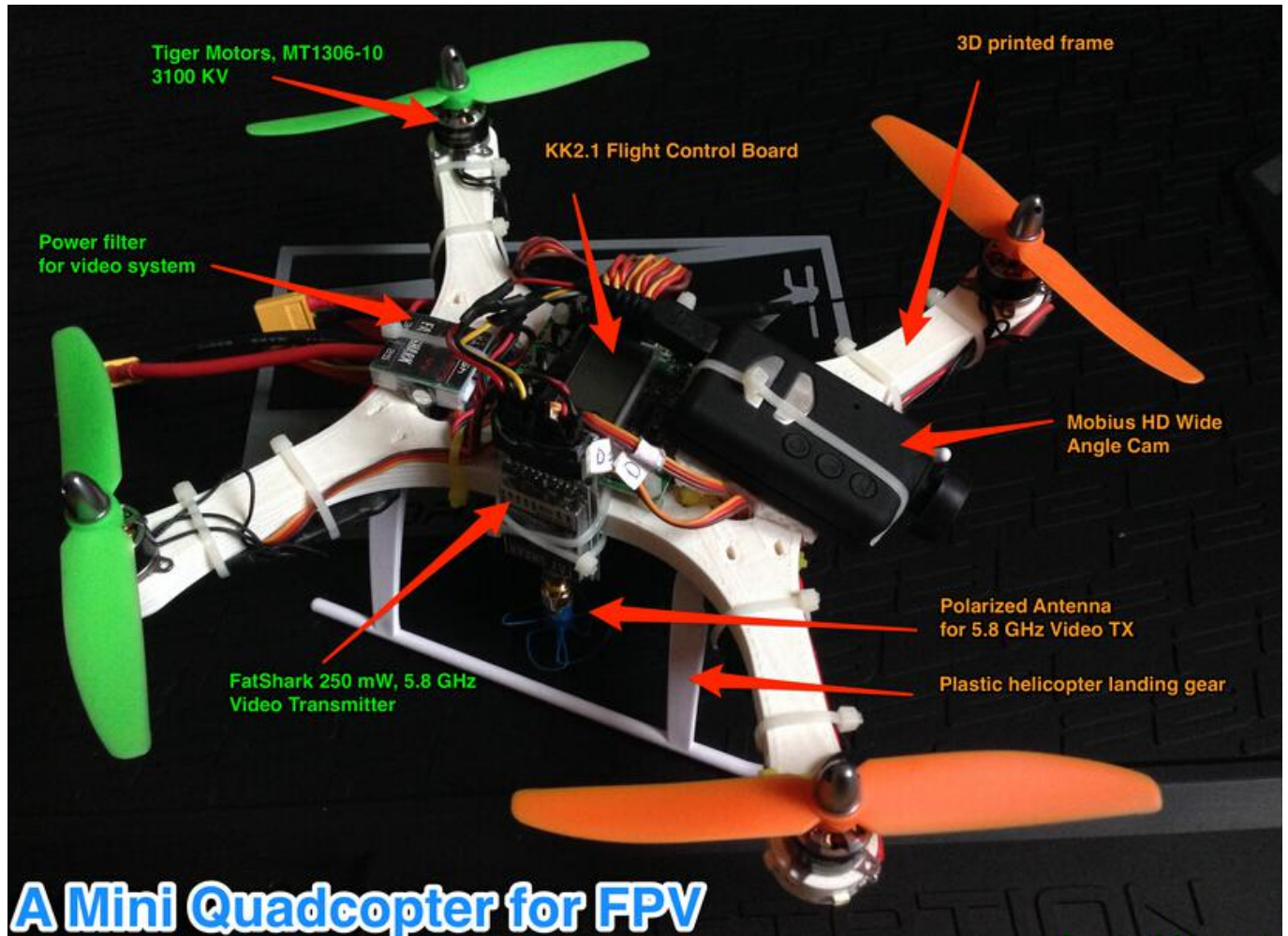


how to make a quadcopter at home pdf - Diy FPV

As quadcopter hobbyists, couldn't wait to build our own. how to setup or diy quadcopter? if you are a beginner and need some quadcopter setup guide, you are come the right place, here will share you some tips about building quadcopter. Today I will share you one good article which from personal drones. Though it is long time and some of the components have been outdated, but the basic stages remain the same and should be useful for the beginners. Yes, let us begin.



Weight: 360gr without battery. With 2200mAh 2S battery: 487gr.

Size: The 4 motor centers form a square with a side of 17,5 cm and a diagonal distance from front motor to back motor of 25 cm. So the quad is in the 250 class.

