CV-1

CV-Recorder/Looper & CV-Generator
Control Voltage Recorder, Looper, and Generator - for a own Eurorack-Line... more in Future!



–this picture is the first prototype - pre-Eurorack 😬

Features

* A Envelope which can be Recored from an AIN-Source, it can be Editet on Startpoint,ATK-Playbackrate, Decay-Playbackrate
* LFO which Waveform is stepless morphable from Sine Square Tri Saw-Up to Saw-Down...(only Clocksynced!)
* MSQ MotionSequencer to loop a CV-Signal.
* A Mixer Page which Mixes/Mutes ENV+LFO+MSQ - and scales the output CV
* Copy, Paste, Clear: to Transfair the CV Sequence to other CV1 Instances
* 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

Midibox:

- dipcoref4 - this is the µC Brain for CV1
- no other PCBs needet - but expandable with other Eurorackmodules in Future

- µSD-Card, formated with FAT32
- Soldering Iron - with a Dip that can Handle SMD-Parts, Wires, solder Paste for the µC....
- Eurorack Power Source +-12V AND +5V!

Set

Cabeling

Midi IN1 »> CV1 Remote Device or a Midi-Sequencer

Midi OUT »> to a Global CV1 Remote Device Fix Me! - which will need a lot of Midiinputs M16?

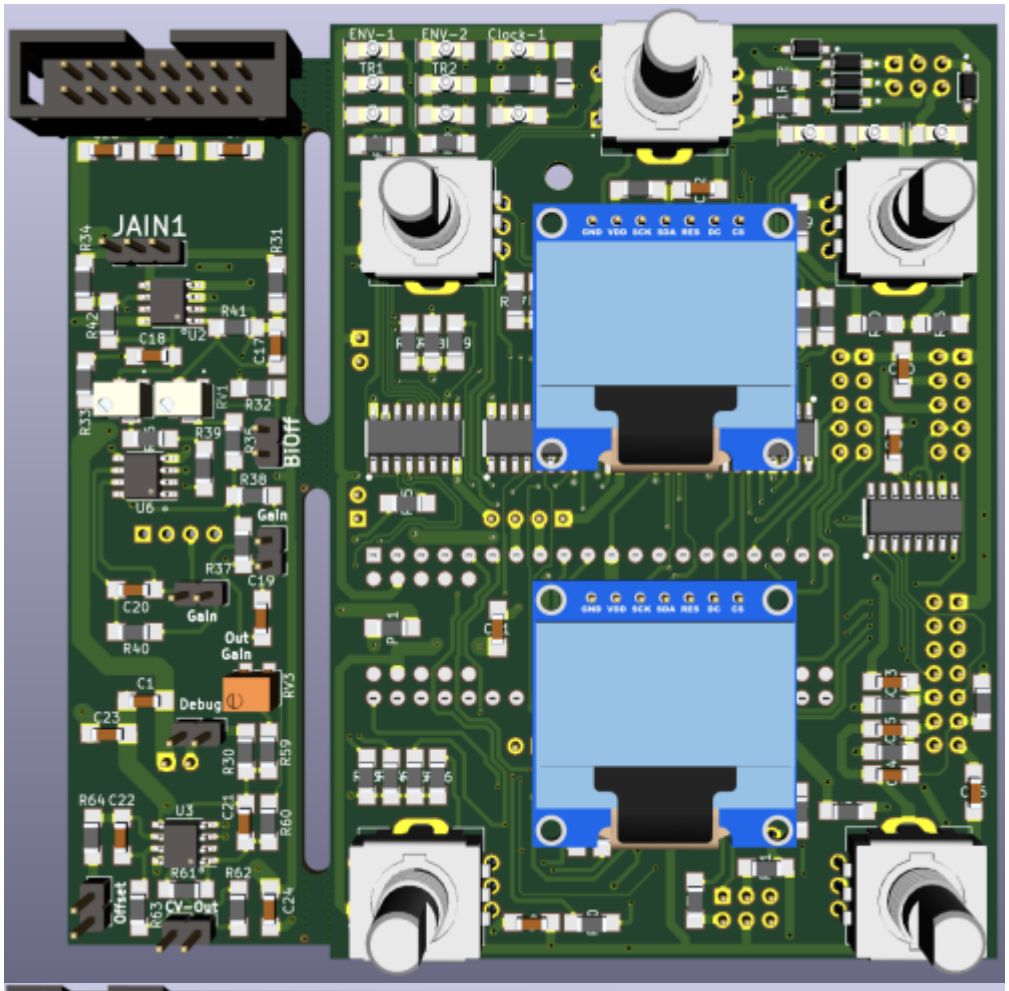
- @JMidi1: connect your Sequencer to get Midiclock and Programchanges
- @JAIN1: 2 CV Inputs - 12V tollerant
- @JAUT3: 1 CV Output - (internal DAC with Protection Cirtuit > 12V Tollerant)
- @J19:Get up to 8 CV-Outputs, with a AoutNG
- @JLCD1: up to 4 Additional OLED-Displays for every one a Reset Line - so no additonal Circuit needet
- @J89: DIN and DOUT Shiftregister Chain: thought for decidet Expander Modules (which will come in near future
- @J2/Bootload: If the core is not starting up - because of bad-Firmware, then bridge this Jumper to come into the Bootload-Mode

