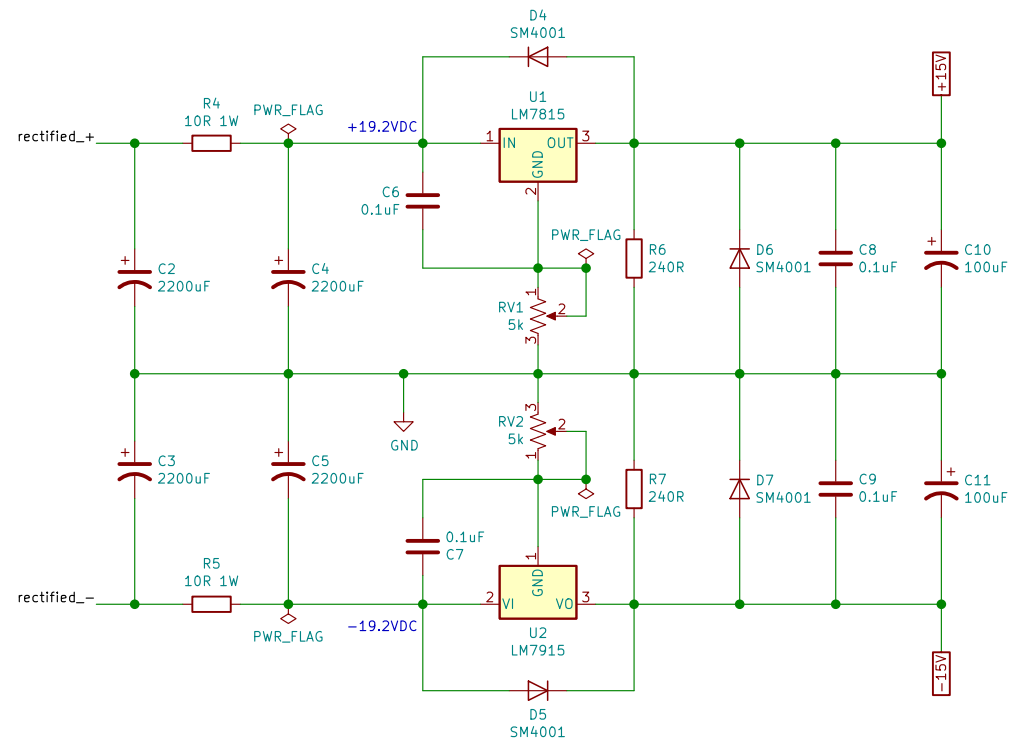
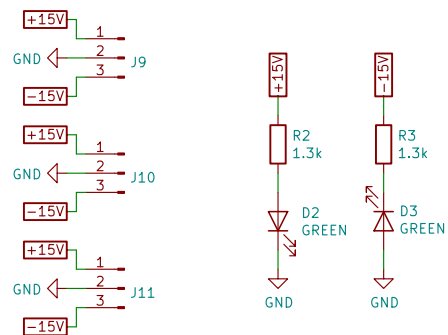
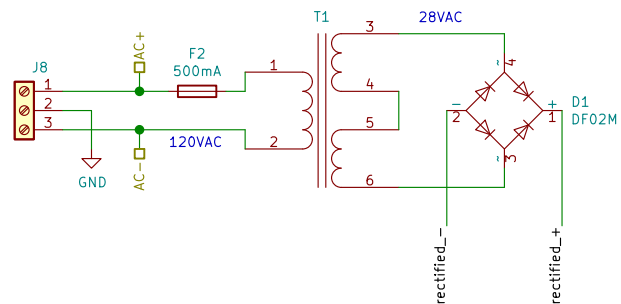


Author: Jordon Gerber github.com/SlurpyTurts/preamp License: CC BY 4.0 creativecommons.org/licenses/by/4.0/		
Sheet: /AC input/ File: AC_input.sch		
Title:		
Size: A4	Date: 2020-02-25	Rev: A00
KiCad E.D.A. kicad (5.1.5-0-10_14)		Id: 2/13