ALL the components lists as below

- **Frame:** Super Simple mini h quad (SSHQuad), The frame with the nylon supports for the control board fitted. Price is \$25
- **Flight Controller:** Hobbyking KK2.1 Multi-rotor LCD Flight Control Board With 6050MPU And Atmel 644PA, If you're new to multi-rotor flight or have been unsure about how to setup a KK board then the KK2.1 was built for

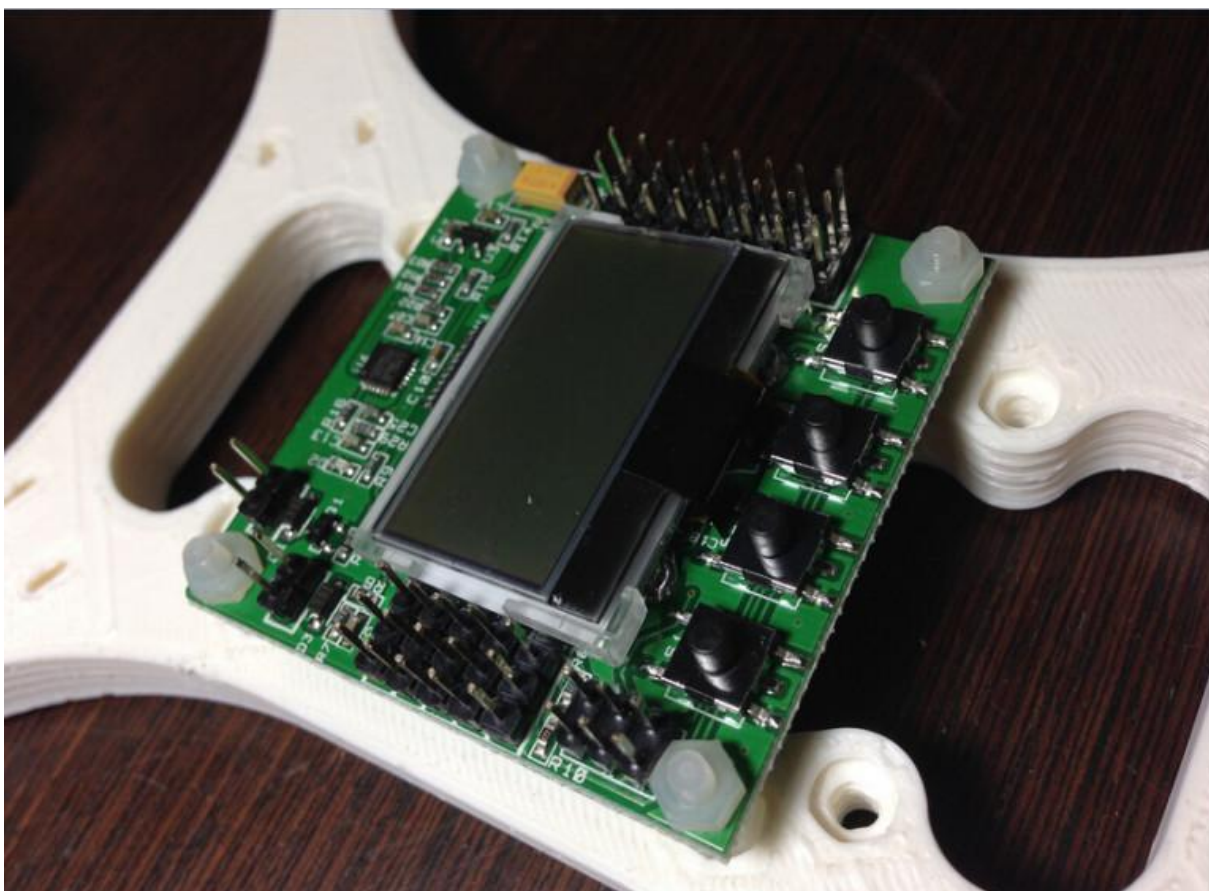
you. The 6 Pin USBasp AVR programming interface ensures future software updates will be quick and easy.flashed with firmware 1.12S1.**Price is \$29.99**

