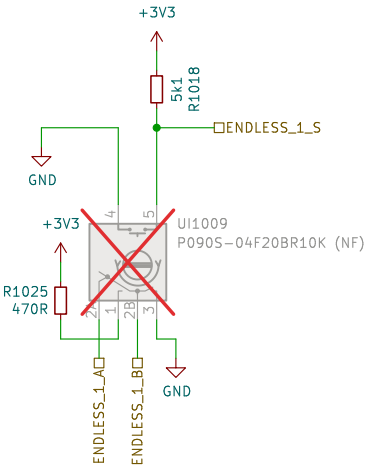
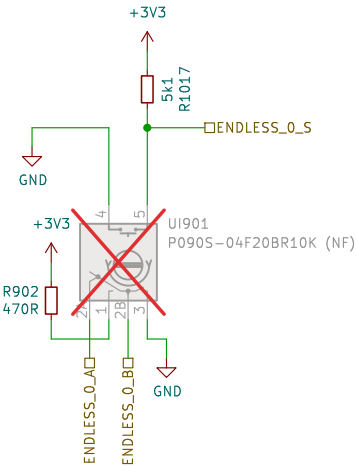


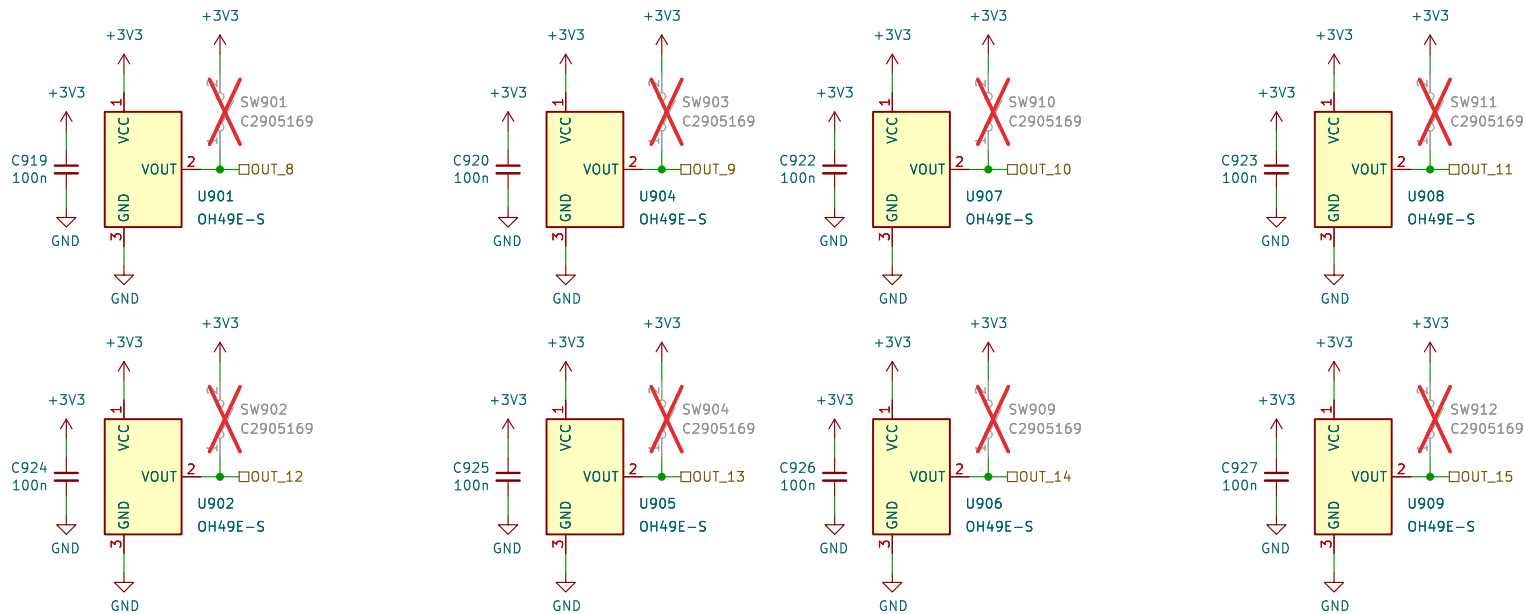
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Sheet: /UI_POT_BTN/ File: UI_POT_BTN.kicad_sch		
