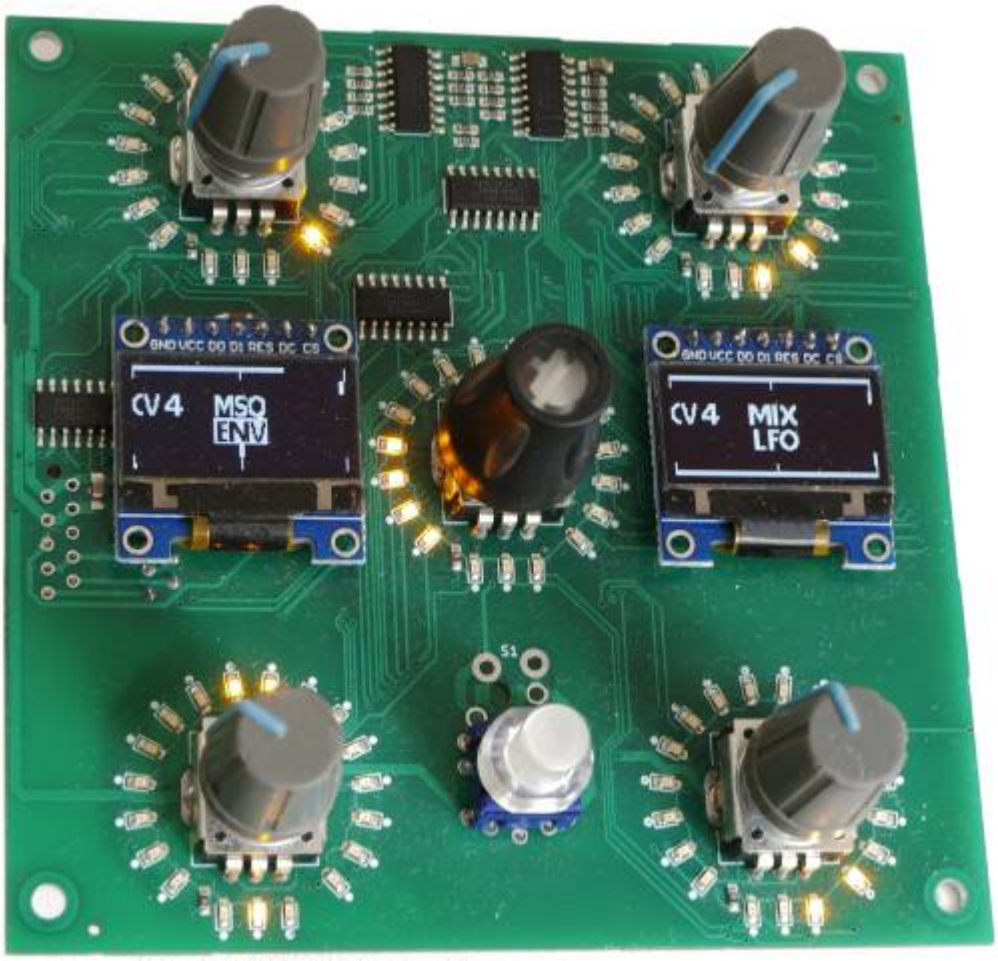