- **Motors:**Tiger motors T-Motor MT1306-10(**Price is \$25.9**) if you want more power and payload, consider Tiger MN1806 “Blackout 3S” 2300kv Motor(**Price is \$25.9**) instead, that will allow you to run on 3S batteries.
- **ESC:**HobbyKing 12A BlueSeries Brushless Speed Controller (to be flashed with SimonK firmware). Or get them already flashed.Features:
Extremely low internal resistance/
Super smooth and accurate throttle linearity/
Over heat and over-load protection/
Auto shut down when signal is lost or radio interference becomes severe for more than 2 seconds/
Supports high RPM motors/
Power arming protection (prevents the motor from accidentally running when switched ON)**Price is \$8.3.**
- **Propellers:**Geniune Gemfan 5030 (5×3) Propellers for 250 Size Quadcopters and Multi-rotors – Perfect for Zmr250, Fpv250, Vortex Orange and Green.**Price is \$13.99**
- **Video Transmitter:**FatShark – 250mW 5.8GHz A/V Transmitter, Compatible with ImmersionRC, FatShark, and other Airwave based systems. Cables are directly compatible with ImmersionRC equipment.**Price is \$54.99**
- **Antenna:**VAS – 5.8 GHz Bluebeam Omni Antenna Set (RHCP).These will greatly increase your video range and clarity. Place the 3 lobe cloverleaf on your transmitter and 4 lobe skew planar wheel on your receiver for the ultimate omni-directional experience.**Price is \$44.95**
- **Video Camera:** Mobius HD camera, wide angle edition. JooVuu or Eletoponline365.**Price is \$80**
- **Bolts:**M2 x 12 STAINLESS ALLEN BOLT CAP SCREW to fix the motors to the frame, + M2 washers. The frame is exactly 1cm thick, so you need these long screws here.
- **Power distribution:**XAircraft X650 Pro JST 1 To 5 Power Cable E7008 .
- **Landing gear:**BLH1645 Blade 450 Landing Gear Set this is very lightweight and possibly not strong enough for this build. Size and shape fit perfectly though, and this is what I had “in the bag”, so we shall see, might need an upgrade later on.**Price is \$10**
- **Model recovery device:**HobbyKing® Discovery Buzzer.Plug it in to a spare channel on your receiver and the Buzzer can be activated by a switch on your TX. Switch the buzzer on to help locate a lost plane.**Price is \$2.94**
- **FC mount:**5.6mm x 12mm M3 Nylon Threaded Spacer (10pc) Perfect for mounting Multi-rotor control boards.**Price is \$0.86**

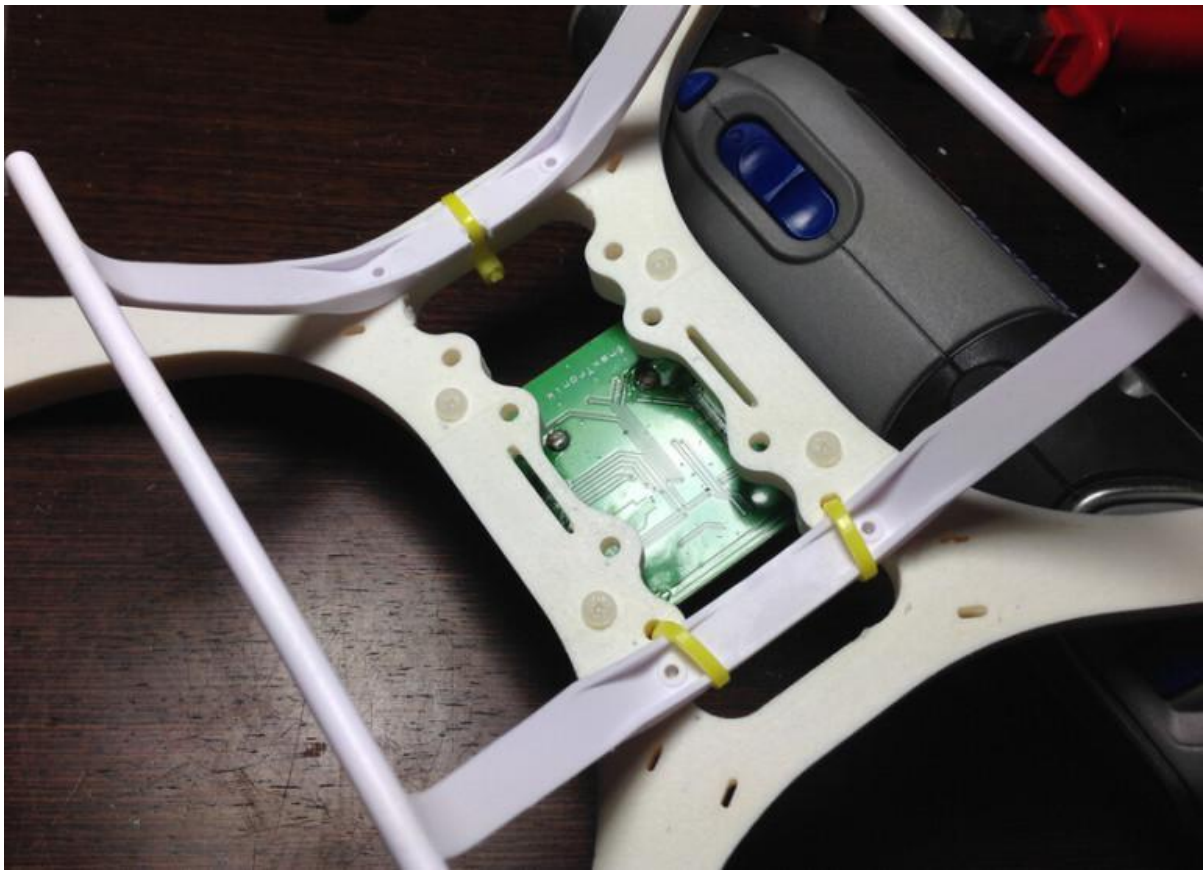
Time for building quadcopter guide



The frame with the nylon supports for the control board fitted.



