

Memo

To: 16.82 Students
From: 16.82 Faculty

Date: Oct 7, 2003

Re: Hardware Document

The requirements document (due Oct 7) describes the properties that the UAV system and subsystems must have in order to accomplish the defined mission. The next step in the design process is to extend this document in two ways to describe:

1. The hardware design that you propose to meet these requirements. In terms of the requirements document, this is essentially "filling in" the boxes in the block diagram and describing what is "inside" (i.e. both hardware and software).
2. The connections between the boxes in much greater detail. This is essentially converting the input/output lines in your requirements document to a more detailed "wiring diagram".

Each sub-team must clearly present what they plan to build, including supporting information such as drawings, models, simulation results, mass, link, power and delay budgets. You must also write an explanation of why this is your design, i.e. what factors led you to conclude that this was the "best" choice for your subsystem. Note that your selection of "best" here is subject to the constraints that were imposed upon you by other teams. You should also clearly explain what these constraints are, any negotiation that occurred to modify them, and how they impacted your design process. Please include your analysis to show that the hardware design for each subsystem meets all input/output requirements and that it is consistent with the constraints imposed on your sub-system and by your sub-system on others. It is expected that your write-up in this hardware document will be sufficiently detailed that any follow-on group could reproduce the team's rationale for the overall design and build the vehicle given this report.

The hardware document should be written as one document from the entire team with major contributions from each of the sub-teams. The final product should be a consistent and well integrated description of both the proposed design and the building schedule to meet the December 5th flight date.

To account for the slip in the due date of the requirements document, the hardware document due date will also be moved by one class to Oct 21, 2003.