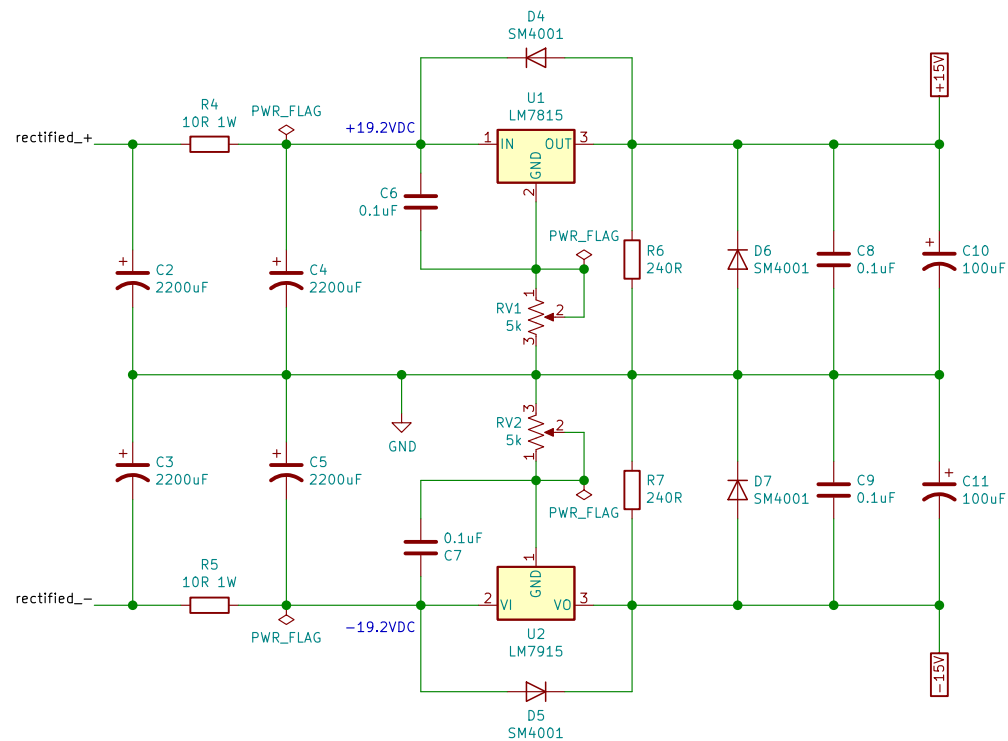
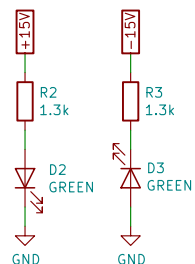
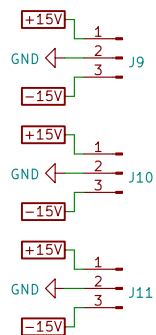
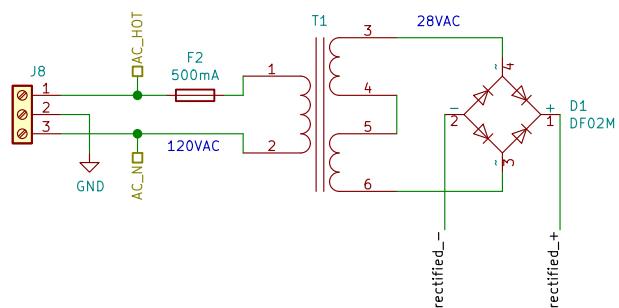


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Sheet: /AC input/ File: AC_input.sch		
Title:		
Size: A4	Date: 2020-02-25	Rev: A00
KiCad E.D.A. kicad (5.1.5-0-10_14)		Id: 2/13



