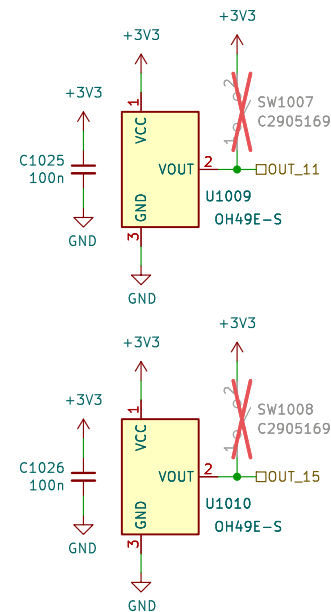
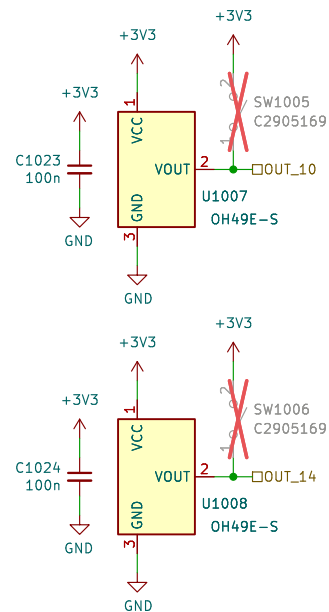
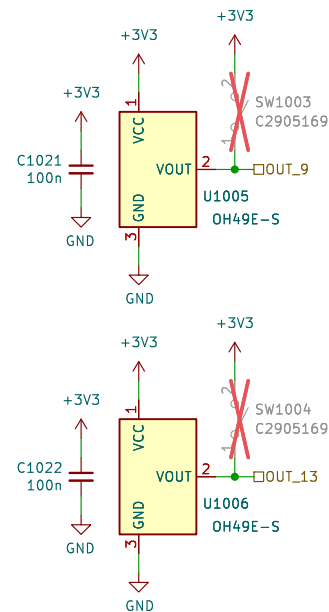
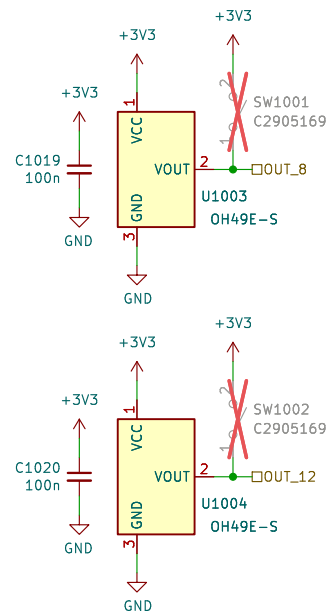


1000

<http://tinyurl.com/y229mt44>



Sheet: /UI_BUTTON/
File: UI_BUTTON.kicad_sch

Title:

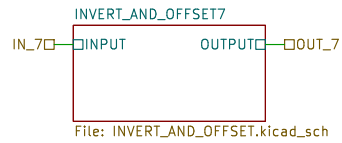
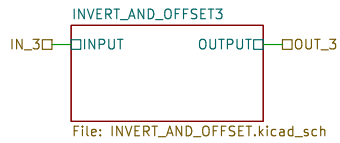
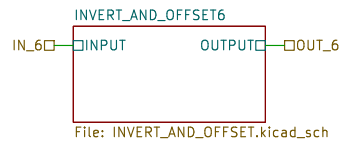
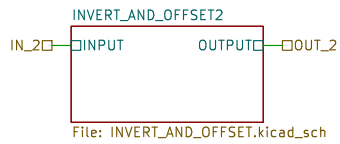
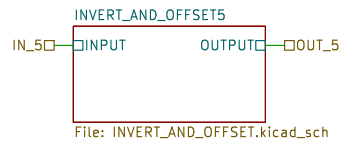
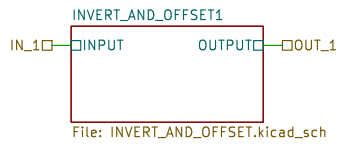
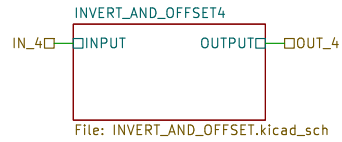
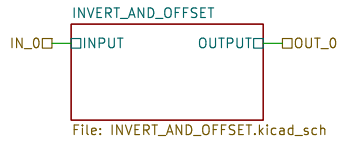
Size: A4	
KiCad E.D.A. 8.0.8	

Date:

Rev:

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simulation



Sheet: /UI_HALL_PREAMP/
File: UI_HALL_PREAMP.kicad_sch

Title:

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

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Rev:

Id: 3/28

900



Sheet: /UI_LED/
File: UI_LED.kicad_sch

Title:

Size: A4
KiCad E.D.A. 8.0.8

Date:

Rev:
Id: 4/28

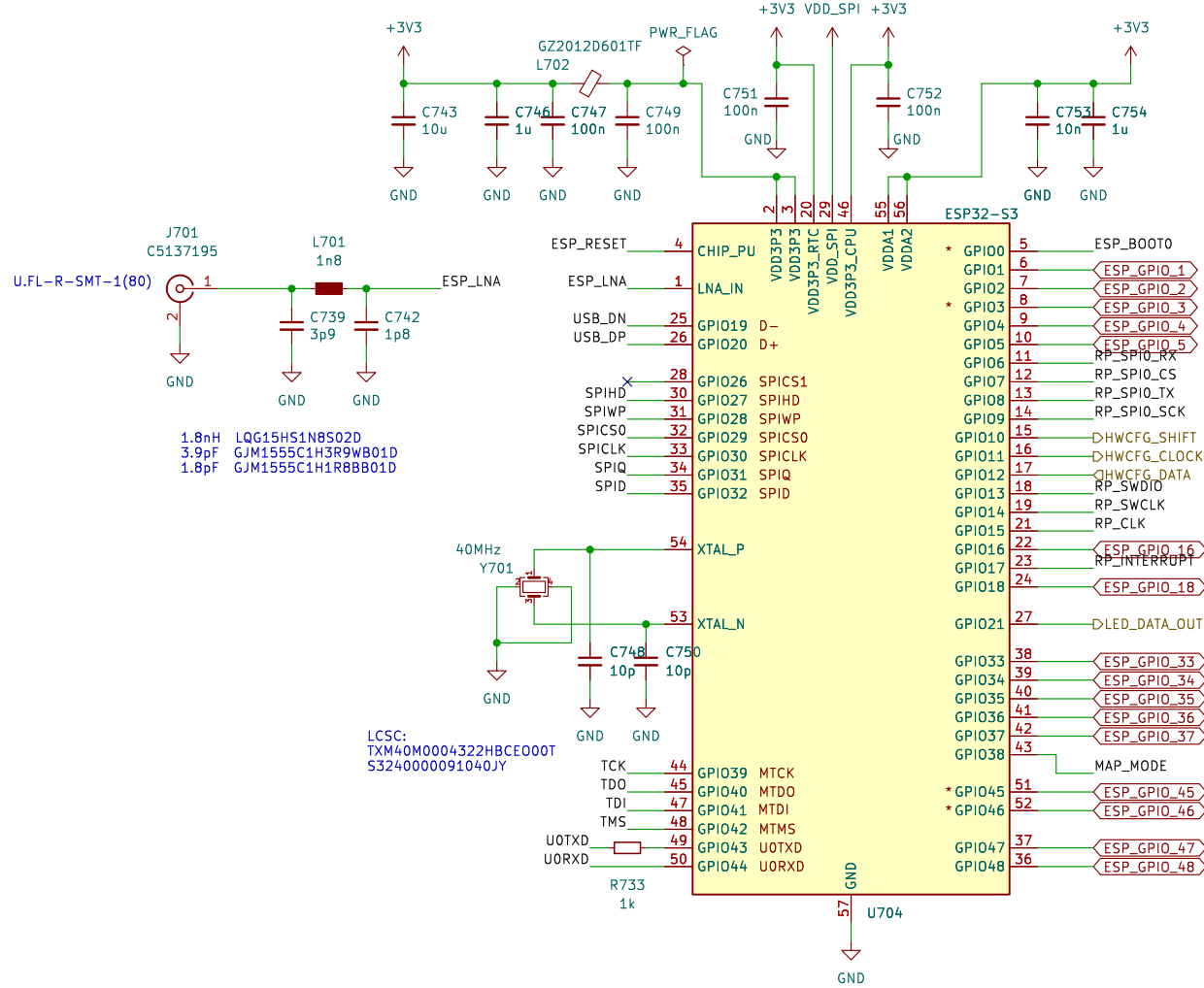
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1000



700

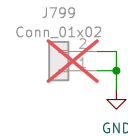
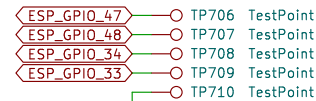
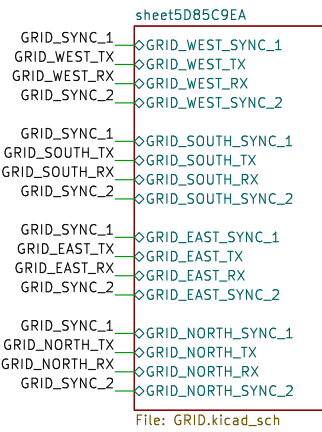


