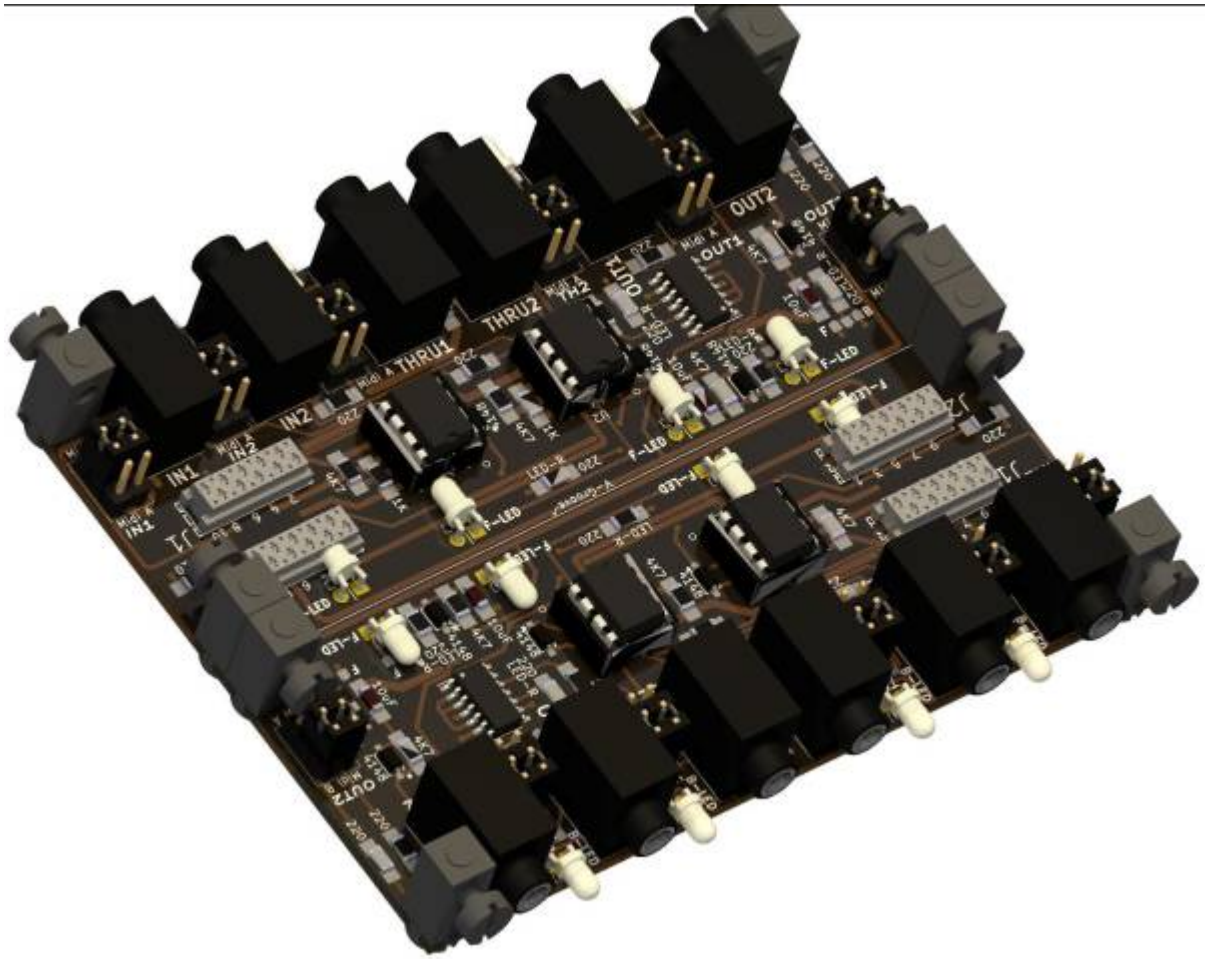
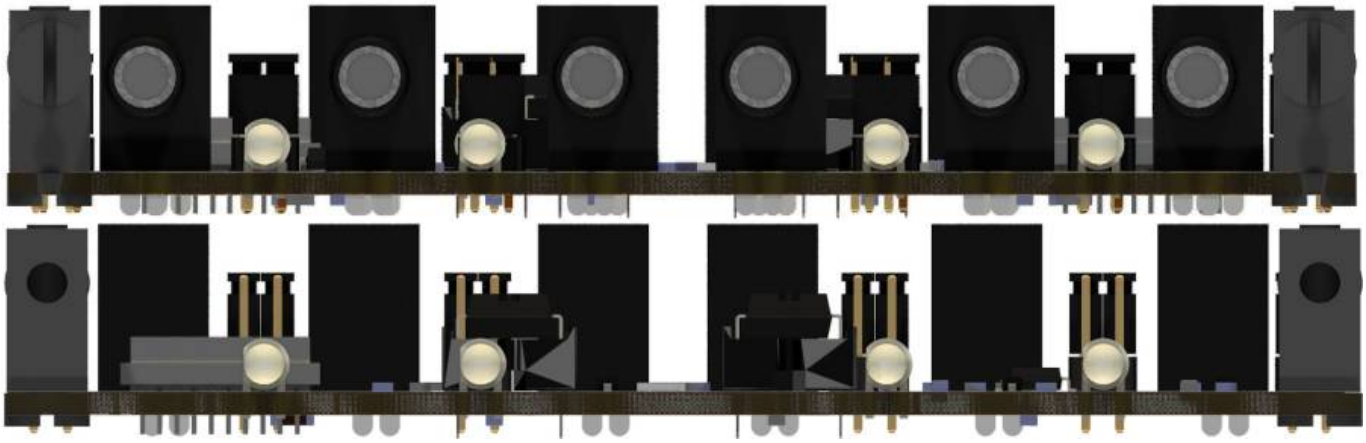
