FLIR®

FLIR BLACK HORNET™

PRS

AIRBORNE PERSONAL RECONNAISSANCE SYSTEM (PRS) FOR DISMOUNTED SOLDIERS

The FLIR Black Hornet PRS equips the non-specialist, dismounted soldier with immediate covert situational awareness (SA). Game-changing EO and IR technology bridges the gap between aerial and ground-based sensors, providing the same amount of SA as a larger UAV and threat location capabilities of UGVs. Extremely light, nearly silent, and with a flight time up to 25 minutes, the combat-proven, pocket-sized Black Hornet transmits live video and HD still images back to the operator.

VRS

The 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 vehicle.

A GAME CHANGER

The Black Hornet PRS Personal Reconnaissance System is the world's smallest operational ISR platform. Its compact, game-changing EO and IR technology bridges the gap between aerial and ground-based sensors. Black Hornet PRS arms modern warfighters with an easy to carry, truly pocket-sized solution they can deploy anywhere day or night for immediate covert situational awareness.

A LIFE SAVER

Troops can hold a safe position while the stealthy Black Hornet PRS takes on the mission of quietly looking for threats around corners, overhead, or beyond the next ridge. With a more comprehensive lay of the land, Black Hornet PRS lets soldiers clear access with greater confidence, maneuver with speed, and gain the high ground.

STAY HIDDEN

Detect without being detected. Let the Black Hornet PRS be the soldier's eyes, transmitting live EO/IR video and HD still images back to the operator's safe location. Less than 33 grams and only 168 mm long, its extremely low visual and audible signatures allow covert operation and increased security, saving lives and minimizing collateral damage.

SEE EVERY THREAT

Take command and spring the element of surprise on the enemy. Fly Black Hornet PRS around walls, hover over berms and vegetation, slip into tight enclosures, or circle above rooftops. With a ground speed of up to 6 meters/sec (20 feet/sec), the Black Hornet PRS can find and identify imminent danger fast wherever it's waiting.

SEE WHAT'S HIDDEN

The Black Hornet PRS can access dangerous hiding places in darkened buildings, caves, and even pipes in daylight, low light, and at night, ensuring detection and identification of threats while providing greater security for soldiers monitoring from a safe distance away.

BEYOND LINE OF SIGHT

Squads need to expand their visual range, especially in complex and urban environments. With a 25-minute flight time at ranges of 2 km (1.24 miles) and speeds of 21.49 kph (13.35 mph), the Black Hornet PRS can rapidly and more safely engage targets beyond visual line-of-sight and conduct real-time weapon effectiveness assessment.

FLIR BLACK HORNET 3
NUAV

Total Weight: 33 grams [1.16oz]

123 mm [4.8in]

168 mm [6.6in]