1.8nH LQG15HS1N8S02D
3.9pF GJM1555C1H3R9WB01D
1.8pF GJM1555C1H1R8BB01D

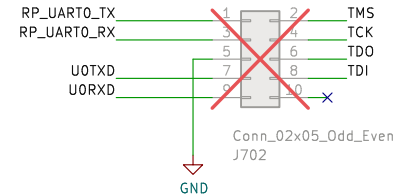
LCSC:
TXM40M0004322HBCE000T
S3240000091040JY

GRID Connector

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

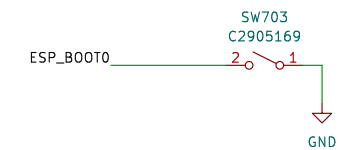
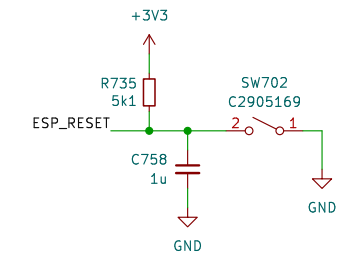
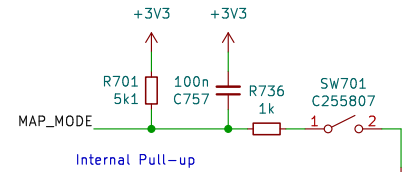


Programming Interface



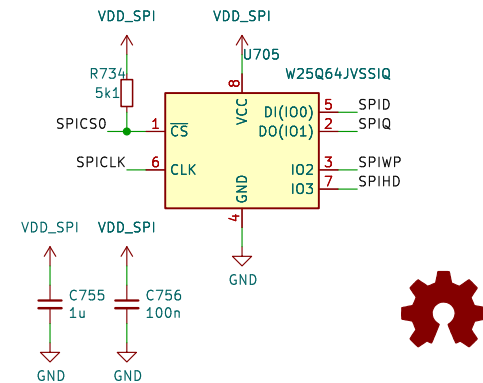
Mapmode switch

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



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.



GRID Connector
Bi-Directional Data
2x SYNC

500

Board Mounting Pattern

M501 Conn_01x08

J501 Conn_01x04

J502 Conn_01x04

J503 Conn_01x04

J504 Conn_01x04

J505 Conn_01x04

J506 Conn_01x04

J507 Conn_01x04

J508 Conn_01x04

GRID_NORTH_SYNC_2

GRID_NORTH_RX

GRID_NORTH_TX

GRID_NORTH_SYNC_1

GRID_WEST_SYNC_1

GRID_WEST_TX

GRID_WEST_RX

GRID_WEST_SYNC_2

GRID_EAST_SYNC_2

GRID_EAST_RX

GRID_EAST_TX

GRID_EAST_SYNC_1

GRID_SOUTH_SYNC_1

GRID_SOUTH_TX

GRID_SOUTH_RX

GRID_SOUTH_SYNC_2

Sheet: /MCU/sheet5D85C9EA/
File: GRID.kicad_sch

Title:

Size: A4 Date: Rev:

KiCad E.D.A. 8.0.8 Id: 8/28

Title:		
Size: A4	Date:	Rev:
KiCad E.D.A. 8.0.8		Id: 8/28

Size: A4	Date:	Rev:
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KiCad E.D.A. 8.0.8	Id: 8/28
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Id: 8/28

