Board_A

File: Multi_Saturation_Board_A.kicad_sch

Board_B

File: Multi_Saturation_Board_B.kicad_sch

This version is a prototype.

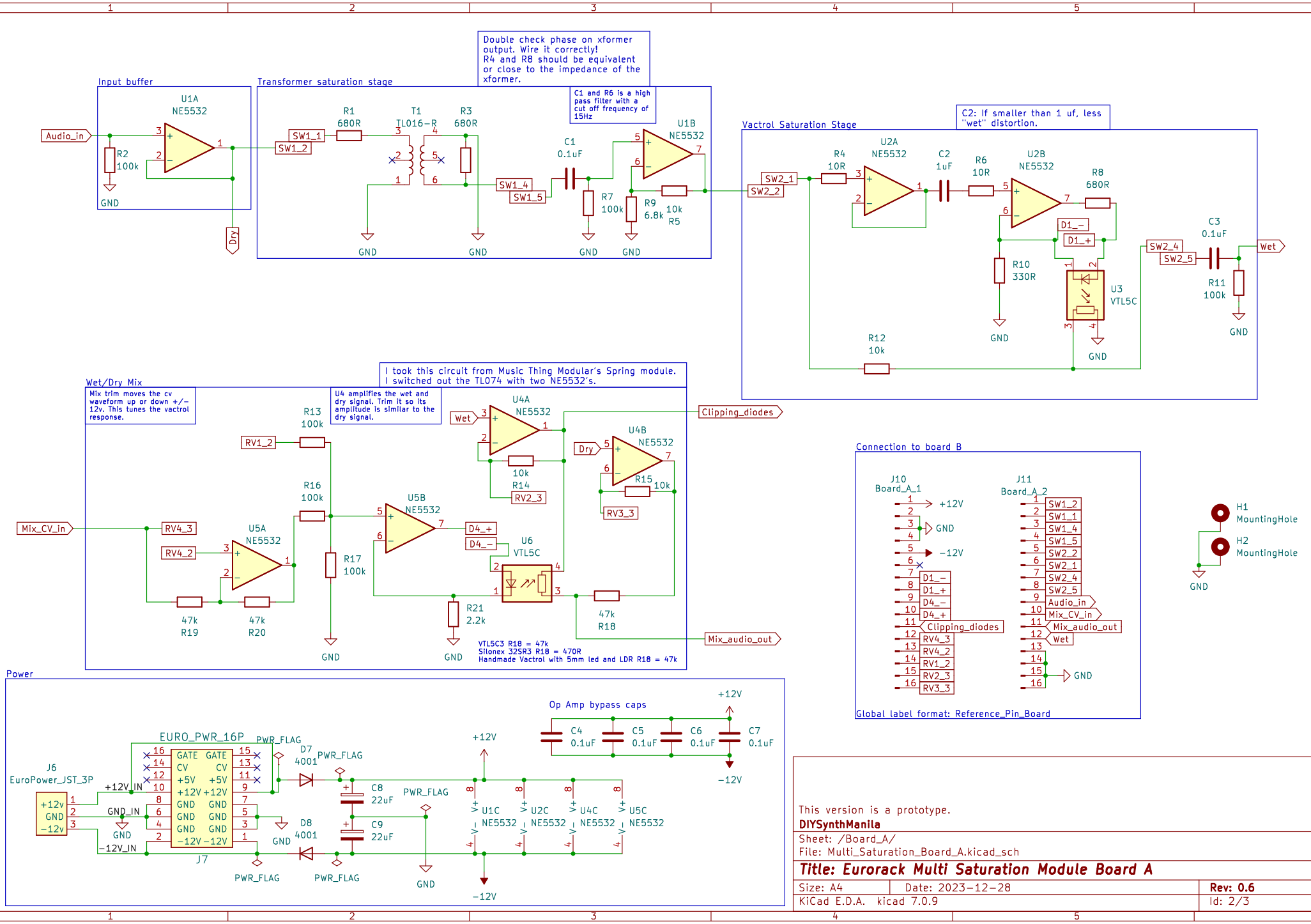
DIYSynthManila

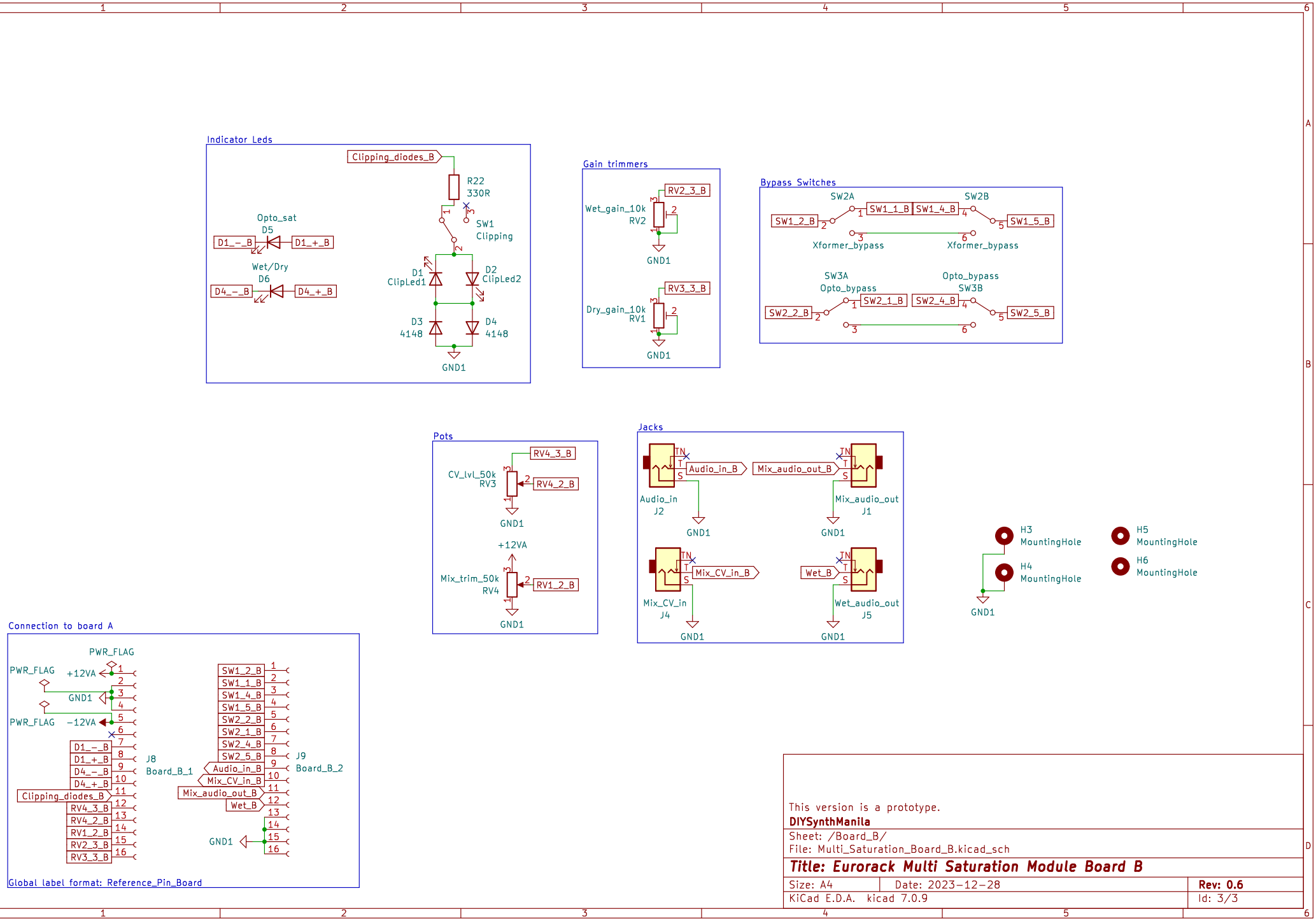
Sheet: /

File: Multi saturation module.kicad_sch

Title: Eurorack Multi Saturation Module

Size: A4	Date: 2023-12-28	**Rev: 0.6**
KiCad E.D.A. kicad 7.0.9		Id: 1/3


Input buffer
Transformer saturation stage
Double check phase on xformer output. Wire it correctly!
R4 and R8 should be equivalent or close to the impedance of the xformer.
C1 and R6 is a high pass filter with a cut off frequency of 15Hz
Vactrol Saturation Stage
C2: If smaller than 1 uf, less "wet" distortion.
Wet/Dry Mix
Mix trim moves the cv waveform up or down +/- 12v. This tunes the vactrol response.
U4 amplifies the wet and dry signal. Trim it so its amplitude is similar to the dry signal.