KK2.1 board in place



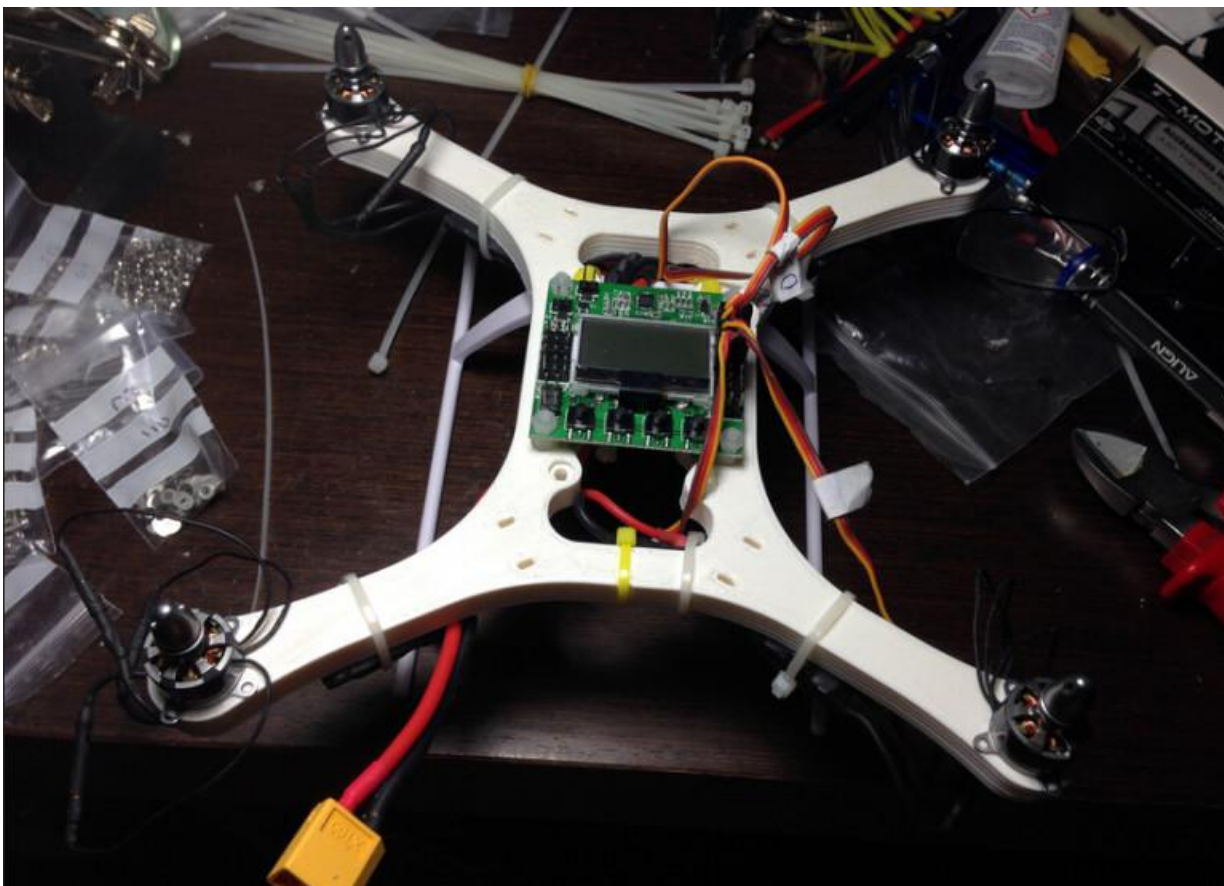
Landing gear glued and zip-tied in place



