

Sheet: /		
File: PCBA-EF44.kicad_sch		
<b>Title:</b>		
Size: A3	Date:	Rev:
KiCad E.D.A. kicad-cli 7.0.11+1		Id: 1/11
	7	8

# 900



Sheet: /UI\_LED/  
File: UI\_LED.kicad\_sch

**Title:**

Size: A4  
KiCad E.D.A. kicad-cli 7.0.11+1

Date:

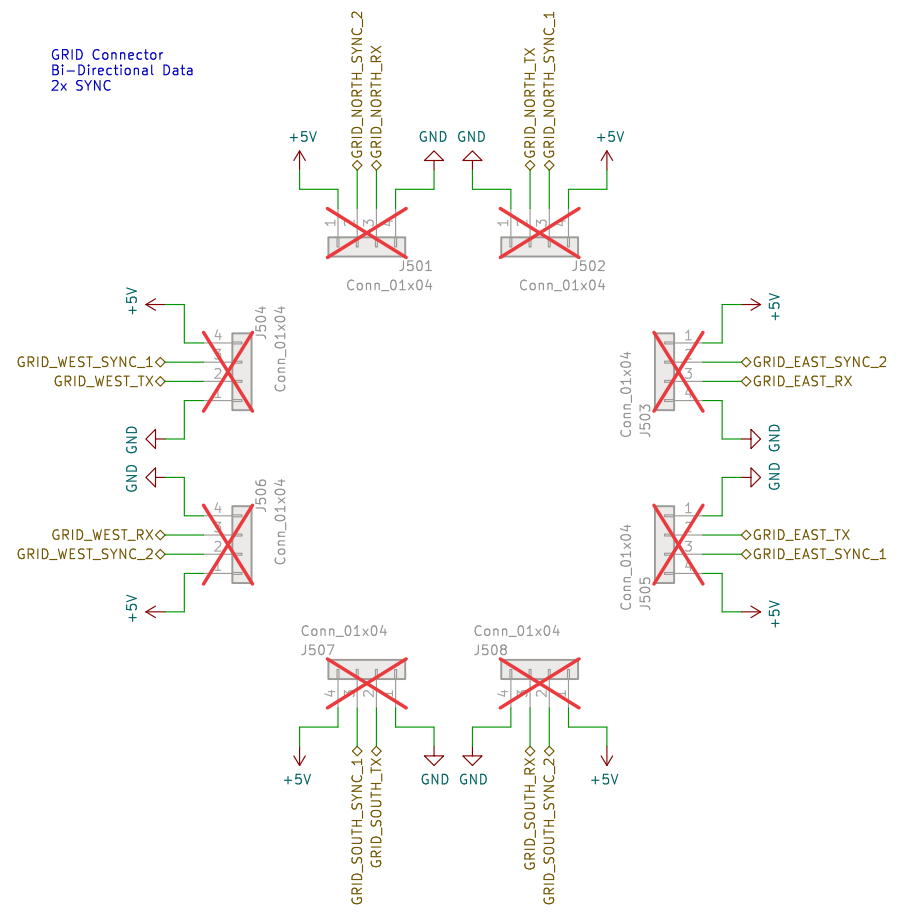
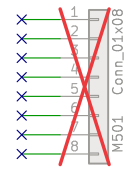
**Rev:**  
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# 500

GRID Connector  
Bi-Directional Data  
2x SYNC

Board Mounting Pattern



Sheet: /MCU/sheet5D85C9EA/ File: GRID.kicad_sch		
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**600**

**ESD Diodes**  
ESD protection for all of the externally accessible nets.

**+3V3 LDO Regulators**  
Regulators for generating independent power rails for the microcontroller and the user interface.