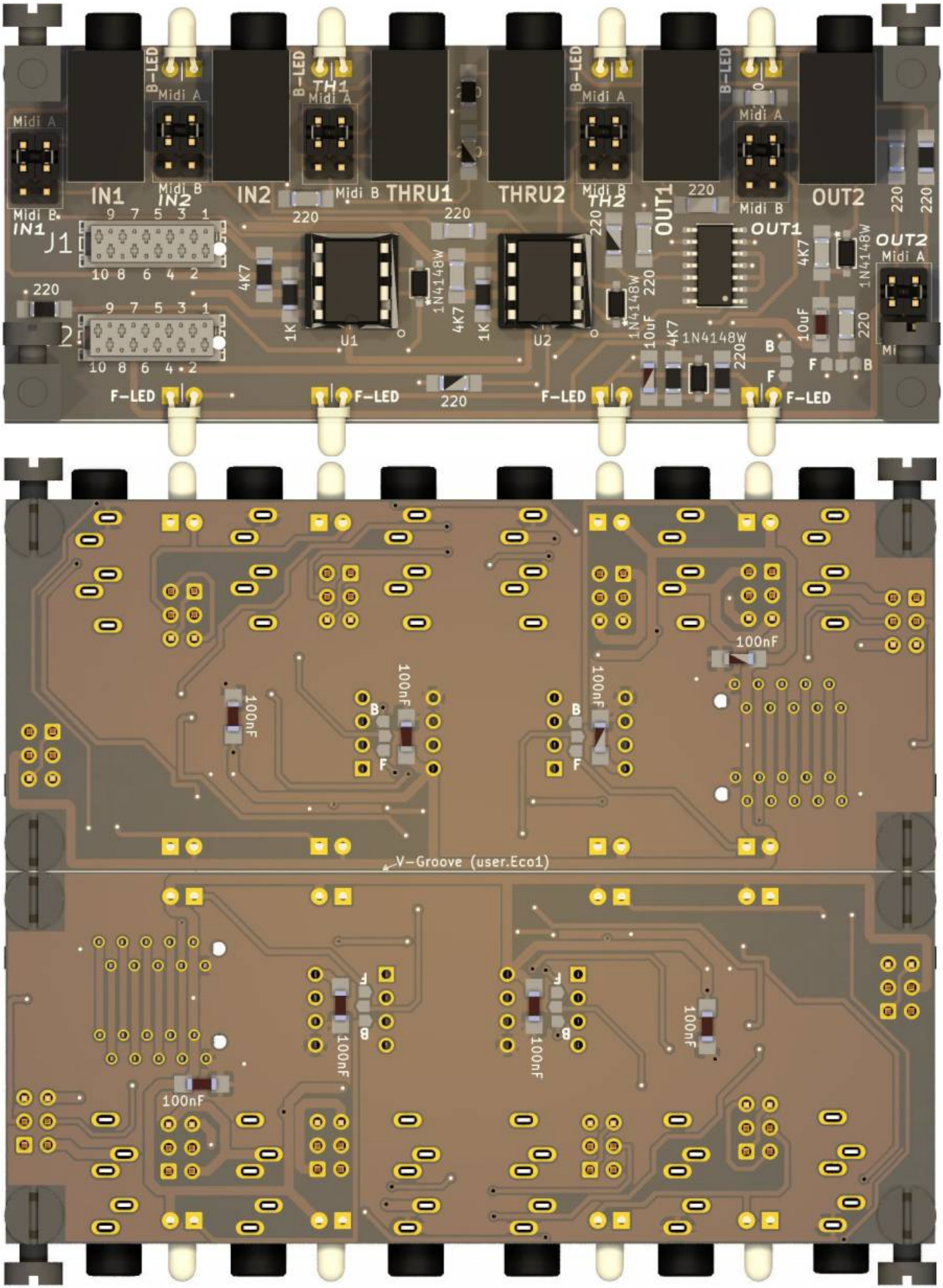
