



Santa Clara University

“Follow the Leader UAV”

Preface

Electronics system integration is no easy task. Especially when you are knee deep in a semester long project whose focus is broad and fast paced. Education teaches you about many aspects and one can only concentrate on so many areas. Integrating two UAVS that can follow each other, let alone communicate with each other isn't the simplest of ideas.

Challenge

The Santa Clara University Aerial Robotics Team set out to build a follow the leader UAV system. As a manually piloted model was to be flown around the sky, an autonomous follower UAV would trail behind and follow the leader aircraft's flight path. The SCU team needed a data acquisition system which would provide them with accurate altitude and positional data for the leader UAV.



Result

We supplied the SCU team with a basic telemetry system, quickly customized the software such that it would operate with a GPS receiver and the SCU team integrated it within their follow the leader UAV system.

The telemetry unit was installed on the leader aircraft, which was to be manually piloted through the sky, sending positional information back down to the ground where it was then sent back up to the follower UAV.

By selecting off the shelf components for the leader UAV, the SCU team could concentrate on the core algorithms to command the follower UAV. This helped them achieve their goals, allotted in a short time period.

