Plum Audio - DSO 150 EuroScope v2.0 - Build Guide
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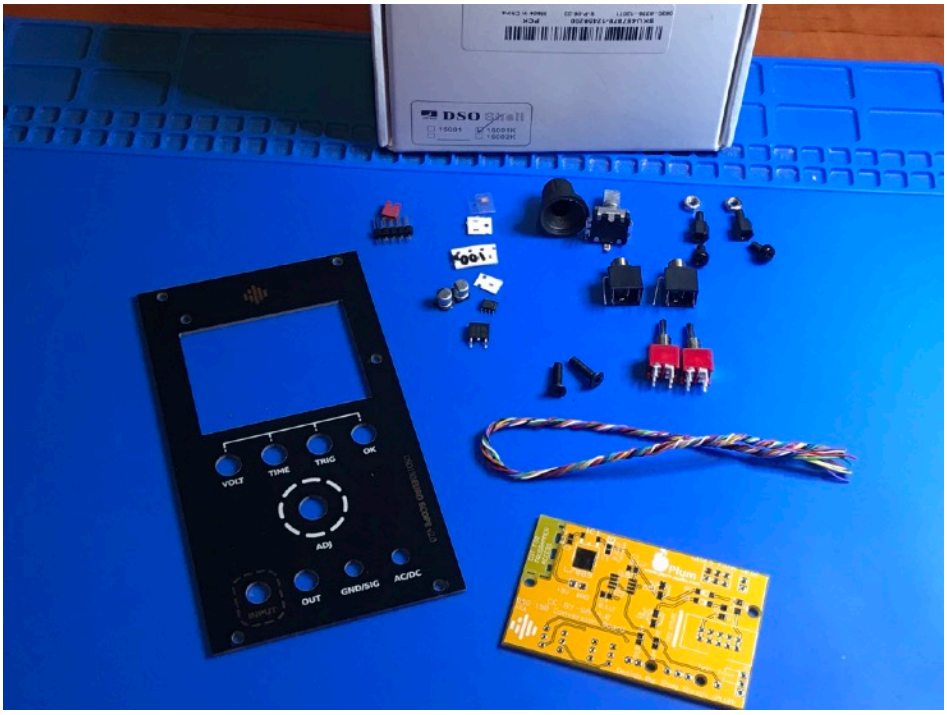
Jye Tech DSO 150
Eurorack Conversion Kit MKII

Build Guide

DSO 150 Is a cheap mini oscilloscope from JYE TECH.
This conversion kit lets you the ability to convert it to Eruorack module and contains two parts:
- 14 Hp Panel
- Conversion Board
- Optional: Expander 2Hp PCB+Panel

This is an easy DIY project, just follow this instructions guide.

Assembling Video Playlist: https://www.youtube.com/watch?v=Akz4jSZyOQc&list=PL2KBIbSMnGOh_Mu7Z_c3bYFIhDCGHZpcL

