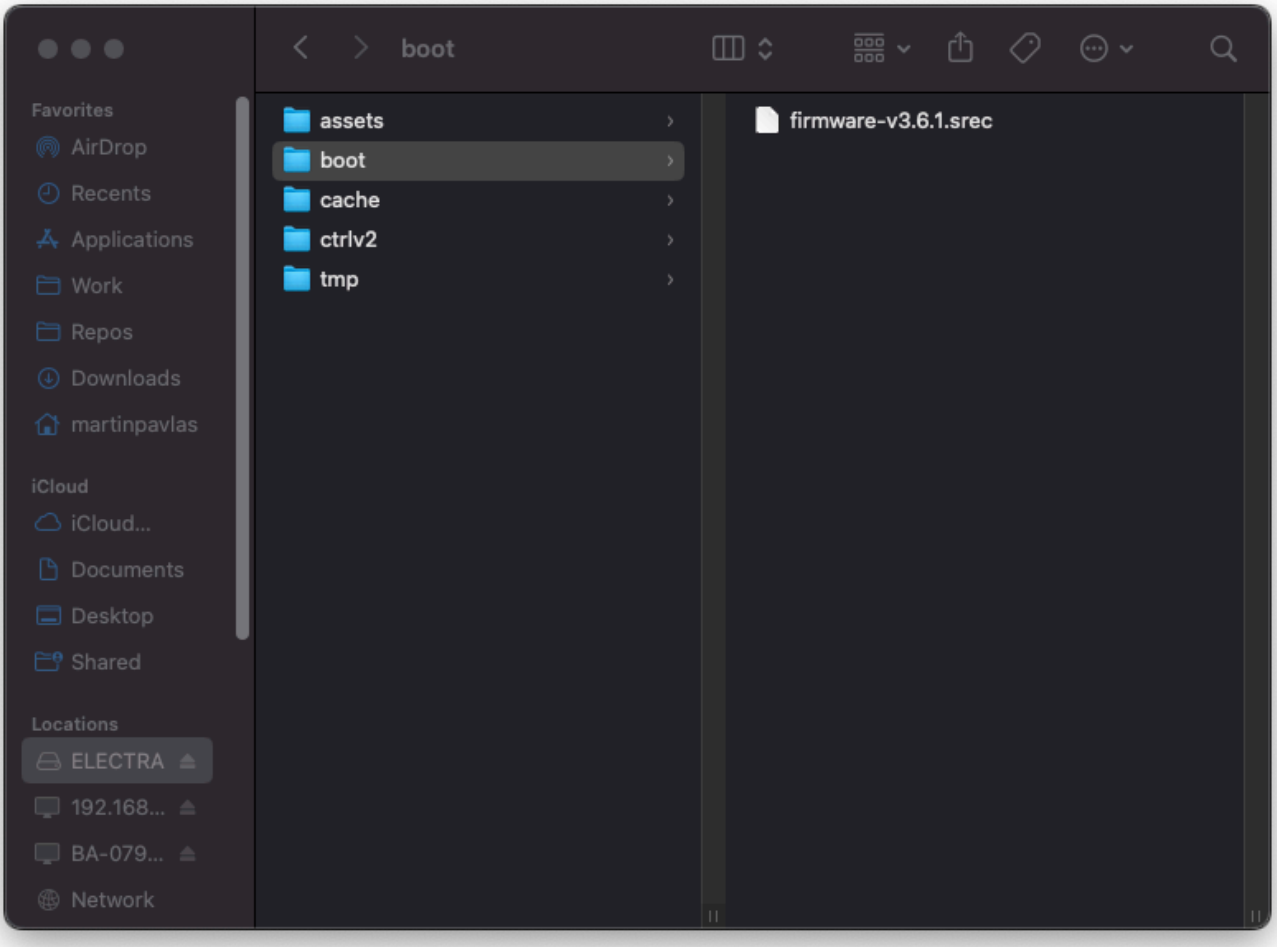
Below is the procedure for updating the firmware using the bootloader:

Download the latest firmware file

Download the latest firmware version from the Downloads page. After downloading, unzip the file to extract the `firmware-vx.x.x.srec` file, which will be used in the update process.