**Components and Connections:**

- J601 (TYPE-C-32-M-12):** USB Type-C connector. Pins A9B4, A4B9, A5, B5, A7, B7, A6, B6, A8, BB, A1B12, A12B1, S1, S2, S3, S4 are shown. Shield pins are connected to GND.
- U601 (C5451661):** ESD protection diodes for USB\_DATA\_N, USB\_DATA\_P, and VBUS.
- TP601, TP602, TP603, TP604:** Test points for GND, VBUS, D-, and D+ respectively.
- U602 (LN1134A332MR-G):** LDO regulator for +3V3. IN is connected to VBUS +5V through L601. EN is connected to GND. OUT is connected to +3V3. NC and GND pins are also shown.
- Passive Components:** C601 (1uF), C602 (1uF), C603 (4n7), R601 (5k1), R602 (5k1), R603 (1M).
- Other Signals:** PWR\_FLAG, VBUS, USB\_DATA\_N, USB\_DATA\_P, GND, +3V3.

**Sheet Information:**

Sheet: /MCU/Sheet60F06FE1/ File: USB_POWER.kicad_sch		
<b>Title:</b>		
Size: A4	Date:	Rev:
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800

OPEN IF EN16  
CLOSED IF NO DETENT

U801  
74HC165

DATA\_IND

SI

D0

D1

D2

D3

D4

D5

D6

D7

SH/LD

INH

CLK

Q0

Q1

Q2

Q3

Q4

Q5

Q6

Q7

VCC

GND

+3V3

R801  
5k1

JP801  
(NF)

HWCFG\_LOW

HWCFG\_HIGH

HWCFG\_CLOCKD

HWCFG\_SHIFTD

HWCFG\_DATA

HWCFG\_HIGH

HWCFG\_LOW

C801  
100n

Board Identification

Grid firmware can identify the hardware and the board revision through a 3 wire serial interface using one or more shift register as read only memory. The content of the memory is defined by pulling the inputs high or low through pcb traces or solderable configuration jumpers.

4b'Model + 4b'Revision + nb'Reserved (Multiple shift registers)

D0: MODEL (LSB)  
D1: MODEL  
D2: MODEL  
D3: MODEL (MSB)  
D4: REVISION (LSB)  
D5: REVISION  
D6: REVISION  
D7: REVISION (MSB)

Model Codes (D3-D0):

Po16 0000  
Bo16 0001  
PBF4 0010  
EN16 0011  
...

Revision Codes (D7-D4):

RevA 0000  
RevB 0001  
RevC 0010  
RevD 0011  
...

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Grid firmware can identify the hardware and the board revision through a 3 wire serial interface using one or more shift register as read only memory. The content of the memory is defined by pulling the inputs high or low through pcb traces or solderable configuration jumpers.

D0: MODEL (LSB)  
D1: MODEL  
D2: MODEL  
D3: MODEL (MSB)  
D4: REVISION (LSB)  
D5: REVISION  
D6: REVISION  
D7: REVISION (MSB)

Po16	0000
Bo16	0001
PBF4	0010
EN16	0011
...	

```
RevA 0000
RevB 0001
RevC 0010
RevD 0011
...
```

Sheet: /HWCFG/ File: HWCFG.kicad_sch	
<b>Title:</b>	
Size: A4	Date:
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Sheet: /UI\_ENC/ENCODER\_0/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