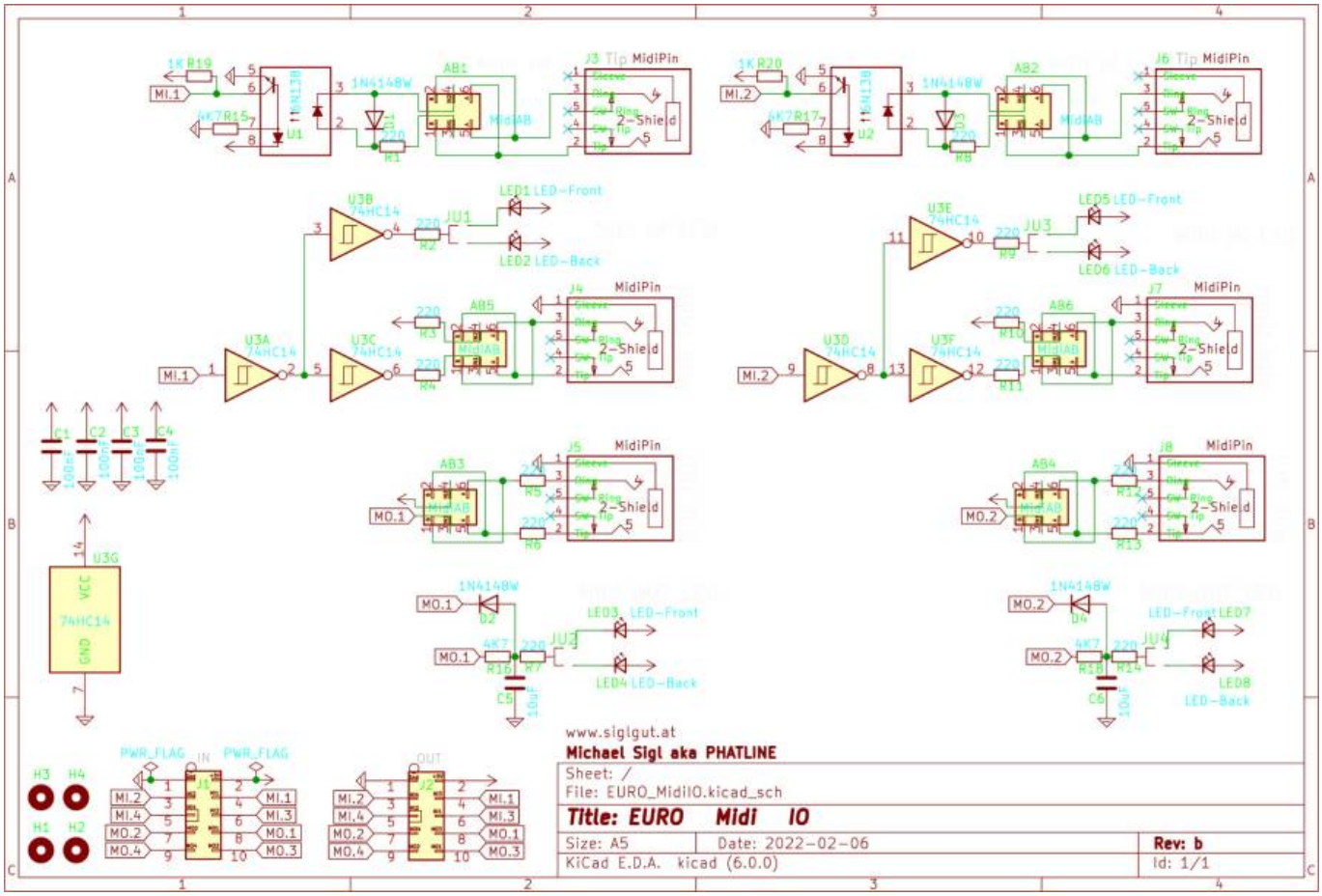
EuroRack - Midi IO - Board



