

# EuroRack - Midi IO - Board



**PCB Size is 100x40mm**







# 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 necessary Information is printet on the PCB, but also check the [Schematic](#)

**Mouser:**

Ref	Q	mouser	Type	Footprint	Description
AB1 - AB6	1	649-1012938192001BLF	2x20 Pin Header	2x3 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
C5 - C6	2	963-TMK316AB7106KLHT	10uF unpolarized	1206 inch - 3216 metric	Unpolarized! > 10V

Ref	Q	mouser	Type	Footprint	Description
D1 - D4	4	241-1N4148W_R1_00001	1N4148W	SOD123-DIODE	doesnt draw much current
J1 - J2	2	571-12150790	TE Connectivity	2x5P Micromatch Female	To solder in the PCB
J1 - J2	4	571-1-2178712-0	TE Connectivity	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

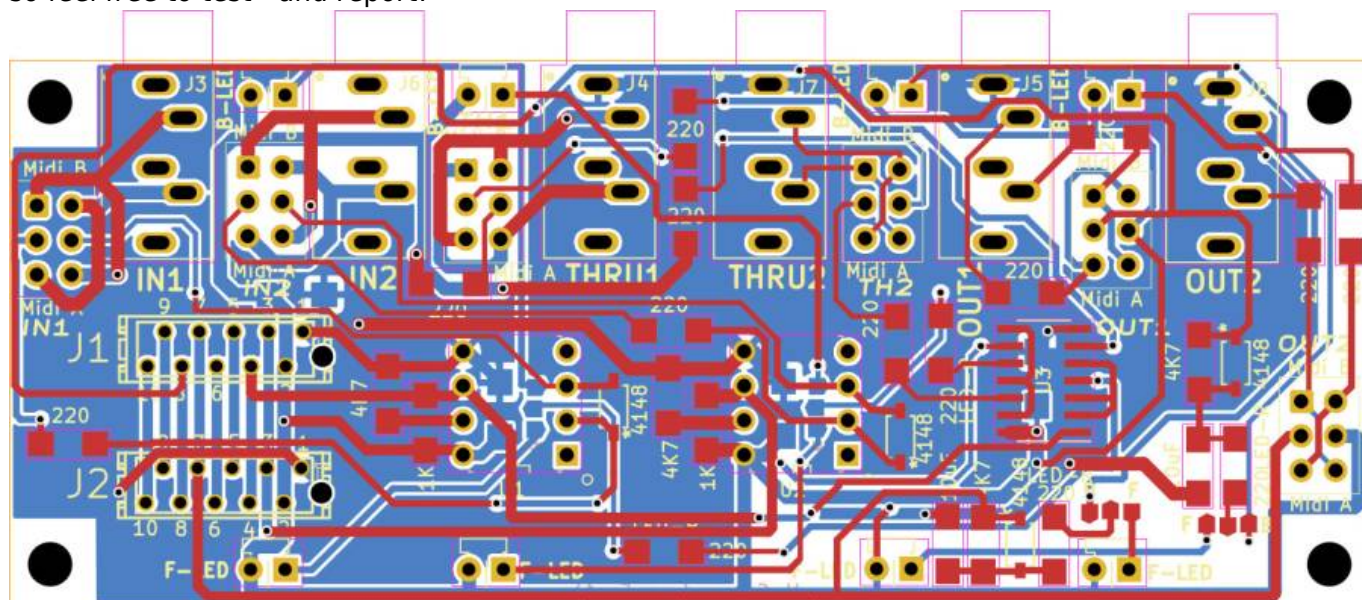
## [GERBER-Files Rev B for Production](#)

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 **DXF**File which you can print, and drill it DIY or you can send to:

[frontpanels.de](http://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

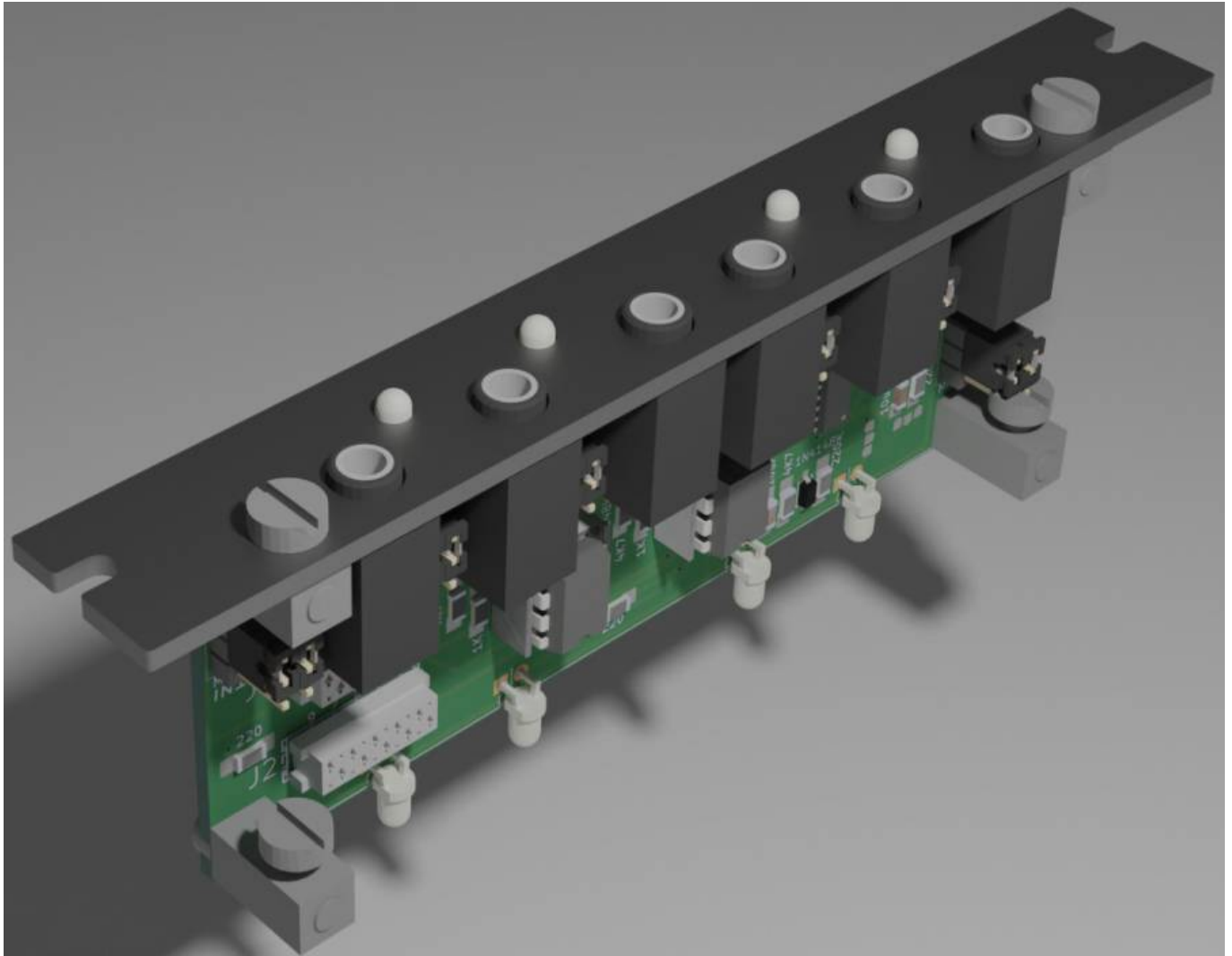
2mm x 128.5 x 17.78 Aluminium, anodised

### A cheaper way is: order a 1,6mm thick Aluminium PCB as Frontpanel:

this are the gerbers:

[gerber-euro\\_midiiio\\_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!



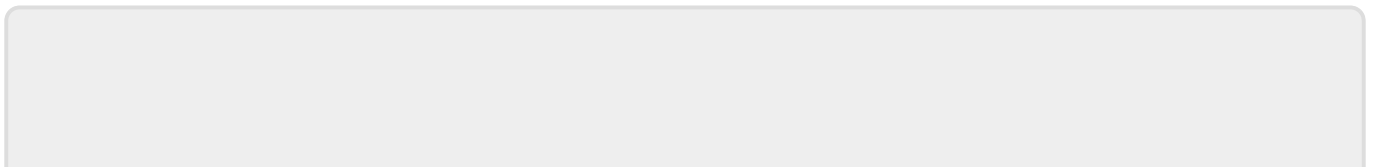
## To Do

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 & Schematic, Documentation...

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



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