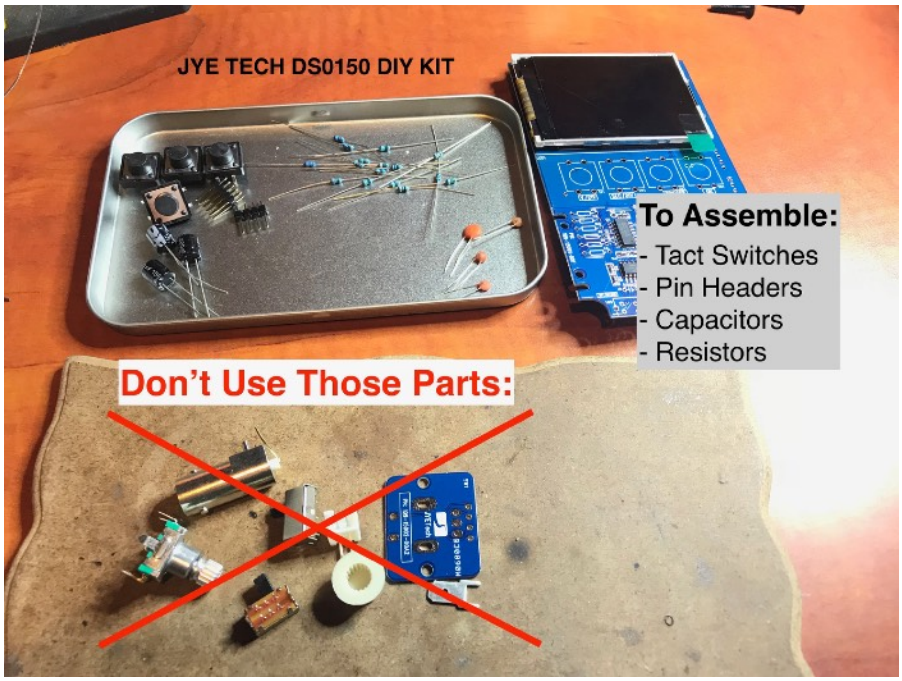


Bill Of Materials

Q	Part/Value	Ref	Source	Notes
1	DSO150 Eurorack panel mk2		Pusherman	
1	DSO150 Conversion Board mk2		Pusherman	
1	**Original** Dso150 (15001K) **DIY KIT**		Banggood	There's other places to buy this kit, but you need pay attention to: 1. buy only the original kit of jye tech version 2017. I've checked this source and it is the original kit. 2. buy the DIY Kit and not the assembled one.
1	L7809CV – 9v Voltage Regulator (SMD)	IC1	Mouser	Mouser Part: 511-L78M09ABDT-TR (or AliExpress/eBay)
1	TL072 SMD - SOIC8	IC2	Mouser Tayda	
2	Diode 1N5819HW	D1,D2	Mouser AliExpress	

1	0.33uF - **Tantalum** Capacitor (SMD 0805)	C1	Mouser	Mouser Part: 581-TAJR334K020R
3	0.1uF - Ceramic Capacitor <25v (SMD 0603/0805)	C2,C3, C4	Tayda Mouser AliExpress	
2	10uF Electrolytic Capacitor (SMD 4mm dia) <25v		Mouser	
2	Resistor 4.7R (SMD 1206)	R1, R3	Mouser	
1	Resistor 51R (SMD 0603/0805)	R4	Mouser Tayda	
1	Resistor 10M (SMD 0603/0805)	R2	Mouser Tayda	
1	3X1 Male Pin Headers		Tayda	Cut from row of 40 pins
1	Jumper		Tayda	
1	10 Pin Eurorack Power Socket		Tayda	Box Header Type
2	3M - 6mm Standoffs (Spacers) + 2 3M Screws		AliExpress	The Nylon/Plastic Type are better. To mount the conversion board to dso150 main board.
2	3M - 12mm-16mm Black Screws		AliExpress	To mount the panel to DSO150 mainboard and fix the screen position.
1	PEC11L Encoder	SW6 (Main Board)	Mouser	Mouser Part:652-PEC11L4215FS0015 * 30 Detent / 15 PPR * SLIM Body SW6 on DSO150 Main Board.
2	PJ301M-12 "Thonkiconn"		Thonk	
2	DPDT (ON-ON) Sub Miniature Toggle Switch	SW2, SW3	Thonk	
1	Encoder Knob		Thonk	Recommended - Sifam Large Soft Encoder Knob - 12mm (D-Shaft)
8	10cm Wrapping Wires			

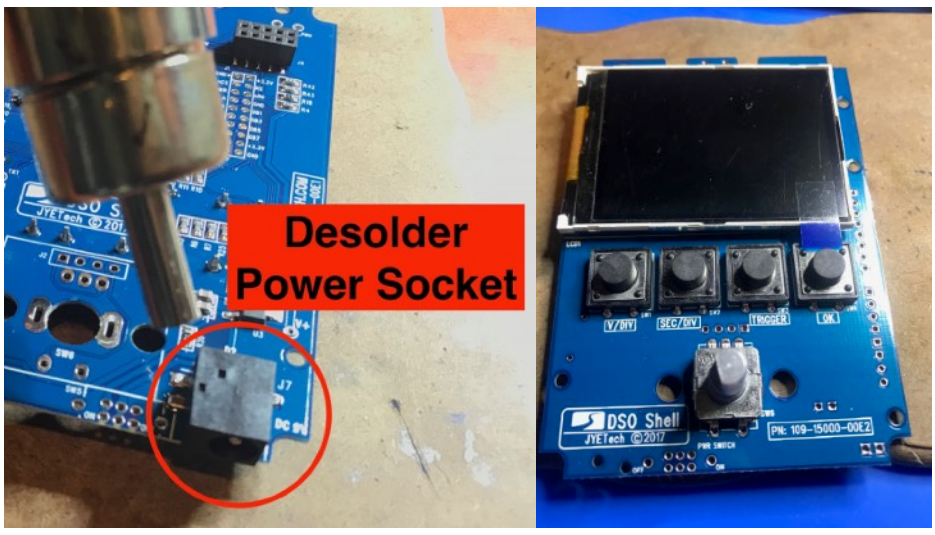
Phase 1:
Assembling DSO 150 KIT



Basically, you need to follow the instructions in the user manual that come with your DSO150 DIY Kit **BUT** you need to do only the steps below (and skip the others):

