

Sheet: /  
File: PCBA-EN16.kicad\_sch  
**Title:**  

Size: A3	Date:	<b>Rev:</b>
KiCad E.D.A.	kicad-cli 7.0.9-7.0.9-ubuntu23.04.1	Id: 1/23



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

Rev:

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# 900



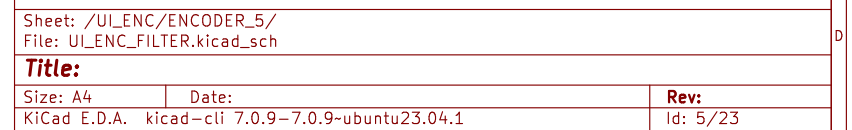
Sheet: /UI\_LED/  
File: UI\_LED.kicad\_sch

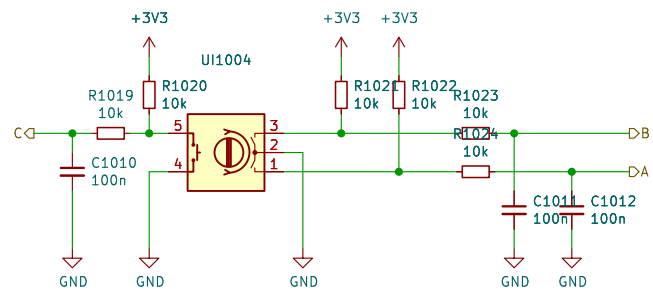
**Title:**

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

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

**Title:**

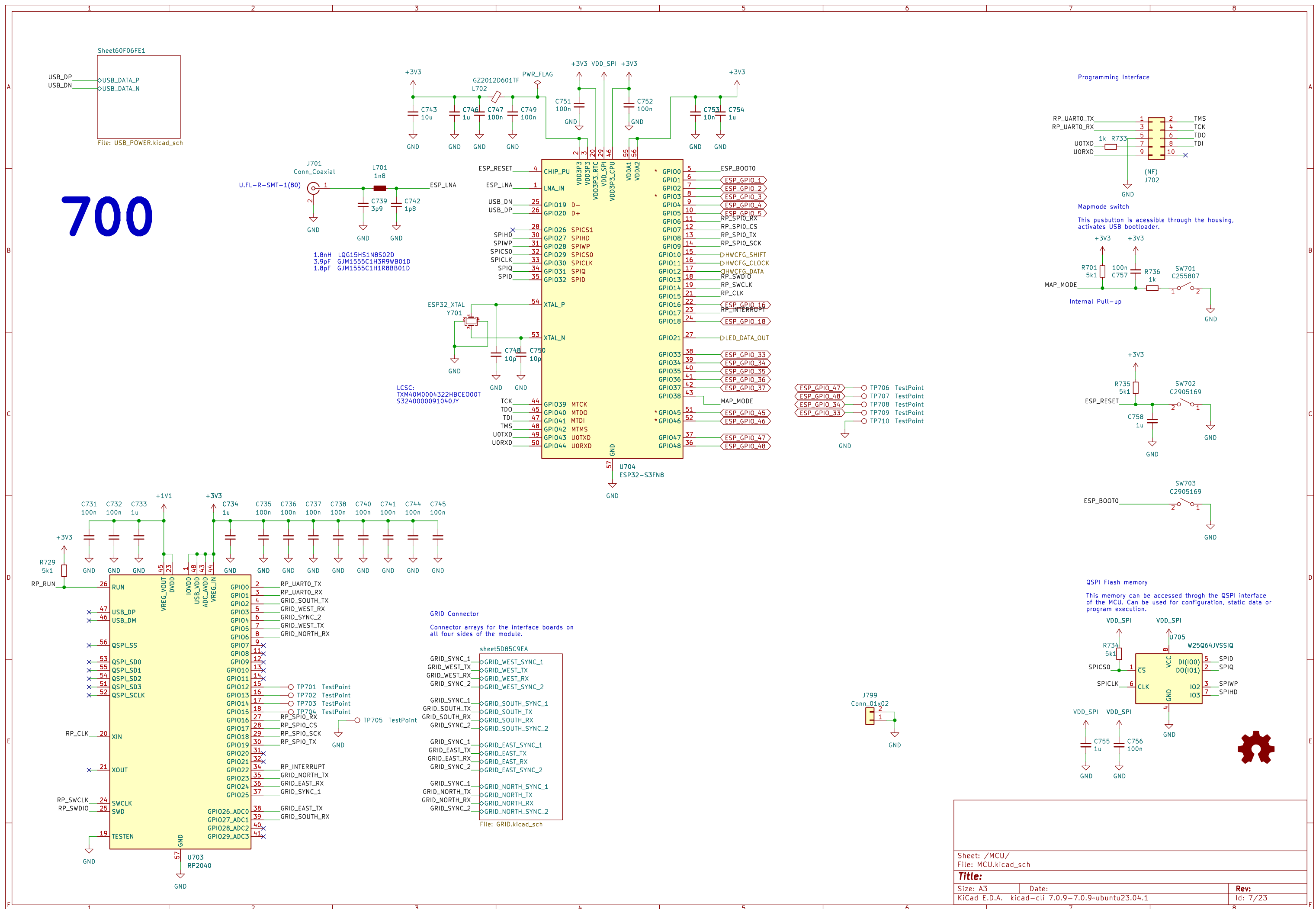
Size: A4

Date:

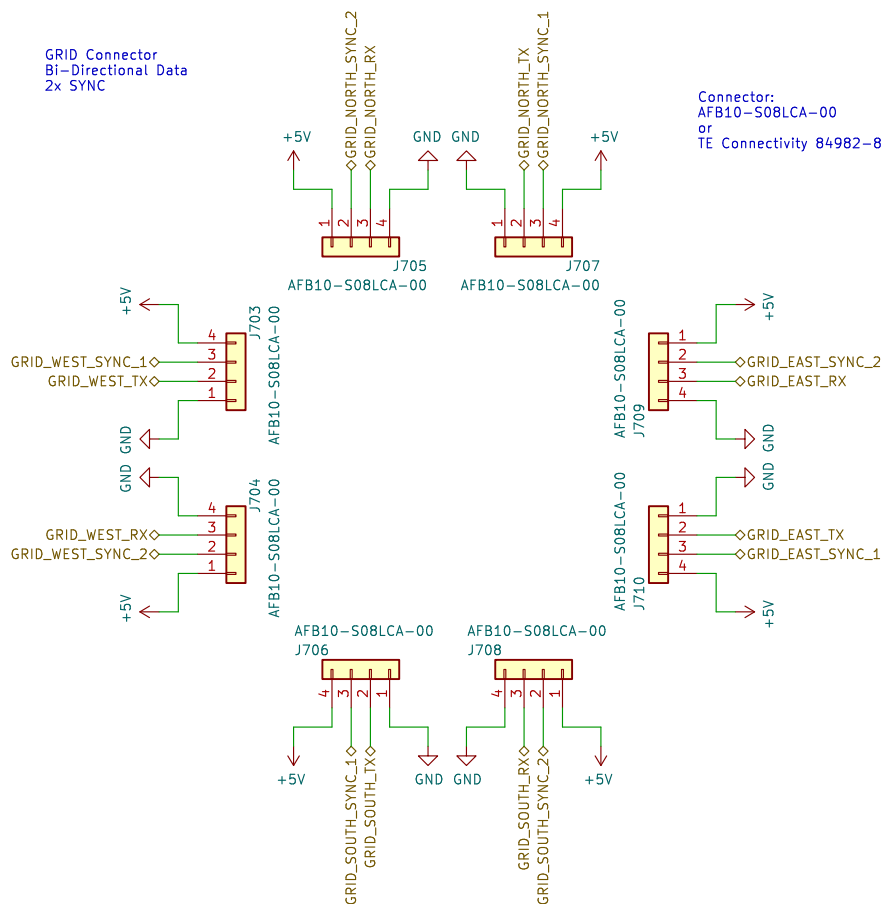
KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1

**Rev:**

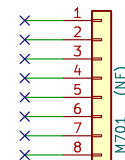
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# 500



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

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600

ESD Diodes

ESD protection for all of the externally accessible nets.

U706  
SESRV05-4

VBUS

USB\_DATA\_N

USB\_DATA\_P

GND

TP711  
GND

TP712  
VB

TP713  
D-

TP714  
D+

USB\_DATA\_P

USB\_DATA\_N

+3V3 LDO Regulators

Regulators for generating independent power rails for the microcontroller and the user interface.

