

Analog IO



File: analog_io.kicad_sch

Power regulation



File: power_regulation.kicad_sch

Board connectors



File: board_connectors.kicad_sch

User IO



File: user_io.kicad_sch

Bill of Materials notes:

Manufacturer part numbers were chosen first, and are preferred. LCSC part numbers contain many substitutions that were chosen to match the original components as best as possible:

- Capacitor choices are X5R or X7R, +/- 10% tolerance or better, and rated 16V or higher.
- MAX6106 reference replaced with REF3020.
- TLV9162 replaced with LM833 (used in previous design iteration).
- 10kOhm potentiometers replaced with 100kOhm versions.

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Sheet:

File: DSP PAW add-on board.kicad_sch

Title: DSP PAW add-on board

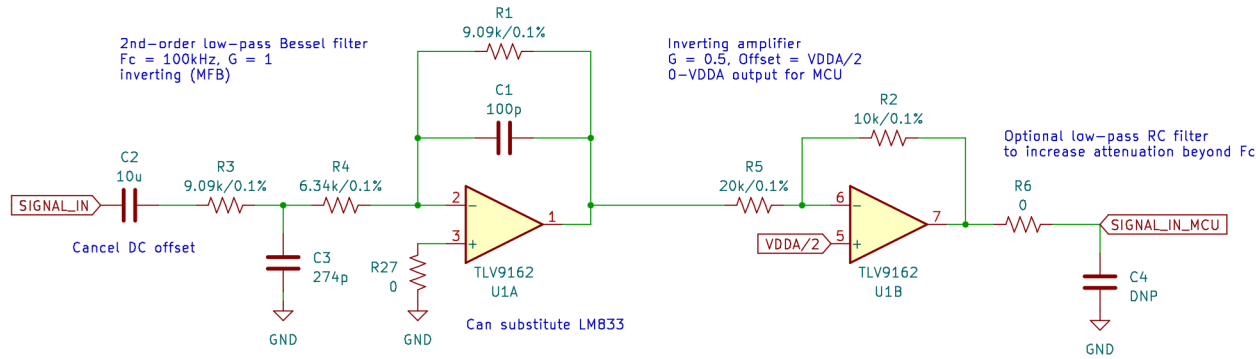
Size: A4 | Date: 2023-08-19

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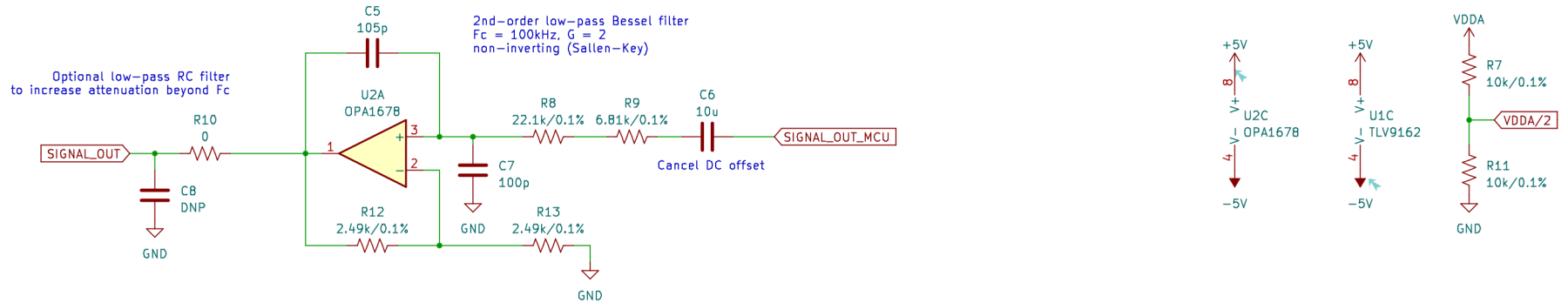
Rev:

Id: 1/5

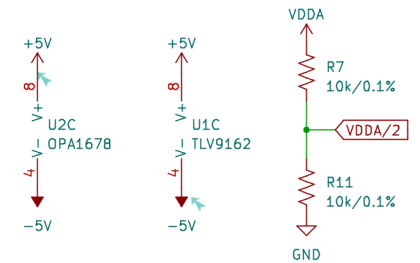
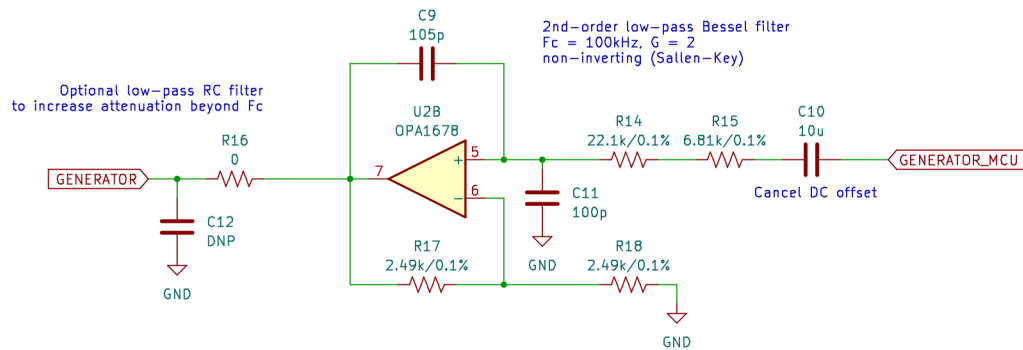
Input signal