1. In the mainboard (Marked as "Step 1") You need to solder only the Tact Switches (Step 6) and desolder (or cut) the power socket.
   solder encoder in place (SW6).
   * DON'T REMOVE R30!
   Assembling Video Part 1: https://youtu.be/Akz4jSZyOQc

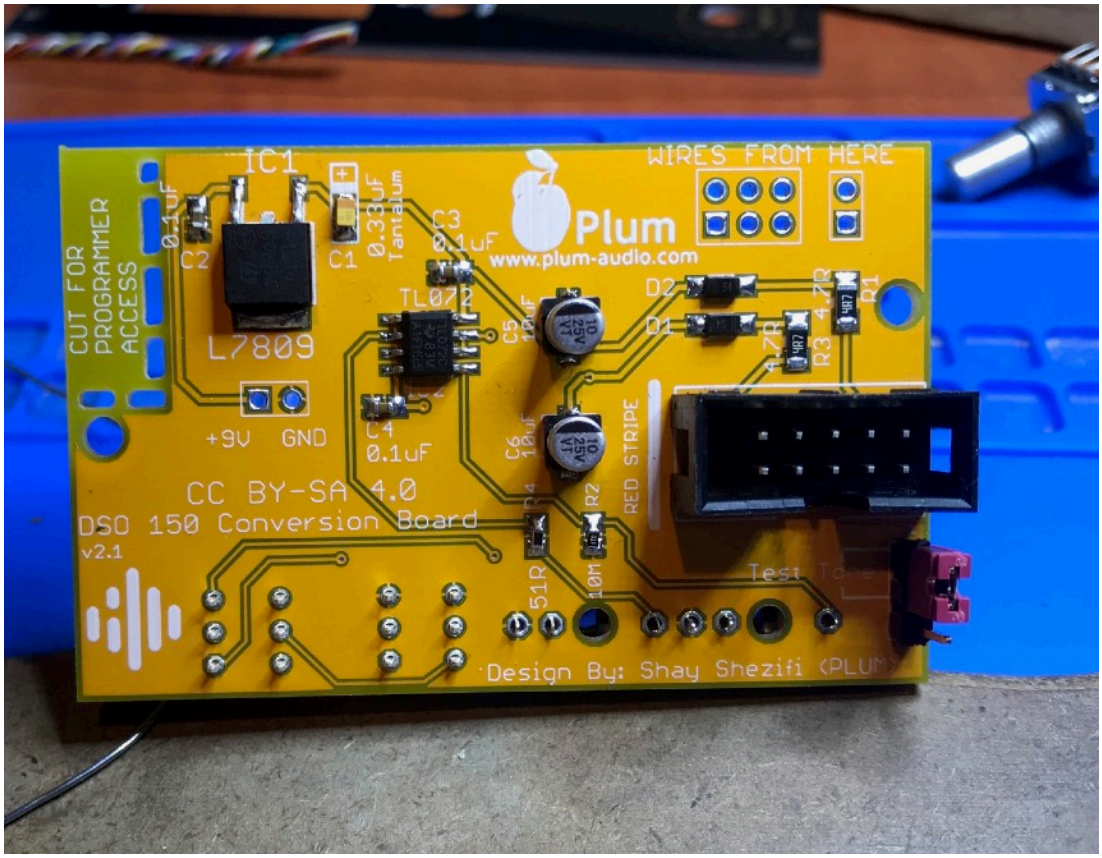
2. In the Analog Board (Marked as "Step 2") You need to solder only the Resistors (Step 1), Capacitors (Steps 2 & 4) and the Pin-Header (Step 6).
   Assembling Video Part 2: https://youtu.be/BhblcA2ikeY



