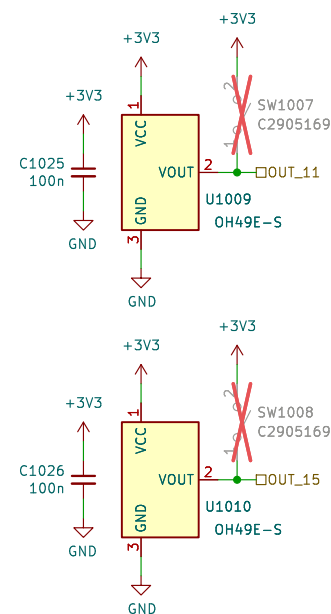
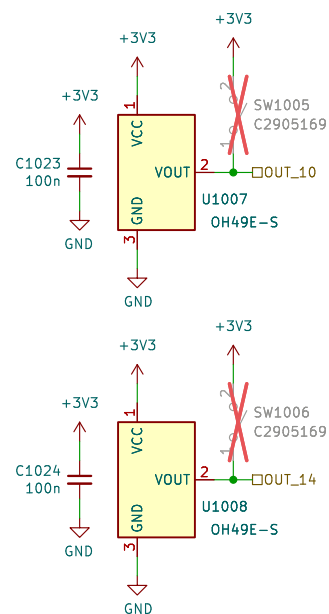
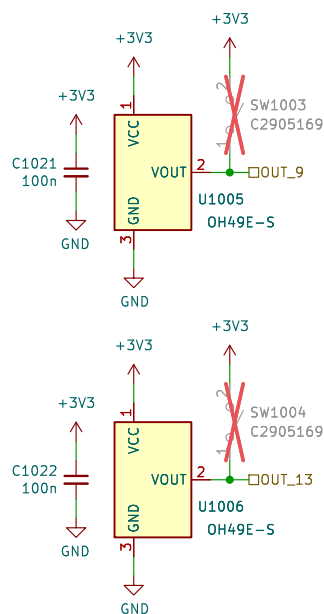
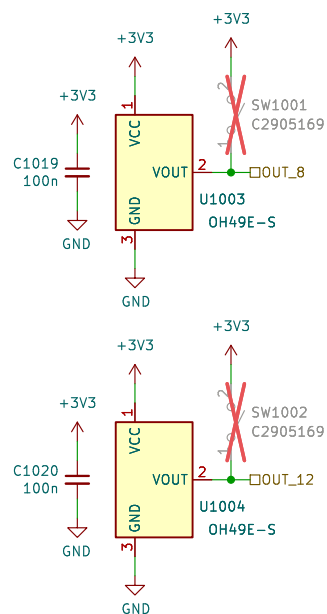


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<http://tinyurl.com/y229mt4>