PCB Size is 100x40mm




B-LED
Midi A
Midi B
IN1
IN2
TH1
THRU1
THRU2
TH2
OUT1
OUT2
J1
J2
220
4K7
1K
1N4148W
U1
U2
10uF
F-LED
100nF
V-Groove (user.Eco1)



Fix Me! - The Connection from J1 to J2 is wrong - its 1:1 but it has to be crossed.

Hardware Requirements

- Soldering Iron - with a Dip that can Handle Thruhole-Parts and 1206 SMDs, solder Paste...
- The other Parts from the BOM
- a Midibox Core32

Building and BOM

All necessery Information is printet on the PCB, but also check the Shematic
Mouser:

Ref	Q	mouser	Type	Footprint	Description
AB1 - AB6	1	649-1012938192001BLF	2×20 Pin Header	2×3 Pin Header 2.54 * 2.54 Pitch	to set Midi A-B Standard
Jumper	12	571-8815451	JUMPER	Jumper	to set Midi A-B Standard
C1 – C4	4	187-CL31B104KBCNNND	100nF unolarized	1206 inch - 3216 metric	Unpolarized! > 10V

Ref	Q	mouser	Type	Footprint	Description
C5 – C6	2	963-TMK316AB7106KLHT	10uF unpolarized	1206 inch - 3216 metric	Unpolarized! > 10V
D1 – D4	4	241-1N4148W_R1_00001	1N4148W	SOD123-DIODE	doesnt draw much current
J1 – J2	2	571-12150790	TE Connnectivity	2x5P Micromatch Female	To solder in the PCB
J1 – J2	4	571-1-2178712-0	TE Connnectivity	2x5P Micromatch Male	Crimp Connector for Flat-Cables
J3 – J8	6	490-SJ1-3535NG	CUI 3.5mm Audio Jack	3.5mm Jack	those you know from PC-Mobos
LED1 – LED2	2	696-SSL-LX30FT4ID	LED ROT	LED_3mm	there are 8 LEDs you use only 4…
LED3 – LED4	2	696-SSL-LX30FT4GD	LED GRÜN	LED_3mm	… front or back soldered
R1 - R14	14	RC1206FR-07220RL	220	1206 inch - 3216 metric	5 10% doesnt matter
R15 – R18	4	CR1206-JW-472ELF	4K7	1206 inch - 3216 metric	5 10% doesnt matter
R19 - R20	2	AC1206FR-071KL	1K	1206 inch - 3216 metric	5 10% doesnt matter
U1 - U2	2	630-6N138-000E	6N138	DIP-8	Optocoupler
U1 - U2	2	437-1108730441001101	IC Socket 2x 4 Pin	DIP-8	Socket for Optocoupler
U3	1	771-74HC14D-T	74HC14	SOIC-14	SOLDER SKILLs
Cable	1	617-09180407001	Flat		a quantity forEver

copy following Lines in the box - and make a new project
649-1012938192001BLF|1
571-8815451|12
187-CL31B104KBCNNND|4
963-TMK316AB7106KLHT|2
241-1N4148W_R1_00001|4
571-12150790|2
571-1-2178712-0|4
490-SJ1-3535NG|6
696-SSL-LX30FT4ID|2
696-SSL-LX30FT4GD|2
RC1206FR-07220RL|14
CR1206-JW-472ELF|4
AC1206FR-071KL|2
630-6N138-000E|2
437-1108730441001101|2
771-74HC14D-T|1
617-09180407001|1

