osmose - user manual

rev. 2.3 for osmose 49/61 synth - firmware 2.3

english version



EXPRESSIVE

introduction



congratulations

and thank you for purchasing Osmose!

Osmose is one of the most expressive synthesizers ever created. It is a complete standalone polyphonic synthesizer featuring our patented Augmented Keyboard Action mechanism, where the keybed responds polyphonically to pressure, aftertouch, and note bend.

It features the EaganMatrix by Haken Audio, a deep modular sound design engine, giving access to incredible sounds ready to explore right out of the box. On top of this, Osmose can also be used as an advanced controller for external hardware and software synthesizers, as well as for compatible DAWs.

By default, Osmose is very sensitive, the lightest touch can control the sound. You can decrease this huge sensitivity, but we encourage you to discover this new approach to enrich your playing experience with a multitude of new nuances!

disclaimer

Osmose is a constantly evolving product, so the information contained in this manual is subject to change without notice and does not represent a commitment on the part of Expressive E.

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for firmware versions 2.3.12+
© Expressive SAS, 9 Rue de la République, 13002 Marseille, France

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safety instructions

WARNING	• TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. DO NOT PLACE OBJECTS FILLED WITH LIQUIDS ON THIS APPARATUS. • OPERATING VOLTAGE 12V DC, MAXIMUM CURRENT 1.5A, SUPPLIED BY POWER SUPPLY CONSIDERED ES1/PS2 PER 62368-1. MODEL CERTIFIED UP TO 35ºC. • DO NOT ATTEMPT TO OPEN, REPAIR THE UNIT, OR REPLACE PARTS WITHIN IT (EXCEPT WHEN THE PRODUCT'S MANUAL PROVIDES SPECIFIC INSTRUCTIONS DIRECTING YOU TO DO SO; OR OUR AFTER-SALES SERVICE HAS AUTHORIZED YOU FORMALLY).

IMPORTANT SAFETY INSTRUCTIONS

Read these instructions carefully before using the product and always follow them. Expressive E cannot be held responsible for damage or data loss caused by improper use or modifications to the instrument. Do not throw away this instruction sheet. Instead, keep it for future reference.

Warning
• Never use or store the unit in places that are subject to high levels of vibration or extreme temperature (e.g., direct sunlight in an enclosed vehicle, near a heating duct, on top of heat-generating equipment); or humidity (e.g., baths, washrooms, on wet floors) or rain; or dust.
• Whenever you suspect the possibility of lightning in your area, or when there is a gas leak nearby, or when unused for long periods of time, pull the plug on the power cord out of the outlet.
• Do not use this apparatus close to magnetic fields.
• Never climb on top of, nor place heavy objects on the unit.
• Do not insert a finger or hand in any gaps in the instrument. Never insert or drop paper, metallic, or other objects into the gaps on the panel or keyboard. This could cause physical injury to you or others, damage to the instrument or other property, or operational failure. Expressive E cannot be held responsible for damage caused by improper use or modifications to the instrument, or data that is lost or destroyed.
• Only use attachments/accessories specified by the manufacturer. The unit should be connected to a power supply of only the type described in the operating instructions or as marked on the unit.
• Do not excessively twist or bend the power cord, nor place heavy objects on it. Doing so can damage the cord, producing severed elements and short circuits. Damaged cords are fire and shock hazards!
• Never handle the power cord or its plugs with wet hands when plugging into, or unplugging from, an outlet or this unit.
• This unit, in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume, or at a level that is uncomfortable. If you experience any

hearing loss or ringing in the ears, you should immediately stop using the unit, and consult an audiologist or an ENT doctor.
• A sound peak occurs on the stereo output of the instrument when it's being toggled on/off. You may want to turn down the volume on all speakers and headphones before doing so.
• In households with small children, an adult should provide supervision until the child is capable of following all the rules essential for the safe operation of the unit.
• To avoid scratches or damage, never use sharp objects on the body or screen of the instrument. Do not apply any pressure to the LCD screen.
• Do not force the unit's power supply cord to share an outlet with an unreasonable number of other devices. Be especially careful when using extension cords.
• Before cleaning the unit, turn off the power and unplug the power cord from the outlet. When cleaning, use a soft and dry cloth. Do not use gasoline, alcohol, acetone, turpentine, or any other organic solutions; do not use a liquid cleaner, spray, or cloth that's too wet.
• The total power used by all devices you have connected to the extension cord's outlet must never exceed the power rating (watts/amperes) for the extension cord. Excessive loads can cause the insulation on the cord to heat up and eventually melt through.
• When one of the following problems occurs, immediately turn off the power switch and disconnect the electric plug from the outlet. Then have the device inspected by Expressive E service personnel.

- The power cord or plug becomes frayed or damaged.
- It emits unusual smells or smoke.
- The instrument has been exposed to rain or moisture.
- The instrument has been dropped.
- Some objects have been dropped onto the instrument.
- Liquid has been spilled onto the instrument.
- There is a sudden loss of sound during use of the instrument.

• Do not attempt to open, repair the unit, or replace parts within it (except when this manual provides specific instructions directing you to do so; or our after-sale service authorizes you).

IMPORTANT NOTICE TO CONSUMERS
This product has been manufactured according to strict specifications and voltage requirements that are applicable in the country in which it is intended to be used. If you have purchased this product via the Internet, through mail order, and/or via a telephone sale, you must verify that this product is intended to be used in the country in which you reside.

WARNING: Use of this product in any country other than that for which it is intended could be dangerous and could invalidate the manufacturer's or distributor's warranty. Please also retain your receipt as proof of purchase, otherwise your product may be disqualified from the manufacturer's or distributor's warranty.

SUPPLIER'S DECLARATION OF CONFORMITY (for the USA):
Responsible Party: Expressive SAS
Address: 11 rue de la République, 13002 Marseille, France
Phone: +33-185-091-168
Equipment Type: Polyphonic Synthesizer
Model: Osmose 49

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Industry Canada Compliance
This Class B digital apparatus complies with Canadian ICES-003
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada

ROHS Compliance

Expressive SAS has conformed, and this product conforms, where applicable, to the European Union's Directive 2011/65/EU on Restrictions of Hazardous Substances (RoHS) as well as the following sections of California law which refer to RoHS, namely sections 25214.10, 25214.10.2, and 58012, Health and Safety Code; Section 42475.2 Public Resources Code.

This device complies with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to the Electromagnetic Compatibility Directive (2014/30/ EU), Low-voltage Directive (2014/35/ EU), RoHS directive (2011/65/EU). This product has been tested and found to comply with the harmonized standards for Information Technology Equipment. These harmonized standards are published under Directives of the Official Journal of the European Union. The integral text of the EU declaration of conformity is available at the following online address: www.expressivee.com

NOTICE REGARDING DISPOSAL



When this "crossed-out wheeled bin" symbol is displayed on the product, owner's manual, or power supply, it signifies that when you wish to dispose of this product, manual or power supply, you must do so in an approved manner. Do not discard this product, manual or power supply, along with ordinary household waste.

Contact	Technical support
Expressive SAS 11 Rue de la République 13002 Marseille France contact@expressivee.com	www.expressivee.com section "support" technical-support@expressivee.com

overview

before you start

box content

1x Osmose expressive synthesizer
1x Quick Start Guide leaflet
1x product safety manual. Please read it before using Osmose
1x USB cable
1x power supply with international adapters.

lockable power supply connector



⚠️ Osmose's power supply has a locking connector to prevent accidental disconnection. When inserting, first align the power connector's wings, so they match the horizontal notches on the power input. Push firmly, then rotate the barrel clockwise to secure it to the casing.

keyboard calibration

The rest position of Osmose's keys is calibrated while the unit is booting. Please make sure nothing is touching the keys during this step.

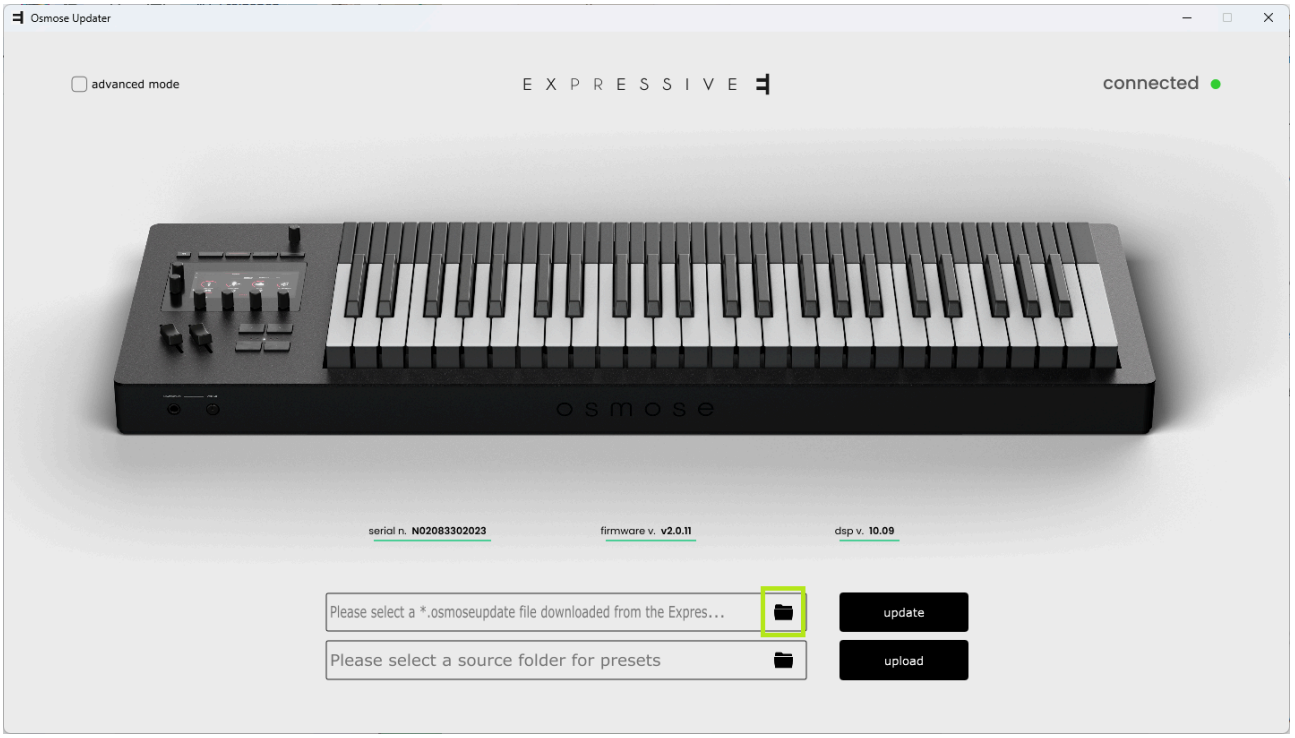
maintain the keybed's longevity

The Augmented Keyboard Action's unique playing feel is attained mainly by silicone cylinders below each key. While the material is designed to last numerous years without deteriorating, you will need to ensure that the cylinders can always revert to their uncompressed, idle position after being pressed.
Do not stow away your Osmose in a way that permanently compresses its keys, or you will risk the cylinders underneath losing their elasticity and needing to be replaced.

register your device

In order to get access to all Osmose-related download links like the up-to-date firmware, please enter the activation code from the brown quick start leaflet that came with your unit on the product registration page of your Expressive E user account. You can also register using the serial number itself (see sticker on the bottom of the instrument). Please contact our commercial support team if your unit has already been registered with another account and the former user forgot to unregister their unit.

firmware update



We always recommend installing the latest available firmware on your device.
The firmware download comes bundled with the application OsmoseUpdater, which is used to back up/restore user data, update Osmose's operating system, and flash the EaganMatrix DSP firmware.

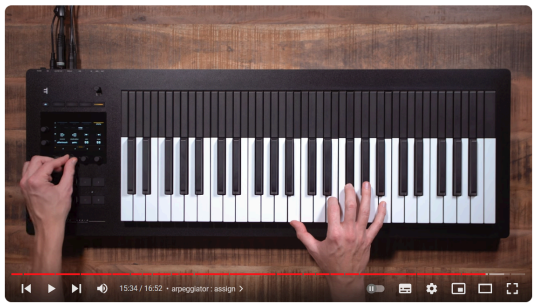
☝ This manual revision 2.3 describes the feature set of Osmose 49 and Osmose 61 with operating system version 2.3 or higher. If you own an Osmose and don't find certain functions that are described in this manual on your Osmose, then make sure to upgrade your Osmose firmware.

The download is available in your customer account after registering your product on our website. For detailed instructions, please refer to this dedicated document:

🔗Osmose firmware update instructions

quick start videos

To gain an overview of the internal sound engine mode, we recommend watching
▶️ Osmose Quick Start: Internal Sound Engine Mode (OS v1.x)



The features added in version 2.0 of the firmware are introduced in this separate video:
▶️ Osmose firmware 2.0 - 7 things to know



The features added in version 2.1 of the firmware are introduced in this separate video:
▶️ Osmose firmware 2.1 - overview



The features added in version 2.3 of the firmware are introduced in this separate video:
▶️ Osmose firmware 2.3 - overview



hardware overview



1 **Power Input** - connects to the original 12V, 1.5A, center-positive power adaptor, featuring a lockable connector. See here for compatible power supplies.

2 **Audio Outputs** - Two pseudo-balanced, 1/4" TRS line audio outputs, controlled by the master volume knob on the front panel. Connect TS or TRS cables to make a connection to the inputs on your audio interface or mixing desk. If you wish to establish a balanced connection (only supported when the inputs are balanced as well), TRS cables are needed. When you are limited to using only one cable, connect only the left (L) channel for mono-summing.

3 **Pedals Inputs** - Two 1/4" TRS jack inputs for continuous control of parameters. By default, Pedal 1 is assigned to Sustain, and Pedal 2 is assigned to a macro parameter. Not all pedals are supported, and they need to be calibrated before usage, see pedal calibration.

4 **USB** - Class-compliant USB for bidirectional MIDI communication with a computer. Digital audio over USB is *not* supported. See also connect Osmose to your computer.

5 **MIDI DIN IN/OUT**- Standard 5-pin connectors for communication with MIDI devices. MIDI Out sends MIDI messages according to what is selected in config menu of External MIDI Mode. MIDI In can be used to trigger the internal sound engine.



6 **Master Volume** knob - controls the volume on the line audio outputs.

7 **Main Control Interface** - access to all of Osmose's parameters, see main control interface.

8 **Preset and Octave Buttons** - < and > buttons select the previous and next preset.
- and + buttons transpose the keyboard up or down in octaves. The LEDs indicate the current keyboard transposition state.
☝ These buttons only affect the mode currently selected, see mode selection screen.
In DAW Control Mode, using the buttons in combination with SHIFT, sends Undo/Redo and Quantize/Tempo commands.

9 **Sliders** - a spring-centered pitch bend slider controls the global pitch bend. The modulation slider allows for extra control over synth parameters. When using the internal sound engine, the modulation slider always controls the same function as pedal input 2, see mod/pedal tab.

10 **Headphones Output** - 1/4" TRS stereo output. Its volume is controlled by the retractable headphone volume knob to its right.

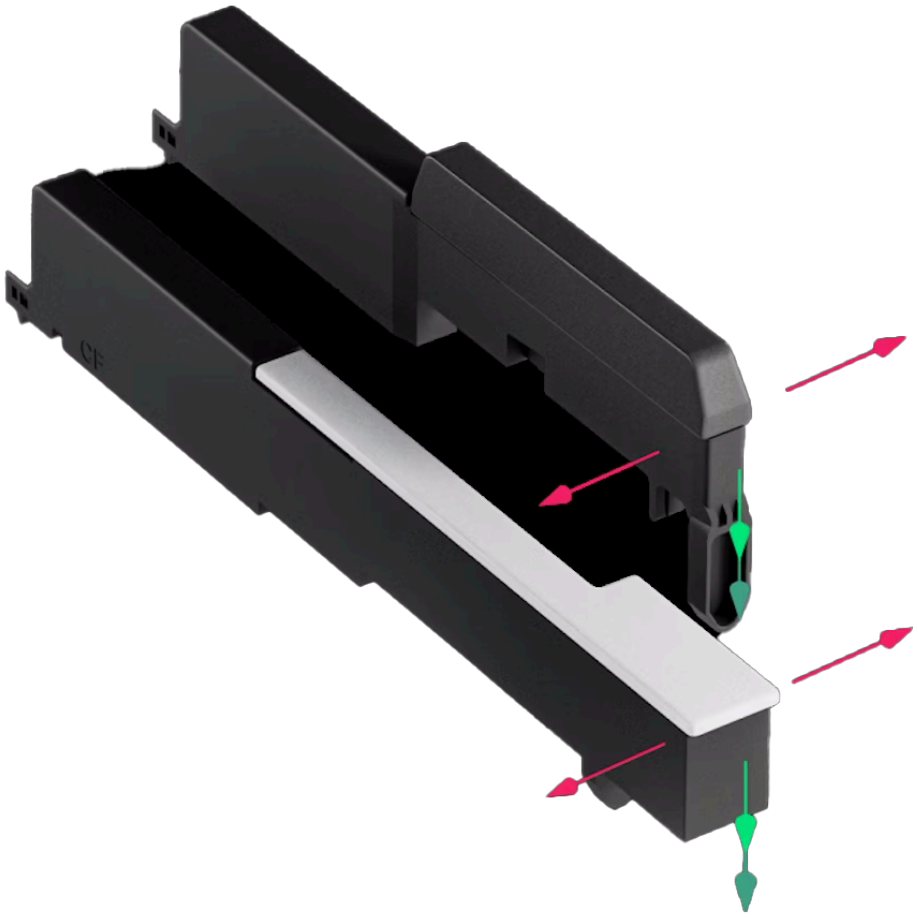
augmented keyboard action

Osmose is constantly scanning the position of its keys, offering a seamless connection between every gesture played by the musician and the resulting sound.

☝️ The Augmented Keyboard Action on Osmose does *not* work as a capacitive surface like a touch screen or touchpad. It does not detect your finger position, but the position of its keys in order to always offer progressive pressure feedback even when playing with your eyes closed.

Three axis motions are taken into account:

- extended polyphonic **pressure**
- hi-resolution polyphonic **aftertouch**
- polyphonic pitch **bending**



osmose usb midi ports

When you connect Osmose to your computer, five USB MIDI ports will appear.
⚠️ Make sure you always choose the correct port for the specific task.
Just activating “All MIDI Ins” for a DAW track instead of selecting the port purposefully can quickly lead to unwanted behavior and/or MIDI conflicts.

1) play port

macOS: **‘Osmose play’** *(Port 1)* or **‘Osmose 61 play’** *(Port 1)*
Windows: **‘Osmose’** *(Port 1)* or **‘Osmose 61’** *(Port 1)*

Use this port to control any external synth. Sends data according to the configuration chosen in External MIDI Mode or DAW Control mode.

2) sound engine port

macOS: **‘Osmose sound engine’** *(Port 2)* or **‘Osmose 61 sound engine’** *(Port 2)*
Windows: **‘MIDIIN2 (Osmose)’** or **‘MIDIIN2 (Osmose 61)’**

Use this port to record performances meant for its internal sound engine in an external sequencer or DAW to replay or edit them. This includes slider, macro and global fx parameter movements.

3) din interface port

macOS: **‘Osmose din interface’** *(Port 3)* or **‘Osmose 61 din interface’** *(Port 3)*
Windows: **‘MIDIIN3 (Osmose)’** or **‘MIDIIN3 (Osmose 61)’**

Use this port when you want to send or receive MIDI messages on Osmose’s DIN ports. To activate this port, you need to set the ‘din mode’ in midi i/o tab of global settings to ‘usb interface’.

4) daw control port

macOS: **‘Osmose daw control’** *(Port 4)* or **‘Osmose 61 daw control’** *(Port 4)*
Windows: **‘MIDIIN4 (Osmose)’** or **‘MIDIIN4 (Osmose 61)’**

Use this port to establish communication of the DAW protocols that enable DAW Control mode functionality. Don’t try to use it to control any MIDI devices, as it does not send, or receive, MIDI note information.

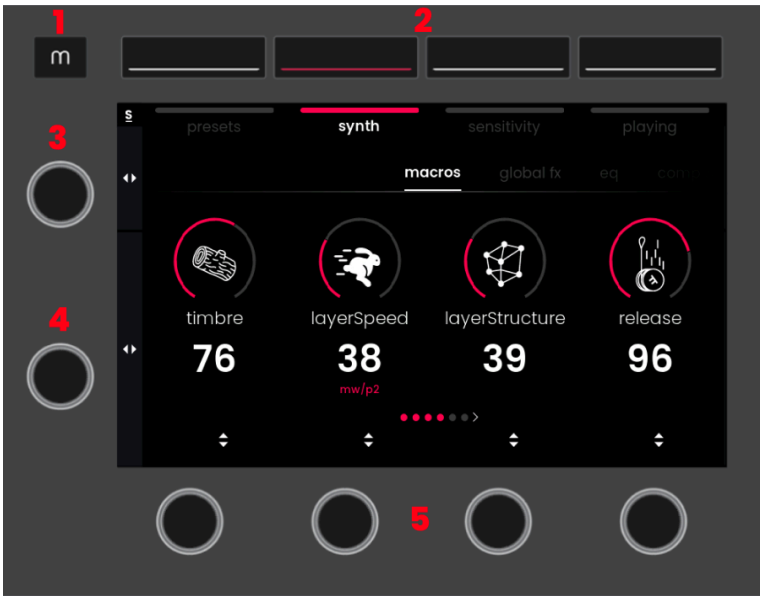
5) haken port

macOS: **‘Osmose haken’** *(Port 5)* or **‘Osmose 61 haken’** *(Port 5)*
Windows: **‘MIDIIN5 (Osmose)’** or **‘MIDIIN5 (Osmose 61)’**

Interfaces directly with the EaganMatrix DSP. Use this port only to make the connection with the Haken Editor. You can activate the Haken Audio port in the global settings -> midi i/o -> haken usb mode. This port was Port #2 on older Osmose firmware versions (until v2.1).

main control interface

The left side of Osmose is built around an interactive graphic interface that provides access to all onboard parameters. The navigation works via five buttons and six clickable encoders whose functions change depending on the current screen.



1. **MODE button / SHIFT (m)** - opens the Main Menu (mode selection screen) when in Sound Engine Mode or External MIDI mode. In DAW Control mode, pressing it shows or hides the Transport Panel. Holding it as SHIFT button gives access to secondary functions.

2. **MENU buttons** - access one of the four menus of a mode, or work as transport controls when Transport panel is open in DAW Control Mode.

3. **Knob A (TAB Selector)** - scrolls through the tabs of a menu. When in Sensitivity or Playing menu, pressing the Tab Selector freezes the settings of the menu to retain them even when switching presets.

4. **Knob B (PARAMETER Selector)** - scrolls through parameters inside a tab. When in Playing menu, pressing the Parameter Selector starts or pauses the Arpeggiator or switches Pressure Glide on and off.

5. **VALUE Encoders 1-4** - change the value of the parameter displayed above or scroll through a list of options.

The icons displayed next to each encoder indicate the available actions for that knob.

 horizontal arrows: turn to scroll through tabs or parameter lists, see 'navigation principles' below.

