

# CC-Looper

CC-Automation

Midi Control Change MotionSequencer - for Synthesizer with LEDRINGS



## Features

- \* 4Midi channels @ each 512Steps X 32th-looprate X 128 CCs
- \* only a few of the 128CC should be used @ once - 4x128xCCs @ 32th is Midi Data MESS and µC Death
- \* maybe only 256Steps, will depend on RAM.... RealWorld will tell
- \* each TRACK has a shared Track length for all its 128 CCs
- \* Copy, Paste, Clear: for the all 128CCs/or single CC
- \* There is no EDIT, you can clear a CC or Track and make a new Take
- \* ProgramChange Load and Store on microSD-Card, Load and Store are CC-Commands, so you can remote the device
- \* The Sequencer can be set to Tact Systems: 3/4 4/4 5/4 7/4 9/4 11/4 13/4

# Hardware Requirements

## External Requirement:(for example)

- You need a Synth with LEDRINGS - otherwise you have no Feedback and Overview - NordRack III is such one
- Melody/Clock Source with ProgramChange-Output: [midibox\\_seq\\_v4l](#) oops that dont do PC...
- Melody/Clock/CC Destination: NordRack III or any other Synth with Visual Feedback off CC-States

## Midibox:

- [dipcoref4](#) - this is the  $\mu$ C Brain for the Looper
- [cc-looper](#) - this is the UI-PCB of the Looper
- no other PCBs needet
- $\mu$ SD-Card, formated with FAT32
- Soldering Iron - with a Dip that can Handle SMD-Parts, Wires, solder Paste for the  $\mu$ C....
- USB Power Supply with  $\mu$ USB-Connector