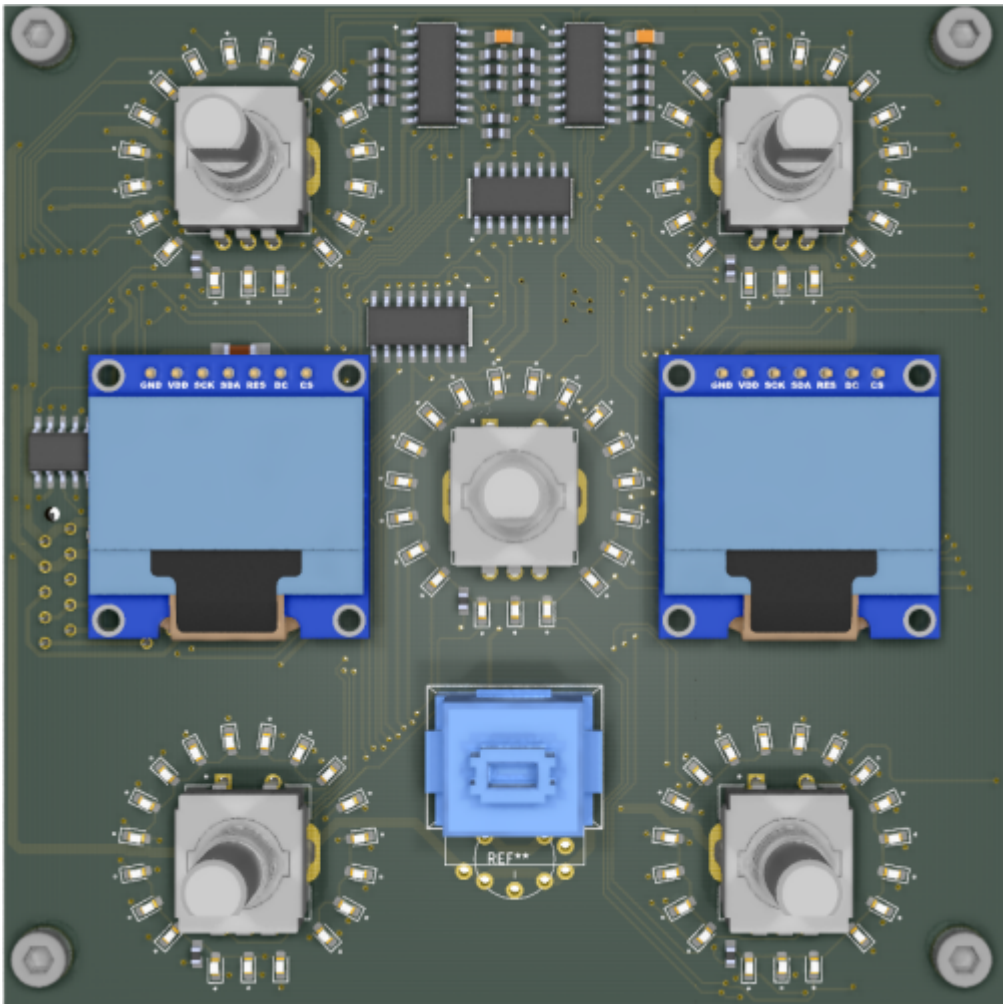
