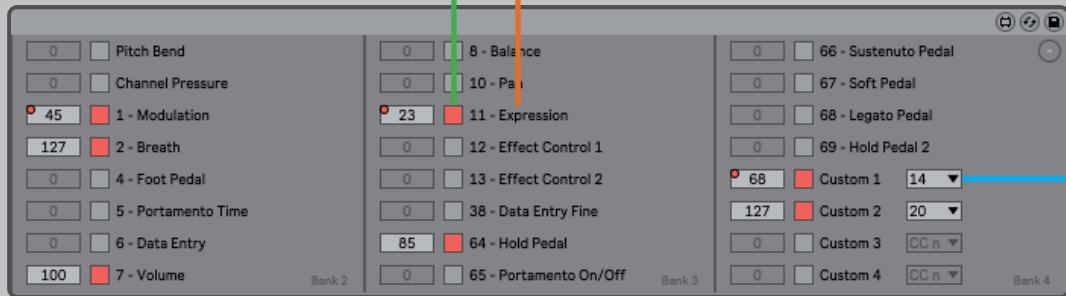


## 2. Automation envelopes for MIDI controls in the arrangement view.

With the KeySwitch & Expression Map you can draw or record automation envelopes for MIDI controls like **Pitch Bend**, **Aftertouch**, **Modulation**, **Expression** etc. directly in the arrangement view so that you do not have to open especially a MIDI clip to edit them. Furthermore, this offers you a clear overview about the development of expressions - in particular, if you have several instruments or an orchestra sections which plays basically the same phrase.

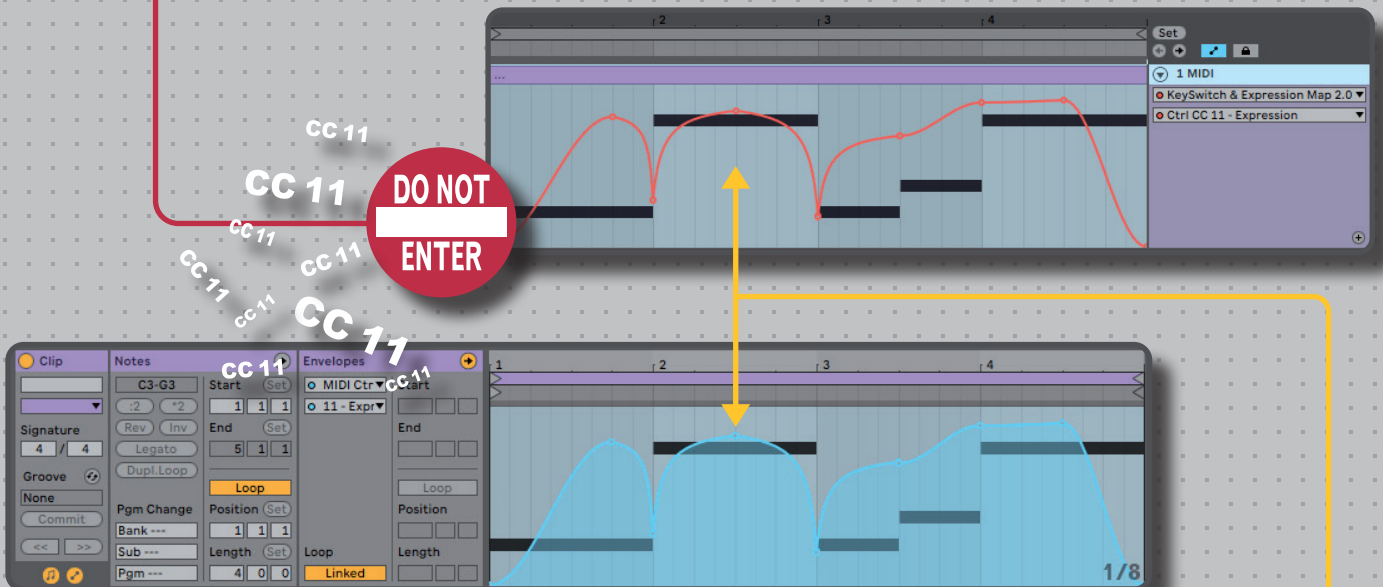
**Switch on** these buttons to use them.

All standard CC numbers are **listed** with their names.



