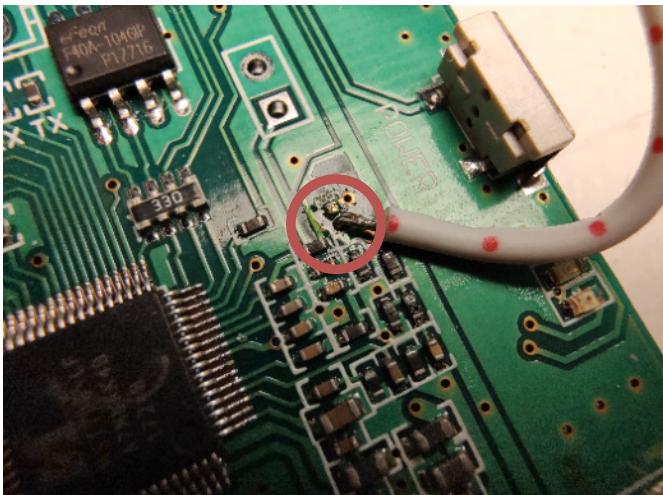


**Add external receiver support to Eachine EV800**

WARNING: This tutorial is only for education purposes documenting my tinkering advantages. It comes AS IS without ANY warranty as this voids warranty and can cause permanent damage to any component. Working with battery of any type can cause fire or damage to property or people.



I desoldered resistor connecting AV output from onboard VRX (seems like Boscam FPV 5.8G)

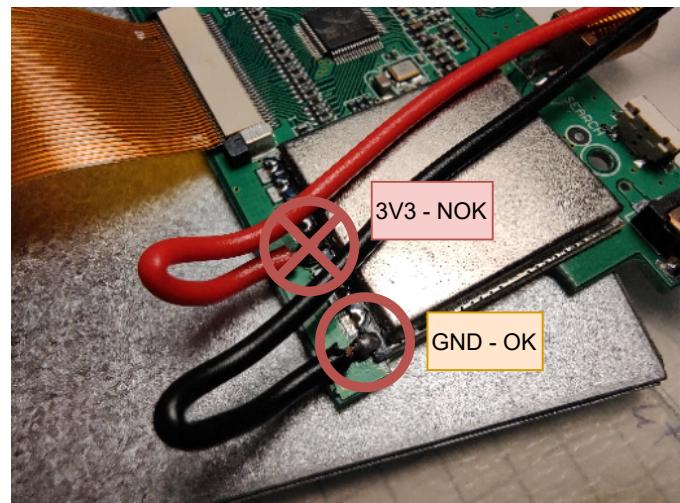
Then I connect Video output from the module to the input of the video processing IC on the board.

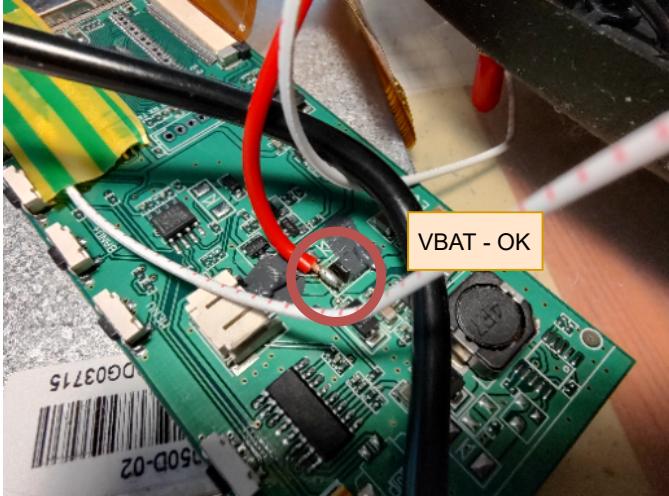
I made sure to isolate this with some tape/glue to prevent mechanical tear.

In order to get power first I tried to use voltage from power delivery IC (it is probably also responsible for charging of the battery and other stuff) but this does not provide enough current to run both external VRX and all internal components.

I resorted to powering external circuitry directly from battery. I removed battery (unplugged the PH2.0 connector) and soldered to one of the long resistors.

It is good idea to add some switch between power to the module as otherwise the module is always on.





I used this resistors pad to provide power to external DC/DC

In the end I decided to leave the possibility to use the internal AV VRX by connecting it to the switch.

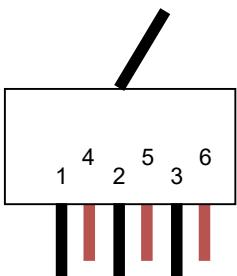
The switch used is 6 pin switch lever (2 rows with 3 pins)

Middle pin in each row is common (pins on side are connected to it by the lever). Rows are isolated. I connected it like this:

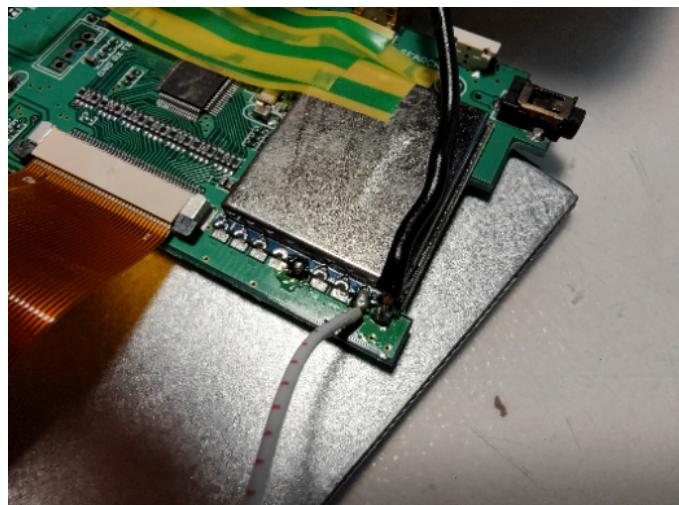
- VBAT on pin 6
- VIN+ of DC/DC on pin 5.
- External VRX Video out on pin 3
- Internal VRX Video out on pin 1
- Input of monitor driver on pin 2

This way when external VRX gets power its video output is used to as video source. Otherwise internal VRX video is used as video source.

**This wiring might differ from switch to switch! I made sure to not fry Video port!**



Since Eachine EV800 does not

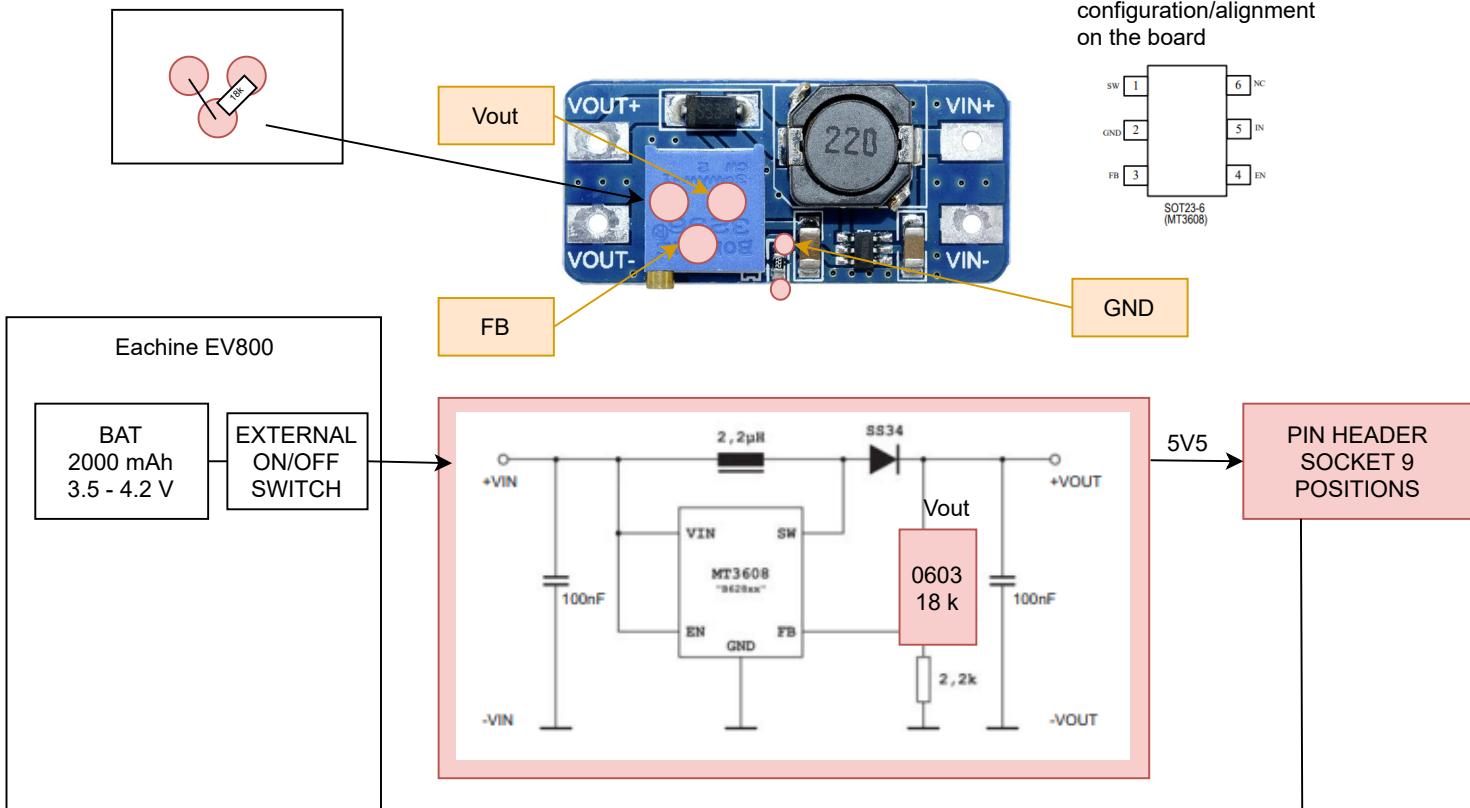


provide 5V anywhere on the board I decided to use external voltage step-up regulator from lipol battery: MT3608

To get 5V5 at the output desolder blue potentiometer and follow this configuration of resistor and directly connect two pads.

Output voltage equation is:

$$V_{OUT} = V_{REF} \left( 1 + \frac{R1}{R2} \right)$$





Source:

MT3608 datasheet: <https://www.olimex.com/Products/Breadboarding/BB-PWR-3608/resources/MT3608.pdf>



Video