

## Galil and PVP Help the Military See and Fight Enemy Combatants and Terrorists at Safe Distances

From unmanned flying drones and laser guided smart bombs to night vision systems, advanced technology continues to help guard against terrorist and enemy attacks—and to increasingly keep soldiers out of harm's way. In these situations, failure is not an option.

As part of this mission, PVP Advanced Electro-Optical Systems, Inc. (PVP AEO), Tustin, CA, develops and integrates sensors and imaging systems for space, airborne, ship and land based applications that incorporate advanced infrared and image intensified cameras, lasers and laser rangefinders. Customers include the US military, NASA, Dept of Homeland Security, and major aerospace and defense contractors.

For the US Army's Stryker mobile gun system, an eight-wheeled all wheel drive (AWD) light armored combat vehicle (ACV), PVP provides their Commanders Pan Viewer System (CPV). This gyro stabilized periscope system provides the tank commander with 360 degree surveillance of potential targets and threats without exposing him to outside danger.

The precise motion for the gyro system is handled by Galil's DMC-1425 two-axis controller. It was customized to meet specific requirements for shape and size, include a VME interface, handle such software needs as closing the servo loop around the gyro, and meet the standard communication protocol required by the customer. The latter involved adapting the controller to a special, ultra-high resolution encoder which ensured pinpoint accuracy and position memory during power-up.

"In addition to the high performance specs, Galil met our 'need-it-now' delivery schedule and tight budget requirements," said Geoff Miller, Program Manager, of PVP, "They also had to deliver a controller that fit in a super small space, had a minimum of components, and didn't require much power."

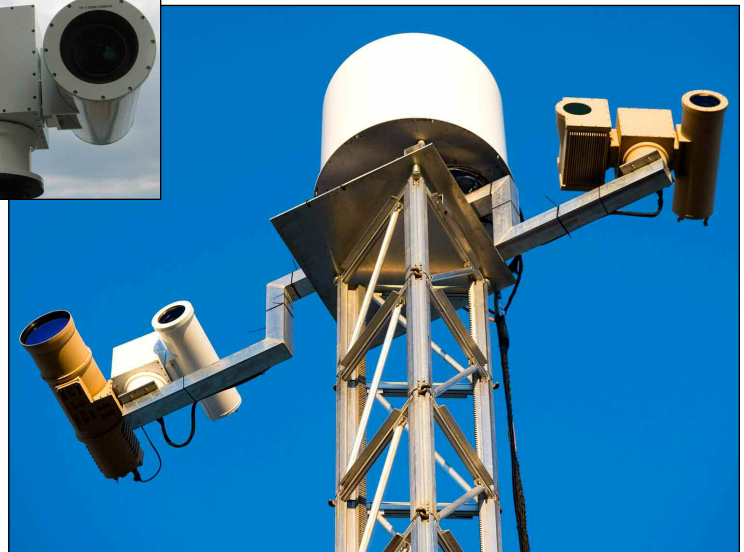
For this application, the DMC-1425 provides a Position Mode which responds to user commands for specific elevation and azimuth angles, and a Rate Mode which is designed to close the loop around the gyro so that the sight line can

remain stable even when the vehicle is driving over uneven and bumpy terrain.

"We've delivered over 100 of these systems to date and there have been no reported failures with the Galil controller," added Miller. "They are performing in a full military environment in very rugged, extreme conditions.



*Night Hawk system provides 360 degree surveillance to guard against enemy attacks.*



Another key component for tracking and monitoring the enemy at safe distances and for patrolling borders is PVP's Night Hawk Surveillance Platform technology. It incorporates a high-performance, flexible and rugged Pan & Tilt gimbal that accommodates a wide range of sensors and video tracker configurations, while providing continuous operation with no scheduled maintenance, even under extreme conditions.

The Pan & Tilt gimbal operates on the same servo motor based drive train as the CPV system which is controlled by the Galil DMC-1425 and results in extremely high pointing accuracy and repeatability.

"It also runs 24/7 and not one Galil controller has failed," said Miller. "The Galil controller proved to be very flexible, with Galil quickly changing the CVP firmware to accommodate this new application for the Night Hawk. Galil's algorithms delivered very smooth motion and positioning accuracy to within .005 degrees, working off information provided at up to 300 degrees per second." ■

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