You can define on your own up to four **customised CC** parameters. As already mentioned in the chapter about MIDI controls, CC messages contain both: CC **number** and CC **value**. "Expression" has for example the CC number 11 and the value 23 in the image above.

Already existing envelopes for the activated MIDI controls in the MIDI clips will be **filtered** and replaced by the device.



You can **copy & paste** the envelopes from the MIDI clip into the arrangement view and vice versa.

The MIDI controls are organized in four **banks** for instant (also called dynamic) MIDI mapping. You can easily switch with your MIDI controller from one bank to another or generally between devices. For a fast workflow, you can **customise** additionally the first bank to combine your most frequently used MIDI controls into eight **device controls**.

To connect a MIDI controller like **Push2**, **Akai APC40 MkII**, **Novation Launch Control XL** etc. you have to choose the controller in the preferences of Ableton as **Control Surface**, **Input** and **Output** as well as to set the MIDI port to **Track and Remote**.

Control Surface	Input	Output	Takeover Mode
1 APC40 MkII	APC40 mkII	APC40 mkII	Pickup
2 MPK mini mkII	MPKmini2	MPKmini2	
3 myScript	nanoKONTROL2	nanoKONTROL2	
4 Push2	None	None	
5 Launch Control XL	None	None	
6 Launchkey	None	None	

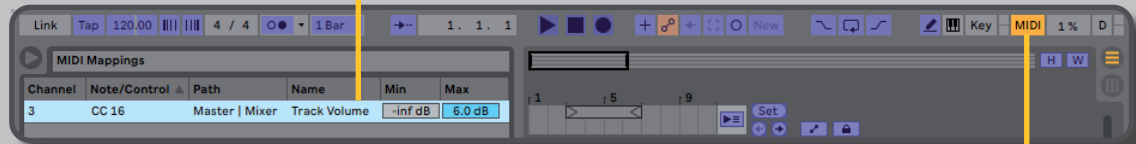
MIDI Ports	Track	Sync	Remote
Input: MPK_mini_mkII Input (MPKmini2)	On	Off	On
Input: APC40_MkII Input (APC40 mkII)	On	Off	On
Input: myScript Input (nanoKONTROL2)	On	Off	On

To customise the first bank with its eight device controls, only choose your wished MIDI control out of the **menu**. If you like, you can additionally **rename** the labels from their default “Controller 1-8” to a more meaningful name so that you can easily remember what they control.

- KeySwitch
- Pitch Bend
- Channel Pressure
- 1 - Modulation
- 2 - Breath
- 4 - Foot Pedal
- 5 - Portamento Time
- 6 - Data Entry
- 7 - Volume
- 8 - Balance
- 10 - Pan
- 11 - Expression
- 12 - Effect Control 1
- 13 - Effect Control 2
- 38 - Data Entry Fine
- 64 - Hold Pedal
- 65 - Portamento on/off
- 66 - Sustain Pedal
- 67 - Soft Pedal
- 68 - Legato Pedal
- 69 - Hold Pedal 2
- Custom 1
- Custom 2
- Custom 3
- Custom 4



When you have finished, you need to **deselect** briefly the device to apply the changes you have made in the settings to the MIDI controller. To do so, click on another device or MIDI track and select afterwards again the KeySwitch & Expression Map.



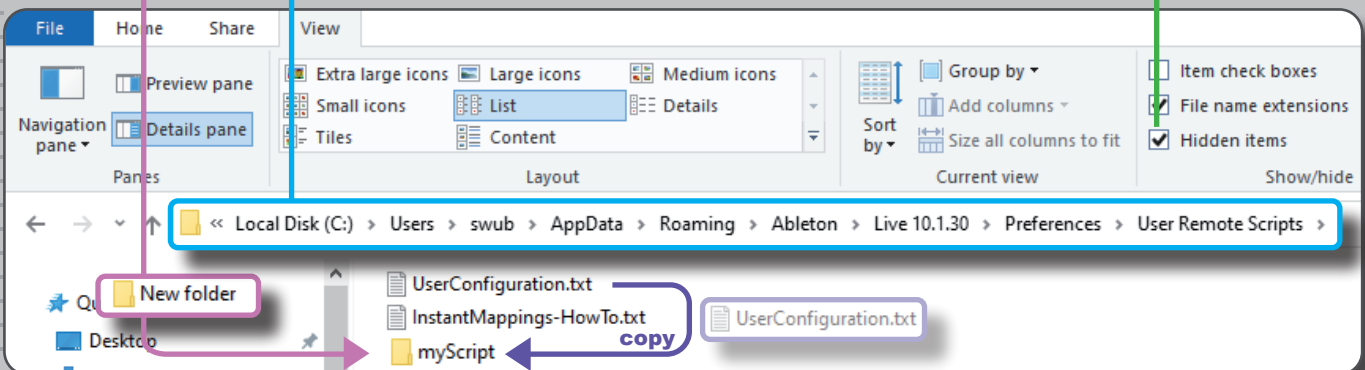
If you do not want to use all eight device controls of your MIDI controller for the KeySwitch and Expression Map, you can assign the not needed dials as well permanently to another parameter of Ableton (e.g. Master Track Volume). This assignment will then have priority and makes it unavailable for any dynamic mapping to avoid confusion and crosstalk. This could be as well a reason, or rather, a clue for trouble shooting in case that you have problems to use a dial with the device. Check your **MIDI remote control assignments** in that case!

