OpenUAS: Electronics Requirements
v0.2

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1. The electronics subsystem shall include sufficient sensors to inform flight decisions.

2. The electronics subsystem shall provide an interface to receive ground commands.

3. The electronics subsystem shall provide an interface to send data to the ground.

4. The battery shall be replaceable.

5. The sensors shall be replaceable.

6. The wires shall be replaceable.

7. The battery shall be able to be reasonably moved within the fuselage to enable customization based on the sensor choice.

8. The flight computer shall be able to be reasonably moved within the fuselage to enable customization based on the sensor choice.

9. Electrical components shall be placed such that there is sufficient space for heat to dissipate, keeping electronics below 100 degrees fahrenheit.

10. Heat shrink, and if necessary, heat sinks shall be provided for cooling vital electrical components.

11. The electronics subsystem shall provide additional sensors to ensure redundancy.

12. The flight computer shall be separated such that no components, beyond sensors and controls, may be connected to ensure the safety algorithms are implemented as planned.

13. The battery shall provide a minimum of one hour of operational flight time.

14. The users are recommended to provide documentation of usage of the battery for both safety and lifespan purposes.

15. Auxiliary electronic units shall be capable of being turned on and off by user during operation.

16. The onboard receiver shall be capable of receiving messages up to a direct distance of at least 1 mile from the ground station.

17. The onboard transmitter shall be capable of sending messages at a direct distance of at least 1 mile to the ground station.

18. The battery capacity shall not be drained below twenty percent during flight tests. This is because when the battery goes below this percentage, the chance of the battery to swell and its longevity decrease.

19. The battery shall be stored at 3.8 Volts per cell in a storage container separate from other batteries.

20. The Electronic Speed Controller used in the UAS will also include a Battery Elimination Circuit.