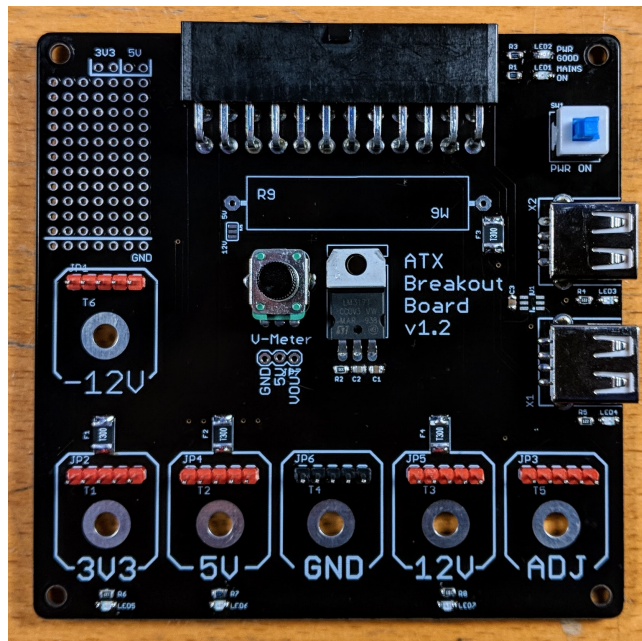


# ATX Breakout Board



Quantity	Name	Description	Signing/Colorcode
3	R1, R3, R7	3.3 k $\Omega$ 0805 resistor	3301 or 332
1	R2	330 $\Omega$ 0805 resistor	3300 or 331
3	R4, R5, R6	1.2 k $\Omega$ 0805 resistor	1201 or 122
1	R8	10 k $\Omega$ 0805 resistor	1002 or 103
1	R9	9 $\Omega$ 10 W power resistor (optional)	
2	R10, R15	43 k $\Omega$ 0805 resistor	4302 or 433
4	R12, R14, R17, R19	51 k $\Omega$ 0805 resistor	5102 or 513
2	R11, R16	75 k $\Omega$ 0805 resistor	7502 or 753
2	C1,C3	0.1 $\mu$ F 0805 SMD capacitor	red stripe
1	C2	1 $\mu$ F 0805 SMD capacitor	blue stripe
6	LED1, LED3-LED7	0805 SMD LED red	
1	LED2	0805 SMD LED green	
4	F1,-F4	1812 SMD PTC Fuse 3 A	T300
1	U1	TPS2513	
1	IC1	LM-317 (through hole)	
2	X1, X2	USB female connector (through hole)	
6	JP1-JP6	5-pin header	
1	JP7	voltmeter (ptional)	
1	SW1	8 mm x 8 mm push button	
1	VR1	2 k $\Omega$ PCB mount potentiometer 9 mm	
1	J1	24-pin ATX connector	
5	T1-T3, T5, T6,	Red/Black 4 mm Binding Post	
1	T4	Red/Black 4 mm Binding Post	
1	Board		

Difficulty: ●●●●○ Build-Time: 2-4 Hours

Manual v2.0  CC BY-SA 4.0 Binary Kitchen e.V.

Board v1.2 Open-Source-Hardware License Francesco Truzzi - [www.truzzi.me](http://www.truzzi.me)

# Safety Information

- ATTENTION: Not suitable for children under 3 years, choking hazard due to small parts that may be swallowed.
- We recommend: Supervision of the assembly and soldering process by an adult.
- Keep these operating instructions in a safe place for later use! It contains important information.
- If the battery is empty, replace it only with a new battery with the same values.
- When soldering, the soldering iron, the solder and also the components being soldered become very hot.
- Always wear safety glasses when soldering and assembling the kit.
- Always use a fire proof soldering pad when soldering! This prevents the components from slipping away.
- To keep the soldering iron safe during assembly, always use a suitable soldering stand.
- The kit is designed for use with an working ATX power supply. Do not open the power supply!
- CAUTION: Never connect the kit to 230 V mains voltage! There is an absolute danger to life!
- Please take the device to appropriately certified disposal companies at the end of its service life. This is good for the environment and ensures correct disposal.
- Subject to changes and errors.

# Disposal

This appliance is labelled in accordance with the European Directive 2012/19/EU on waste electrical and electronic equipment (WEEE). The directive provides the legal framework for the take-back and recycling of waste equipment throughout the EU.