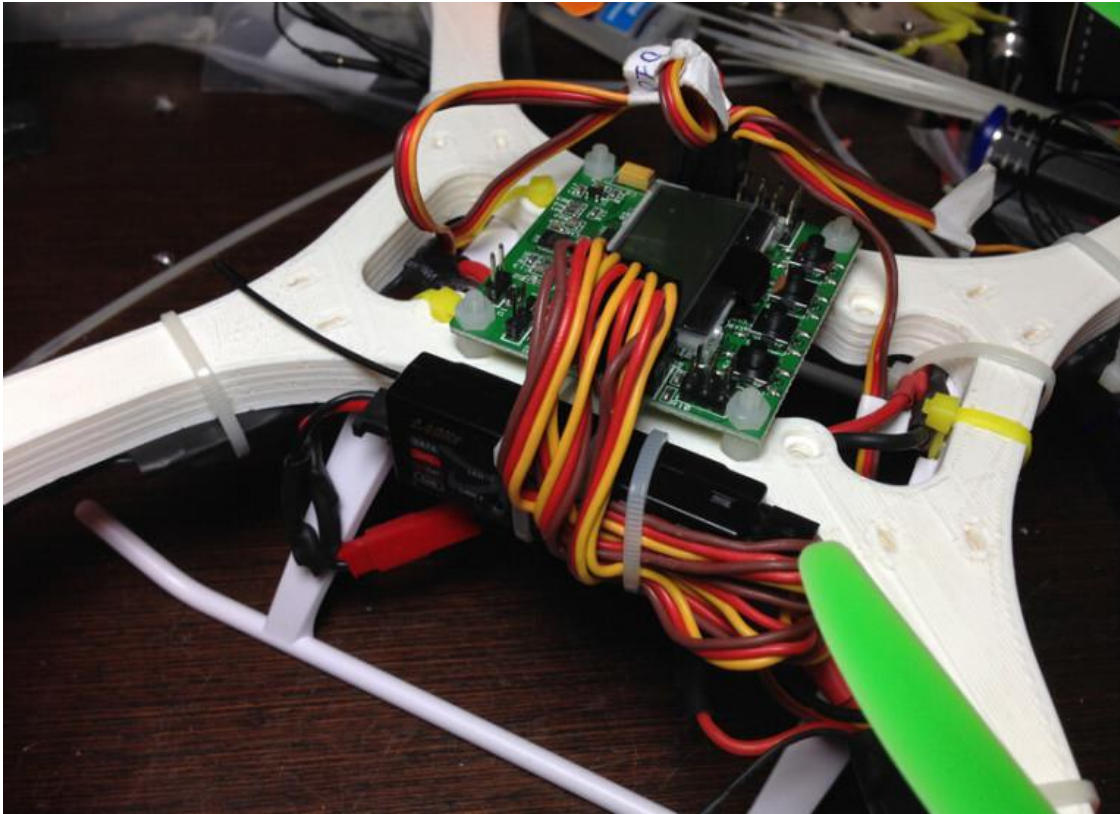
The X-Aircraft cable used as power distribution



