

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

**Title:**

Size: A4

Date:

KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1

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

**Title:**

Size: A4

Date:

KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1

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Id: 3/23

# 900



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

### Title:

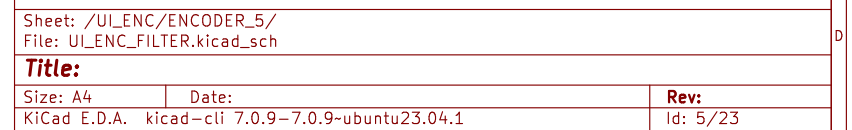
Size: A4

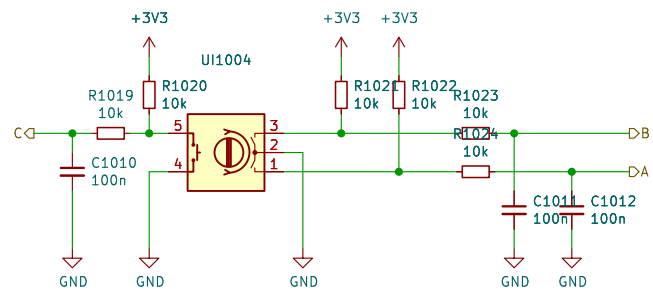
Date:

Rev:

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

**Title:**

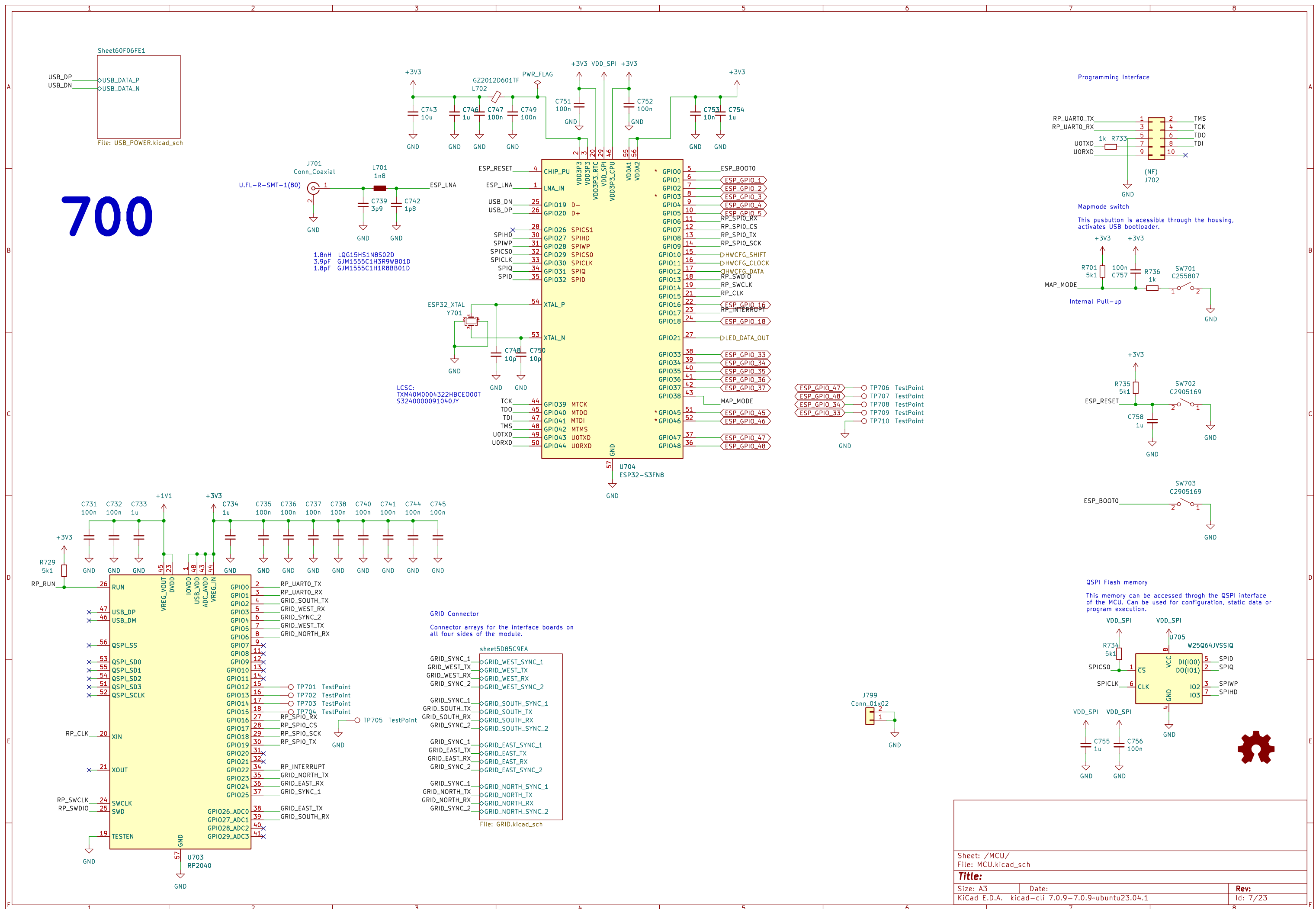
Size: A4

Date:

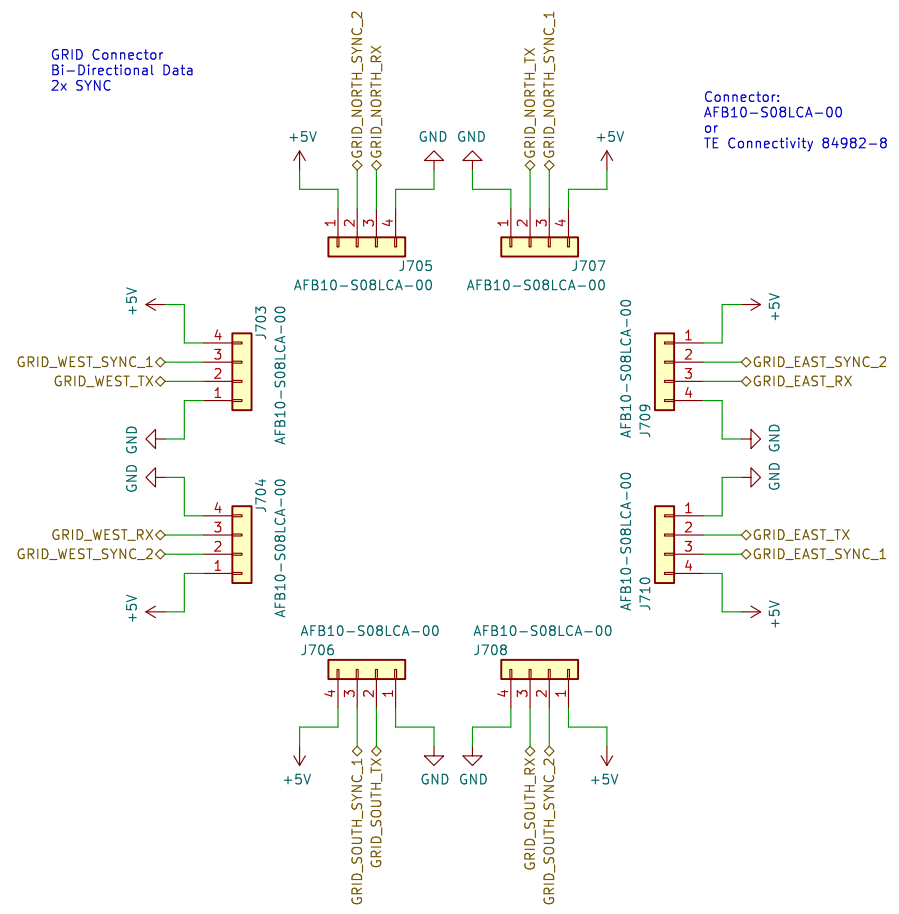
KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1