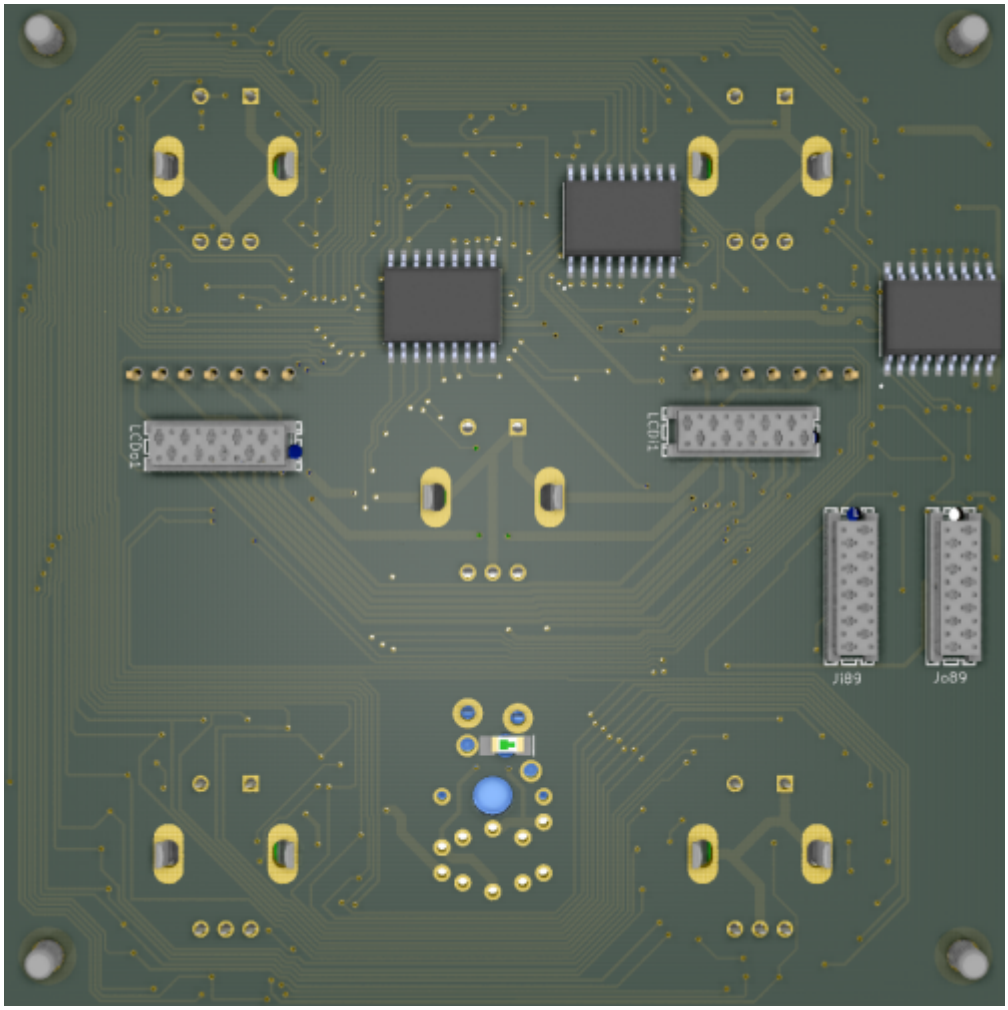
LRE5-LCD2