Field replaceable battery
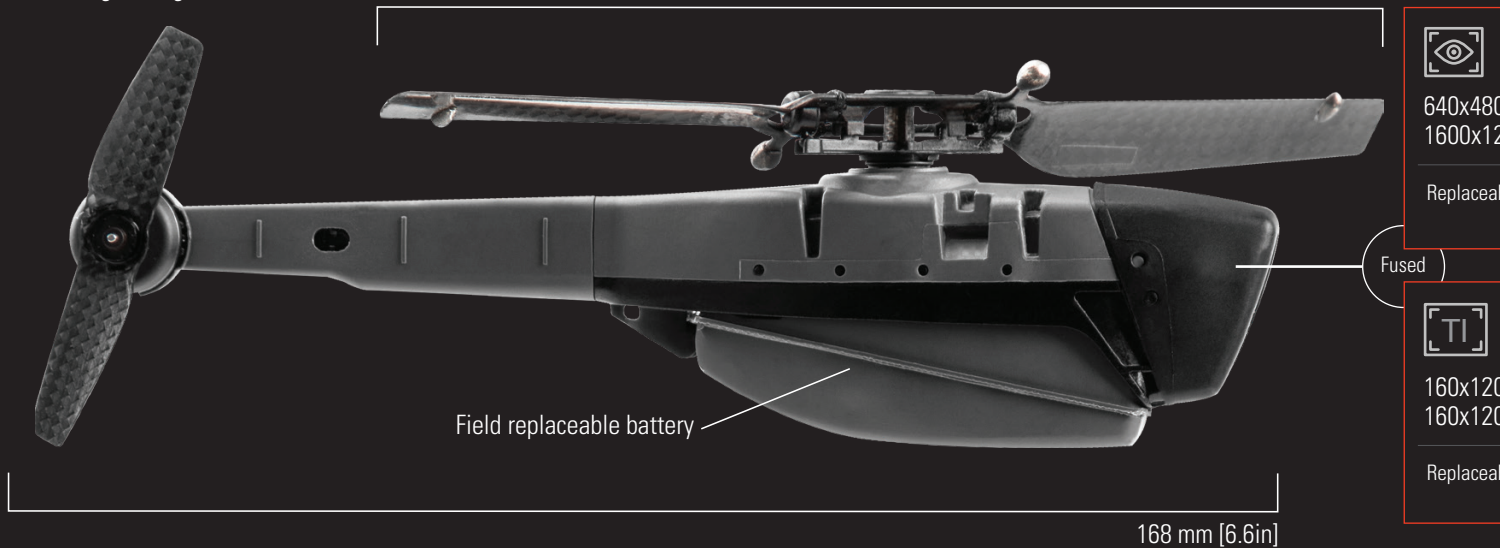
Fused

PAYLOAD

👁 640x480 EO Video
1600x1200 EO Snapshot

Replaceable

TI 160x120 TI Video
160x120 TI Snapshot

Replaceable

PERFORMANCE

- Up to 25 minute flight time at ranges of 2 km (miles) at speeds of 21.49 kph [13.42 mph]
- Best-in-class covert visual signature
- Best-in-class covert acoustic signature

ENVIRONMENTAL

- -10°C to +43°C
- Can withstand winds of 15 knots and gusts of 20 knots
- 2.5 mm [.1 in]/hr (light rain)

NAVIGATION

- GNSS and GNSS-denied capability (upgrade option)
- Indoor navigation capable (upgrade option)

MISSION DATA

- AES 256 encrypted video and snapshots metadata
- ATAK Compatible and STANAG 4609 and Cursor-on-Target (COT) compliant
- Embedded vector and raster maps (upgrade option)

FLIGHT MODES

- Auto and manual Hover & Stare
- Route and user selectable waypoint actions
- Automatic return
- Lost link

DATA LINK

- 2km [1.24mi] Radio Range

Frequency details upon request

Encrypted, dynamic power, frequency hopping, beyond line-of-sight

WHAT'S IN THE KIT

UPGRADED GROUND CONTROL STATION (GCS)

The GCS consists of a base station, controller and display. The base station houses two Black Hornet 3 nano UAVs and, in combination with the one-handed controller, enables all necessary functions to plan, execute, and analyze missions. All mission data is stored on a removeable SD-card on the base station for review and sharing. Internal rechargeable batteries supply power to the external display and recharge the housed nano UAVs. FLIR offers, as standard, a high-quality and lightweight daylight readable display for the Black Hornet PRS. Other networked or integrated solutions for displaying mission data in real time are available.

BLACK HORNET VRS

VEHICLE RECONNAISSANCE SYSTEM

The Black Hornet Vehicle Reconnaissance System (VRS) is based on an adaption of the unique Personal Reconnaissance System (PRS) and is intended for vehicle-mounted operations.

The launch unit is mounted externally to create a real time situational awareness RSTA airborne system that crews can easily deploy from the safety of their protected position inside the vehicle. The complete system is easily integrated with modern battlefield management systems (BMS) and is vehicle platform independent.

Modern warfare requires increased situational awareness and UAV capability meets this demand.

BROAD CAPABILITES

- Battlefield damage assessment

- Immediate imagery

- BLOS targeting

- Increased situational awareness

- Improved tactical decisions & security

- UAV deployment from protected environment

- Operates as a stand alone system

MISSIONS

The Black Hornet VRS was designed with a mission focus to detect, recognize, or identify pending threats before they materialize, improving Situational Awareness and enhancing Force Protection and Lethality. The Black Hornet VRS can be launched and recovered from within the vehicle, maintaining operator safety and maneuvering tempo. VRS missions bridge the gap between aerial and ground-based sensors, significantly enhancing Situational Awareness during both dismounted and mounted operations.

