RRS Electronics:

Needed Functionality:

2 Motors (Stepper or Servo) (Must Decide)

GPS

Wireless Transmitter [XB9X-DMUS-001]

2 10 DOF Triple axis accelerometer/gyroscope/etc/etc.

Connection to Stratologger

Optional (SD or MicroSD)



Integration:

Microcontroller

Motors

Decide whether we want to use a servo or a stepper motor. Choose based off accuracy and torque. Not the current consumed by the motor. Design or buy a driver that can supply the peak current and peak voltage to the motor.



GPS



Choose a SMT GPS chip. Design a breakout board for the gps chip. Note whether the antenna is on board or external to the GPS chip. Consider the orientation of the antenna relative to the position of the landed rocket. Order the breakout board.

Wireless Transmitter



Choose (pretty much already chosen) a wireless radio. Design a breakout board for the chip. Note whether the antenna is on board or external to the chip. Consider the orientation of the antenna relative to the position of the rocket both mid flight and landed. Order the board.

2 10 DOF

Choose (pretty much already chosen). No need for a breakout board. Design a way to ensure that the i2c line will work even though both of these devices are programmed with the same i2c address.

Connection to Stratologger

Create or design a cable or screw terminal system to plug the stratologger into the main board. Order and test. (Refer to the Motor Driver board from last year)

SD or MicroSD

Choose an SD card chip (SMD or Through Hole). Design a breakout board if needed. Order and test.