*** 5 Encoders**
*** 5 Ledrings**
*** 5 ENC-Switchs**
*** 5 3LEDS for ENC-Switches**
*** 1 Shift-Switch**
*** 2 1306 7Pin- OLED-LCDs**
controlled from a STM32F4 Microcontroller dipcoref4,CV1
build for CV1 as UI-Expansion-PCB.

ready for Pick and Place



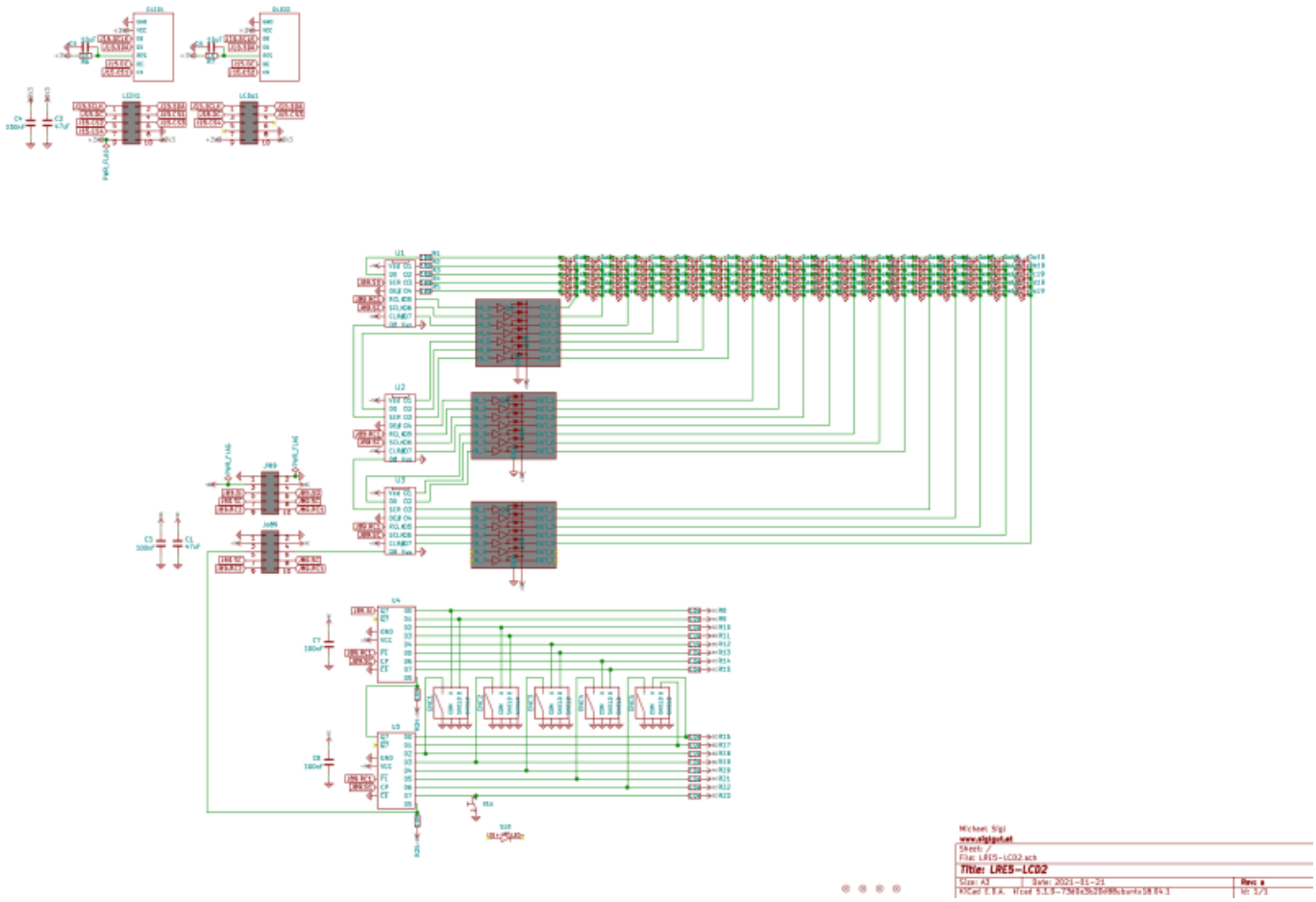
–all Parts except the ULN-Driver-ICs are on the Top-Side, and are presoldered..

Hardware Requirements

- CV1 or other MIOS32 Cores
- Soldering Iron - with a Dip that can Handle Thruhole-Parts, solder Paste...
- dont forget the Micromatch connectors, and Ribbon cables

