



Northrop Grumman - MQ-5B Hunter

Rugged Mission Computers Fly with Hunter UAS

The MQ-5B Hunter Unmanned Aerial Systems from Northrop Grumman relies on its payload interface units to monitor, control and communicate between its payloads. Due to its proven rugged design and performance, the DuraCOR® 810 mission computers from Parvus have been integrated into the Hunter to provide durable, reliable interface units for the Hunter UAS program.

Parvus Mission Computer Chosen for Hunter UAS

Unmanned Aerial Systems (UASs) play a critical role in the military's reconnaissance efforts, and few UAS have been as heavily deployed in the last decade as the Hunter from Northrop Grumman. The MQ-5B Hunter—Northrop Grumman's latest UAS—is currently being deployed by the U.S. Army to conduct battlefield surveillance using its multimission optronic payload. Flying over the battlefield, it gathers reconnaissance, surveillance, target acquisition and battle damage information in real time. The Hunter then relays this information via video link to commanders and soldiers on the ground.

Melhcorp, a company that designs and produces Payload Interface Units (PIU) for UAS, was selected by Northrop Grumman to manufacture, maintain and support three different types of payload interface components for the MQ-5B Hunter unmanned aircraft.

Melhcorp chose the Parvus DuraCOR 810 for the Hunter program because of its rugged design and modularity. More than 40 DuraCOR 810 subsystems have been delivered to Melhcorp and configured to operate as the PIU for the Hunter UAS. These DuraCOR 810 units monitor, control and communicate between payloads onboard the Hunter, as well as control the mounted payloads that include electronics and sensors.

Rugged Design Ensures Optimal Performance

As the MQ-5B Hunter is deployed in different environments, testing and qualifications to ensure the durability of the DuraCOR 810 were essential. The DuraCOR 810 has been tested and qualified for MIL-STD-810F environmental compliance with extreme temperatures, shock/vibration, and ingress. Mechanically designed with considerations for dust exposure, water immersion, EMI/EMC, corrosion resistance, power protection, and system mobility, this field-ready mission computer builds on years of experience by Parvus in developing and qualifying similar systems for harsh ground vehicle and aerospace installations.

The DuraCOR 810 integrates a low-power Intel Pentium M CPU together with a MIL-STD-704/1275 power supply in a rugged aluminum chassis with MIL-DTL-38999 connectors. Up to 6 spare PC/104(+) slots are available for integrators or Parvus to integrate mission-specific I/O functionality.



DuraCOR 810

Case Study

“The rugged design of the DuraCOR 810 from Parvus fulfills my operational requirements and the fact that these systems can endure the harshest environment make the unit a perfect fit for the Hunter UAS,” said Julio Melhado, president of Melhcorp. “By working with the Parvus Duracor 810, Melhcorp is helping deliver durable, reliable interface units for the Hunter UAS program.”

COTS Development for UAS

The use of common computing architecture in UASs is becoming the obvious solution for many aerospace and military contractors as it reduces

costs and improves efficiency. As unmanned vehicles have escalated from a niche technology to a key military strategy, the costs and risks associated with its computing architecture are heavily scrutinized. By including COTS technology in the Hunter UAS, Melhcorp and Northrop Grumman have proven that common computing architecture improves efficiency and can provide a foundation for future growth. As commonality and commercial standards drive many of the military’s programs, the further development of COTS products for UASs will only help the warfighter improve mission efficiency.



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