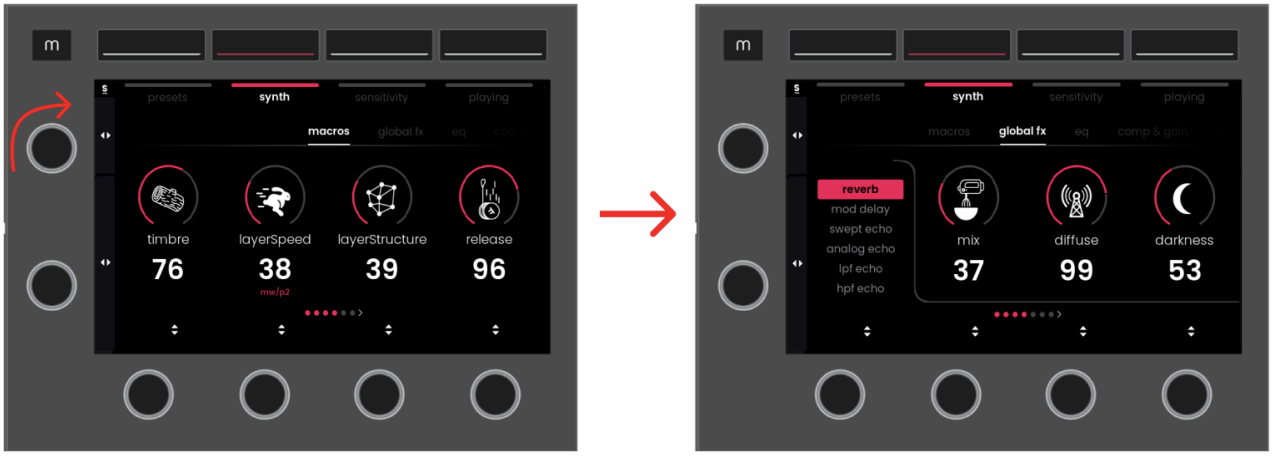
 vertical arrows: turn to change the parameter shown above. With colored dot: press to select or toggle.

 colored dot with special symbol: press to trigger a special function.

navigation principles

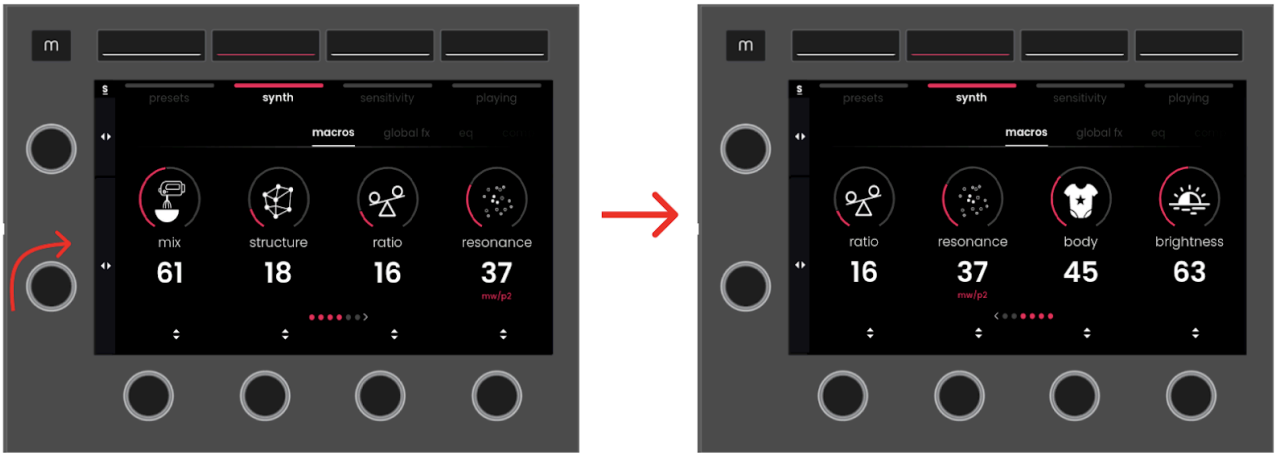
tab navigation

To scroll through tabs in a menu, turn the Tab Selector in the upper left.



parameter navigation

If more than 4 parameters are available in a tab, turn the Parameter Selector to scroll through available parameters.

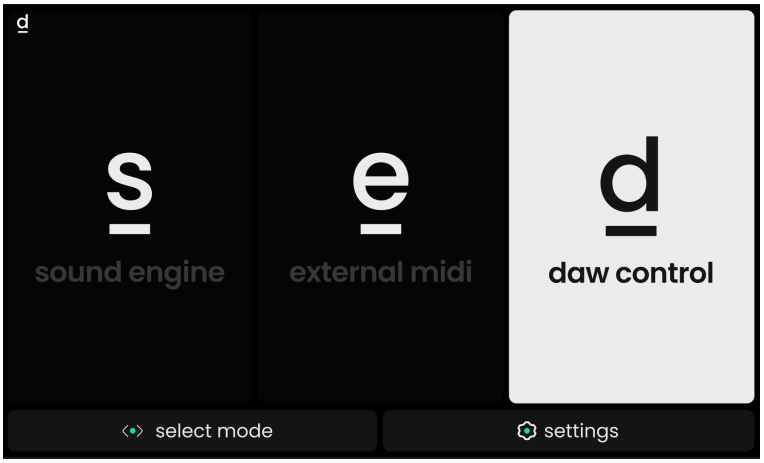


At the bottom of the screen, the icons pictured below indicate the number of total parameters in the tab:



main menu / mode selection screen

selecting the mode



Press the MODE (m) button, then turn and press Value Encoder 1 to switch between controlling the internal Haken Audio EaganMatrix sound engine and configuring the behavior of the External MIDI mode. When a compatible DAW is detected on the computer Osmose is connected to, a third DAW Control mode is offered.

When DAW Control mode is active, the main menu is only accessible via the bottom action bar (hold SHIFT).

ℹ️Sound Engine mode and External MIDI mode / DAW Control Mode will always run in parallel. Selecting a mode only decides which mode you would like to access and configure.

A symbol in the upper left corner of the display will indicate the currently selected mode at all times:

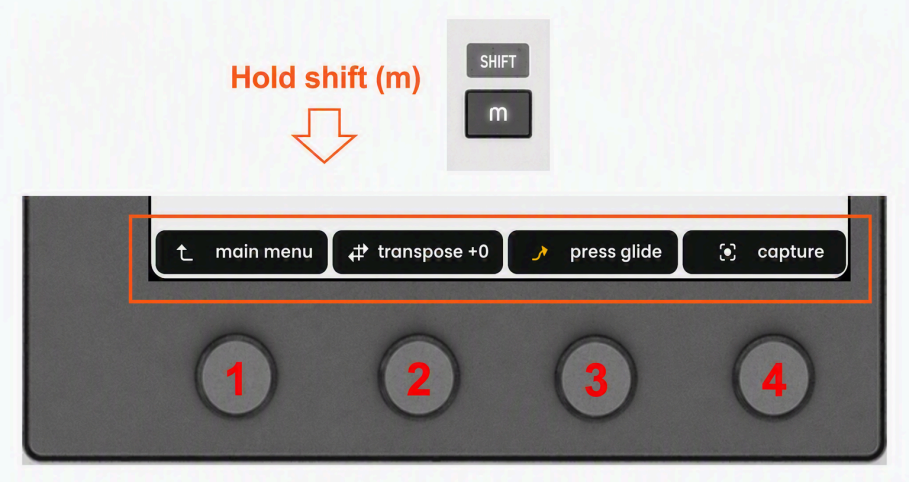
s e d

open global settings

Pressing Value Encoder 4 (below the cogwheel symbol ⚙️) in the Mode Selection screen opens the global settings of Osmose. They allow you to change the global tuning, calibrate pedals, display the firmware versions, change the screen brightness, etc.
For more information, refer to the global settings chapter.

bottom action bar

Holding **SHIFT (m)**, wherever you are in the navigation, reveals the **bottom action bar**.



The bottom action bar gives quick access to global or context-related shortcuts:

1 - main menu - Press **encoder 1** to return to the main menu.

2 - transpose - Turn **encoder 2** to transpose the keyboard in semitone steps. Press to reset to 0. Transposition is applied only to the current mode you are in.

3 - toggle playing feature - Press **encoder 3** to enable or disable the selected playing feature for the currently active mode, either pressure glide or the expressive arpeggiator.

4 - capture / switch device - Press **encoder 4** to trigger your DAW's MIDI Capture function, when available. MIDI Capture retrieves the notes you have just played, even if you were not recording.
☝ The capture function is available in Ableton Live, Cubase, and Logic Pro. It is not available in Bitwig Studio.
When in macros tab, the shortcut "switch device" will be shown instead of "capture", see section macros and device switching.

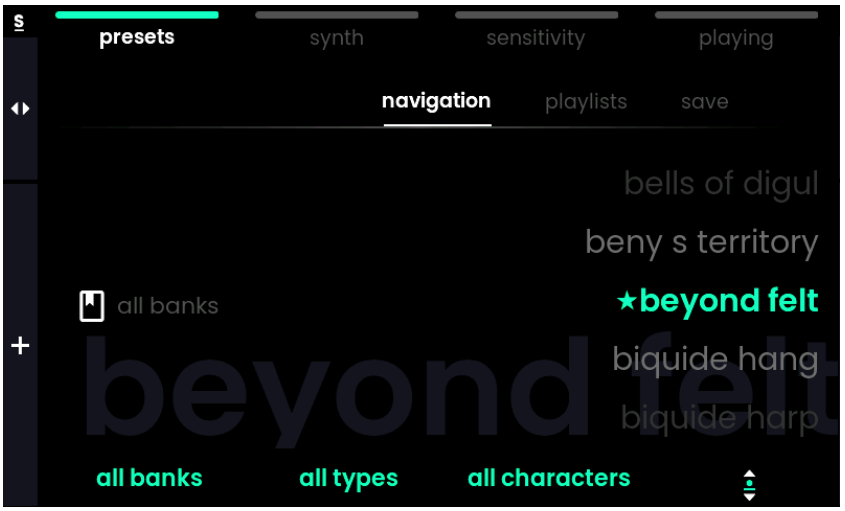
sound engine mode

presets menu

The Presets menu allows you to browse the sounds of the internal EaganMatrix sound engine and save user presets. It contains the following tabs:

navigation tab : access your presets library
playlist tab : access your playlists
save tab : save your current preset

navigation tab



The 'navigation' tab displays all the sound presets that are available on Osmose in alphabetical order. The currently loaded preset is highlighted in green and also displayed as a big gray watermark in the background.

Turn the right-most Value Encoder to select another preset. You need to push the Encoder to actually load the preset. You can also step through the current preset list with the dedicated Preset Buttons.

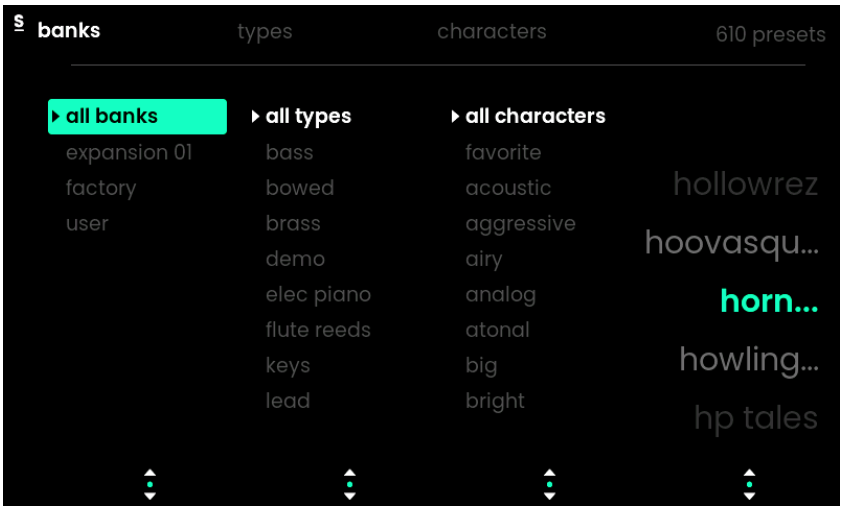
If a playing feature is activated on a preset, a press glide or arpeggiator icon appears on the left side of the screen:



filter the preset list

Osmose can onboard up to 2048 presets. With about 500 factory presets already being installed, you still have more than 1500 free slots for user presets.

If you want to quickly find a specific sound, you can narrow down the preset list by selecting a bank, a type and character. For this, turn any of the first three Value Encoders below the screen, and the filter view will be shown.



Use the first Encoder to choose a specific bank (factory, user, or expansion banks). Turn the second Encoder to choose a specific type of sound, like bass, pads, leads, or mallets. Use the third encoder to filter down the list based on a sound's character, like acoustic, FM, dark, electric, etc. Push or simply let go of the Encoder for a moment to make your selection.

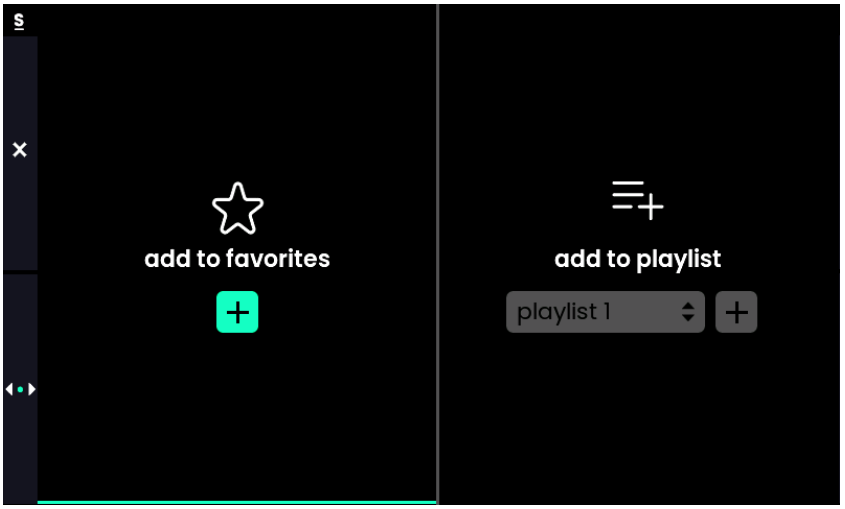
⭐The character filter also contains the "favorite" tag that lets you refind presets that you have marked as favorites.

💡If you wish to explore sounds that feature the specific keybed gestures 'Strum' and 'Shake', those are available as a character tag as well.

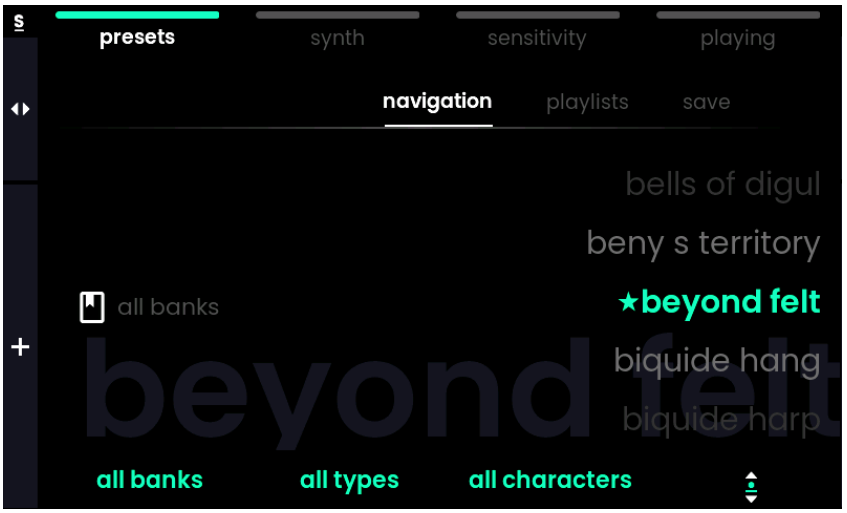
add a preset to your favorites

You can add a preset to your favorites to easily refind it.

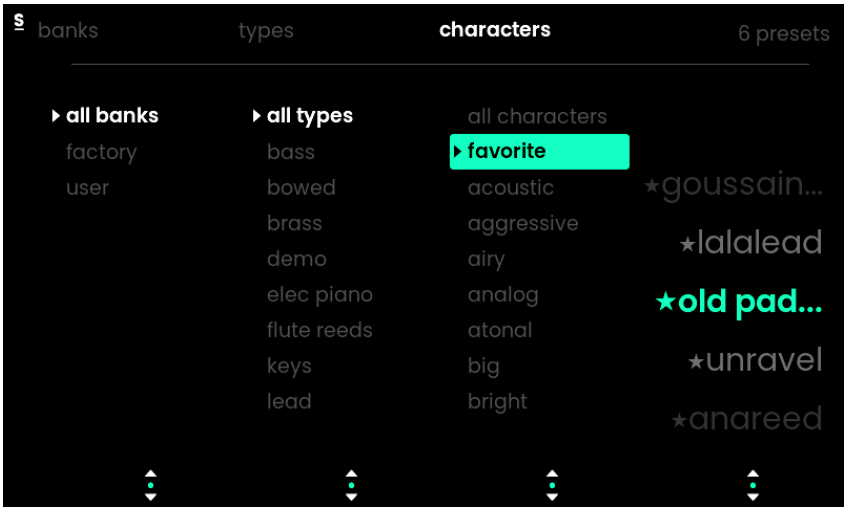
In the presets menu of sound engine mode, press the Parameter Selector next to the + symbol (the lower encoder left of the screen). A new "add to" screen will pop up. Press the Parameter Selector again to add the currently loaded preset to your favorites.

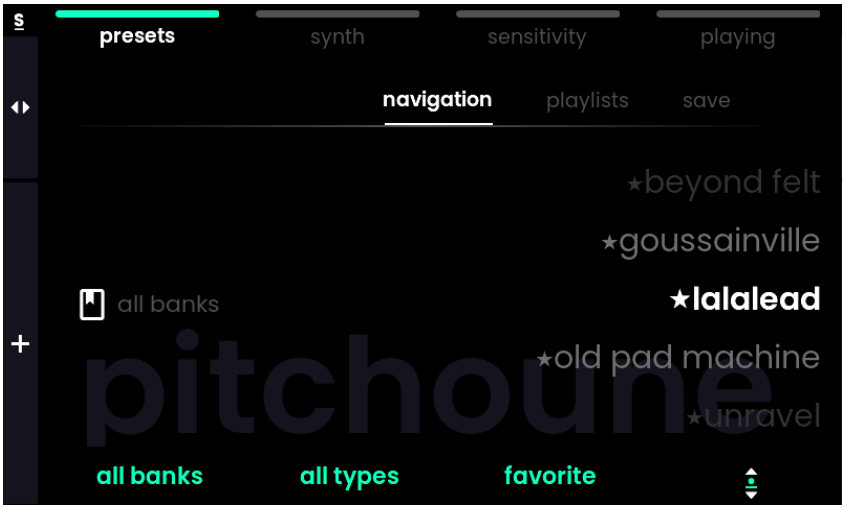


Favorite presets will appear with a ★ in the front of their name in the preset list:



You can filter the list to only show favore presets by selecting the tag “favorites” for the character filter (turn Value Encoder 3 in the navigation tab).



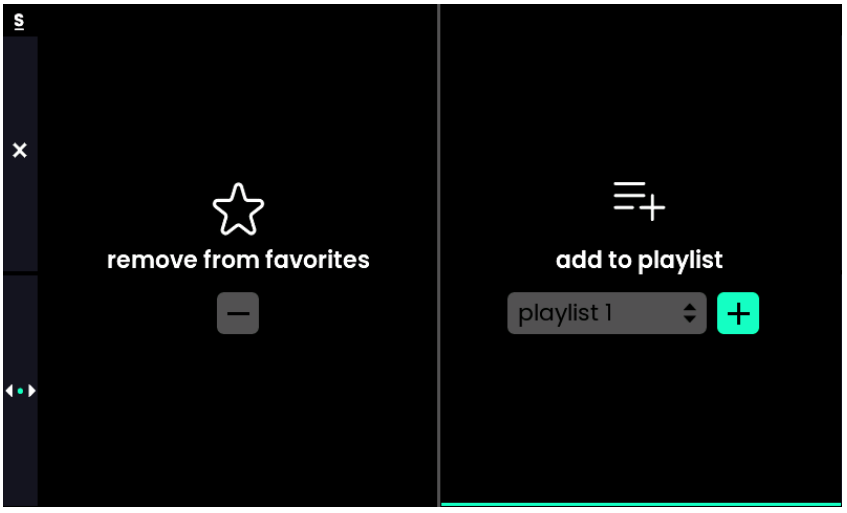


remove a preset from your favorites

You can remove a preset from your favorites by accessing the “add to” screen again. Click on the + symbol in the navigation tab, then **-** to “remove from favorites”.

add a preset to a playlist

In navigation tab, press the Parameter Selector next to the **+** symbol (the lower encoder left of the screen). The “add to” screen will pop up:

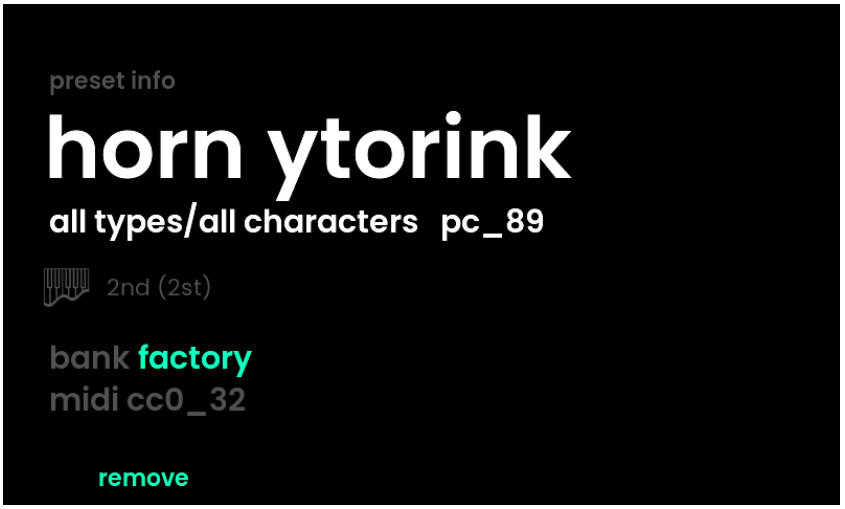


Scroll right by turning the same encoder and push to open the selection of which playlist you want the preset to be added to. Scroll further right to the **+** symbol and push to add the preset to the selected playlist.

☝ If the “add to playlist” option is greyed out, then no playlist is available and you need to create a playlist first, see playlist tab.

delete a sound preset

You can delete a preset via its preset info popup. Long-press on Value Encoder 4 in the navigation tab to show the preset info. Press Value Encoder 1 below “remove” and confirm to delete the preset.



display program change / bank select information

It’s possible to remotely switch presets in Osmose from an external device using MIDI messages. To find out which message needs to be sent to dial up a specific preset, the preset info popup will also display the MIDI Bank Select (CC#0) and Program Change (PC) value you need to send to Osmose to recall this preset remotely from an external device.

Such messages are expected on either USB MIDI Port 2 input (the Sound Engine Port) or the DIN MIDI input. For the latter to work, the din mode in the midi i/o tab of global settings needs to be set to “dsp in”, “dsp in/out”, or “cvc”.

ℹ️There is a shortcut to recalling presets that have been added to a playlist:
MIDI CC#0 (Bank Select) with a value of 0 to 29 lets you select from playlists 1 to 30, Program Change with a value of 0 to 127 will dial up the playlist’s preset slot 1 to 128.

ℹ️On a technical level, the default range of MIDI values is always 0 to 127. Depending on the device from which you send the MIDI messages, value 0 may be displayed as #1 and value 127 as #128. In Osmose's preset info popup, both bank numbers and program numbers are displayed with the range 1 to 128, even though technically the value range is 0 to 127. This follows the implementation in the popular DAW Ableton Live.

We recommend that you check the lowest possible value that you can set for CC0 and Program Change in the device that sends the Bank Select and Program Change messages, respectively. This will tell you whether you need to apply an offset of 1 to the values shown in Osmose's preset info popup or not. If the lowest value you can send is

0, you will need to apply an offset. If it's 1, you can just use the number suggested by Osmose's preset info popup.

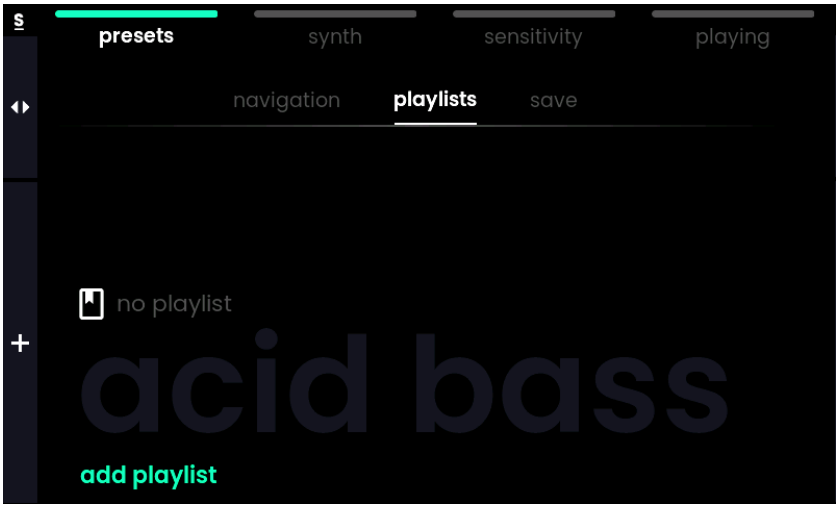
playlists tab

You can create up to 30 playlists with up to 128 presets each in order to prepare for a live performance or make a theme-based collection of sounds for a project you are working on.