## Set

### Cabeling

Midi IN1 »> MelodySequencer and Remote Devices

Midi IN2 »> Midi Out from Synthesizer - which sends out the Moved CCs

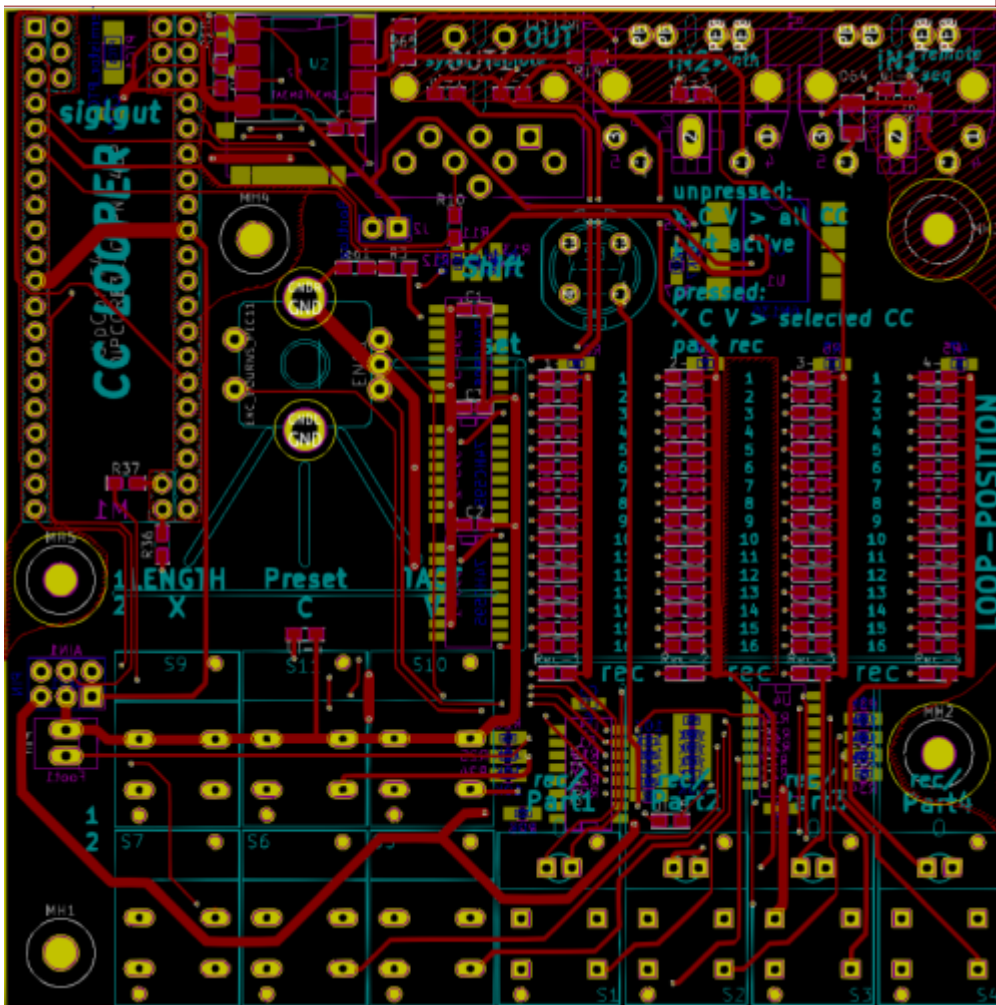
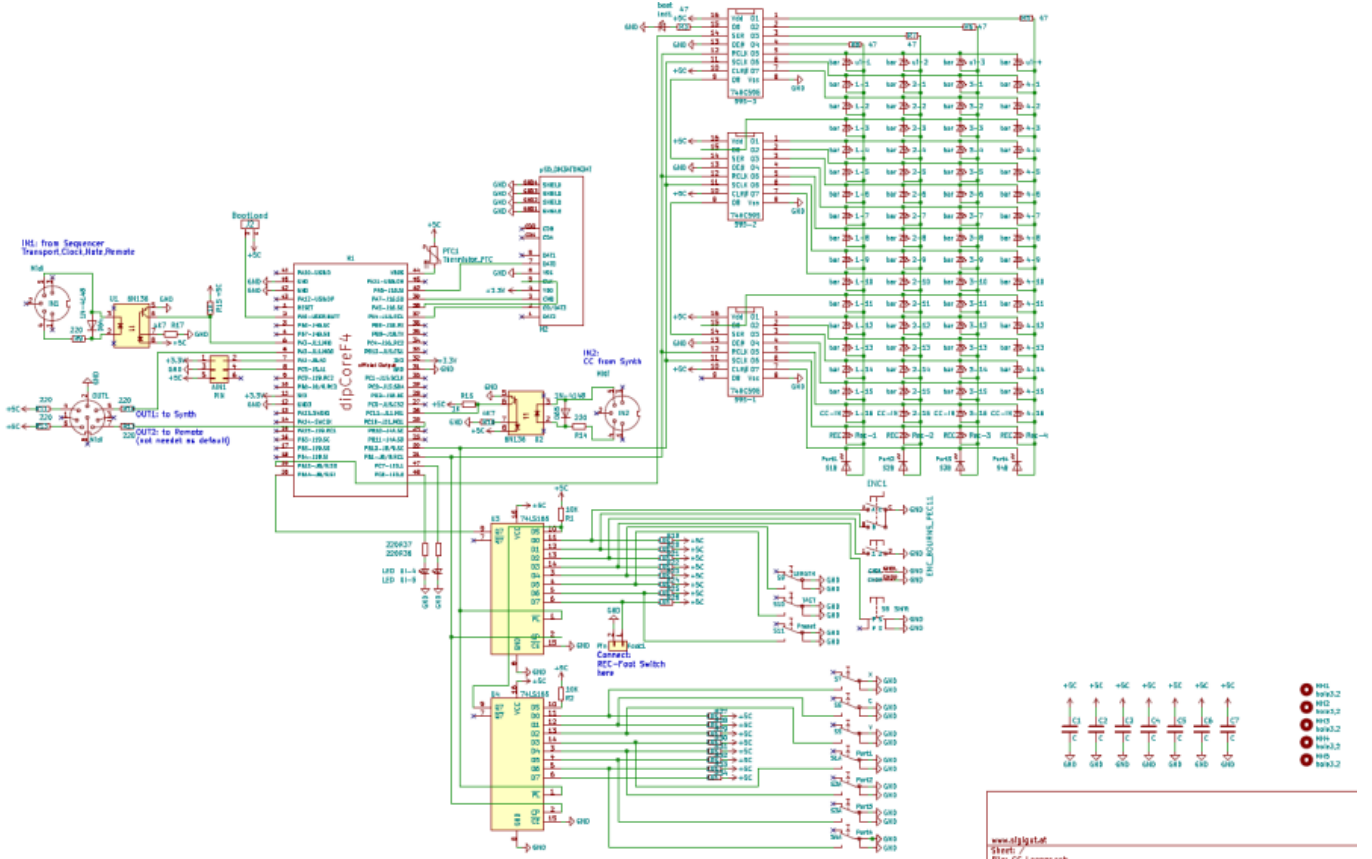
Midi OUT »> Midi IN of Synthesizer input (Automated CCs merged with mididata from Midi IN1)