Output signal



Signal generator output



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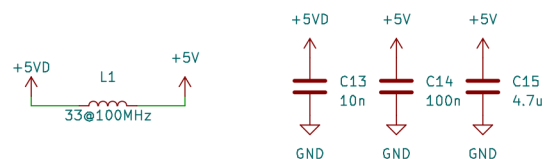
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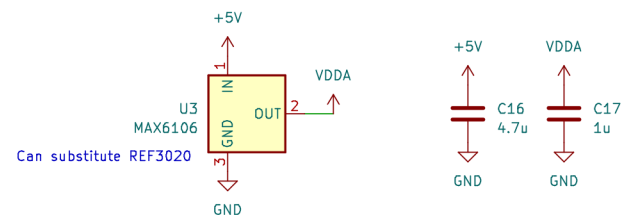
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Rev:
 Id: 2/5

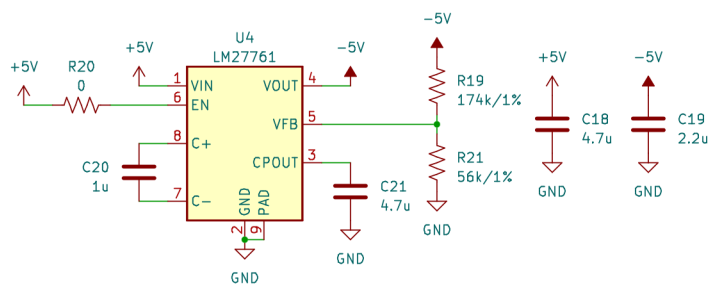
Noise filtering for +5V from VBUS



Analog voltage reference



+5V inverter



Supply test points



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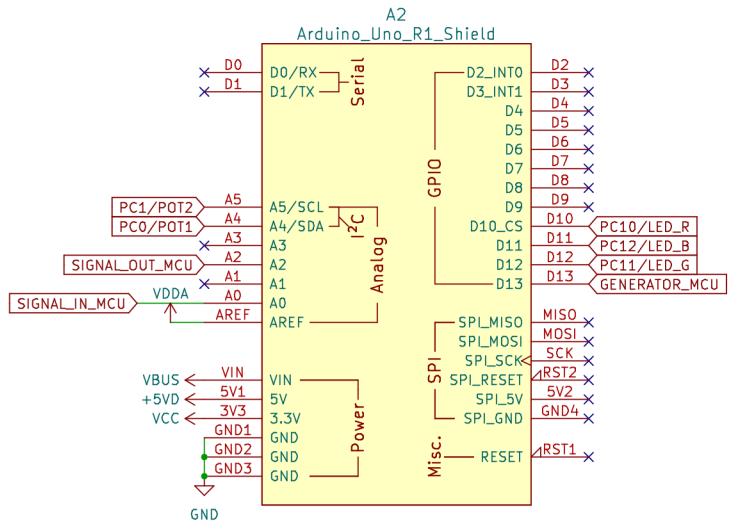
Size: A4 Date: 2023-08-19

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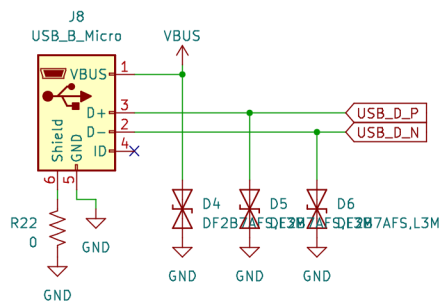
Rev:

Id: 3/5

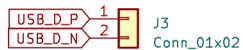
Arduino shield connector



USB to host computer

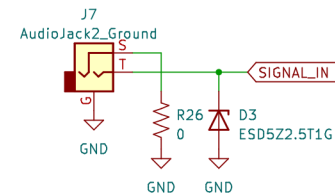
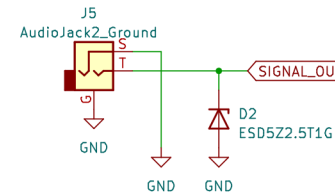
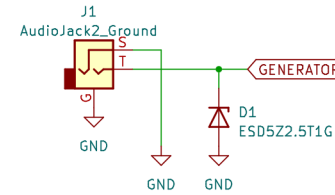


to NUCLEO board

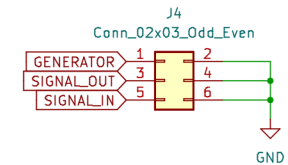


External signal connectors

External signals are to be within +/- 2V.



Previous design fed SIGNAL_IN_GROUND to negative op.amp. Input to cancel DC offset. Remove R26 and R27 (and add wire) to revert to that design.



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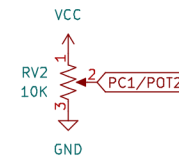
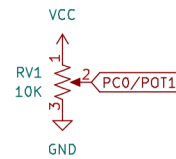
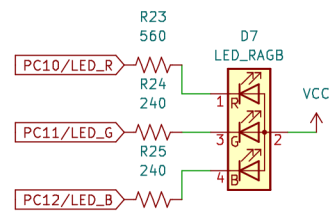
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Status LEDs and parameter knobs



Can substitute other resistances given component availability

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