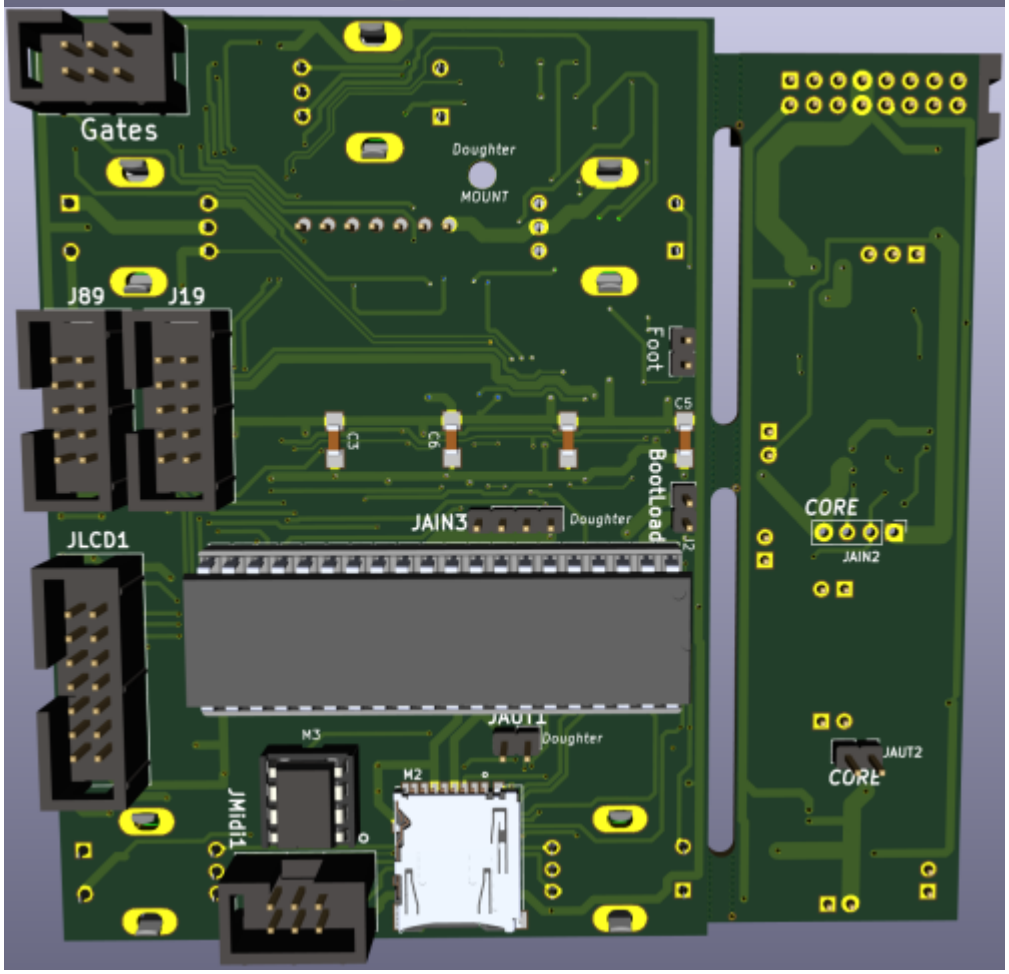
Software

Firmware

yes it loopin... but not good enough to release anything...

Building


ENV-1
ENV-2
Clock-1
JAIN1
BiOff
Gain
Out Gain
Debug
Offset
CV-Out


Gates
Daughter
MOUNT
J89
J19
Foot
BootLoad
JAIN3
Daughter
JLCD1
CORE
JAIN2
JAUT1
Daughter
JAUT2
CORE
JMidi1

Frontpanel

Fix Me! - Eurorack Alu-Plate

Case

BOM

Fix Me! - this is not the right boom - it is a placeholder for the MOMENT!

Ref	Qty	Value	Footprint	MouserPart	
C1 – C7	7	100nF	0603 Capacitor	81-GRM33C71C104ME14D	Mouser
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	Mouser
1-16 (LED-BAR)	64	bar	0603 LED	755-SMLEN3WBC8W1	Mouser
D64 D65	2	1N-4148	1206 Diode	833-1N4148W-TP	Mouser
PTC1	1	Thermistor_PTC	1206 Resistor	576-1206L150THWR	Mouser
R1, R2, R19 – R34	18	10K	1206 Resistor	603-AC0603FR-0710KL	Mouser
R3 R5 R6 R7 R8	5	47	1206 Resistor	603-RC0603FR-0747RL	Mouser
R9-R14, R36, R37	8	220	1206 Resistor	603-RC0603FR-07220RL	Mouser
