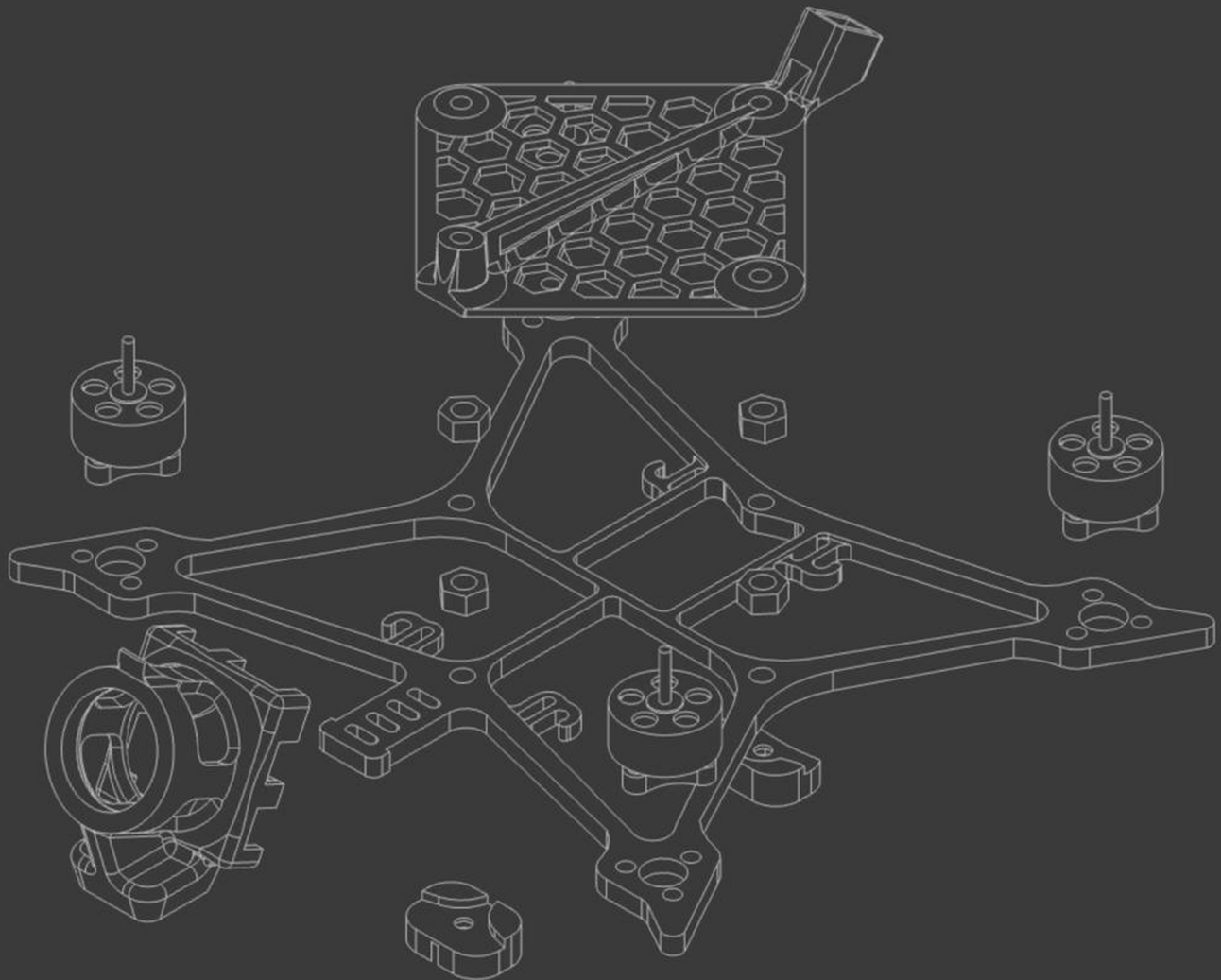


SQUIRREL

PORTO FPV

Assembly Guide & Product Description



75mm PRO SQUASHED-X · 1.5mm / 2mm CARBON FIBER · 1S / 2S LiPo · DIGITAL / ANALOG

ASSEMBLY GUIDE

What Is It?

The Squirrel Pro is a 75mm-class FPV frame built for pilots who want to fly digital without compromise. Run it on 1S for classic whoop feel and flight time, or step up to 2S when you want the punch. Whether you're bashing around indoors or ripping outside, the Squirrel is built to keep up.

