



Sheet: /UI\_ENC/ENCODER\_8/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

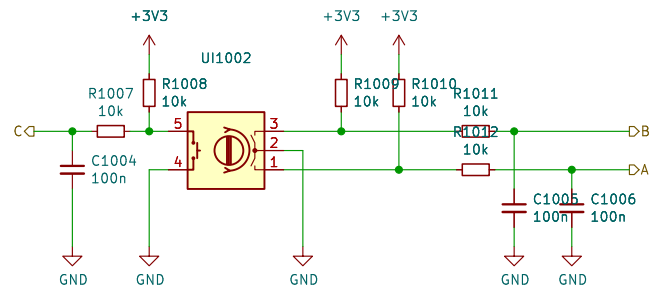
Size: A4

Date:

Rev:

KiCad E.D.A. 8.0.3

Id: 2/23



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:**

Size: A4  
KiCad E.D.A. 8.0.3

Date:

**Rev:**  
Id: 4/23



Sheet: /UI\_ENC/ENCODER\_5/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

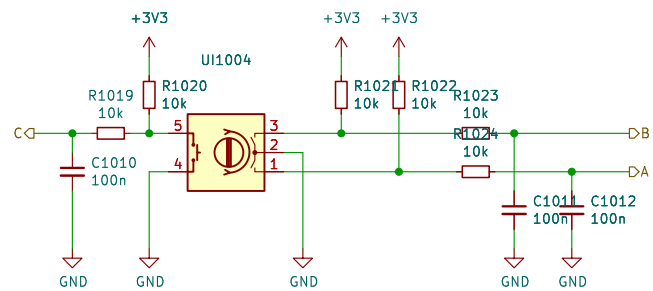
Size: A4

Date:

**Rev:**

KiCad E.D.A. 8.0.3

Id: 5/23



Sheet: /UI\_ENC/ENCODER\_12/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

Size: A4

Date:

KiCad E.D.A. 8.0.3

**Rev:**

Id: 6/23



**GRID Connector**  
Bi-Directional Data  
2x SYNC

**500**

**Board Mounting Pattern**

The schematic diagram illustrates the wiring for eight connectors (J501-J508) on a PCB. Each connector is a 4-pin header with pins labeled 1, 2, 3, and 4. The connections are as follows:

- J501:** Pin 1 to +5V, Pin 2 to GRID\_NORTH\_SYNC\_2, Pin 3 to GRID\_NORTH\_RX, Pin 4 to GND.
- J502:** Pin 1 to +5V, Pin 2 to GRID\_NORTH\_TX, Pin 3 to GRID\_NORTH\_SYNC\_1, Pin 4 to GND.
- J503:** Pin 1 to +5V, Pin 2 to GRID\_EAST\_SYNC\_2, Pin 3 to GRID\_EAST\_RX, Pin 4 to GND.
- J504:** Pin 1 to +5V, Pin 2 to GRID\_WEST\_SYNC\_1, Pin 3 to GRID\_WEST\_TX, Pin 4 to GND.
- J505:** Pin 1 to GND, Pin 2 to GRID\_EAST\_TX, Pin 3 to GRID\_EAST\_SYNC\_1, Pin 4 to +5V.
- J506:** Pin 1 to GND, Pin 2 to GRID\_WEST\_RX, Pin 3 to GRID\_WEST\_SYNC\_2, Pin 4 to +5V.
- J507:** Pin 1 to +5V, Pin 2 to GRID\_SOUTH\_SYNC\_1, Pin 3 to GRID\_SOUTH\_TX, Pin 4 to GND.
- J508:** Pin 1 to +5V, Pin 2 to GRID\_SOUTH\_RX, Pin 3 to GRID\_SOUTH\_SYNC\_2, Pin 4 to GND.

The Board Mounting Pattern for M501 shows an 8-pin connector with pins numbered 1 through 8. Pins 1, 2, 3, and 4 are connected to +5V, and pins 5, 6, 7, and 8 are connected to GND.

