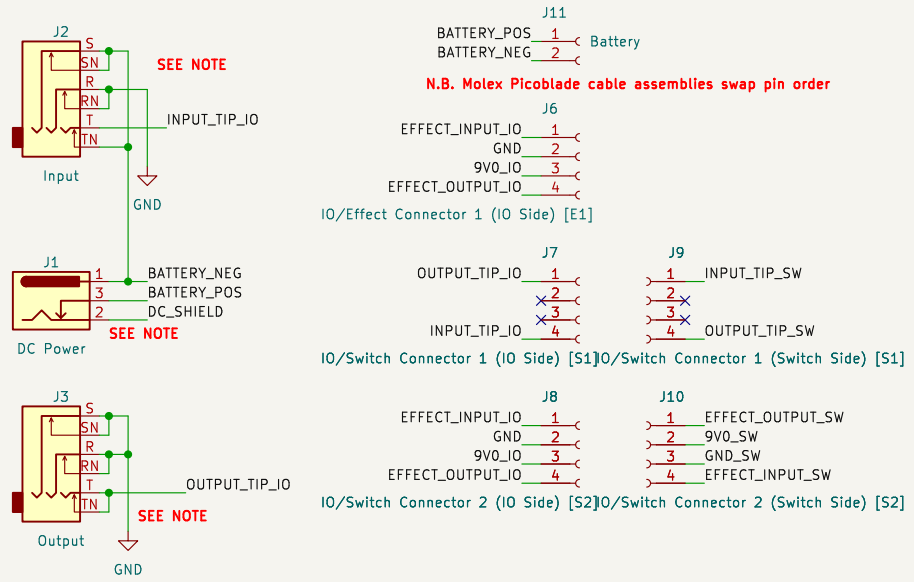
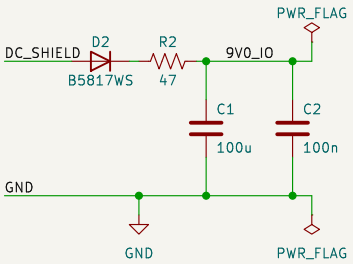
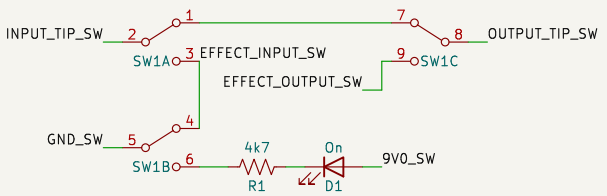
Connectors



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)

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

Sheet: /
File: noise_floor.kicad_sch

Title: Noise Floor Interface Boards

Size: A4	Date: 2023-03-26	**Rev: v0.22**
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