

Sheet: /		
File: PCBA-EF44.kicad_sch		
<b>Title:</b>		
Size: A3	Date:	Rev:
KiCad E.D.A. kicad-cli 7.0.11+1		Id: 1/11
	7	8

# 900



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

**Title:**

Size: A4  
KiCad E.D.A. kicad-cli 7.0.11+1

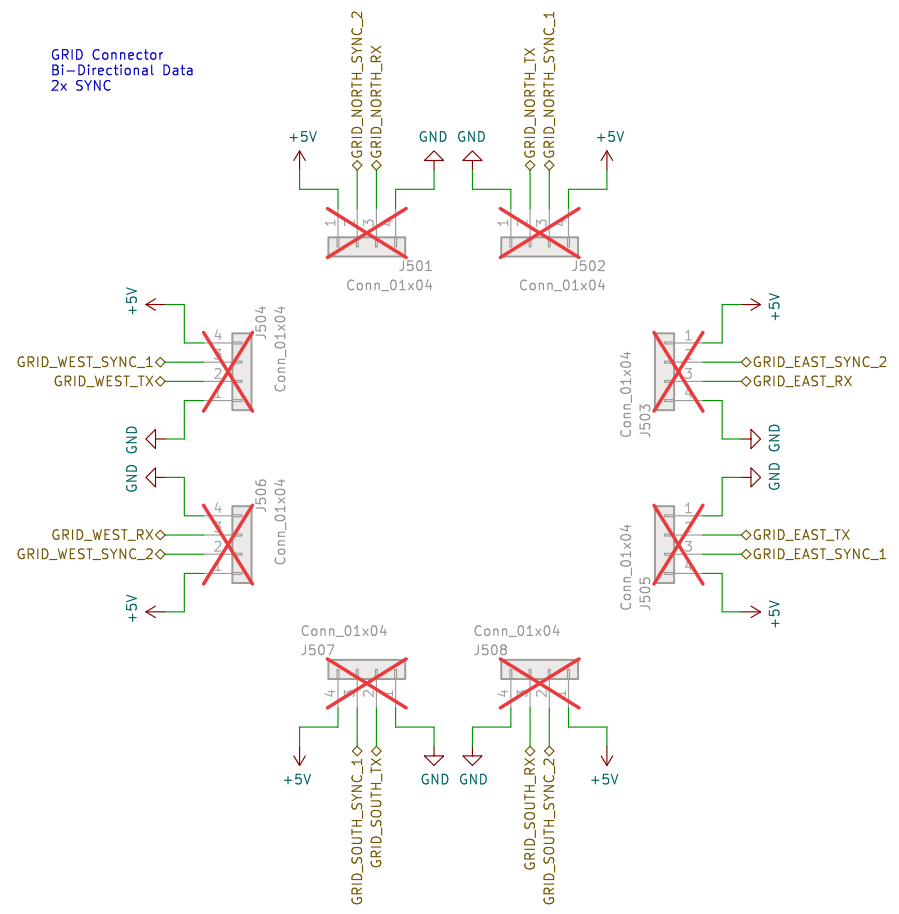
Date:

**Rev:**  
Id: 4/11

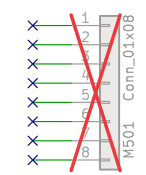


# 500

GRID Connector  
Bi-Directional Data  
2x SYNC



Board Mounting Pattern



Sheet: /MCU/sheet5D85C9EA/ File: GRID.kicad_sch		
<b>Title:</b>		
Size: A4	Date:	Rev:
KiCad E.D.A. kicad-cli 7.0.11+1		Id: 8/11

600

ESD Diodes  
ESD protection for all of the externally accessible nets.

TP601 GND  
TP602 VB  
TP603 D-  
TP604 D+  
USB\_DATA\_P  
USB\_DATA\_N  
VBUS  
GND

+3V3 LDO Regulators  
Regulators for generating independent power rails for the microcontroller and the user interface.

VBUS +5V  
GZ2012D601TF L601  
PWR\_FLAG  
C601 1u  
U602 LN1134A332MR-G  
IN EN  
OUT NC  
GND  
C602 1u  
TP605 UI  
+3V3  
GND

J601 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  
R601 5k1  
R602 5k1  
C603 4n7  
R603 1M  
GND  
GND

Sheet: /MCU/Sheet60F06FE1/ File: USB_POWER.kicad_sch		
<b>Title:</b>		
Size: A4	Date:	Rev:
KiCad E.D.A.	kicad-cli 7.0.11+1	Id: 9/11

ESD protection for all of the externally accessible nets.