I took this circuit from Music Thing Modular's Spring module.
I switched out the TL074 with two NE5532's.
VTL5C3 R18 = 47k
Silonex 32SR3 R18 = 470R
Handmade Vactrol with 5mm led and LDR R18 = 47k
Connection to board B
Global label format: Reference_Pin_Board
Power
Op Amp bypass caps
This version is a prototype.
DIYSynthManila
Sheet: /Board_A/
File: Multi_Saturation_Board_A.kicad_sch
Title: Eurorack Multi Saturation Module Board A
Size: A4
Date: 2023-12-28
Rev: 0.6
KiCad E.D.A. kicad 7.0.9
Id: 2/3


Indicator Leds
Clipping_diodes_B
R22
330R
SW1
Clipping
Opto_sat
D5
D1_-_B
D1_+_B
Wet/Dry
D6
D4_-_B
D4_+_B
D1
ClipLed1
D2
ClipLed2
D3
4148
D4
4148
GND1
Gain trimmers
RV2_3_B
Wet_gain_10k
RV2
GND1
RV3_3_B
Dry_gain_10k
RV1
GND1
Bypass Switches
SW2A
SW2B
SW1_2_B
SW1_1_B
SW1_4_B
SW1_5_B
Xformer_bypass
Xformer_bypass
SW3A
Opto_bypass
Opto_bypass