Shematic

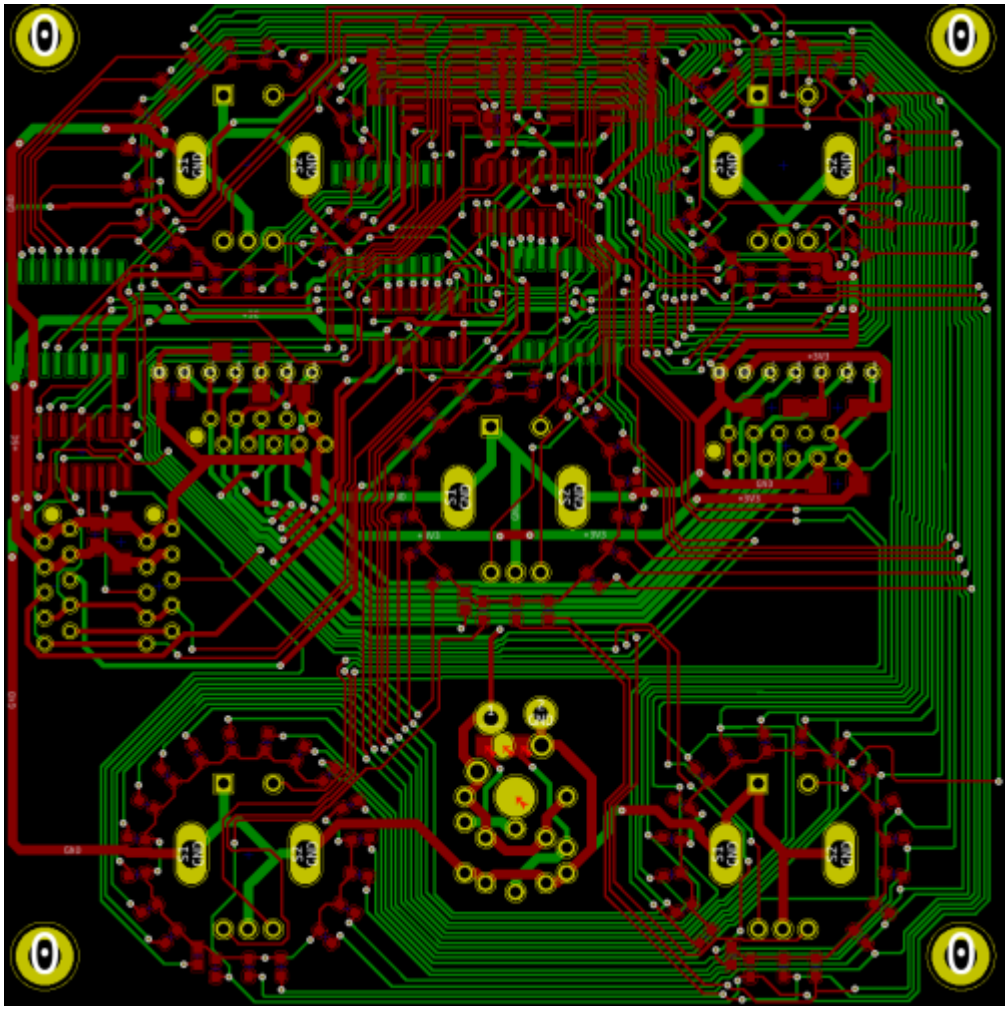
lre5-lcd2-shematic.pdf



Building

The Design is optimized for Pick and Place > allmost all SMD Parts are on the Top-PCB
The Rest is Thruhole > easy, the ULN Driver are SMD and has to be handsolderd

now waiting for Presoldered PCBs



BOM LCSC

these are the parts which must be handsoldered

Comment	Designator	Footprint	LCSC Part Number	Lot
ULN2003ADRW	Q1-Q3	SOIC-18_300mil	C9683 a`ca.0,8€ exclTaxes	3
PEC11R-4015F-S24	ENC1-ENC5	tht	C143789mouser-a 1,94€ exclTaxes	5
Micromatch-2×5-fema	LCDi1,LCDo1,Ji89,Jo89	tht	C590954 mouser-a`0,774€ exclTaxes	4
Micromatch-2×5-male	LCDi1,LCDo1,Ji89,Jo89	tht	C590954 mouser-a`0,882€ exclTaxes	4
Switch	S1	tht	C273513	1

S1 can be stuffed with: Matias, CherryMX, MEC-3FTH9, TL1265
Matias@midiphy 5pcs = 3,49€ incl Tax excl shipping
Caps@midipy 5pcs = 10€ incl tax excl shipping

Also you will need one ultrabright LED to illuminate the Matias Switch, the mounting at the moment is a bit diy (hot glue gun)...

BOM AliExpress

2xSSD1306-7Pin - a`1,47€ excl import taxes and shipping.