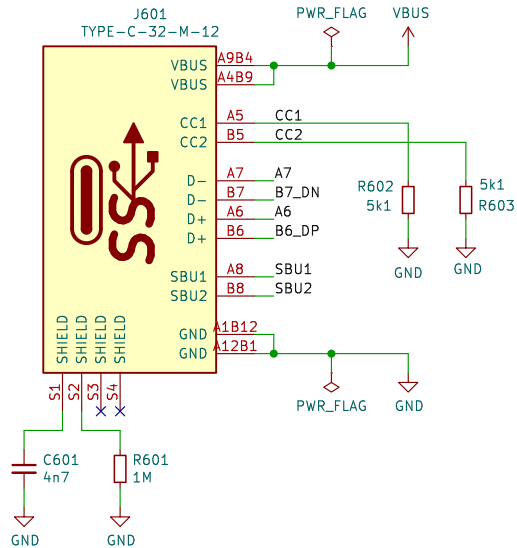
Id: 8/28

6

600

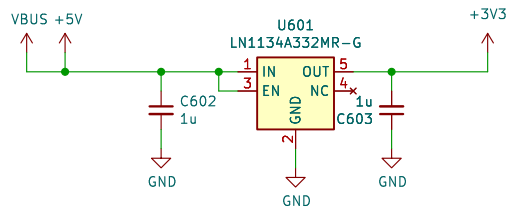
USB Port

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



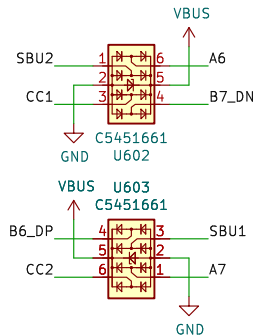
3V3 LDO

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



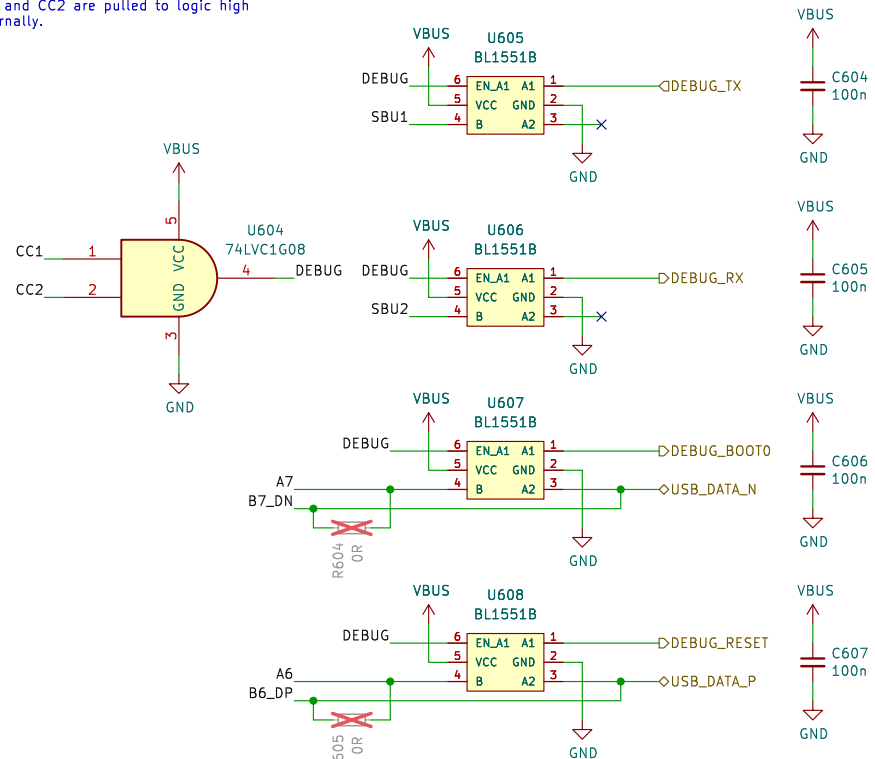
ESD Prot.

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

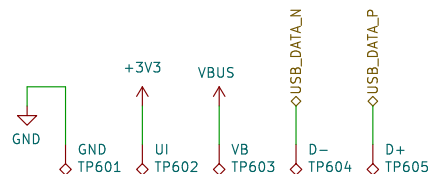


Debug-Mode Multiplexing

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



Testpoints



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

Title:

Size: A4

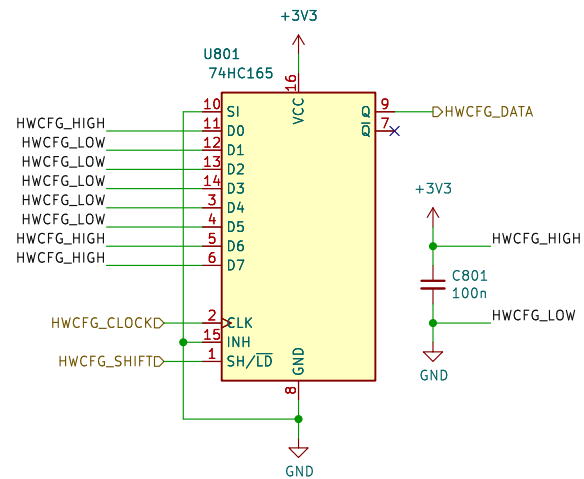
Date:

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Rev:

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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