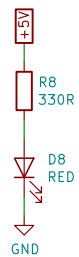
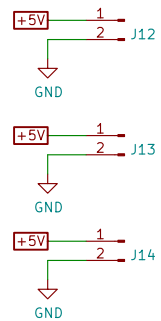
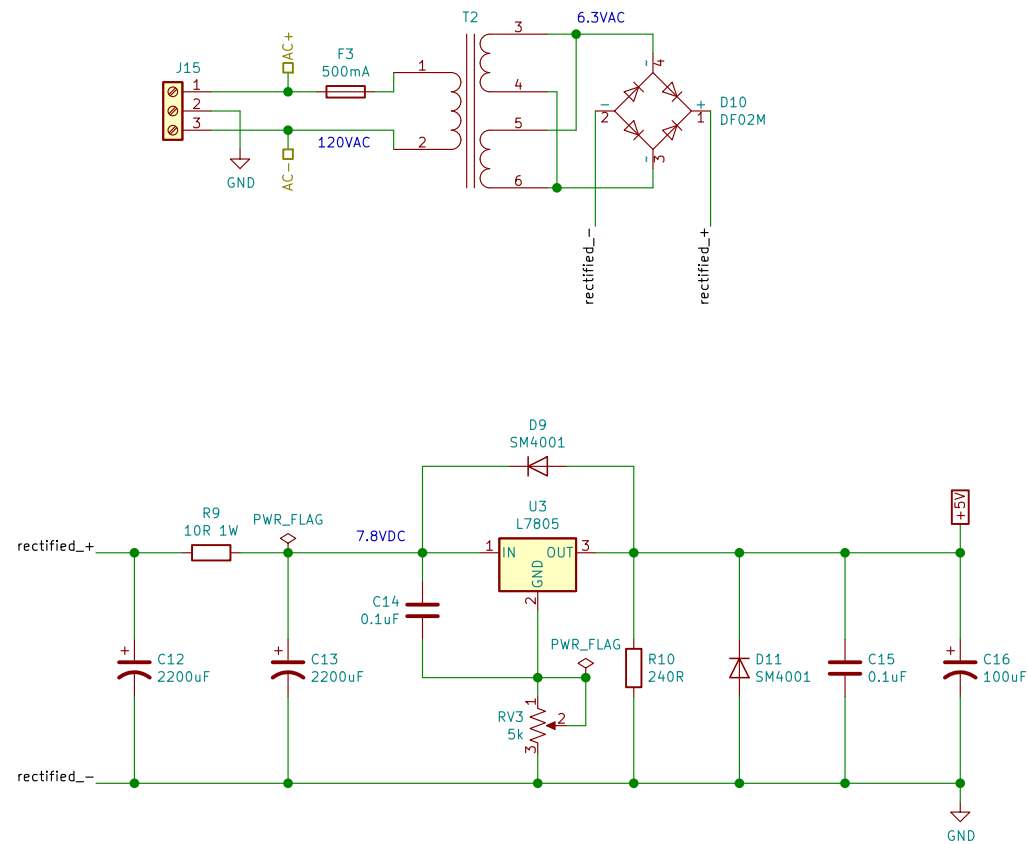
Author: Jordan Gerber
github.com/SlurpyTurts/preamp
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Sheet: /+ -15V PWR SUPPLY/
 File: +-15V_PWR_SUPPLY.sch