Route and Point Reconnaissance

- Extends visual line of sight beyond vehicle-based sensors

- Clears infil and exfil routes

- Checks specific points and areas of interest

Battle Damage Assessment and Documentation

- Observes weapon effect during firing

- Provides close-in battle damage assessment

Targeting Information

- Targets coordinates and positive target identification

- Provides sensor-shooter loop on individual vehicle platform

- Supports both direct and indirect weapon engagement

Pre-Deployment Reconnaissance

- Provides full situational awareness to troops prior to leaving vehicle

- Displays fly-through route of engagement prior to deployment

OPERATIONAL USES

The Black Hornet VRS seamlessly integrates into any military vehicle with the ability to operate independently or within a larger battle management or fire control system. The VRS can also be deployed within a stationary environment such as a FOB or similar camp protected area, allowing 24/7 and simultaneous surveillance capabilities.
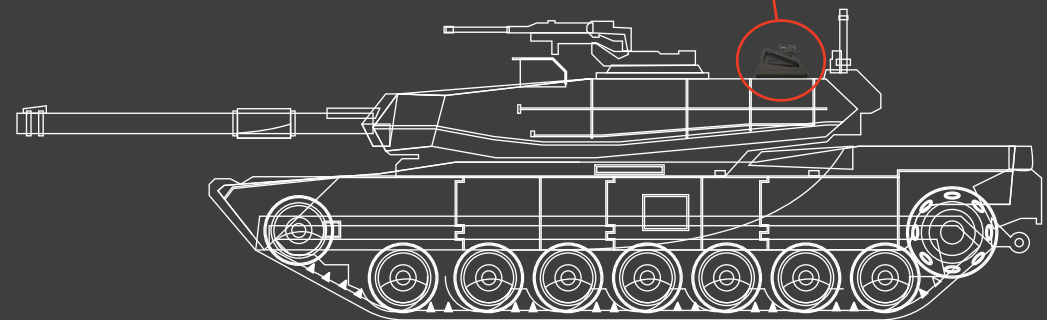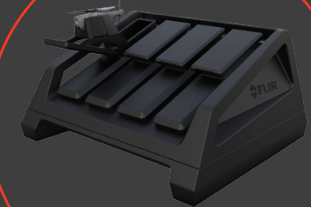

Wheeled Vehicles
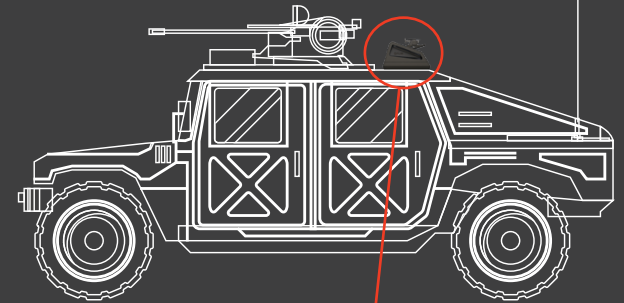
PSS (Camp Protected)
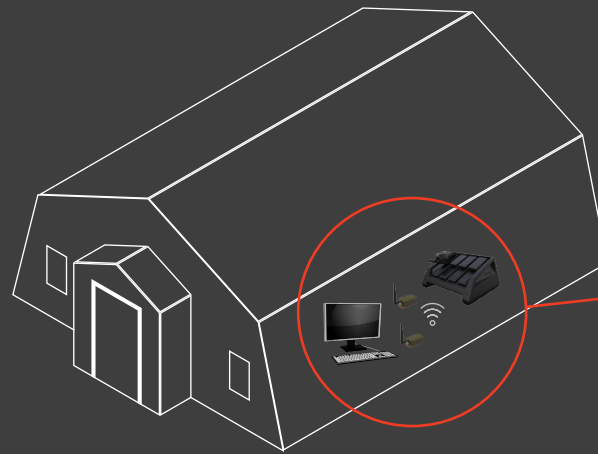
Self-Contained

Tracked Vehicles

LAUNCH UNIT

With no compromise to the safety and security of vehicle personnel, the VRS launch unit is able to autonomously launch the Black Hornet nano-sensor. The launch unit can incorporate four separate nano-sensors to ensure continuous and simultaneous operations, all while increasing operational tempo.
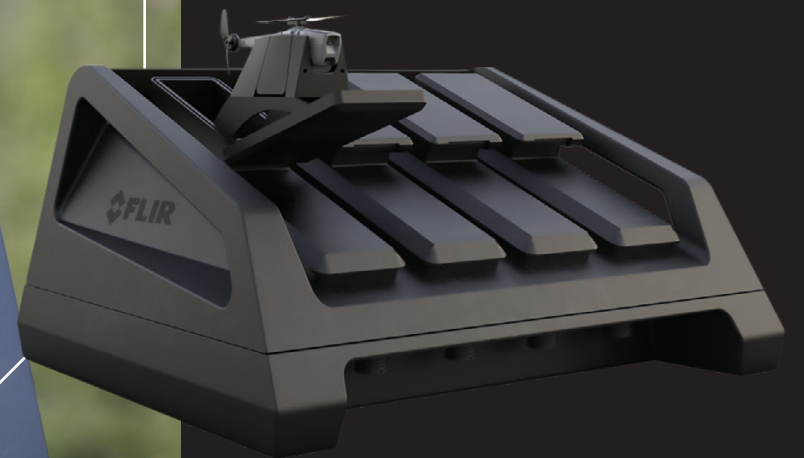
SYSTEM INTEGRATION

The Black Hornet VRS can be seamlessly integrated into the GVA vehicle infrastructure.

Target position and image from Black Hornet can be made available to the vehicle systems.