VBUS +5V

GZ2012D601TF  
L703

PWR\_FLAG

U707  
LN1134A332MR-G

IN

EN

OUT

NC

GND

C760  
1u

C761  
1u

TP715

+3V3

UI

J711  
USB\_C\_TYPE-C-32-M-12

VBUS

VBUS

CC1

CC2

D-

D-

D+

D+

SBU1

SBU2

SHIELD

SHIELD

SHIELD

GND

GND

A9B4

A4B9

A5

B5

A7

B7

A6

B6

A8

BB

A1B12

A12B1

PWR\_FLAG

GND

GND

5k1

5k1

R738

R739

C759  
4n7

R737  
1M

GND

GND

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

Title:

Size: A4 Date: Rev:

KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1 Id: 9/23

<b>Title:</b>		
Size: A4	Date:	Rev:
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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

C801  
100n

HWCFG\_HIGH

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:
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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:**

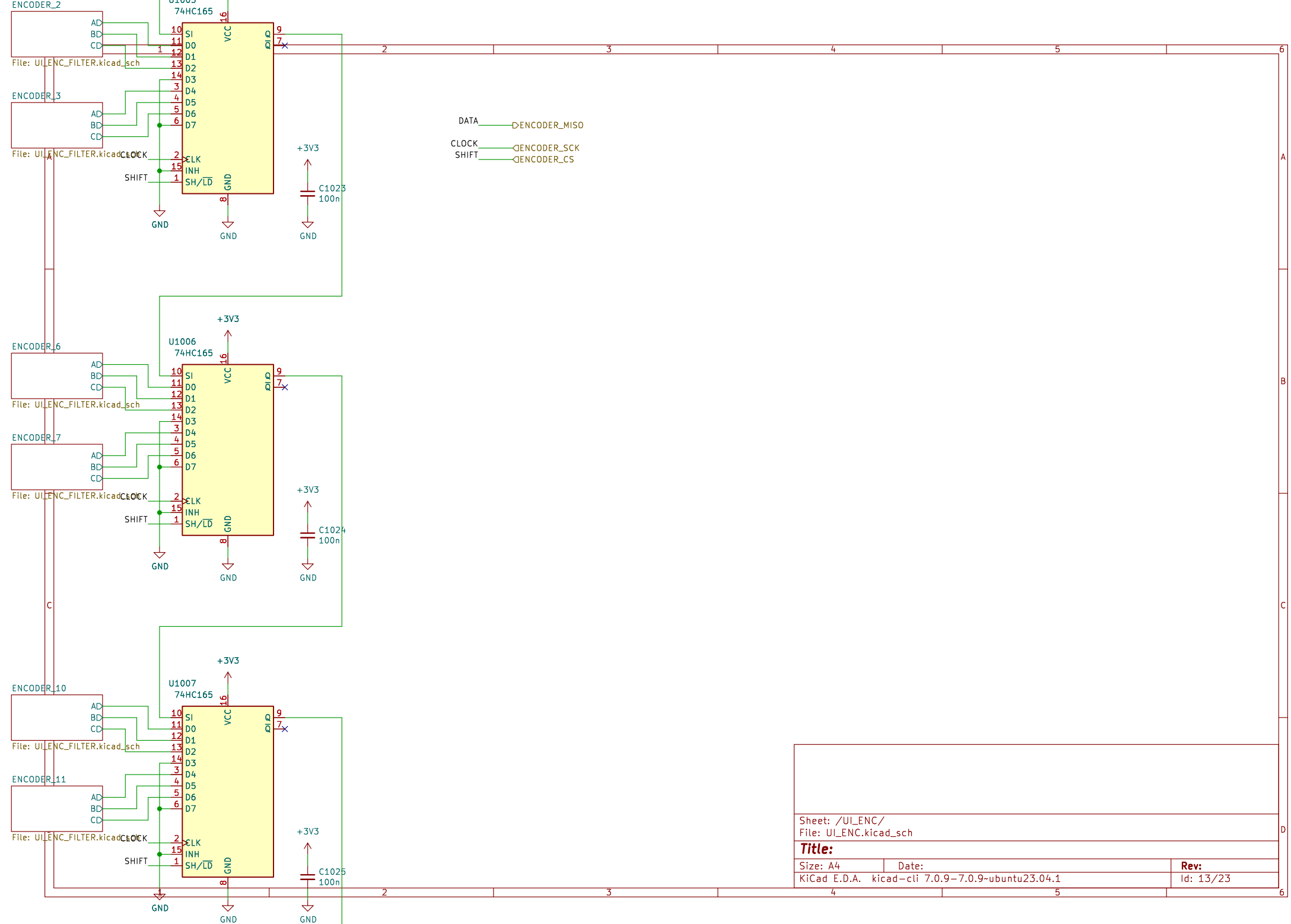
Size: A4

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:**