<b>Title:</b>		
Size: A4	Date:	<b>Rev:</b>
KiCad E.D.A. 8.0.3		Id: 8/23

Size: A4	Date:	Rev:
----------	-------	------

KiCad E.D.A. 8.0.3	Id: 8/23
--------------------	----------

3	Id: 8/23
---	----------

Id: 8/23

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

### Title:

Size: A4

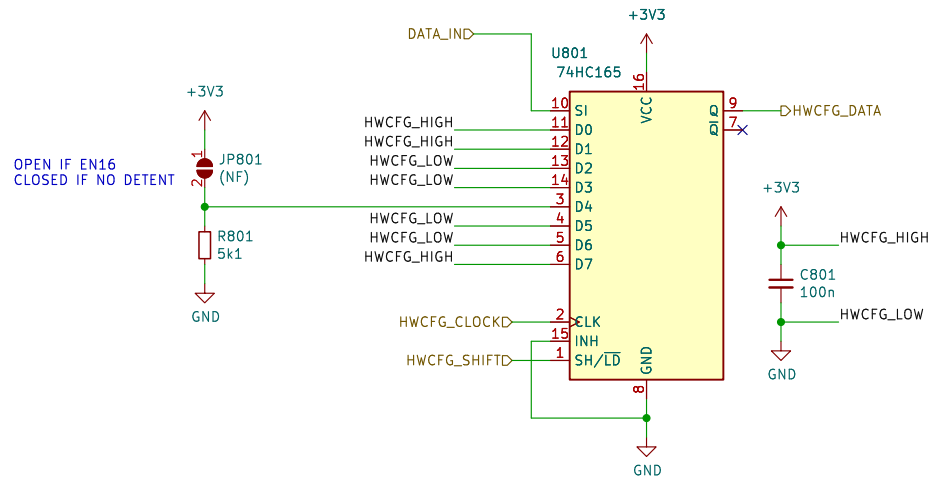
Date:

KiCad E.D.A. 8.0.3

Rev:

Id: 9/23

800



#### 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

#### Title:

Size: A4

Date:

KiCad E.D.A. 8.0.3

Rev:

Id: 10/23





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

**Title:**

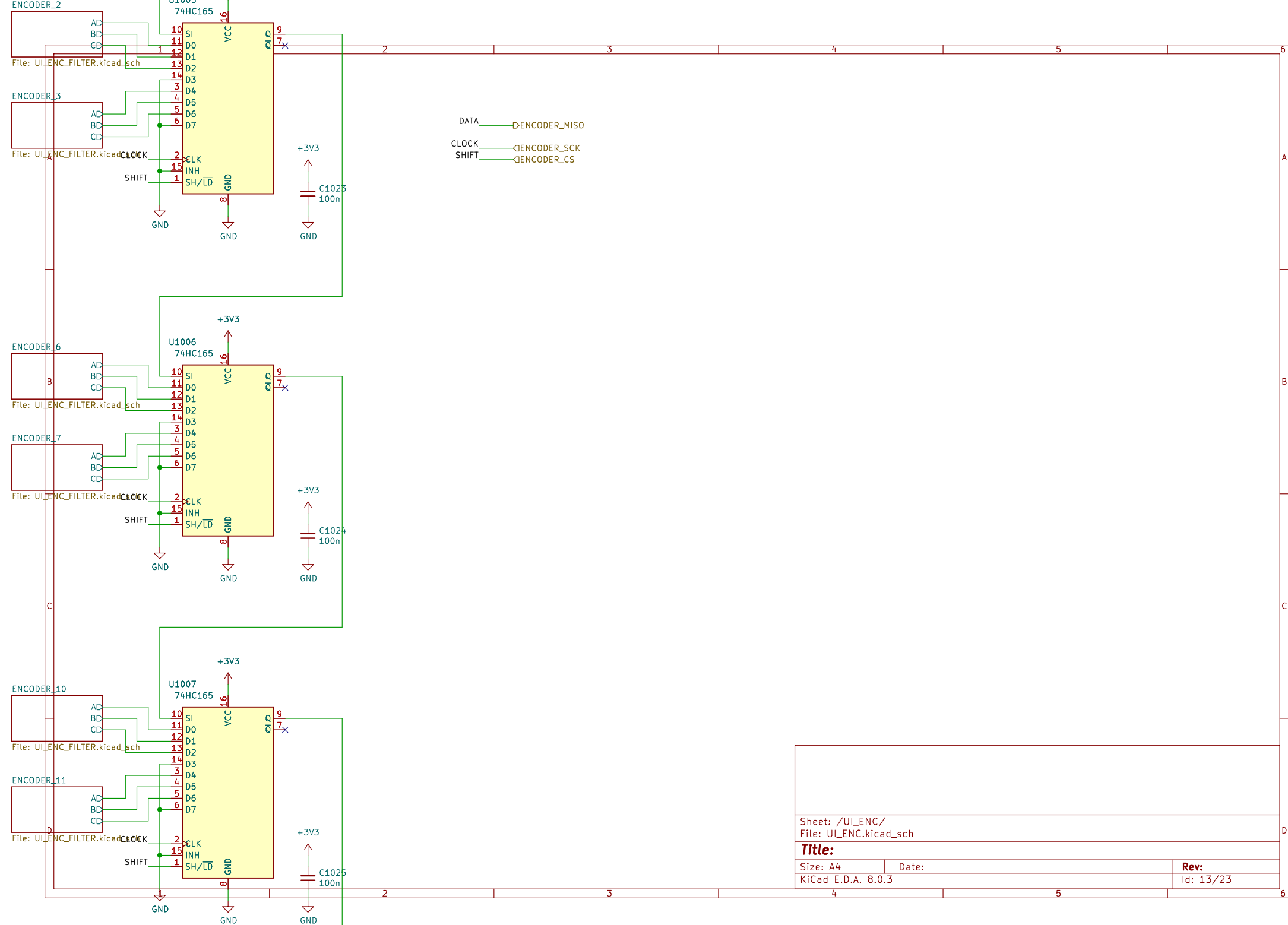
Size: A4

Date:

Rev:

KiCad E.D.A. 8.0.3

Id: 12/23





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

**Title:**

Size: A4

Date:

**Rev:**

KiCad E.D.A. 8.0.3

Id: 14/23



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

**Title:**

Size: A4

Date:

**Rev:**

KiCad E.D.A. 8.0.3

Id: 15/23







Sheet: /UI\_ENC/ENCODER\_13/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

Size: A4

Date:

Size: A4	
KiCad E.D.A. 8.0.3	

Rev:

Id: 18/23



Sheet: /UI\_ENC/ENCODER\_10/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

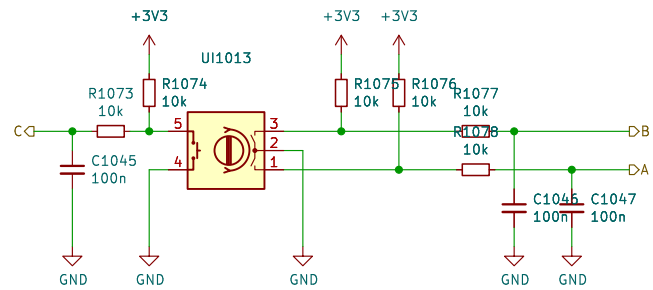
Size: A4

Date:

Rev:

KiCad E.D.A. 8.0.3

Id: 19/23



Sheet: /UI\_ENC/ENCODER\_15/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

Size: A4

Date:

Rev:

KiCad E.D.A. 8.0.3

Id: 20/23





Sheet: /UI\_ENC/ENCODER\_4/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

Size: A4

Date:

**Rev:**

KiCad E.D.A. 8.0.3

Id: 22/23



Sheet: /UI\_ENC/ENCODER\_9/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

Size: A4

Date:

**Rev:**

KiCad E.D.A. 8.0.3

Id: 23/23