Sheet: /UI_BUTTON/
File: UI_BUTTON.kicad_sch

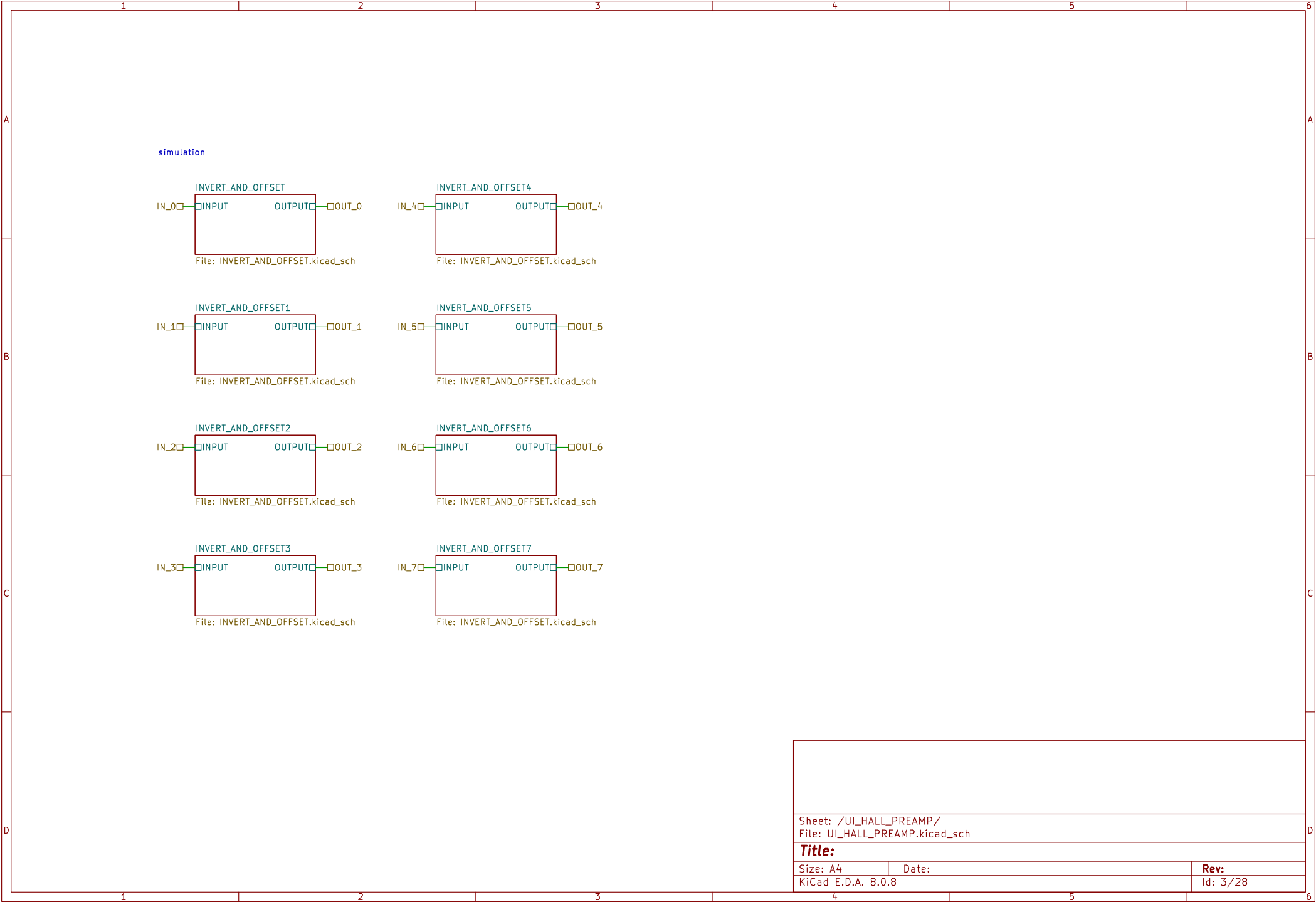
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| Size: A4 | |
| KiCad E.D.A. 8.0.8 | |

Date:

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| Rev: | |
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900



Sheet: /UI_LED/
File: UI_LED.kicad_sch

Title:

Size: A4
KiCad E.D.A. 8.0.8

Date:

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Id: 4/28

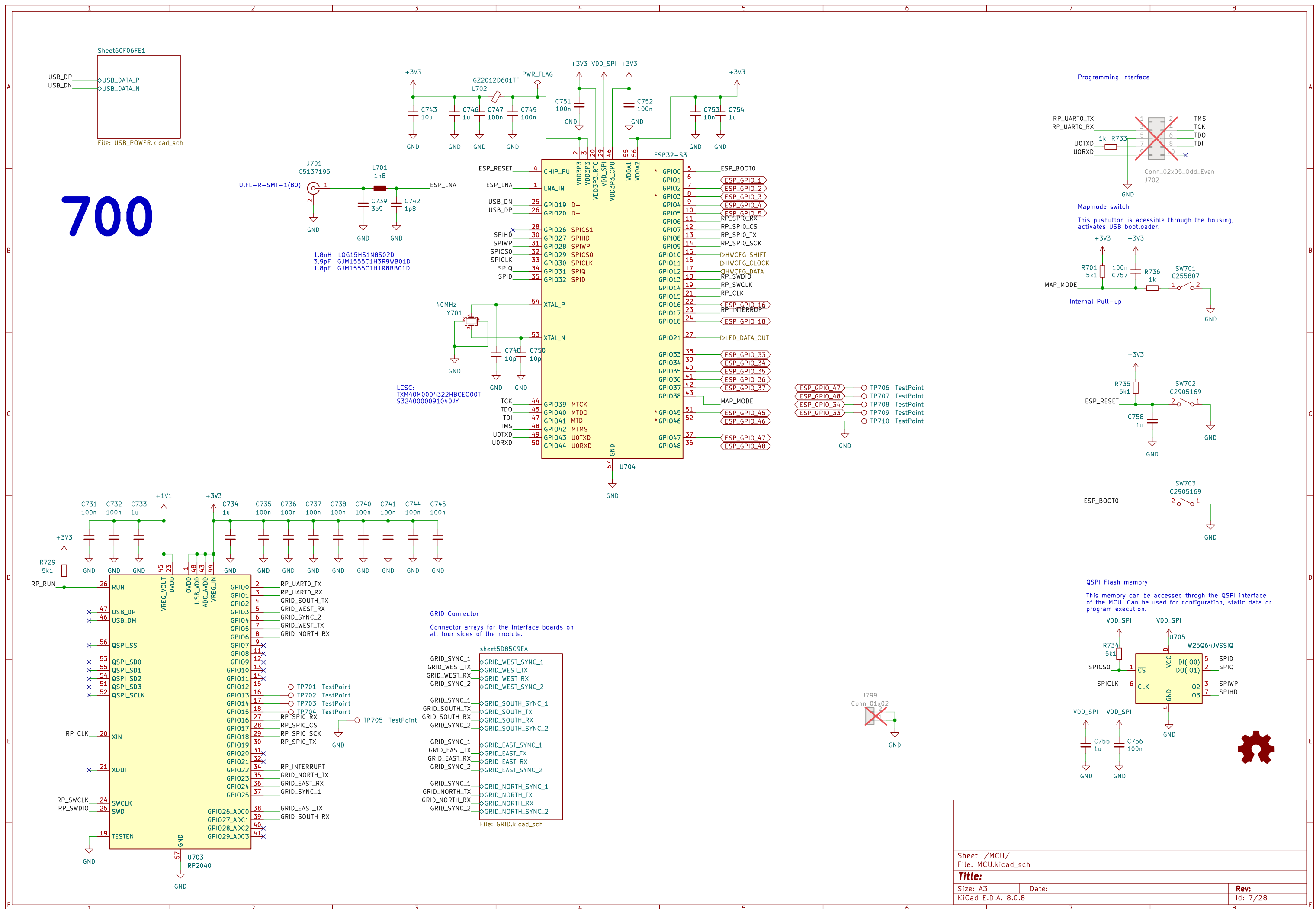
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1000

