



Detectorist Gate/Trigger Generator Assembly Instructions - Eurorack
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Hello and thank you for building the Detectorist DIY kit. We hope you will find its gates and triggers most pleasing!

Bill of Materials:

1x Panel + 2x SMT populated PCB
1x Through Hole LED
1x Right Angle 5 Pin Power Header
1x 100uF Capacitor
1x SPDT On-Off-On Switch
1x A1M Potentiometer
1x PCB Mount Pushbutton Switch (Momentary)
2x B100k Potentiometer (“Tall Trimmer” type)
2x Thonkiconn Jacks + Knurled Nuts
1x 10 to 16 Pin Power Ribbon Cable

Technical Specifications (Eurorack standard)

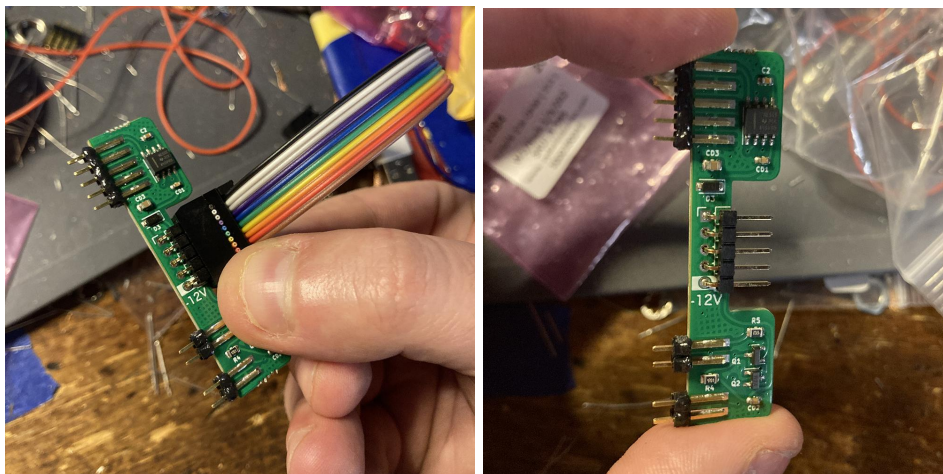
Width: 2hp
Depth: 35mm
Peak Current Draw: 10mA @ +12V, 0mA @ -12V

Assembly Instructions:

The Detectorist DIY is a project suitable for builders of all skill levels. With the surface mount parts already installed, the two most important things to keep in mind with this project are to avoid disturbing any pre-soldered components, and to check at each stage to make sure your hardware is mounted straight so that everything sits squarely behind the slim 2hp panel. Go slowly and double check your work and you will have a completed Detectorist in no time! -Jack S. 10/2023

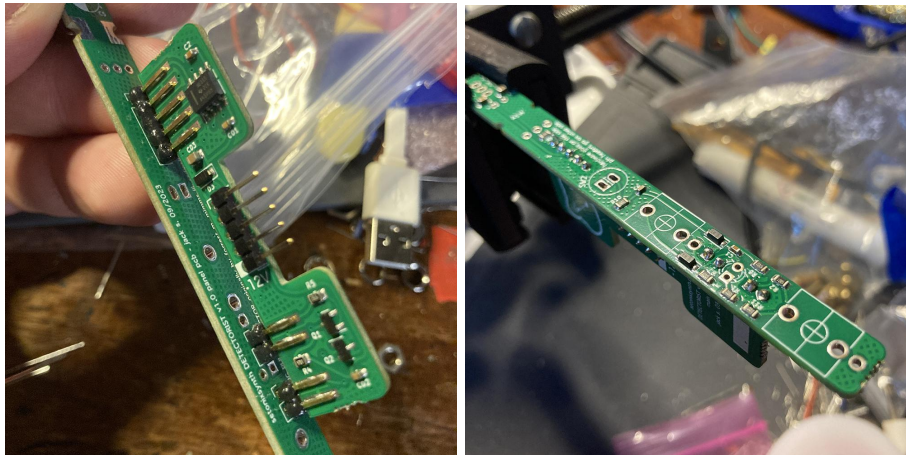
1. Solder the right angle power header to the smaller PCB. The pins of the power header should sit on the same side as the surface mounted pin headers and all the surface mounted components. To ensure correct placement, attach your ribbon cable to the header, place the header in the PCB footprint, then flip it over and solder one pin of the header.

Check to make sure the header is flat and parallel with the PCB. If it isn't, reheat the one soldered pin and move the header so that it is parallel with the PCB, then finally solder the other pins.



Step 1: Solder the right angle power header to the smaller PCB.