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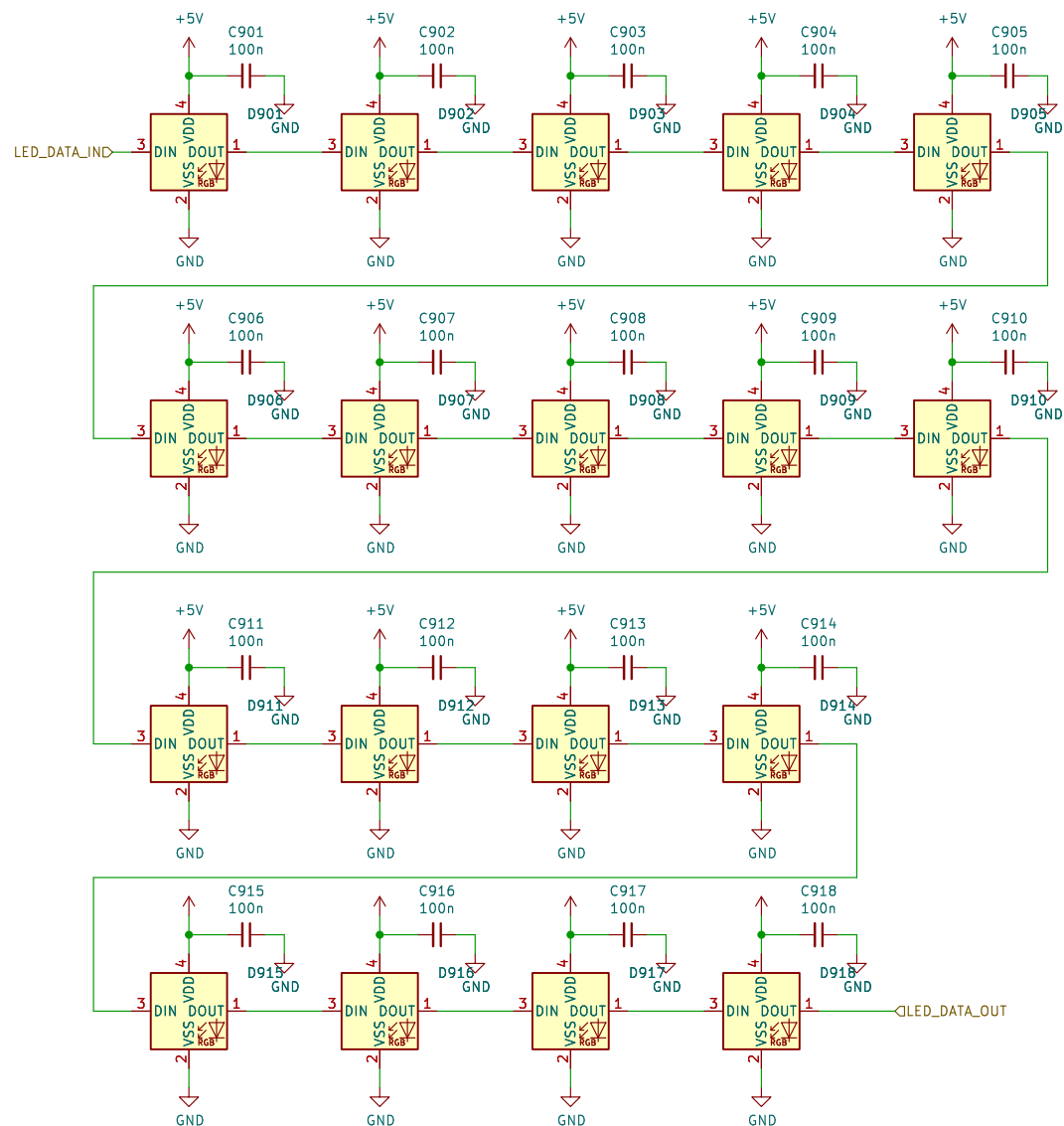
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Simulation:
<http://tinyurl.com/y229mt4>