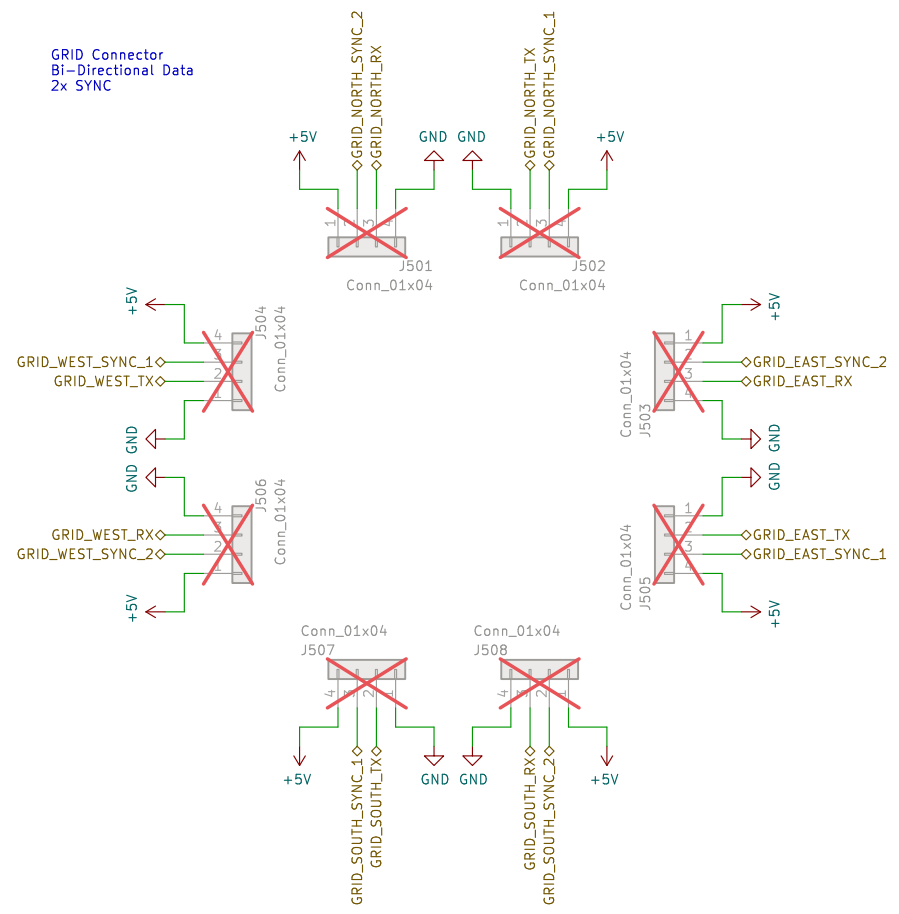


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| Sheet: /sheet5D8763D6/ File: UI_MUX.kicad_sch | | |
| Title: | | |
| Size: A4 | Date: | Rev: |
| KiCad E.D.A. 8.0.8 | Id: 6/28 | |

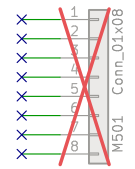


500

GRID Connector
Bi-Directional Data
2x SYNC



Board Mounting Pattern



| | | |
|--|----------|------|
| Sheet: /MCU/sheet5D85C9EA/ File: GRID.kicad_sch | | |
| Title: | | |
| Size: A4 | Date: | Rev: |
| KiCad E.D.A. 8.0.8 | Id: 8/28 | |

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.

Components and Connections:

- J601 (TYPE-C-32-M-12):** USB Type-C connector. Pins A9B4, A4B9, A5, B5, A7, B7, A6, B6, A8, BB, A1B12, A12B1, and shields S1, S2, S3, S4 are shown. S1 and S2 are connected to GND via C603 (4n7). S3 and S4 are connected to GND via R603 (1M).
- U601 (C5451661):** ESD protection diodes for USB_DATA_N, USB_DATA_P, and VBUS.
- TP601, TP602, TP603, TP604:** Test points for GND, VBUS, and USB_DATA_N/P.
- U602 (LN1134A332MR-G):** 3V3 LDO regulator. Input is VBUS +5V (via GZ2012D601TF L601). Output is +3V3. EN pin is connected to PWR_FLAG. GND pin is connected to GND. NC pin is connected to GND. UI pin is connected to GND via C602 (1u).
- Other components:** R601 (5k1), R602 (5k1), C601 (1u), C603 (4n7), R603 (1M).

Sheet Information:

| | | |
|---|-------|----------|
| Sheet: /MCU/Sheet60F06FE1/ File: USB_POWER.kicad_sch | | |
| Title: | | |
| Size: A4 | Date: | Rev: |
| KiCad E.D.A. 8.0.8 | | Id: 9/28 |

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| Title: | | |
| Size: A4 | Date: | Rev: |
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800

U801
74HC165

+3V3

VCC

Q

HWCFG_DATA

+3V3

HWCFG_HIGH

C801
100n

HWCFG_LOW

GND

HWCFG_CLOCKD

HWCFG_SHIFTD

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: |
| KiCad E.D.A. 8.0.8 | | Id: 10/28 |

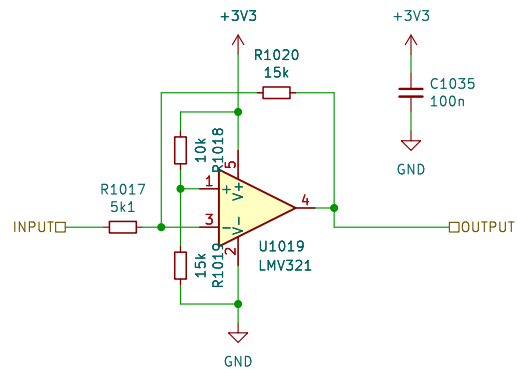
Grid firmware can identify the hardware and the board revision through a 3 wire serial interface using one or more shift register as read only memory. The content of the memory is defined by pulling the inputs high or low through pcb traces or solderable configuration jumpers.