**Rev:**

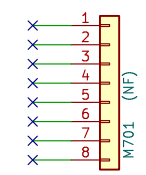
Id: 6/23



# 500



Board Mounting Pattern



|  |       |          |
|--|-------|----------|
| Sheet: /MCU/sheet5D85C9EA/<br>File: GRID.kicad_sch |       |          |
| <b>Title:</b>                                      |       |          |
| Size: A4   | Date: | Rev:     |
| KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1   |       | Id: 8/23 |



# 600

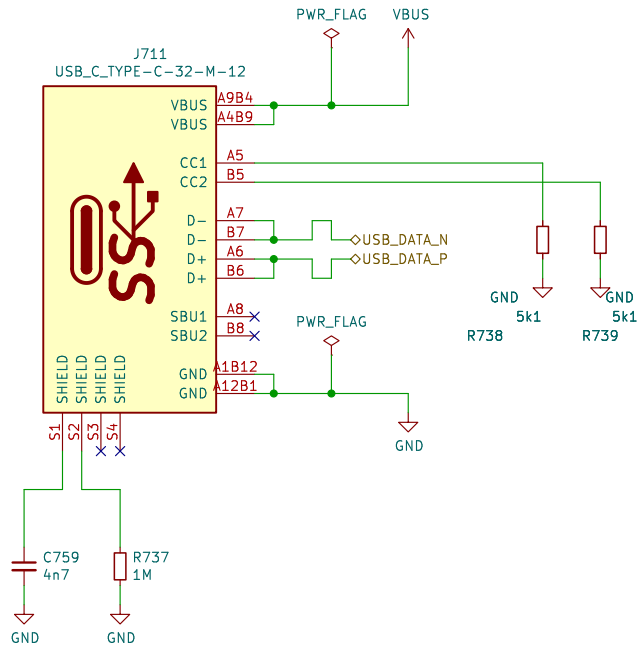
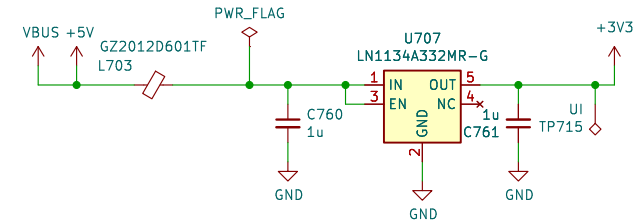
## ESD Diodes

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. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1

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**800**

OPEN IF EN16  
CLOSED IF NO DETENT

JP801 (NF)

