





Sheet: /UI\_ENC/ENCODER\_11/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

Size: A4

Date:

Rev:

KiCad E.D.A. 8.0.3

Id: 3/23

# 900



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

**Title:**

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KiCad E.D.A. 8.0.3

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500

GRID Connector  
Bi-Directional Data  
2x SYNC

Board Mounting Pattern

M501 Conn\_01x08

J501 Conn\_01x04

J502 Conn\_01x04

J503 Conn\_01x04

J504 Conn\_01x04

J505 Conn\_01x04

J506 Conn\_01x04

J507 Conn\_01x04

J508 Conn\_01x04

GRID\_NORTH\_SYNC\_2

GRID\_NORTH\_SYNC\_RX

GRID\_NORTH\_TX

GRID\_NORTH\_SYNC\_1

GRID\_WEST\_SYNC\_1

GRID\_WEST\_TX

GRID\_WEST\_RX

GRID\_WEST\_SYNC\_2

GRID\_EAST\_SYNC\_2

GRID\_EAST\_RX

GRID\_EAST\_TX

GRID\_EAST\_SYNC\_1

GRID\_SOUTH\_SYNC\_1

GRID\_SOUTH\_SYNC\_TX

GRID\_SOUTH\_RX

GRID\_SOUTH\_SYNC\_2

5V

GND

Sheet: /MCU/sheet5D85C9EA/  
File: GRID.kicad\_sch

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4	5	6

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6



# 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.



Sheet: /MCU/Sheet60F06FE1/  
File: USB\_POWER.kicad\_sch

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800

OPEN IF EN16  
CLOSED IF NO DETENT

JP801  
(NF)

R801  
5k1

+3V3

GND

DATA\_IND

U801  
74HC165

HWCFG\_HIGH

HWCFG\_HIGH

HWCFG\_LOW

HWCFG\_LOW

HWCFG\_LOW

HWCFG\_LOW

HWCFG\_HIGH

HWCFG\_CLOCKD

HWCFG\_SHIFTD

+3V3

GND

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  
...

Sheet: /HWCFG/ File: HWCFG.kicad_sch		
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KiCad E.D.A. 8.0.3		Id: 10/23

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
...
```

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Sheet: /UI\_ENC/ENCODER\_6/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

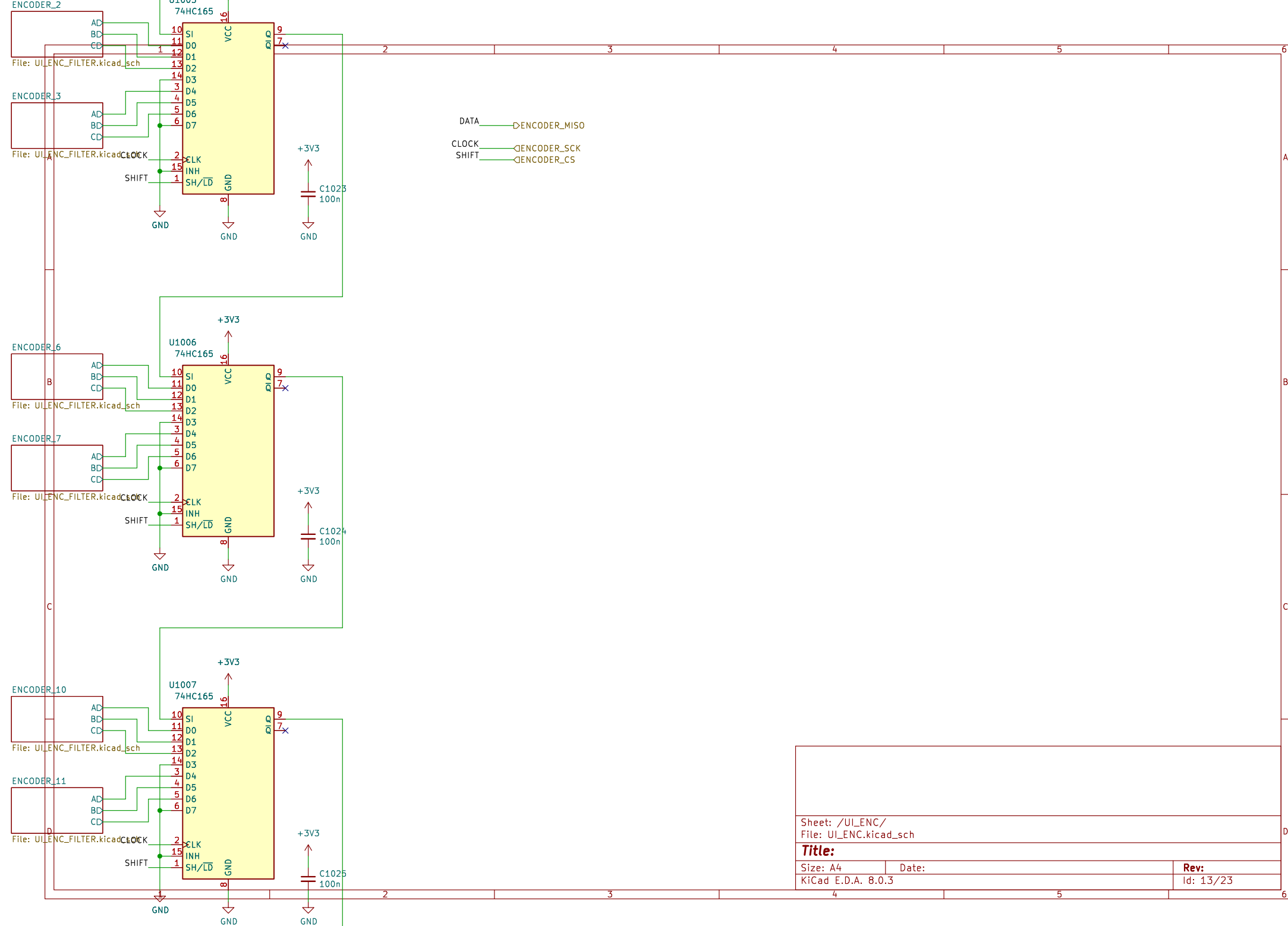
Size: A4

Date:

**Rev:**

KiCad E.D.A. 8.0.3

Id: 12/23







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

**Title:**

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**Rev:**

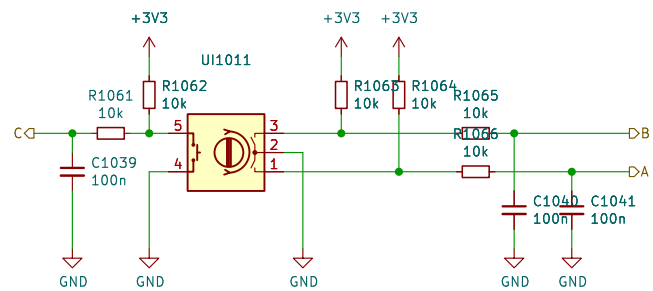
KiCad E.D.A. 8.0.3

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Sheet: /UI\_ENC/ENCODER\_13/  
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**Title:**

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Sheet: /UI\_ENC/ENCODER\_10/  
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Sheet: /UI\_ENC/ENCODER\_15/  
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Sheet: /UI\_ENC/ENCODER\_4/  
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Sheet: /UI\_ENC/ENCODER\_9/  
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Id: 23/23