

# MSQ-CC-LRE V2

MotionSeQuencer for ControlChanges

for 2xLRE8x2 Boards

for 1x LRE5-LCD2 Boards

Synth-Patch-Editor & Motion-Sequencer 4 ControlChange (= CC-Automation)

## Introduction

Controls and automate a Nord Drum2 (Drum-Synth )[NORD DRUM 2](#)

### It acts as:

- **Midi Merger** NTE,CLK,PC merge with CC... - **Patch Manager** it replaces the Synths internal Patch Storage, each PC Number from your Sequencer is added by the BANK CC (CC 32), where each Nr is ADD 128 PC Numbers more...
- **Motion Sequencer** Record your Controller Movements in a Sequence in 32th Resultion @ maximal 256 Steps length

## Features

- **Remote your Synths** by: 8x Midichannels with up to 32x Control Change (CC)
- **Save the Patches** and dump it to Synth
- **Load hundrets of Patches** via received Program Change + the Bank-CC (CC32)
- **Save Patches** vie CC24 + CC value 0-127... when sending before a BankCC32 you can expand that to 128x128 patches
- **Record CC-Motion-Sequences - PLAY Motions-Sequences** up to 256 steps @ 32th rate -
- **VELOCITY MORPH** Add Velocity-Ammount to CCs
- **MERGE** incoming Midi-Notes/Clock/Pitchbend with Automated CCs
- **Set Sequencer Beatstructure** - how to interprete Clock-ticks (4/4, 5/4, 6/4, 7/4...) - CC23
- **Global Page:** for example you use 8 simular Drum-Voices, with the Global you have 8 channel strips with dedicated Controlls, for example:  
8xVolume, 8xTone/Noise-Mix, 8xDistortion, 8xClick
- if you have one Synth over 2xMSQ\_CC\_LRE Tracks(booth set to MidiChannel 0, to get 64CCs instead of 32), then the Global Page: have the ability to show/edit a parameter from Track1Voice on Track1Global, and from Track2Voice on Track2Global... it depends how you set the Midichannel in the Systemsettings (which are hardcoded but via Mapping Array changeable)
- for one multipart-synth, MSQ\_CC\_LRE do all the Preset Store, and Automations, so it is one Unit > to use the Unit in a other way would make all the Patches (128x128 patches) useless, so once done, its bound to it, load all with Programchange! minimal is better here, there will be other **MSQs** outthere see [MSQ-CC-BCR](#)

# Hardware Requirements

## External Requirement:(for example)

- Melody/Clock Source with ProgramChange-Output: [midibox\\_seq\\_v4l](#) oops that dont do PC...
- Melody/Clock Destination: NordDrum 2

## Midibox:

- 1x [core32](#)
- 1x [LRE5-LCD2](#)
- 2x [mb-lre8x2cs\\_pcb](#)
- 8x [LRE-OLED-Bar](#) AND 2x Frontpanel for Eurorack
- 17x SSD1306 OLED Screens (smalles variant, 7 Pin)
- 1x DINX4
- 1x [1xMidi IO](#) or 1x [Euro-Midi-IO](#)
- SD-Card, formated with FAT32
- Soldering Iron, Wires, PCB....
- USB Power Supply