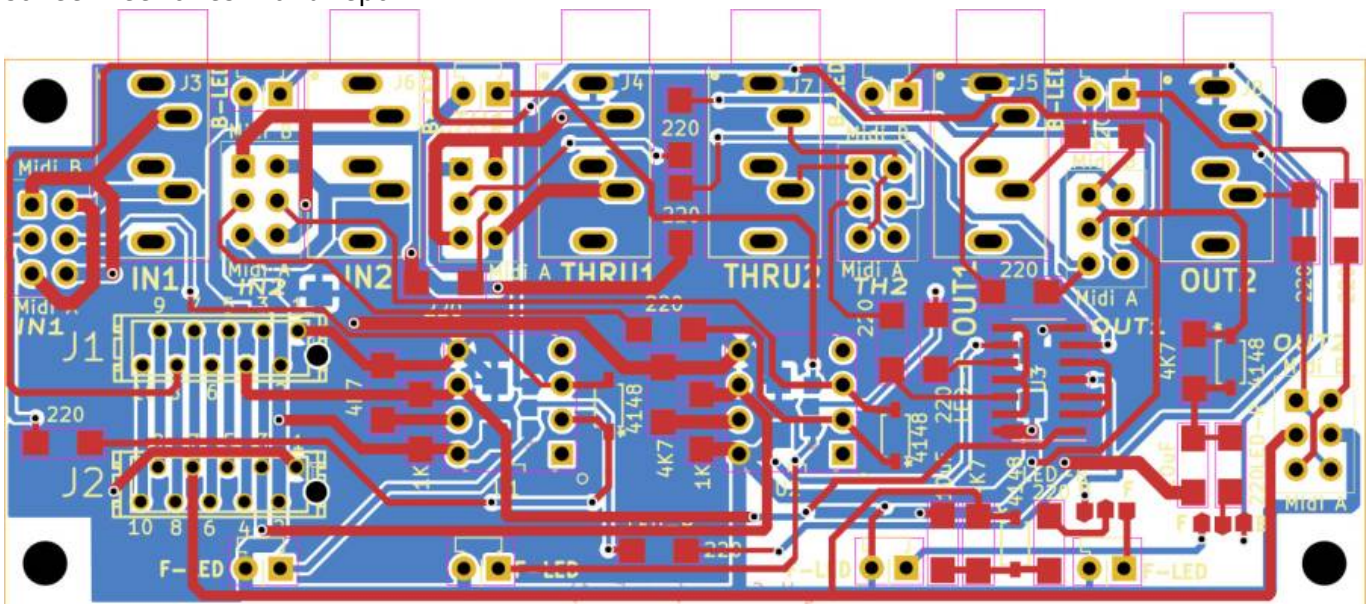
then decide **how often you want to order all off, the BOM Quantity is for 1Module**
On one PCB you have 2 ident MidiIO-Modules, on JLCPCB you order typicaly 5 PCB, so your quantity may be 10x
BUT dont buy multiple Flatbandcables… these are hundrets of meter!

1 times: 45€ 25€ parts and 20€ shipping…shipping excl fat
if you go over 50€ shipping is free.
lets take a look if we order it
5 times: 95€ incl free shipping excl fat
10times:176€ incl free shipping excl fat