Size: A4

KiCad E.D.A.	kiCad-cli 7.0.11+1
--------------	--------------------

Id: 9/11

**800**

OPEN IF EN16  
CLOSED IF NO DETENT

+3V3

JP801 (NF)

R801 5k1

GND

HWCFG\_LOW

HWCFG\_LOW

HWCFG\_HIGH

HWCFG\_LOW

HWCFG\_LOW

HWCFG\_HIGH

HWCFG\_CLOCKD

HWCFG\_SHIFTD

U801 74HC165

VCC

+3V3

HWCFG\_DATA

HWCFG\_HIGH

C801 100n

HWCFG\_LOW

GND

### Board Identification

Grid firmware can identify the hardware and the board revision thorough 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		
<b>Title:</b>		
Size: A4	Date:	Rev:
KiCad E.D.A.	kicad-cli 7.0.11+1	Id: 10/11

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 7.0.11+1	Id: 10/11



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

**Title:**

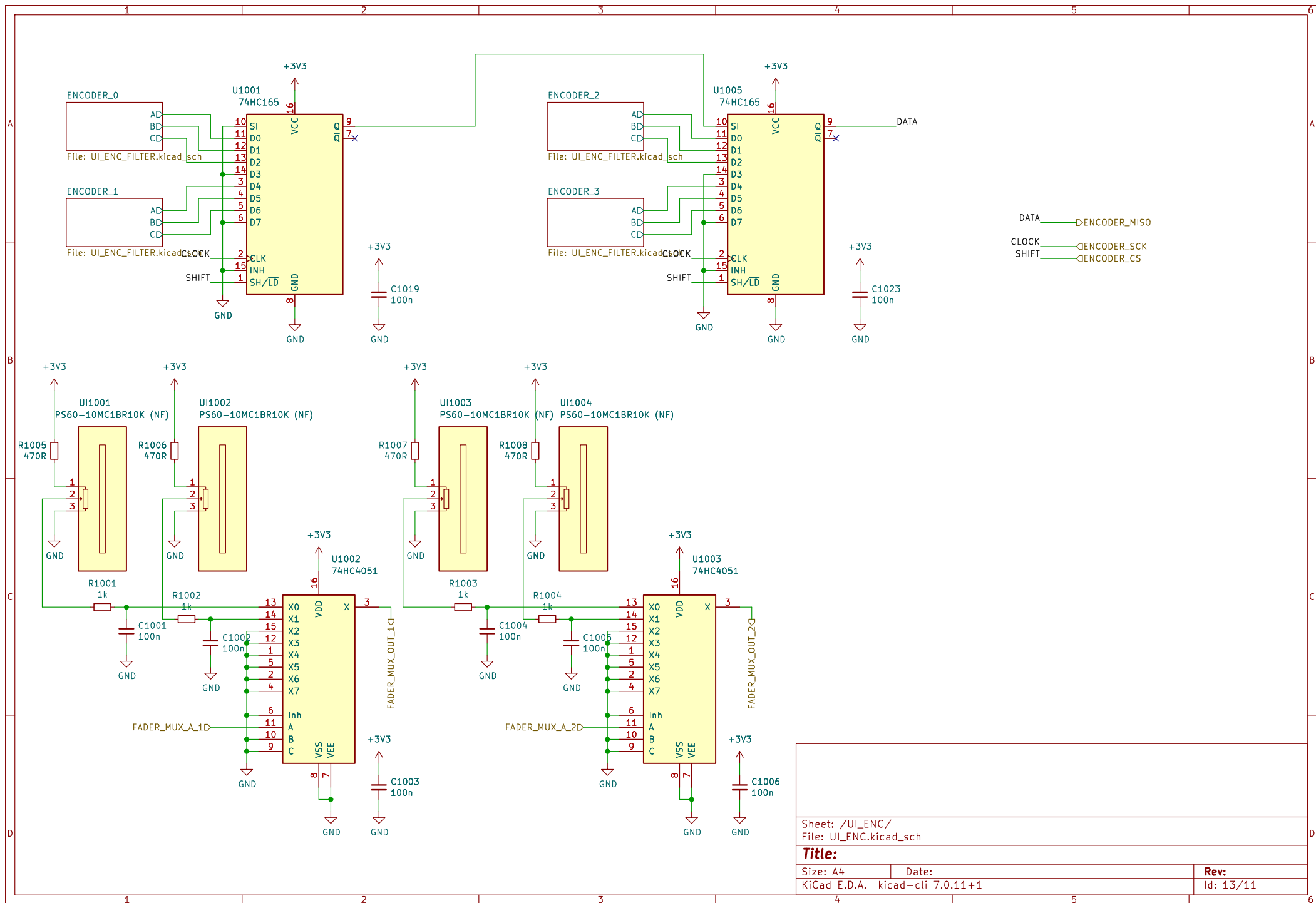
Size: A4

Date:

KiCad E.D.A. kicad-cli 7.0.11+1

**Rev:**

Id: 11/11





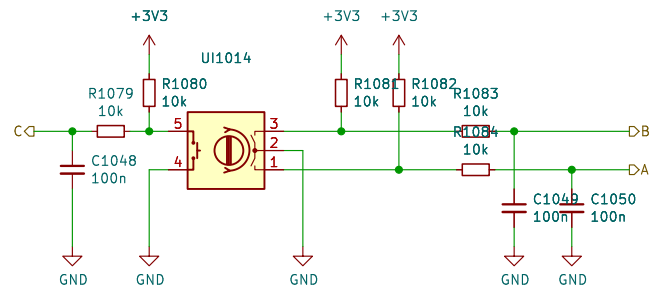




Sheet: /UI\_ENC/ENCODER\_1/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

Size: A4	Date:	Rev:
KiCad E.D.A. kicad-cli 7.0.11+1		Id: 15/11



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

**Title:**

Size: A4

Date:

KiCad E.D.A. kicad-cli 7.0.11+1

**Rev:**

Id: 21/11