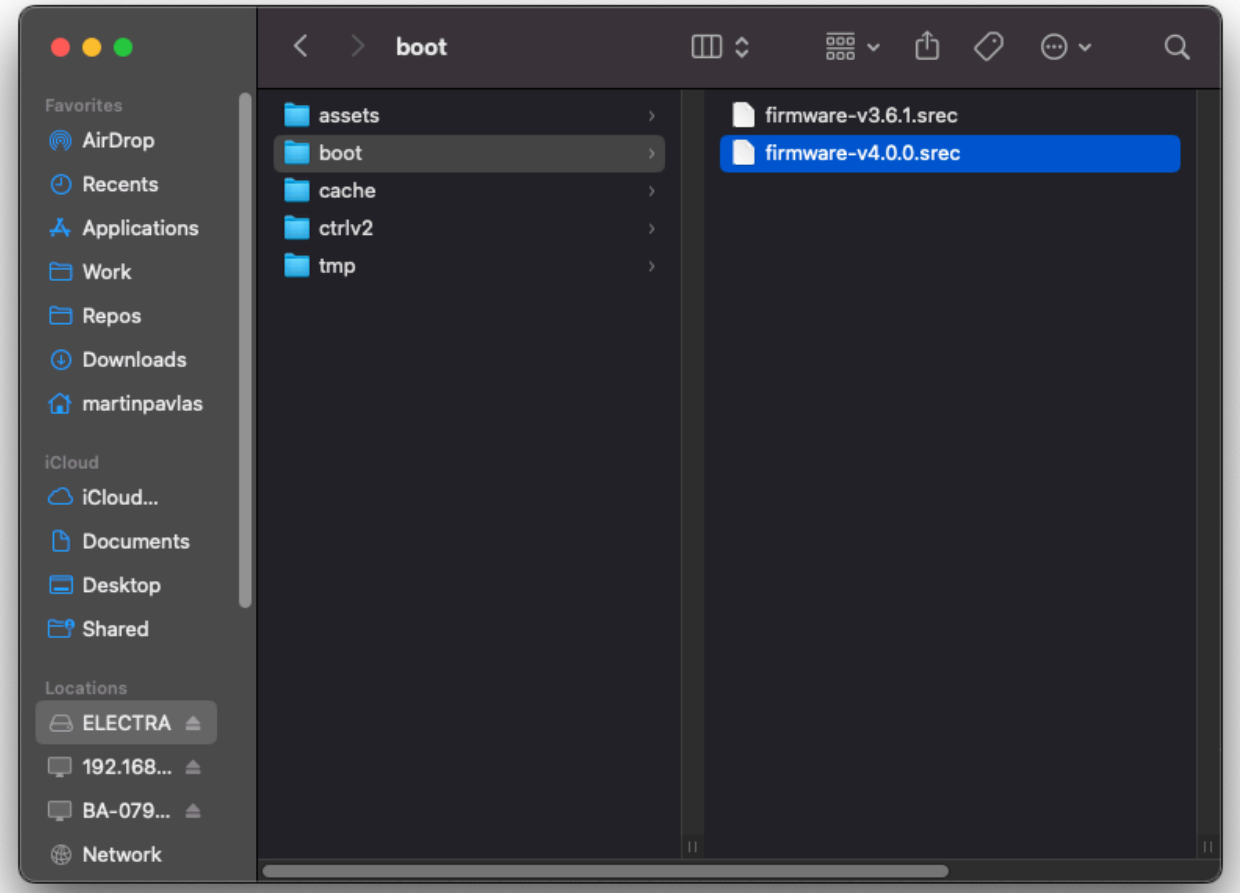
Enable the USB Disk

On the controller screen, tap the green `[Enable USB Disk]` button. Once enabled, the button label will change to `[USB Disk enabled]`, and your Electra One will appear on your computer as a USB drive named `ELECTRA`. Open the `boot` folder. Note, there might be some files present already.



Copy the update file to the boot folder

Copy the `firmware-vx.x.x.srec` file you downloaded in earlier the `boot` folder on the `ELECTRA` USB disk. This process may take a few moments to complete. In the example below, we copy the `firmware-v4.0.0.srec` file:

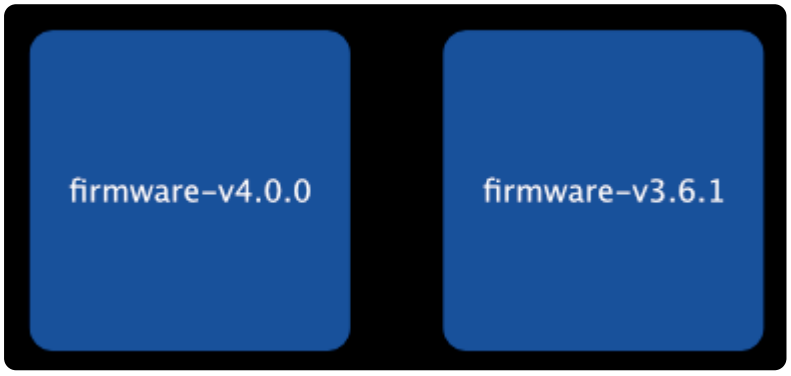


After the file has been successfully copied, close Finder (macOS) or File Explorer (Windows), and be sure to safely eject the disk before proceeding.

Reload the list of firmware images

Once the firmware file has been copied to the boot folder, press and hold the `[RIGHT-BOTTOM]` hardware button. While holding the button, tap the on-screen `[Restart]` button.

The bootloader will restart, and the `firmware-vx.x.x`, file will appear in the list of available firmware images, e.g.:



Apply the update

Tap the blue tile labeled `firmware-vx.x.x`, e.g. `firmware-v4.0.0`, to begin the update process.

The firmware update will start immediately. Once completed successfully, the controller will automatically reboot and run the newly installed firmware.