

Team PLEASE

June Status Report

HASP

### **Activities of the Team:**

Along with Ryan Gueho, Nick Chason has joined team PLEASE. His primary role has been to optimize the timing between the camera, tiltmeter, temp sensor, and GPS subsystem.

The camera subsystem is operational. The Nikon D3200 has been successfully automated to take pictures at 1 Hz while controlling the shutter speed and aperture size of the camera. File format tests have been performed to determine the optimal picture settings for flight.

A tiltmeter board is almost finished being designed for the signal conditioning for the tiltmeter. Once finished, it will take approx 1 week for it to be fabricated. Once fabricated, it just needs to be assembled and the tiltmeter subsystem will be completed.

Final designs for the Nikon DSLR structure have been completed. Within the next few days, they will be submitted to the machine shop along with the housing for fabrication.

The temperature sensors have been selected, purchased, and integrated within the rest of the components. The temperature sensors are the Dallas Semiconductor DS18S20+ one wire sensors. The bus for the sensor array has been designed and construction of the bus has begun.

The power board as shown in the power sully flow chart of the PSIP has started to be designed. It will be completed within a week.

### **Problems Encountered**

While the camera is automated on an Arduino Uno, the current software is not compatible with the Arduino Mega. The Mega currently controls all other subsystems. Either a port of the code from the Uno or Mega is necessary, or a master/slave system with the Mega and Uno has to be implemented. This can create timing issues which will have to be resolved.

### **Milestones Achieved:**

PSIP finalized

All subsystems functioning and capable of taking data.

Housing structure designed and ready for fabrication.

**Current Team Members and Demographics:**

Team Leader: Joel Taylor

Team Members: Ryan Gueho, Nicholas Chason

Faculty Advisor: Michael Cherry

With Guidance From: Michael Stewart, Gregory Guzik, Winston Capps, Ching-Cheng, Brad Ellison, Michael Cherry