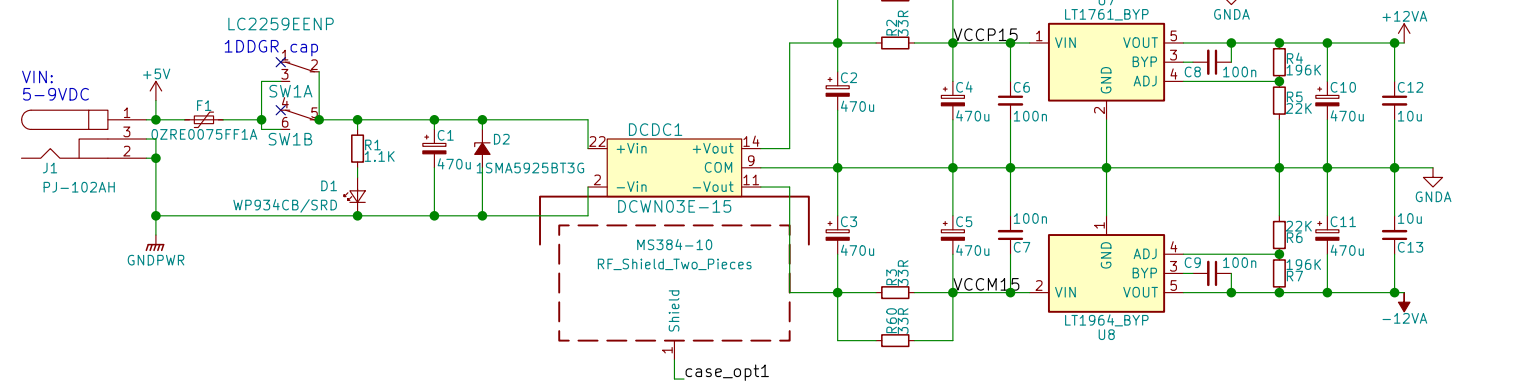
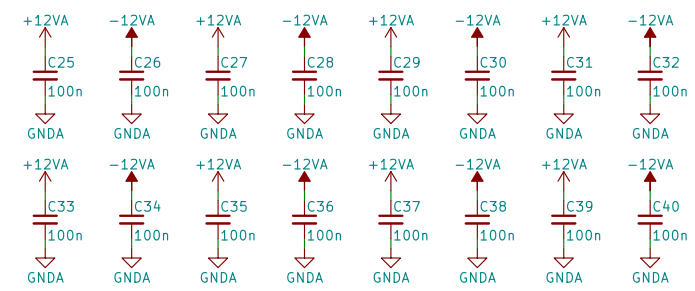


Power Supply Section:

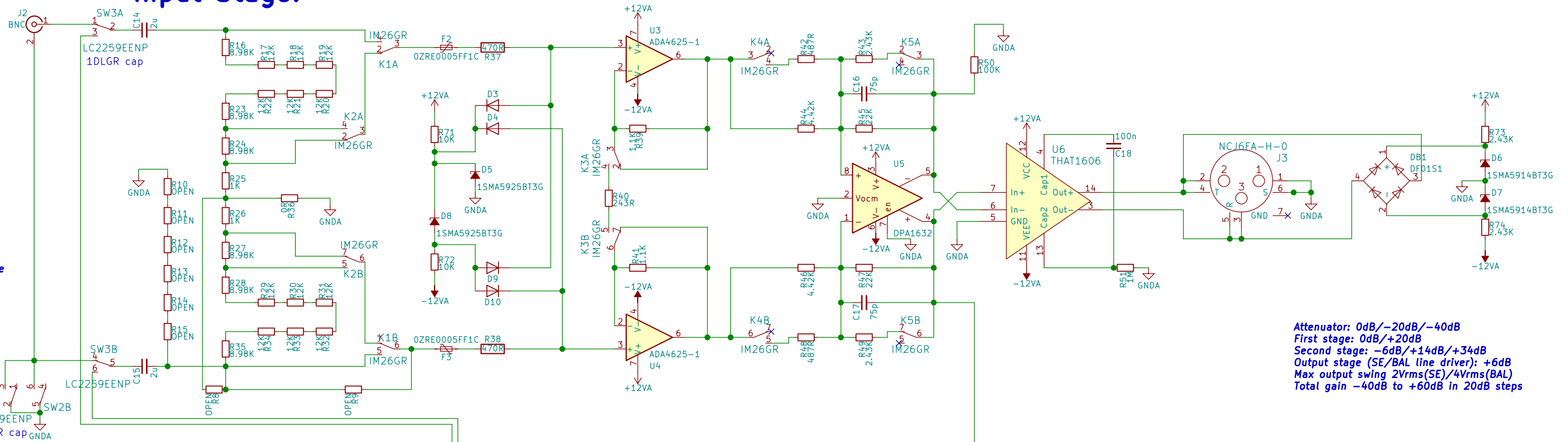


U11 - 78XX (DPAK package) or substitute, optional part.
Use according to VAUX need (panel voltage meter supply).
Short R70 for bypass if U11 isn't populated.

Local Decoupling:



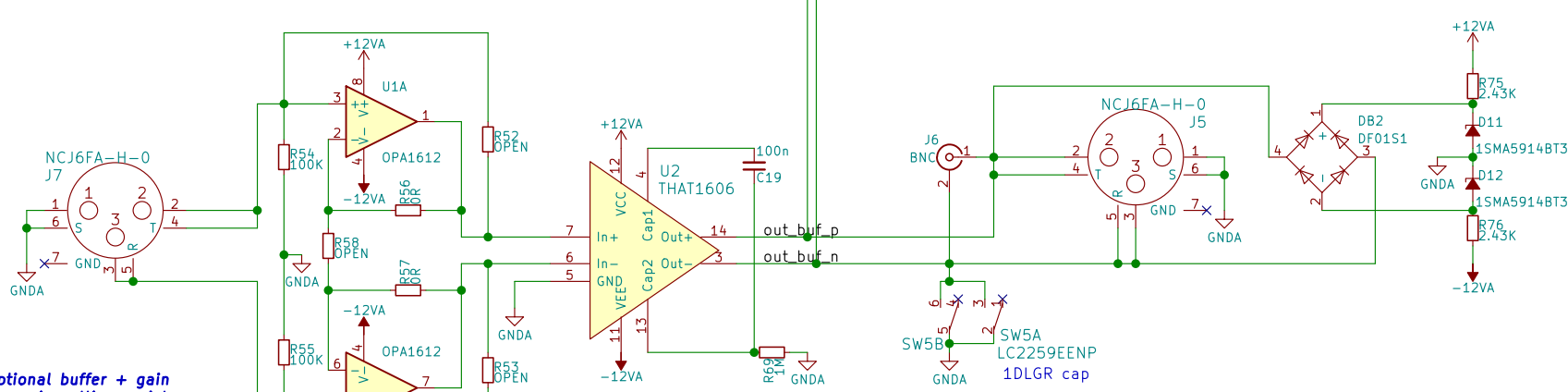
Input Stage:



Configuration shown is default and supports both SE and BAL sources for input signal. Can be reverted to "standard" input stage (<12Vrms amplitude for BAL source) by modifying the following resistors:
R8-R9: OR
R10-R15: 16.9K
R26-R35: unchanged or OPEN
R36: OPEN

Attenuator: 0dB/-20dB/-40dB
First stage: 0dB/+20dB
Second stage: -6dB/+14dB/+34dB
Output stage (SE/BAL line driver): +6dB
Max output swing 2Vrms(SE)/4Vrms(BAL)
Total gain -40dB to +60dB in 20dB steps