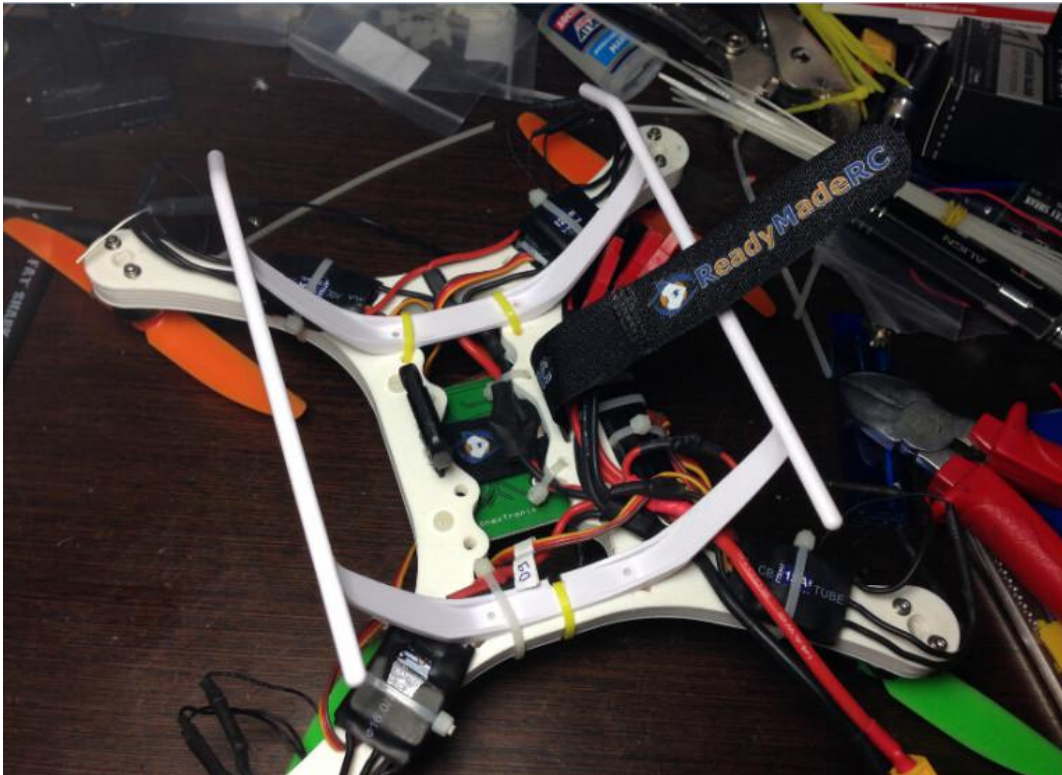
Wiring of the ESCs, detail



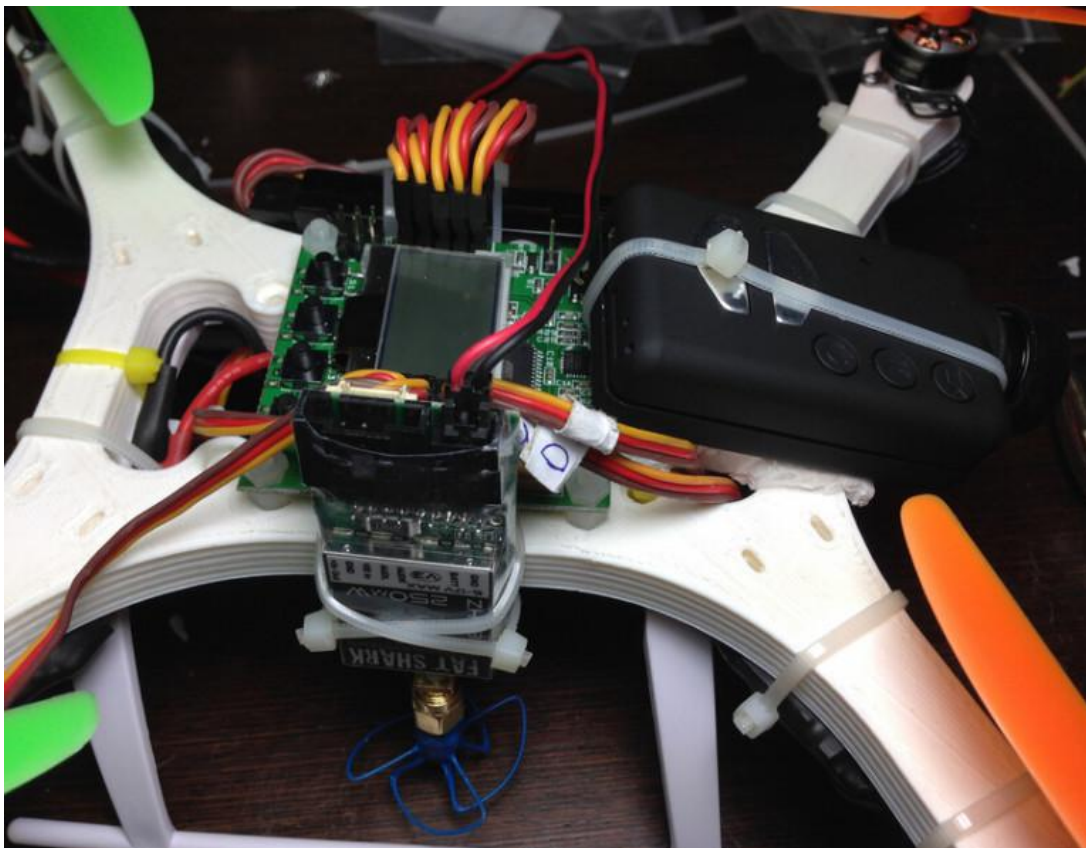
Motors in place



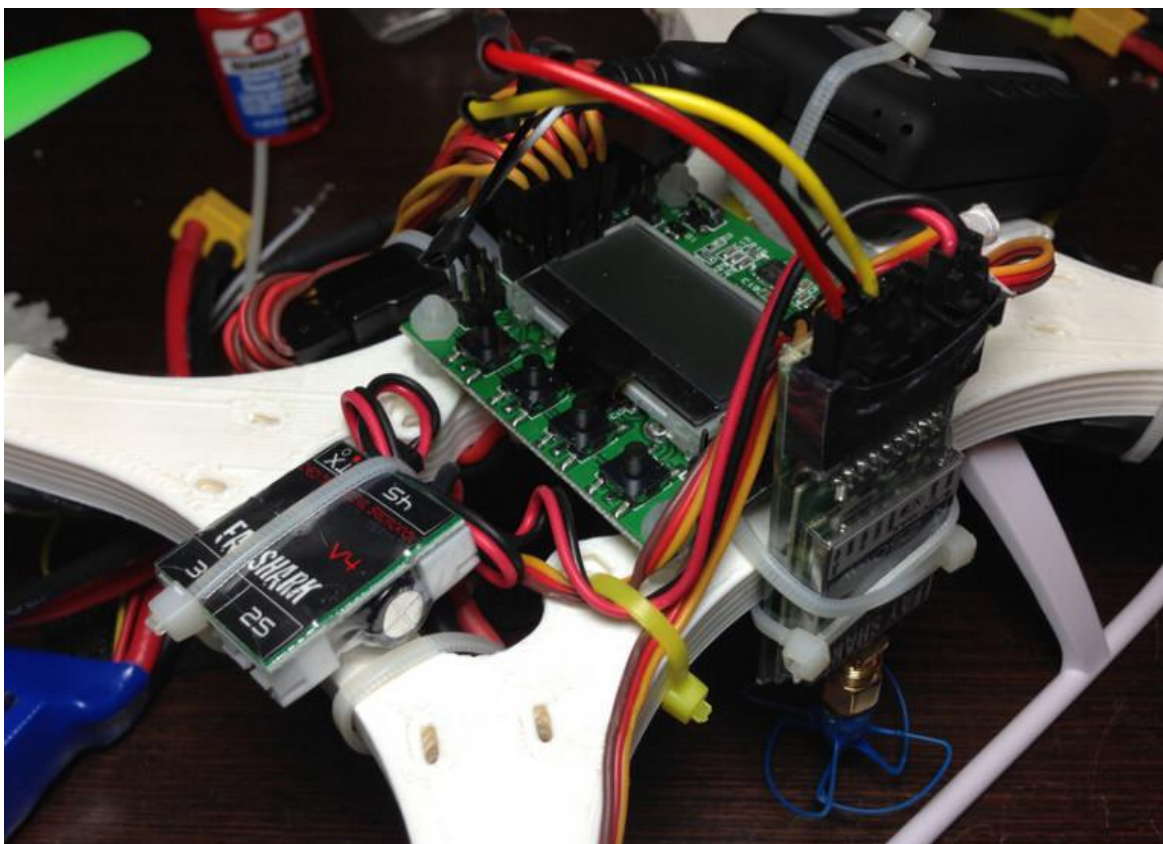
A detail of the KK2 board and Hitec Optima 7 receiver, mounted to the side of the frame with two zip ties



