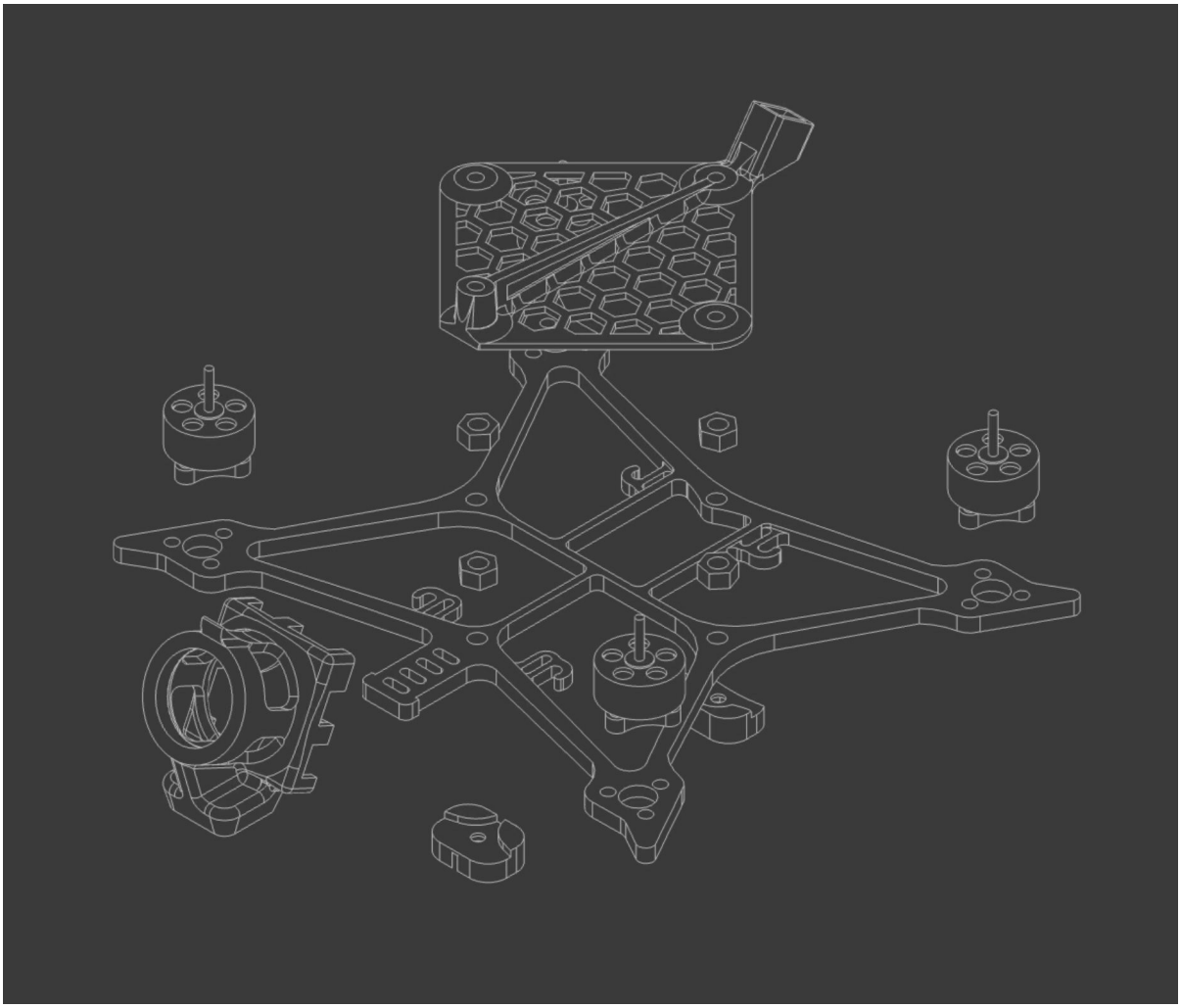
SQUIRREL

75mm FPV Frame

Assembly Guide & Product Description



Exploded assembly view

What Is It?

The Squirrel is a 75mm FPV frame built for pilots who want to fly digital without compromise. Every part of it was designed with purpose. Whether you're bashing around indoors or ripping outside, the Squirrel is built to keep up.

Specs

Spec	Detail
Wheelbase	75mm diagonal
Configuration	Squashed-X
Frame Thickness	2mm carbon fiber
Prop Size	45mm (open) / smaller with ducts
Motor Class	1002
Power System	1S LiPo
Video Systems	Digital / Analog
Duct Compatible	Yes (optional)

What's Needed to Build

#	Part	Notes
1	Main Frame	2mm CF
2	AIO Flight Controller	25.5x25.5mm mounting pattern
3	Motors x4	1002 / 21000KV
4	Propellers x4	45mm, 2x CW / 2x CCW
5	Battery Pads x2	TPU printed
6	Power Band Strap	Nylon woven
7	Camera Canopy	TPU printed — pick your camera
8	Flight Controller Cover	TPU printed — honeycomb

How to Build It

STEP 1 BATTERY PADS (OPTIONAL)

If you're using the battery pads, this is the first thing to do. Slide them onto the stack screws from the bottom of the frame before anything else goes on — they sit at the base of the screw so everything stacks on top of them.