- **packaging:** The packaging is made of environmentally friendly materials and is therefore recyclable. Dispose of packaging materials that are no longer needed accordingly.
- **waste equipment:** Old appliances often still contain valuable materials. Therefore, hand in your old appliance to your retailer or a recycling centre for reuse. Please ask your retailer or your local authority for the current disposal routes.

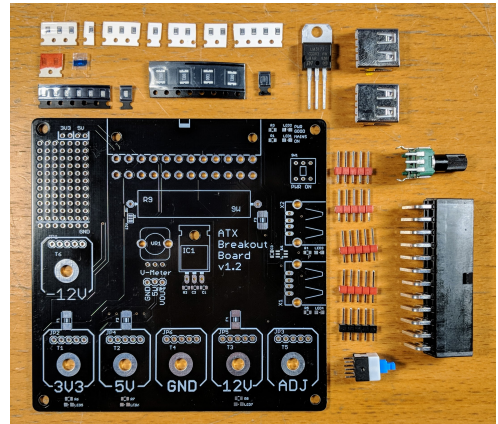
blinkyparts.com  
Egerstr. 9  
93057 Regensburg  
GERMANY



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### Step 1

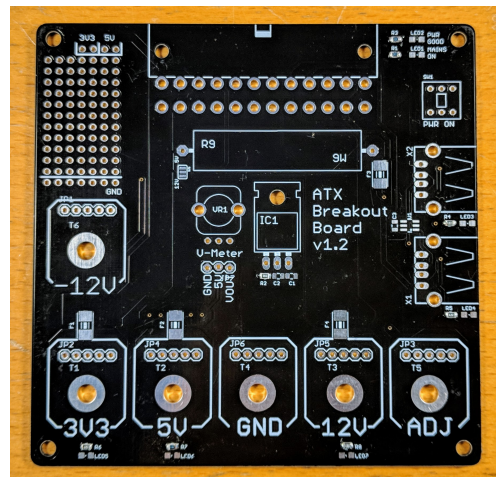
- a) Hint: Resistors (white package) have printed numbers on it and can be found in the overview (direction does not matter)
- b) Capacitors are marked with colours (direction does not matter)
- c) LEDs are in the black packages (DIRECTION IMPORTANT)



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### Step 2

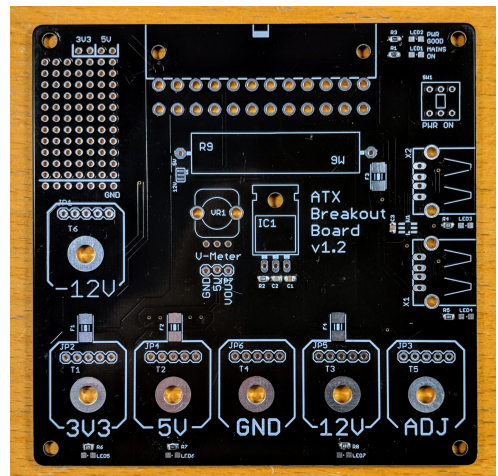
- a) Carefull: Check printed numbers on the resistors with the overview
- b) Solder Resistors R1 - R19 to the board front and back
- c) Direction of the resistors not important
- d) R9, R13 and R18 are not needed



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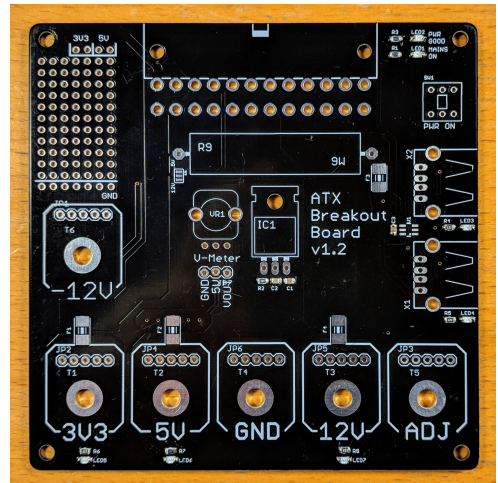
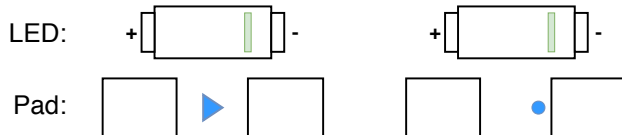
### Step 3