## 2.1 Create an own Control Surface Script.

If your MIDI controller does not provide a native Control Surface Script (e.g. Korg nanoKONTROL2), you can create an **own script** to control at least the eight dials of the custom bank. It might sound a bit like a nerdy task for a programmer or computer specialist, but actually it is very simple and you can even connect the pitch bend or modulation wheel of your keyboard in that way.

MIDI	Control Surface	Input
1	APC40 MkII	APC40 mkII
2	MPK mini mkII	MPKmini2
3	myScript	nanoKONTROL2
4	Push2	None

Open the **path** of Ableton's preferences in the **File Explorer** or **Finder**. You have to activate **hidden items** to see the folder “AppData”. Create a **new folder** and give it for example the name **myScript**. Finally, **copy** the file **UserConfiguration.txt** in your new created folder. The name of the file needs to remain unchanged!!!



**Mac:** HD:/Users/[Username]/Library/Preferences/Ableton/Live x.x.x/User Remote Scripts

**Open** the script with an editor. On windows for example **Notepad** or **Textedit** on a Mac.



```
UserConfiguration.txt - Notepad
File Edit Format View Help
# Config File for User-defined Instant Mappings

# We assume that the controls on your MIDI controller
# send CCs (except for pads). All controls that do not have
# an explicit channel setting are expected to use the
# global channel. CCs & Notes are counted from 0-127
# and channels from 0-15.

[Globals]
# The channel that the controller should send on
GlobalChannel: 2
# If your controller is connected via USB, replace ControllerName
# with the name of the respective port. Live will then try to
# recognize the ports for you when you select your Instant-Mappings
InputName: nanoKontrol2
OutputName: nanoKontrol2
```

Now you need to edit only three parts of the script:

First, you must define the **MIDI Channel** on what your MIDI controller sends data.

Second, you can type in the **name** of your controller. In the best case exactly how it is called in the preferences of Ableton.

Last but not least, define the **CC numbers** of the dials (**encoders**) which you want to use.

MIDI channel

controllerName

The quickest way to find out these information is probably to switch on the **MIDI assignment** in Ableton and to map by way of trial the dials which you want to use to a parameter in Ableton. Do not forget to delete your mappings afterwards!!!

-1

Copy the values to the script. Attention, there is one little trap you can run into: The script counts the **MIDI channels** from **0-15**, but the interface of Ableton displays them from **1-16**. Therefore, you have to reduce the number by **minus 1**.



CC#

Save the script and **reopen** Ableton.

```
[DeviceControls]
# The Encoders will control the device parameters (you can also
# use knobs or sliders). Replace the -1's with the CCs sent by
# the respective controls on your controller. You can also set
# the channel for each controller if it differs from the global
# channel (if you leave the channel of an encoder at -1, Live
# will assume that the encoder uses the global channel).
Encoder1: 16
Encoder2: 17
Encoder3: 18
Encoder4: 19
Encoder5: 20
Encoder6: 21
Encoder7: 22
Encoder8: 23
EncoderChannel1: -1
EncoderChannel2: -1
EncoderChannel3: -1
EncoderChannel4: -1
```

Choose in the settings your script as **Control Surface** and your MIDI controller as **input** and **output**. Do not forget to activate the MIDI port for **Track and Remote**. Ready!