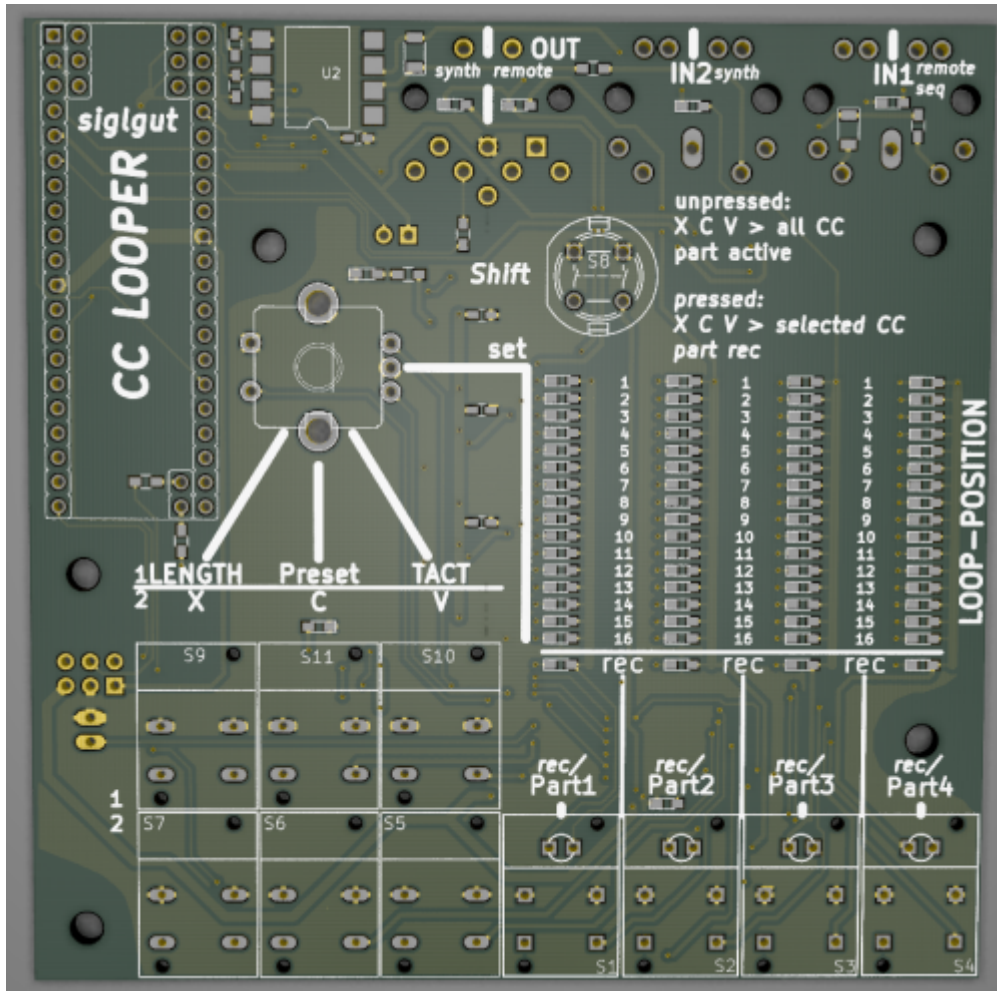
# Software

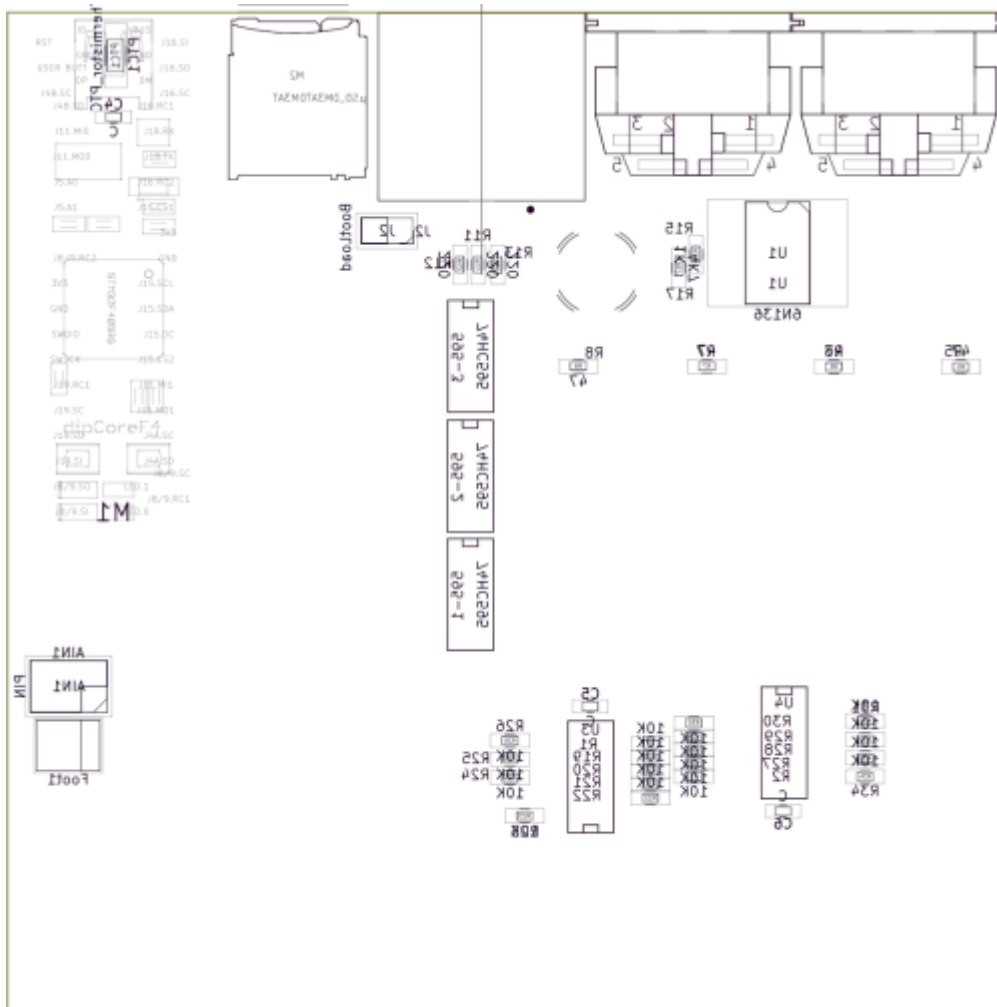
## Firmware



# Building







### Frontpanel



- a clear Acrylic Frontplate, with NO Engravings, UI-Labeling is viewable from PCB

### Case

### BOM

Ref	Qty	Value	Footprint	MouserPart	
C1 - C7	7	100nF	0603 Capacitor	81-GRM33C71C104ME14D	<a href="#">Mouser</a>
Rec-1 - Rec-4, UI-5 UI-4, led1, -1 -2 -3 -4	11	REC, LED, beat, CC-IN,	0603 LED	630-ASMT-RR45-AQ902	<a href="#">Mouser</a>
1-16 (LED-BAR)	64	bar	0603 LED	755-SMLEN3WBC8W1	<a href="#">Mouser</a>
D64 D65	2	1N-4148	1206 Diode	833-1N4148W-TP	<a href="#">Mouser</a>

Ref	Qty	Value	Footprint	MouserPart	
PTC1	1	Thermistor_PTC	1206 Resistor	576-1206L150THWR	<a href="#">Mouser</a>
R1, R2, R19 - R34	18	10K	1206 Resistor	603-AC0603FR-0710KL	<a href="#">Mouser</a>
R3 R5 R6 R7 R8	5	47	1206 Resistor	603-RC0603FR-0747RL	<a href="#">Mouser</a>
R9-R14, R36, R37	8	220	1206 Resistor	603-RC0603FR-07220RL	<a href="#">Mouser</a>
R15 R16	2	1K	1206 Resistor	603-RC0603JR-071KL	<a href="#">Mouser</a>
R17 R18	2	4K7	1206 Resistor	603-RC0603FR-074K7L	<a href="#">Mouser</a>
OUT1	1	Midi	DIN-8-SDF-80J	490-SDF-80J	<a href="#">Mouser</a>
M1	1	DIPCORE32_CMPNT_48P	517-929870-01-20-RA	DIP-40	<a href="#">Mouser</a>