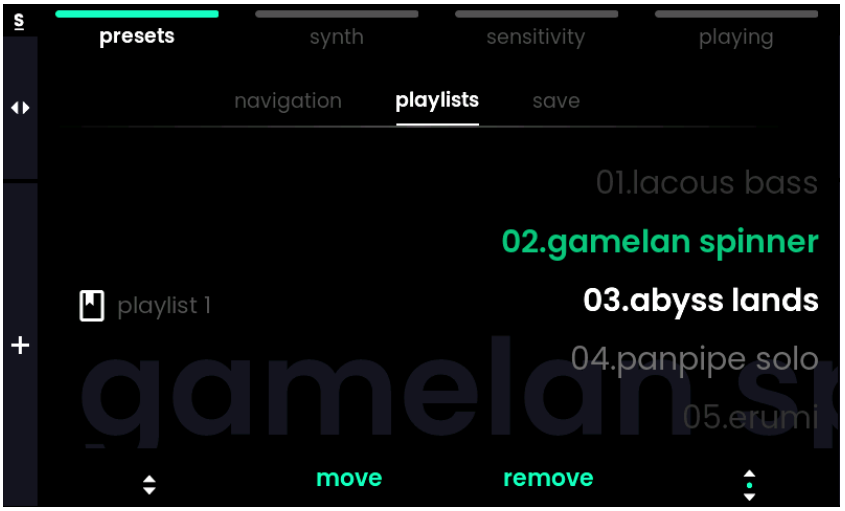
Navigating presets in the playlist tab works just like in navigation tab: Either scroll with Value Encoder 4 and push to actually load the preset, or skip through the playlist's slots with the dedicated Preset Buttons. Use Value Encoder 1 to select the playlist. A filter view is not accessible in playlists tab.

create a playlist

By default, no playlist will be present on your Osmose. You must create a first playlist before you can add presets to it. This is done in the 'playlists' tab in the presets menu of sound engine mode. Press Value Encoder 1 below the screen ("add playlist") to create your first playlist. If you already have a playlist created, you can add more by turning the first encoder when in playlist tab, then select 'add playlist'.

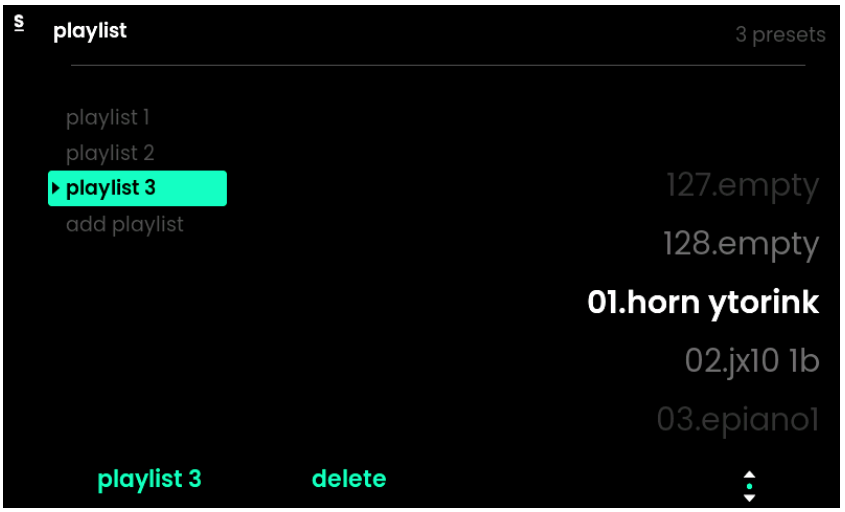


In the playlists tab, you can use the 'move' function to put a preset in a different position. Click on the second Encoder (below "move") to pick up the preset, turn the Encode to change the playlist position, and click again to drop the preset at that spot.



To remove the currently selected preset from a playlist, click on the third Encoder (below “remove”).

delete a playlist

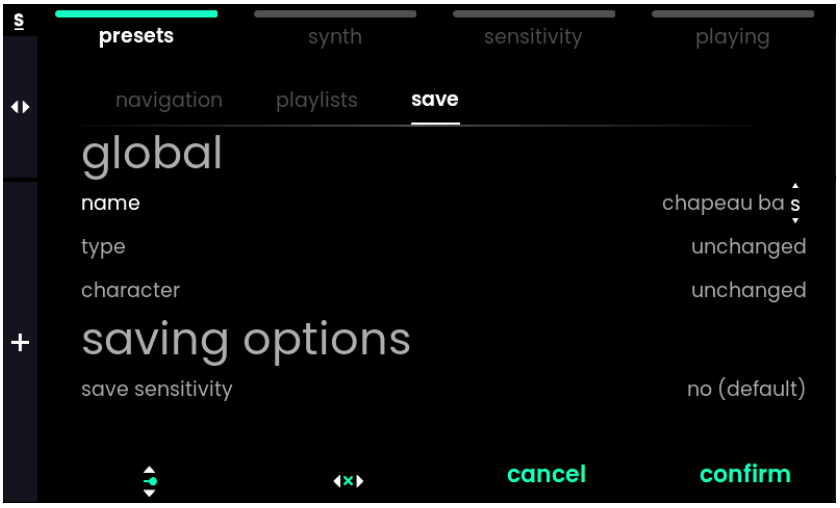


A playlist can be deleted from the playlist selection screen that is shown when turning Value Encoder 1. Select the preset with Value Encoder 1, then press Value Encoder 2 below “delete” and confirm to delete the playlist.

save tab

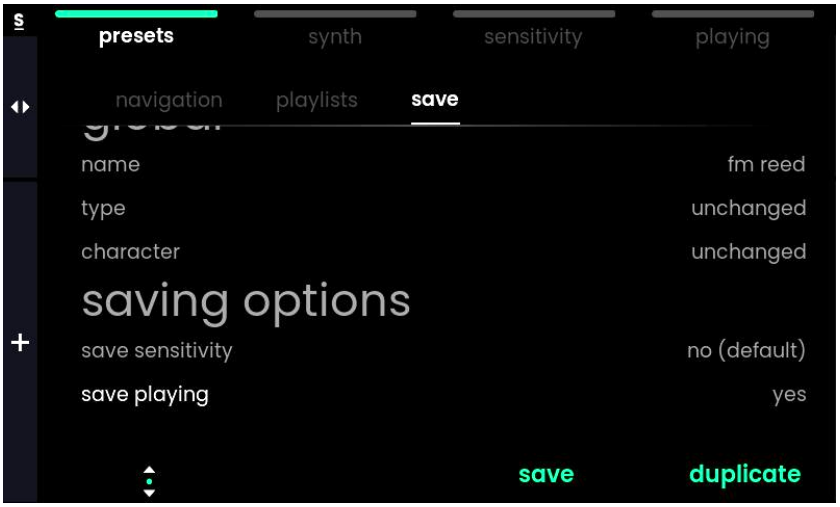
The ‘save’ tab allows you to save the current state of a sound preset as a user preset in the ‘user’ bank. User presets can be recalled via the navigation tab like any other preset.

save tab - global parameters



Before saving a preset, you can define its name as well as its type and character tags. Use the first Value Encoder below the screen to navigate to the field you wish to update and click to enter the editing process. Turning the same encoder lets you change the symbol/tag. When naming a preset, turning the second encoder lets you move the cursor and clicking it deletes the current character. Click ‘confirm’ to save the changes or ‘cancel’ to reset the field to its previous state.

saving options



A user preset file always contains the sound’s entire programmation of the EaganMatrix, which includes the ‘synth’ tab parameters such as macros and fx settings which are editable directly on Osmose. Optionally, you can also include your custom sensitivity settings as well as the playing menu settings (press glide or arpeggiator settings):

‘Save sensitivity’ lets you decide whether you wish to save the current sensitivity menu settings as part of the user preset. This option is deactivated by default but may be useful to cater to the specific character of a sound. For instance, while a monophonic lead sound may be joyful to play with a lot of vibrato and bending, you may wish to deactivate bending altogether when playing more traditional electric piano sounds.

‘Save playing’ lets you decide whether you wish to save the playing menu settings with that preset. This option is activated by default because the press glide or arpeggiator settings are often considered an integral part of a preset’s experience.

save a preset

‘Save’ will update the preset with all the changes you have made and include the saving options you chose. A safety prompt will ask you to give your OK to overwrite.



duplicate a preset

‘Duplicate’ is comparable to the “save as” option you know from computer applications. It saves a preset just like the save function, but doesn’t overwrite the existing preset. If you didn’t change the preset’s name, Osmose will automatically add a number at the end of the original preset’s name.



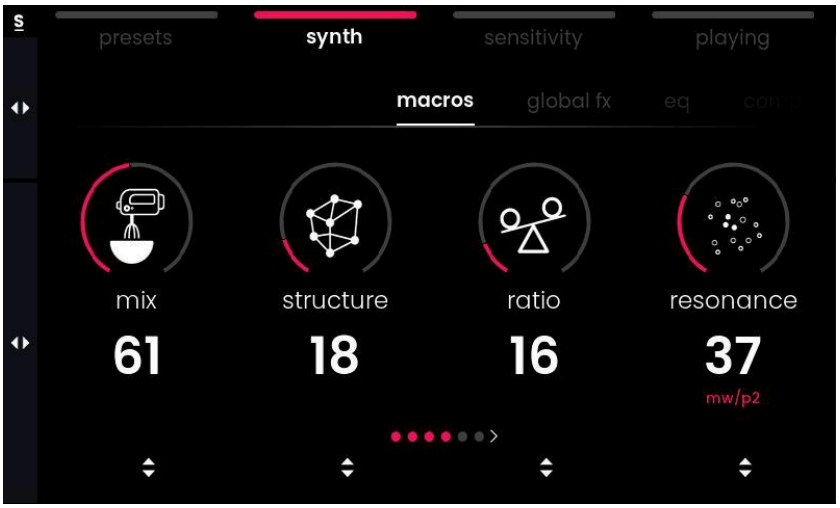
synth menu

The Synth menu allows you to adjust the sound of each selected preset individually. It also lets you change the behavior of the sliders and pedals for that sound. It contains the following tabs:

macros tab : tweak predefined macros for subtle to drastic changes to the sound of the preset
global fx tab : select the preset's global reverb or delay effect and adjust its parameters
eq tab : access a shelving equalizer to change the frequency balance between lows and highs
comp & drive tab : select and configure the compressor or the drive output stage
voice tab : set the pitch slider range
assign tab : define the parameters controlled by the modulation slider and the pedals.

i If you wish to save the changes you have made, use the save tab inside the presets menu.

macros tab



The first tab in the synth menu gives access to up to 6 sound macros that are predefined by the sound designers during preset creation. A single macro can modulate multiple parameters in Osmose's modular sound engine at once, allowing for subtle to drastic changes to the sound of a preset.

The choice of macros offered will be different depending on the preset type. It may include envelope times, cutoff values, FM ratios, etc. Presets that share the same type and character tag will have similar macros to play with. Find below some examples of basic macros you will come across often:

analog-style and fm sounds

**timbre** changes the tone of the sound source, adding more or fewer harmonics.

**fmAmt** is the amount of FM synthesis applied to the sound, generating complex timbres by modulating the frequency of one sound source with another.

**fmRatio** changes the FM ratio, the overtones/harmonics relations impacting the timbre of the sound.

**cutoff** is a filter control for attenuating high or low frequencies of the sound.

**envAmt** is the amount of envelope applied to the sound when you press the key; it is a form of automation that is triggered by the velocity of your gesture and added on top of the continuous gesture control.

**envTime** is the time length of the envelope applied to the sound. You can, for instance, morph from a very long pad with a lot of release to a short, brassy sound.

**modulation** is a cyclic and automatic variation applied to the whole timbre of the sound.

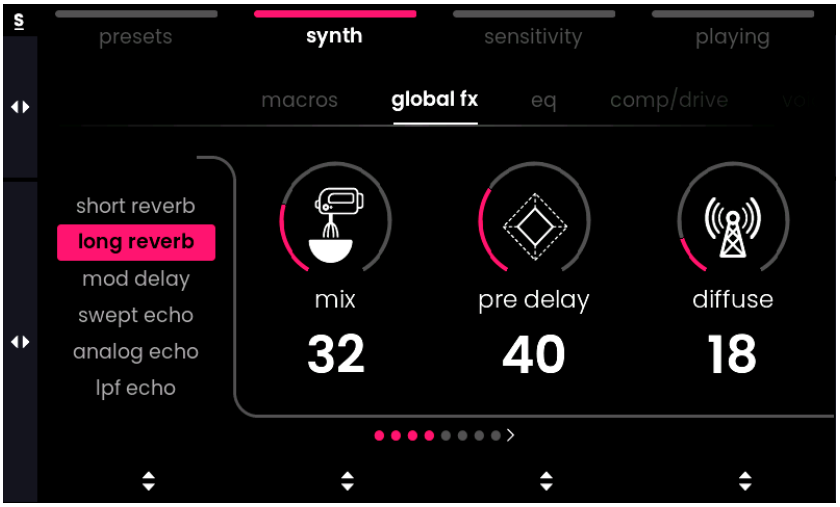
physical modeling, acoustic-type sounds

**structure** changes the harmonics of the sound by controlling the ratio between partials. Depending on the preset, it can morph the sound from a plucked string to something reminiscent of a marimba, a vibraphone…

**body** modified the tone by crossfading between different eq (convolutions) of instruments and material. For instance, it could morph a woody bamboo flute into something that sounds rather metallic.

**resonance** changes the decay/release of the sound, from short to long. Low values can sound like dampening or muting the vibration of a string or beam. Not to be confused with filter resonance.

global fx tab



The ‘global fx’ tab allows creating of a sense of space by adding a global time-based effect to the sound. The first parameter selects one of seven reverb/delay/echo algorithms. The FX parameters will vary depending on the effect chosen. One parameter is always available:

mix controls the dry/wet of the FX, the amount of sound that passes through the FX.

The effect algorithms available and their dedicated parameters are:

short reverb / long reverb

Two types of digital reverberation effects that can go from small rooms to huge ambient spaces.

predelay sets the time before the reverberated sound starts. It avoids the initial attack of your sound being masked by the blurriness of the reverb effect.
diffuse is rather subtle. Depending on the decay time, different diffuse times can make the decay sound smoother or, if wanted, more metallic (ringing). It helps to fine-tune the reverb sound for a maximum quality output.
LPF and **HPF** let you filter the highest and lowest frequencies from the reverberated sound. The Low Pass Filter removes highs, the High Pass Filter removes the low end.
damping reduces high-frequency content with each feedback loop in the reverb. The sound gets duller over time.
decay is the amount of decay/reverb time

mod delay / swept echo

‘mod delay’ is a modulated delay for chorus and vibrato-like effect. It can sound really atmospheric, creating a very smooth modulated reverb-like sound, but at the expense of obvious early reflections and a pitch tail in the echoes that sweeps a bit.

The ‘swept echo’ is another flavor of a delay with modulations. It can achieve more of a flanger-like effect with huge stereo movements.

depth is the amount of modulation in the delay
rate is the rate of the modulation in the delay
feedback is the amount of delay feedback
time is the delay time

analog echo

A delay with a more analog-like response. Like vintage echo effects, you can push the feedback to loud oscillations and play with time for crazy SFX.

noise is being added to the delay.
offset is a reverb timing offset between left and right channels (left channel time is the same as right channel time if the offset is 0 but is less when the offset is increased; this effect is not a linear timescale but can be noticeable/useful in some situations.)
feedback is the amount of delay feedback
⚠️ Analog echo can produce very loud feedback when this parameter is increased above a value of 70. Be ready to lower the volume when experimenting with this effect.
time is the delay time

lpf echo / hpf echo

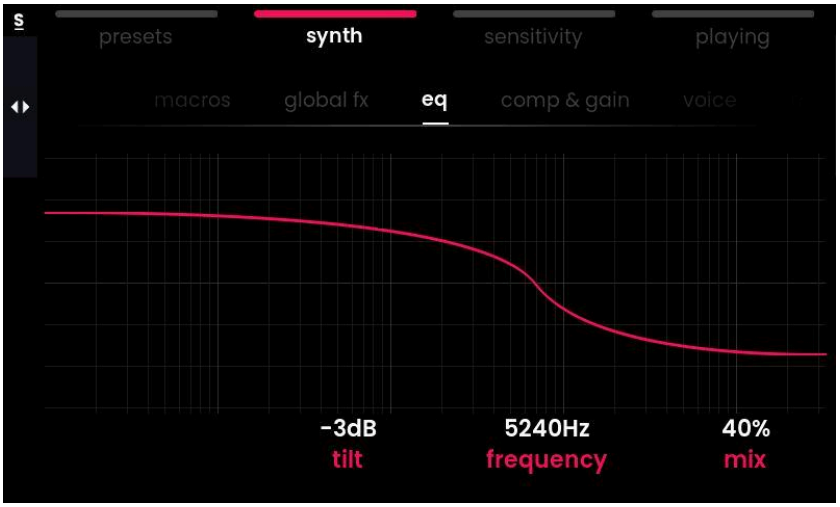
A clean digital echo with a low or high pass filter for a more focused separation of the delay from the sound source.

LPF or **HPF** : when LPF is set to zero, it is similar to full damping, and when HPF is set to max, it is like full damping. The LPF and HPF are applied at the very end of the effect signal chain, not inserted in the delay chain. It means the echo is echoing the unfiltered signal internally, and the filtering happens only at the output.
offset is a reverb timing offset between left and right channel (left channel time is the same as left channel time if the offset is 0 but is less when the offset is increased; this effect is not a linear time scale but can be noticeable/useful in some situations).
feedback is the amount of delay feedback
time is the delay time

💡If you still have a delay-like effect on your sound even with the mix at 0, then a delay-like effect might be programmed directly inside the EaganMatrix to add even more ambiance. A macro (often the 6th) in macros tab should allow you to change the delay time or to remove it entirely.

 In the Haken Editor, global fx are called “Recirculator”. Effects parameters are also accessible as a modulation destination to add even more variation with LFOs etc.

eq tab

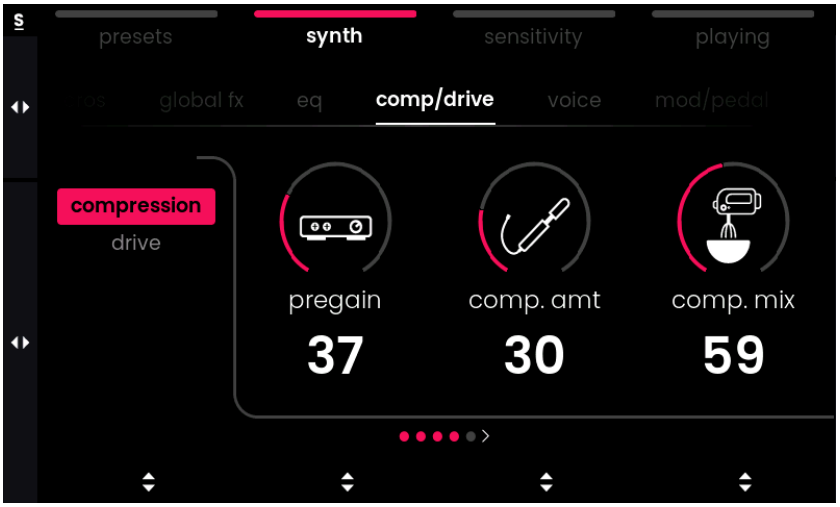


The ‘eq’ tab lets you balance the frequency components of a preset, shaping the sound either subtly or drastically “brighter” or “darker”.
It is a general tilt equalizer based on a stereo pair of shelving filters with separately controllable low and high frequency components in the range of 120Hz to 15KHz.
The following parameters are adjustable:

tilt : Positive values will lead to more highs and fewer lows, negative values will boost lows while highs are attenuated (low and high being relative to the central frequency)
frequency : choice of the central frequency that defines the threshold between lows and highs
mix : dry/wet of the Tilt EQ, allowing parallel equalizing. The equalizer won’t have any effect when the mix is set to 0%.

comp & drive tab

The comp & drive tab lets you choose between two different output stages to round off a sound.



compressor

Osmose's sound engine EaganMatrix is a complex, modular synthesizer. Therefore, modulations to the volume happen at numerous stages in sound design which leads to a possibly huge dynamic range.
The compressor output stage allows you to handle the level and tame the dynamics of a preset with gain staging and a compressor. At the same time, you can use the compressor's pregain parameter to add an aggressive distortion to the audio that is reminiscent of a wave folding effect.

pregain sets the level that enters the compressor.
comp. amt is a one-knob control for a light compressor that can keep levels more consistent.*
comp. mix allows mixing the wet and dry signal of the compressor to achieve parallel compression.
postgain changes the overall volume of the sound. Used to manually normalize a preset's loudness or compensate for too high volume induced by the distortion effect created with the pregain.

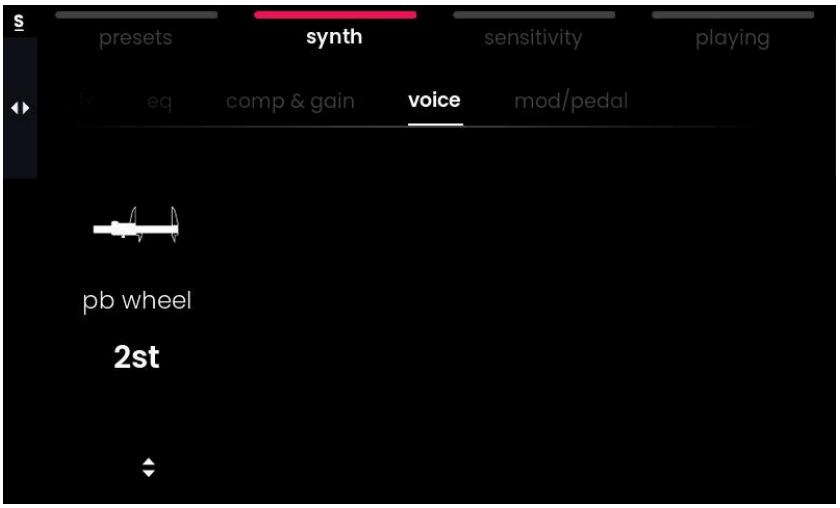
 * The compression amount is a macro parameter that controls 3 compressor parameters inside the EaganMatrix at once:
Tweaking the comp. amt from 0 to 127 results in changing the threshold from 127 to 0, the attack from 127 to 0, and the ratio from 0 to 127.

drive

The 'drive' output stage serves as a warmer sounding alternative to the regular distortion offered by the 'compressor' output stage. It uses a technique called tan-h saturation to achieve a type of distortion that is more reminiscent of a valve overdrive.

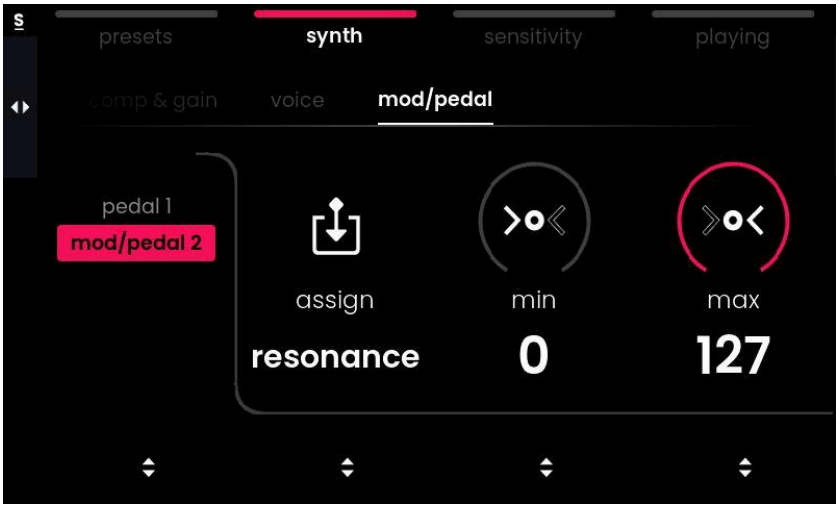
pregain sets the level that enters the drive stage.
drive amt defines the intensity of the drive saturation effect.
drive mix allows mixing the wet and dry signal of the drive stage to achieve parallel distortion.
postgain changes the overall volume of the sound. Used to manually normalize a preset's loudness or compensate for too high volume induced by the saturation effect created with the pregain.

voice tab



The ‘voice’ tab features only one parameter: the **pitch bend range** of the pitch slider. Contrarily to note bending on the keys, the slider will affect all played notes as a whole, just like a regular pitch wheel or touch strip would do.

mod/pedal tab



The ‘mod/pedal’ tab lets you choose the parameters that you control from the modulation slider and the two pedal inputs. These are always global parameters that will influence the sound as a whole, not on a per-note basis.

☝ Not all pedals are supported, and you need to make sure to calibrate your pedals via the global settings before using them.