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



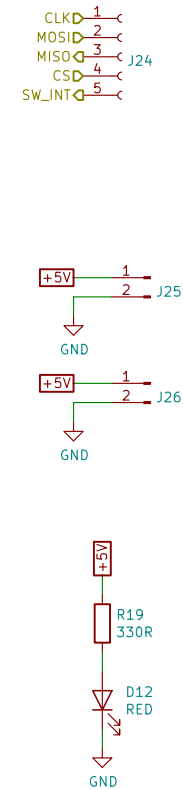
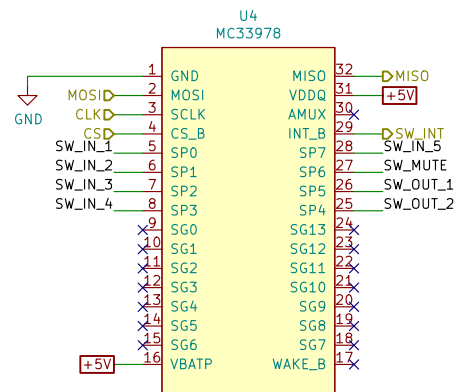
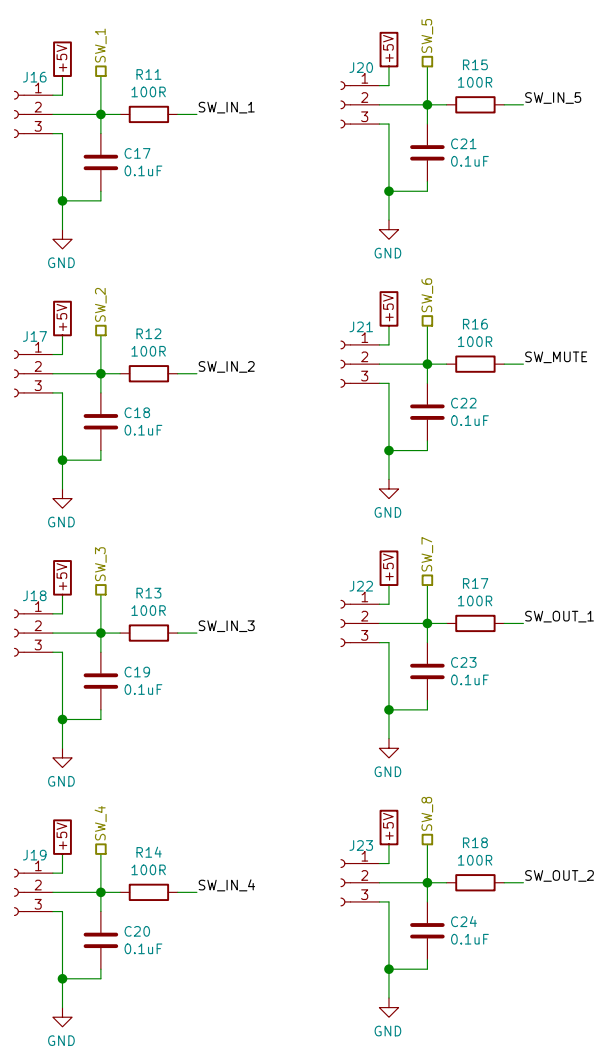
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Sheet: /5V supply/
 File: 5V_supply.sch

