

# MSQ-CC-BCR

MotionSeQuencer for ControlChanges for BCR2000 by wiring it to MBHP Synth-Patch-Editor & Motion-Sequencer 4 ControlChange (= CC-Automation)





## Introduction

i have the need to control and automate my Nord Drum2 [NORD DRUM 2](#)


## Features

- **Remote your Synths** by: 8x Midichannels with up to 32x Control Change (CC)  
For the BCR i only can provide 8x29, because i need some controlls to control the MB Program itself...

- **Save the Patches** - and dump it the Synth

- **Save 4xSnapshots per PROGRAM (=Song) && Morph between them** (exclusive MotionSequence!)

Morph between Snapshots: when Morph is activated, you are somewhere in between 2 Patches... so you have to save the patch to one of the other (2others, when morph between 2 = 4) in order to store the current "cool state" »> whole thing has to implemented... searching for a faster code

-  **Fix Me!** want help for a FAST Code: Morph between ACTUAL & NEXT PATCH (via Morph Rotary)

- **Load Patches via received Program Change**


- **Record CC-Motion-Sequences** use a footpedal connected to FSW1 on the backside of the BCR, to ARM/Disarm it... so you can tweedle 2 ore more CC @ once... but you dont have to, BCR-onboard is also a Button for it

- **PLAY Motions-Sequences**, up to 256 steps @ 32th rate, which is 128Steps @ normal 16th, this rate can changed in code only, and 256 is maximum... 512 make a RAM-Issue (8x32x512 + the rest of all variables...)!...\\so if you want 64th CC-Smoothness your Motionsequencer has only 64steps length then, this steps of course are only right when you have choosen 4/4 in your Patch... elsewhere of course will differ a bit...but 256 is max.

- **VELOCITY MORPH** Add Velocity-Ammount to CCs

- **MERGE incoming Midi-Notes/Clock/Pitchbend with Automated CCs.**

- **Set Sequencer Beatstructure** » how to interpret Clock-ticks (4/4, 5/4, 6/4, 7/4...)

-  **Fix Me!** Need help for a FAST Code: **scale min max values for CCs** (synths have CCs which value are between 0-3 instead of 0-127)

- A **Global Page**: for example you use 8 similar 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 2 MSQ\_CC\_BCR 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 currently in the CODE itself (recompile  
- Many of this features, especially the **System Settings would need a UI**, but that would it make bigger, more expensiv, and maybe more complex to use... in **this case is UI-less** - it is set once, for one multipart-synth+bcr2000, MSQ\_CC\_BCR 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 (1000Patches+3000 Variants) useless, so once done, it is a black box loadet via Programchange!

## Hardware Requirements

**External Requirement:**(for example)

- Melody/Clock Source with ProgramChange-Output: [midibox\\_seq\\_v4l](#) oops that dont do PC...
- Melody/Clock Destination: Waldorf Pulse, NordDrum 2, anything which can handle CC
- Midicontroller: 1x BCR2000, or any other with LEDRing & Encoder.