Sheet: /UI_BUTTON/ File: UI_BUTTON.kicad_sch		
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900



Sheet: /UI_LED/
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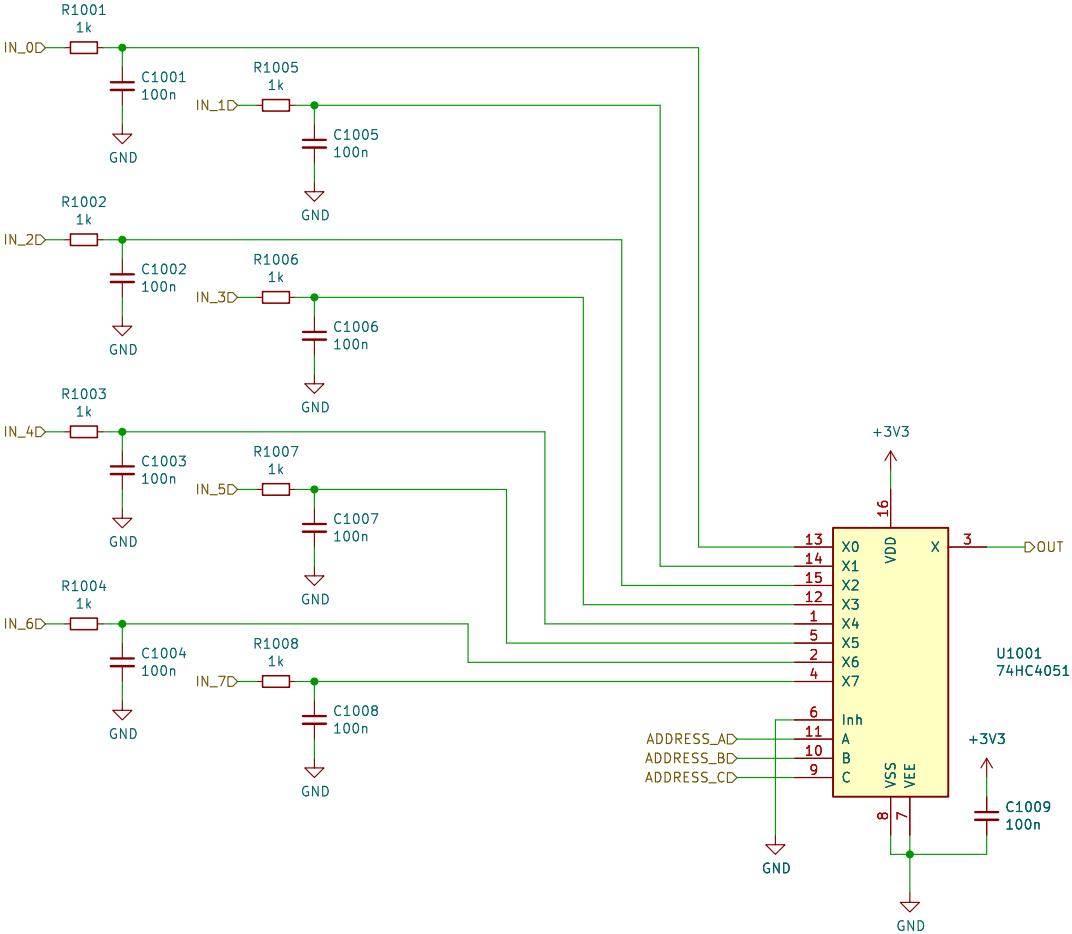
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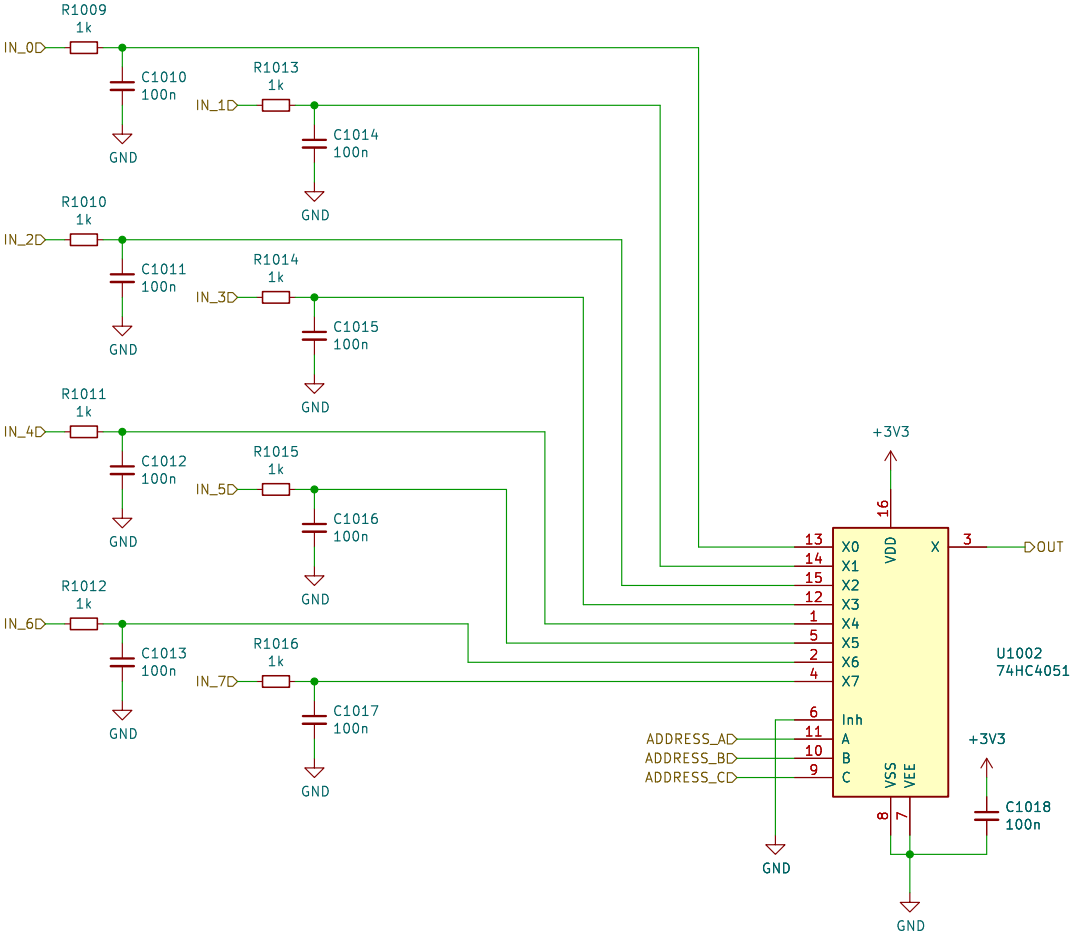
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1000