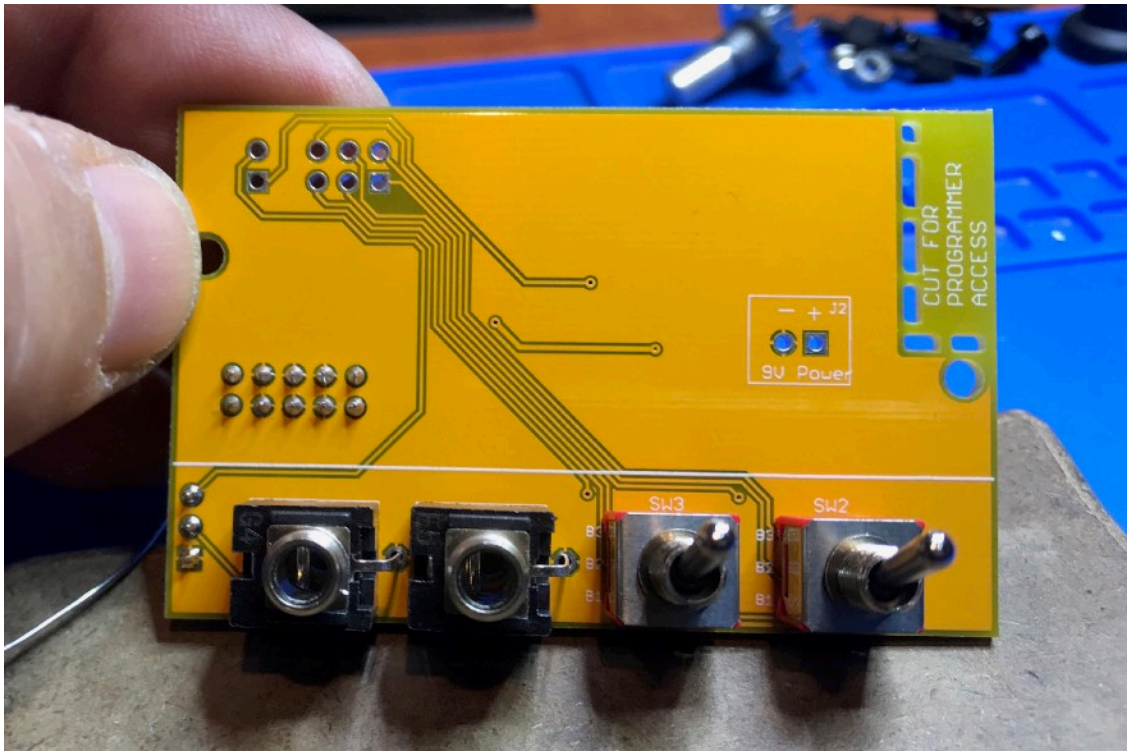
Phase 2:
Assembling Conversion Board

Assembling Video Part 3: https://youtu.be/UtAiYVECAHI

1. Solder all conversion board components (Regulator, Capacitors, Resistors, Opamp, Diodes, Power Header, 3 Pin headers), Short with jumper 2 top pins.