The first parameter allows you to select one of the two sources of modulation:

Pedal 1 is assigned to Sustain by default. **Pedal 2 and the Mod Slider** will always control the same parameter and are assigned to one of the sound macros by default.

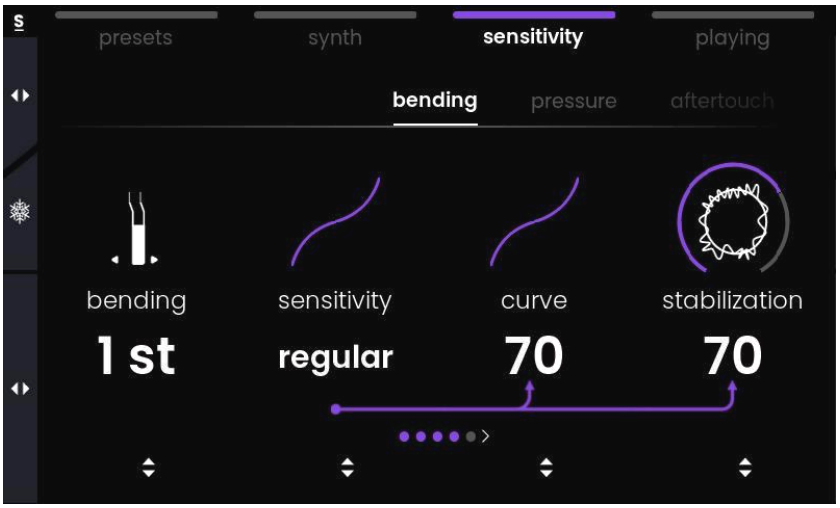
For each of those two controller sources, you can modify:

assign for selecting the modulation targets like different types of sustain, the synth macros, the effects parameters, and the post gain. For instance, mapping your pedal to the post gain will make it act like a classic volume pedal.
min sets the minimum value controlled
max sets the maximum value controlled

i The sustain and sostenuto functions in Osmose work differently compared with regular keyboard instruments. Usually, sustain takes the current pressure/position of the notes played and keeps them in that state. On Osmose, Sustain, and Sostenuto are continuous controls that allow fading and swelling sustained notes when moving the expression pedal. See also: pedal compatibility and recommendations.

i Sostenuto will only sustain notes that were held at the moment you pressed the Sostenuto pedal. It lets you hold one or several "drone" notes with your pedal and then lets you use both hands to play another part without any sustain on top. If you assign the two pedals to sostenuto 1 and sostenuto 2, respectively, you can hold and fade two sets of sostenuto notes at the same time.

sensitivity menu

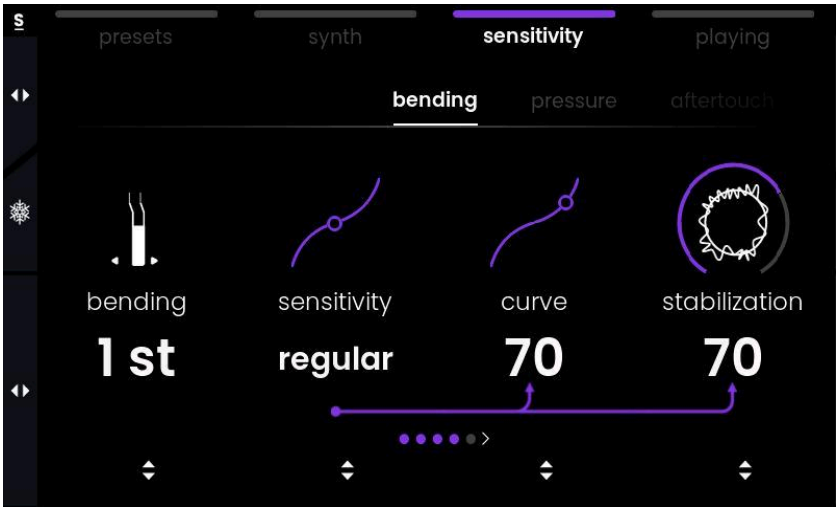


The Sensitivity Menu allows the user to change the response of the Augmented Keyboard Action. Four tabs are available:

bending tab : changes the response of the lateral movement on each key, incl. the pitch bend range and the amount of stabilization.
pressure tab : changes the response of the first part of the key travel. 'note on' determines the vertical threshold position at which a key actually triggers a note.
aftertouch tab : changes the response of the second part of the key travel.
default sensitivity tab : saves your current settings as the default sensitivity that will then be used across all factory sounds.

💡 The "save sensitivity" option of the save tab in the presets menu allows you to save a sensitivity along with a specific user preset.

bending tab



The ‘bending’ tab lets you change how the lateral bending of a key will affect the pitch. it contains the following parameters:

bending is the range that defines how far the pitch will be modulated at maximum deflection. Given the limited sideways key travel, you’ll probably want to go with 1 or 2 semitones most of the time, but wider ranges can also produce interesting results.

sensitivity allows you to quickly choose between a set of predefined responses that affect how Osmose reacts to vibrato or bend gestures in a natural way, while at the same time helping you to stay in tune when no bending is intended. It steps through useful settings for both curve and stabilization at once. There are five sensitivity sub-presets that go from low, medium, regular, to sensitive, and high.

💡bending range and sensitivity work great if you use them as counterparts: If you set a range of 2st for making bends while playing chords, medium sensitivity could be a good setup, however, if you only want to play vibrato and have subtle pitch variations selecting ¼ or ½ st with high sensitivity will yield best results.

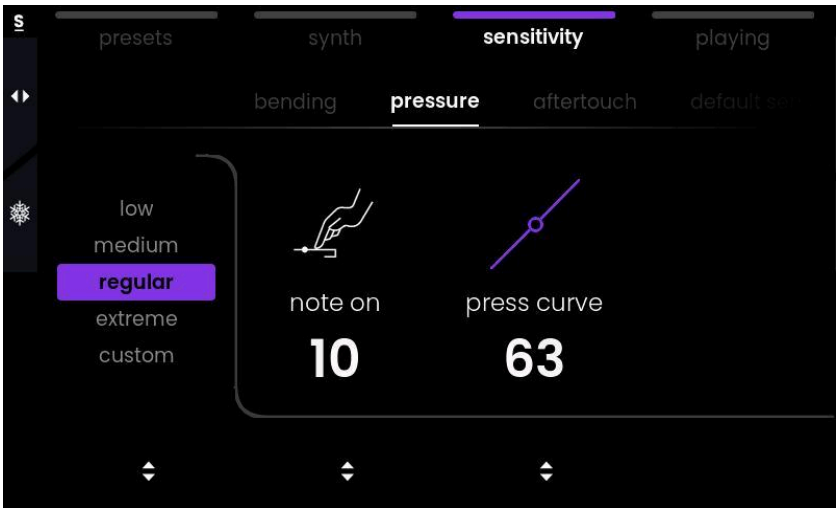
curve will establish a dead zone around the middle of a key in order to avoid unwanted bends. However, playing vibrato with only subtle gestures will become increasingly difficult the bigger the dead zone is.

stabilization is an algorithm that will intelligently smooth out uneven motions that tend to happen especially during the first few moments of your keystroke.

💡to visualize the difference between curve and stabilization, look at both curves while playing with a note. The point on sensitivity shows the result of both ‘curve’ and ‘stabilization’ parameters, while the point on curve shows the raw sensor data of this parameter.

activation allows you to enable bending only for specific notes. For instance, it might come in handy to only activate bending for the highest note when playing chords with the left hand and soloing with the right.

pressure tab



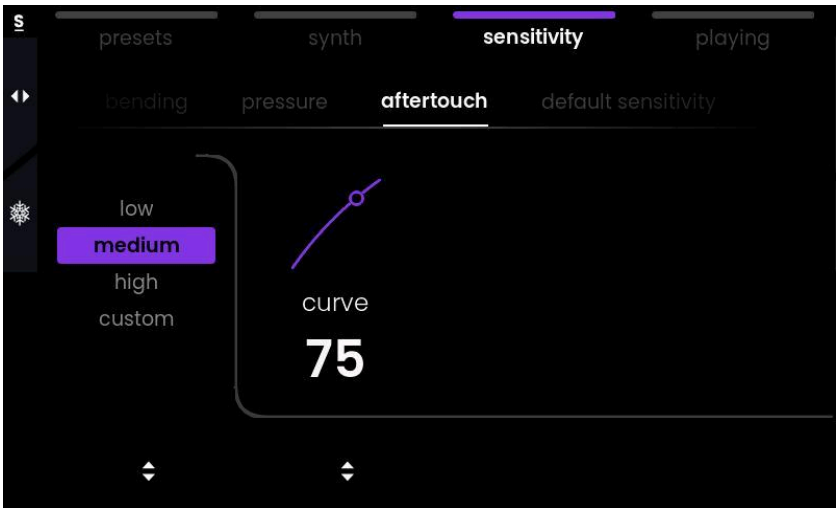
The ‘pressure’ tab concerns the first vertical dimension of the keys. The first parameter of the pressure tab offers sub-presets that adjust the following two parameters at once:

note on lets you define at which point of the downward key travel an actual note is triggered, which is called the ‘note on’ threshold.
press curve adjusts the response of the pressure dimension with a curve.

If you change those two parameters individually, the sub preset will switch to ‘custom’.

💡If you find yourself triggering notes unintentionally, then you may want to shift the ‘note on’ threshold more downwards the key travel by increasing its value. This will bring you more and more towards a classic keybed feel where notes are only triggered when you push a key right down to the bottom.
On the other hand, if you’re eager to experiment with triggering notes using only light taps on a key’s surface, then an ‘extreme’ setting for the pressure dimension will allow you to do exactly that.

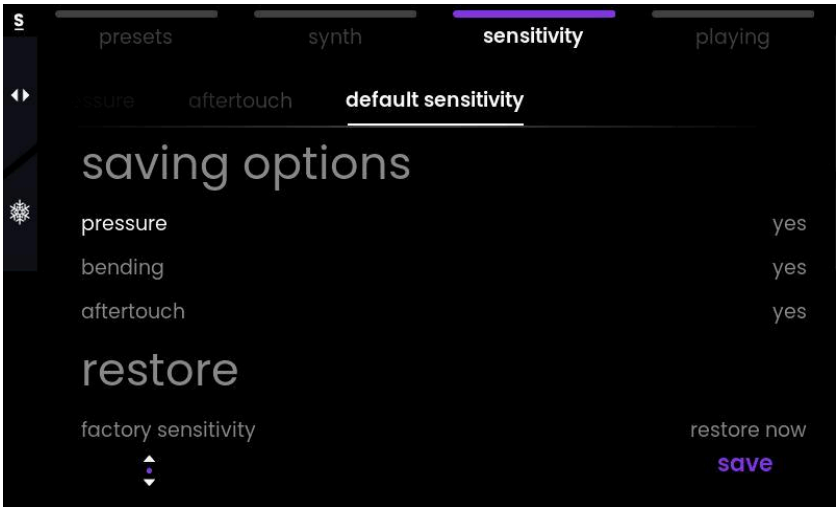
aftertouch tab



The aftertouch begins where the pressure axis motion is at the maximum. Aftertouch is the second part of the vertical key travel, following a clearly detectable pressure point. The first parameter of this tab suggests quick presets for the aftertouch sensitivity **curve**, which can also be finely adjusted by turning Value Encoder 2.

💡The more notes you play at once, the harder it will become to push fully into the keys' aftertouch without bending the notes' pitch unintentionally. This would be an example of a situation where you might prefer to have a sensitive aftertouch that doesn't require lots of force to activate. On the other hand, if a preset triggers a special sound aspect upon entering the aftertouch, e.g. automatic ratcheting of a plucked sound, and you wish to have a clearer separation, it will help to dial down the aftertouch curve.

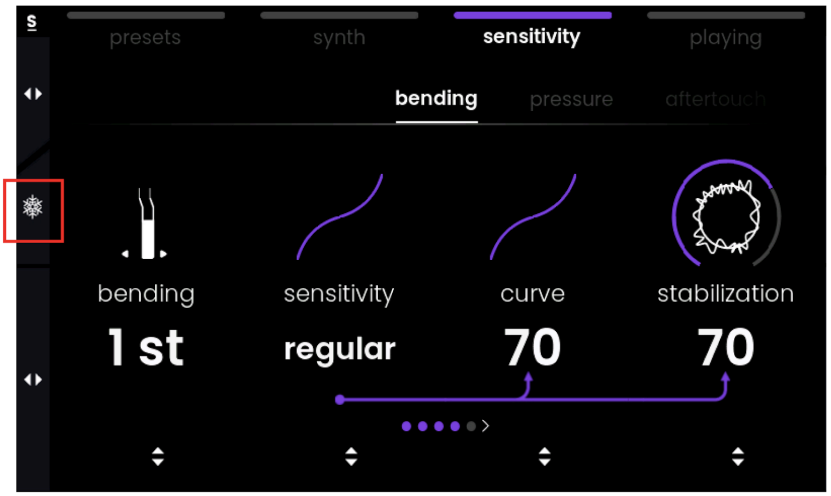
default sensitivity tab



The last tab of the sensitivity menu allows you to save your current settings as the default sensitivity that will then be used across all factory sounds. Factory sounds don't have a specific sensitivity saved with them, so upon preset change, you will always fall back to the default setting saved at that time.

Defining your default sensitivity will help you feel at home with the instrument. While you're growing your level of comfort with Osmose, you may want to update that setting from time to time.

freeze sensitivity function



Pressing the Tab Selector in Sensitivity menu switches the Sensitivity Freeze ❄ on and off. When Freeze is enabled, the current sensitivity settings will be kept across preset changes, no matter the default sensitivity and no matter whether there is a custom sensitivity saved in a user preset.

'Sensitivity Freeze' lets you test a specific sensitivity setting without having to overwrite your 'default sensitivity'. It also allows for testing a sensitivity setting while scrolling through user presets that have custom sensitivity settings saved with them (compare the 'save sensitivity' option in the save tab of the preset menu).

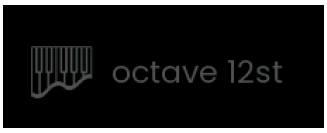
Frozen sensitivity values are lost when turning off Osmose. If you want to keep a sensitivity setting, use the default sensitivity tab.

playing menu



The Playing menu gives access to advanced features that interpret your raw playing gestures in intelligent ways. After accessing the Playing menu with the fourth Menu button, turn Value Encoder 1 to choose either Pressure Glide, the Arpeggiator, or no playing feature at all.

If a playing feature is activated on a preset, a press glide or arp icon appears on the left side of the screen and will remain visible also in the factory and user tab of the presets menu:



freeze playing function

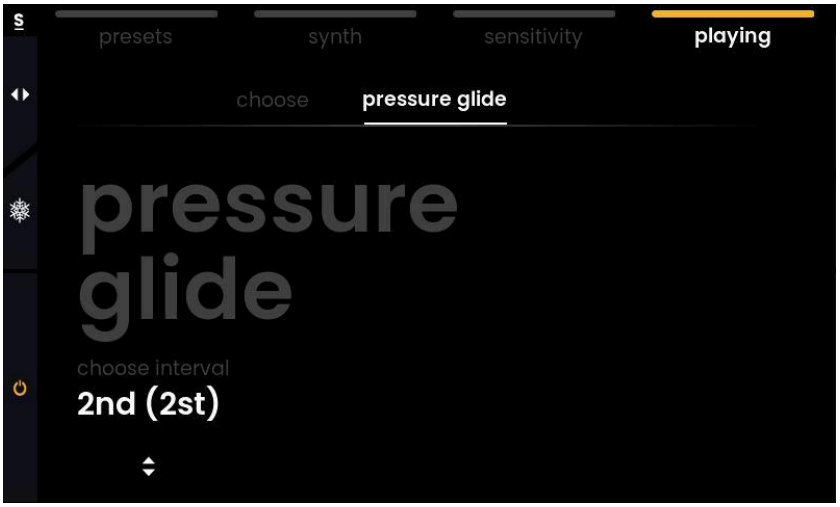
Pressing the Tab Selector in Playing Menu switches the Playing Freeze ❄ on and off. When Freeze is enabled, the current playing settings will be kept across preset changes, no matter what is saved in the user preset you dial up.

pressure glide

The Pressure Glide feature lets you define a pitch interval within which two keypresses are interpreted as a legato line instead of polyphonic playing.

Unlike regular portamento, which makes the pitch glide to a new note within a fixed amount of portamento time, Haken Audio's Pressure-weighted Portamento reacts to the pressure ratio between the two notes. The pitch will dynamically glide between the notes in real-time, reacting to how you distribute pressure between them. You will need to release the first note completely to make the pitch arrive at the second note.

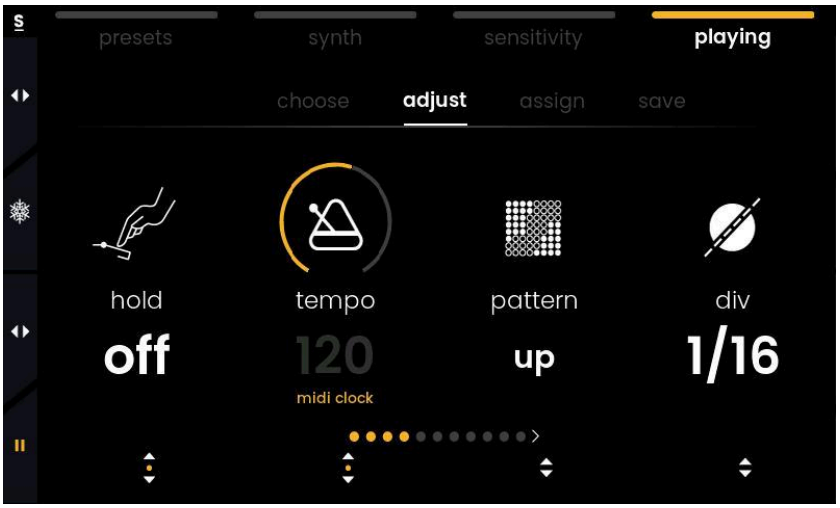
Feel free to watch the dedicated section on Pressure Glide in Osmose's Quick Start Video to better understand how Pressure Glide works.



ℹ️ Important note when intending to play chords with Pressure Glide activated:
Two notes pressed simultaneously within the interval that you have set will always be joined into one pitch. For instance, with a pressure glide interval of 2 semitones, you can play chords with stacked thirds or wider voicings, but as soon as you play seconds, you will end up with one note with an averaged pitch instead of two discrete notes.

⏻ While in the playing menu, activate or deactivate Pressure Glide with a click on the Parameter Selector.

mpe arpeggiator

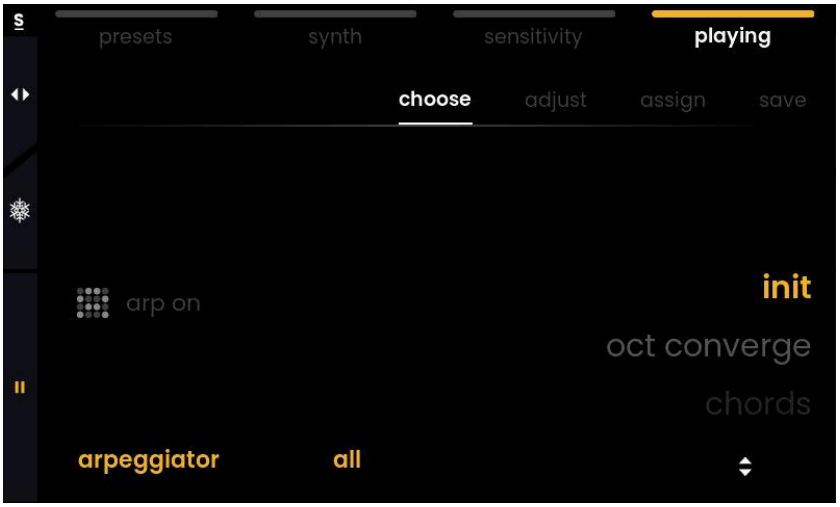


Arpeggiators usually trigger all notes with the same intensity, often resulting in a somewhat mechanical, monotonous sound. Osmose's MPE arpeggiator takes advantage of the fact that the instrument knows the exact position of each key at every given time. When playing the arpeggiator pattern, Osmose continues to take into account all three axis motions of the Augmented Keyboard Action keys: Pressure, Aftertouch, and Bending. It means that you can highlight single notes within your arpeggiator sequence just by pressing them differently from the others.

choose tab : load an arpeggiator preset
adjust tab : set the arpeggiator parameters
assign tab : let gestures and controllers modulate arpeggiator parameters
save tab : save the current arp settings as an arp preset

▶️⏸️ You can start or pause the Arpeggiator with a click on the Parameter Selector.

choose tab

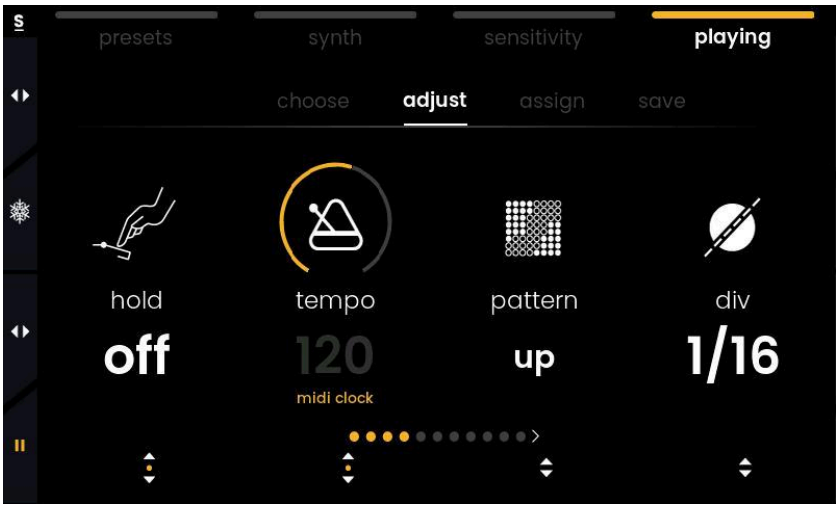


The first tab of the arpeggiator is the 'choose' tab, giving access to the arpeggiator presets. The currently loaded arp preset is highlighted in yellow. Turn Value Encoder 4 to

select another preset. With Value Encoder 2, you can filter between the factory arp presets and your own user arp presets.

💡 To discover the arp presets and their interactions, we suggest loading a polyphonic flute or brass sound, or another preset with a rather short attack and release. It will be a good start to understanding how your gestures can modulate the arpeggiator.
💡 If you want to switch sound presets while keeping the same arp settings, use the freeze playing function.

adjust tab



The ‘adjust’ tab contains all the arpeggiator parameters:

hold will make sure that the notes you press will continue to be triggered even when you let go of the keys. It will remember the maximum pressure applied to each key. The note repertoire will only be reset when you have already released all keys and then press a new key.

tempo defines the beats per minute. Pressing the Value Encoder below will switch between synching to an external MIDI clock and using the internal clock. Attention: Osmose is not capable of sending its own internal clock.

pattern lets you choose in which order the notes are played back.

division defines the note value of one arpeggiator step. It selects a division of the tempo that determines the speed at which the notes are played.

gate determines the length of the notes as a percentage of the duration of one note according to the arpeggio speed.