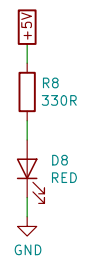
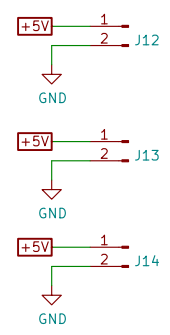
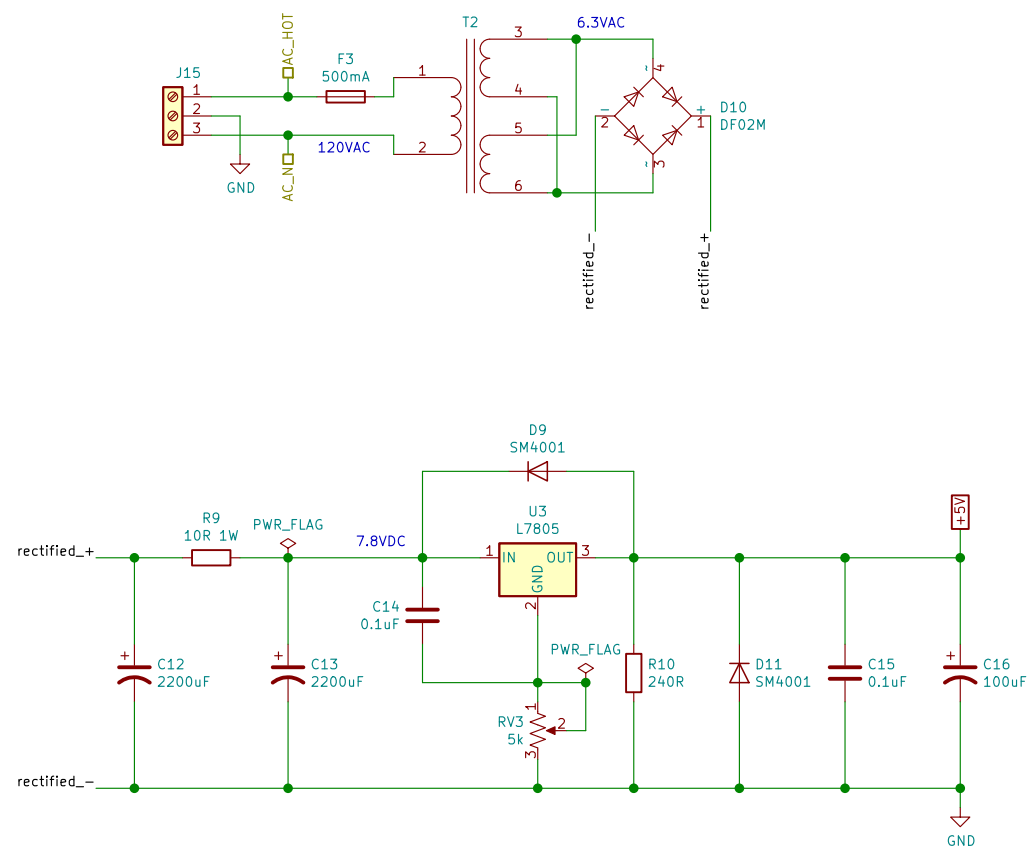
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Sheet: /+ -15V PWR SUPPLY/
 File: +-15V_PWR_SUPPLY.sch

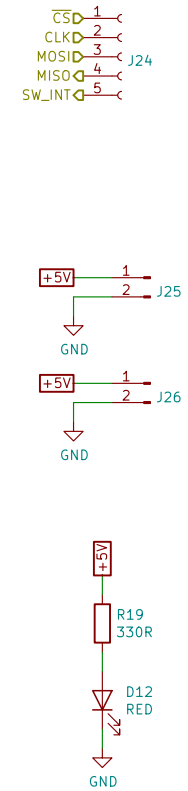
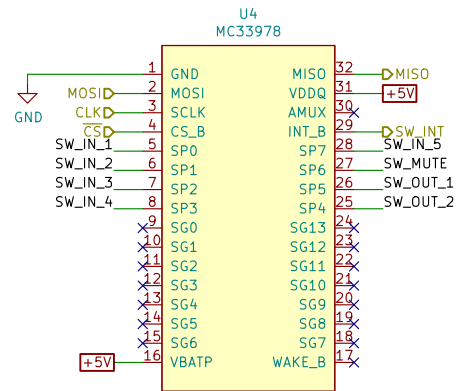
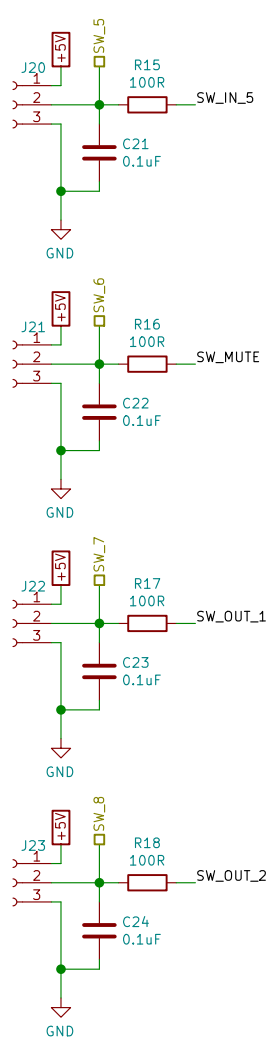
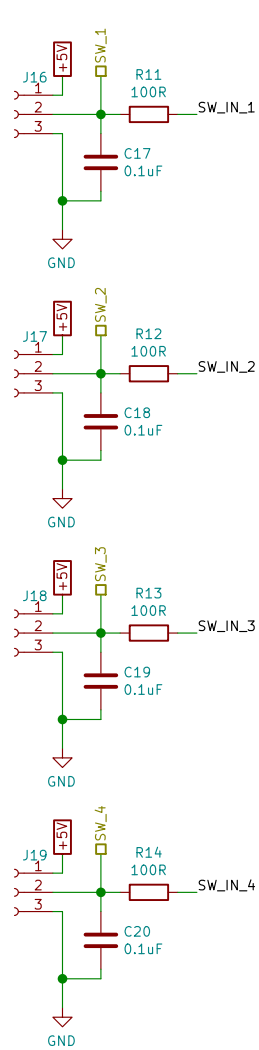
Title: 15V Power Supply

Size: A4 | Date: 2020-02-25
 KiCad E.D.A. | kicad (5.1.5-0-10_14)

Rev: A00
 Id: 3/13



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Sheet: /5V supply/ File: 5V_supply.sch		
Title: 5V Power Supply		
Size: A4	Date: 2020-02-25	Rev: A00
KiCad E.D.A. kicad (5.1.5-0-10_14)		Id: 4/13