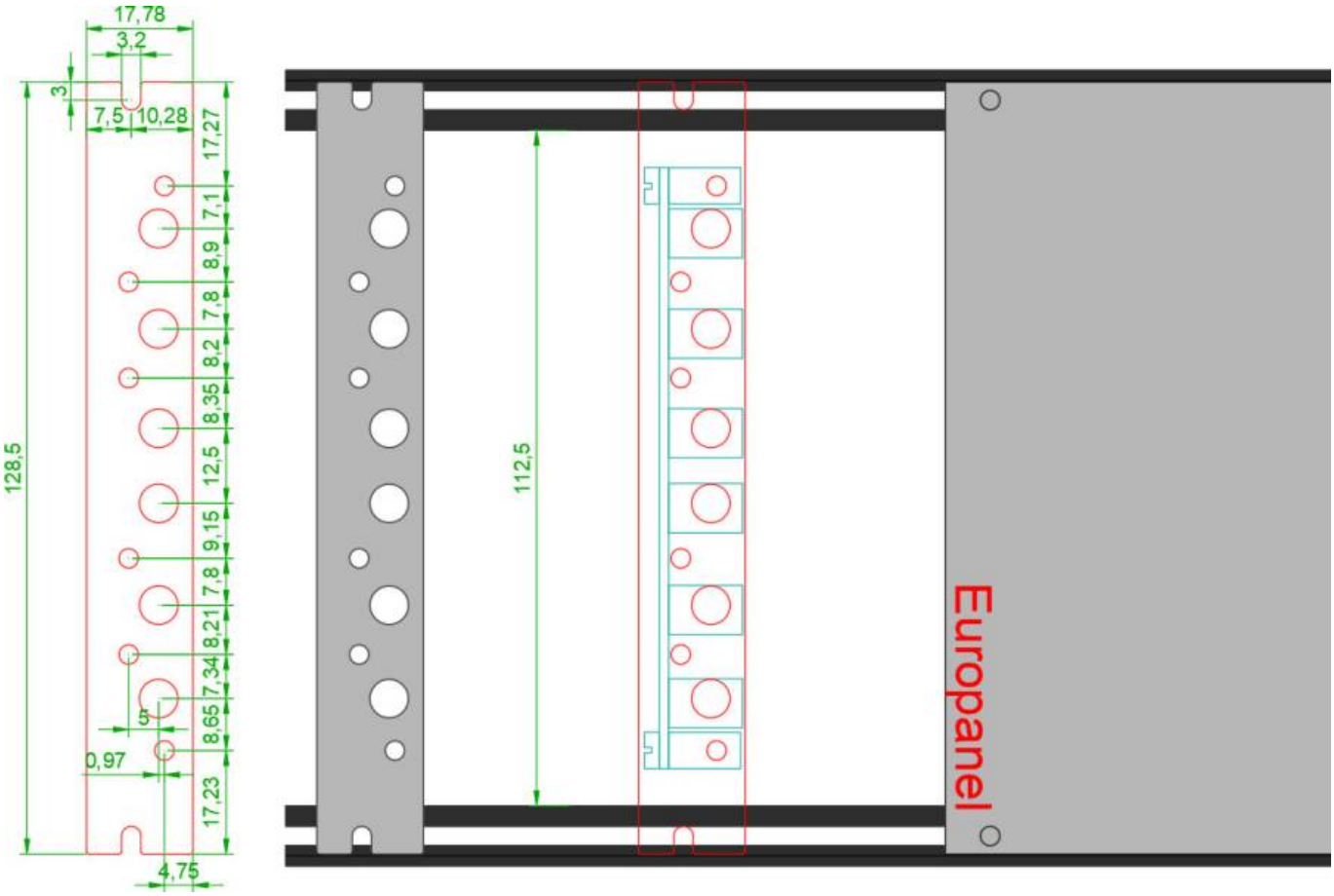
4x (or 20x) Leiterplatten Montageblock aka Standoffs 100x summed 30€
You will also need M3 Screws - 2 off them…
Also here it is clever to order 100 pieces for a cheaper price - you will need this on all my projects…

PCB

GERBER-Files Rev B for Production
I already received and testet Rev A, i hade some small Bugs which i got fixed with some wires…
So i got it fully working… the Bugfixes are includet in Rev.B
—never the less i did not testet Rev.B… since i have enough Rev.A for my whole Modular-Rack @ home
so feel free to test - and report!