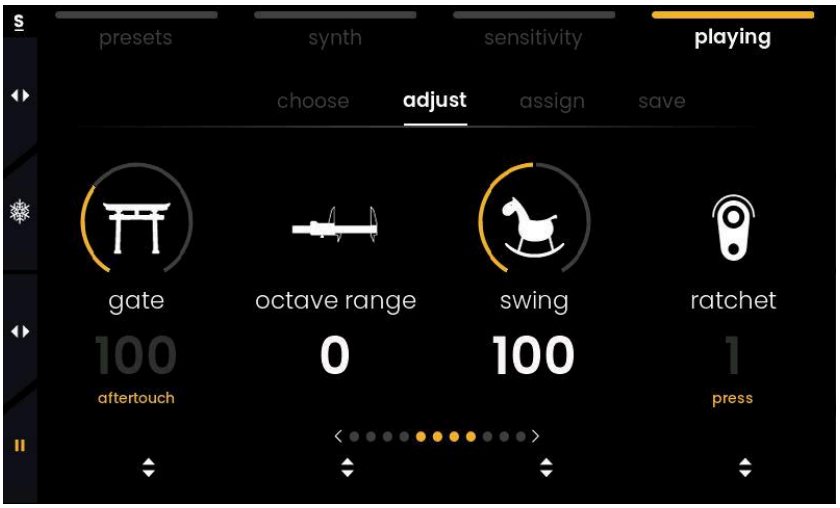
octave range lets you add multiple octaves above the notes played.

swing allows shifting every second arpeggiator step in time. 100 equals an even playback of all steps. Values above 100 will introduce more and more swing, until, eventually, every second step is joined with the next step.

ratchet will introduce multiple triggers during one arpeggiator step.

rise & fall will add some inertia to parameter changes, smoothing out fast increases or decreases in value.

quantize will quantize your notes according to divisions or beats, or turn off.



i When a parameter is controlled by a gesture of a controller (see assign tab), its value will be grayed out and the modulation source appears in yellow below the parameter. In the picture above, aftertouch controls the gate, and press controls the ratchet parameter.

assign tab



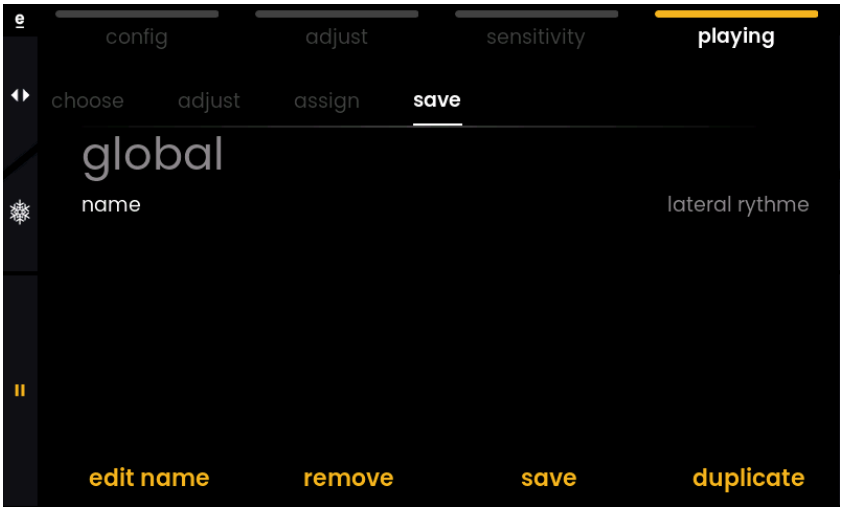
The programmed behavior of a sound preset when it comes to Pressure, Aftertouch, and Bending is also kept when using the Arpeggiator: When you bend individual notes,

their pitch will continue to change, and if a sound becomes louder and brighter when pressing it further, then the same will also happen when the Arpeggiator is active.

Additionally, the way you press individual notes on the keybed can influence the arpeggiator parameters for that specific note. The 'assign' tab lets you set up the parameter mapping for this. Two 'assign' slots are available with the following set of parameters:

source selects a motion axis of the key or a controller that will affect the destination parameter. Here, bending to the left and bending to the right are available as separate sources. When using the mod slider or expression pedals as modulation sources, parameter changes will be global (not per-note).
destination selects the arpeggiator parameter that will be modulated. This includes all parameters listed in the adjust tab.
min sets the minimum value sent.
max sets the maximum value sent.
curve changes how resulting values are distributed when the source value goes from min to max. A linear response means values have equal ranges along the curve. If min is set to 1 and max is set to 2, then 2 is already selected when the source control is at 51% (MIDI value 64).

save tab



The 'save' tab of the MPE arpeggiator allows you to save the current settings of the arpeggiator as an arpeggiator preset that will then show up in the choose tab.

To give your arpeggiator a custom name, press Value Encoder 1 while the line 'name' is selected. Scroll through characters by turning the same encoder. Turn Value Encoder 2 to move the cursor. Once you're done, validate by pressing Value Encoder 4.

You can delete an arpeggiator preset by clicking Value Encoder 2 below "remove" and confirming.

external midi mode

In addition to being a standalone synthesizer, Osmose is an expressive MIDI controller that can breathe life into any hardware or software you have. Use external MIDI mode to either connect via USB to a host (computer), or to an external synth via the DIN MIDI out port.

External MIDI mode settings are independent from DAW Control mode settings. Changes made in External MIDI mode do not affect your DAW Control setup, and vice versa. If you want to use DAW Control with Ableton Live, Bitwig Studio, Steinberg Cubase, or Apple Logic Pro, refer to the corresponding DAW Control mode section.

☝ Please be aware that some synthesizers, plugins, or DAWs may not support MPE, the protocol used for per-note expressive control. When MPE is not supported, Osmose can still provide an expressive playing experience through classic MIDI, with global expressive control, or through multi-channel mode when available. For more information, see the sections below, most notably the setup examples.

introduction to external midi mode

mpe compared to legacy midi

Osmose is part of a family of MIDI Polyphonic Expression (MPE) instruments and controllers that strive to tear down the expressive restrictions of common electronic instruments. When starting to control external instruments from Osmose, it's useful to understand the way legacy MIDI communication is set up and how the MPE extension builds upon this.

In a classic MIDI environment, all MIDI messages that belong to a sound are sent on one single MIDI channel. Any modulations (such as pitch bend or changes in timbre) are sent per channel and thus affect all notes of that sound in the exact same way. If other MIDI channels are used, then this is commonly done to address a separate instrument or track of a multitimbral sound engine, e.g. in a hardware workstation or in your DAW.

MPE is an official extension to the MIDI standard where multiple MIDI channels are used to control the same sound. One channel is retained for global messages (master channel), but every single note that is played is granted its own MIDI channel. This way, per-channel modulation can be applied to each note individually, giving you much more control over your polyphonic performance. You can learn more about MPE on our dedicated info page "what is mpe?".

backward compatibility

Even if the external software or hardware instrument that you hook up to Osmose doesn't support MPE, you can still intuitively shape their sound directly via the keys of Osmose's Augmented Keyboard Action. Pressure and Aftertouch motion axes can continuously control any parameter inside the synth on a global basis. Bending can perform a pitch bend of all the notes you play as a whole.

In a non-MPE context, this global value of a motion axis will affect all the notes you play in the same manner, just as if you would move a knob or a fader on a standard MIDI controller. Osmose lets you define whether the global value sent by a motion axis is calculated as an average of the individual values of all keys pressed, or whether it is derived from the pressure or bending you apply to a specific single key (highest note, most pressed down, etc.).

ℹ️ Monophonic lines on external synths can always be played expressively from Osmose. This is because for monophonic sounds, there's always one dedicated channel per voice, even in a legacy monochannel setup.

For concrete examples, watch these dedicated video examples:
▶ Osmose CE — Overview

midi port reminder

As explained in the osmose usb midi ports section, use the **"Play" USB MIDI port** when you want to send Osmose's MIDI performance data over USB:

macOS: **'Osmose 49 Play'** *(Port 1)* or **'Osmose 61 Play'** *(Port 1)*
Windows: **'Osmose 49'** *(Port 1)* or **'Osmose 61'** *(Port 1)*

The type of data sent on this first USB MIDI Port depends on the configuration in External MIDI mode or DAW Control mode.

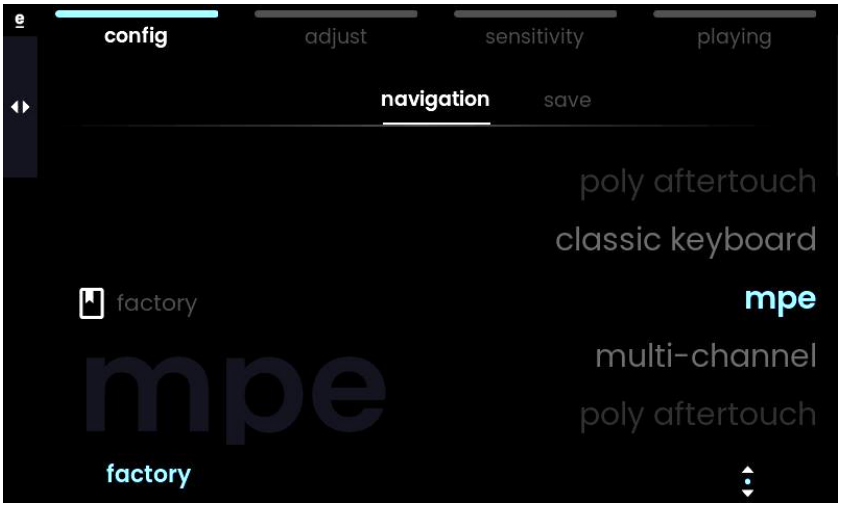
By default, the same data is sent on the DIN MIDI output as well.

setting up osmose in your daw

For instructions on how to use Osmose as a MIDI/MPE controller or as an external synthesizer in your DAW, please refer to our online knowledgebase:

🔗 Osmose DAW tutorials

config menu



The config menu gives you access to different External MIDI configuration presets that help match the messages sent by Osmose with what is supported by your external synthesizers. Selecting a MIDI configuration will adapt the messages sent on Osmose's USB MIDI Port 1 and on its DIN MIDI output, also see connect Osmose to your computer.

You can also create your own configurations for specific instruments or setups. Custom configurations can be saved and will appear in the 'user' filter.

navigation tab

Turn Value Encoder 4 or use the Preset buttons to step through the different External MIDI configurations. You need to push the Encoder to actally load a configuration.

If you have saved your own External MIDI config presets, you can turn the first Value Encoder below the screen to show only factory configs or user configs.

i External MIDI configurations can be fine-tuned via the adjust and sensitivity menus.

delete a midi config preset



You can delete a preset via its preset info popup. Long-press on Value Encoder 4 in the navigation tab to show the preset info. Press Value Encoder 1 below “remove” and confirm to delete the preset.

external midi config presets

Find below the four External MIDI configuration presets that Osmose comes with by default. These configurations also contain a dedicated sensitivity setting optimized for the use case.

mpe

Is the default for controlling MPE-compatible software and hardware.
It sends MIDI messages according to the MIDI Polyphonic Expression standard.
The Pressure axis sends Velocity (MPE Strike) and Channel Pressure (MPE Pressure).
The Aftertouch sends CC74 (MPE Timbre, also called MPE Slide because it's the parameter that other MPE controllers often address with a sliding movement along the Y axis on the playing surface).
Note Bending sends pitch-bend messages (MPE Glide). MIDI channel 1 is reserved for global messages, and channels 2 to 16 are used to transmit one voice each.

classic keyboard

Is the best choice for full backward compatibility. It sends MIDI messages like a legacy MIDI keyboard would do. The ‘Note On’ threshold in the sensitivity menu is moved down further along the key travel to mimic traditional keyboard actions.
The Pressure axis only sends Velocity, and the Aftertouch axis sends Channel Pressure, commonly called (mono) aftertouch. Note Bending is deactivated.
All messages are sent on MIDI channel 1.

poly aftertouch

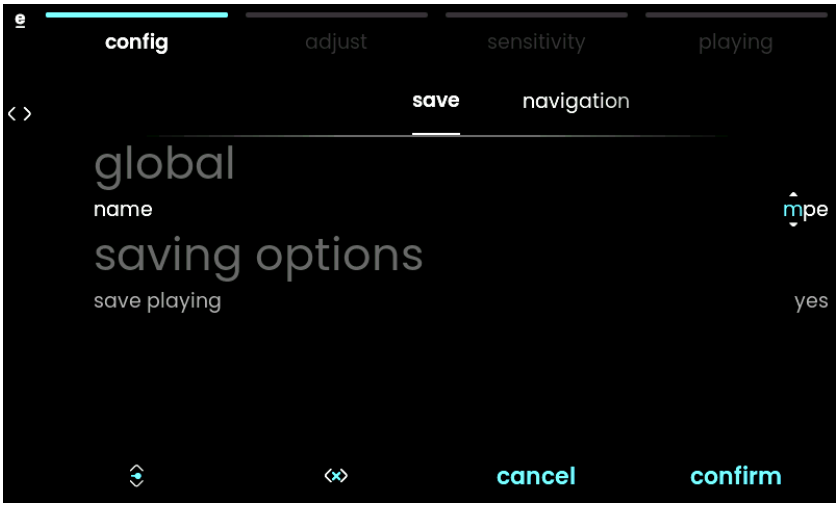
is perfect for controlling software and hardware synths that offer polyphonic aftertouch. It behaves just like the Classic Keyboard configuration but sends Polyphonic Aftertouch instead of Channel Pressure to the Aftertouch axis.

multi-channel

Is useful for imitating the advantages of MPE with non-compatible software and hardware. For this, multiple instances of the same plugin or sound should be dialed up on the external device, each responding to a single MIDI channel.
The Multi-Channel configuration behaves just like the MPE configuration, where one MIDI channel is used to transmit one voice each, but lacks a channel for global messages. To compensate for the lack of a global channel, global messages like CC1 (modulation slider) are sent as copies on every active channel.

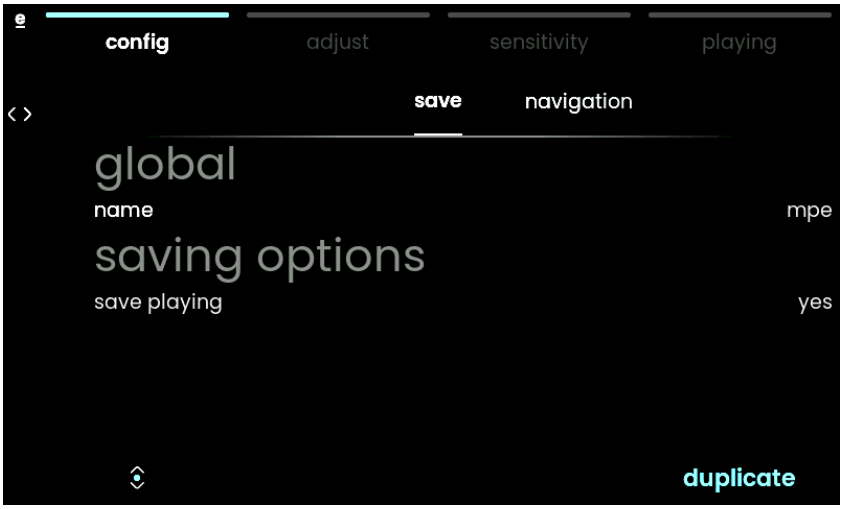
save tab

The save tab allows you to save your own External MIDI config presets. When saving a MIDI configuration preset, it will include all changes made in the adjust menu and sensitivity menu of External MIDI mode. If you activate the 'save playing' option, you can also include the press glide or arp settings from the playing menu in the preset file.



To save a preset, enter a name and choose to save the playing option or not. When entering a name, turning Encoder 1 will cycle through characters, while Encoder 2 will scroll to the next or previous letter. Pressing Encoder 2 deletes a character.

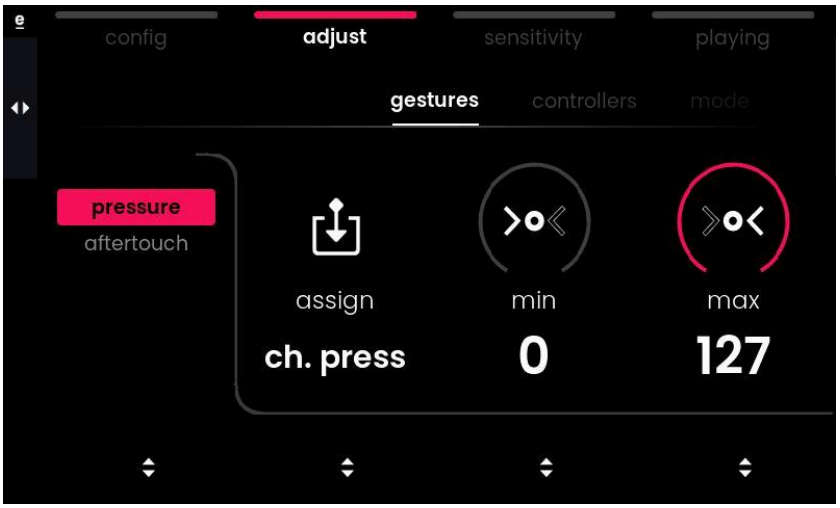
If you use the 'save' button and a preset with the same name already exists, it will prompt you to confirm overwriting it. Choosing 'duplicate' will avoid overwriting by adding a number at the end of the name of the midi configuration preset.



Once saved, your own External MIDI config presets will show up in the navigation tab of the config menu.

adjust menu

The adjust menu lets you determine the MIDI channel(s) used, as well as which MIDI message is sent by which key axis motion or controller.

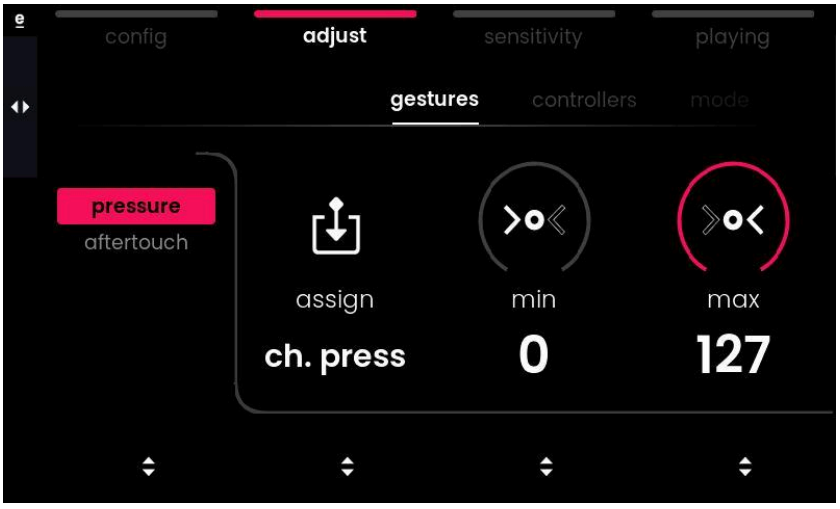


gestures tab : set what MIDI message is sent by the pressure and aftertouch axes

controllers tab : set what MIDI message is sent by the mod slider and the two pedals

mode tab : choose the MIDI configuration and MIDI channel(s) used

gestures tab



This tab sets what is sent by the pressure and aftertouch axes. First, select pressure or aftertouch with Value Encoder 1, then change its parameters:

assign selects the MIDI message sent for the axis motion selected on the left.

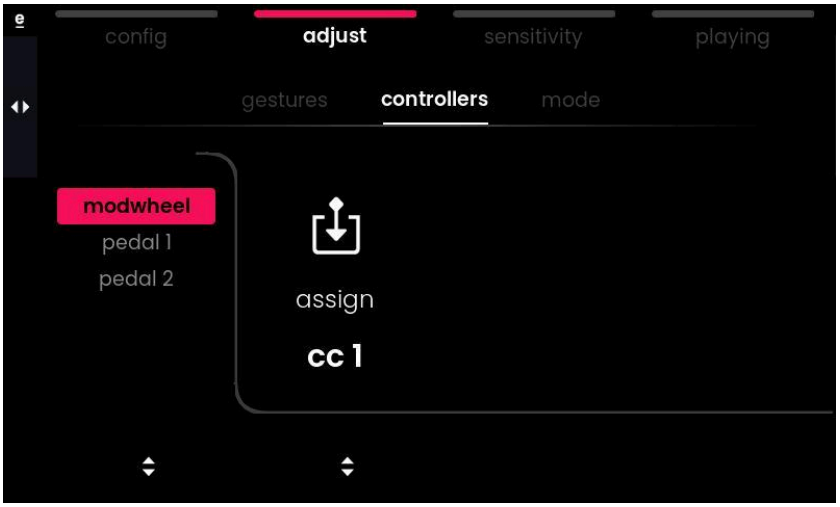
min sets the minimum value

max sets the maximum value

activation defines how the value of an axis motion is calculated for scenarios where only one value is sent for the entire keybed instead of per note. The parameter is only displayed if a mono-channel configuration like "classic keyboard" or "poly aftertouch" has been selected in the config menu. Options are:

- maximum: the most-pressed key defines the value
- minimum: the least-pressed key defines the value
- last note: the key you pressed last defines the value
- first note: the "oldest" key that is still held defines the value
- average: the value sent is calculated as an average of all pressed keys

controllers tab



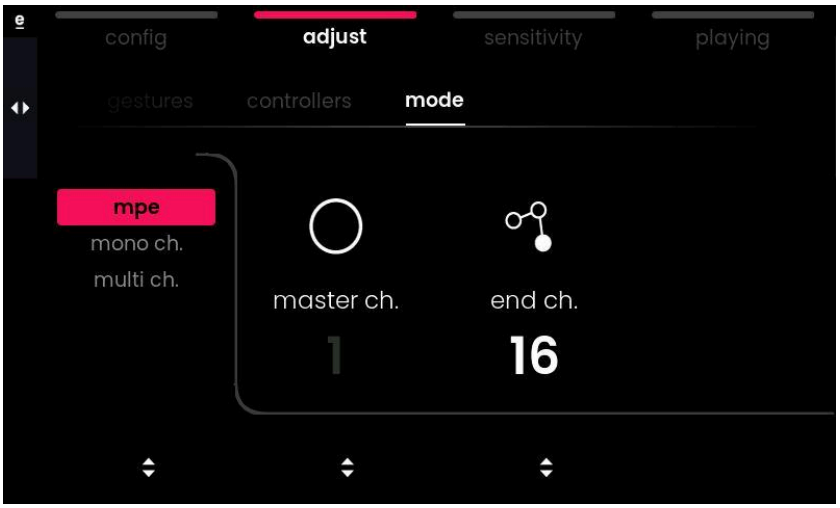
This tab defines what is sent by the mod slider and the two pedals.
First, select the controller with Value Encoder 1, then change its parameters with Value Encoders 2 to 4:

assign selects the MIDI message sent by the controller on the left

min sets the minimum value

max sets the maximum value

mode tab



This tab allows you to determine the general MIDI mode and how MIDI messages are distributed across MIDI channel(s) within that mode. It is used to refine the configuration you choose within the config menu when the external software or hardware you wish to control requires it. Find possible adjustments below:

mpe
lets you define the end channel for the 'mpe' configuration. The master channel for global messages must remain 1 as per the MPE specification, but the end channel parameter allows you to reduce the channels used for transferring single notes, e.g. when your target device only has limited polyphony.
Example: When setting the end channel to 13, notes are distributed in a round-robin pattern across channels 2 to 13, resulting in 12 voices of MPE polyphony.

mono ch.
lets you define the single channel on which notes are sent for legacy MIDI configurations like the 'classic keyboard' and 'poly aftertouch' configuration.

multi ch.
lets you define the start and end channel for the 'multichannel' configuration.
Example: When selecting start channel 4 and end channel 9, notes will be sent in a round-robin pattern across channels 4, 5, 6, 7, 8, and 9, leaving you with 6 notes polyphony.

setup examples

Find below some setup examples that illustrate the possibilities the Osmose keybed offers to play all kinds of synths more expressively.
i Be aware that once you are happy with your setup and adjustments, you can always name and save your custom MIDI config to quickly recall it from the config menu at a later point.

make your monophonic hardware synth expressive

In a monophonic context, it doesn't matter that much whether a synth supports MPE or not. When there is only one note anyway, it doesn't pose a problem that modulation is only applied globally for all notes (traditional MIDI) and not independently for multiple notes sounding at the same time (MPE). Therefore, you can make pretty much any monophonic synthesizer more expressive by playing it from Osmose.

Start by connecting Osmose's DIN output to the hardware synth's DIN input with a MIDI cable. In the midi i/o tab of the global settings, make sure din mode is set to 1/3 or 2/3. Go to the config menu and load the 'classic keyboard' configuration. Ensure that in the adjust menu, mode tab, the selected MIDI channel matches what your monosynth is expecting (normally channel #1).

Osmose's keybed's aftertouch will already send channel pressure ("mono aftertouch"), a parameter that often has a direct effect on a synth's sound. The gesture tab of adjust menu allows you to experiment with sending MIDI CC messages from the initial pressure or aftertouch dimension instead. For example, when choosing CC#1, pressing on Osmose's keybed will have the same effect as if you were moving the synth's mod wheel (but without the need for your second hand).

To go further, enable bending in the sensitivity menu by increasing the bending parameter from its classic keyboard's default value 0. This lets you play vibrato and pitch bends directly from the lateral movements of Osmose's keys.

Watch this sound example with a Moog Sub Phatty : Osmose CE — Overview

i This setup generally works with any polyphonic hardware synth as well. You need to be aware, however, that when you start playing more than one note, parameter changes like pitch bend or aftertouch or MIDI CC will continue to affect all notes in the same manner. The 'activation' parameter that is available in the 'gesture' tab of adjust menu as well as in the bending tab of sensitivity menu lets you decide whether it's e.g. the last note or the highest note that defines the value for all notes.

i Pressure Glide can only work correctly when a synth can be set to +-48 semitones of maximum bending range.

play an external MPE synth with limited voice count

In the case of playing an external MPE synth, connect a DIN cable from Osmose's DIN output port to the MIDI in port. Verify that the synth you want to control is set to 'MPE mode'.