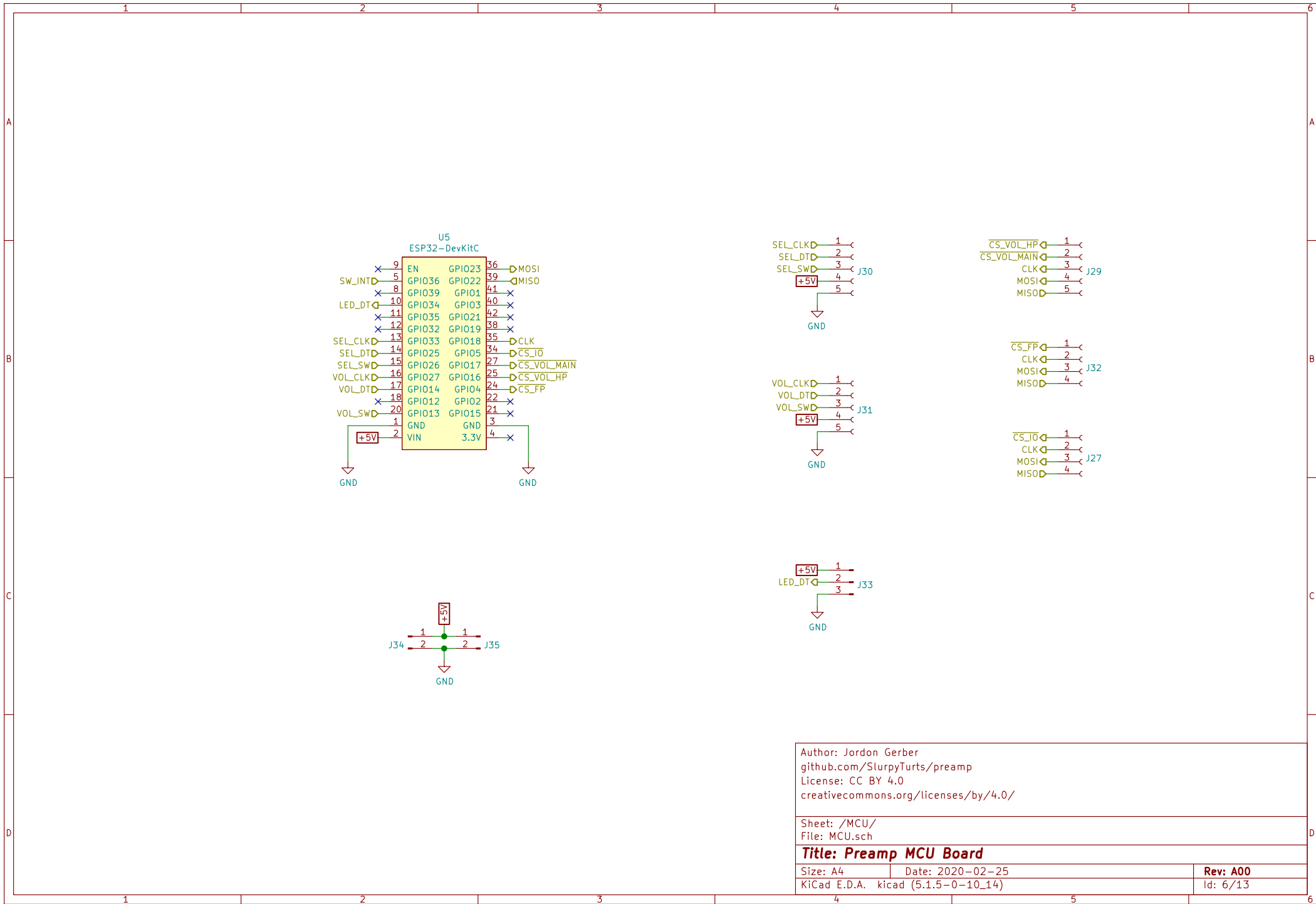
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Sheet: /front panel/
 File: front_panel.sch

Title: Front Panel

Size: A4 Date: 2020-02-25
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Rev: A00
 Id: 5/13