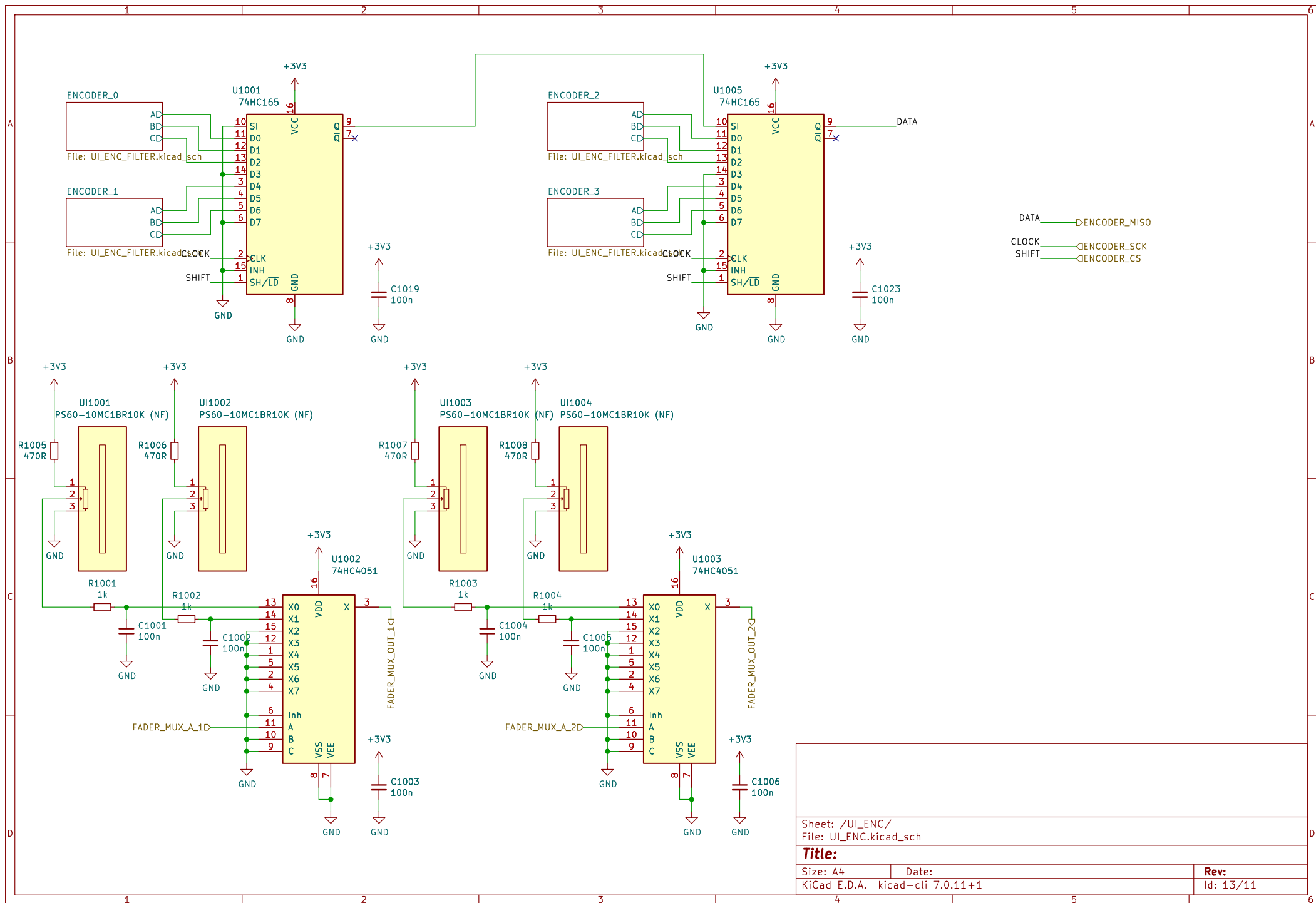
Size: A4

Date:

KiCad E.D.A. kicad-cli 7.0.11+1

**Rev:**

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Sheet: /UI\_ENC/ENCODER\_3/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

Size: A4

Date:

KiCad E.D.A. kicad-cli 7.0.11+1

**Rev:**

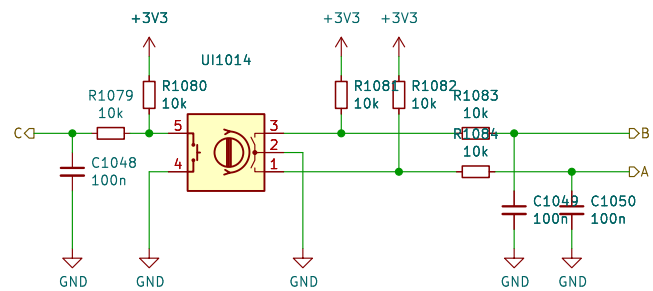
Id: 14/11



Sheet: /UI\_ENC/ENCODER\_1/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

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KiCad E.D.A. kicad-cli 7.0.11+1		Id: 15/11



Sheet: /UI\_ENC/ENCODER\_2/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

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