

## Ground Control Station

The APV-3 operates autonomously using an autopilot system that has a telemetry range of up to 20 miles. The compact ground control station for operating the APV-3 features a laptop PC as the primary control console (Fig. 1a). The flight mission plan is created using this ground station. The PC has a moving map display showing the aircraft's location, speed, and height in real time. The system monitoring windows keep track of the APV-3's performance. The flight path is specified as a series of mission legs, each with its own altitude, speed, and waypoint. The operator can change the mission plan by “dragging and dropping” waypoints over the map display, and then uploading the new flight plan to the aircraft. Figure 1b shows the laptop-based moving map graphical user interface that provides command of the aircraft via a waypoint-based flight path.

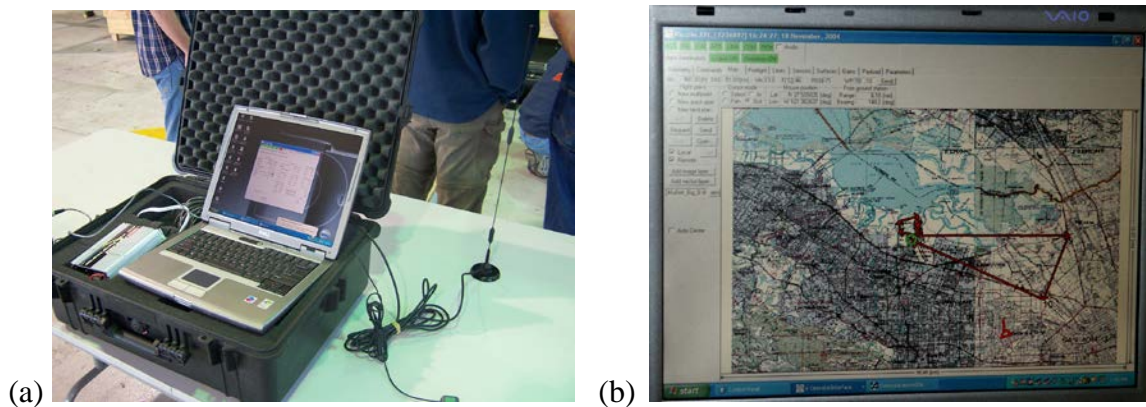


Figure 1: (a) APV-3 ground control station; and  
(b) screen snapshot of the autopilot system in operation.