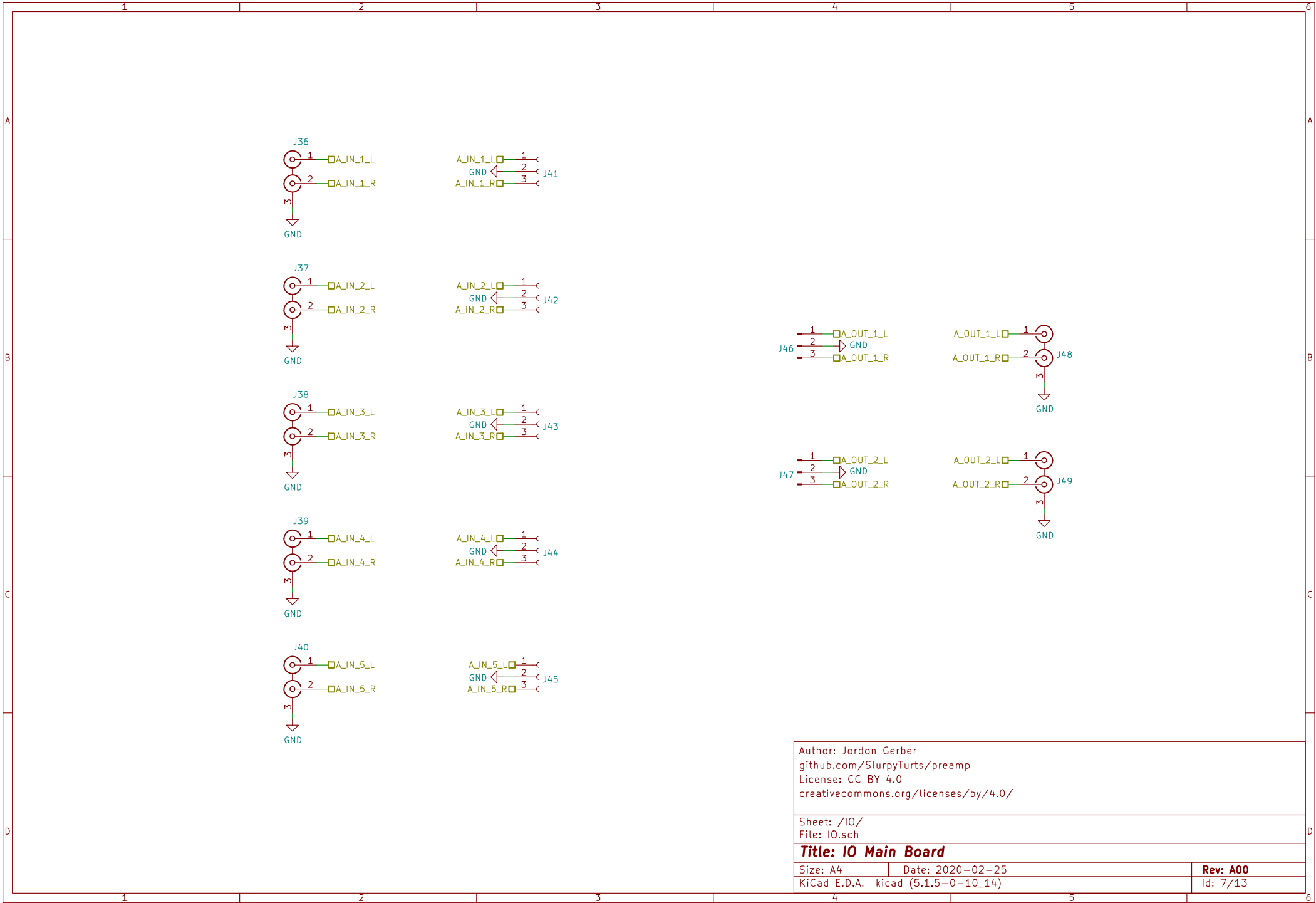


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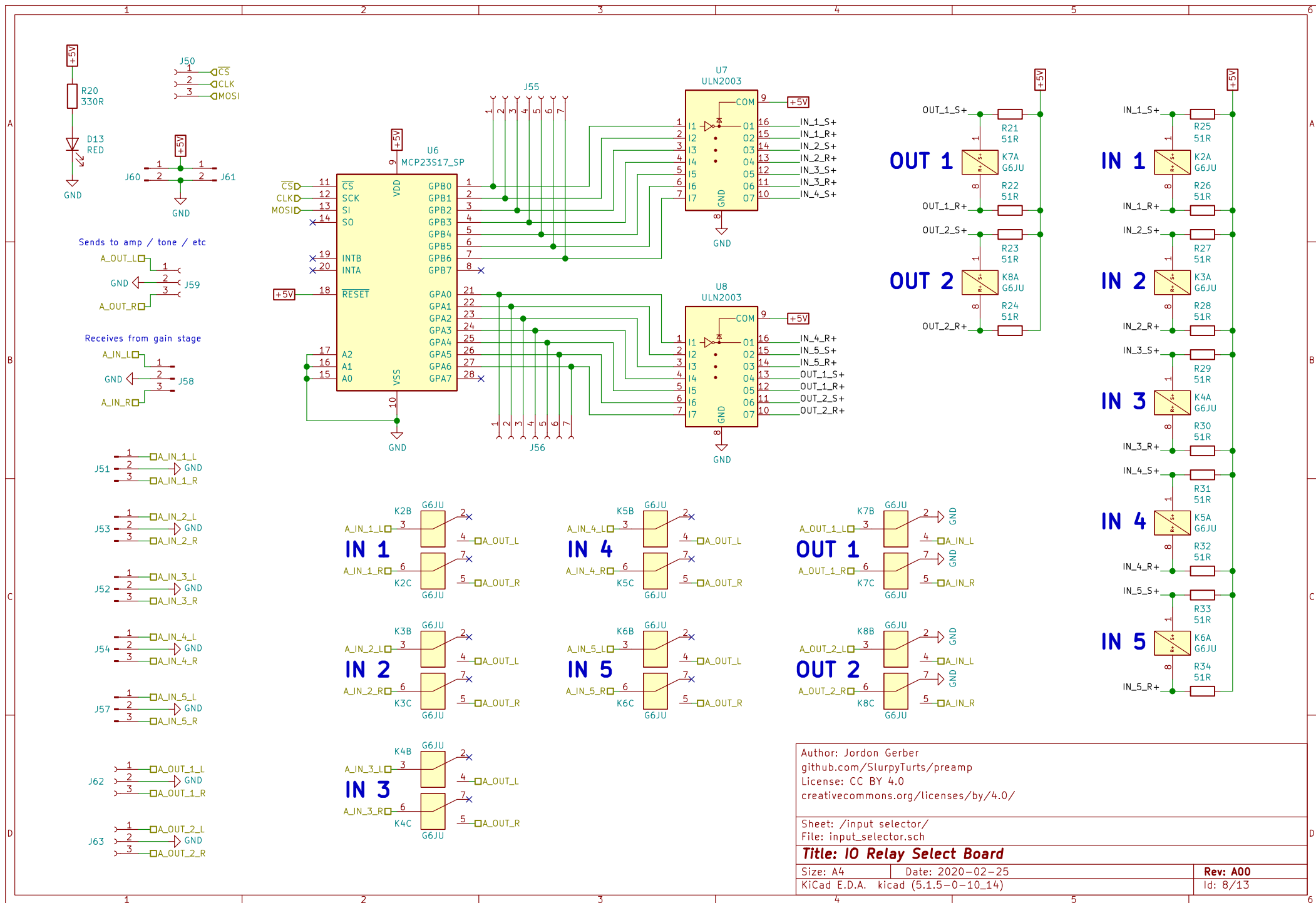
Sheet: /MCU/
File: MCU.sch

