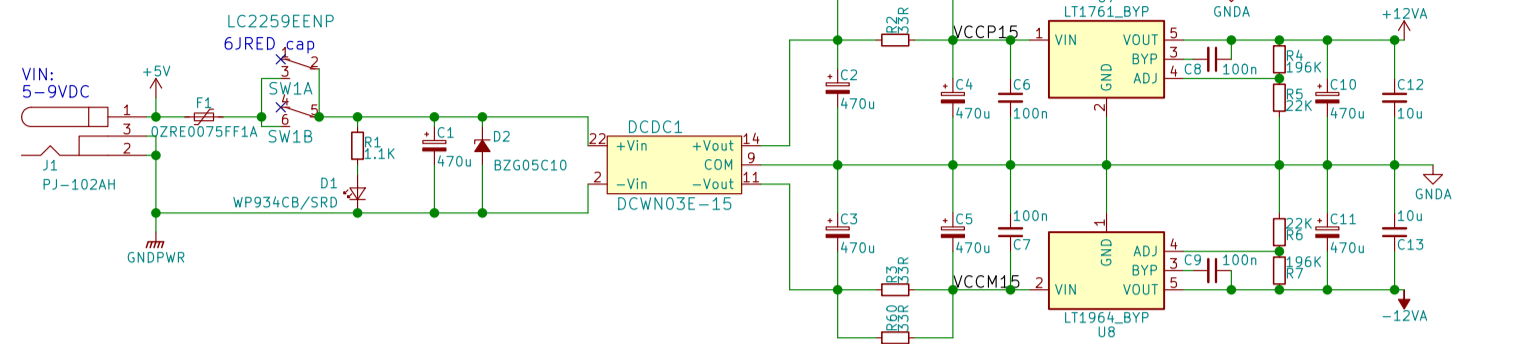
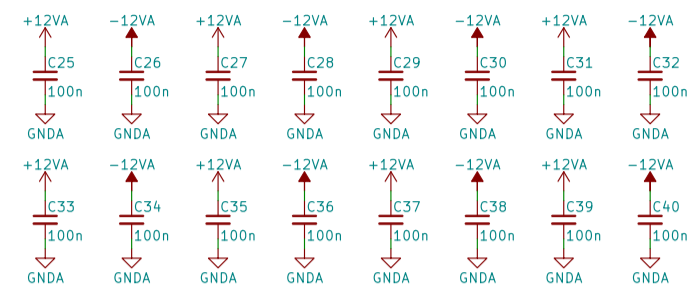


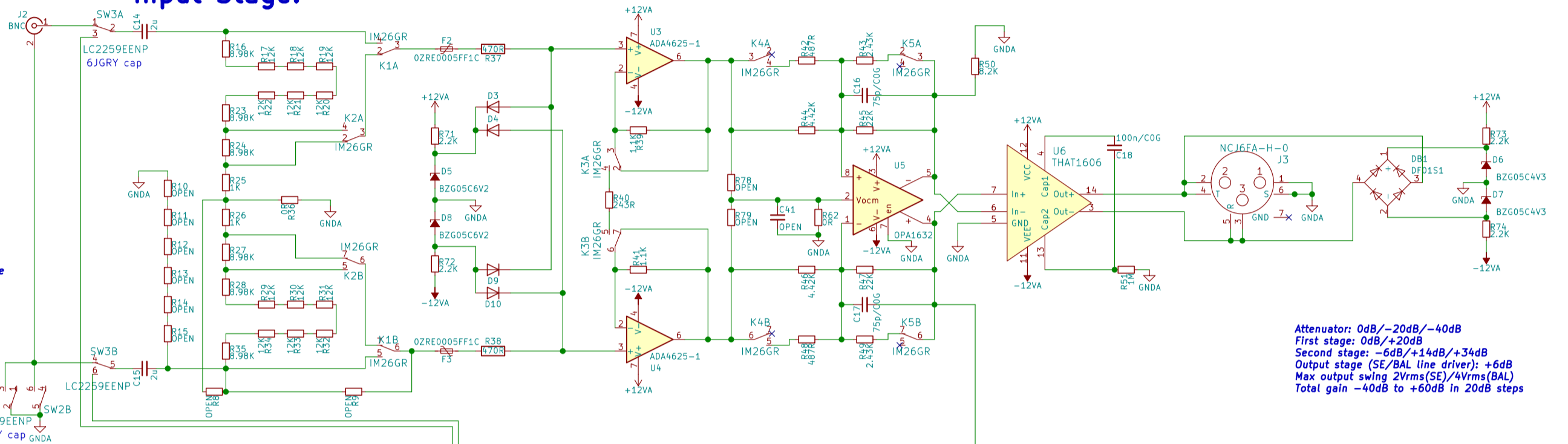
## Power Supply Section:



## Local Decoupling:



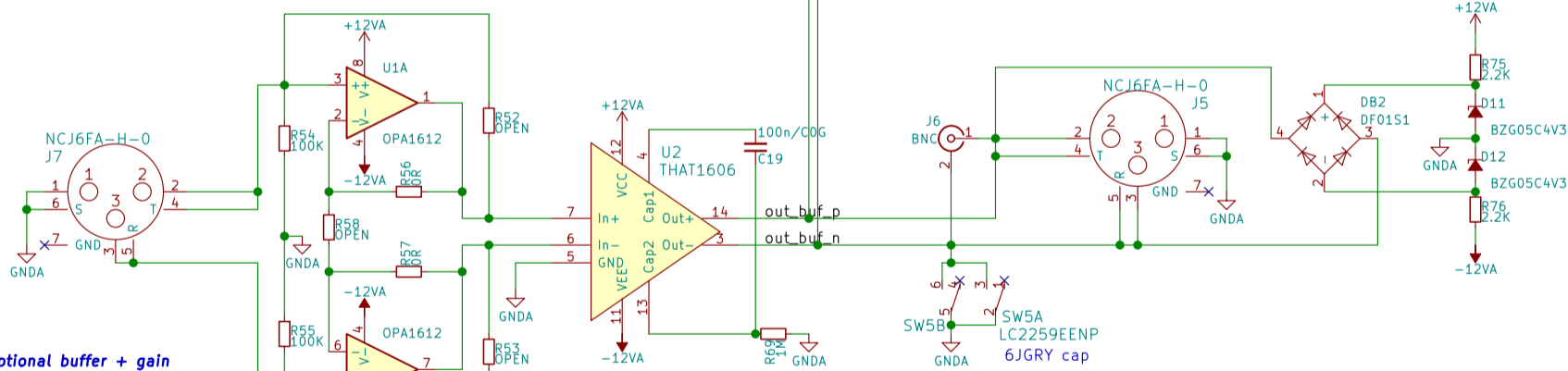
## Input Stage:



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

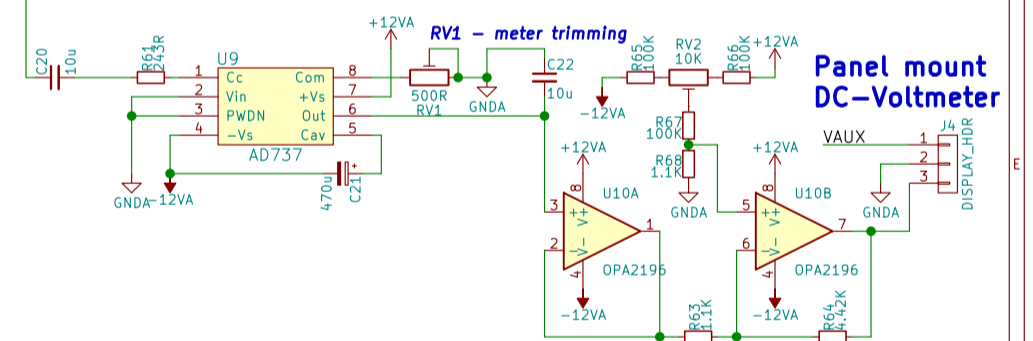
## Sound Card Output Buffer:



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)

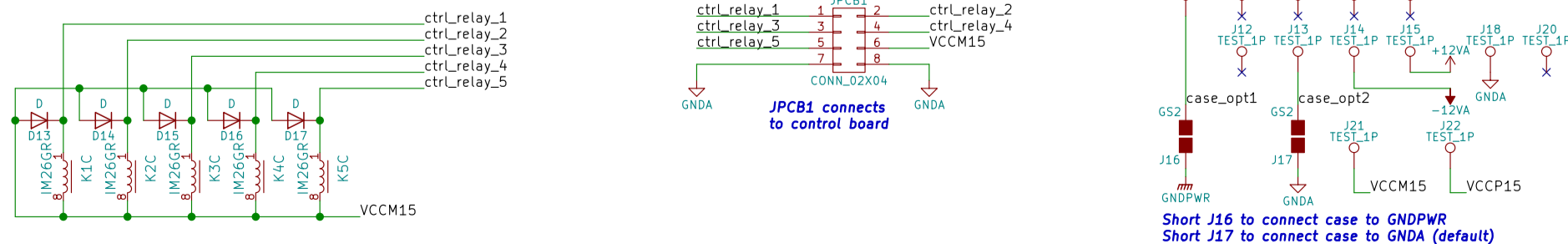
## TRMS -> DC Converter:



## Change Log:

- V1.1:  
 1 - TRMS->DC converter uses low-Z input for extra BW. R50 changed to match  
 2 - Protection diodes at output replaced  
 3 - Added TP's for VCCP15 and VCCM15  
 4 - Implemented optional CM control for OPA1632 via R62/R78/R79/C41  
 5 - Replace Diode footprint to 0805  
 6 - Correct footprint for DC-DC  
 7 - Power LED polarity fixed  
 8 - Remove DC-DC shielded case option

## 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

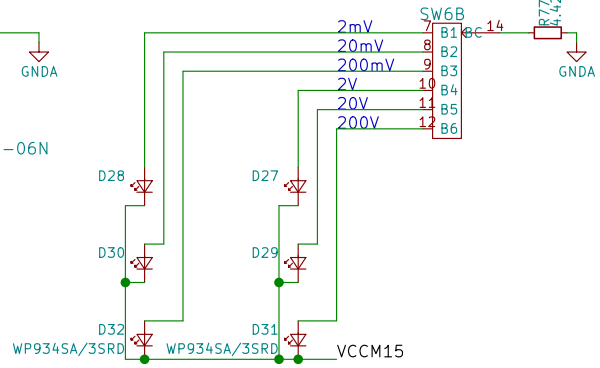
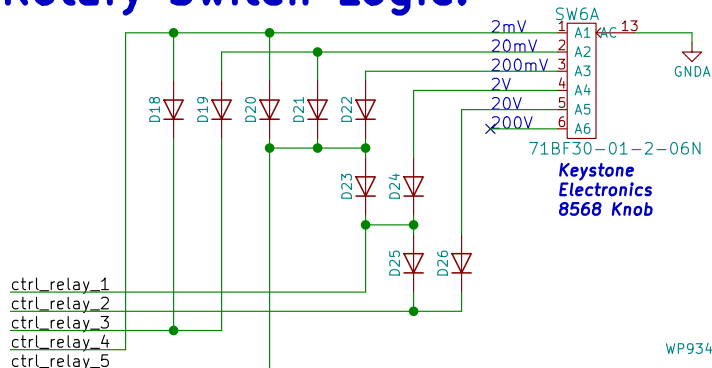
Input ranges: 200V, 20V, 2V, 200mV, 20mV, 2mV  
 Input referred Noise density (V/rt(Hz)) across ranges (typical at 1KHz):  
 7n@2mV; 7n@20mV; 15n@200mV; 50n@2V; 500n@20V; 5u@200V  
 See Change Log for Changes from V1.0  
 Anatoli Mordakhay - www.TotisDIY.com

Sheet: /  
 File: SoundCard\_Measurements\_PreAmp.sch

Title: Measurement pre-amplifier for sound cards

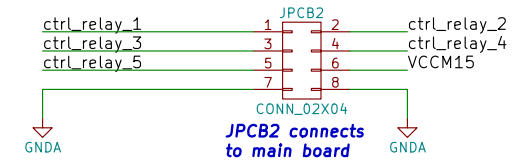
Size: User Date: 2019-08-31 Rev: 1.1  
 KiCad E.D.A. kicad 4.0.6 Id: 1/1

# Rotary Switch Logic:



**Range LED organization:**  
 X1mV    o o    X1V  
 X10mV   o o   X10V  
 X100mV   o o   X100V

Change Log:  
 1 - Replace Diode footprint to 0805



Right-angle rotary switch PCB mounted  
 Input ranges: 200V,20V,2V,200mV,20mV,2mV  
 Daughter board used for mounting of leds/controls  
**Anatoli Mordakhay - www.TolisDIY.com**

Sheet: /  
 File: SoundCard\_Measurements\_Daughterer.sch

**Title: Measurement pre-amplifier for sound cards**

Size: User	Date: 2019-08-31	Rev: 1.1
KiCad E.D.A. kicad 4.0.6		Id: 1/1