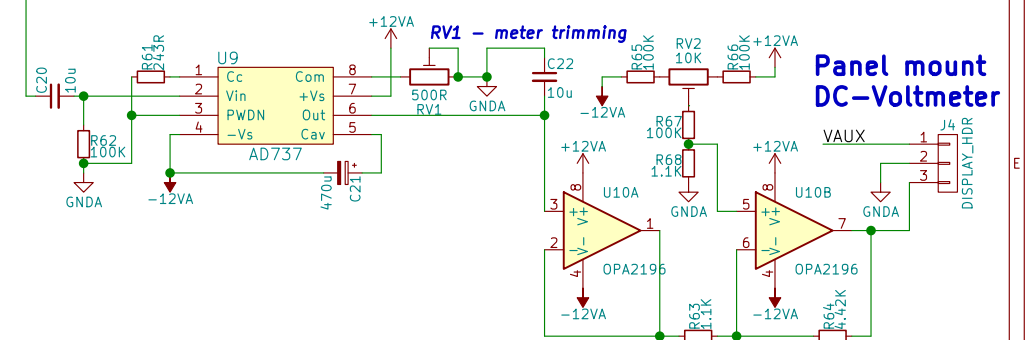
Sound Card Output Buffer:



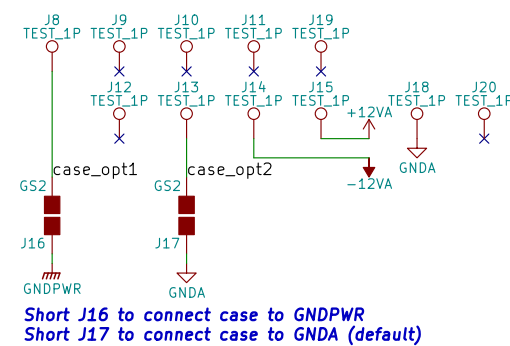
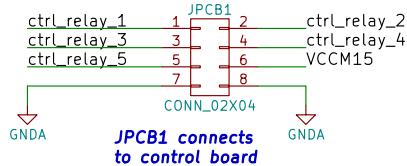
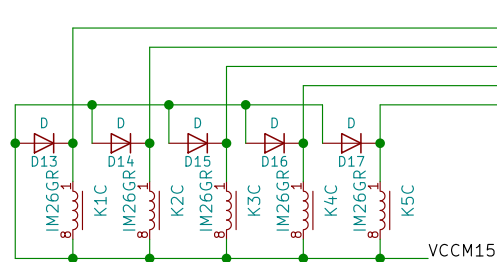
- First stage - optional buffer + gain
R56/R57/R58 - gain setting resistors
OR/OR/OPEN - x1 (0dB) - default
2.2K/2.2K/4.42K - x2 (6dB)
2.2K/2.2K/1.47K - x4 (12dB)
Gain=1+(2*R81/R83), R82=R81
- U1 can be left unpopulated, bypassing it via R52/R53 at cost of reduced input impedance (10K differential typical with bypass)

- Second stage - SE/BAL line driver x2(6dB)
Max output swing 2Vrms(SE)/4Vrms(BAL)

TRMS -> DC Converter:



Control/Mechanical:



- SW1 - Power On/Off
- SW2 - Ground/Float Input
- SW3 - Internal Bypass Mode/External Input
- SW4 - SE/BAL Input Mode (replaced by R8/R9 in final design)
- SW5 - Ground/Float Output

Input ranges: 200V, 20V, 2V, 200mV, 20mV, 2mV
Input referred Noise density (V/rt(Hz)) across ranges (typical at 1KHz):
7n@2mV; 7n@20mV; 15n@200mV; 50n@2V; 500n@20V; 5u@200V

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Sheet: /

File: SoundCard_Measurements_PreAmp.sch

Title: Measurement pre-amplifier for sound cards

Size: User Date: 2019-07-19 Rev: 1.0
KiCad E.D.A. kicad 4.0.6 Id: 1/1