R801 5k1

+3V3

GND

HWCFG\_HIGH

HWCFG\_LOW

HWCFG\_CLOCKD

HWCFG\_SHIFTD

DATA\_IND

U801 74HC165

VCC

Q

X

HWCFG\_DATA

C801 100n

GND

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/<br>File: HWCFG.kicad_sch |                               |           |
| <b>Title:</b>                           |                               |           |
| Size: A4                                | Date:                         | Rev:      |
| KiCad E.D.A.                            | kicad-cli 7.0.9-ubuntu23.04.1 | 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
...
```

|  |                   |
|--|-------------------|
|  |                   |
| Sheet: /HWCFG/<br>File: HWCFG.kicad_sch          |                   |
| <b>Title:</b>                                    |                   |
| Size: A4   | Date:             |
| KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1 | Rev:<br>Id: 10/23 |



Sheet: /UI\_ENC/ENCODER\_0/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

Size: A4

Date:

Rev:

KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1

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

**Title:**

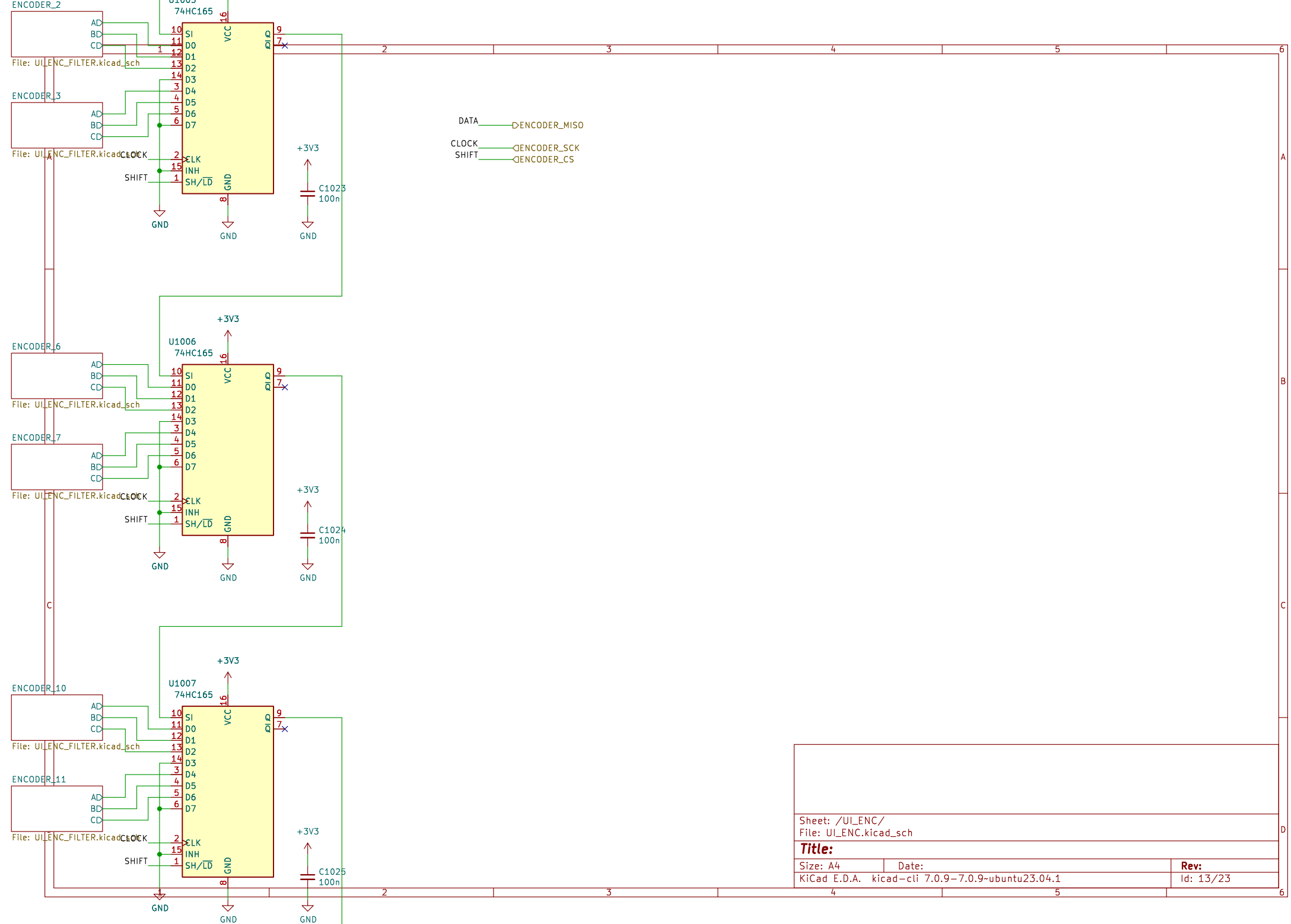
Size: A4

Date:

KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1

Rev:

Id: 12/23





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

**Title:**

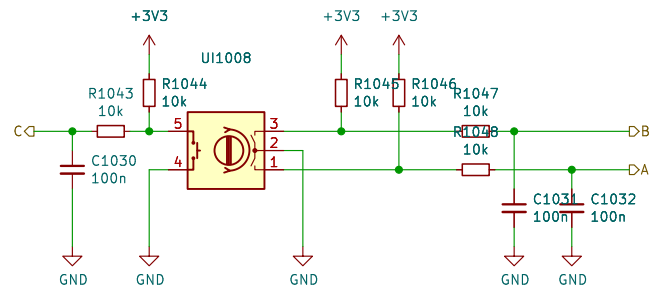
Size: A4

Date:

KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1

**Rev:**

Id: 14/23