A view from below. A velcro strap is now in place to hold the battery



With FatShark video transmitter and wide angle mobius camera

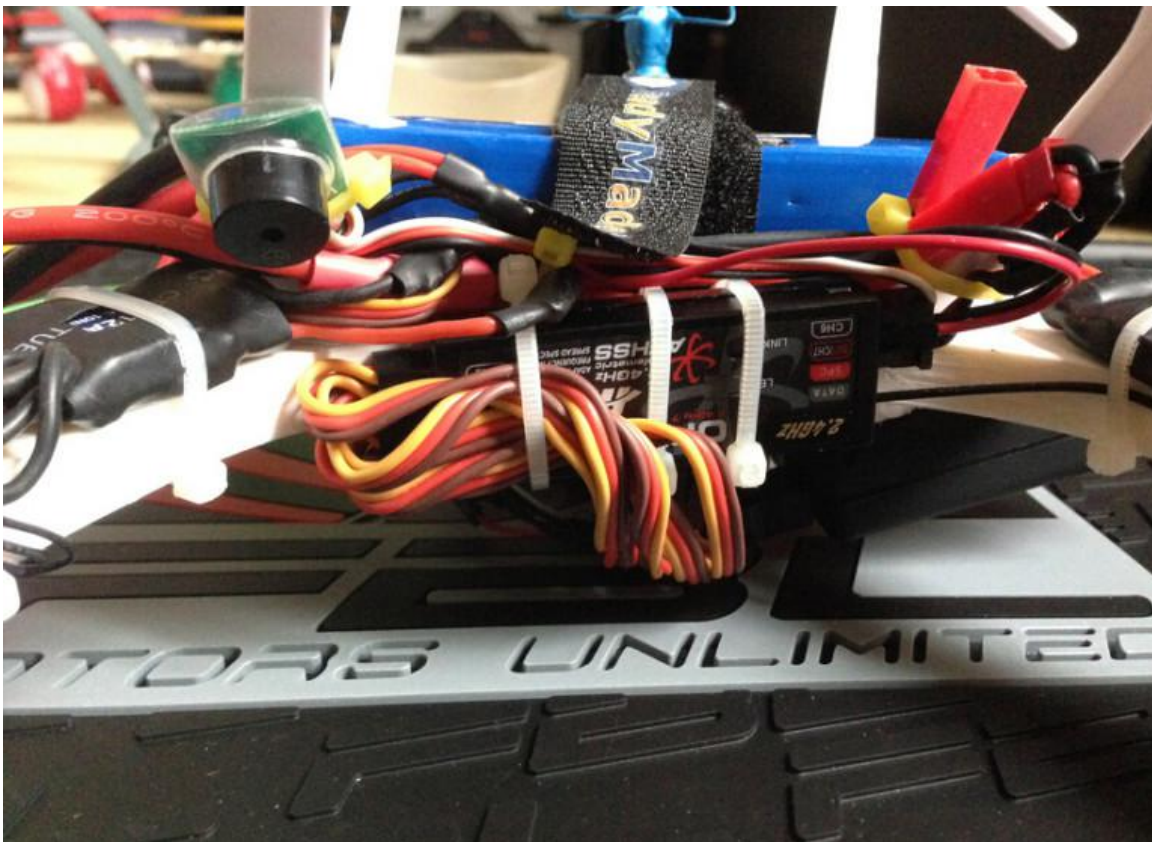


Camera now connected to the transmitter. Power filter for the video system in place, will plug straight into the battery