1000



700

USB_POWER

USB_DP
USB_DN
U0TXD
U0RXD
ESP_RESET
ESP_BOOT0

File: USB_POWER.kicad_sch

Power Regulation

+3V3
GND
C743 10u
C746 1u
C747 100n
C749 100n
L702
PWR_FLAG
+3V3
VDD_SPI
+3V3
GND
C751 100n
C752 100n
C753 10n
C754 1u

Programming Interface

RP_UART0_TX
RP_UART0_RX
U0TXD
U0RXD

Conn_02x05_Odd_Even
J702

Mapmode switch

This pushbutton is accessible through the housing, activates USB bootloader.

+3V3
+3V3
R701 5k1
100n
C757
R736 1k
SW701 C255807

Internal Pull-up

+3V3
GND
R735 5k1
C758 1u
ESP_RESET
SW702 C2905169

QSPI Flash memory

This memory can be accessed through the QSPI interface of the MCU. Can be used for configuration, static data or program execution.

VDD_SPI
VDD_SPI
R734 5k1
C755 1u
C756 100n
GND
GND

Grid Connector

Connector arrays for the interface boards on all four sides of the module.

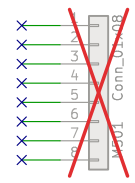
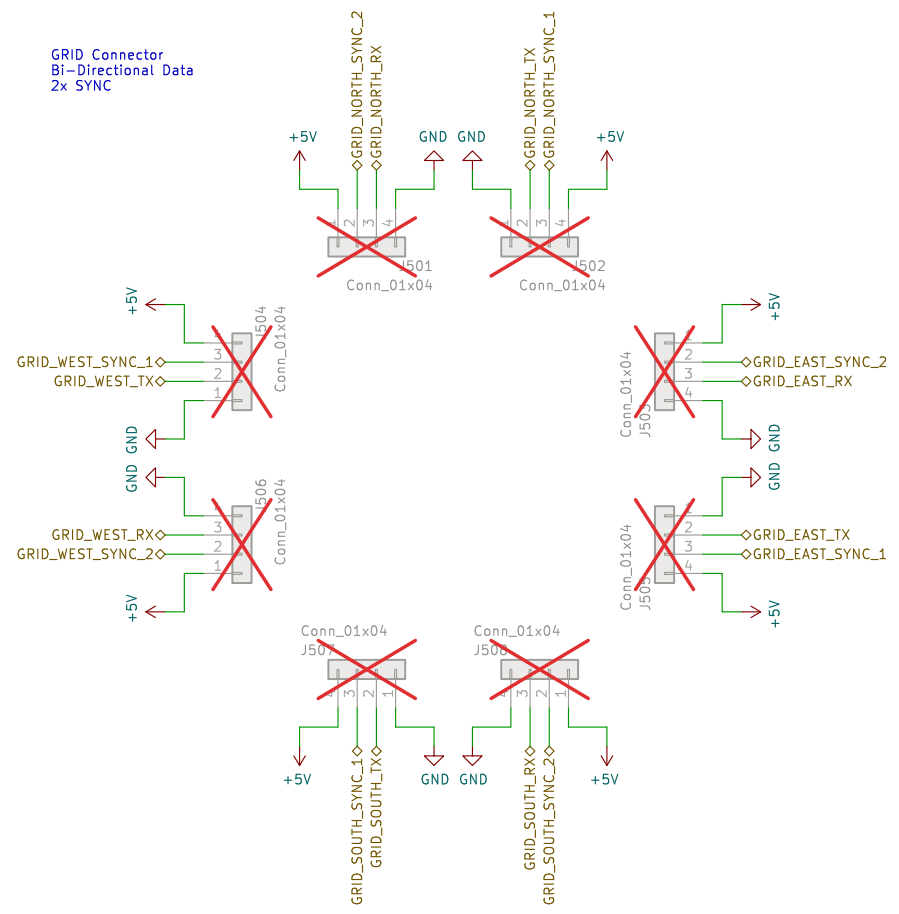
sheet5D85C9EA

GRID_SYNC_1
GRID_SYNC_2
GRID_SYNC_3
GRID_SYNC_4
GRID_SYNC_5
GRID_SYNC_6
GRID_SYNC_7
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GRID_SYNC_433
GRID_SYNC_434
GRID_SYNC