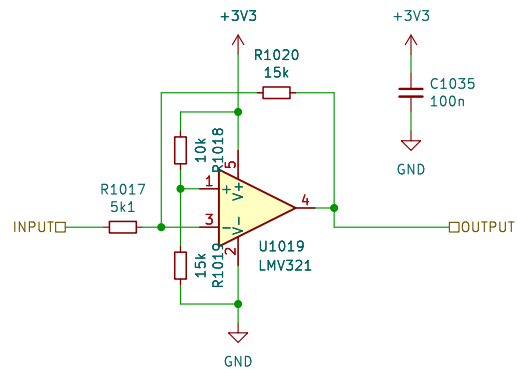
Title:

Size: A4
KiCad E.D.A. 8.0.8

Date:

Rev:

Id: 10/28



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

Title:

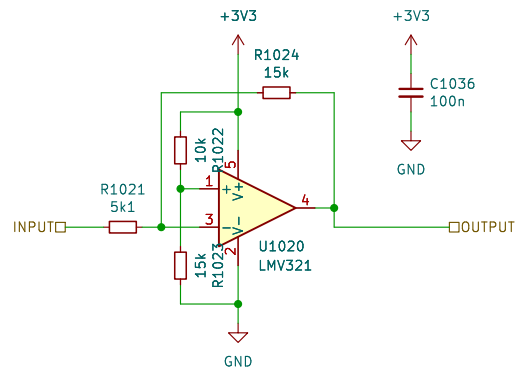
Size: A4

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:

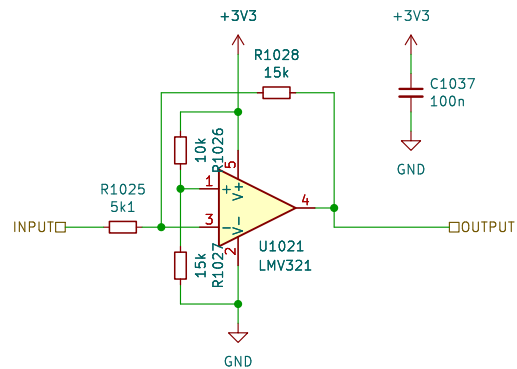
Size: A4

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:

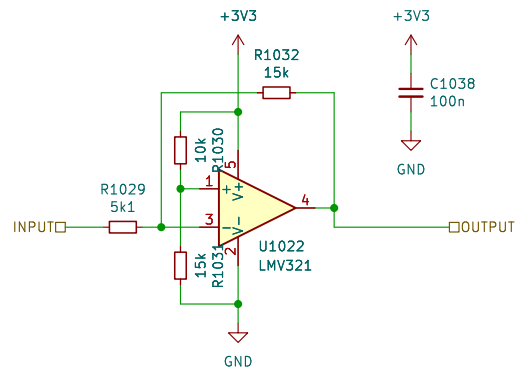
Size: A4

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:

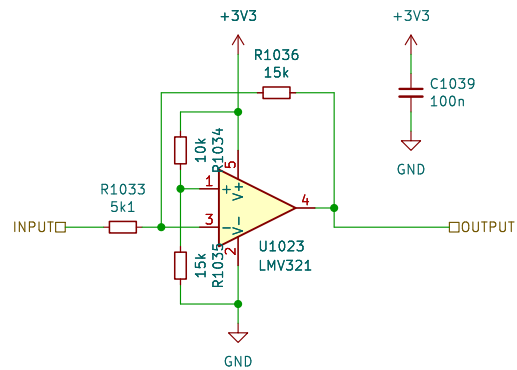
Size: A4

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:

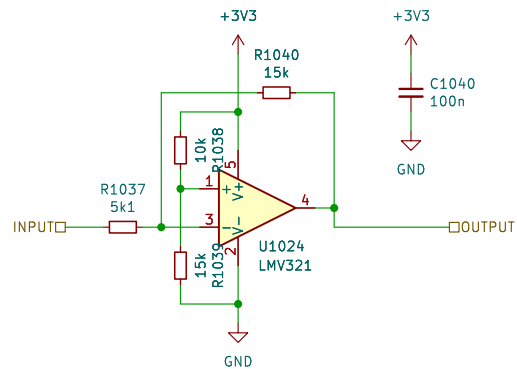
Size: A4

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

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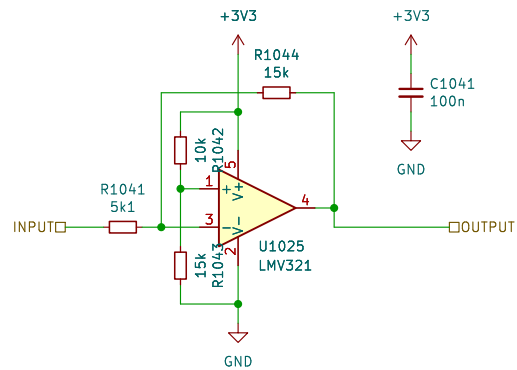
Size: A4

