# Expressive E
Osmose

BITWIG

Controller Setup

This document gives you a brief overview of how to set up and use Osmose with Bitwig Studio. For an in-depth explanation of all Osmose features, please read the Osmose user guide provided by Expressive E.

Setup

Osmose should be detected and set up automatically when it is connected. In case you added Osmose manually, make sure the MIDI ports are selected in the correct order. For both inputs and outputs, select the External MIDI Port (1) in the first field, then the Haken Port (2) for the second field.
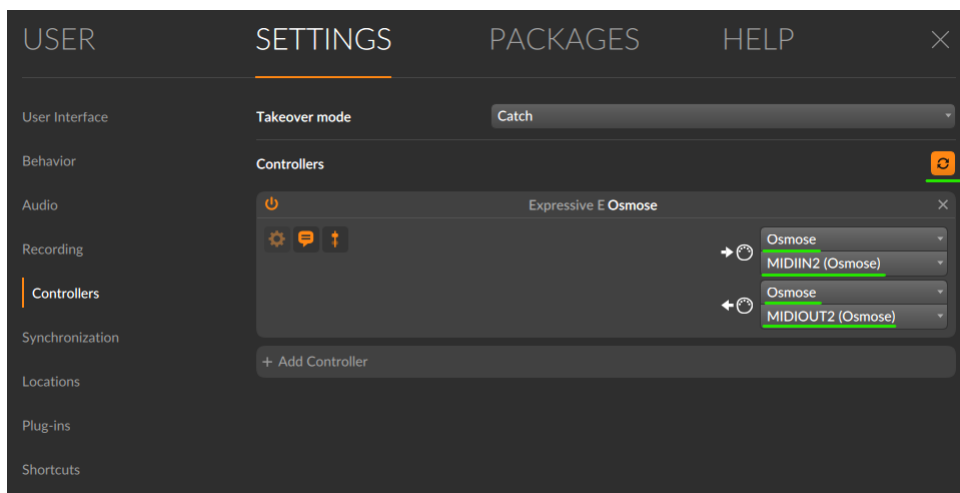
Windows:
In 1:   Osmose
In 2:   MIDIIN2 (Osmose)
Out 1: Osmose
Out 2: MIDIOUT2 (Osmose)

Mac/Linux:
In 1:   Osmose Port 1
In 2:   Osmose Port 2
Out 1: Osmose Port 1
Out 2: Osmose Port 2

Osmose as an MPE Controller

Osmose can be used as an input device to play MPE-enabled software instruments. Osmose's MIDI Port 1 must be used for this task exclusively.

**1 Choose MPE Configuration for Osmose's External MIDI Mode**
On Osmose, enter the config menu of External MIDI mode and select the MPE configuration. This will make Osmose send MIDI messages according to the MPE specification on Port 1.
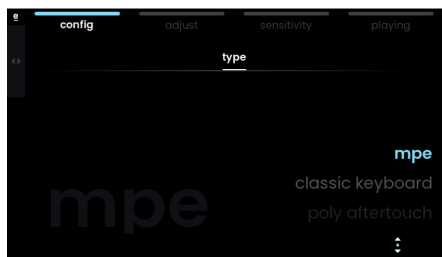
2 Play Instrument Tracks with Osmose
Select an empty instrument track or create a new one. Add either one of Bitwig's internal instrument devices (which are all MPE-compatible) or an MPE-compatible plug-in to the track.

Click on the input selector of the track in the inspector panel or the mixer and select *Osmose - External MIDI Port (Port 1)* as the input. If the default setting *All ins* is used, controller data will be recorded twice, because Osmose sends data on both of its ports simultaneously.
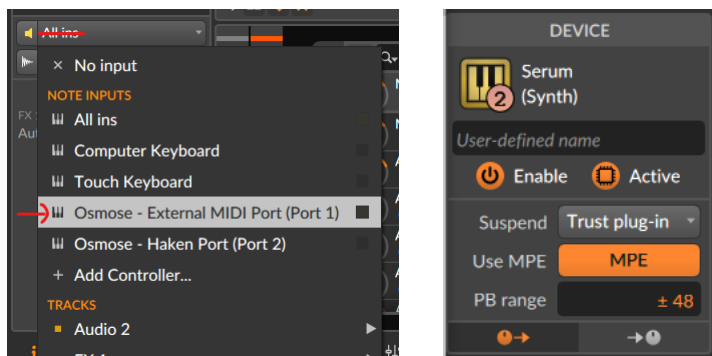
For VST plug-ins you have to activate MPE mode: Click on the MPE plug-in to show the device inspector, then click *MPE* next to *Use MPE* to activate MPE for the plug-in. For Bitwig devices this option is not available, it works automatically.

