FLIGHT CONTROLLER DETAILS

QUADCOPTER FUNCTIONAL REQUIREMENTS

- Carry a Load of 500g and Below (1 Pint of Blood = 495g)
- Weigh 800g (frame = 454g, Components = 878g)
- Weight 1.83Kg (Drone & Payload = 1.83kg)
- Recharge Backup Battery Using Oscillatory Motion of Motors & Solar Frame panels.
- Autonomous
- 4 Hours of Flight Time
- Remotely Stream live feeds via Camera
- 360 Camera View Via Servo Motor
- Flight Height of 10ft
- Switch between Power Sources During Functional Flight Mode.
- Take Pictures and Video then send to the Cloud.

COMPONENTS

- Frame
- **Propeller**
- Motor
- Electric Speed Controller
- **Flight Controller**
- Power (Battery)
- Transmitter & Receiver
- Camera

FLIGHT CONTROLLER

- The flight controller regulates the movement and actions of a drone and functions as the brain for the drone. The controller is a circuit board that generates the motor speed based on gathered sensory data and user commands.

- The flight controller for this project was selected based on the quadcopter functionality / Application.

ARDU PILOT MEGA

Ardu Pilot Mega has been selected as the suitable flight controller which aligns with the stated functionalities; it allows autonomous functionality using an autonomous program. This flight controller is been open source allows personalized functionality.

Features

- Arduino Compatible
- Includes 3-axis gyro, accelerometer and magnetometer, along with a high-performance barometer
- GPS
- Open Source
- Built-in compass GPS module
- Main chip: Ublox-6M
- 3DR Radio Telemetry Kit 915 Mhz
- This board can be used for CRIUS AIOP and Arduflyer / ArduPilot-Mega.
- ATMEGA328P Microcontroller
- MAX7456-EUI monochrome on-screen display
- APM Arduflyer Power Module V1.0
- Neo-6M GPS module with compass ic
- MiniOSD
- 3DR Radio Telemetry Kit 915Mhz
- Shock Absorber

Note: The Power Module is only designed to power APM/Arduflyer, a RC receiver and accessories (GPS, Radio telemetry).

It is not designed to power servos. Use your aircraft's own ESC/BEC for that.

ARDU PILOT MEGA