



UAV Gets off the Ground !

Cornell University Unmanned Aerial Vehicle team

Unmanned Aerial Vehicles have become a critical component of today's military. The Cornell University UAV team captured 1st place in the AUVSI Unmanned Aerial Vehicle competition with their delta-wing design. Their winning entry demonstrated autonomous takeoff and landing, as well as stabilized video capture.

Part of the team's system included an automated ground-based tracking system. A pan-tilt unit on the ground was outfitted with a digital video camera and high gain RF antenna to automatically track the aircraft while flying. A GPS, Gyro and magnetometer were used to provide 6-DOF position information of the pan-tilt camera position. The aircraft's position was received via telemetry and used to command the pan-tilt to aim and track in real-time.

When this talented group of engineers went looking for a pan-tilt for their system, they wanted something that was flexible, and that provided reliable, high performance. With so much to do to pull the whole project together, they also wanted something easy to integrate. The **PTU-D46-17** and the C API software gave them just what they were looking for. After a couple all-nighters, the system was up and running, and became part of the winning aircraft!

"The Directed Perception pan-tilt was ideal for our application. The real-time control was critical to our being able to track our aircraft at relatively short distances. Our programming team found that the software interface was easy to use and provided the tracking features we needed."

-- **Karl Schulze**, Team Leader, Cornell University UAV Team



Cornell UAV Team System

About Cornell University UAV Team

Cornell University UAV team is a group of undergraduate engineering students who work together to design, construct, test and eventually fly an autonomous fixed wing aircraft in [AUVSI's International Student Unmanned Aerial Vehicle Competition](#). The competition was first held in the summer of 2002 at Webster field in Maryland and Cornell came home with first place. The plane must complete a series of tasks including waypoint navigation via autonomous flight, target identification, and much more. More information can be found at: www.cuair.org.

Customer Success Story