

Integrated Multi-sensor Surveillance and Reconnaissance System



An integrated scalable multi-sensor system in an environmental weather-proof enclosure, the NightHawk XP offers a variety of sensor options and lens configurations to provide all-weather, 24-hour, long-range surveillance and reconnaissance. A day color sensor is matched to the selected thermal sensor to meet operational requirements. An eye-safe laser range finder providing up to 30-km range capability is also included, and an optional laser illuminator is available to enhance low-light level viewing.

FEATURES

- State-of-the-art sensors
- Superior ruggedization
- Flexible mounting
- Rapid field installation
- Single external cable connection for entire suite
- Integration flexibility
- Single Ethernet interface
- Open architecture
- Integrated MPEG-4 digital video encoding
- Active stabilization and highly-accurate pointing
- Control options

BENEFITS

- Provide exceptional detection, recognition, and identification capability
- Extends operational life – proven in the harshest environments – reducing life cycle costs
- Can be installed on towers, vehicles, and masts or tripod
- Set up quickly for surveillance, reconnaissance and forward observation
- Increased reliability and reduced maintenance
- Operates as a stand-alone system or configured into a network with multiple systems
- Fully network enabled – network integration LRU not required
- Supports legacy and future C2 protocols with remote C2 firmware upgrade capability via Ethernet
- Supports scalable bandwidth efficient transport of VOIP
- Keeps sensors precisely on long range targets
- Operator control is via user-friendly hands-on controller or through remote control



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NIGHTHAWK XP

Size (inches)	25 L x 25 W x 25 H
Weight	Configuration dependant
Position	360° continuous azimuth rotation 180° elevation rotation
Velocity	<0.001 to 360 deg/sec in azimuth <0.001 to 180 deg/sec in elevation
Acceleration	200 deg/sec ² in azimuth 200 deg/sec ² in elevation
Position Control	Direct drive closed loop servo
Position Accuracy	0.0006 degrees
Sight Line Stabilization	<80 micro radians per axis for a tower mounted environment
Power	28 or 48 VDC 110 or 220 VAC with external power supply
Environment	Outdoor/Marine to MIL-STD-810 <ul style="list-style-type: none"> Humidity, salt fog, solar loading, blowing sand/dust, and blowing rain Temperature: -40°C to +65°C Vibration: 3grms 50-500 Hz

BASELINE THERMAL CAMERA

SensorType	MWIR InSb reticulated
Sensor Size	640 x 512 pixels, 20µm pitch
Focal Length	75-550 mm Continuous Zoom
Spectral Band	3.6-5.0µm with CO ₂ notch
Cool-Down Time	7 minutes
D/R/I (NFOV -550 mm)	29.5/9.4/7.7 km (vehicle) 16.2/3.8/3.0 km (man)

BASELINE VISIBLE DAY CAMERA

SensorType	1/2" EM-CCD
Sensor Size	680 x 500 pixels, 10µm pitch
Focal Length	12.5 -750 mm, plus 2x extender
Spectral Band	400-700 nm (color) 400-1,000 nm (B/W high sensitivity)
Sensor Sensitivity	0.0009 lx (full color) 0.00005 lx (B/W)
DetectionRange (WFOV)	>3.0 km (vehicle) >1.0 km (man)
Detection Range (NFOV)	>7.0 km (vehicle) >6.0 km (man)

ARCHITECTURE

System Interfaces	Interface Type	Protocols
Command & Control	10/100BaseT Ethernet	TCP/IP based implementation of Pelco-D, TASS, ICD-0100a or user defined
	RS-422	Serial based implementation of Pelco-D, TASS, ICD-0100a or user defined
Digital Video (2)	10/100BaseT Ethernet	MPEG-4
Analog Video (2)	Balanced Twisted Pair	Composite Video

Single MIL-38999 Connector

EYESAFE LASER RANGEFINDER

Laser Type	Erbium: Glass
Wavelength	1.54 µm
Pulse Rate	12PPM (1 Hz optional)
Max/Min Range	30 km / 50 m
Range Resolution	+/-5 m (optional +/-2 m)
Beam Divergence	0.5 mrad (standard)
Detector	APD
Laser Safety	Class 1 eyesafe

ADDITIONAL OPTIONS

- Full-rate gyro-based stabilization
- Laser illuminator – variable FOV and uniform illumination in excess of 3 km
- Laser pointer/designator – provides 1.5 meter diameter laser spot at ranges up to 10 km
- GPS
- Digital magnetic compass
- Video tracker
- Sensor heaters

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