SW3B
SW2_2_B
SW2_1_B
SW2_4_B
SW2_5_B
Pots
RV4_3_B
CV_lvl_50k
RV3
RV4_2_B
GND1
+12VA
Mix_trim_50k
RV4
RV1_2_B
GND1
Jacks
Audio_in_B
Audio_in
J2
GND1
Mix_audio_out_B
Mix_audio_out
J1
GND1
Mix_CV_in_B
Mix_CV_in
J4
GND1
Wet_B
Wet_audio_out
J5
GND1
H3
MountingHole
H4
MountingHole
GND1
H5
MountingHole
H6
MountingHole
Connection to board A
PWR_FLAG
PWR_FLAG
+12VA
GND1
PWR_FLAG
-12VA
D1_-_B
D1_+_B
D4_-_B
D4_+_B
Clipping_diodes_B
RV4_3_B
RV4_2_B
RV1_2_B
RV2_3_B
RV3_3_B
J8
Board_B_1
SW1_2_B
SW1_1_B
SW1_4_B
SW1_5_B
SW2_2_B
SW2_1_B
SW2_4_B
SW2_5_B
Audio_in_B
Mix_CV_in_B
Mix_audio_out_B
Wet_B
GND1
J9
Board_B_2
Global label format: Reference_Pin_Board
This version is a prototype.
DIYSynthManila
Sheet: /Board_B/
File: Multi_Saturation_Board_B.kicad_sch
Title: Eurorack Multi Saturation Module Board B
Size: A4
Date: 2023-12-28
Rev: 0.6
KiCad E.D.A. kicad 7.0.9
Id: 3/3