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 | | | D |
| Title: | | | |
| Size: A4 | Date: | Rev: | |
| KiCad E.D.A. 8.0.8 | | Id: 10/28 | |



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

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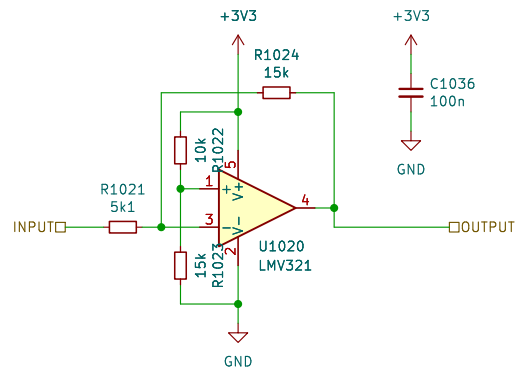
Size: A4

Date:

Rev:

KiCad E.D.A. 8.0.8

Id: 11/28



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

Title:

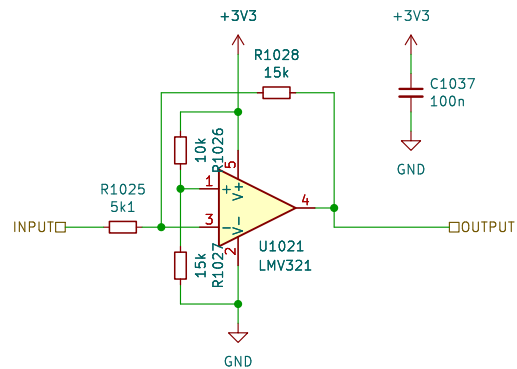
Size: A4

Date:

Rev:

KiCad E.D.A. 8.0.8

Id: 12/28



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

Title:

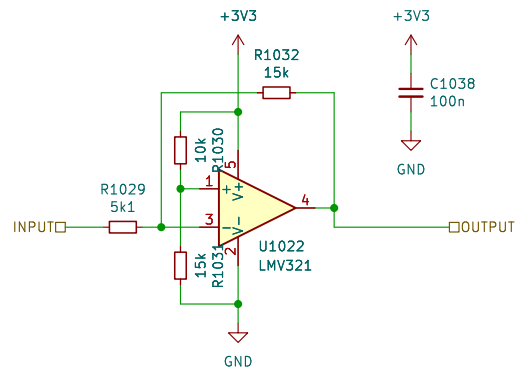
Size: A4

Date:

Rev:

KiCad E.D.A. 8.0.8

Id: 13/28



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

Title:

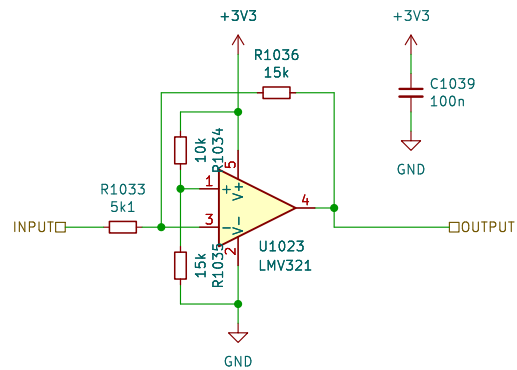
Size: A4

Date:

Rev:

KiCad E.D.A. 8.0.8

Id: 14/28



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

Title:

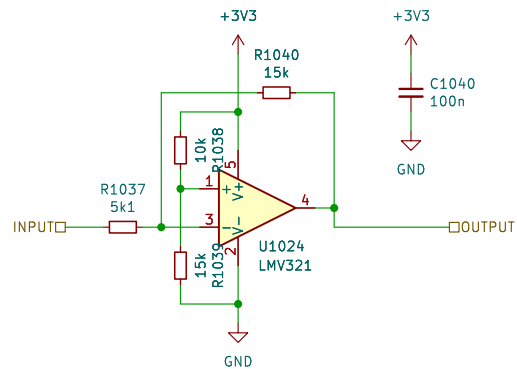
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Date:

Rev:

KiCad E.D.A. 8.0.8

Id: 15/28



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

Title:

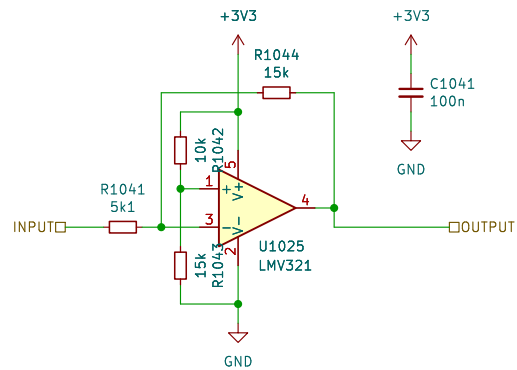
Size: A4

Date:

Rev:

KiCad E.D.A. 8.0.8

Id: 16/28



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

Title:

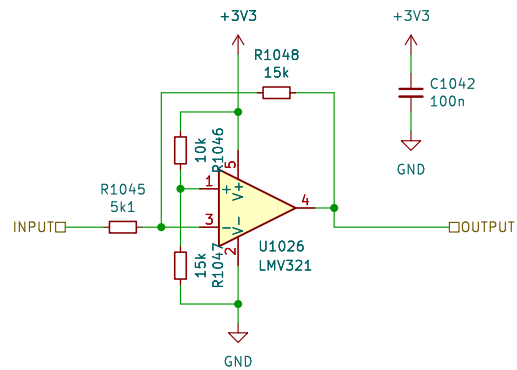
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Date:

Rev:

KiCad E.D.A. 8.0.8

Id: 17/28



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

Title:

Size: A4

Date:

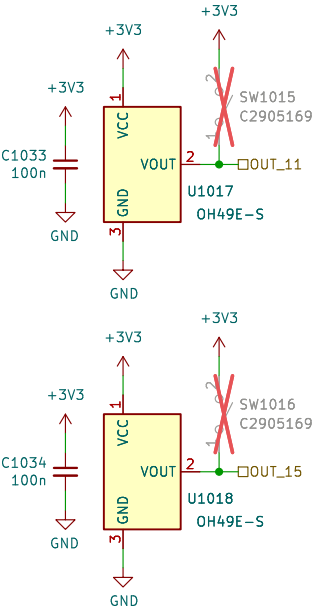
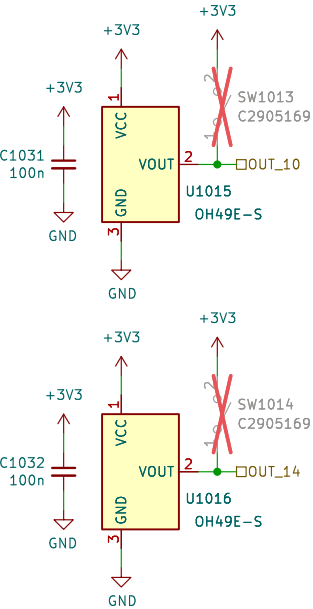
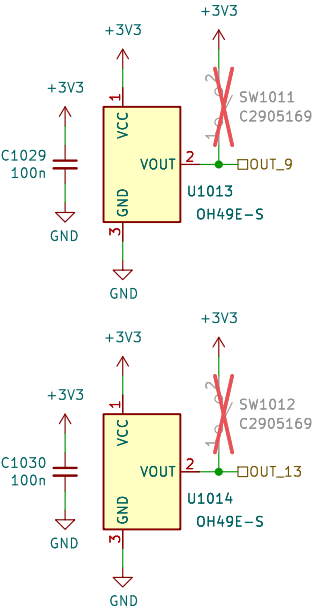
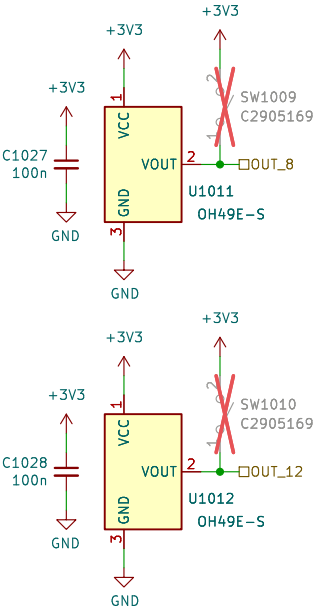
Rev:

KiCad E.D.A. 8.0.8

Id: 18/28

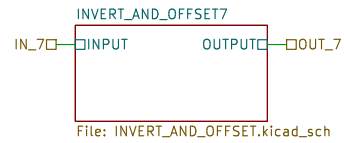
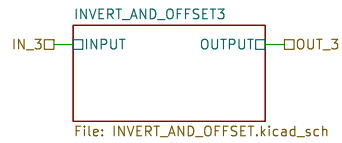
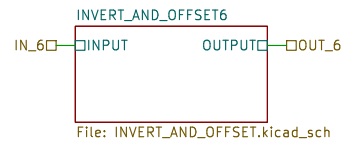
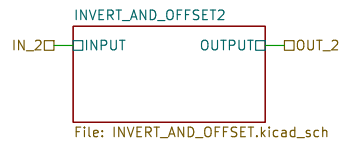
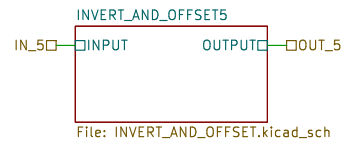
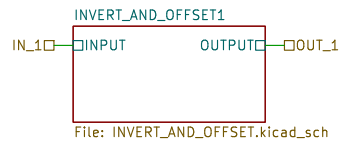
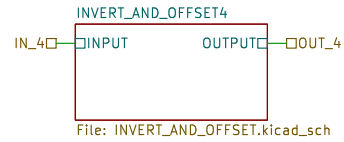
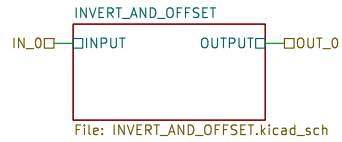
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Simulation:
<http://tinyurl.com/y229mt4>



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| Title: | | |
| Size: A4 | Date: | Rev: |
| KiCad E.D.A. 8.0.8 | | Id: 19/28 |

simulation



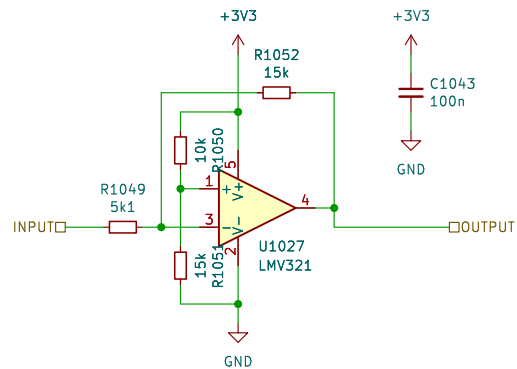
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File: UI_HALL_PREAMP.kicad_sch

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| Size: A4 | Date: |
| KiCad E.D.A. 8.0.8 | |

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Sheet: /UI_HALL_PREAMP1/INVERT_AND_OFFSET7/
File: INVERT_AND_OFFSET.kicad_sch

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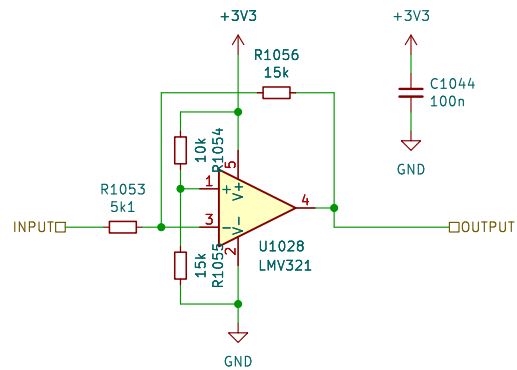
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Date:

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Id: 21/28



Sheet: /UI_HALL_PREAMP1/INVERT_AND_OFFSET6/
File: INVERT_AND_OFFSET.kicad_sch

Title:

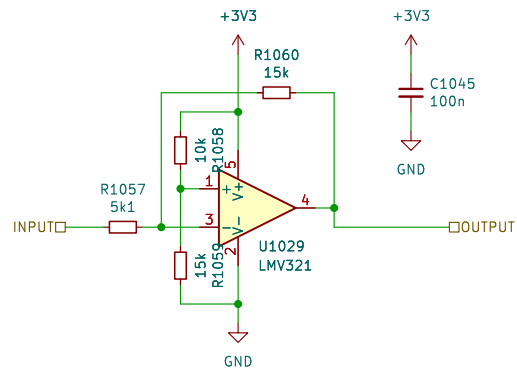
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Date:

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Sheet: /UI_HALL_PREAMP1/INVERT_AND_OFFSET4/
File: INVERT_AND_OFFSET.kicad_sch

Title:

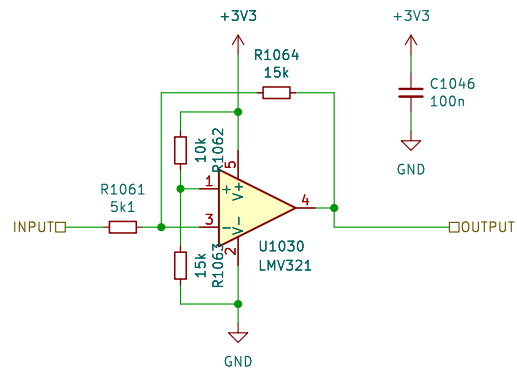
Size: A4

Date:

Rev:

KiCad E.D.A. 8.0.8

Id: 23/28



Sheet: /UI_HALL_PREAMP1/INVERT_AND_OFFSET5/
File: INVERT_AND_OFFSET.kicad_sch

Title:

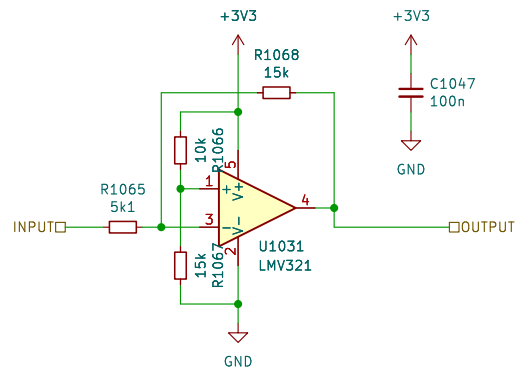
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Date:

Rev:

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Sheet: /UI_HALL_PREAMP1/INVERT_AND_OFFSET/
File: INVERT_AND_OFFSET.kicad_sch

Title:

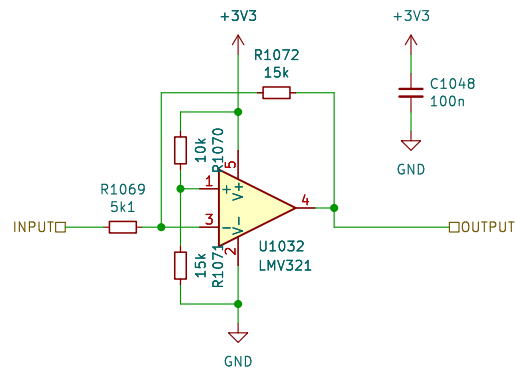
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Date:

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Sheet: /UI_HALL_PREAMP1/INVERT_AND_OFFSET1/
File: INVERT_AND_OFFSET.kicad_sch

Title:

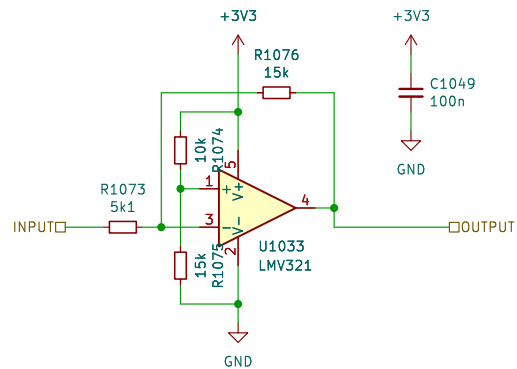
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Date:

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Sheet: /UI_HALL_PREAMP1/INVERT_AND_OFFSET2/
File: INVERT_AND_OFFSET.kicad_sch

Title:

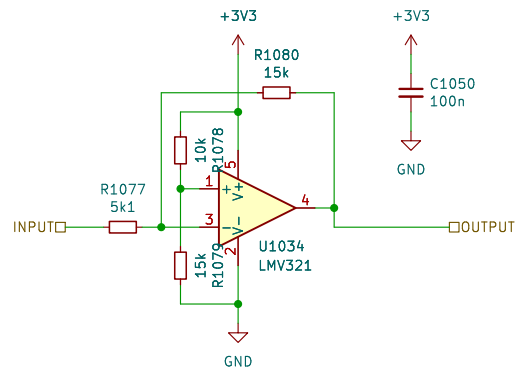
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Date:

Rev:

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Sheet: /UI_HALL_PREAMP1/INVERT_AND_OFFSET3/
File: INVERT_AND_OFFSET.kicad_sch

Title:

Size: A4

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