



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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# 900



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

**Title:**

Size: A4  
KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1

Date:

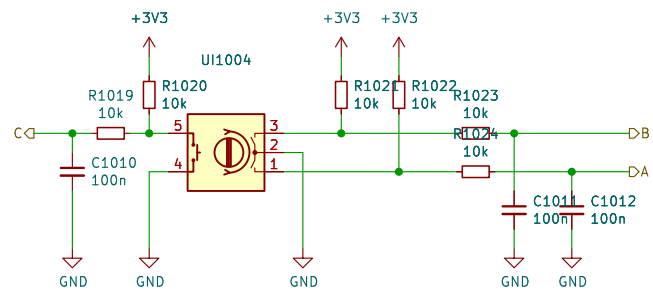
Rev:  
Id: 4/23



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

**Title:**

Size: A4	Date:	Rev:
KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1		Id: 5/23



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

**Title:**

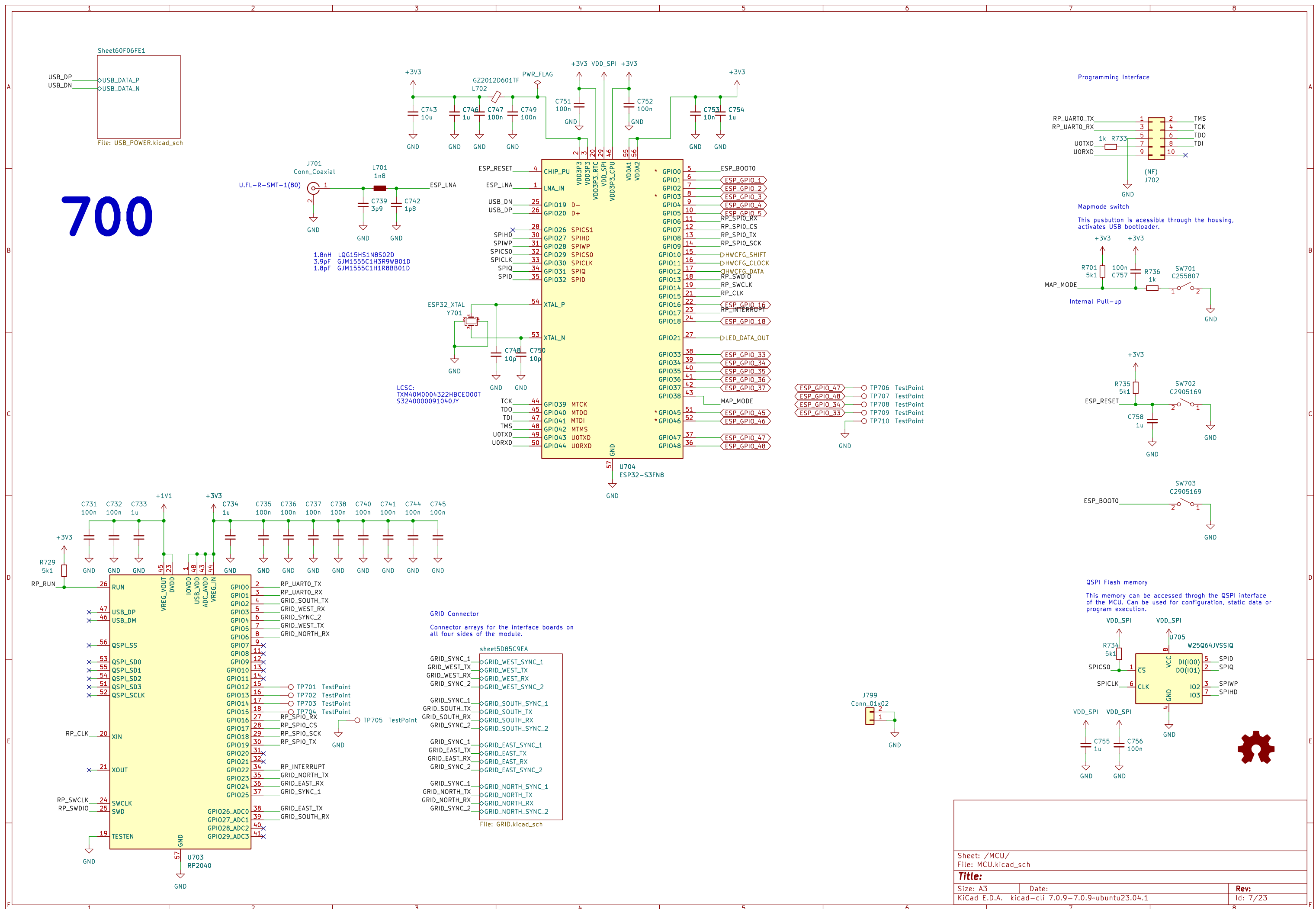
Size: A4

Date:

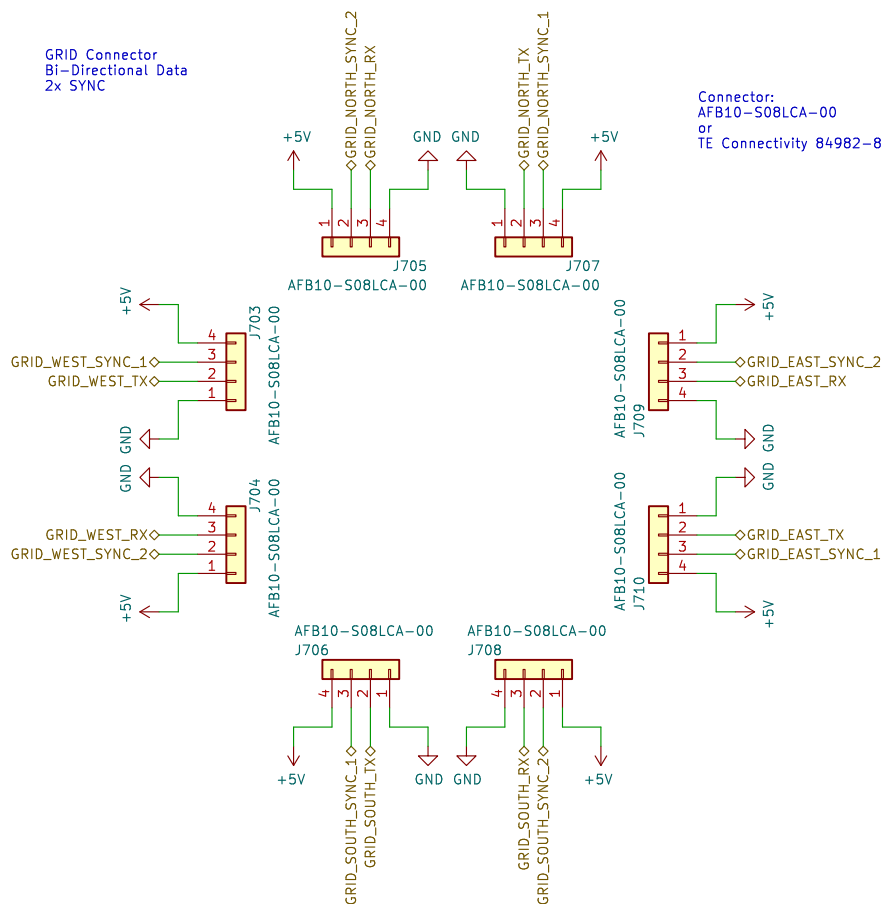
KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1

**Rev:**

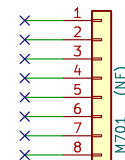
Id: 6/23



# 500



Board Mounting Pattern



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

**Title:**

Size: A4

Date:

