

Launch Standby

- 1. Battery Status
- 2. Computer or Wire
- 3. Remote Launch Min. 50ft range.





Decent

 Descent velocity should be between 75 and 150 feet/sec (approx. 50 and 100 mph)
 Chute Release and charge deployment
 Air Brakes/Drogue Chute



Recovery

Gps location after touchdown Smartphone app~\$200 arduino gps(shown)~\$60 Air horn/ Noise maker



Data Collection

- Flight computers record and transmit data (acceleration, flight trajectory, etc.) often in real time.
- 2. They may also releasing drogue parachutes at apogee and the main chute at different altitudes.
- 3. This would allow either transmission or storage of data.

Altimeter

Uses the air pressure to show altitude. Usually measured above sea level (ASL). StratoLogger - 20 Samples/s \$85.55 arduino add-on \$16 to \$<u>35</u>



Acceleromet



- 1. An accelerometer never senses gravitational acceleration, they measure change in velocity $(\blacktriangle V)$
- An accelerometer is a device that senses deviation from freefall, because they are calibrated with earth's gravity
- 3. However, the magnitude and direction of gravitational acceleration can be inferred from accelerometers.

Gyroscope

 Allows the Calculation of Orientation and rotation.
 Often used to move control systems such as thrust vanes and movable fins.





Questions

Protection/Durability:

- 1. Housing?
- 2. Environmental? (Temp., Press., etc.)

Power:

- 1. Batteries?
- 2. Wiring And Placement?

Altimeter Questions

- 1. Real Time Or Recovered?
- 2. Control Parachute Deployment?
- 3. DIY Device?
- 4. Redundant Altimeters?





Arduino Altimeter

- More creative than buying every component fully functioning.
- 2. Less reliable than buying one.

ALTDuino Logger

Created by Leo Nutz www.ALTDuino.de Designed to measure and log the altitude of an object (e.g. rocket, airplane) above a fixed level.

 Dimensions:
 42 x 18 x 13 mm

 Weight:
 6.6 grams

 Power:
 1S Lipo 3.7 volt, 50 mAh



GPS Questions

- 1. Recoverable/Real Time?
- 2. Range, If Real Time?



Recommendations

Altimeter: Recoverable Setup, Non-Real Time.

GPS/Locator: Premade GPS Device Or Locator With Receiver Device (Antenna).

Braking: Air Brakes With Servos