3 Configure MPE Interpretation in the Plug-in
Be aware that for some MPE-compatible plug-ins, MPE functionality must also be activated from within the plug-in. Check your plug-in's manual to learn about its MPE workflow.

When MPE is activated in the plug-in, *Pressure* will be controlled by Osmose Initial Pressure axis and *CC74 (MPE Timbre/Slide)* is controlled by Osmose's Aftertouch axis. For more details, see config menu.

In most MPE synths, the maximum MPE note pitch bend range (Axe X) is set to +/-48 semitones by default. Adjust the *bending range* fraction on Osmose (Ext MIDI mode > sensitivity menu > bending tab) for a more playable range. For example: When the maximum pitch bend range in your external synth is set to 48 semitones, set the fraction in Osmose to *1/48* to end up with a +/-1 semitone range for note bend gestures.

4 MPE Modulators in Bitwig Studio
You can easily enhance presets of devices or VST plug-ins with MPE messages from Osmose by using Bitwig Studio's modulation system. Add an **Expressions** or a **MIDI** modulator to a modulator slot and map MPE messages to one or multiple parameters. The modulation mappings will be shown in the inspector panel. Read more about Bitwig Studio's modulation system in the *Bitwig Studio User Guide, chapter 15.2.*

Osmose as an External Instrument

You can integrate Osmose's sound engine into Bitwig Studio to be able to record and play back performances as MIDI notes. Osmose's MIDI Port 2 must be used for this task exclusively.

1 Choose the Correct MIDI I/O Settings on Osmose
Head to Osmose's *midi i/o* tab. Set *usb haken mode* to *1/3* note only to ensure Osmose sends MPE+ messages on Port 2.

Set *haken local control* to *off* to route your playing through your DAW before triggering the instrument.

Important: With *haken local control* set to *off*, Osmose will only sound when its track in Bitwig Studio is armed.
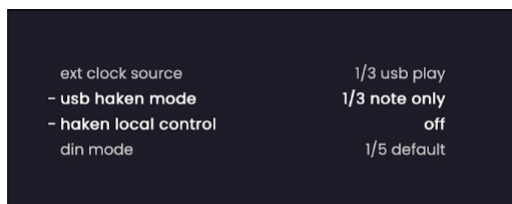

2 Record and Play Osmose's Sound Engine in Bitwig Studio
Select an empty instrument track or create a new one. Add an device to the track.

Click on the input selector of the track in the inspector panel or the mixer and select *Osmose - Haken Port (Port 2)* as the input. If the default setting *All ins* is not changed, controller data will be recorded twice, because Osmose sends data on both of its ports simultaneously.

On the HW Instrument device select *Osmose Port 2* in the Note Destination menu, and *Keep Ch.* in the MIDI Channel menu. Activate *Use MPE* and set the MPE Pitch Bend Range to +/- 96 semitones.

Select the audio inputs your Osmose is connected to in the Return menu to receive Osmose's audio output on the same track. Arm the track, and you are ready to record, edit, and play back Osmose performances in Bitwig Studio.
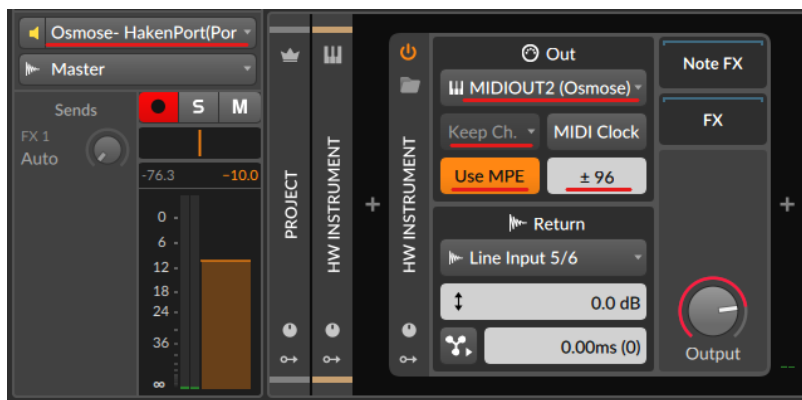
Please note that overdubbing notes to an existing MIDI clip meant for Osmose's internal sound engine does not work reliably. The EaganMatrix in Osmose accepts MIDI notes only on MPE Note Channels 2 to 12, whereas the HW Instrument device is set to 16 by default.

As a workaround you can use the *Keep Ch.* option in the HW Instrument device: Applying no channel re-assignment at all omits note dropouts when replaying your single MPE clip, but it comes at the expense of losing overdub functionality.