Let's say you would like to use a GS Music E7, which has 7 voices. Head to the config menu and change the MIDI config setting to 'mpe'. With MPE, channel 1 is always reserved as the master channel, so individual voices start on channel 2. Go to the mode tab in the adjust menu, and set 'end ch' to '8'.

Continue to the midi i/o tab in settings, and set DIN mode to 1/3. Check the midi channel settings on your E7 to be sure they correspond to channels 2-8.

Watch this example to hear how this can sound :
MPE: Demystified - creative tutorial #8

play a hardware synth with polyphonic aftertouch

Some synthesizers support polyphonic aftertouch when it comes to their sound engine, but the keybed build into them does not send the parameter. An example for this would be Sequential's Prophet Rev2. You can use Osmose to actually play with polyphonic aftertouch in this case.

Connect a MIDI DIN cable from Osmose's DIN output to the Prophet's DIN input. In the midi i/o tab of the global settings, make sure din mode is set to 1/3 or 2/3. Open the config menu and load the 'poly aftertouch' configuration.

Go to Prophet Rev2's settings and verify it receives MIDI on the same channels you are sending out. You can change the MIDI channel that Osmose sends on via adjust menu -> mode tab. Customize press/velocity, aftertouch and bending to taste.

combine multiple synths in your DAW into a "super synth"

To create a 'super synth' to control with your Osmose, start by loading in several instrument plugins in your DAW. You can use either the same plugin, or combine different plugins and patches.

For a six-voice polyphony, create 6 tracks, and add the instrument plugins you want to them. Assign track 1 to MIDI channel 1, track 2 to MIDI channel 2, etc, so each track responds to a unique MIDI channel.

In this example, we are using the USB connection of Osmose (Port 1) to control external software. In the config menu, load the 'multi-channel' configuration. Continue to the mode tab of the adjust menu, and set 'start ch.' to '1' and 'end ch' to '6'.

When playing on Osmose, each finger will be given its own voice: MIDI notes and parameters will be sent out to the six different synths in a round-robin manner.

Here's an example of how such a 'super synth' can sound:
MPE: Demystified - creative tutorial #8

per-note expression for non-mpe orchestral libraries

For orchestral libraries that don't support MPE, you can still set them up for per-note expression with a workaround.

Let's say we want 8 voices to control, all using the same sound, e.g. a strings ensemble. Often, orchestral library plugins are multitimbral, so you can load multiple sounds within one plugin instance while still being able to set the MIDI channel for each sound individually.*

Assign each instance its unique, consecutive MIDI channel. Channel 1 for instance 1, channel 2 for instance 2 and so on. Finally, set channel 8 for instance 8.
In Osmose's config menu, load up the factory 'multi-channel' config. Go to the mode tab in the adjust menu. Here, choose '1' for the 'start ch', and '8' for the 'end ch' so the channel count corresponds.

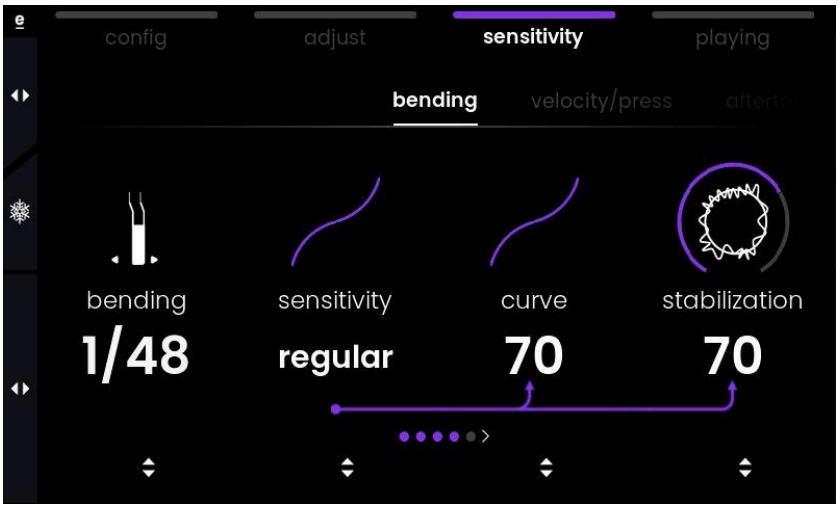
Find out which MIDI message is expected by the plugin to control its dynamics. This could be CC#1 for example. Go to the gestures tab, and select this common dynamics parameter for both pressure and aftertouch.
To avoid MIDI conflicts, adapt the value ranges with the 'min' and 'max' parameters, so that pressure sends from 0 to 40, and aftertouch from 41 to 127. You can experiment with where you set the threshold (40/41), as each library offers a slightly different response. The value numbers must always be adjacent to each other For example, a max value of '63' for pressure means the aftertouch min value should be '64'.

Watch this example : Osmose CE — Overview

*If your plugin is not multitimbral, you can always create one track with the plugin on it, then duplicate the MIDI track in your DAW until you end up with 8 MIDI tracks. Use the tracks' MIDI input settings to ensure that every track reacts exclusively to one of the channels 1 to 8. When playing and recording, be sure to arm all those tracks at the same time so you don't loose voices. Most DAWs have a 'track folder' feature that facilitates this.

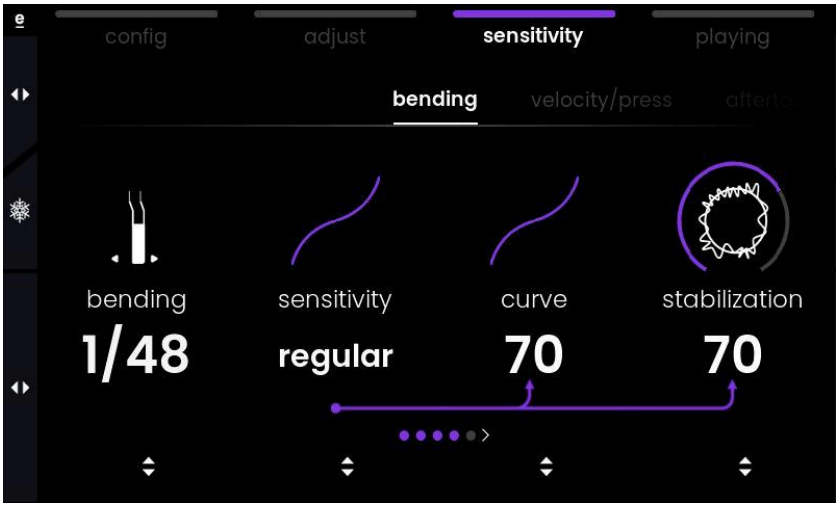
sensitivity menu

The Sensitivity menu of the External MIDI Mode generally offers the same functionality as the sensitivity menu of the Sound Engine Mode.



However, there are some specificities in External MIDI mode that are explained below.

bending tab

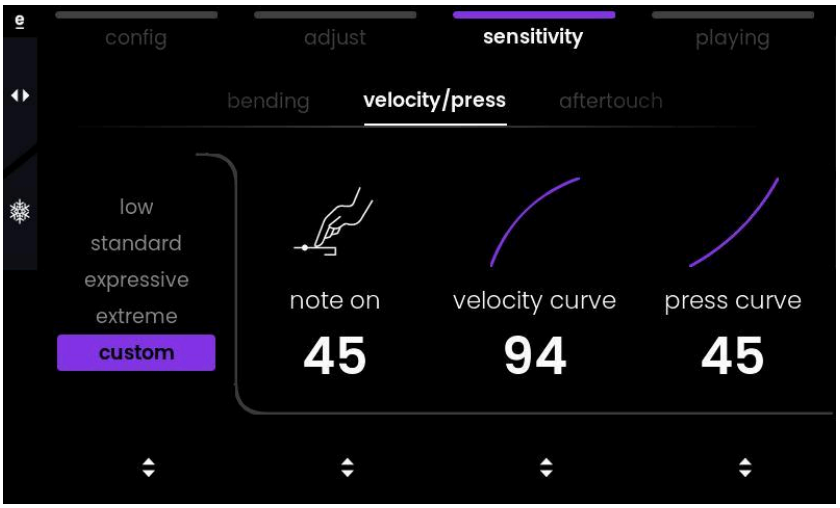


i The bending range inside the **bending tab** isn't shown as a number of semitones but as a fraction. It works together with the maximum bending range that can only ever be set inside the external software or hardware that you control.

Example: With the maximum bending range set to +-48 semitones in the target device (the most common setting in an MPE environment), 1/48 means that the effective range is 1 semitone.

When Ctrl-e is used, the bending value is still shown as a number of semitones, because the max bend range is expected at +-48 semitones, unless you changed the 'mpe bend range' in the workflow tab of global settings.

velocity/press tab



i In External MIDI mode, the **velocity/press tab** features additional velocity parameters. Internally, Osmose doesn't use MIDI Velocity (MPE Strike) at all, but for controlling external devices, MIDI Velocity is derived from the Pressure axis motion.

To adapt the velocity values sent by the arpeggiator of External MIDI mode, you need to change the *press* curve, *not* the velocity curve which controls the velocity of manually triggered keys only.

playing menu

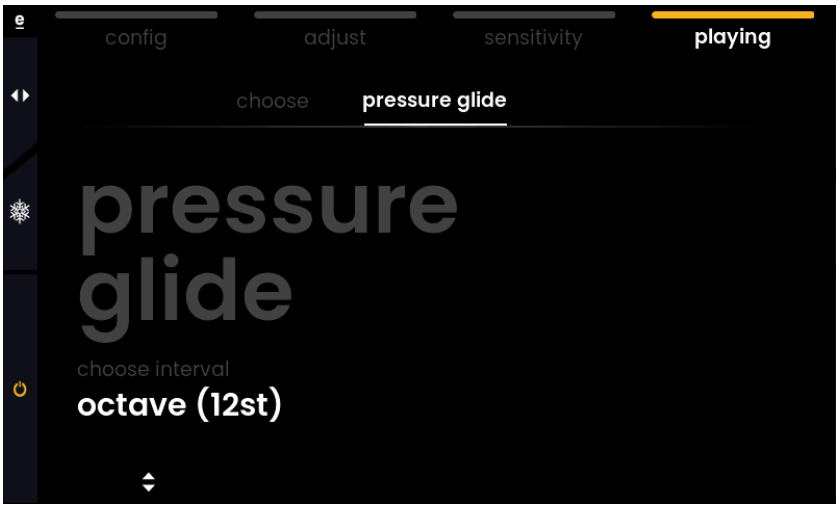
The Playing menu gives access to advanced features that interpret your raw playing gestures in intelligent ways. After accessing the Playing menu with the fourth Menu button, turn Value Encoder 1 to choose either Pressure Glide, the Arpeggiator, or no playing feature at all.

freeze playing function

Pressing the Tab Selector in Playing Menu switches the Playing Freeze ❄ on and off. When Freeze is enabled, the current playing settings will be kept across MIDI configuration preset changes, no matter what is saved in the MIDI configuration you dial up.

pressure glide

Pressure glide in External MIDI mode functions the exact same way as Pressure Glide used in internal Sound Engine mode, except you can use it with any external hardware and software synth that supports MPE.



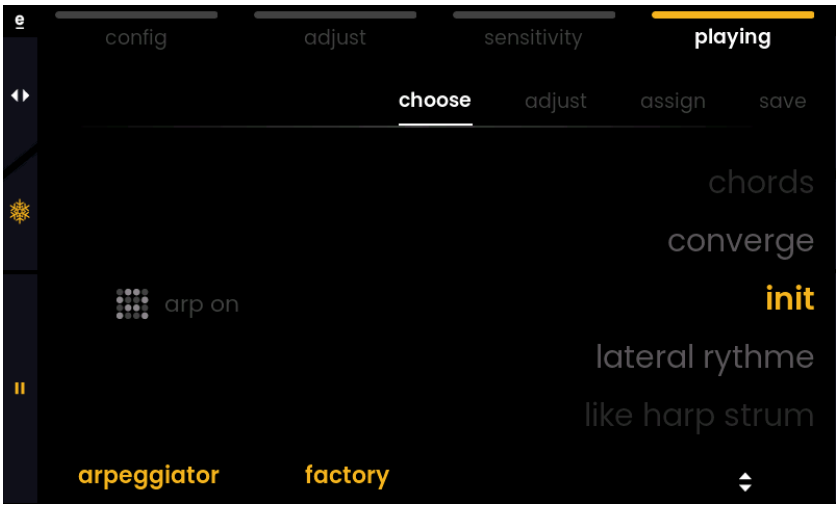
To learn how to use the pressure glide, please refer to the pressure glide section of internal Sound Engine mode.

mpe arpeggiator

The arpeggiator of the External Midi mode functions the same way as the one in internal Sound Engine mode, except it is meant for usage with external hardware or software synths.

To learn how to use the arpeggiator, please refer to the arpeggiator section of internal Sound Engine mode. Please note that arpeggiator presets are saved separately for Sound Engine and External MIDI mode.

i Since an arpeggiator typically plays monophonic lines that don't require the "polyphonic" aspect of MIDI Polyphonic Expression that much. Osmose's arpeggiator can actually sound very lively with non-MPE, legacy instruments as well. Just bear in mind that as soon as notes are overlapping in a non-MPE context, parameters like pitch bend will stay global and affect all sounding notes at once.



i The internal sound engine of Osmose doesn't use MIDI Velocity (MPE Strike) at all, but when using the arpeggiator of External MIDI mode, MIDI Velocity is derived from the Pressure position of a key: A slightly pressed key will send minimal MIDI velocity and a key that is pressed to the maximum of the Pressure key travel (no need to enter Aftertouch) will send maximum velocity.

daw control mode

daw control mode overview

DAW Control mode is designed to make Osmose feel naturally integrated into your DAW.

DAW Control mode is available for the following DAWs:

- **Ableton Live 12+**
- **Bitwig Studio 6+**
- **Steinberg Cubase 15+**
- **Apple Logic Pro 12+**

DAW Control mode is organized around three main use cases:

1) transport panel and daw integration

It lets you control key DAW functions directly from the instrument, including transport controls and metronome, playhead and loop management, track, scene, and clip navigation, and mix controls for the currently selected track. Additional functions such as undo/redo, tempo, and quantize are also available.

2) on a ctrl-e track

DAW Control mode also enables specific integration with the Ctrl-e plugin. When you select a DAW track running Ctrl-e, Osmose detects the plugin, switches to Ctrl-e mode, and automatically configures the required key settings for a plug-and-play MPE experience. From there, Ctrl-e mode lets you navigate through the Ctrl-e browser directly from Osmose, so you can explore plugins, banks, tags, and presets without leaving the instrument.

3) on a regular daw track

When you move away from a Ctrl-e track, Osmose automatically returns to External MIDI control, allowing you to keep playing regular MIDI instruments and plugins with your saved MIDI configurations.

setting up your daw for daw control

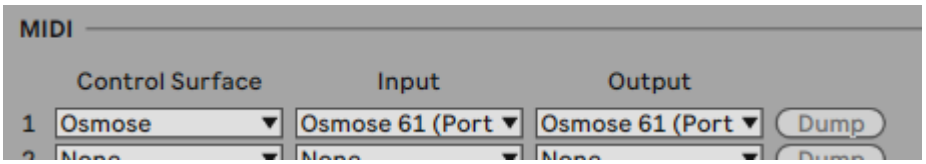
ableton live

configuring the MIDI ports

🎞️ Find a video regarding Osmose CE DAW Control for Ableton Live here. Please note that the USB MIDI Port for DAW Control is Port #4 for Osmose synth, not Port #3 as it is the case for Osmose CE.

Starting with version 12.4, Ableton Live already includes the necessary scripts for DAW Control. Please download the latest version of Live and update it before continuing. Once completed, we recommend checking the settings below to ensure smooth operation:

In Ableton Live's Settings -> Tempo & MIDI -> MIDI, you should find "Osmose" among the Control Surfaces. For Input and Output, select Port 4 of Osmose. In macOS, Port 4 is labeled 'Osmose daw control'.



Under inputs, for USB MIDI Port 1 of Osmose, be sure to activate Track and MPE.
In macOS, Port 1 is labeled 'Osmose play'.



i If 'takeover mode' in Ableton is configured to 'none', switch it to 'pickup':



If Osmose doesn't offer DAW Control mode despite it being connected to your computer that is running Ableton Live 12.4+, please check our 🔗DAW script troubleshooting Ableton Live.

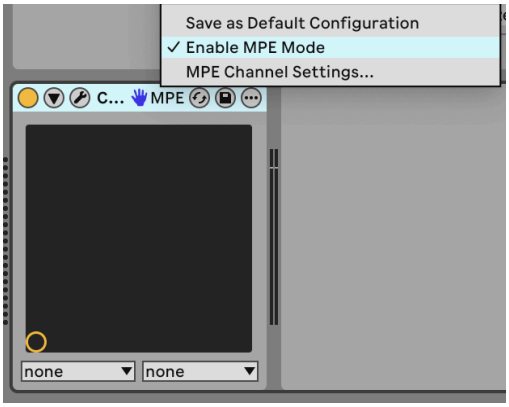


For your track's MIDI input, be sure not to use "All Ins", but select Osmose port 1 (play port).

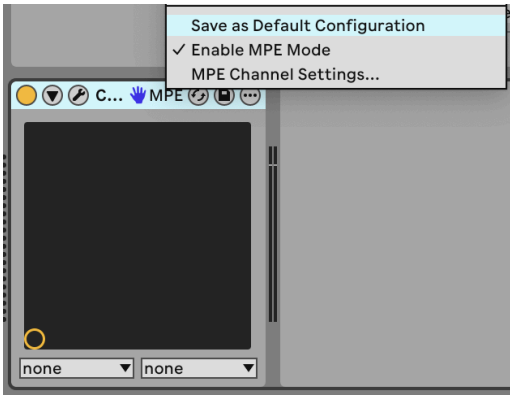
enable mpe for ctrl-e

To make sure Ctrl-e works correctly in Ableton Live, the plugin should be recognized as an **MPE-enabled** device. This should normally be enabled automatically. If you experience any issue with MPE playback or expression, you can check it manually:

Right-click the Ctrl-e device title bar in Ableton Live, where the plugin name appears and make sure **Enable MPE Mode** is checked:



Then select **Save as Default Configuration** so Ableton Live remembers this setting for future Ctrl-e instances.



bitwig studio

1) daw control script installation (only for Bitwig Studio 5)

🎞️ Find a video regarding Osmose CE DAW Control for Bitwig Studio here. Please note that the USB MIDI Port for DAW Control is Port #4 for Osmose synth, not Port #3 as it is the case for Osmose CE.

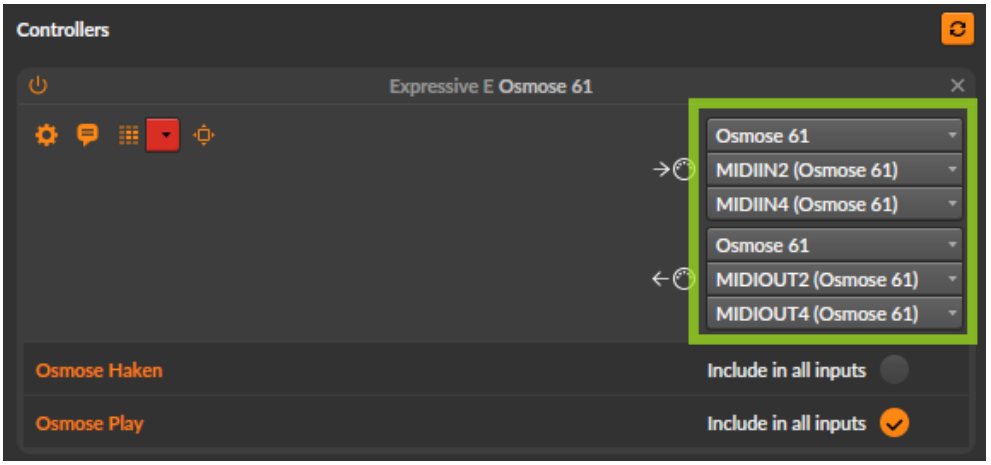
The Osmose CE DAW Control script that also works for Osmose synth is included natively in **Bitwig Studio 6.0.6** and later. No separate installation is required. If you are using **Bitwig Studio 5.2.3** or later and cannot upgrade to the latest version, use the Bitwig script installer available from your Expressive E user account.

To download it, log in to your Expressive E account, go to My Products, find your Osmose, and download the DAW scripts for your operating system. Once downloaded, unzip the files and run the Bitwig script installer. Make sure Bitwig Studio is closed before installing.

After installation, open Bitwig Studio and verify that the settings below are correct.

2) configuring the MIDI ports

If not mounted automatically, in Settings -> Controllers, click 'add controller', vendor Expressive E, and select your Osmose model. Then, for both input and output, select USB MIDI Port 1 of Osmose for the first line, and USB MIDI Port 2 for the second line, and USB MIDI Port 4 for the fourth line:



In macOS, port 1 is labeled 'play', port 2 'sound engine' and port 4 'daw control'.



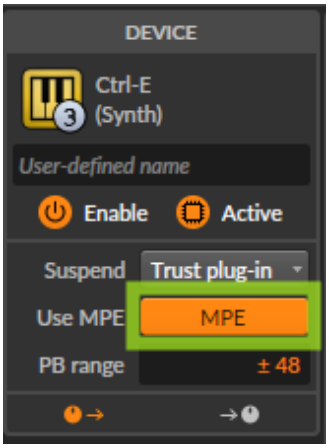
i If ‘takeover mode’ in Bitwig is configured to ‘immediate’, go to Settings > Controllers and choose ‘catch’.

3) enable mpe for ctrl-e

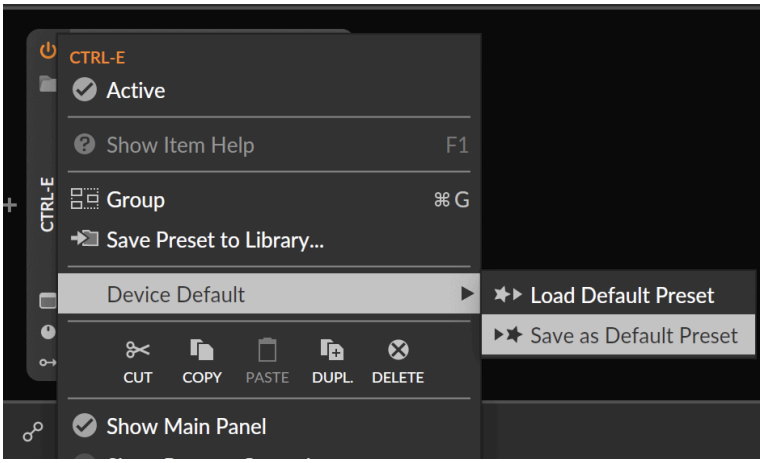
For Ctrl-e to work correctly in Bitwig Studio, **Use MPE must always be enabled** for the plugin. This setting is required for the proper MPE playing experience and for Osmose to access the full Ctrl-e browsing controls directly from the keyboard.

To make sure this setting is recalled automatically for future Ctrl-e instances:

1. Select the Ctrl-e plugin device in Bitwig Studio.
2. Make sure **Use MPE** is **enabled** in the device settings.



3. Right-click the **Ctrl-e device header**, where the plugin name appears.
4. Choose **Device Default > Save as Default Preset**.



Bitwig Studio will then recall this configuration automatically each time you load **Ctrl-e**.

steinberg cubase

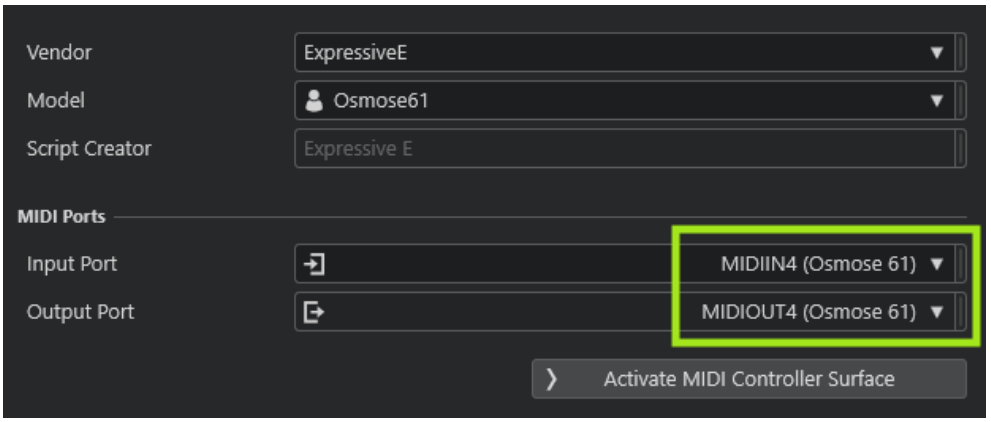
🎞️ Find a video regarding Osmose CE DAW Control for Steinberg Cubase here. Please note that the USB MIDI Port for DAW Control is Port #4 for Osmose synth, not Port #3 as it is the case for Osmose CE.