- a) Solder capacitor C1 - C3 on the board
- b) Begin with capacitor C2
- c) Direction of the capacitor is not important



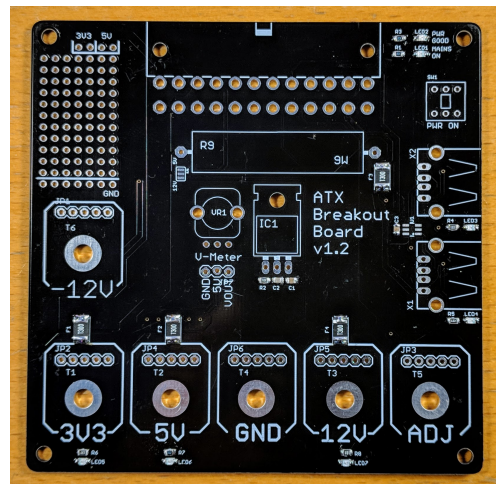
#### Step 4

- Carefull: LEDs do have a direction! First read this part completely
- Solder LED 1 - 7 to the board
- LED2 is the green LED (single black package)
- The LED has a green marking on top
- A dot or a arrow is printed onto the board
- The dot/arrow shows the direction where the green marking has to be directed while soldering
- Hint: If you can not identify the error or dot on the board look at the drawing at the end of this manual



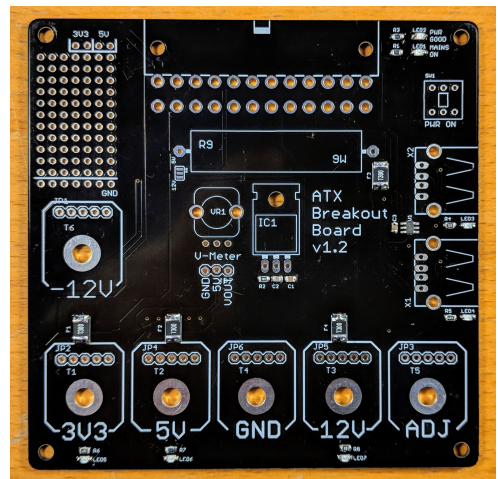
#### Step 5

- Solder fuse F1 - F4 to the board
- Direction of the fuse is not important



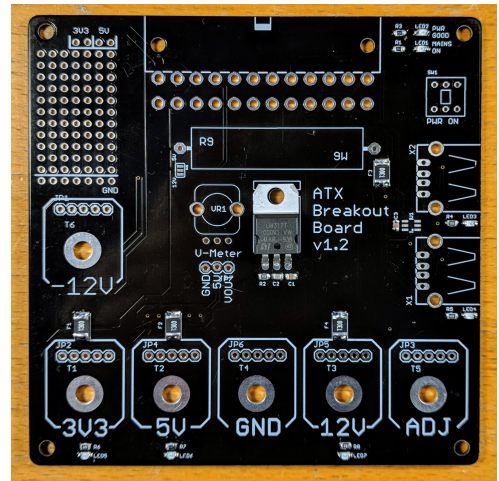
#### Step 6

- Carefull: Direction important! Solder TPS2513 (6 pins) at U1 to the board
- A vertical line (very fine!) is printed on the board and the chip. The line on the chip must be placed next to the line with the dot on the board.



