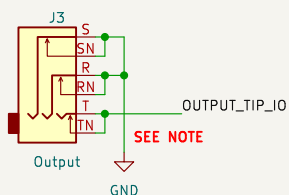
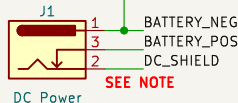
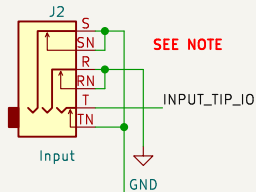


## Connectors



J5  
BATTERY\_POS 1 Battery  
BATTERY\_NEG 2

N.B. Molex Picoblade cable assemblies swap pin order

J6  
EFFECT\_INPUT\_IO 1  
GND 2  
9V0\_IO 3  
EFFECT\_OUTPUT\_IO 4

IO/Effect Connector 1 (IO Side) [E1]

J7  
OUTPUT\_TIP\_IO 1  
2  
3  
INPUT\_TIP\_IO 4

J9  
INPUT\_TIP\_SW 1  
2  
3  
OUTPUT\_TIP\_SW 4

IO/Switch Connector 1 (IO Side) [S1] IO/Switch Connector 1 (Switch Side) [S1]

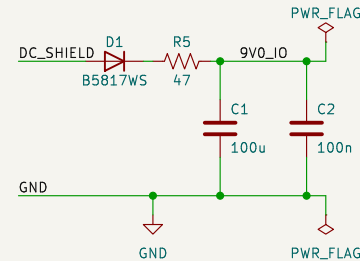
J8  
EFFECT\_INPUT\_IO 1  
GND 2  
9V0\_IO 3  
EFFECT\_OUTPUT\_IO 4

J10  
EFFECT\_OUTPUT\_SW 1  
9V0\_SW 2  
GND\_SW 3  
EFFECT\_INPUT\_SW 4

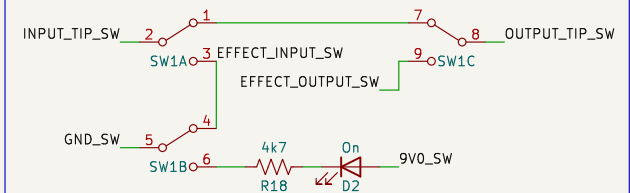
IO/Switch Connector 2 (IO Side) [S2] IO/Switch Connector 2 (Switch Side) [S2]

SPDT2_NO 1	POT5_CCW 1
SPDT2_COM 2	POT5_WIPER 2
SPDT2_NC 3	POT5_CW 3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
POT2_CW 11	J4
POT2_WIPER 12	UX1
POT2_CCW 13	
SPDT3_NO 14	POT1_CW 14
SPDT3_COM 15	POT1_WIPER 15
SPDT3_NC 16	POT1_CCW 16
POT6_CW 17	17
POT6_WIPER 18	GND_UX 18
POT6_CCW 19	GND_UX 19
GND_UX 20	POT4_CW 20
GND_UX 21	POT4_WIPER 21
22	POT4_CCW 22
POT3_CW 23	SPDT1_NC 23
POT3_WIPER 24	SPDT1_COM 24
POT3_CCW 25	SPDT1_NO 25

## Power (IO board)



## 3PDT w/ LED Indicator (switch board)



For enclosure ground (when necessary, such as with plastic audio jacks), solder a wire from GND\_SW lug to footswitch washer.

## Signal flow explanation

Footswitch on:

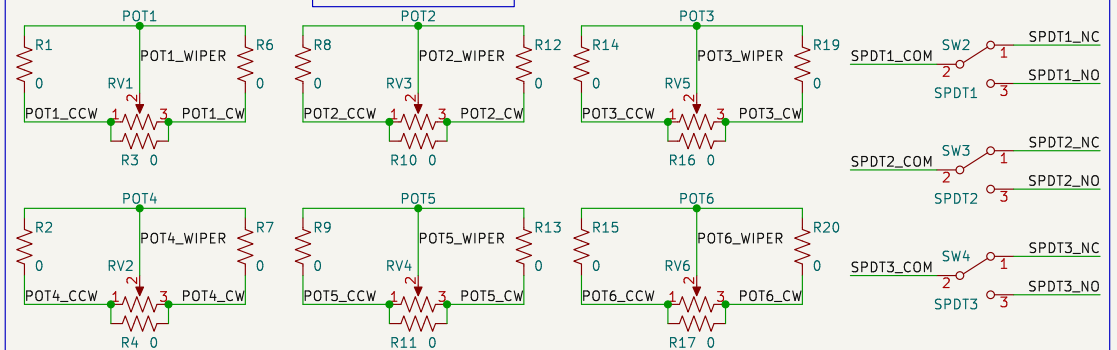
1. ->input (io pcb)
2. input\_tip\_io -(S1)-> input\_tip\_sw -> effect\_input\_sw
3. effect\_input\_sw -(S2)-> effect\_input\_io
4. effect\_input\_io -(E1)-> effect\_pcb
5. effect\_pcb -(E1)-> effect\_output\_io
6. effect\_output\_io -(S2)-> effect\_output\_sw -> output\_tip\_sw
7. output\_tip\_sw -(S1)-> output\_tip\_io
8. ->output (io pcb)

Footswitch off:

1. ->input (io pcb)
2. input\_tip\_io -(S1)-> input\_tip\_sw -> output\_tip\_sw
3. output\_tip\_sw -(S1)-> output\_tip\_io
4. ->output (io pcb)

## Controls - 6xPOT & 3xSPDT UX Board

UX Board is new as of v0.30 and is not tested!



Adjustment resistors are all open circuits by default

Input/battery switching and switch terminal grounding rationale: <https://www.freestompboxes.org/viewtopic.php?t=32540>

Briefly:

- Input TIP SWITCH and SLEEVE are connected to negative supply, input RING is connected to circuit ground.
- When an input cable is not plugged in, the effect circuit is open (off) due to lack of a return to ground.
- When a TS input cable is plugged in, RING shorts to SLEEVE and completes the circuit from negative supply to ground, energizing the circuit.
- Note that a TRS cable will not complete the circuit, and the effect will remain off.

Battery vs DC supply switching works similarly:

- When a DC source is not plugged into the jack, a BATTERY\_POS is connected to the DC\_SHIELD net.
- When a DC source is plugged in, the switch opens the battery circuit to providing an alternate positive supply.

Otherwise:

- Output tip (signal) switch IS NOT grounded, as grounding the output of the circuit when energized could damage effect circuit components.
- Input tip (signal) switch IS grounded, to prevent an output signal from being produced when no input cable is present.

[github.com/whbeers/noise\\_floor](https://github.com/whbeers/noise_floor)

Sheet: /

File: noise\_floor.kicad\_sch

## Title: Noise Floor Interface Boards

Size: A4 Date: 2023-03-27

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Rev: v0.32

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