FLIR®

Black Hornet® VRS

The FLIR Black Hornet Vehicle Reconnaissance System (VRS) equips armored or mechanized vehicles with an immediate, organic, and self-contained surveillance and reconnaissance system. Adapted from the Black Hornet Personal Reconnaissance System (PRS), the VRS extends the game-changing and lifesaving capability of the Black Hornet nano-UAV. The launch unit mounts externally and fully integrates within the vehicle to create a real time situational awareness RSTA airborne system for crews protected inside.

The world's smallest and lightest UAV reconnaissance system designed for autonomous operations from vehicles, Black Hornet VRS is optimal when vehicles need mission-critical SA or BLOS targeting capabilities. The launch unit includes four UAVs for automatic launching capability, continuous coverage, and simultaneous missions. The complete system is easily integrated with modern battlefield management systems (BMS) and is vehicle platform independent. With limited training, personnel can operate the system quickly and within existing systems training programs.

FEATURES

IMMEDIATE COVERT SITUATIONAL AWARENESS
Save lives and minimize collateral damage. Detect and identify threats day and night without being detected. Increase speed of movement and expand maneuver options.

NON-SPECIALIST NANO UAV SYSTEM
Seamlessly integrated into the vehicle control systems, crew members need only minimal training for successful deployment.

EXTREMELY COVERT AIRBORNE SENSOR
Extremely low visual and audible signatures allow covert operation and increased security.

BEYOND VISUAL LINE-OF-SIGHT CAPABILITY (BLOS)
Expand visual range in complex and urban environments. Rapidly engage targets beyond visual line-of-sight, and conduct real-time weapon effectiveness assessment.

RESILIENT AND BATTLE-TESTED
Combat-proven on the battlefield by NATO forces.

APPLICATIONS

IMMEDIATE ISR

COVERT OPERATIONS

SITUATIONAL AWARENESS

BEYOND LINE-OF-SIGHT RECONNAISSANCE

FORCE PROTECTION

Due to its extremely small size and light weight, the UAV is regarded by several Military Aviation Authorities to expose minimal risk to other aircraft or personnel on the ground, and as such simplifies the required certification process and minimizes the need for airspace clearance to operate. This allows the user to launch a UAV immediately and operate with maximum freedom of operation. Different national rules and regulations may apply. FLIR UAS has gained approval from the US Federal Aviation Authorities to operate the Black Hornet without restrictions in CONUS (limitations apply in areas close to airports).

SPECIFICATIONS

Black Hornet® 3 Specifications

Rotor diameter	123 mm (4.8 in)
Total length	168 mm (6.6 in)
Weight	< 33 grams (1.16 oz)
Signature	
Visual detection	Unaided <20 m (65.6 ft)
Audio	< 25 dBA @ 50 m (164 ft)
Payload	
Replaceable	Yes
Day Imager	2 EO Cameras
Night Imager	Fused thermal and EO
Performance	
Endurance	Up to 25 minutes
Max. speed	6 m/sec ground speed (~20 ft/sec)
Environment	
Temperature	-10°C to +43°C
Wind	>15 knots/gust 20 knots
Precipitation	2.5 mm (.1 in)/hr (Light rain)
Data Link	
Frequency	Details on request
Radio Range	2 km (1.24 mi)
Performance	Encrypted, dynamic power, frequency hopping, beyond line-of-sight
Resolution	
EO Video	640 x 480
EO Snapshot	1600 x 1200
Thermal Imaging Video	160 x 120
Thermal Imaging Snapshot	160 x 120
Flight modes	Auto and Manual Hover & Stare Route and user selectable waypoint actions Automatic return Lost link
Navigation	GPS and GPS denied (Launch and Landing). Indoor capability
Mission Data	AES 256 encrypted Video, Snapshots, and Metadata STANAG 4609 and Cursor on Target (COT) compliant ATAK Compatible Can be integrated with selected BMS

VRS Launch Unit Specifications

Material	Aluminum
UAV Quantity	Four removable cassettes with heating and charging
Mounting	Mounted with shock absorbers between LU and mounting bracket
Deployment	Motorized lid for opening and closing for release of the UAV
Communications	Single or Dual radio for operations of one to two UAVs
Frequency	Details on request
Radio Range	2 km (1.24 mi)
Performance	Encrypted, dynamic power, frequency hopping, beyond line-of-sight
Control	Dual control or single
External Interfaces	Ethernet, USB, RS-485, HDMI
Sensors and Antennas	Wind sensor, UHF and GPS antenna
Vehicle Interface	Generic Vehicle Architecture (GVA Interface)
Standardization	STANAG 4609, 4545 and 4586
Power	10-32 V
Size	Width: 475 mm, Depth: 425 mm, Height: 310 mm
Weight	Weight: 26 kg (total with cables etc. 32kg)
Ballistics Protection	Option
Qualifications	MIL-STD 461G, 810H and 1275E

LCD screen is not part of standard configuration.

◆FLIR®   The World's Sixth Sense®