Title: 5V Power Supply

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

Rev: A00
 Id: 4/13



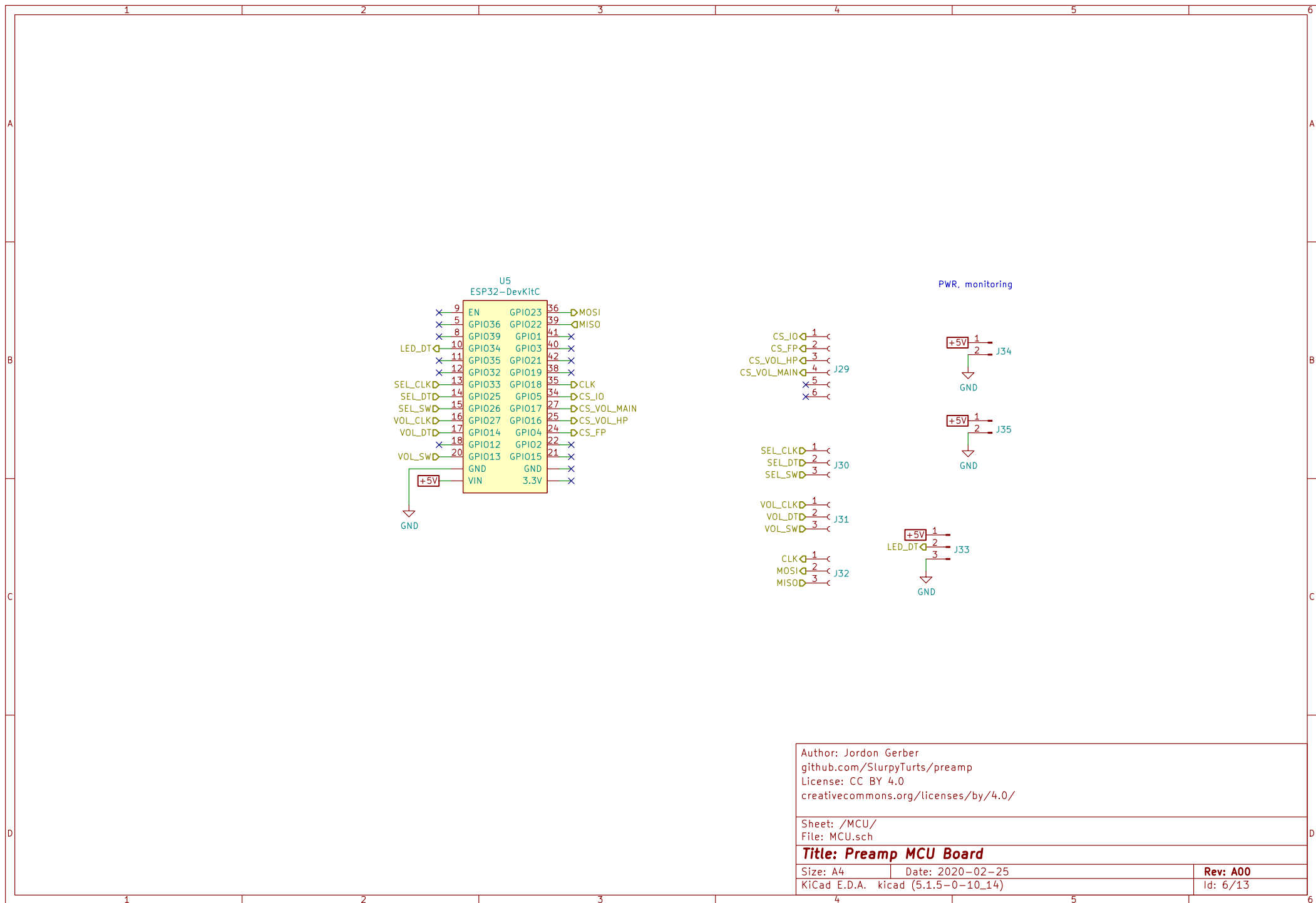
Author: Jordon Gerber
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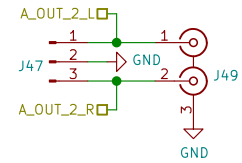
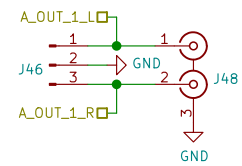
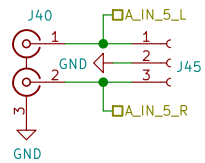
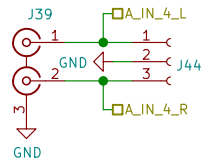
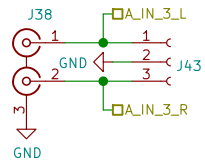
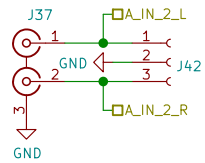
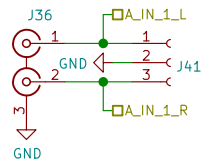
Sheet: /front panel/
 File: front_panel.sch

