

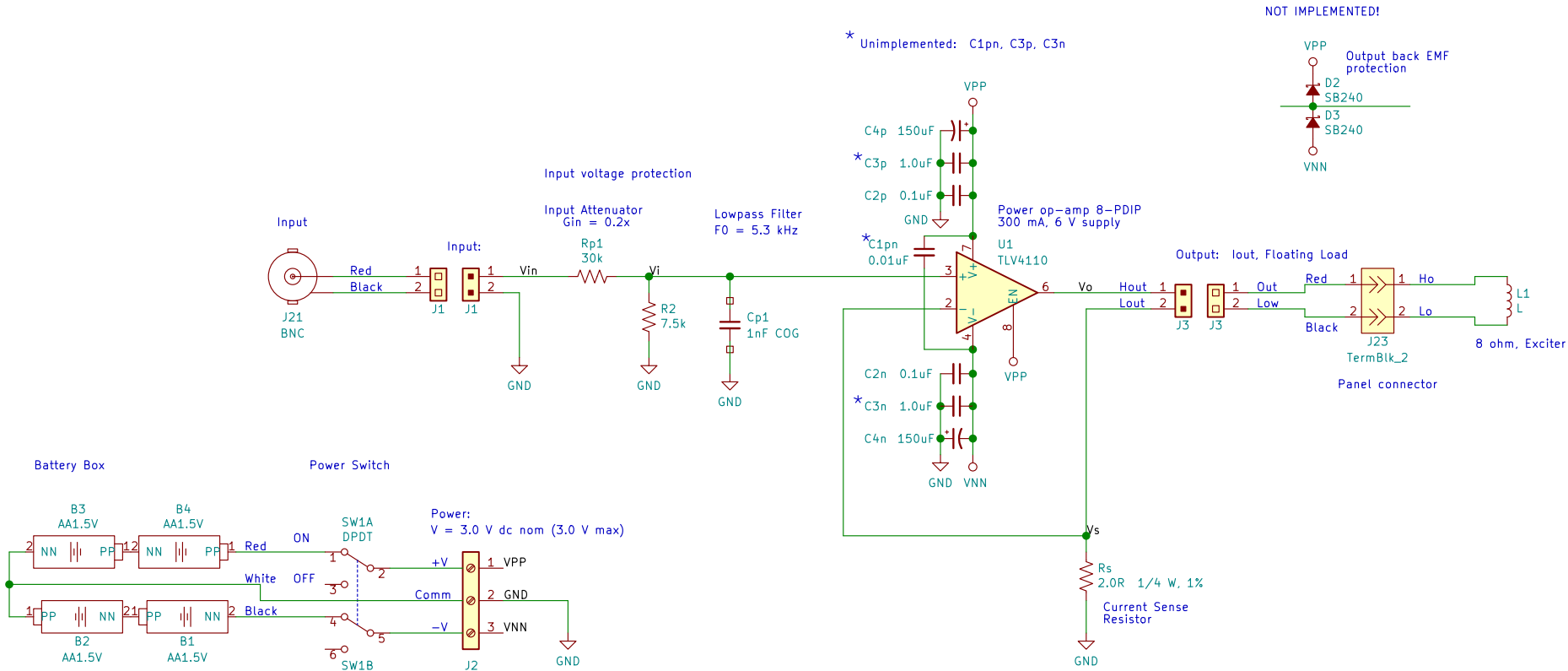
Scale: 0.2 inch drawn = 0.1 inch

Protoboard Solder PCB  
vias 14x20, size 4cm x 6cm  
AdaFruit P4785

Reference Via locations

Vs probe

GND probe



Input: Vin  
Vi = 0 to +−1.0 V, 1 kHz max  
Absolute max 10 V

Output: Iout  
Floating Load, 1.0 V compliance  
 $I_{out} = V_{in} / (R_s * ((R_{p1}/R_2) + 1))$   
 $I_{out} = 0.1 \text{ mA/mV} * V_{in}$

Lowpass Filter:  
 $F_0 = 1/(2 * \pi * R_{p1} * C_{p1})$

Input Attenuator:  
 $G_{in} = 1 / (R_{p1} / R_2 + 1)$  Input gain <1.0  
 $R_{p1} / R_2 = (1 / G_{in}) - 1$

Capacitors: 25 V

Resistors: 1/4 W, 5% Carbon

Current Buffer: 0.1 mA/mV, 100 mA Full Scale  
Mounted protoboard assembly (soldered).

v2.0.1 +−3 V battery, protoboard layout, wire colors

William A. Hudson

Sheet: /

File: ki.sch

Title: Low-Current Buffer - buffer\_low\_v2/

Size: B Date: 2023-12-27

KiCad E.D.A. kicad 5.0.2-bee76a070ubuntu18.04.1

Rev: v2.0.1

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