



DJI FPV / Caddx Vista / Air Unit pan/tilt gimbal mount for FPV aircraft



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Summary

Lightweight and flat pan/tilt mount for a DJI FPV camera and a 5g flat tilt servo. To be used on top of a FPV plane.

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This is a very simple two-piece pan/tilt gimbal for a **Caddx Nebula Nano** (the standard camera shipped with most Vista kits) or any other 14mm wide camera, a standard-sized 9g pan servo (ideally one with 180° of rotation or more), and a “low-profile” 5g tilt servo. The specific hardware I used, as shown in the cover photo:

- Caddx Nebula Nano with a Caddx Vista transmitter next to the assembly
- Turnigy TGY-R5180MG 180° pan servo
- FliteTest ES9051 tilt servo (also available as EMAX ES9051)

Update: I added fork variants for the “old” 21mm wide **DJI Air Unit Camera** as well as the newer 19mm wide **Caddx Air Unit Camera**. The 19mm variant should also fit the **Nebula Pro** and the **Polar** cameras.

The design is inspired by [Painless360's low profile pan and tilt](#). However, it's a ground-up redesign and not a remix, with both parts redrawn from scratch with several different design decisions.

Both parts print flat without supports. It's ideal to print in PETG to provide UV resistance and to allow the fork to bend during assembly without breaking.

Assembly process is straightforward:

- Make sure both servos are pre-centered before assembly.
- Attach the base plate to the pan servo with a matching screw through the mounting hole, tighten the screw and make sure the plate does not rotate freely on the attachment point.
- Place the tilt servo onto the base plate and secure it with screws into the support column holes.
- Snap the fork on to attachment points on both sides. Make sure it rotates freely.
- Attach the tilt servo horn, make sure it fits snugly into the guides on the side of the fork and fully attaches to the servo. Secure it with a screw as usual.
- Place the camera into its slot on the fork and secure it with M2 screws from both sides.
- Prepare a tight-fitting cut-out for the pan servo in the top surface of wherever you want to mount the assembly, and press-fit or glue the pan servo and the whole assembly in place. Route the tilt servo cable and the camera cable so that the assembly can freely move on both axis, without snagging on the cables.

Please leave a comment if you need a version with any measurements changed or adapted, I'll happily adjust the design and add a variant for any slightly differing servos or cameras.

Model files



caddx-nebula-nano-pan-tilt-fork-14mm.stl



vista-pan-tilt-base.stl



dji-cam-pan-tilt-fork-21mm.stl



caddx-air-unit-pan-tilt-fork-19mm.stl

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