2. Put in place interface parts (do not solder them yet)
   - Thonkiconns
   - Toggle Switches (SW2, SW3)

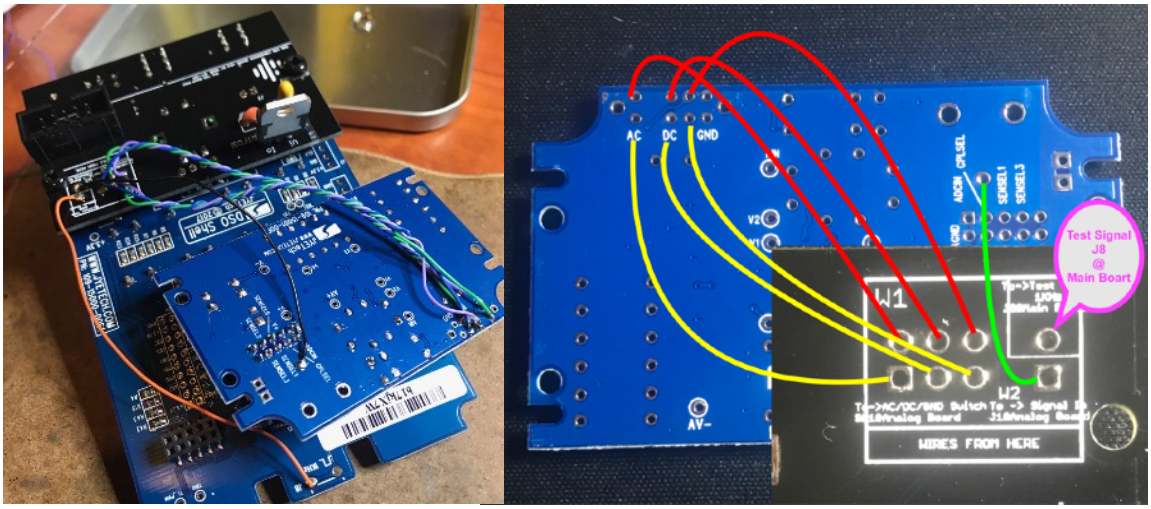


3. Connect the board to power source and check for 9v (+/- 10%) at J2

Phase 3:
Assembling all together

Assembling Video Part 4: https://youtu.be/_hivlbCN2zs

1. Wiring!

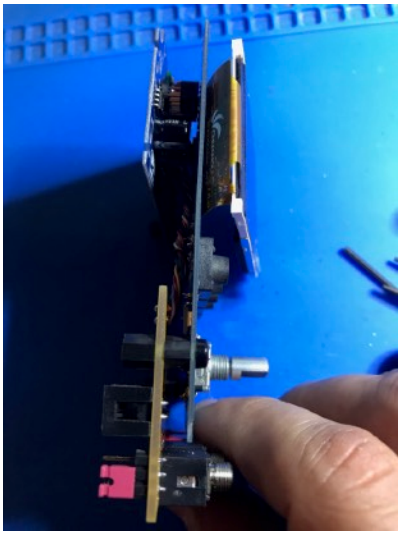


W1 – 6 Wires to SW1 @ DSO 150 analog board, from left to right:
- 2 wires of AC
- 2 Wires of DC
- 2 Wires for switches signal output, You do not need to wire the GND.

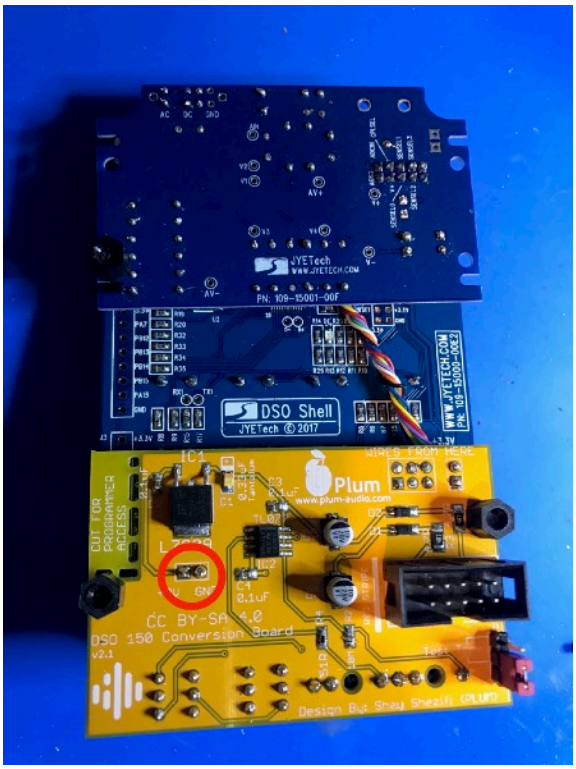
W2 – The square pad need to be wired to the signal input, It's the lower hole of J1 (BNC Connector).

The round pad Need to be wired to test signal tone (J8 @ DSO 150 Main Board).

2. Mount the conversion board to the DSO150 mainboard with 2 3M 6mm Standoffs spacers, **Do Not forget to put in place the pin headers (J2)**, If you need to expand the holes in the DSO150 mainboard you can rotate in them a sharp knife or scissors.