STEP 2 FLIGHT CONTROLLER

Thread either a nylon nut or a small M1.4 nut onto each stack screw to set the height. Pre-assemble your soft grommets onto the flight controller first, then drop it down onto the screw posts and orient the USB port somewhere easy to reach. Solder your motor wires once the board is seated.

STEP 3 MOTORS

Bolt your motors to the arms. See the motor recommendations section for the best options for this build.

STEP 4 CAMERA CANOPY

Pick the canopy for your video system — HDZero Lux, HDZero Eco, Caddx Ant, Pinch, or DJI O4 Air Unit. Clip it onto the front of the frame and set your tilt angle.

STEP 5 POWER BAND

The frame has hooks on each side for the power band. You've got two ways to run it — straight across, connecting each hook to its opposite side, or crossed in an X pattern for a more locked-down hold. Either works, it just comes down to how secure you want the battery to feel. The X gives a bit more grip, straight across makes swapping batteries faster. Grab some here.

STEP 6 FLIGHT CONTROLLER COVER

Snap the honeycomb Flight Controller Cover over your stack. It locks onto the stack screws so you don't need any extra nuts — it does that job itself. Run your receiver antenna through the channel built into the top.

STEP 7 PROPS

Press your props onto the shafts. Double check spin directions match your motors before you arm it.

What Makes It Different

Motor bumpers

Each arm tip has a built-in horn that takes the hit when you crash. It's shaped to absorb impact before your motor bell ever touches the ground.

No hole under the motors

Most frames have an open hole under each motor where you can see the c-clip. The Squirrel seals those off to keep dust and dirt out of your motors. Cleaner motors, longer life.

Pick your camera, we've got a canopy for it

HDZero Lux, HDZero Eco, Caddx Ant, Pinch, and DJI O4 Air Unit are all supported at launch with more coming. No more zip-tying your camera to the frame.

Flight Controller Cover that does two jobs

The honeycomb cover protects your stack AND locks onto your stack screws so you don't need separate nuts. It also keeps your antenna managed and out of the props.

Battery pads

Small TPU pads on the bottom mean your battery sits on a cushioned surface instead of grinding against screw heads every flight.

Ducts optional

Want prop guards? The Squirrel supports ducts. Just know you'll need to drop to smaller props to fit them.

Digital-first, analog welcome

Everything about this frame was designed with digital video in mind — the camera mounts, the canopy clearances, the cable routing. Run analog and the quad just gets lighter and faster.

Direct swap from your current whoop

Already flying a BetaFPV or HappyModel whoop? The Squirrel is a straight swap. Your motors, props, and electronics come right over, so you're not starting from scratch. Just move your gear onto a frame that's built to perform better and last longer.

Motor Recommendations

All motors should have a 1.5mm shaft. Here's what works well on this frame:

By Motor Size

0802 — Lightest option. Great for ultralight analog builds where every gram counts.

0803 — A step up from the 0802. Still very light, good balance for 1S.

1002 — The sweet spot for this frame. Enough grunt for digital systems without killing flight time. Recommended.

1103 — More power, slightly heavier. Good if you want extra punch and don't mind the added weight.

Weight Saving Hardware

Nylon screws — Use nylon screws for your stack. Easy to source and noticeably lighter than steel.

PEEK motor screws — Ultralight and tougher than nylon. A great option for motor mounting. Buy here

Prop Recommendations

All props below are 45mm with a 1.5mm shaft. Choose based on your flying style:

Gemfan

- **1610-2 (bi-blade)** — Best efficiency and longest flight time. Smooth and floaty — great for digital builds.
- **1608-3 (tri-blade)** — More thrust and grip. Snappier response for aggressive flying, slight hit to flight time.

HQ Prop

- **45MMx2** — The lightest 45mm prop available at just 0.25g. Best for maximum flight time.
- **45MMx3** — Good all-rounder at 0.33g. More thrust than the bi-blade with minimal weight penalty.
- **Ultralight 1.8x1.3x3** — Very low pitch design optimized for efficiency and smooth flight. Great for digital and cinematic flying.

Battery Recommendations

All batteries are 1S. Capacity and connector choice will affect flight time and performance:

- **300-380mAh** — Lightest option. Best for indoor proximity flying where weight and agility matter most.
- **450mAh** — The sweet spot. Good balance of flight time and weight for both indoor and outdoor flying.
- **550mAh** — More flight time outdoors. Slightly heavier but worth it if you're ripping in open spaces.
- **750mAh** — Max capacity. Gives the quad a planted, stable feel. Best for relaxed outdoor flying or digital builds.

BT2.0 connector is highly recommended over PH2.0 — lower internal resistance means less voltage sag and better performance, especially with digital video systems.

Free TPU Files

All printed parts are free to download at printables.com. Print in TPU.

Part	Variants
Camera Canopy	HDZero Lux, HDZero Eco, Caddx Ant, Pinch, DJI O4 Air Unit
Flight Controller Cover	Honeycomb
Battery Pads	Standard