500

GRID Connector
Bi-Directional Data
2x SYNC

Board Mounting Pattern

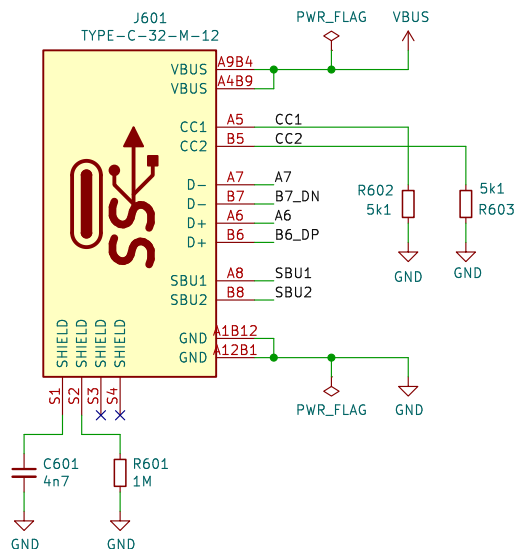


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Size: A4	Date:	Rev:
KiCad E.D.A. 9.0.6		Id: 8/22

600

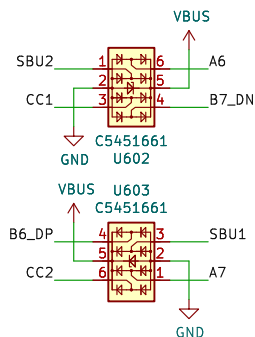
USB Port

USB C upstream facing port configured for 5V 3A power consumption.



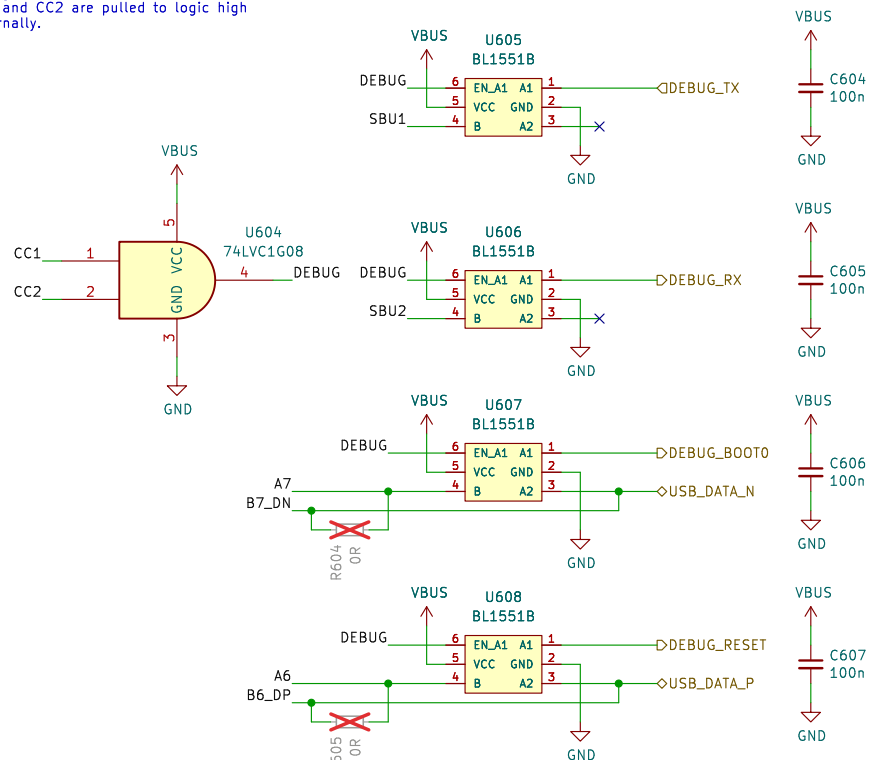
ESD Prot.

ESP protection for all 8 signals externally accessible via the USB C connector.



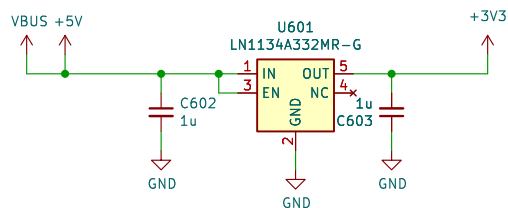
Debug-Mode Multiplexing

Debug.mode is activated when both CC1 and CC2 are pulled to logic high externally.

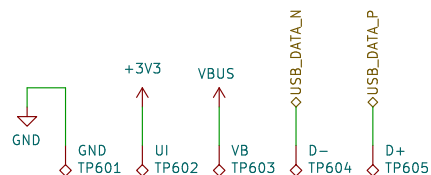


3V3 LDO

LDO regulator for generating the +3V3 power rail for the microcontroller and UI.



