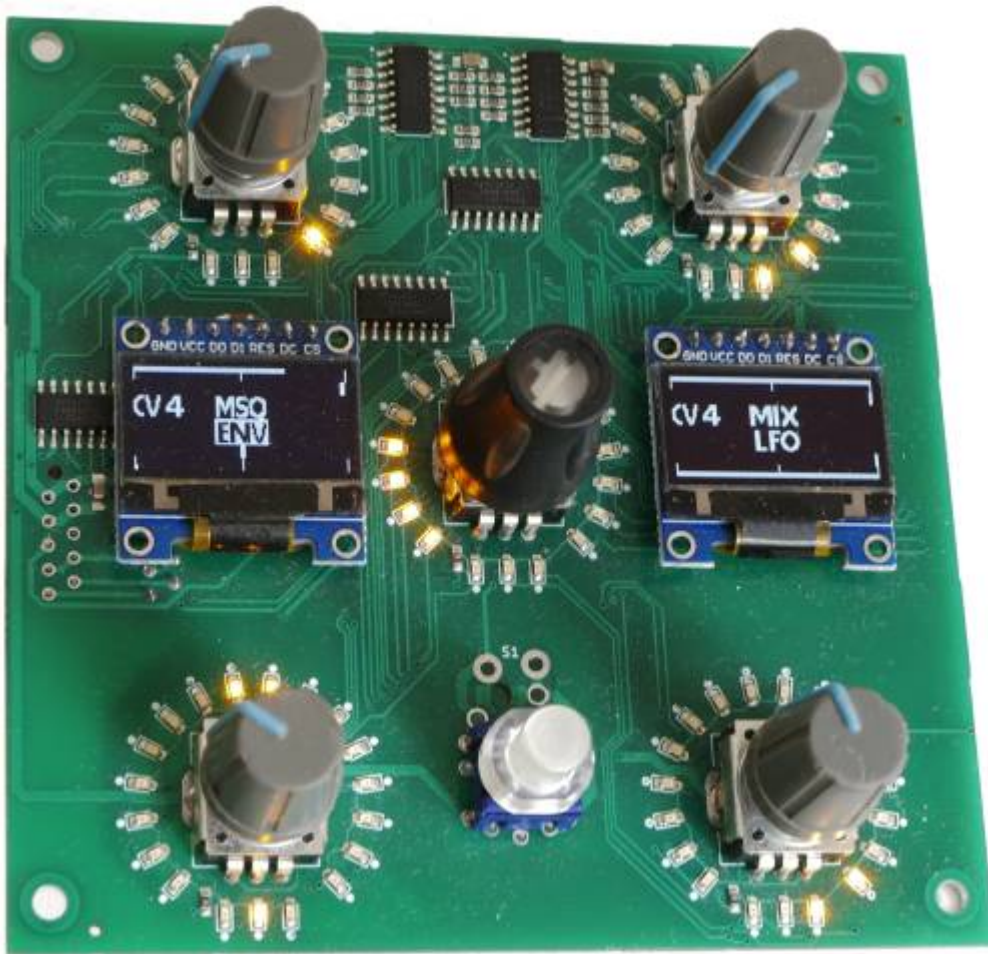
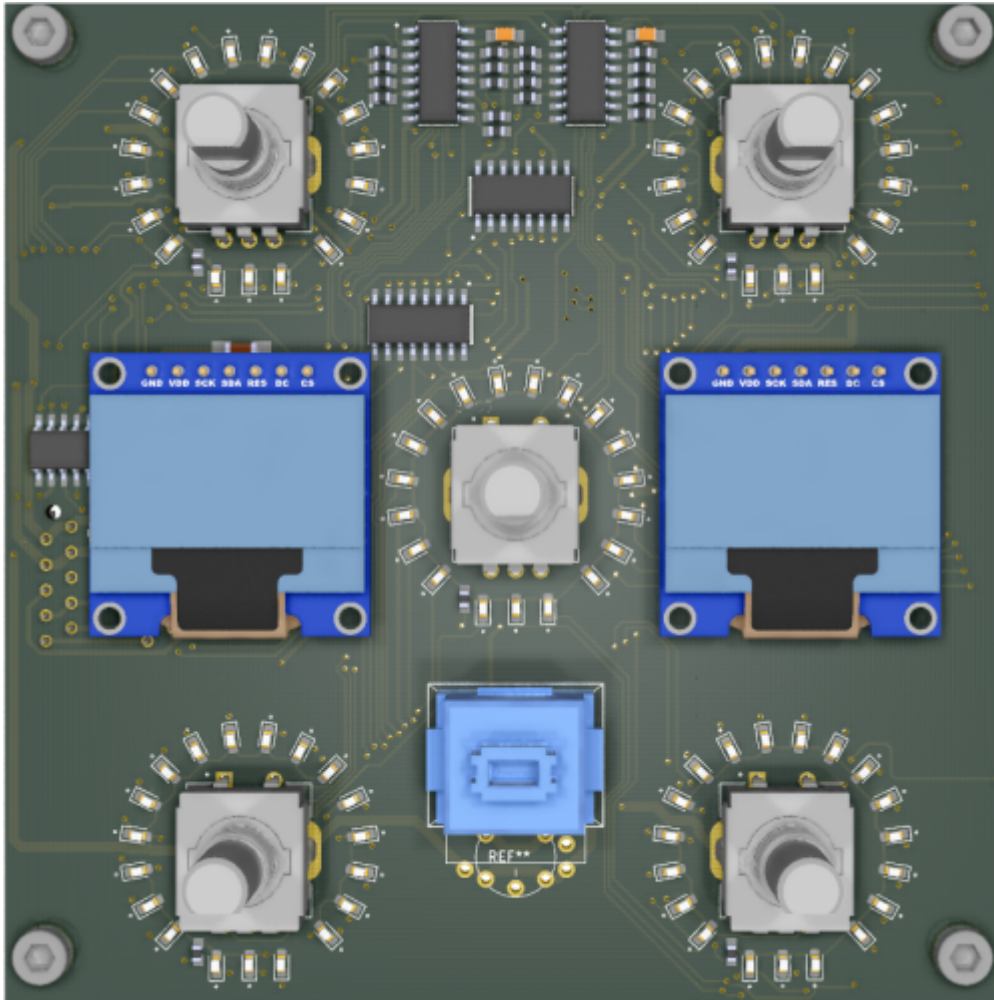