Title: Front Panel

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

Rev: A00
 Id: 5/13





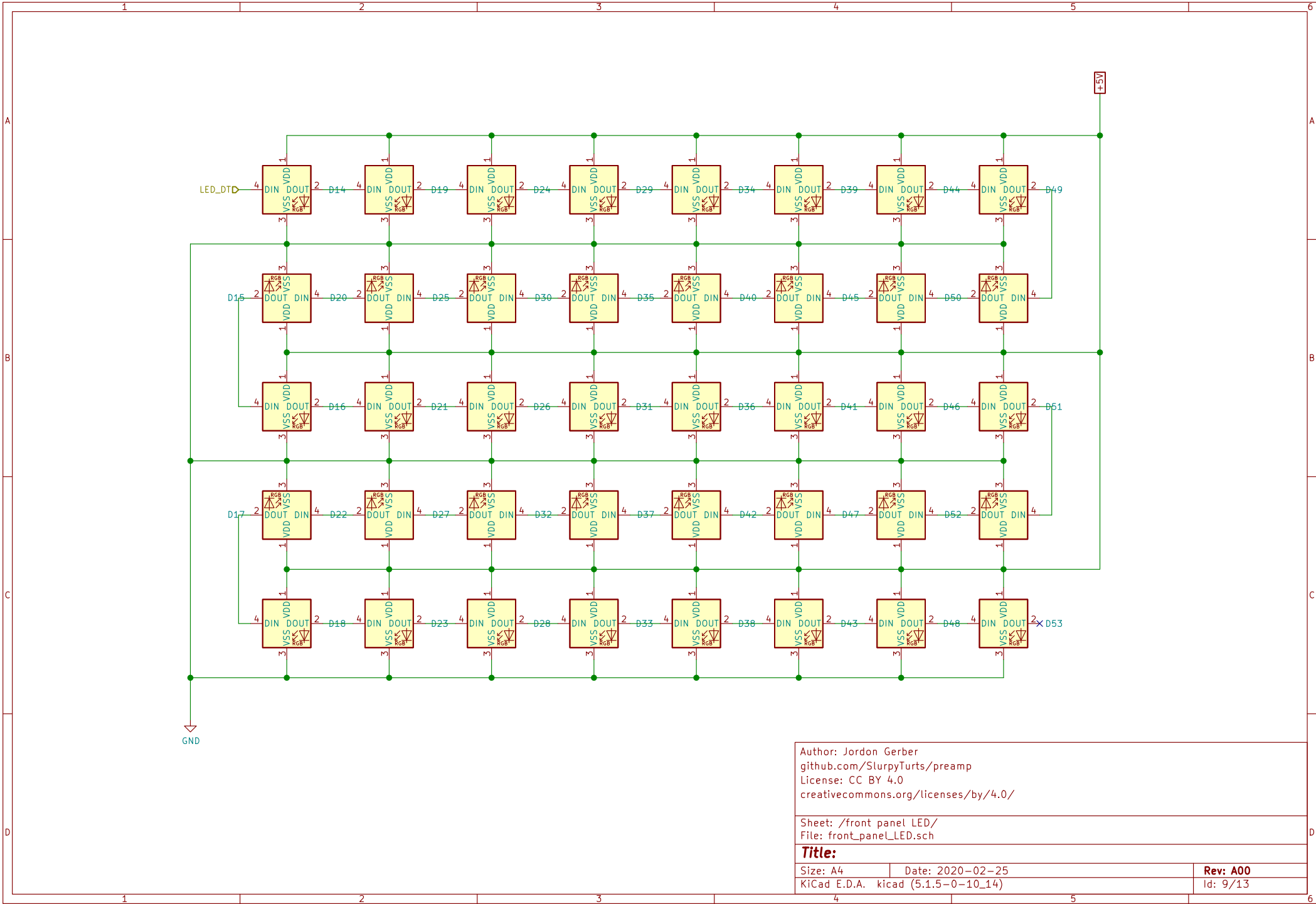
Author: Jordan Gerber
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Sheet: /IO/
 File: IO.sch