S8	1	Shift	DT6	611-D6R00F1LFS	<a href="#">Mouser</a>
S1 - S4	1	Part1	611-SERWHAUOA	DTL2-1-LED	<a href="#">Mouser</a>
S5 - S7, S9 - S10	6	X,C,V,Len,Pre,Tac	611-SERRDAUOA	DTL2-1-NO-LED	<a href="#">Mouser</a>
ENC1	1	ENC_BOURNS_PEC11	ENC_BOURNS_PEC11+SW	652-PEC11R-4215F-S24	<a href="#">Mouser</a>
IN1 IN2	2	Midi	Midi-Socket-MAB5SH-DIN-5	566-MAB5SH	<a href="#">Mouser</a>
Foot1	1	Pin			
J2	1	BootLoad			
AIN1	1	PIN			
U1 U2	2	6N136	SMDIP-8_W11.48mm	782-6N136-X009	<a href="#">Mouser</a>
-595	3	74HC595	SO-16-N	621-74AHC595S16-13	<a href="#">Mouser</a>
U3 U4	2	74LS165	SO-16-N	595-SN74LS165ADR	<a href="#">Mouser</a>
M2	1	µSD_DM3ATDM3AT	MSD_DM3AT	798-DM3AT-SF-PEJM5	<a href="#">Mouser</a>

## To Do

alot, beta test, programming the firmware, housing

## Resources

KiCad-Data [ccl-dipcore.7z](#)

its based on a mixture off:

- [msq-cc-lre](#)
- [msq-cc-bcr](#)

but its a complete new design, and firmware

## Community users working on it

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

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

I have 10 ProtoBoards here - i test one, and if it works, i can share them for Beta Testing-if you pay the postage

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