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:

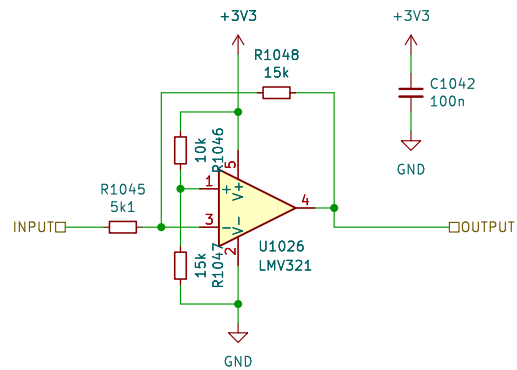
Size: A4

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:

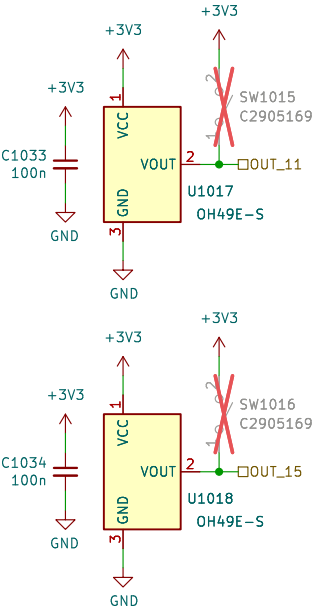
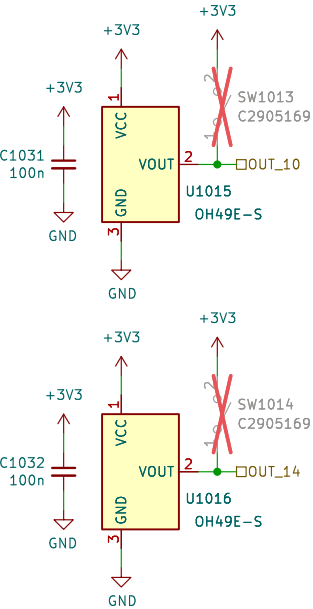
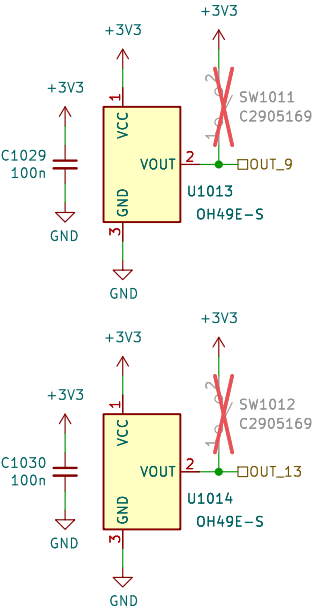
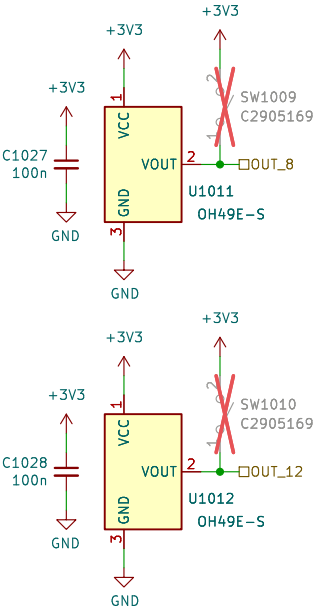
Rev:

KiCad E.D.A. 8.0.8

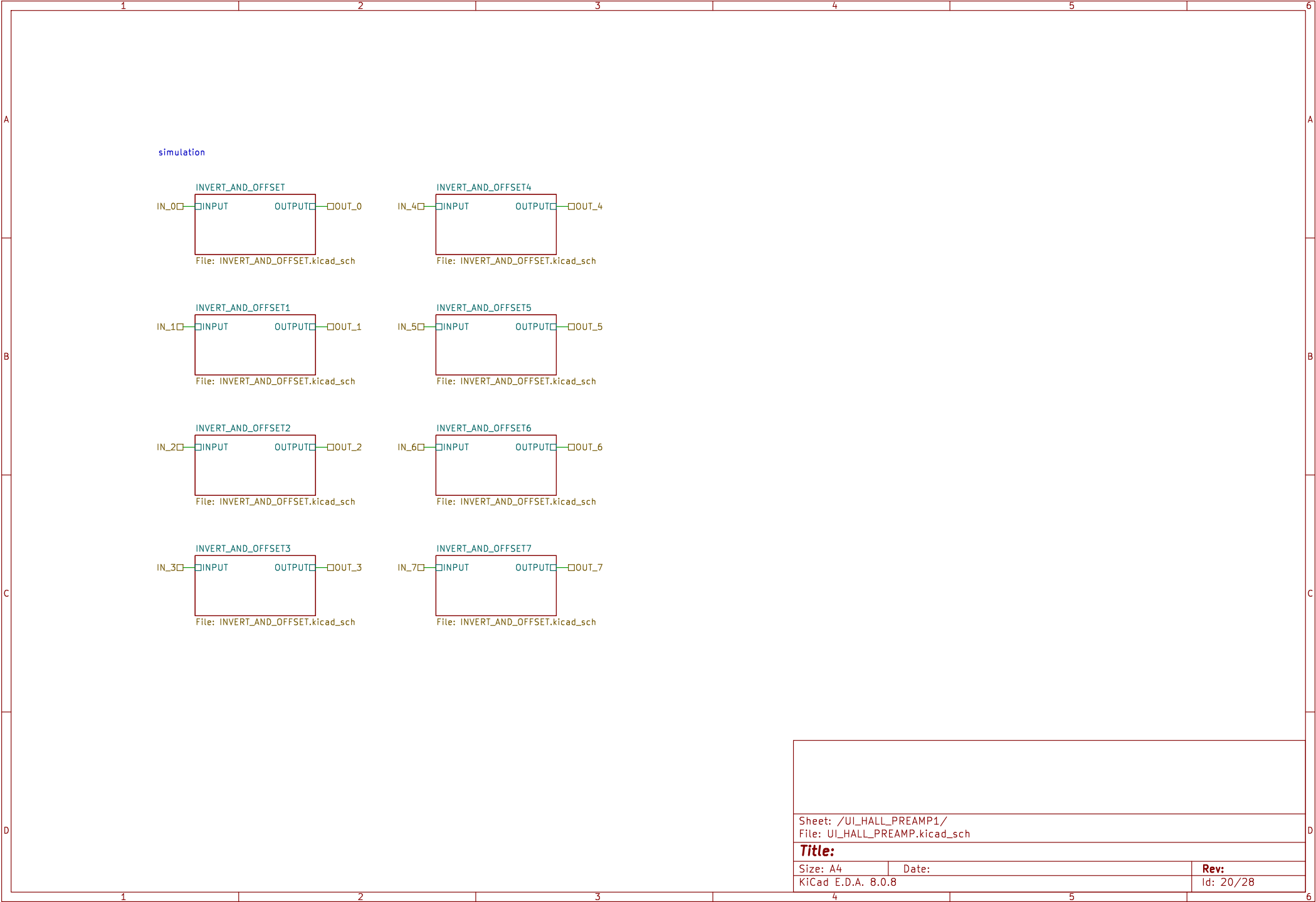
Id: 18/28

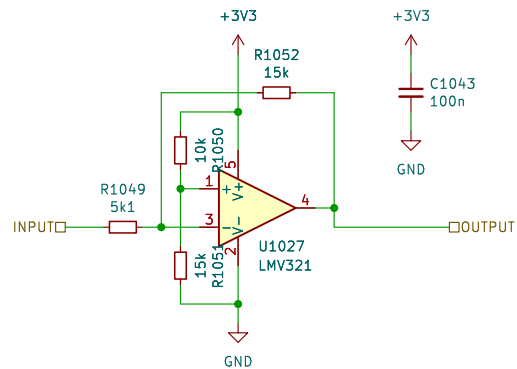
1000

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



Sheet: /UI_BUTTON1/ File: UI_BUTTON.kicad_sch		
Title:		
Size: A4	Date:	Rev:
KiCad E.D.A. 8.0.8		Id: 19/28





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

Title:

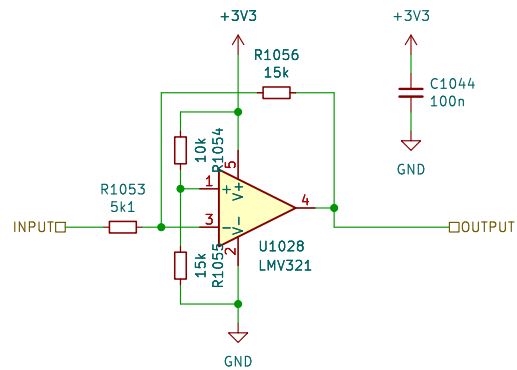
Size: A4

Date:

Rev:

KiCad E.D.A. 8.0.8

Id: 21/28



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

Title:

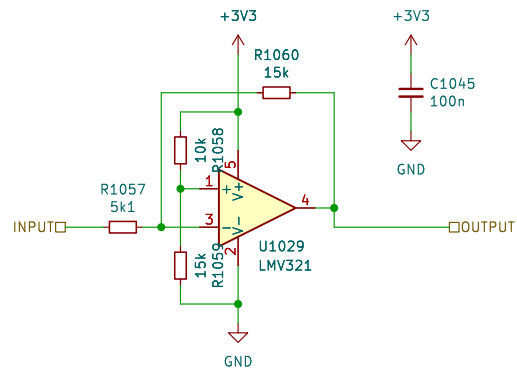
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Date:

Rev:

KiCad E.D.A. 8.0.8

Id: 22/28



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

Title:

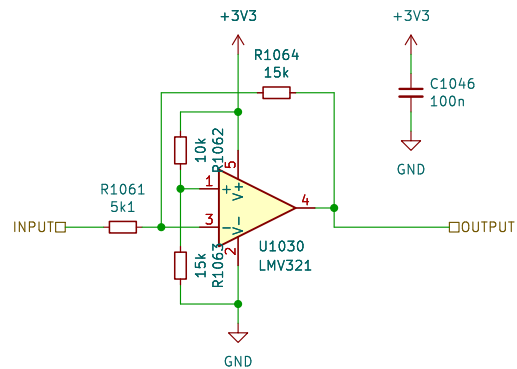
Size: A4

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:

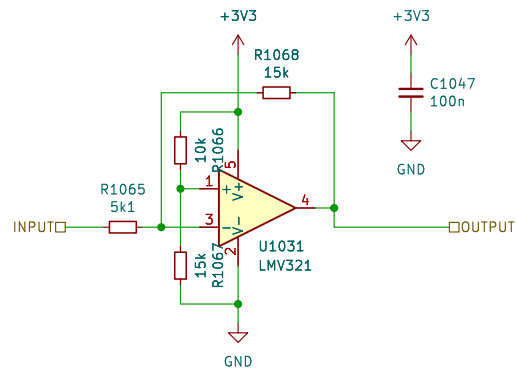
Size: A4

Date:

Rev:

KiCad E.D.A. 8.0.8

Id: 24/28



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

Title:

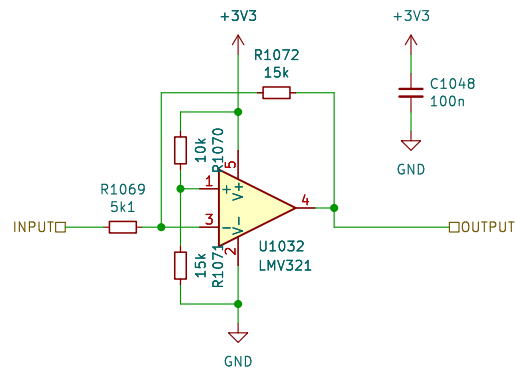
Size: A4

Date:

Rev:

KiCad E.D.A. 8.0.8

Id: 25/28



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

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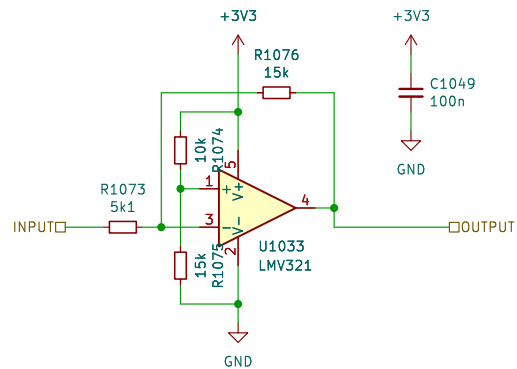
Size: A4

Date:

Rev:

KiCad E.D.A. 8.0.8

Id: 26/28



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

Title:

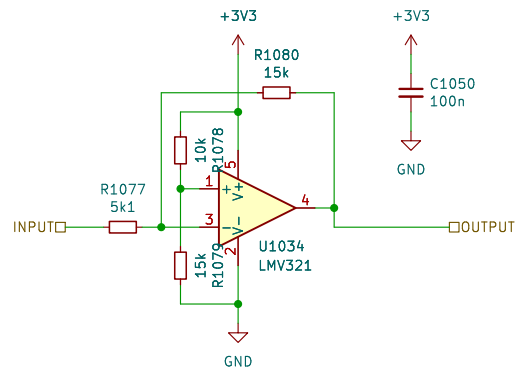
Size: A4

Date:

Rev:

KiCad E.D.A. 8.0.8

Id: 27/28



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

Title:

Size: A4

Date:

Rev:

KiCad E.D.A. 8.0.8

Id: 28/28