BOM LCSC

these are the parts which are presoldered by the Pick and Place Machine

Comment	Designator	Footprint	LCSC Part Number
47uF	C1,C2	1206	C96123
100nF	C3,C4,C7,C8	0805	C49678
10uF	C5,C6	1206	C13585
LED-Yellow	Da1,Db1,Dc1,Dd1,De1-Da19,Db19,Dc19,Dd19,De19	0603	C72038
180	R1-R5	0603	C22828
1K	R6,R7	1206	C4410
10k	R8-R25	0603	C25804
74HC595	U1-U3	SOIC-16	C5947
74HC165	U4,U5	SOIC-16	C5613

+ Ribbon Cables for example (MOUSER):
710-63911015521CAB|1

Frontpanel



I made a DXF File which you can send to Formulor in Germany

Here a DXF with one Frontplate, ready to upload to Formulor:
I payed 20€ incl taxes and sipping from Germany to Austria

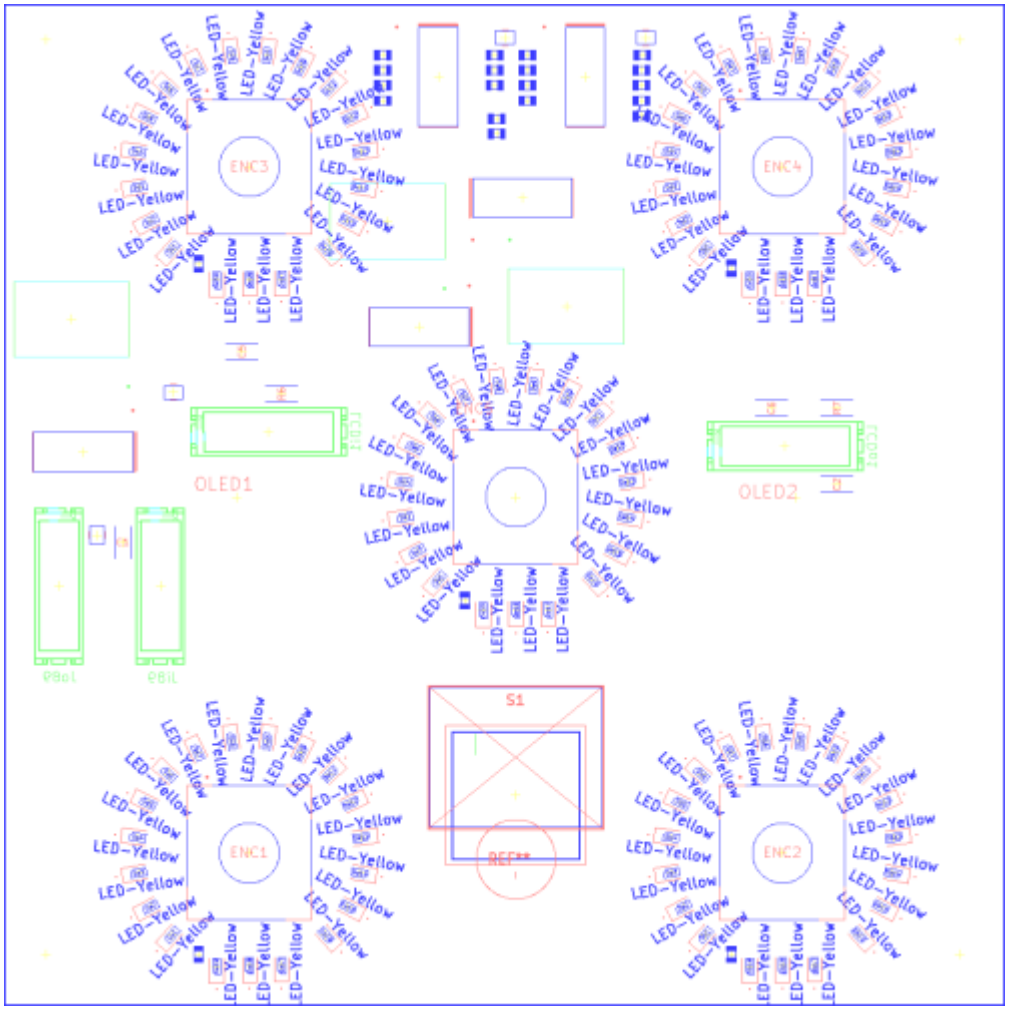
formulor-p1-1xlre5lcd2.dxf.zip

Recommend Material from Formulor:
3mm Acrylglas GS 181x181mm, mittelgrau transparent(7C83)