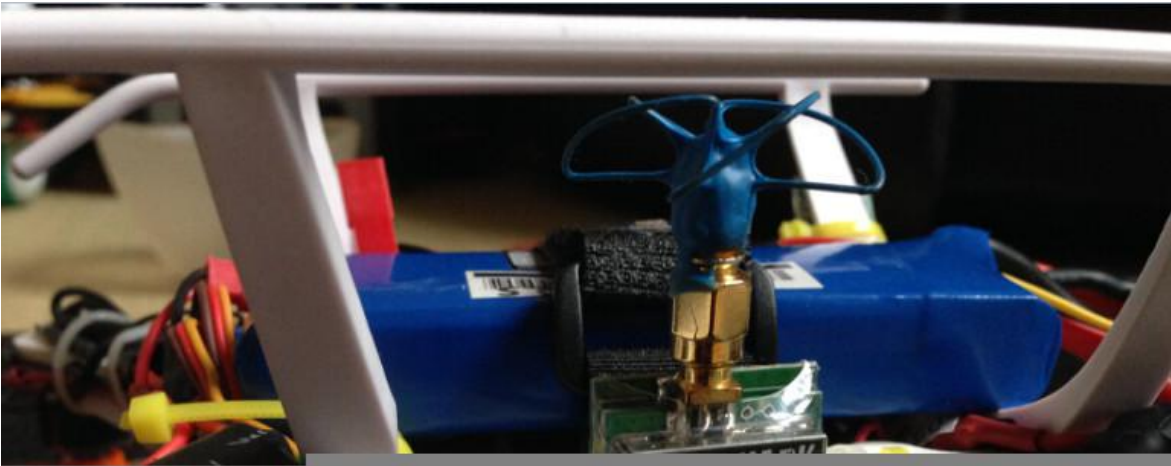
balance cable



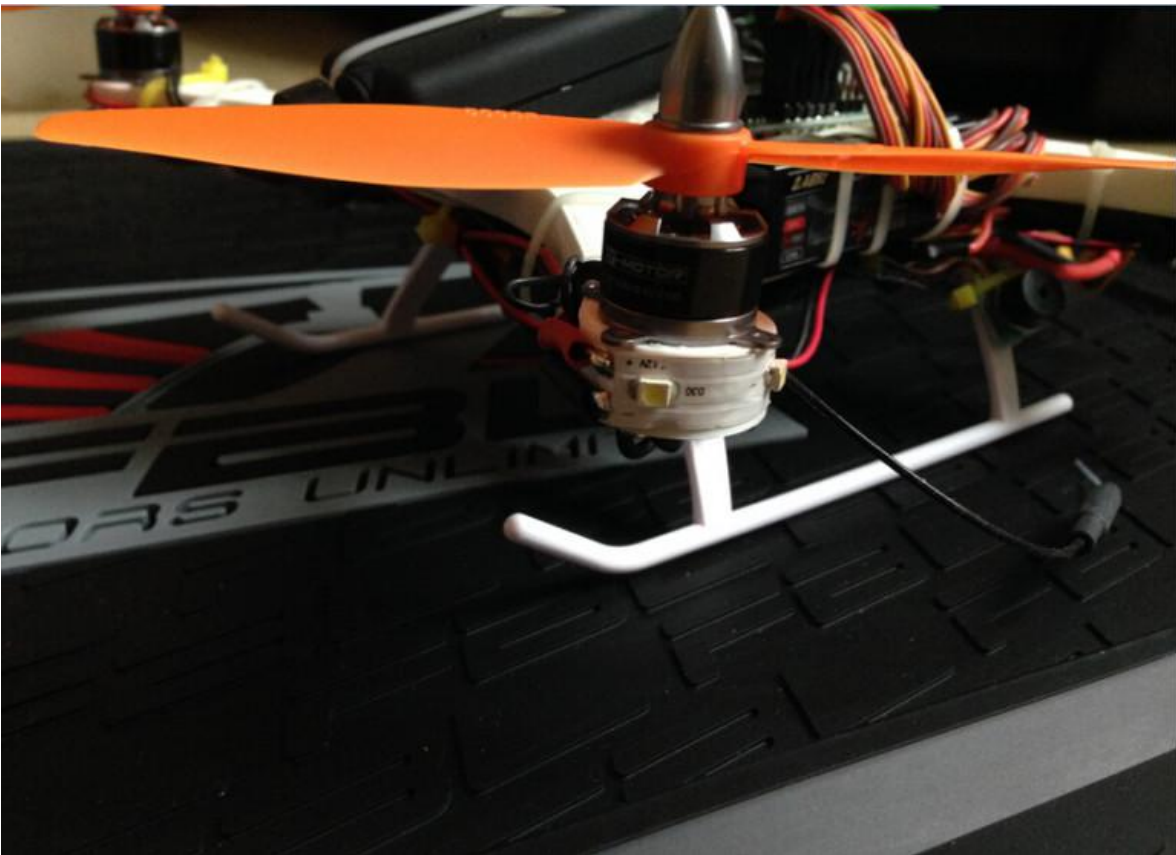
Fully assembled mini quadcopter for FPV



The receiver side of the quad. Note the HobbyKing discovery buzzer tied to a leg of the landing gear



The 5.8 GHz FatShark video transmitter with polarized antenna



A small 3 white leds strip was fitted on each front arm. These strips should run at 12V however I am getting quite a

decent lighting for the 7-8 V of the 2S batteries used in this setup. The leds are powered through one of the leads of the X-Aircraft connector used for power distribution.



Strobo green leds under the back arms

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If you found this post helpful or have more quadcopter setup guide experiences,please leave your comments below,That's welcome.