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

**Title:**

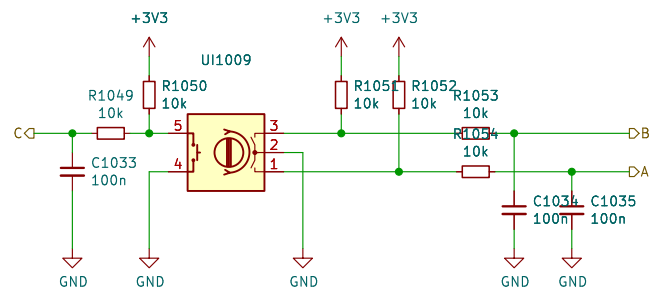
Size: A4

Date:

KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1

**Rev:**

Id: 15/23



Sheet: /UI\_ENC/ENCODER\_7/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

Size: A4

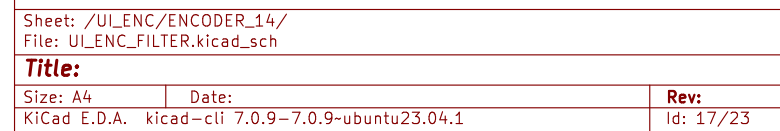
Date:

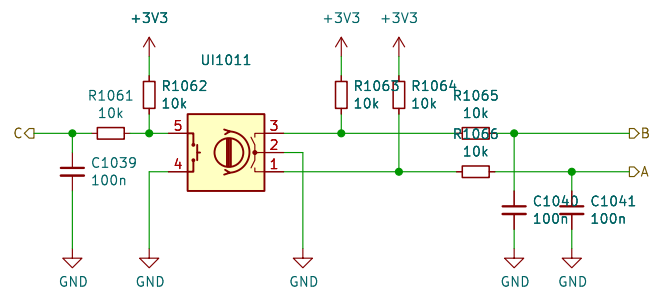
KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1

**Rev:**

Id: 16/23







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

**Title:**

Size: A4

Date:

KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1

**Rev:**

Id: 18/23



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

**Title:**

Size: A4

Date:

KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1

**Rev:**

Id: 19/23



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

**Title:**

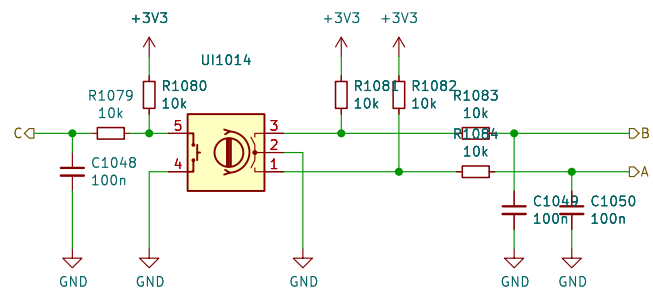
Size: A4

Date:

KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1

**Rev:**

Id: 20/23



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

**Title:**

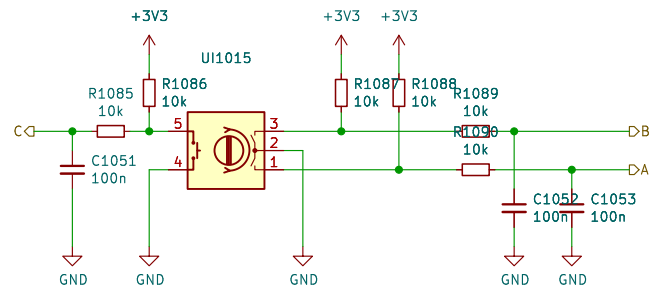
Size: A4

Date:

KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1

**Rev:**

Id: 21/23



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

**Title:**

Size: A4

Date:

KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1

Rev:

Id: 22/23



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

**Title:**

Size: A4

Date:

KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1

Rev:

Id: 23/23