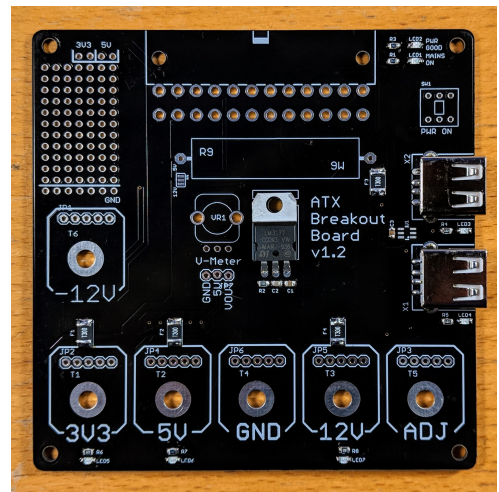
### Step 7

- a) Solder LM-317 to the board
- b) Hint: Bend the legs before soldering



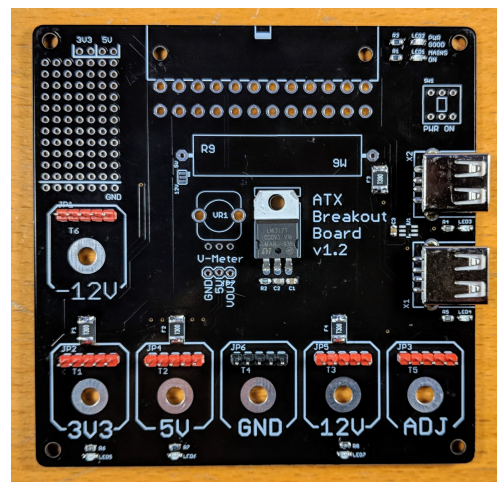
### Step 8

- a) Solder USB connector X1 and X2 to the board
- b) Hint: It is possible that some holder-noses needs to be clipped



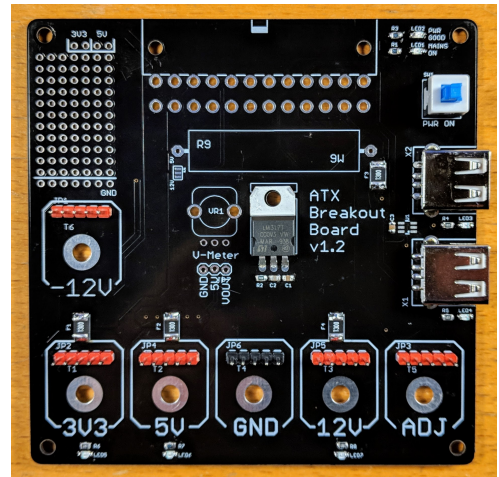
### Step 9

- a) Solder the pin header JP1 - JP6 with the short side to the board
- b) JP7 is optional and is only needed if you want a V-Meter



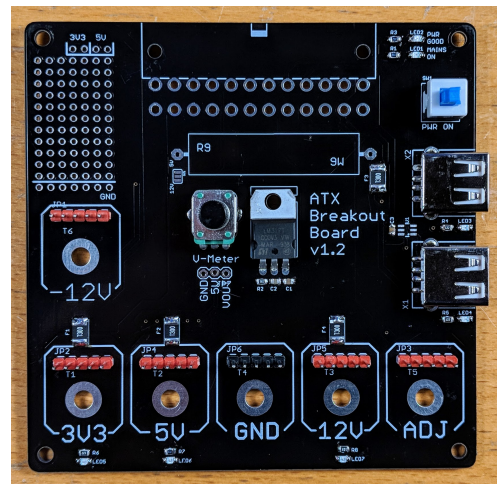
Step 10

- a) Solder switch SW1 to the board
- b) Direction not important



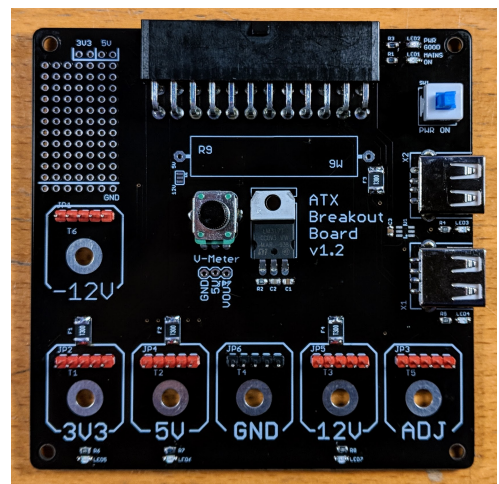
Step 11

- a) Solder potentiometer VR1 to the board



Step 12

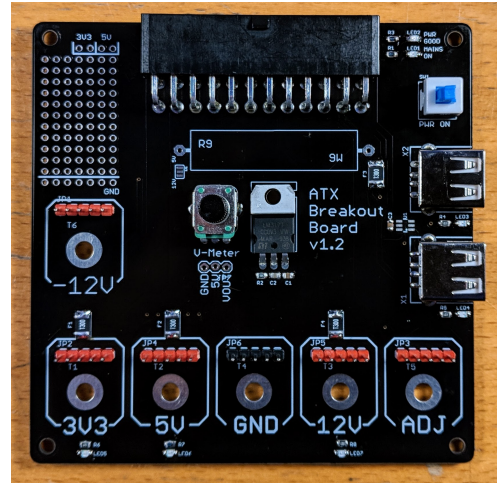
- a) Solder ATX connector J1 to the board
- b) Hint: Both 20-Pin and 24-Pin ATX power supply-connectors are working.