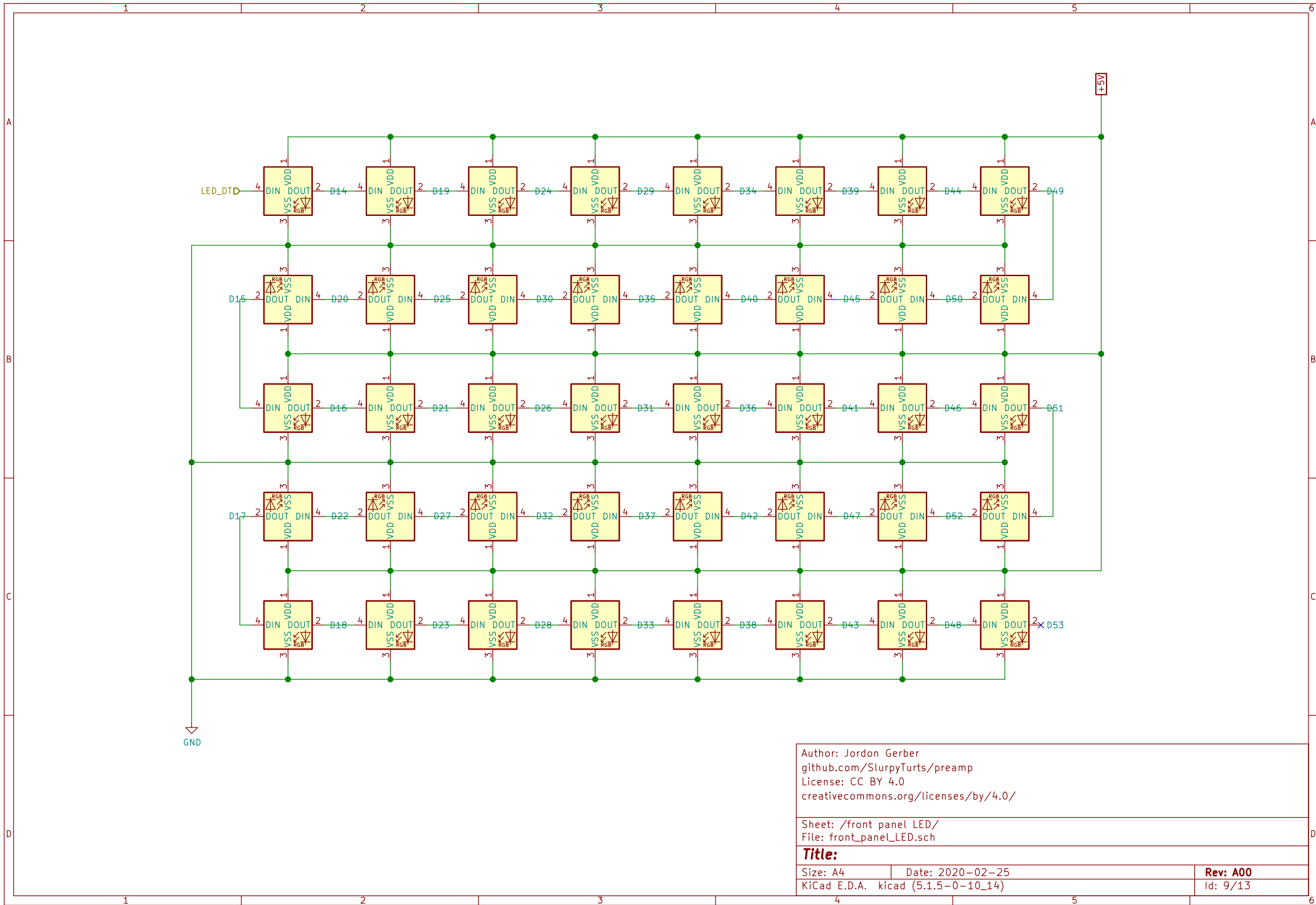
Title: Preamp MCU Board

Size: A4	Date: 2020-02-25	Rev: A00
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Sheet: /IO/ File: IO.sch		
Title: IO Main Board		
Size: A4	Date: 2020-02-25	Rev: A00
KiCad E.D.A. kicad (5.1.5-0-10_14)		Id: 7/13



