

Ground Control Station

The Vector-P operates autonomously using an autopilot system based in a mobile ground control station (GCS). The GCS is usually located at the launch site, but it may be positioned at a more favorable location for optimal signal strength. The GCS rooftop features a directional yagi antenna mounted on a tracking tripod assembly (Figure 1) that increases the command-and-control telemetry range to more than 30 miles. The omnidirectional antenna mounted on a pole on the corner of the GCS serves as a backup for the yagi. The mission flight plan is created using this ground control station. The control command computer (Figure 2) has a moving map display showing the aircraft's location, speed, and height in real time. The system monitoring windows keep track of the Vector-P'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 1. Vector-P mobile ground control station (GCS). Note tracking tripod assembly (see arrow) on roof, enabling line-of-sight command-and-control telemetry for longer range missions.

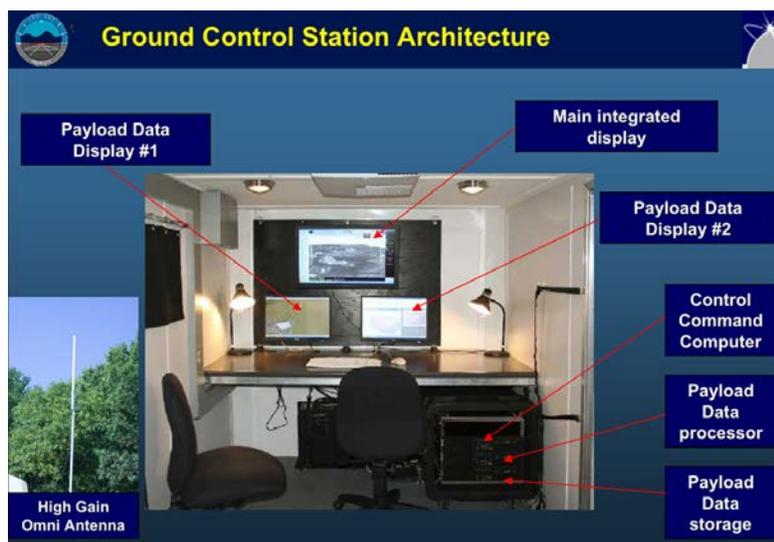


Figure 2. Vector-P mobile ground control station viewed from the interior. Note the control command computer.