### Step 13

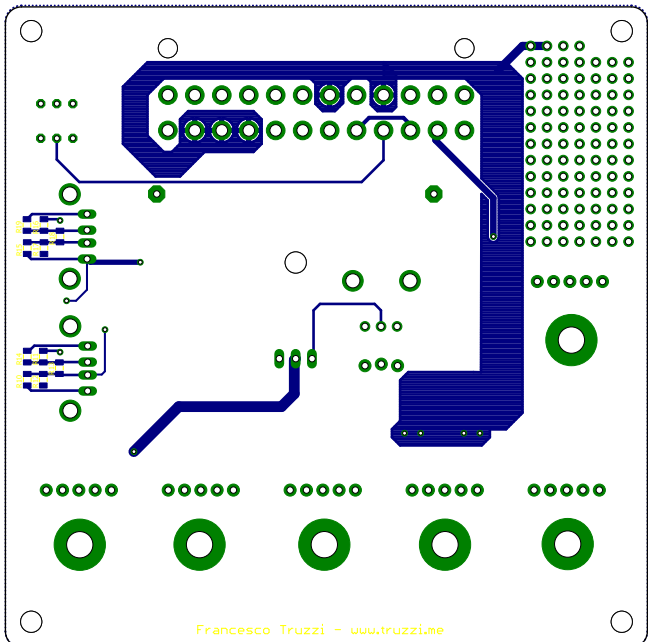
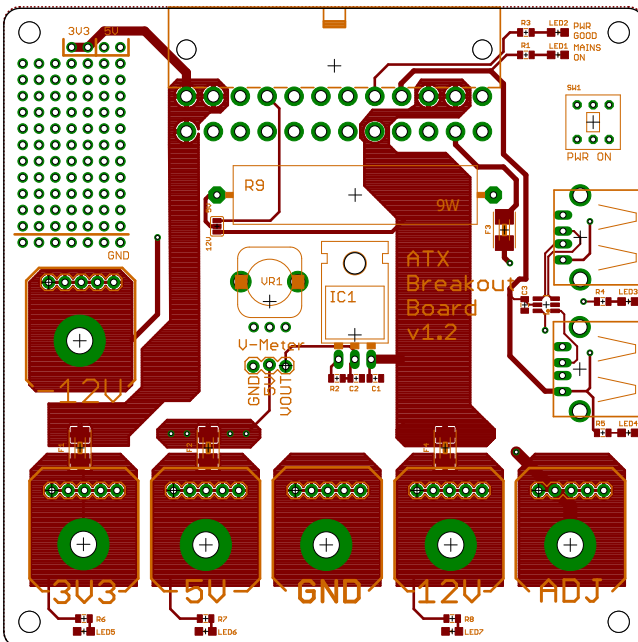
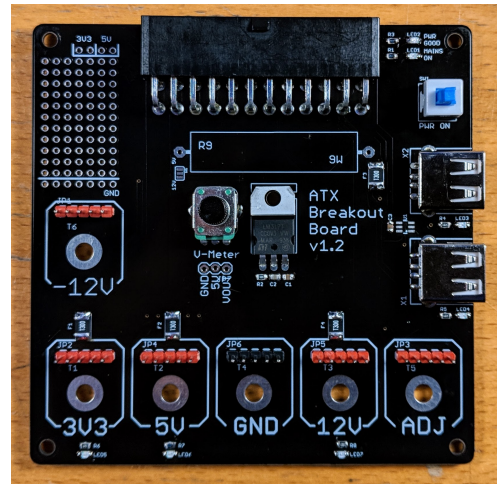
- a) Screw black and red binding posts to the board
- b) Attention: To avoid shorts

the washers of the banana sockets must be on the top side. It is also recommended not to mount the solder tag, if it is not needed. This prevents accidental shorts



### Step 14

- a) Optional: If you have nylon legs, push them into the holes in the corner
- b) Optional: To prevent shortages put some hot glue on the back of the ATX connectors
- c) Hint: The pin-filled on the top left corner is for development and will not be soldered



Francesco Truzzi - [www.truzzi.me](http://www.truzzi.me)