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

**Rev:**

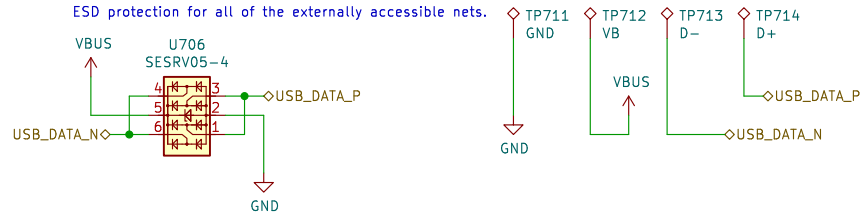
Id: 8/23



# 600

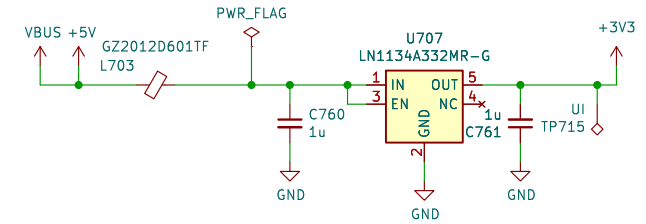
## ESD Diodes

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

GND

+3V3

DATA\_IND

U801  
74HC165

10 SI  
11 D0  
12 D1  
13 D2  
14 D3  
3 D4  
4 D5  
5 D6  
6 D7

HWCFG\_HIGH  
HWCFG\_HIGH  
HWCFG\_LOW  
HWCFG\_LOW  
HWCFG\_LOW  
HWCFG\_HIGH

HWCFG\_CLOCKD  
HWCFG\_SHIFTD

2 CLK  
15 INH  
1 SH/LD

GND

+3V3

HWCFG\_DATA

9 Q  
7 X

+3V3

HWCFG\_HIGH

C801  
100n

HWCFG\_LOW

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



Sheet: /UI\_ENC/ENCODER\_0/  
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: 11/23



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

**Title:**

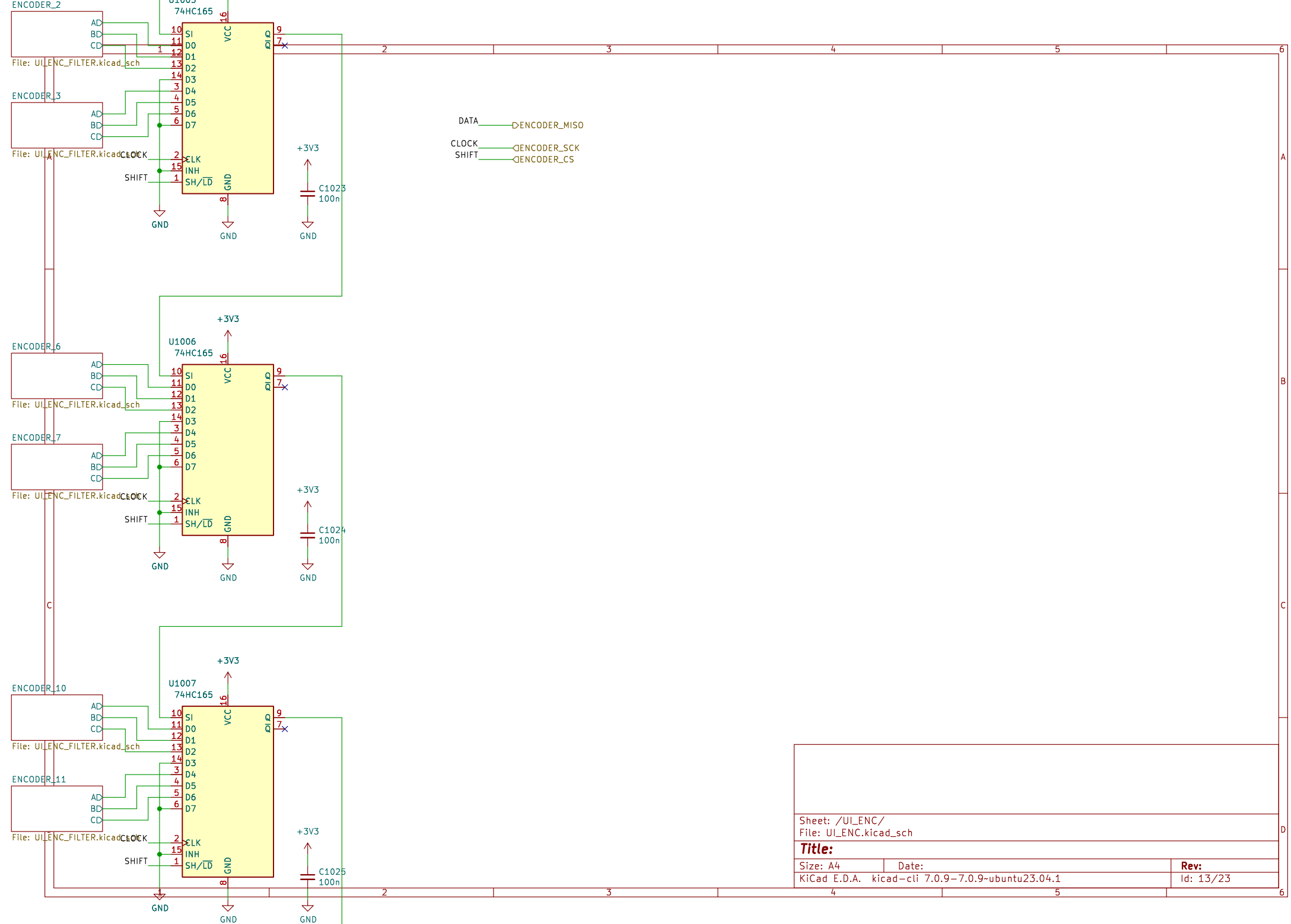
Size: A4

Date:

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

Rev:

Id: 12/23



Sheet: /UI_ENC/ File: UI_ENC.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: 13/23



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

**Title:**

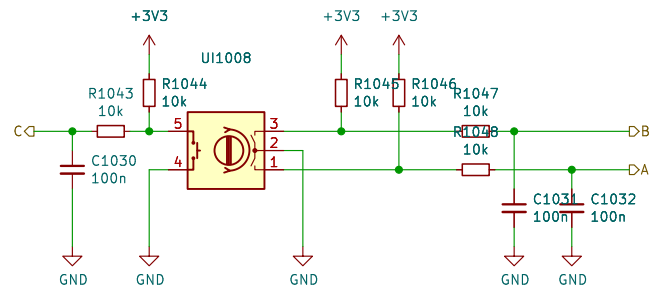
Size: A4

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:**

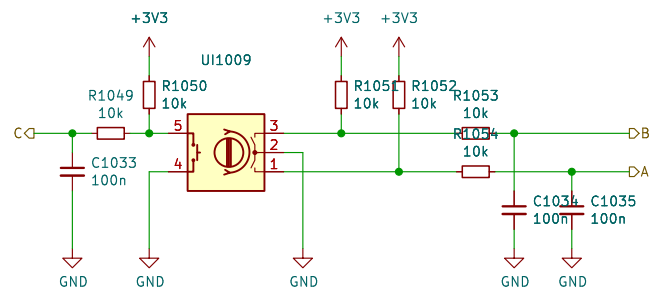
Size: A4

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

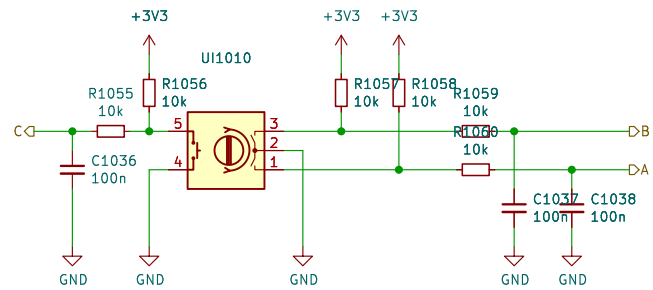
Date:

Rev:

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

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Sheet: /UI\_ENC/ENCODER\_14/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

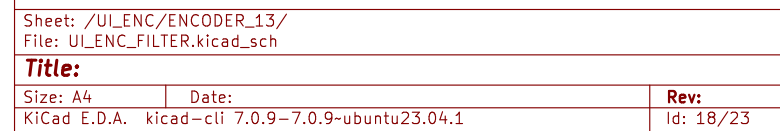
Size: A4

Date:

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

Rev:

Id: 17/23





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:**

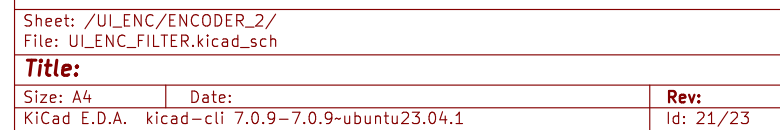
Size: A4

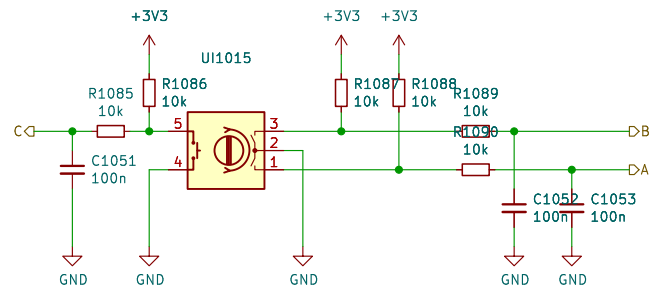
Date:

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

**Rev:**

Id: 20/23





Sheet: /UI\_ENC/ENCODER\_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