Title: IO Main Board

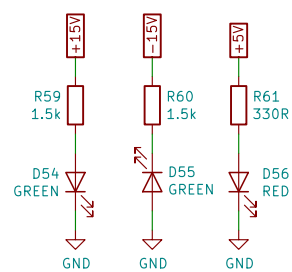
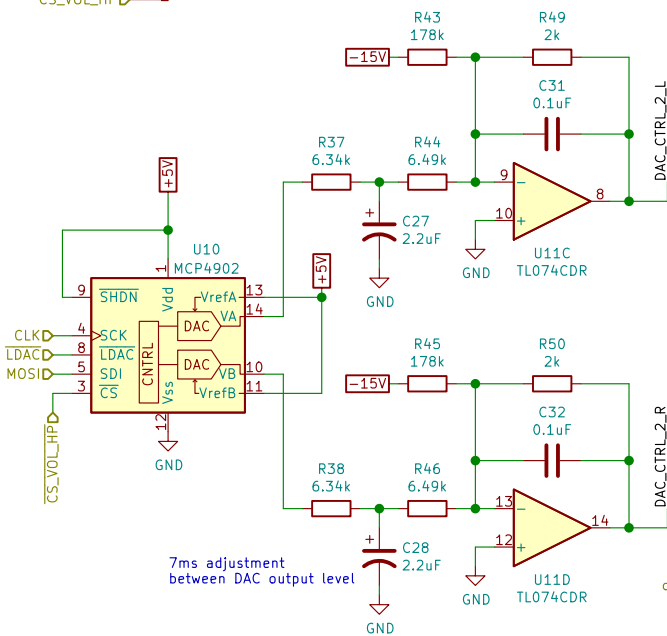
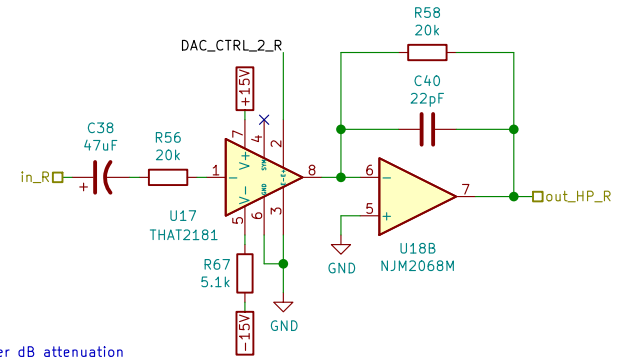
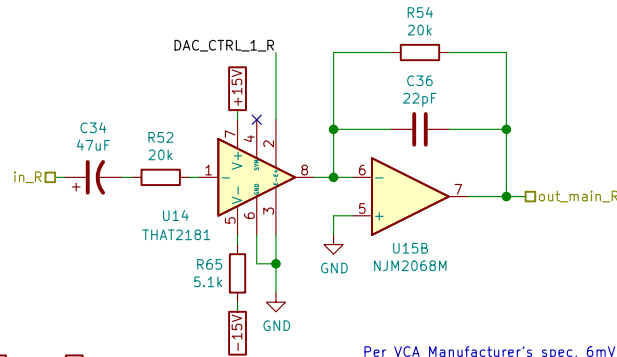
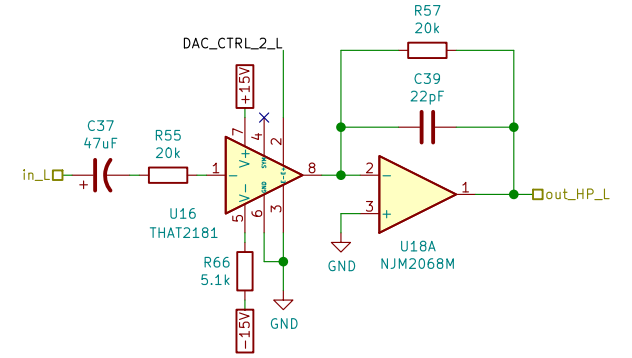
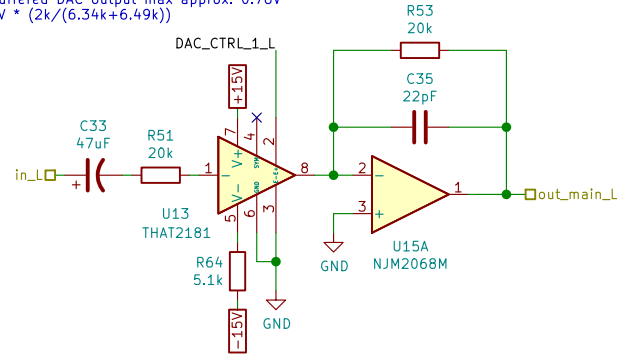
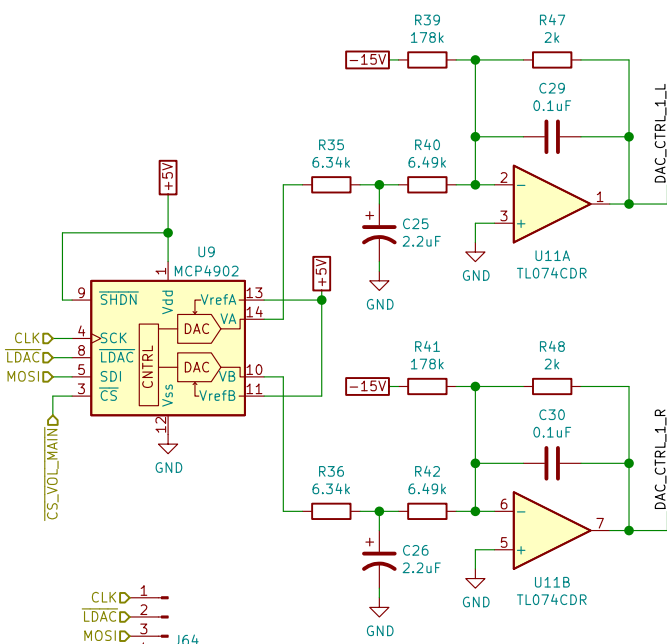
Size: A4 Date: 2020-02-25
 KiCad E.D.A. kicad (5.1.5-0-10_14)