Frontpanel

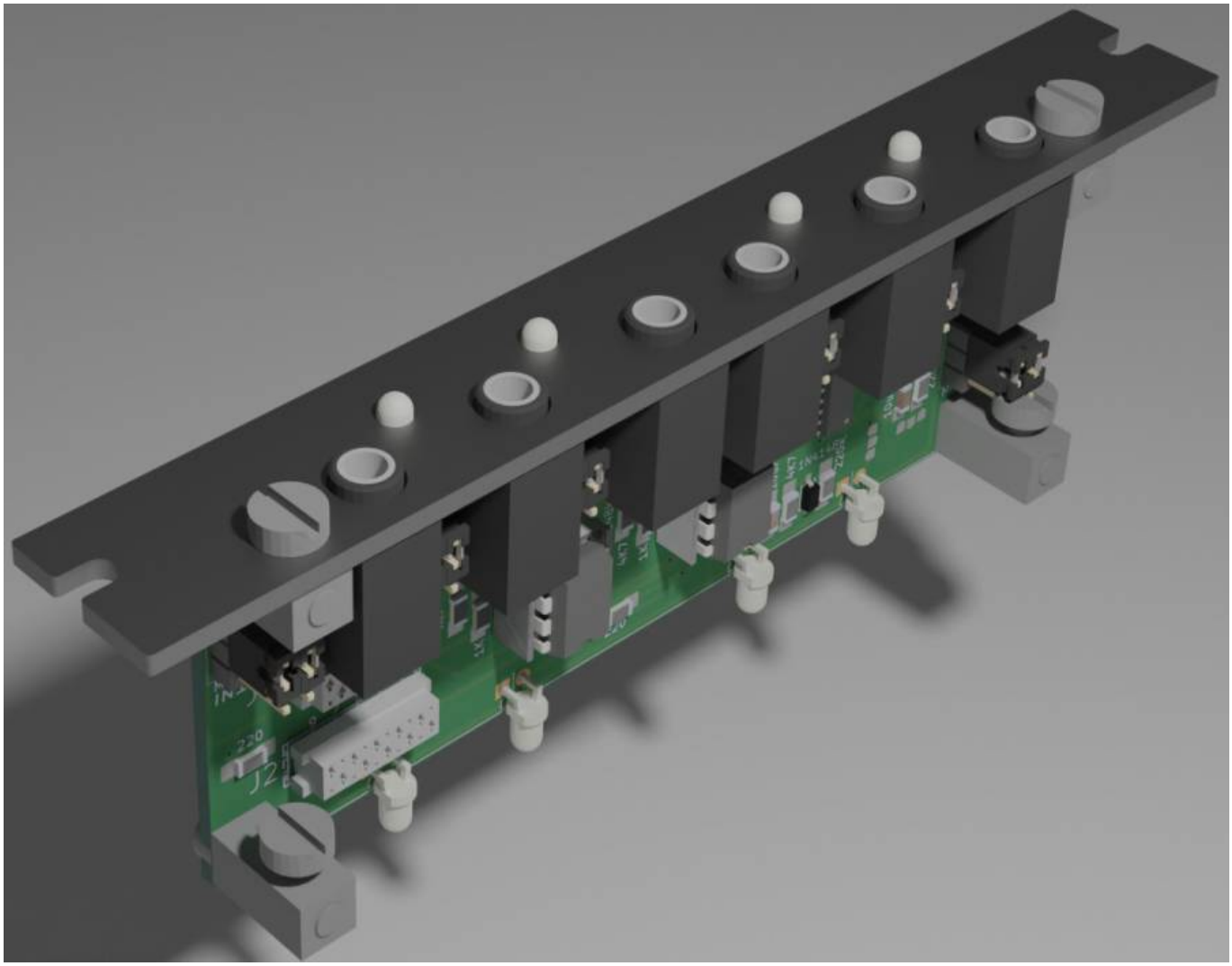


I made a DXFFile which you can print, and drill it DIY or you can send to:
frontpanels.de in germany 17,08€ a panel (5x-10%, 10x-20%, 20x-30%, 30x-40%, 100x-50%)
I tested one with them - and yes they looking good - and they fit!:

another good guy: The Beast - UK

Recommend Material
2mm x 128.5 x 17.78 Aluminium, anodised

A cheaper way is: order a 1,6mm thick Aluminium PCB as Frontpanel:
this are the gerbers:
gerber-euro_midiio_fp.zip
I have testet it, and this 1.6mm Aluminium from JLCPCB is too thin, i endet up by sandwith 2 off them togehter - so its strong enough, since the Labels are reversed when use the PCB reversed - i now removed them in this gerber file!



To Do

Since i already debugged Rev.A - and this is the overworked Rev.B - there should not be much to do, except to test the gerber filers… i am happy with Rev.A (have still PCBs so no check of RevB in near future!)

Community users working on it

- **Phatline** = PCB & Shematic, Documentation…

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

From:
http://www.midibox.org/dokuwiki/ - **MIDIbox**

Permanent link:
http://www.midibox.org/dokuwiki/doku.php?id=euro-midi-io&rev=1644592839

Last update: **2022/02/11 15:20**