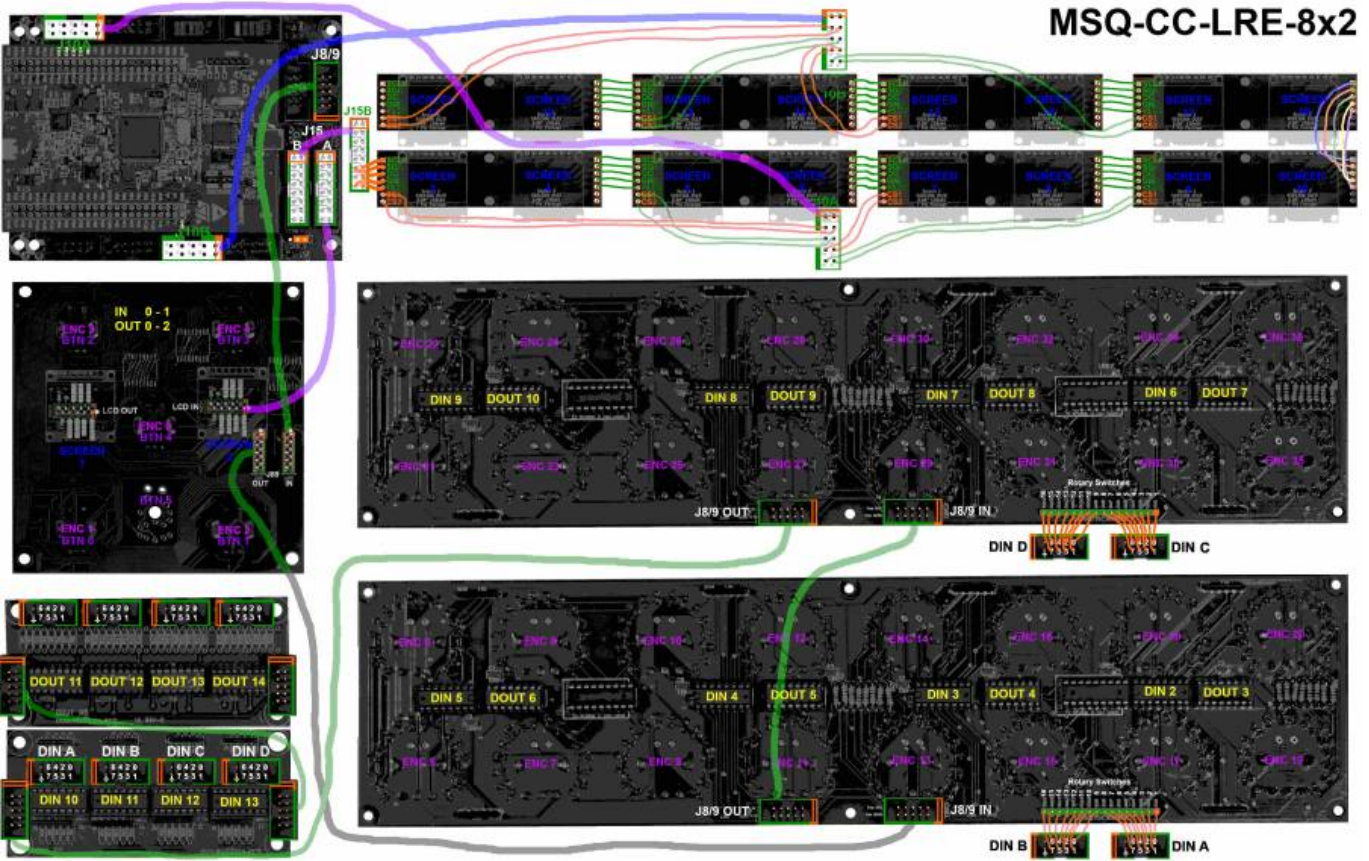
## Setting

### Cabeling MIDI

MidiIO PortB Out »> Synth Midi IN

MidiIO PortB In »> Clock+Notes

### Cabeling Modules



## Frontpanels

## MBHP

see [LRE-OLED-Bar](#)

# Software

## Firmware

V1. from 9.05.2018 [msq\\_cc\\_lre\\_v0.norddrum2.zip](#)

hardcodet for a NordDrum2 - but change-able in Mapping via a Array in Sourcecode:

this is the mapping which says wich of the 32 internal CCs are one of the outhernal CCs (0-127):

```
// 4 CC Basic Mode = 0 // In Synthesizer
const u8 CC_Map0[128] = { // CC_Map0 [Part] [Internal CC Nr] = value of external CC >>
// CC_Map0 [MidiChannel] [Remote/Source] = Value of Synth/Destination
// CC-on-LRE: 0 // 1st Row Horizontal (top row) // 2nd Row Horizontal // 3rd Row Horizontal // 4th Row Horizontal
{ 57, 56, 24, 23, 26, 25, 10, 7, 15, 17, 14, 16, 18, 09, 20, 21, 46, 52, 53, 47, 48, 54, 55, 254, 50, 51, 49, 38, 58, 255, 255, 255, // Nord Drum 2 Voice 1 MultiCh 7
{ 57, 56, 34, 23, 26, 25, 10, 7, 15, 17, 14, 16, 18, 09, 20, 21, 46, 52, 53, 47, 48, 54, 55, 254, 50, 51, 49, 38, 58, 255, 255, 255, // Nord Drum 2 Voice 2 MultiCh 8
{ 57, 56, 34, 23, 26, 25, 10, 7, 15, 17, 14, 16, 18, 09, 20, 21, 46, 52, 53, 47, 48, 54, 55, 254, 50, 51, 49, 38, 58, 255, 255, 255, // Nord Drum 2 Voice 3 MultiCh 9
{ 57, 56, 34, 23, 26, 25, 10, 7, 15, 17, 14, 16, 18, 09, 20, 21, 46, 52, 53, 47, 48, 54, 55, 254, 50, 51, 49, 38, 58, 255, 255, 255, // Nord Drum 2 Voice 4 MultiCh 10
{ 57, 56, 34, 23, 26, 25, 10, 7, 15, 17, 14, 16, 18, 09, 20, 21, 46, 52, 53, 47, 48, 54, 55, 254, 50, 51, 49, 38, 58, 255, 255, 255, // Nord Drum 2 Voice 5 MultiCh 11
{ 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, // Nord Drum 2 Voice 6 MultiCh 12
{ 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, // not in use
{ 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, 255, // not in use
};
```

This Mapping says which one of the 32 internal CCs are positioniered in the Mixer/Overview/Channelstrip-Mode