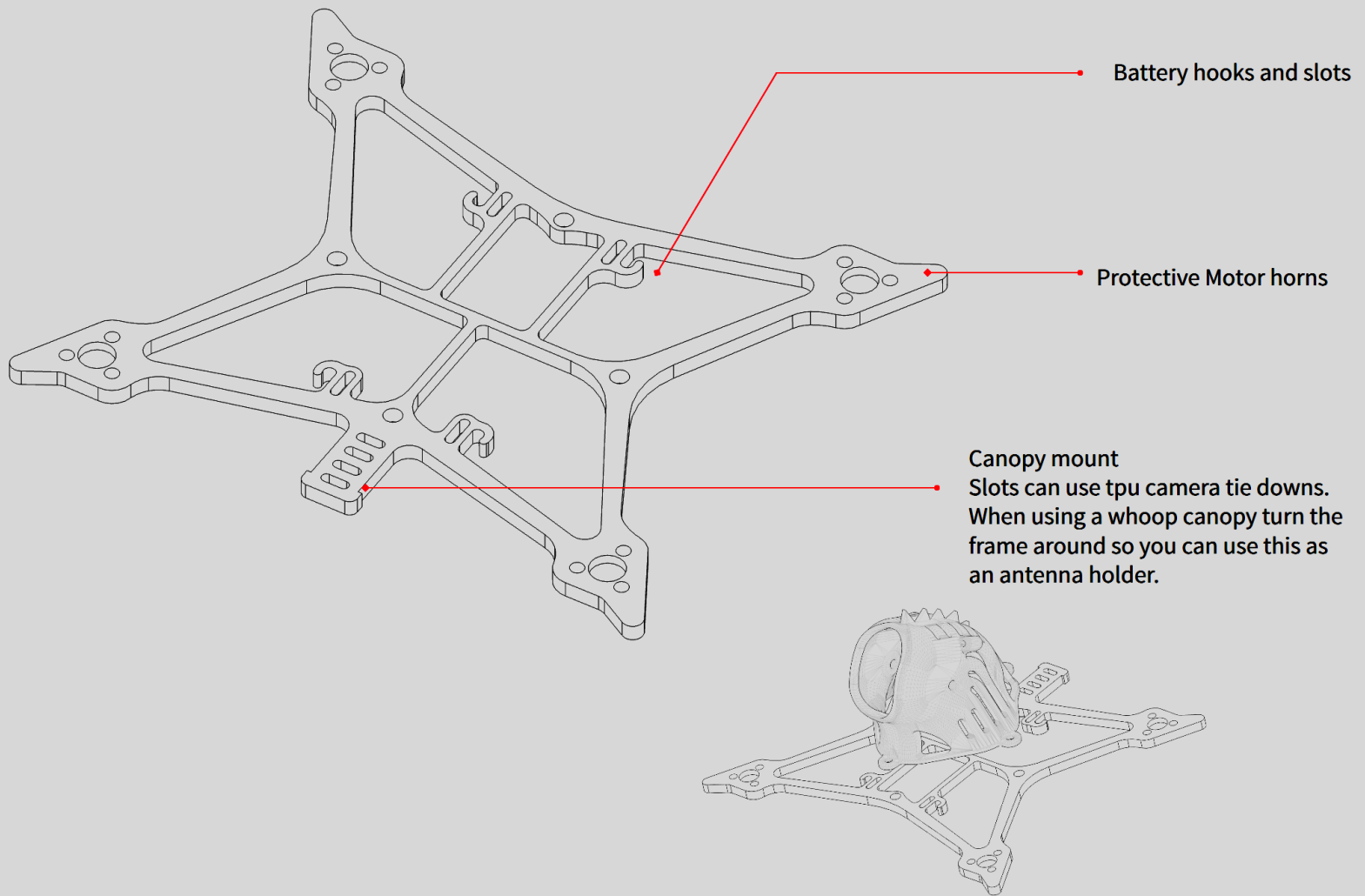
SPECS

SPEC	DETAIL
Wheelbase	84mm motor-to-motor diagonal
Configuration	Squashed-X
Frame Thickness	1.5mm or 2mm carbon fiber
Bare Weight	3.85g (2mm)
Prop Size	45mm (open) / smaller with ducts
Motor Class	1002 (1S) / 1103 (2S)
Power System	1S LiPo — 2S on the 2mm frame only
Video Systems	Digital / Analog
Duct Compatible	Yes (optional)

WHAT'S NEEDED TO BUILD

#	PART	NOTES
1	Main Frame	1.5mm or 2mm CF
2	AIO Flight Controller	25.5×25.5mm mounting pattern — 1S or 2S
3	Motors ×4	1002 / 21000KV (1S) or 1103 / 11000KV (2S)
4	Motor Screws ×12	M1.4×5mm (1.5mm frame) / M1.4×6mm (2mm frame)
5	Propellers ×4	45mm, 2× CW / 2× CCW
6	Battery Strap	TPU printed — 1S or 2S
7	Power Band Strap	Nylon woven — optional
8	Camera Canopy	TPU printed — pick your camera
9	Flight Controller Cover	TPU printed — honeycomb
10	Washers ×4	Optional — helps seat the battery strap

FRAME FEATURES



Battery hooks, protective motor horns, and the canopy mount — which doubles as a video antenna holder when the frame is flipped for a whoop canopy.