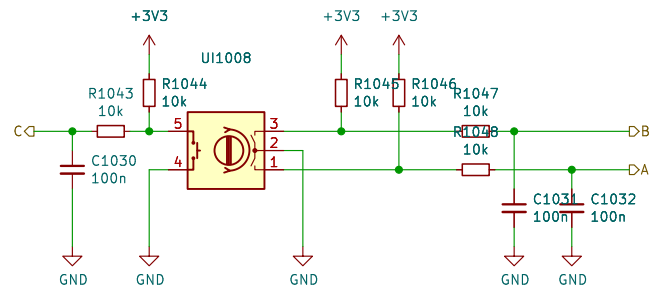
Size: A4

Date:

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

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

**Title:**

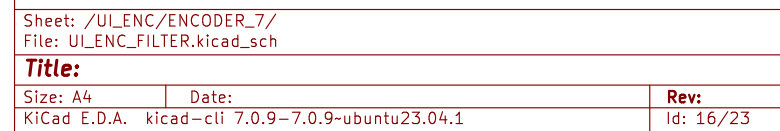
Size: A4

Date:

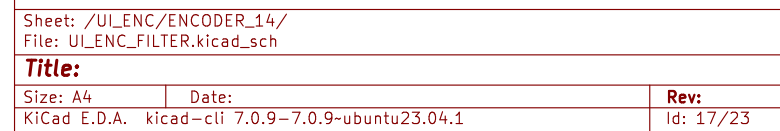
KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1

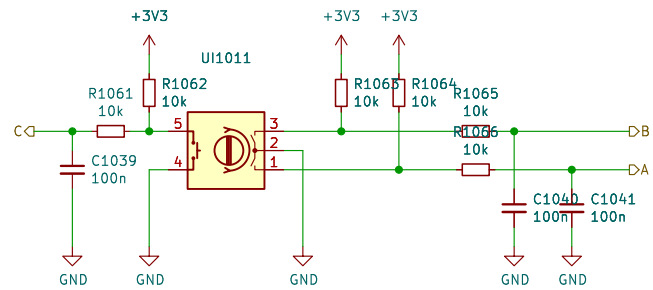
Rev:

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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:

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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:**

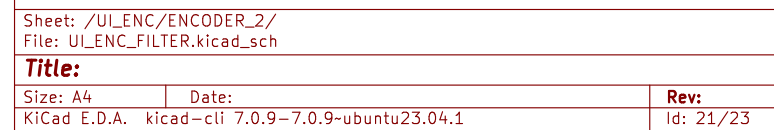
Size: A4

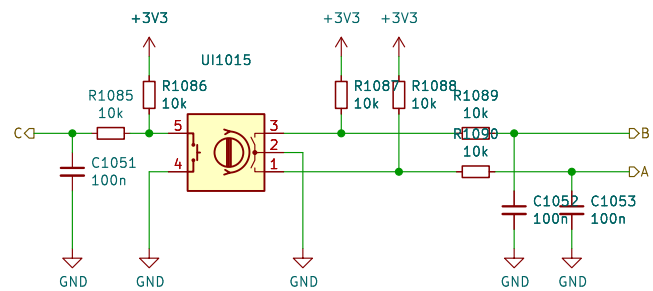
Date:

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:**

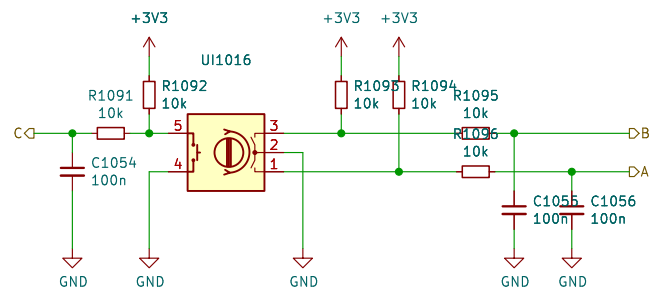
Size: A4

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:

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