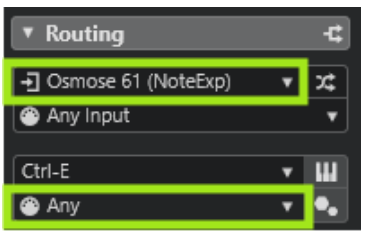
1) daw control script installation

To install the DAW Control script for Cubase, log in to your Expressive E user account and click on 'my products'. If you haven't registered your Osmose yet, do this step first. Find your Osmose in the 'my products'-page, click the download button. Choose the DAW scripts that are correct for your computer, either mac or windows. Once the scripts are downloaded, unzip them, and install the Cubase script for your specif. Follow the on-screen instructions. Ensure Cubase is closed before installing. After completion, open up Cubase and verify the settings below are correct.

2) configuring the MIDI ports

If not working automatically, go to Studio -> MIDI Remote Manager, click 'Add Surface', then select 'ExpressiveE' as Vendor, and choose your Osmose model.
Select Port 4 (labeled 'daw control' in macOS) for input and output of the control surface.





For the instrument track, use Note Expression device Osmose (USB MIDI Port 1, labeled 'Osmose play' in macOS) as input, and be sure to forward '*Any*' MIDI channel to the plugin:

If Osmose still doesn't offer DAW Control mode despite it being connected to your computer that is running Cubase 15+, please check our 🔗DAW script troubleshooting Steinberg Cubase

logic pro

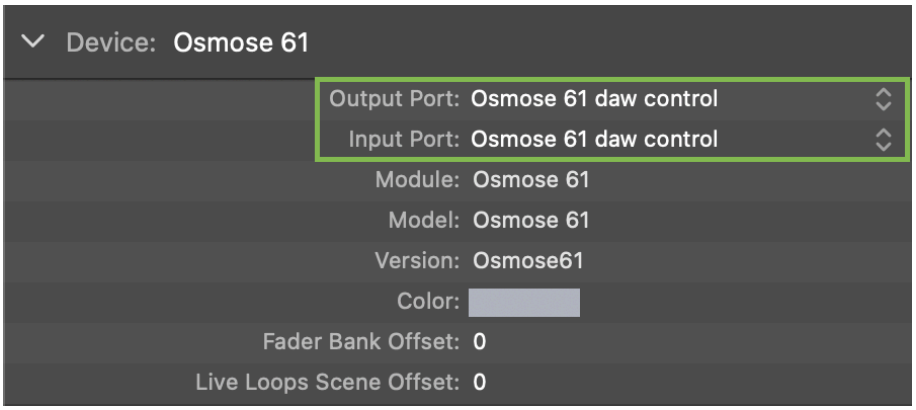
🎞️ Find a video regarding Osmose CE DAW Control for Logic Pro here. Please note that the USB MIDI Port for DAW Control is Port #4 for Osmose synth, not Port #3 as it is the case for Osmose CE.

1) daw control script installation

To install the DAW Control script for Logic Pro, log in to your Expressive E user account and click on 'my products'. If you haven't registered your Osmose yet, do this step first. Find your Osmose in the 'my products'-page, click the download button. Choose the mac DAW scripts. Once the scripts are downloaded, unzip them, and install the Logic Pro script for your Osmose model. Follow the on-screen instructions. Ensure Logic Pro is closed before installing. After completion, open up Logic Pro and verify the settings below are correct.

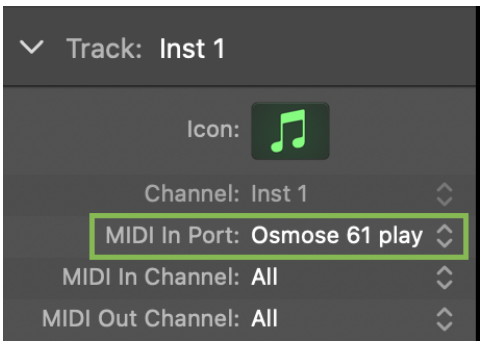
2) configure the MIDI ports

If not working automatically, go to Control Surfaces -> Setup and check the Output Port and Input Port of the Osmose device. They both need to be set to Port 4 'daw control'.



If Osmose still doesn't offer DAW Control mode despite it being connected to your computer that is running Logic Pro 12+, please check our 🔗DAW script troubleshooting Logic Pro.

Select the 'Osmose play' port as MIDI In Port for the instrument track that you want Osmose to control:



transport panel and daw integration

opening the transport panel

The Transport Panel gives quick access to DAW transport and navigation controls.

In DAW Control mode, press the **MODE** button (**1**) to open the Transport Panel as an overlay on top of the current menu. Press the button again to return to where you came from.

💡 You can also hold the **MODE** button to access the Transport Panel temporarily. Releasing the button lets you return to wherever you came from. This is useful for quick actions like hitting Record or Stop.

transport panel overview



The Transport Panel is organized into four main groups of functions, giving you quick access to the most useful DAW controls directly from Osmose.

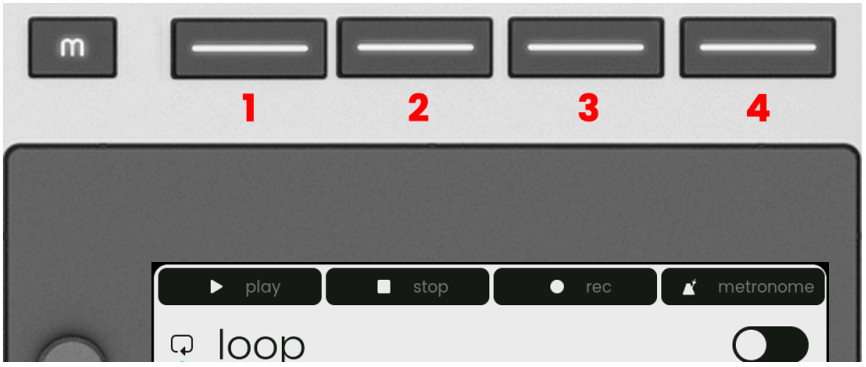
transport controls (through the MODE buttons **(2)**)
Control the main transport functions of your DAW: Play, Stop, Record, and Metronome.

playhead and loop management (through Knob A **(A)**)
Navigate through your project timeline and manage loop-related functions, such as enabling the loop, adjusting its position, or changing its length.

track, scene, and clip navigation (through Knob B **(B)**)
Navigate through tracks, scenes, and clips directly from Osmose. The available navigation options depend on the DAW you are using, as not all DAWs support scenes or clips.

mix controls (through VALUE encoders **(C)**)
Control the mix settings of the currently selected track, including Volume, Pan, Mute, Solo, and Send 1 / Send 2 when available.

transport controls



When the **transport panel** is open, the four menu buttons above the display control the main transport functions of your DAW.

Press **menu button 1** to start or pause playback.
Press **menu button 2** to stop playback.
Press **menu button 3** to start or stop recording.
Press **menu button 4** to turn the metronome/click on or off.

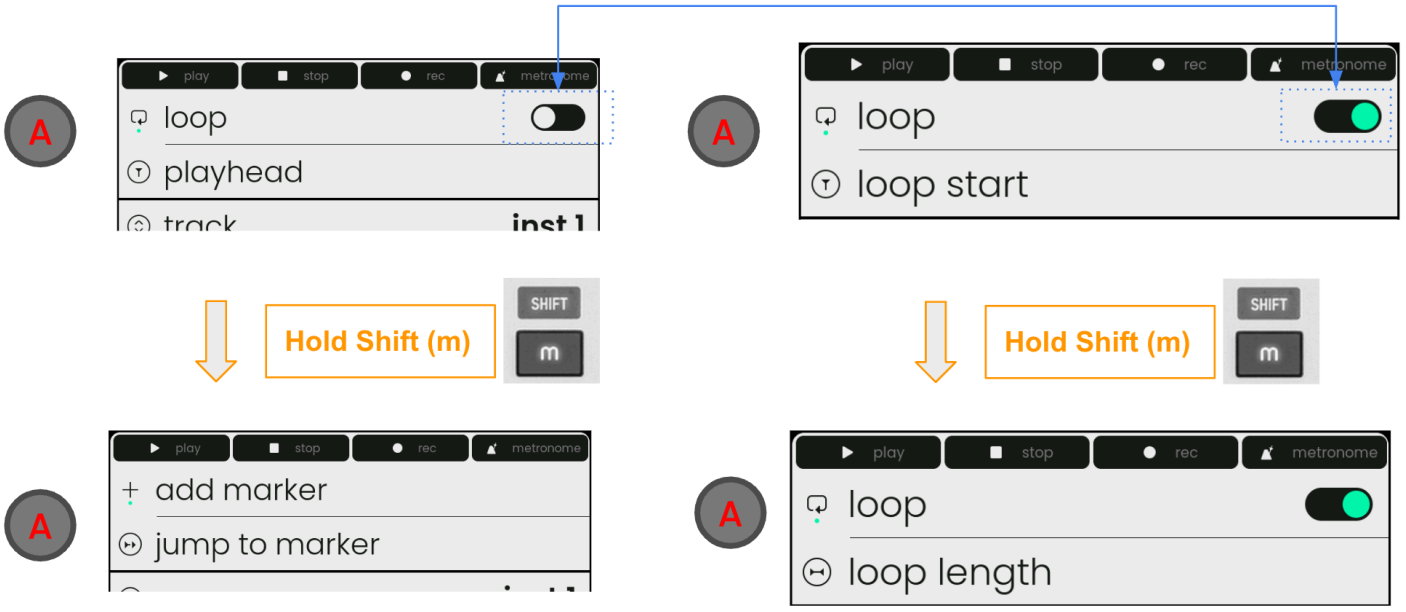
The current transport status is shown both on the screen and through the button LEDs.

playhead and loop management

When the Transport Panel is open, **Knob A** gives access to playhead, loop, and marker-related controls.

1) when loop is off

2) when loop is on



1) when loop is off

Turn **Knob A** to move the playhead through the timeline.

Press **Knob A** to activate the loop.

Hold **SHIFT (m)** and press **Knob A** to add a marker at the current playhead position, or turn **Knob A** to jump between markers.

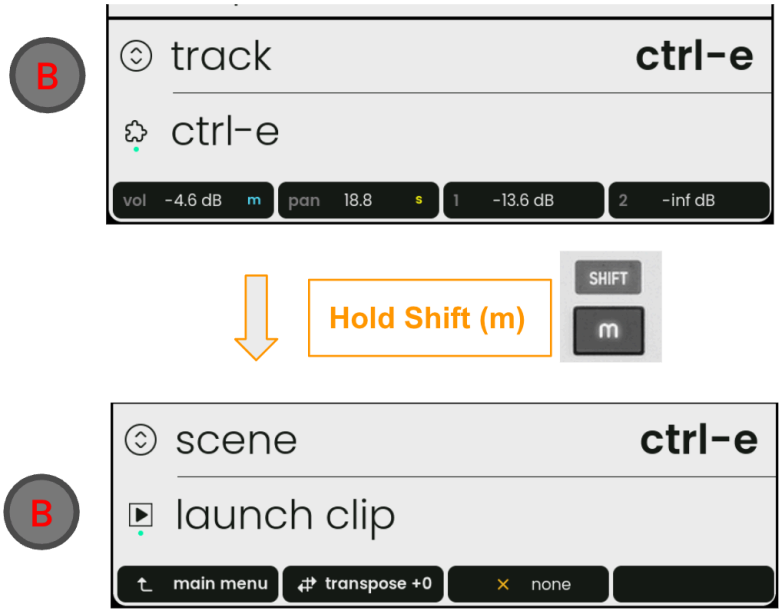
2) when loop is on

Turn **Knob A** to move the loop start position while keeping the same loop length.

Press **Knob A** again to deactivate the loop.

Hold **SHIFT (m)** and turn **Knob A** to adjust the loop length.

track, scene, and clip navigation



When the **transport panel** is open, **Knob B** gives access to track, scene, and clip navigation.

Turn **Knob B** to navigate between tracks.

Press **Knob B** to open or close the plugin window on the selected track.
This function is not currently available in Ableton Live.

Hold **SHIFT (m)** to access additional scene and clip controls *(only available for Ableton Live and Bitwig Studio)*: turn **Knob B** to navigate between scenes, or press **Knob B** to launch the clip on the selected track

mixer controls



When the transport panel is open, **VALUE encoders 1–4** give access to the mix controls of the currently selected track.

Turn **encoder 1** to adjust the track volume.
Press **encoder 1** to mute or unmute the track.

Turn **encoder 2** to adjust the track pan.
Press **encoder 2** to activate or deactivate solo for the track.

Turn **encoder 3** to adjust **send 1**.
Turn **encoder 4** to adjust **send 2**.

☝ The **send 1** and **send 2** controls depend on the routing and send configuration of your DAW project. If the corresponding sends, buses, auxes, or FX channels are not available, these controls may be disabled.

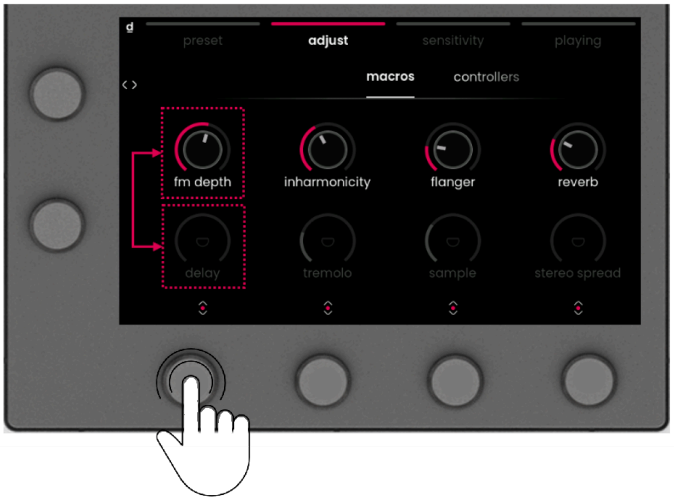
macros and device switching

controlling your track macros

When DAW Control mode is active, press the second menu button to open the adjust menu. The first tab is the macros tab which displays eight macros connected to the macros of the device/track you are currently on.



In order to control 8 parameters from 4 knobs, each encoder controls one column. Pressing a knob toggles between controlling the upper and lower parameter in that column:

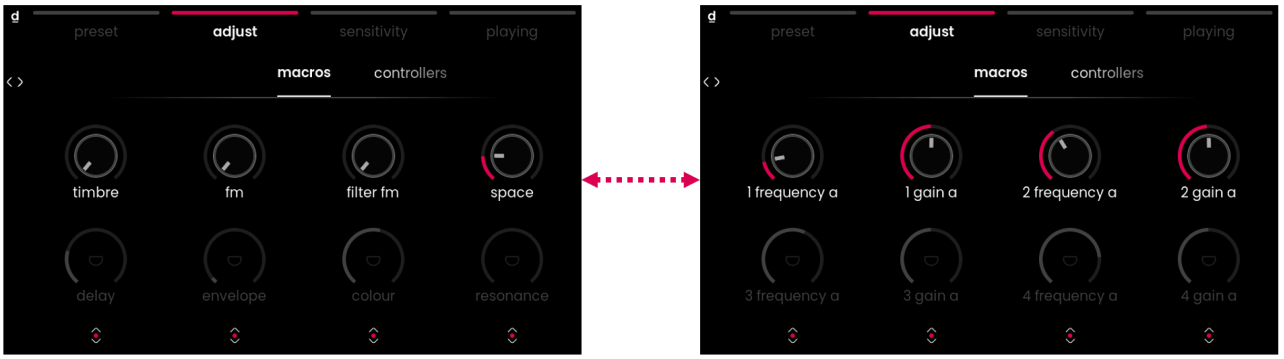


switching between track devices

In Ableton Live and Bitwig Studio, you can also scroll through the devices on the selected track directly from the macros tab, and the macro selection will follow along. Hold **SHIFT (m)** to reveal the **bottom action bar**, then turn the encoder **4** below **switch device** to navigate between the devices on the current track.

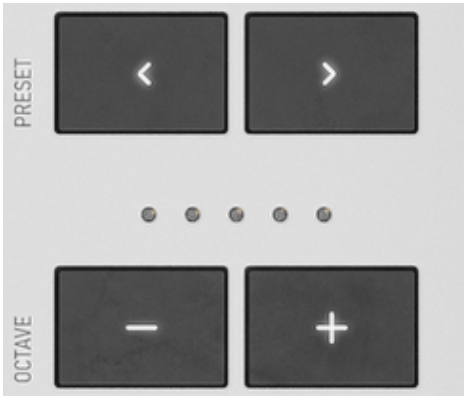


For example, if your track contains both a synth plugin and an EQ device, you can use "switch device" to choose whether the eight macro controls adjust the synth or the EQ:



additional functions

Some DAW Control functions are accessed through secondary shortcuts on the main panel. Hold **SHIFT (m)**, wherever you are in the navigation, then use the preset and octave buttons to access the following functions:

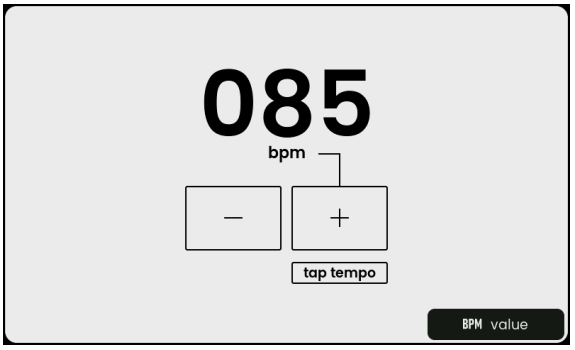


undo - Hold **SHIFT (m)** and press the left **preset** button **(<)** to undo the last action.

redo - Hold **SHIFT (m)** and press the right **preset** button **(>)** to redo the last action.

quantize - Hold **SHIFT (m)** and press the left **octave** button **(-)** to quantize the current selection according to your DAW settings.

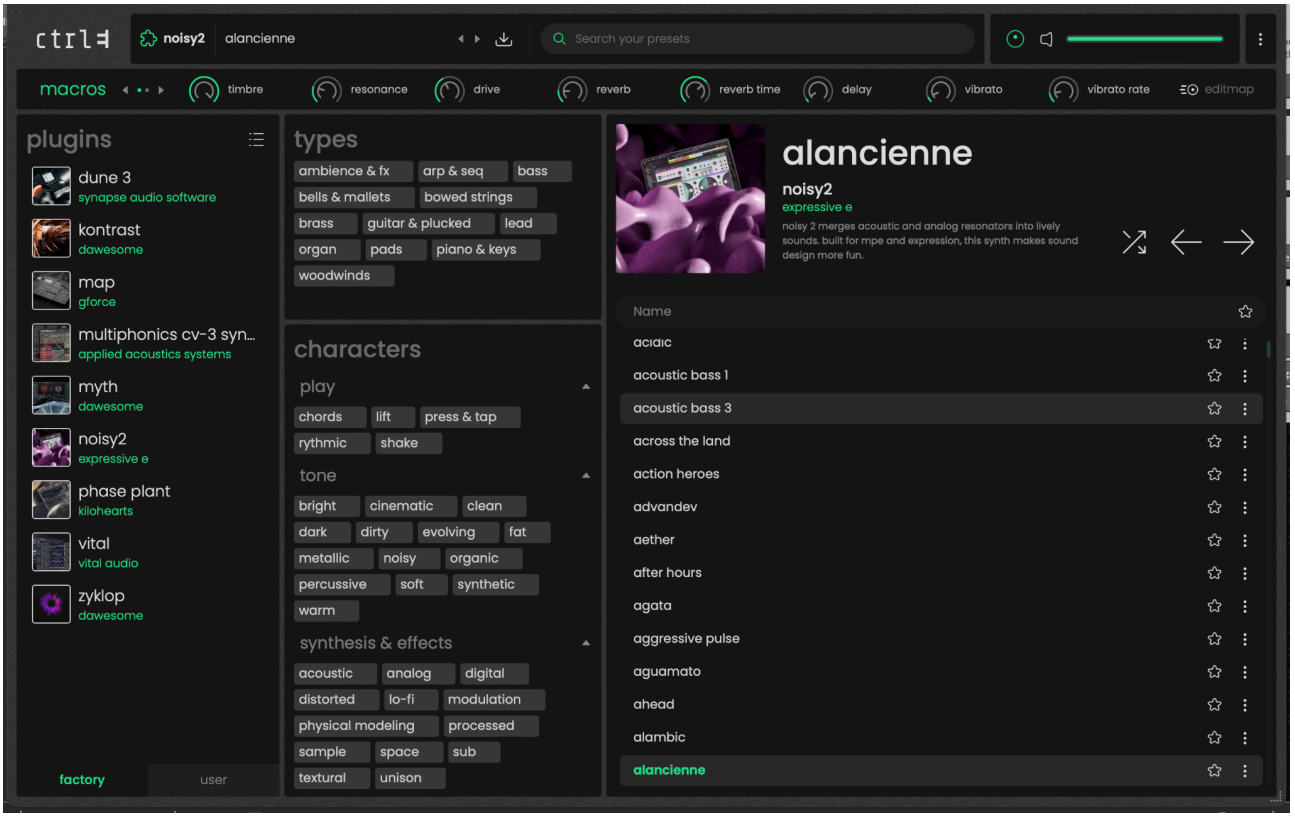
tempo - Hold **SHIFT (m)** and press the right **octave** button **(+)** to open the **tempo** screen.



On the **tempo** screen, turn **encoder 4** to adjust the tempo, or repeatedly press the right **octave** button **(+)** to tap the tempo. Press **shift (m)** or one of the **menu buttons** to exit the screen.

daw control on a ctrl-e track

ctrl-e integration overview



what is ctrl-e?

Osmose comes with **Ctrl-e**, Expressive E's software platform for expressive sounds. **Ctrl-e** gives you access to a wide library of more than **900 MPE-ready presets**, carefully tailored for the Osmose keybed.

To provide this sound library, Ctrl-e includes two full instruments: the powerful and versatile Vital, and the innovative Zyklop by Dawesome. Make sure Vital and Zyklop are properly installed to access the full Ctrl-e sound library.