**Midibox:**

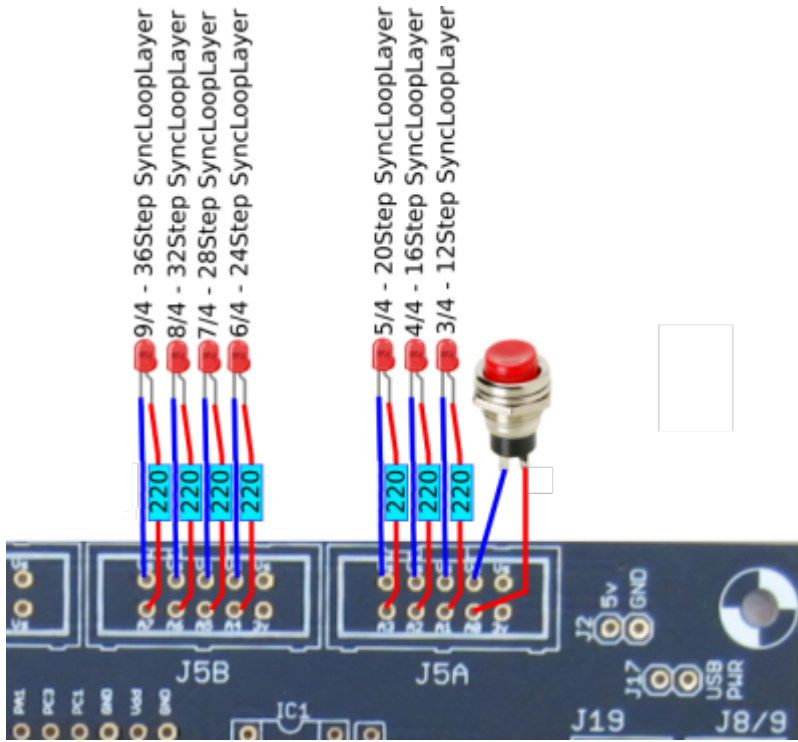
- [core32](#)
- [1xMidi IO](#) connect 1 midicontroller and 1 Note/Clock-Source/Destination
- SD-Card, formated with FAT32, and the file "bcr1.syx" on it
- Soldering Iron, Wires, PCB....
- USB Power Supply... I tried to use the Midi-BUS-Power from BCR2000 but it is too weak!

**Visual Feedback directly from MBHP**

- a Momentary Switch Connected to J5A Pin0
- 7 LEDs in serial with 220Ohm each to GND connected to J5A Pin1-3 and J5B Pin0-4

The LEDs show via Gestic (Patterns) if something is wrong, done, busy, & show the Rythm structure: The Switch switches as Radio-Button thru the Rythm Structures (4/4, 5/4...), the LED-Indicating this. By Holding the Switch and Powering the Core, it will Dump Out a Sysex Template to your BCR.

Be Careful dont short the Input Pins!



## Why BCR2000

because I have 3 of them but they are to old dirty, damaged... i cant get a good price for it, so better hold it and make something with it.

## Setting up a BCR2000

### Cabeling


MidilIO PortA Out »» BCR Midi IN  
AFTER Uploading the Sysex, and restarting the BCR connect:  
MidilIO PortA In »» BCR Midi OUT A

### Upload the Sysex-Template

1. unpack [bcr1.syx.zip](#) and put "bcr1.syx" on a SD-Card (root level)
  2. Put SD-Card into CORE32
  3. bridge J5A Pin0 to ground, or connect a switch to it, that you will need if you want to sequence other song structures then 4/4 (which is default)!
  4. Power the core up.
- ...if the filestructure (patches) are already existent...then it takes less then half a minute to dump the BCR-2000 Layout Data...
- You dont have to save the preset, it will make it automatic
- ...when no filestructure... then it will take about 16minutes... the core has to make 4000Patches\*32KB=139MB!!!!... so better:



array could be saved and loadet from SD-Card aka "SYS settings", and this array could be editet by a

simple editor...  i dont have a glue about this... but the format of this setting is very simple, the file starts with (converted from hex) mq04 and then the Routing array starts [32][127] for those how know how to program a simple interface for it?

## To Do

getting Access to the 7segment Display on the BCR2000  
needet for to see the actual Preset (0-999), the Machine is built to PC via Midi, but what when you want to copy a whole patch! to a other

scale min max values for CCs (for example different synths have only 0-3value instead of 0-127, by different functions like WAVEFORM...) - should also a part of the editor

## Resources

- [BCR-Manual](#)
- [BCR-SYSEX-GUIDE](#)
- [TOKEN-Reference](#)
- [BC-Convert](#) Convert SYX into Textfile to Edit and reverse...

## Community users working on it

- [Phatline](#) = Programming, Documentation...

Just let a Private message on the forum to user already involved

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