HOW TO BUILD IT

STEP 1 — BATTERY STRAP

This goes on first. The folding TPU battery strap sits under the frame with the stack screws passing through it, so it has to be in place before anything else stacks on top. There are separate versions for 1S and 2S packs — print whichever matches the batteries you fly. Print it as-is: it's sized tight on purpose, because TPU stretches and a strap that fits perfectly on day one is loose by month three.

A plain washer on each screw, above the strap, holds it more securely in place. It isn't required, but some pilots prefer it — especially with round-head screws, where the smaller bearing surface has less to grip.

STEP 2 — POWER BAND (OPTIONAL)

The frame has hooks on each side for a power band, and it can be run alongside the strap. Straight across, connecting each hook to its opposite side, or crossed in an X for a more locked-down hold. The X gives a bit more grip, straight across makes swapping batteries faster.

STEP 3 — 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 4 — MOTORS

Bolt your motors to the arms — three screws per motor, twelve for the build. Screw length depends on your plate: on the 1.5mm frame the M1.4×5mm screws most motor brands include work fine. On the 2mm frame M1.4×5mm is marginal, so run M1.4×6mm instead.

Check the mount pattern before you buy. See the motor recommendations section for the best options for your cell count.

STEP 5 — 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 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.

The cover handles both antennas. The angled channel on top is for boards with a wired receiver antenna — feed it in from the lower end and it routes clean and clear of the props. Because the channel is angled, it exits on one side only: if that's the opposite side to where the antenna leaves your board, mirror the part in your slicer before you print it. The separate holder takes your video antenna, sized for an ORT or a whip.

STEP 7 — PROPS

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

WHAT MAKES IT DIFFERENT

Carbon-integrated 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.

1S or 2S, your call — Most 75mm frames pick a lane. This one doesn't. 1S is the classic whoop experience — light, efficient, forgiving. 2S is a different aircraft: the power-to-weight is unmatched at this size and nothing else in the class feels like it. Two things to get right before you commit to it. 2S runs on the 2mm frame only — we do not recommend it on the 1.5mm, which is cut for weight, not for the loads 2S puts through it. And the cell count follows your electronics as much as the frame: a 1S AIO stays 1S, so going 2S means a 2S-capable board. Be honest with yourself about the rest of the tradeoff too — more speed into the same obstacles means more broken parts.

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.

A cover that does three jobs — The honeycomb cover protects your stack, locks onto your stack screws so you don't need separate nuts, and manages both antennas — the angled channel routes your receiver wire, the holder takes your ORT or whip video antenna.

Ducts optional — Want prop guards? The Squirrel supports ducts. They're worth a look on 2S, where crashes land harder and the extra protection earns its weight — just know you'll need to drop to smaller props to fit them either way.

Digital-first, analog welcome — Everything about this frame was designed with digital video in mind. 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.

MOTOR RECOMMENDATIONS

All motors should have a 1.5mm shaft.

1S

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 — but check the mount pattern, not just the size.

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

Not every 1002 uses the standard whoop mount — the RCinPower GTS V3 1002 is a 4-hole M2 pattern and will not bolt on. Check before ordering.

2S

1103 / 11000KV — The 2S motor. This is the KV the whole 75mm 2S class settled on and there's a reason for it. Recommended — on the 2mm frame only.

KV is not a range on 2S. The 8000KV wind of the same motor is the 3S version and feels soft on 2S; run 11000KV on 3S and you'll cook the motor or the ESC. Get the wind right.

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.

PROP RECOMMENDATIONS

All props below are 45mm with a 1.5mm shaft. The same props carry over to 2S.

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

45MM×2 — The lightest 45mm prop available at just 0.25g. Best for maximum flight time.

45MM×3 — Good all-rounder at 0.33g. More thrust than the bi-blade with minimal weight penalty.

Ultralight 1.8×1.3×3 — Very low pitch design optimized for efficiency and smooth flight. Great for digital and cinematic flying.

BATTERY RECOMMENDATIONS

1S

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.

On 1S, BT2.0 is highly recommended over PH2.0 — lower internal resistance means less voltage sag, especially with digital video.

2S

300–350mAh — The standard 2S pack for this size. Keeps the quad light enough that the power actually translates into speed.

450mAh — More runtime at the cost of some of the snap. Worth it for outdoor cruising.

2S is for the 2mm frame. We don't recommend it on the 1.5mm.

On 2S, BT3.0 is the recommended connector. Step up to XT30 when you want the most power the frame can pull — it delivers the most current of anything in this class.

TPU FILES

Free to download at printables.com. Battery straps at theporto.com. Print in TPU.

PART	VARIANTS
Camera Canopy	HDZero Lux, HDZero Eco, Caddx Ant, Pinch, DJI O4 Air Unit
Flight Controller Cover	Honeycomb
Battery Strap	1S, 2S