Rev: A00
 Id: 7/13

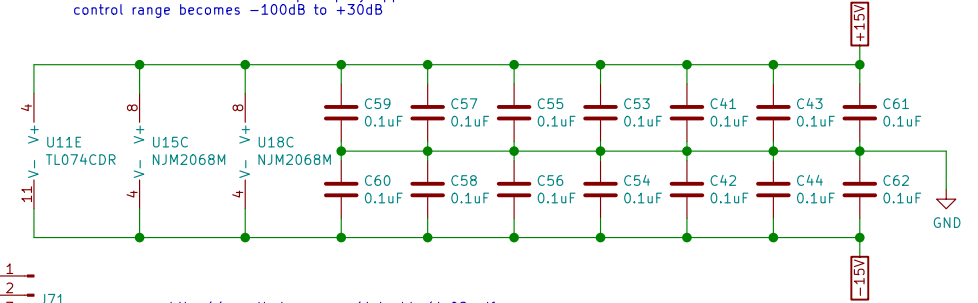


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Sheet: /front panel LED/ File: front_panel_LED.sch		
Title:		
Size: A4	Date: 2020-02-25	Rev: A00
KiCad E.D.A. kicad (5.1.5-0-10_14)		Id: 9/13

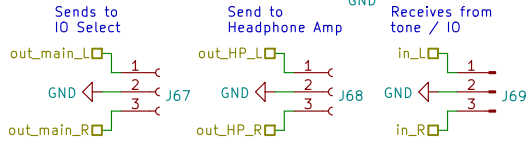
Buffered DAC output max approx. 0.78V
 $5V \cdot (2k / (6.34k + 6.49k))$



Per VCA Manufacturer's spec, 6mV per dB attenuation
for max 0.78V, $0.78 / 0.006 = 130\text{dB}$ range
 $130\text{dB} / 256 \text{ steps} = 0.51\text{dB} / \text{step}$
178k offset resistor shifts output up by approx. 30dB
control range becomes -100dB to $+30\text{dB}$



7ms adjustment
between DAC output level



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

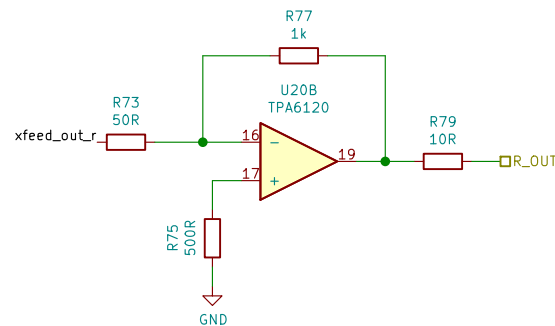
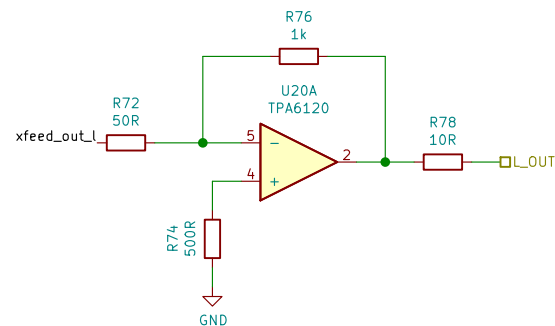
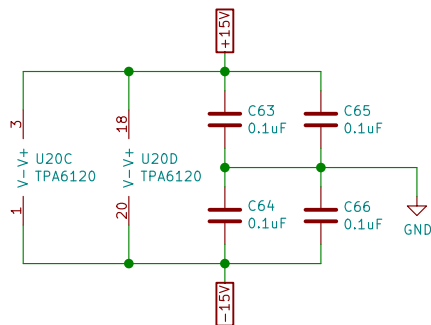
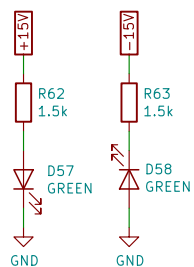
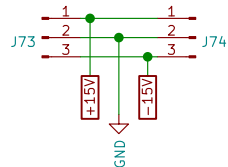
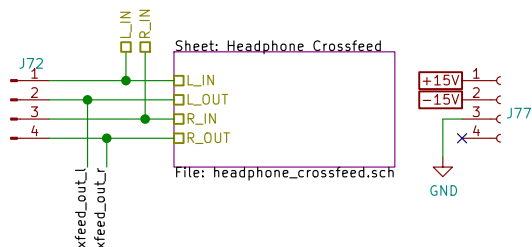
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Sheet: /Volume Control/
File: volume_ctrl.sch