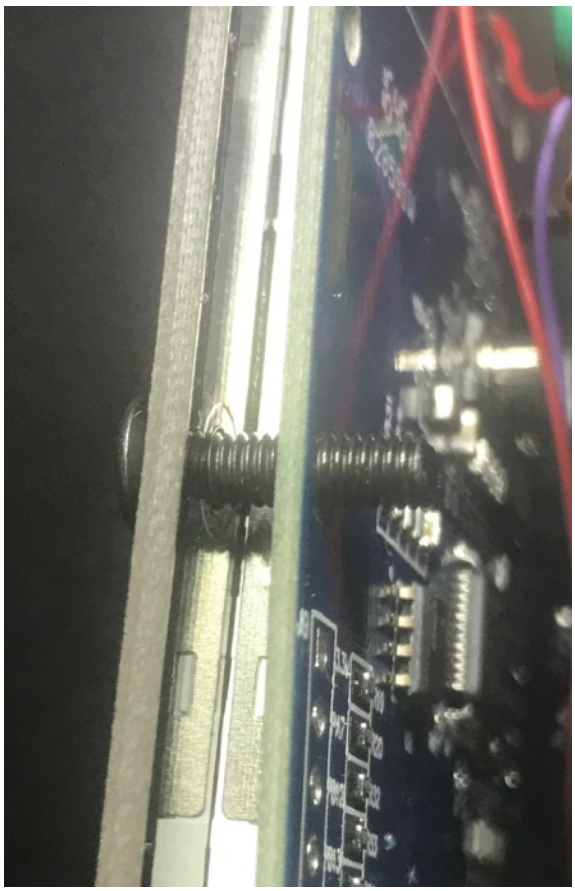


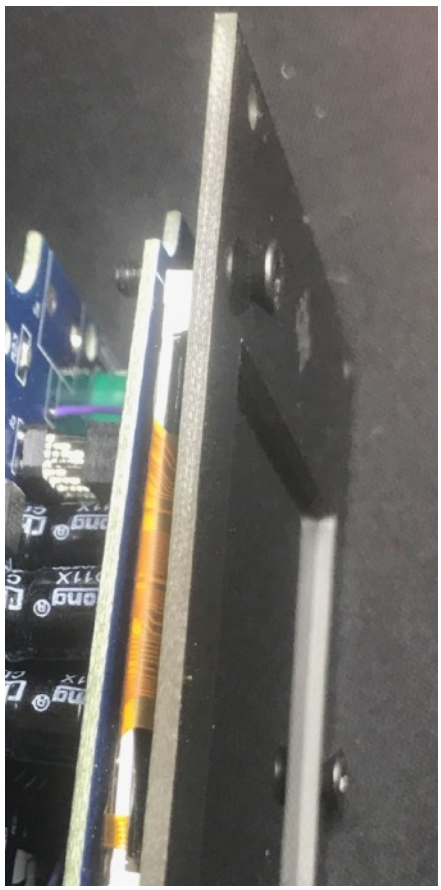
3. Solder J2 pin headers on both boards



4. Before you mount the panel It's good time to adjust trimmers C3 and C5 (Step 5 @ DSO 150 user manual).
   The test signal tone is normalised to the input jack if the jumper set to "Test Tone", so you don't need to plug anything to the audio input for calibration, just connect your module to a power supply and follow the DSO 150 manual calibrations instructions (after calibration you can move the jumper to bottom position).

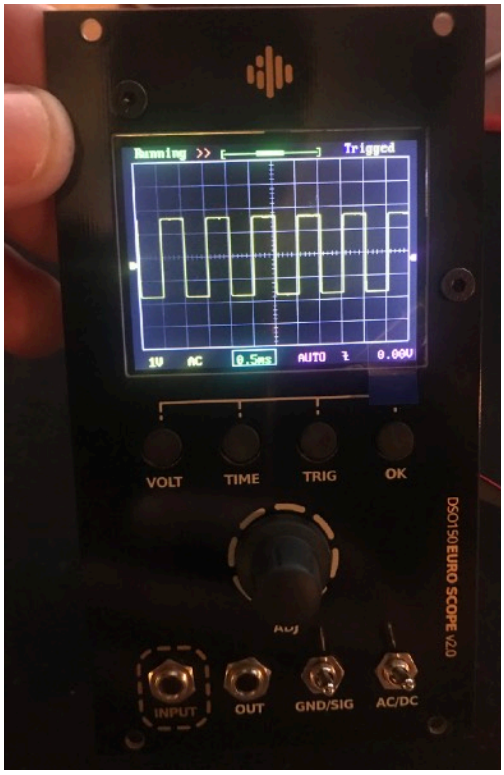
5. Mount the panel to DSO150's Mainboard with two 3M 12mm-16mm





6. Solder The Interface parts:
   - Thonkiconn (J3)
   - Toggle Switches (SW2, SW3)

Enjoy Your New DSO 150 EuroScope v2.0!



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