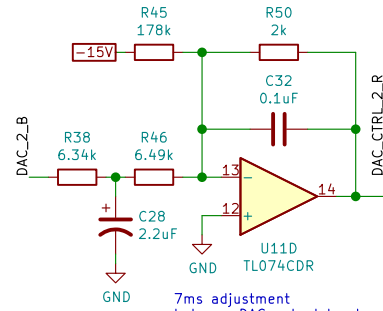
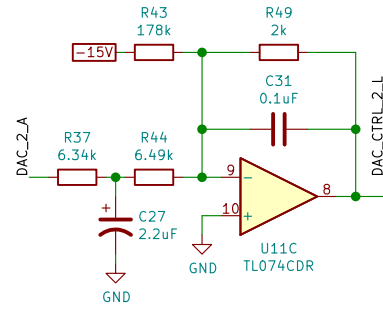
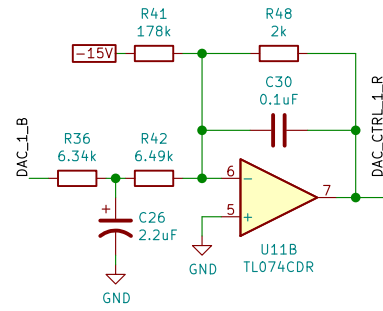
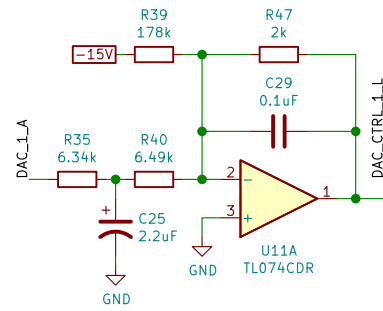
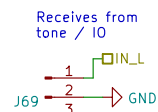
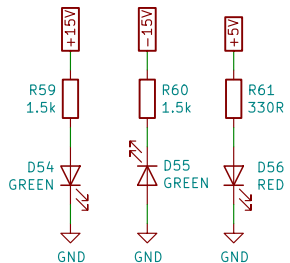
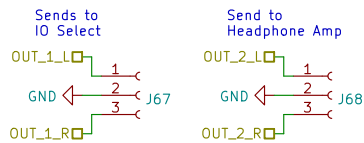
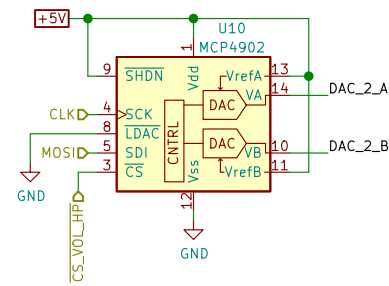
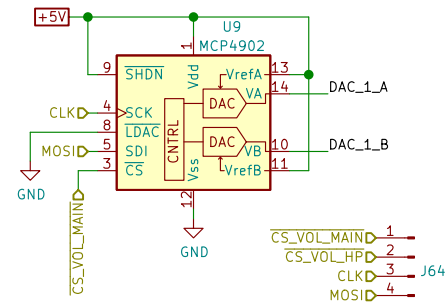


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Sheet: /front panel LED/ File: front_panel_LED.sch		
Title:		
Size: A4	Date: 2020-02-25	Rev: A00
KiCad E.D.A. kicad (5.1.5-0-10_14)		Id: 9/13