If you plan to build a MSQ-CC-LRE wit your LRE5LCD2, then you may save money by use this panalized DXF, where 2x LRE5LCD Panels + 2x MSQ-CC-LRE Panels are placed:
fp-lre-oled-2x-euro-formular-2xlre5lcd2.zip ready to upload to Formulor:
I payed 45€ incl taxes and sipping from Germany to Austria

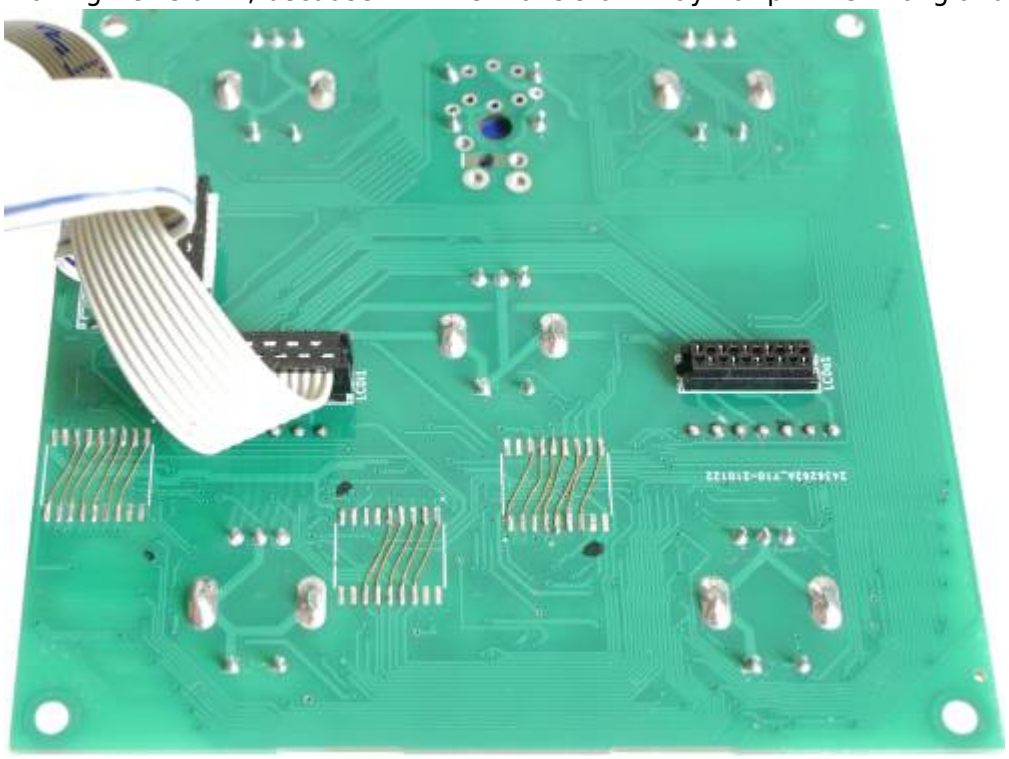
Recommend Material from Formulor:
3mm Acrylglas GS 384x384mm, mittelgrau transparent(7C83)

PART Locations



To Do

making Revision 2, because in 1 the Transistor-Array-Fottprint is wrong and had to bridged



Community users working on it

- **Phatline** = PCB & Shematic, UI-Programming, Documentation...

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

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Last update: **2023/09/12 14:20**