# LRE5-LCD2





- \* **5 Encoders**
- \* **5 Lednings**
- \* **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 MIO32 Cores
- Soldering Iron - with a Dip that can Handle Thruhole-Parts, solder Paste...
- dont forget the Micromatch connectors, and Ribbon cables

## Schematic

[lre5-lcd2-schematic.pdf](#)



# Building

The Design is optimized for Pick and Place > almost 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            | 3   |
| PEC11R-4015F-S24 | ENC1-ENC5             | tht            | C143789          | 5   |
| Micromatch-2x5   | LCDi1,LCDo1,Ji89,Jo89 | tht            | C590954          | 4   |
| Switch           | S1                    | tht            | C273513          | 1   |

**S1 can be stuffed with:** Matias, CherryMX, MEC-3FTH9, TL1265

## BOM AliExpress

[2xSSD1306-7Pin](#)

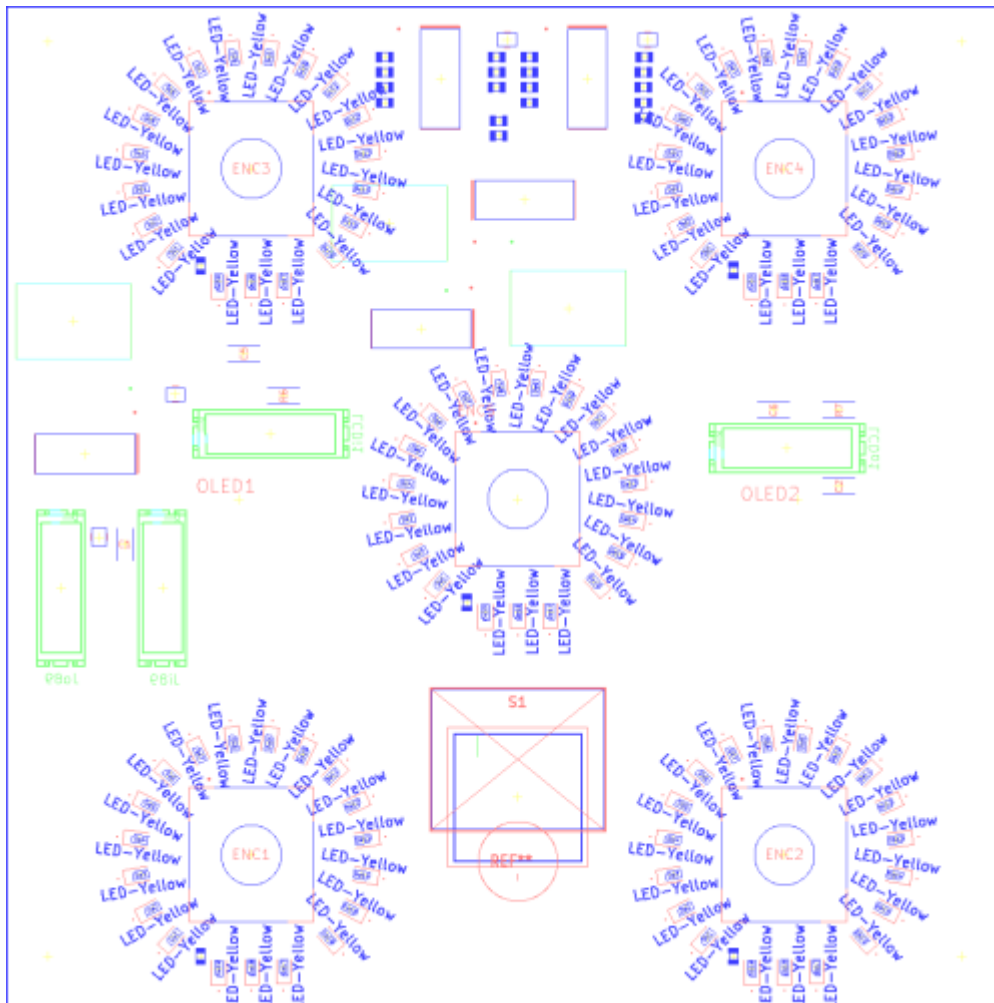
## BOM LCSC

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,De1,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

## 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 & Schematic, UI-Programming, Documentation...

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

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