Title:

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

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

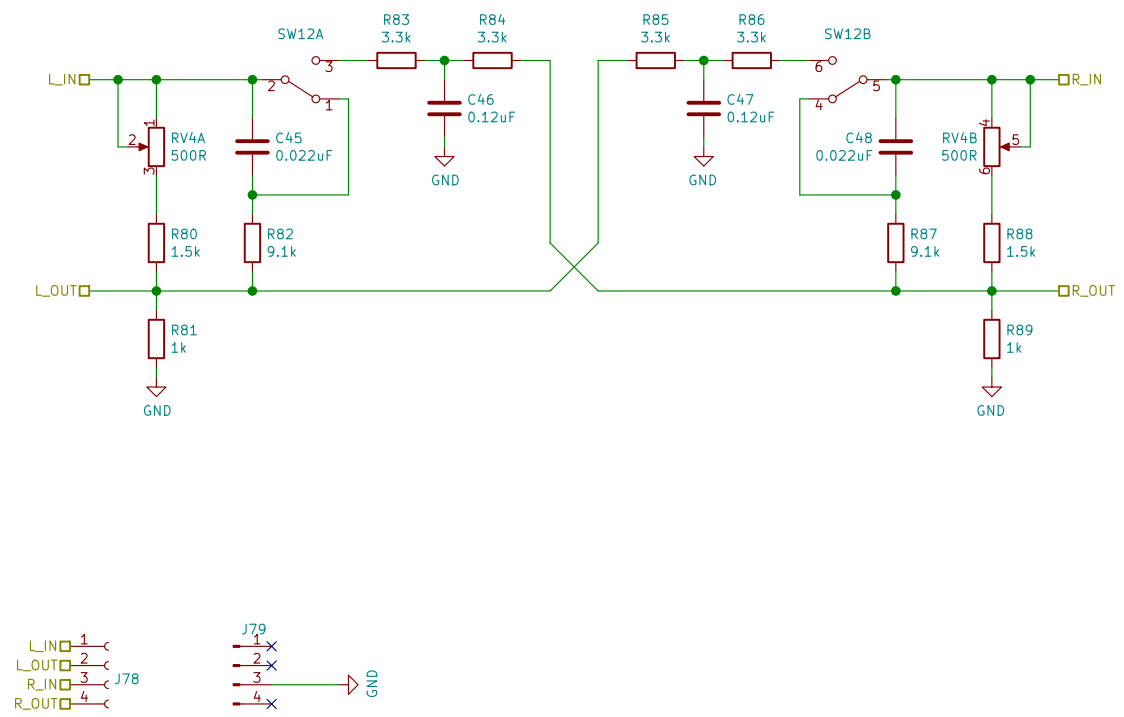
Title: Headphone Amplifier Board

Size: A4
KiCad E.D.A. kicad (5.1.5-0-10_14)

Date: 2020-02-25

Rev: A00

Id: 11/13



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Sheet: /headphone amp/Headphone Crossfeed/ File: headphone_crossfeed.sch		
Title: Headphone Crosstalk		
Size: A4	Date: 2020-02-25	Rev: A00
KiCad E.D.A. kicad (5.1.5-0-10_14)		Id: 12/13