Testpoints



Sheet: /MCU/USB_POWER/
File: USB_POWER.kicad_sch

Title:

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KiCad E.D.A. 9.0.6

Date:

Rev:	
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Id: 9/22

800

RIGHT SCREEN

LEFT SCREEN

U801
74HC165

DATA_IND

HWCFCG_LOW

HWCFCG_HIGH

HWCFCG_LOW

HWCFCG_HIGH

HWCFCG_HIGH

HWCFCG_HIGH

HWCFCG_CLOCKD

HWCFCG_SHIFTD

+3V3

GND

+3V3

GND

+3V3

GND

HWCFCG_DATA

HWCFCG_HIGH

HWCFCG_LOW

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: /HWCFCG/ File: HWCFCG.kicad_sch		
Title:		
Size: A4	Date:	Rev:
KiCad E.D.A. 9.0.6		Id: 10/22

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)

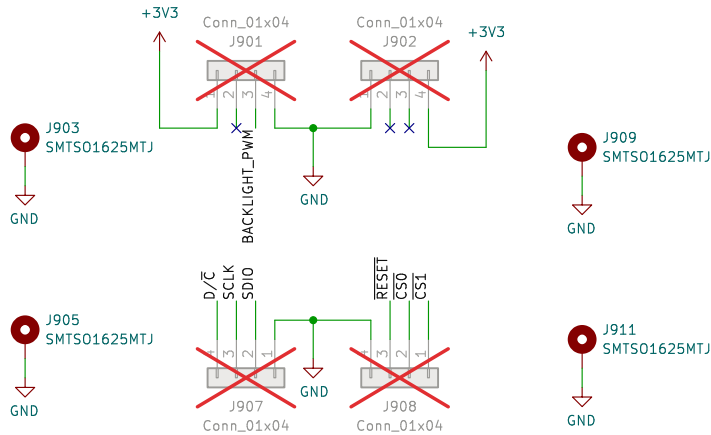
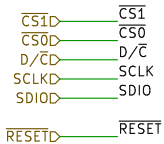
Po16	0000
Bo16	0001
PBF4	0010
EN16	0011
...	

```
RevA 0000
RevB 0001
RevC 0010
RevD 0011
...
```

Sheet: /HWCFG/		D
File: HWCFG.kicad_sch		
Title:		
Size: A4	Date:	Rev:
KiCad E.D.A. 9.0.6		Id: 10/22

1000

BACKLIGHT \square BACKLIGHT_PWM



Sheet: /UI_DISPLAY/
File: UI_DISPLAY.kicad_sch

Title:

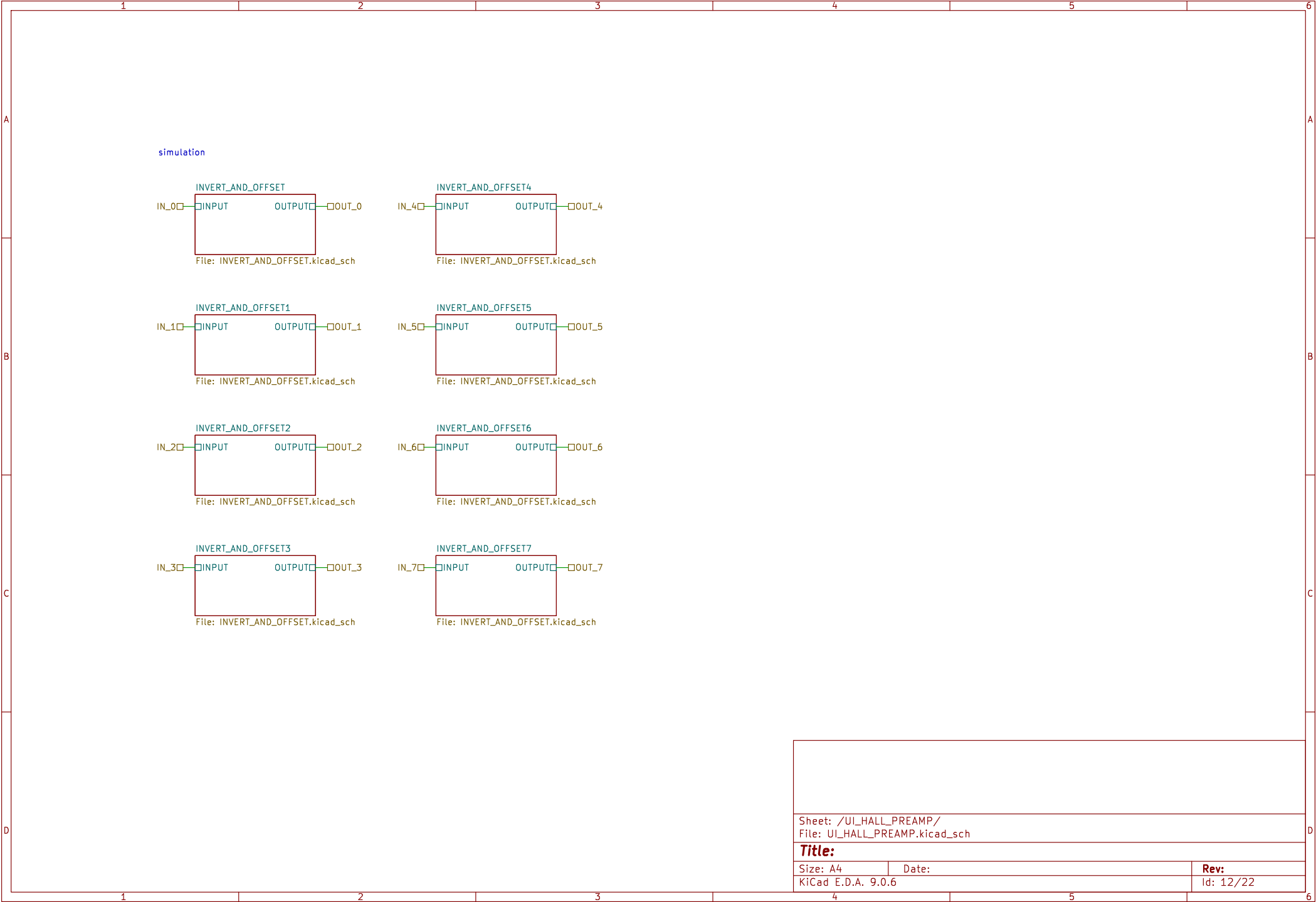
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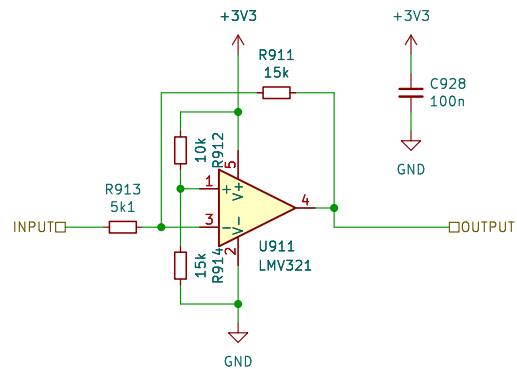
Date:

KiCad E.D.A. 9.0.6

Rev:

Id: 11/22





Sheet: /UI_HALL_PREAMP/INVERT_AND_OFFSET/
File: INVERT_AND_OFFSET.kicad_sch

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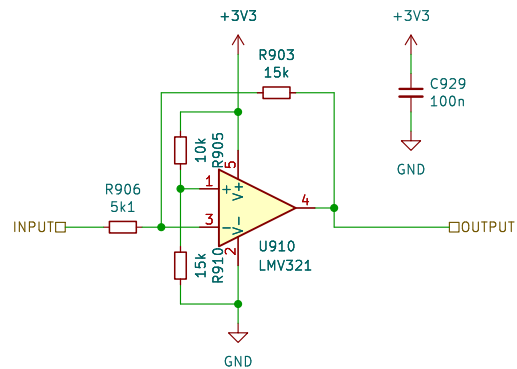
Size: A4

Date:

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KiCad E.D.A. 9.0.6

Id: 13/22



Sheet: /UI_HALL_PREAMP/INVERT_AND_OFFSET1/
File: INVERT_AND_OFFSET.kicad_sch

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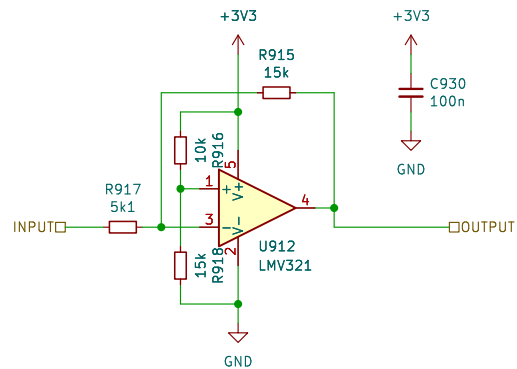
Size: A4

Date:

Rev:

KiCad E.D.A. 9.0.6

Id: 14/22



Sheet: /UI_HALL_PREAMP/INVERT_AND_OFFSET2/
File: INVERT_AND_OFFSET.kicad_sch

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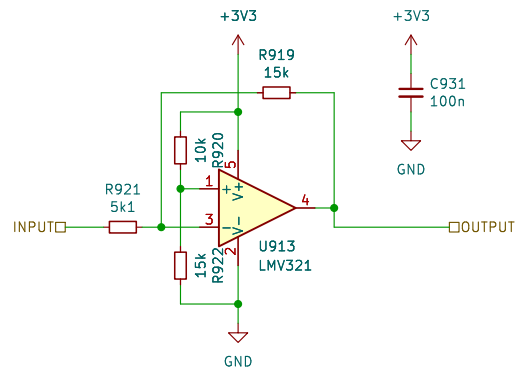
Size: A4

Date:

Rev:

KiCad E.D.A. 9.0.6

Id: 15/22



Sheet: /UI_HALL_PREAMP/INVERT_AND_OFFSET3/
File: INVERT_AND_OFFSET.kicad_sch

Title:

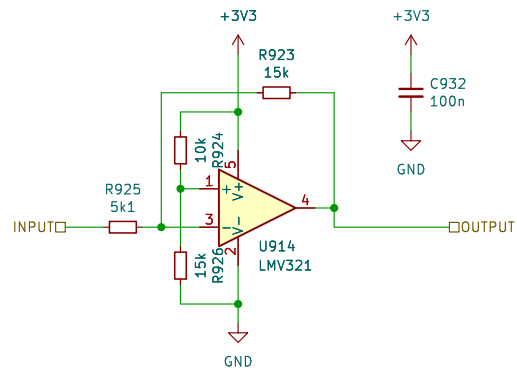
Size: A4

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Rev:

KiCad E.D.A. 9.0.6

Id: 16/22



Sheet: /UI_HALL_PREAMP/INVERT_AND_OFFSET4/
File: INVERT_AND_OFFSET.kicad_sch

Title:

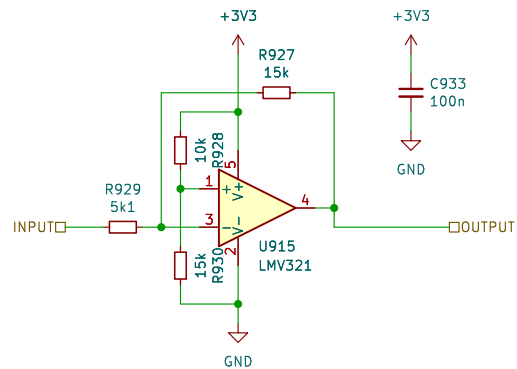
Size: A4

Date:

Rev:

KiCad E.D.A. 9.0.6

Id: 17/22



Sheet: /UI_HALL_PREAMP/INVERT_AND_OFFSET5/
File: INVERT_AND_OFFSET.kicad_sch

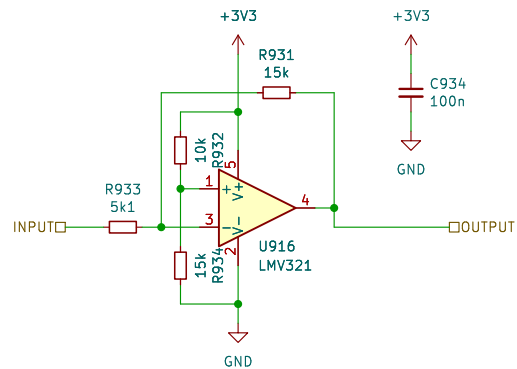
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Size: A4 Date:

KiCad E.D.A. 9.0.6

Rev:

Id: 18/22



Sheet: /UI_HALL_PREAMP/INVERT_AND_OFFSET6/
File: INVERT_AND_OFFSET.kicad_sch

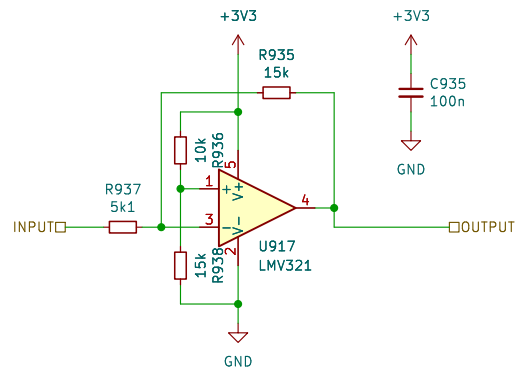
Title:

Size: A4
KiCad E.D.A. 9.0.6

Date:

Rev:

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Sheet: /UI_HALL_PREAMP/INVERT_AND_OFFSET7/
File: INVERT_AND_OFFSET.kicad_sch

Title:

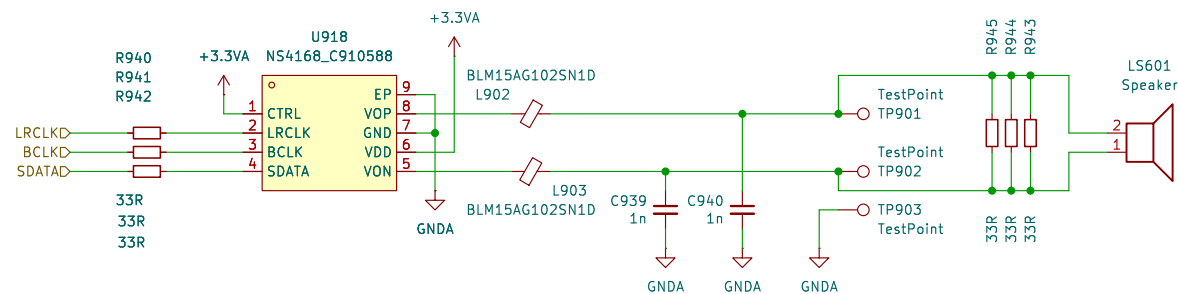
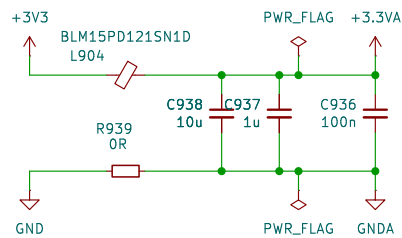
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Sheet: /AUDIO/
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