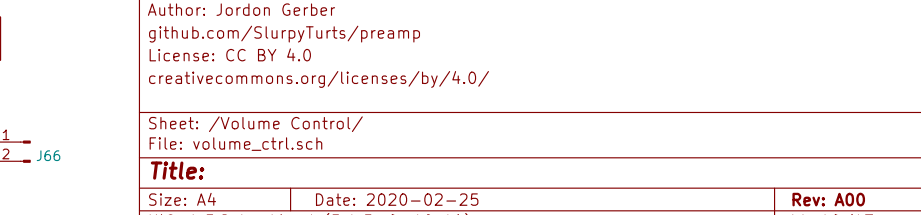
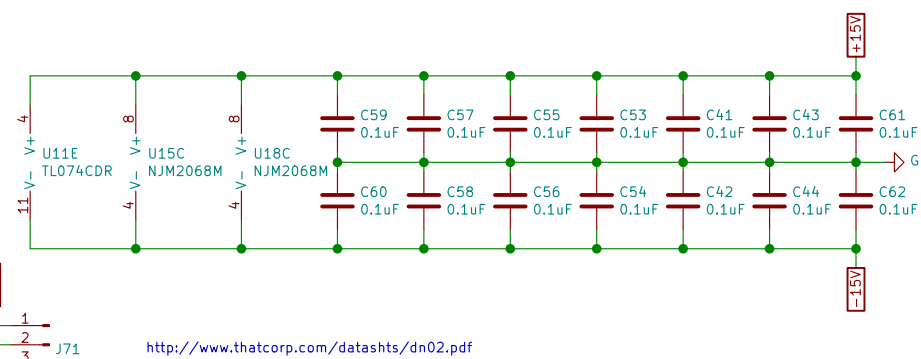
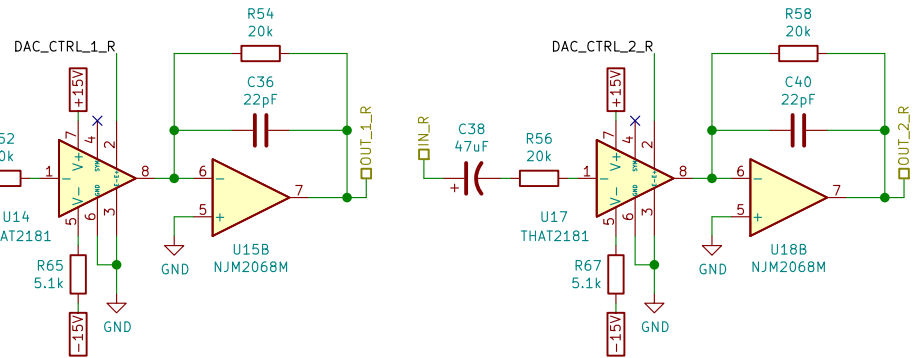
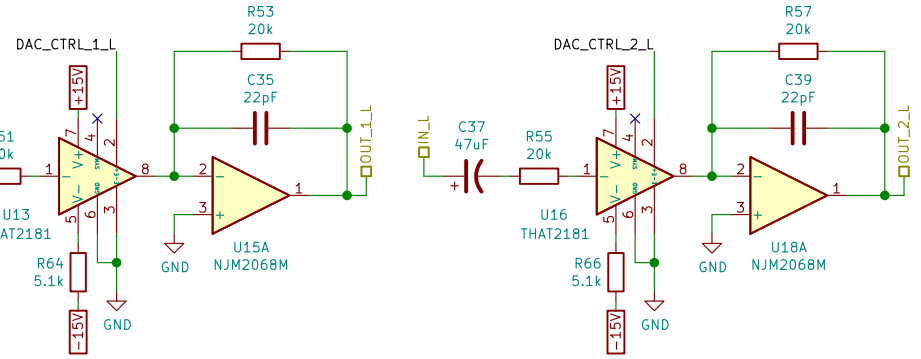
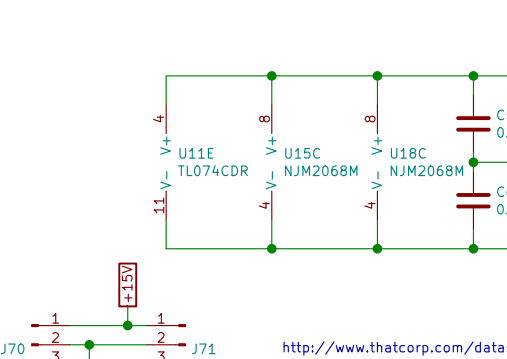
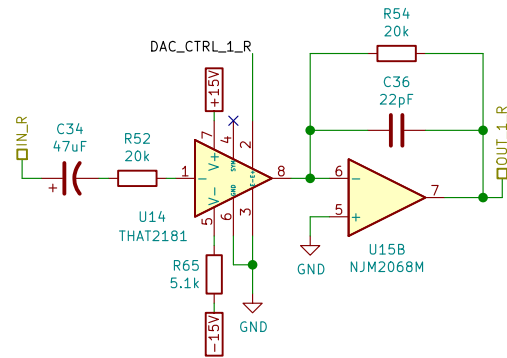
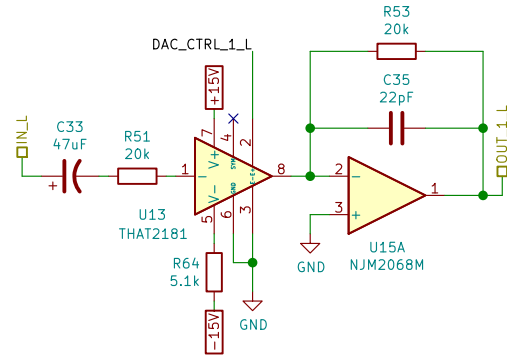
Buffered DAC output max approx. 0.78V
 $5V \cdot (2k / (6.34k + 6.49k))$

Per VCA Manufacturer's spec, 6mV per dB attenuation
 for max 0.78V, $0.78 / 0.006 = 130dB$ range
 $130dB / 256 \text{ steps} = 0.51dB / \text{step}$

178k offset resistor shifts output up by approx. 30dB
 control range becomes -100dB to +30dB



7ms adjustment
 between DAC output level



<http://www.thatcorp.com/datashts/dn02.pdf>

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Sheet: /Volume Control/
 File: volume_ctrl.sch