2. Fit the straight pin headers on the small PCB into the corresponding holes on the back of the taller Panel PCB. Make sure you fit the headers into the **back** of the tall PCB (the side without surface mount components). It should sit in the holes without soldering anything. Make sure the smaller PCB is perpendicular to the tall PCB.
3. Flip over the taller PCB and solder one pin. Check again to make sure the small PCB is flush with the tall PCB, with the pin headers fully inserted, and the PCBs are still perpendicular (90 degrees) to one another.
4. Once you are satisfied, solder the rest of the pin headers.



Steps 2-4. Solder the smaller PCB to the Panel PCB.

5. Solder the 100uF capacitor to the rear of the tall PCB. Make sure the white (negative) side of the capacitor matches the silkscreen, and that it is flat against the PCB.
6. Hold the tall PCB face up and insert the frontal components: SPDT switch, A1M potentiometer (pinch the side legs together a little), Pushbutton switch, 3mm LED, and 2x Thonkiconn Jacks. **Don't solder anything yet!** You will have to finagle the LED legs a little to fit them on both sides of the soldered main PCB. Make sure the short LED leg, or cathode, goes in the square pad of its footprint.



Step 6. Insert the frontal components.

7. Fit the panel over the front panel components. Hand-tighten the appropriate front panel nuts around the SPDT toggle switch, Pushbutton switch, and both Thonkiconn jacks.

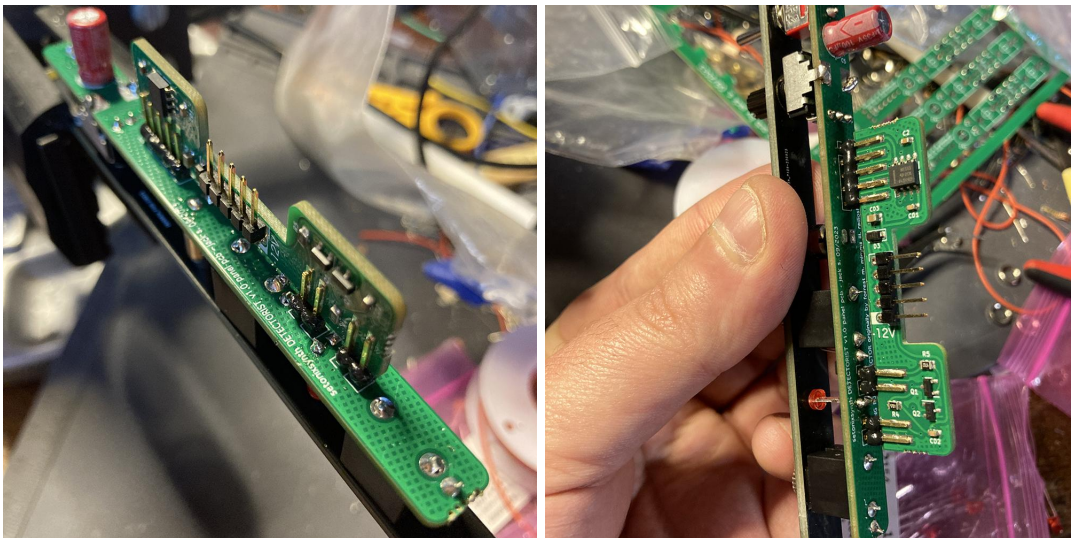


Step 7. Fit the panel over the front panel components and hand tighten the hardware.

8. Flip the module over and push the LED through the front panel hole. Solder one pin, make sure it is straight, then solder the other pin.

9. Solder the SPDT toggle switch and both Thonkiconn jacks first. Next, solder the Pushbutton switch. It might sit a little below the top of the PCB, so make sure it doesn't slip out of its footprint.

10. Finally, solder the potentiometer. Sit the pot against the PCB so that it is straight and solder one of the mechanical (side) legs to the PCB. Make sure the pot is still straight and the pot shaft fits through the front panel hole without rubbing the sides at all. Once you have confirmed the pot is straight, solder the other mechanical leg and the three main pot legs.



Steps 8-10. Solder the front panel hardware, making sure everything is straight.

11. Test your module. Plug it in, making sure the -12V stripe aligns on both the module and your power supply. Check all three ranges by both pushing the Manual pushbutton and sending a Gate or Trigger to the Gate Input jack, and adjust the Length potentiometer to make sure it changes the time of the output. If you have an oscilloscope or voltmeter, check the output to make sure it is somewhere around 5V when the Gate Output is high.

12. Once you have calibrated the module and confirmed that every part of it is working, tighten all the nuts on the front panel.

That's it. Enjoy your new module!

Thank you for building the Detectorist!