Ctrl-e also integrates sound engines from renowned synthesizers such as Phase Plant by Kilohearts, Multiphonics by Applied Acoustics Systems, Kontrast and Myth by Dawesome, MAP by GForce, and Noisy 2 by Expressive E.

mpe setup requirement

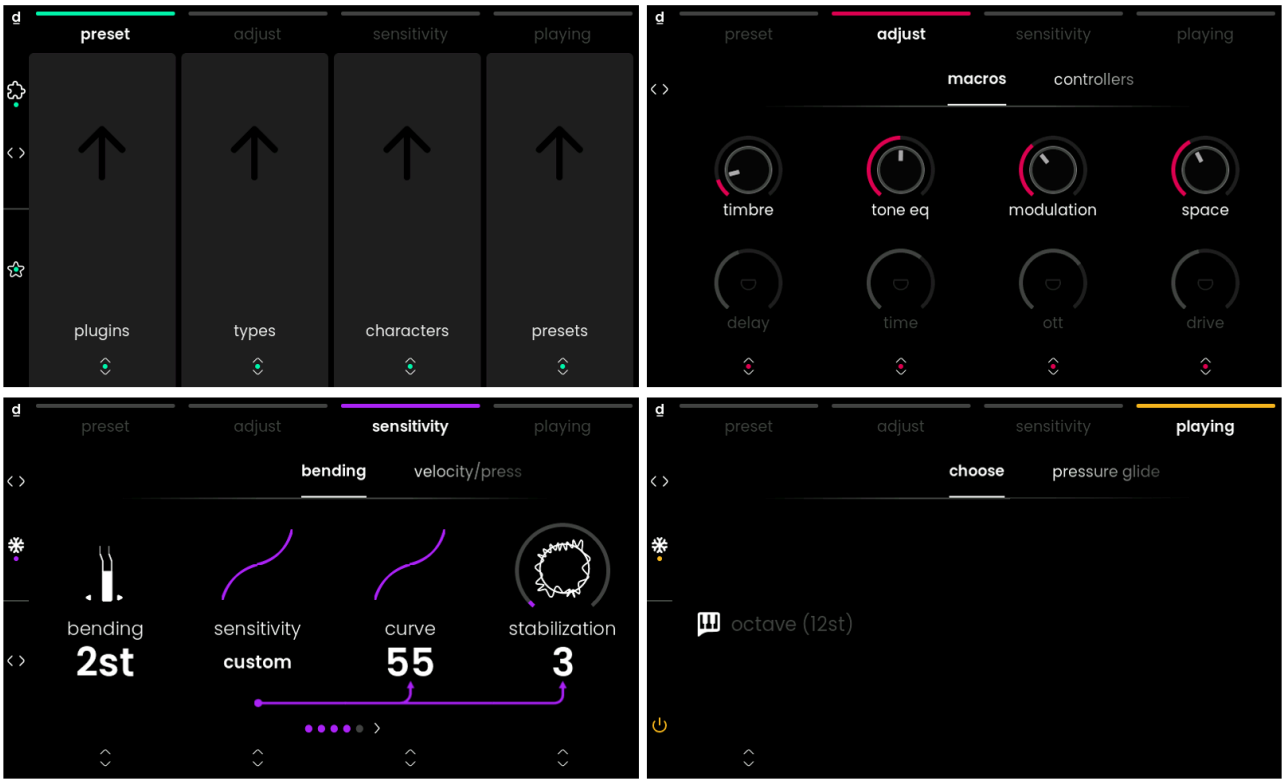
To make Ctrl-e navigation and playing work as expected, **MPE must be properly enabled** for your DAW as well as on the track that Ctrl-e is loaded upon. See section "setting up your daw for daw control".

automatic ctrl-e configuration

When DAW Control mode is active and you select a DAW track running Ctrl-e, Osmose automatically switches to Ctrl-e mode. This creates a plug-and-play MPE experience by automatically configuring the required internal MPE settings, loading the dedicated Ctrl-e sensitivity setup, and giving you direct access to advanced Ctrl-e browser navigation from Osmose's screen.

menus in ctrl-e mode

When Osmose automatically switches to **Ctrl-e mode**, the four main menus are adapted to the Ctrl-e workflow.



preset menu

The preset menu gives you advanced navigation through the Ctrl-e browser directly from Osmose. From there, you can explore plugins, types, characters, presets, and more.

adjust menu

The **adjust** menu gives access to two tabs: **macros** and **controllers**.
The **macros** tab lets you control macros directly from Osmose.

-> For more information, see the macro tab section.

The **controllers** tab lets you define which MIDI CCs are controlled by the modulation slider, pedal 1, and pedal 2.

-> For more information, see the controllers tab section.

sensitivity menu

The **sensitivity** menu includes the standard sensitivity settings, plus an additional **Ctrl-e sensitivity** tab.

-> For more information, see the sensitivity menu.

playing menu

The **playing** menu remains the same as in **External MIDI** mode.

-> For more information, see the playing menu section.

ctrl-e preset menu

Press the menu button 1 below the play symbol to open the preset menu for Ctrl-e. Here you can use the encoders on your Osmose to navigate Ctrl-e:



Knob A scrolls between Ctrl-e's factory and user presets. Push the encoder to open and close Ctrl-e's plugin window in your DAW.

Knob B press to add a preset to your favorites. Long press toggles favorite filtering, and shows only your favorites. Long press Encoder B again to show all presets.

VALUE encoder 1 scrolls between plugins inside Ctrl-e. Push to load your currently selected plugin. If you have sound banks installed for the plugin you've chosen, you can long press to show the available banks. Scroll between the banks with the encoder and select a bank, or long press again to return to the list of plugins. When your plugin list is sorted by 'plugin + brand' you can select the header displaying the brand name with the encoder, then long press to hide all plugins.

VALUE encoder 2 scrolls between types and subtypes of presets. Push to select. Choosing multiple types is possible. Long press this encoder to reset your current type / subtype selection.

VALUE encoder 3 scrolls between characters. Push to select. You may choose more than one character. To reset your current selection, long press this encoder.

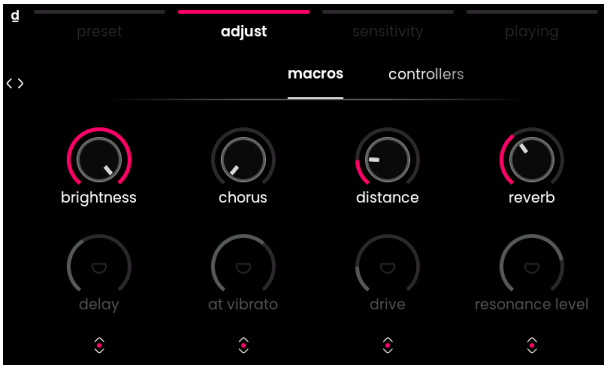
VALUE encoder 4 scrolls between the presets. Push to confirm and load a preset.
i As you scroll with encoders 1-4, a green square will appear around the section you`re controlling.



When Ctrl-e is active on your current track, you can also use the Previous Preset (<) and Next Preset (>) buttons to browse presets. Long press these buttons to activate ‘shuffle’.

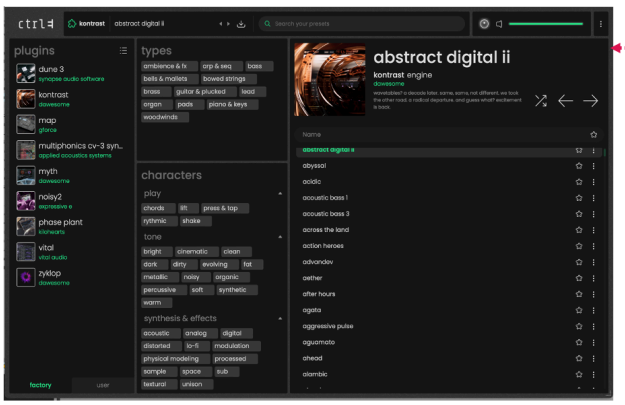
If Ctrl-e is showing the ‘plugin view’, pushing menu button 1 (preset menu) closes the plugin view and returns you to the browser view.

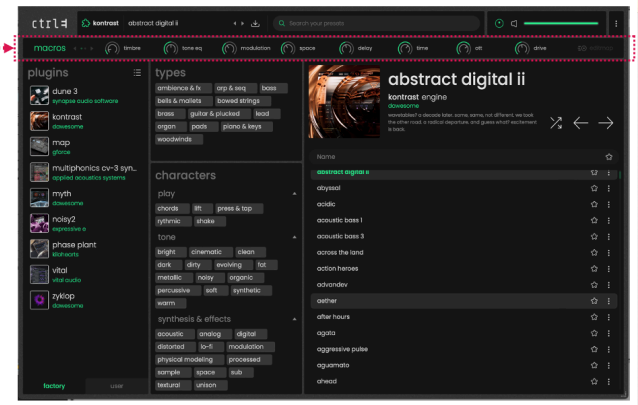
ctrl-e macros menu



Press menu button 2 (adjust menu) to reveal a bank of 8 macros. These allow for quick control of the macros inside Ctrl-e. Scroll encoders 1-4 left or right to adjust the parameters, click to toggle between the top (1-4) and bottom (5-8) macros.

When you are on this macro tab, pressing and re-pressing menu button 2 will show or hide the macro bar in Ctrl-e’s browser view.





ctrl-e sensitivity menu

As explained earlier, when Ctrl-e mode is active, the sensitivity menu works the same way as in External MIDI mode. For more information, see the External MIDI sensitivity menu section.

However, an additional Ctrl-e sensitivity tab is available. This tab lets you update the default sensitivity settings that are loaded each time you select a Ctrl-e track.



saving options

The saving options define which parts of your current sensitivity setup will be saved.

Set pressure, bending, or aftertouch to yes if you want the current settings of these tabs to be saved in the new default sensitivity setup.

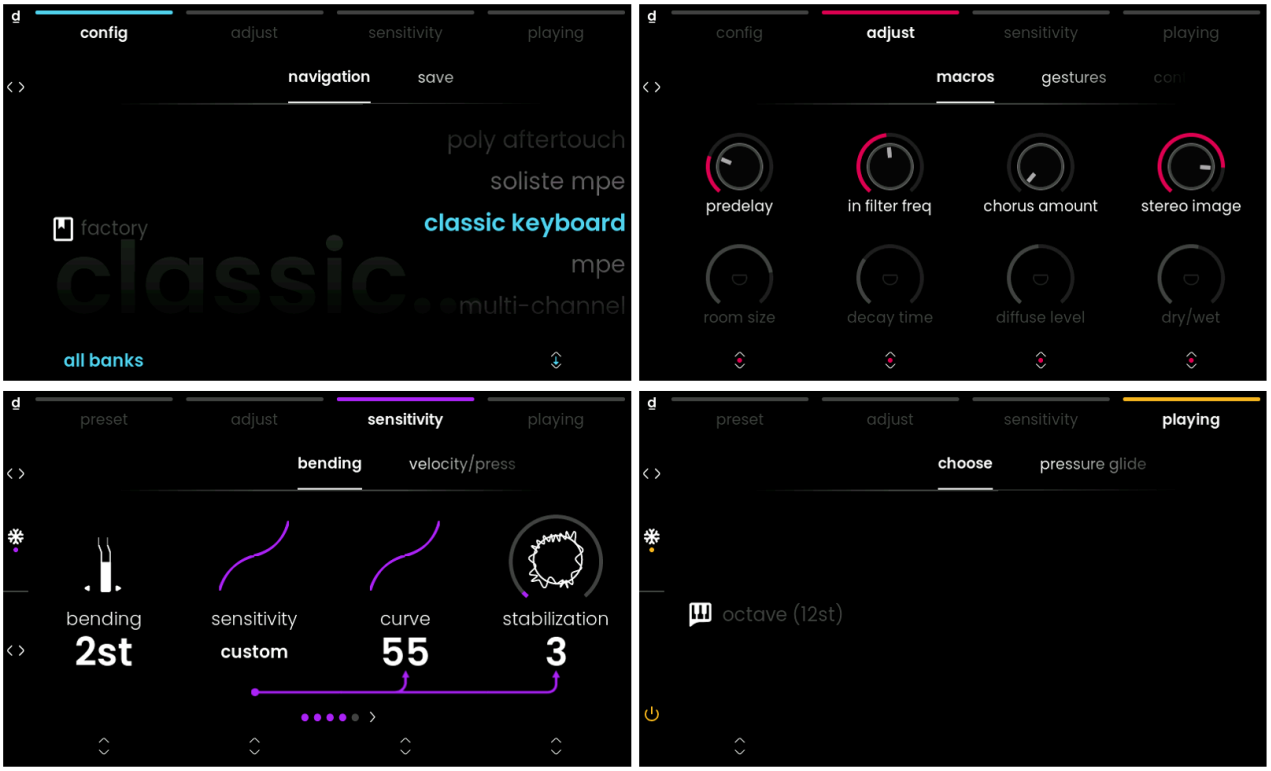
Set an option to no if you want that tab to be ignored during the save operation.

restore

restore factory sensitivity restores the factory default **Ctrl-e sensitivity** settings.

daw control on a regular track

When you move from a **Ctrl-e** track to another DAW track, Osmose automatically switches back to **External MIDI** control.



It also recalls the last **External MIDI** configuration that was active before switching to **Ctrl-e** mode.

This lets you continue using Osmose on regular DAW tracks while benefiting from all the features and creative possibilities available in **External MIDI** mode.

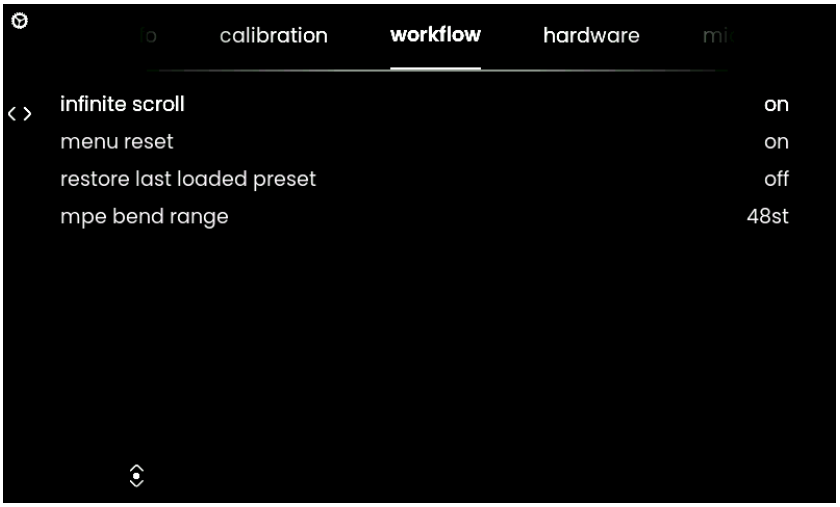
For more information, see the **External MIDI Mode** section.

global settings

global settings overview

The global settings are accessible via the main menu screen. Enter the settings menu by pressing the Mode button, then Encoder 4 below the screen (the one below the on-screen cogwheel (⚙️). If you're currently in DAW Control mode, you can press and hold the Mode button and click Encoder 1 to go to the main menu, and open the settings from there.
To exit the settings menu, press the Mode button. If you've made any changes you will get a confirmation message that your settings have been saved.

workflow tab



infinite scroll - when enabled, you will be able to pass from the first to the last tab of a menu and vice versa without the need to scroll through tabs in between. See the first screenshot below with infinite scroll set to off, and the second with infinite scroll enabled.





menu reset - when enabled, upon switching between menus, the navigation will always bring you back to the first tab of a menu instead of showing the tab that you had last accessed within that menu.

restore last loaded preset - when enabled, the last sound preset that was active before shutting down Osmose will be dialed up upon booting Osmose.

mpe bend range - sets the maximum mpe bend range (in semitones) Osmose uses internally in an MPE context. In most cases, 48 semitones will be correct, because it is the defacto MPE standard.

hardware tab



luminosity changes the brightness of the screen.

haken tuning changes the global tuning of the internal sound engine in cents.

settings reset resets all the parameters in the global settings to their default factory values.

clear user presets deletes all presets in the user bank.

clear factory presets deletes all presets in the factory bank.

clear all playlists deletes all playlists.

migration tool reset prepares Osmose for a clean downgrade to the old filesystem of firmware version 1.x. Not to be used without instructions by our technical support staff.

factory reset resets the Osmose firmware to its factory state without any presets installed. A factory reset removes all sound presets, and initializes the global settings, the default sensitivity, the arpeggiator presets, as well as all your MIDI configuration user presets and arpeggiator presets of External MIDI mode. To restore factory sounds, you need to use the advanced mode of the application OsmoseUpdater (“push osmose factory collection”).

midi i/o tab



The ‘midi i/o’ tab lets you adjust the routing of the MIDI inputs and outputs of Osmose to better suit your needs.

ext clock source selects the MIDI port used as the MIDI clock source for synchronization of the arpeggiator. Available clock sources are:

1/3 usb play (default) : checks USB MIDI Port 1 for an incoming MIDI clock signal
2/3 usb haken : checks USB MIDI Port 2 for an incoming MIDI clock signal
3/3 din : checks the physical DIN MIDI input for an incoming MIDI clock signal

usb haken mode adjusts only the data sent on the USB MIDI Osmose Haken port (Port 5). The input of the USB MIDI Haken port is always connected to the Haken sound engine no matter the MIDI I/O configuration. Data outputted on the Haken port (Port 5):

1/3 note only	MPE+ messages
2/3 note & matrix	MPE+ messages & Haken Editor communication
3/3 disabled (default)	none

☝ Since firmware version 2.3, this option is only useful to activate Haken Editor communication with ‘2/3 note & matrix’. If you wish to steer the internal sound engine, use USB MIDI Port 2, the ‘sound engine’ port.

haken local control allows you to cut the communication between Osmose’s keybed and the sound engine. This is useful if you want to use USB MIDI Port 2 to route the MIDI keyboard data through a DAW before sending it to the sound engine. This parameter reverts back to ‘on’ upon every reboot.

on (default) : Osmose’s keybed is connected to the sound engine
off : Osmose’s keybed is disconnected from the sound engine

din mode adjusts the behavior of the 5-pin DIN style jacks. Unless you choose the specific option “5/6 cvc” (see below), the DIN MIDI output will always send the keyboard generated MIDI data as set up in the External MIDI mode. It is the same data that is sent on the USB MIDI Port 1.

1/6 default (default) : DIN MIDI outputs the keyboard-generated MIDI data as set up in the External MIDI mode. It mirrors the data that is sent on USB MIDI Port 1 of Osmose (‘play’ port).

2/6 dsp in : just like ‘default’, but additionally, the DIN MIDI input is connected to the Haken sound engine allowing you to play the EaganMatrix from an external DIN MIDI device using MPE data.

3/6 thru : just like ‘default’, but additionally, any MIDI data that enters in the DIN MIDI input will be forwarded to the DIN MIDI output as well.

4/6 dsp in + thru : combines options 2/6 and 3/6.

5/6 cvc : allows you to use Haken Audio’s Continuum Voltage Converter (CVC) device to control analog synthesizers from the Osmose. The DIN MIDI jacks establish a direct connection between the EaganMatrix and the CVC, using Haken Audio’s proprietary i2c protocol. 🪲 Known flaw: Selecting this option disables the External MIDI Mode functionality on USB MIDI Port 1 for internal routing reasons.

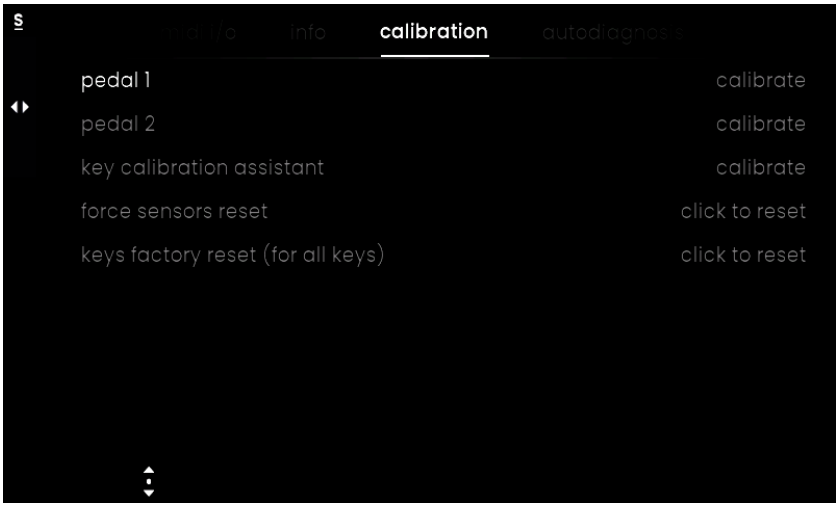
6/6 usb interface : just like ‘default’, but additionally, this option allows your USB host (computer) to send and receive MIDI messages via the DIN MIDI ports of Osmose. Once set, use USB MIDI Ports 3 (the ‘din interface’ ports) in your host (computer) to control what is sent or received.

info tab



osmose vers. displays the version of the operating system running on your Osmose.
haken vers. displays the version of the EaganMatrix DSP firmware.
sbsfu version displays the version of the secure boot & secure firmware update software running on the microcontroller of Osmose.
serial number displays the serial number of your Osmose.

calibration tab



pedal 1 / pedal 2 launches the calibration of the pedal inputs. For more details, see pedal calibration.
key calibration assistant allows the manual calibration of individual keys by defining their vertical, left, and right maximum positions. The assistant allows you to correct irregular behavior of single keys.
force sensors reset allows triggering the sensor calibration that usually happens during booting without the need to switch off your unit. It can be useful to troubleshoot or analyze random errors with sensor recognition.

keys factory reset (for all keys) allows resetting all key calibration data to the factory state. This will undo any manual calibration done in the meantime. If you wish to only reset single keys to their factory state, use the key calibration assistant instead.

pedal calibration

compatibility and recommendations

There is no established electrical norm for pedals in the industry, so only a selection of pedals will work well with Osmose. Here are the ones that we found to work fine:

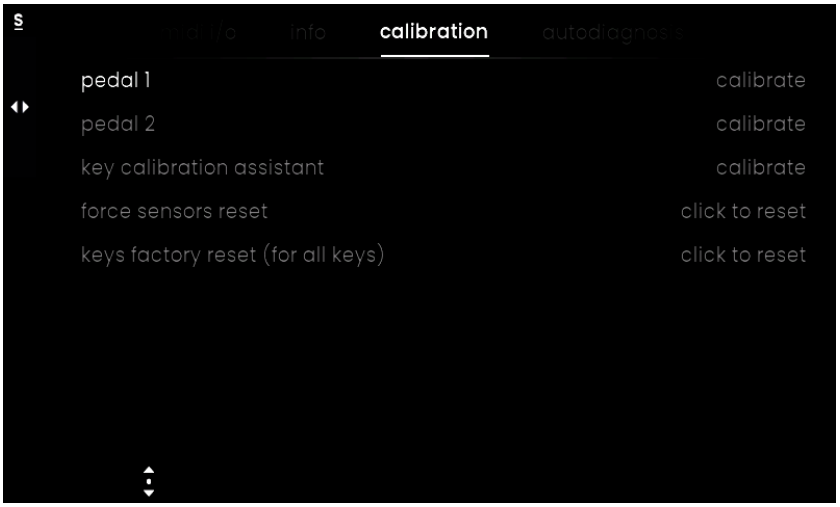
Behringer FC600 [RTS assignment]
Clavia Nord Single Sustain
Dunlop Volume X Mini
Korg XVP-10
Lead Foot LFD-2
Moog EP-3 [mode: other, knob at max.]
M-AUDIO SP-2
M-AUDIO EX-P [mode: other, knob set low]
Nektar NX-P Universal Expression Pedal [switch set to "2"]
Roland DP-10 [Switch]
Yamaha FC3A
Yamaha FC4A
Yamaha FC7

Don’t hesitate to share a recommendation with us if you find a pedal that works great but isn’t on the list yet.

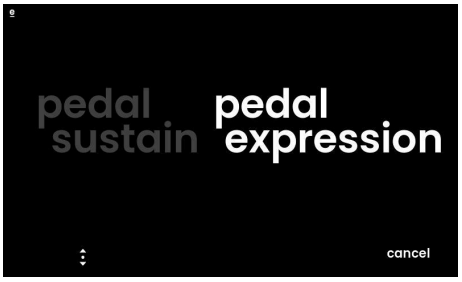
⚠️ When playing the Internal Sound Engine, we recommend using expression or half-damper pedals instead of on/off switches with Osmose. This is due to how the sustain works in the EaganMatrix:

In the EaganMatrix, sustain/sostenuto holds the actual pressure of a sound as if you keep your fingers in that position. Often, presets are programmed to not only change the intensity of the core sound but also produce an additional sound aspect, e.g. some strings scratching or other mechanical noises when the pressure value is changed. Using an on/off switch type pedal for sustain can trigger this “noisy” portion of a sound in an unnatural sounding way because values that are expected to move continuously jump between minimum and maximum all of a sudden.
Using continuous expression or half-damper pedals will avoid glitchy noises and produce smoother results because they change the pressure value in a continuous, non-abrupt manner.

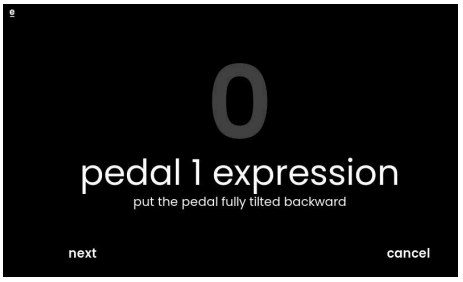
pedal calibration procedure



Turn Encoder 1 to select ‘pedal 1’ or ‘pedal 2’, depending on which pedal input your pedal is connected to, and then click it to start the calibration process.



1) Select whether you have connected an on/off switch (pedal sustain) or a continuous or half-damper pedal (pedal expression).



2) Make sure your pedal is at the minimum position (or not pressed for on/off switches), then press ‘next’.



3) Make sure your pedal is at maximum position (pressed for on/off switches), then press ‘next’.



4) The last page of the calibration process lets you check whether you are able to go through values from 0 to 127 smoothly. Click on ‘confirm’ if all is okay.

advanced users

further documentation

For advanced use cases like establishing a connection with the Haken Editor, triggering Osmose's sound engine from an external source, switching sounds with Program Change messages, and remote-controlling parameters with MIDI CC messages, please refer to our online knowledge base:

🔗 Osmose Online Manual - Advanced Users

troubleshooting

troubleshooting knowledge base

If you encounter technical issues, please start by searching our online knowledgebase for a solution. When still stuck, please submit a ticket to our Osmose tech support team:

🔗 Osmose Online Knowledgebase - Technical Issues