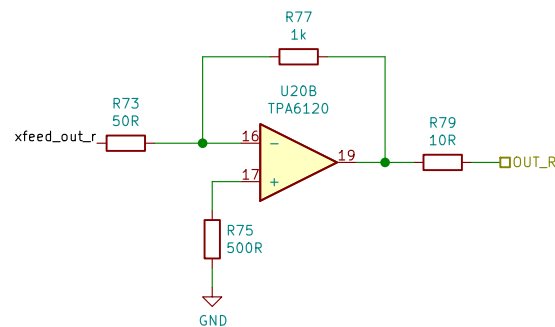
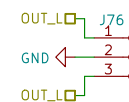
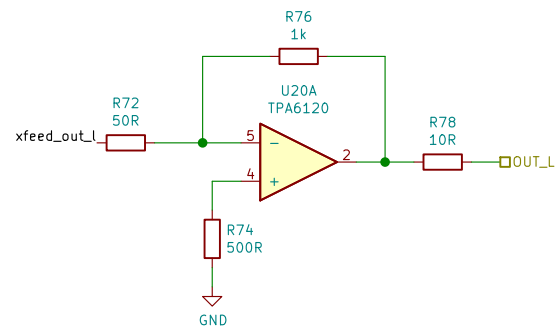
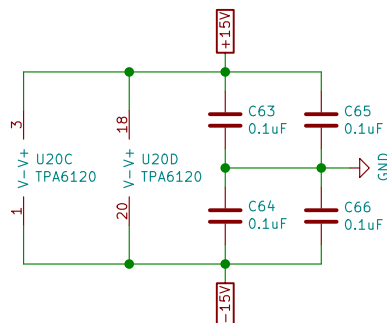
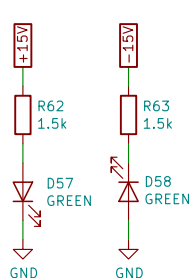
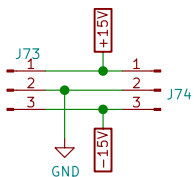
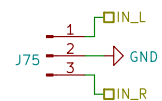
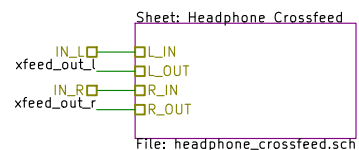
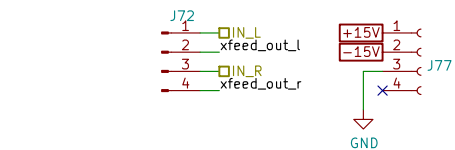
Title:

Size: A4 Date: 2020-02-25

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Rev: A00

Id: 10/13



crosstalk: <https://headwizememorial.wordpress.com/2018/03/09/an-acoustic-simulator-for-headphone-amplifiers/>
amp: <https://www.nutsvolts.com/magazine/article/precision-stereo-headphone-amplifier>

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Sheet: /headphone amp/
File: headphone_amp.sch

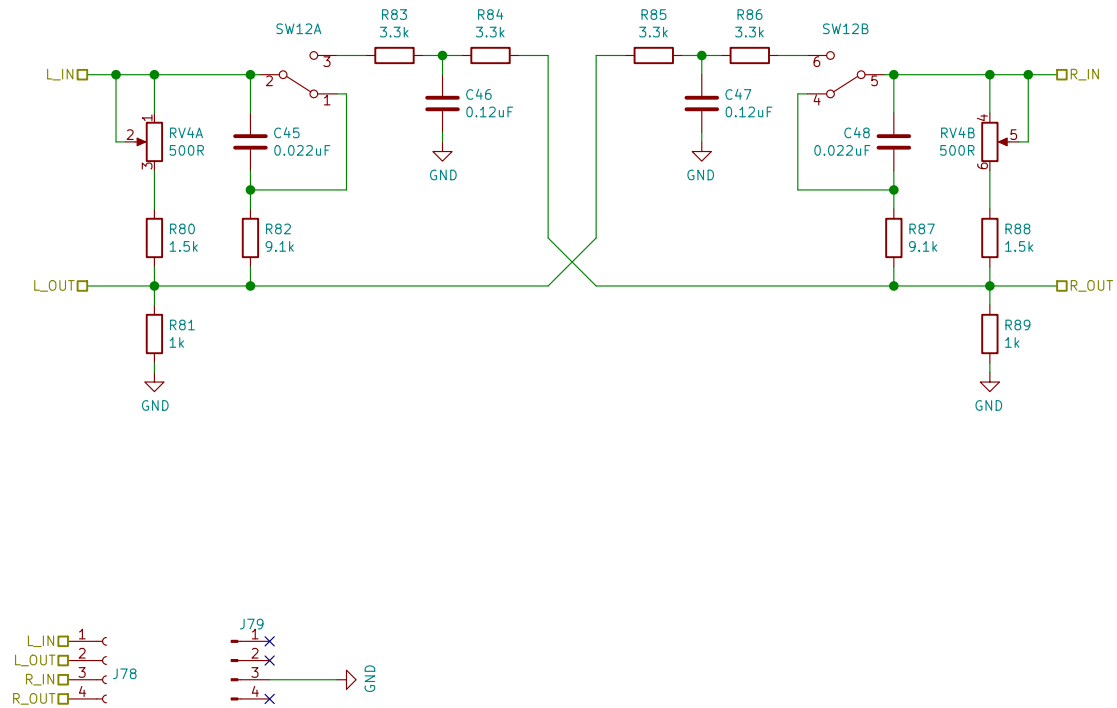
Title: Headphone Amplifier Board

Size: A4
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Sheet: /headphone amp/Headphone Crossfeed/
 File: headphone_crossfeed.sch

Title: Headphone Crosstalk

Size: A4 Date: 2020-02-25

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Rev: A00

Id: 12/13