R15 R16	2	1K	1206 Resistor	603-RC0603JR-071KL	Mouser
R17 R18	2	4K7	1206 Resistor	603-RC0603FR-074K7L	Mouser
OUT1	1	Midi	DIN-8-SDF-80J	490-SDF-80J	Mouser
M1	1	DIPCORE32_CMPNT_48P	517-929870-01-20-RA	DIP-40	Mouser
S8	1	Shift	DT6	611-D6R00F1LFS	Mouser
S1 – S4	1	Part1	611-SERWHAUOA	DTL2-1-LED	Mouser
S5 – S7, S9 – S10	6	X,C,V,Len,Pre,Tac	611-SERRDAUOA	DTL2-1-NO-LED	Mouser
ENC1	1	ENC_BOURNS_PEC11	ENC_BOURNS_PEC11+SW	652-PEC11R-4215F-S24	Mouser
IN1 IN2	2	Midi	Midi-Socket-MAB5SH-DIN-5	566-MAB5SH	Mouser
Foot1	1	Pin			
J2	1	BootLoad			
AIN1	1	PIN			
U1 U2	2	6N136	SMDIP-8_W11.48mm	782-6N136-X009	Mouser
-595	3	74HC595	SO-16-N	621-74AHC595S16-13	Mouser
U3 U4	2	74LS165	SO-16-N	595-SN74LS165ADR	Mouser

Ref	Qty	Value	Footprint	MouserPart	
M2	1	µSD_DM3ATDM3AT	MSD_DM3AT	798-DM3AT-SF-PEJM5	Mouser

To Do

a housing/case or frontplate

Resources

Community users working on it

- **Phatline** = Programming, Documentation...

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