GVA VEHICLE INFRASTRUCTURE
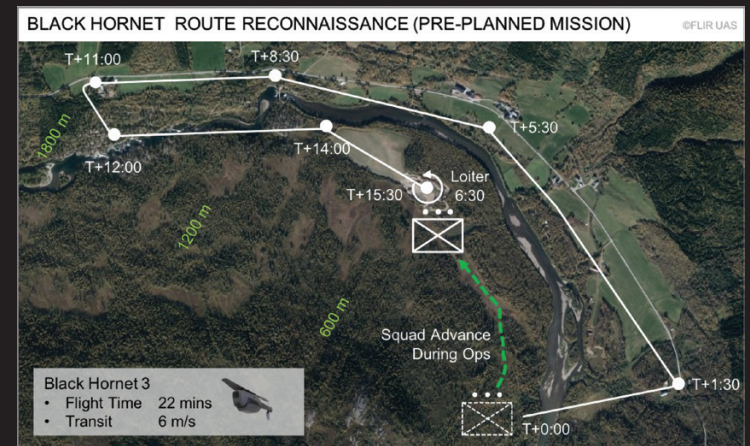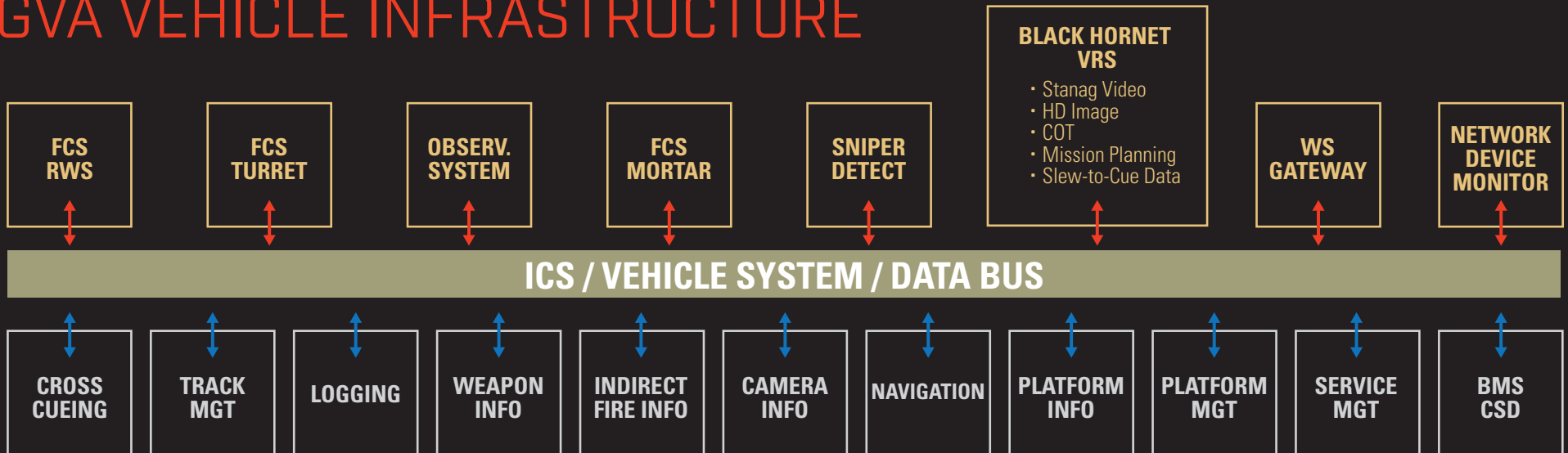
BLACK HORNET VRS
- Stanag Video
- HD Image
- COT
- Mission Planning
- Slew-to-Cue Data

FCS RWS	FCS TURRET	OBSERV. SYSTEM	FCS MORTAR	SNIPER DETECT		WS GATEWAY	NETWORK DEVICE MONITOR

ICS / VEHICLE SYSTEM / DATA BUS

CROSS CUEING	TRACK MGT	LOGGING	WEAPON INFO	INDIRECT FIRE INFO	CAMERA INFO	NAVIGATION	PLATFORM INFO	PLATFORM MGT	SERVICE MGT	BMS CSD

Black Hornet combined with integrated combat solution.

Black Hornet route reconnaissance using BMS.

AMERICAS

CORPORATE
HEADQUARTERS
FLIR Systems Inc.
27700 SW Parkway Ave
Wilsonville OR 97070
+1 877.773.3547

Washington DC
2800 Crystal Drive
Suite 330
Arlington, VA 22202
PH: +1.703.416.6666

EUROPE

FLIR Systems
FLIR Unmanned Aerial Systems AS
Nye Vakås vei 56
NO-1395, Hvalstad
Norway
+47 66 77 9100

FLIR Systems AB
Antennvägen 6,
PO Box 737
SE-187 66 Täby
Sweden
PH: +46 (0)8 753 25 00

MIDDLE EAST

FLIR Systems B.V. - Abu Dhabi
Wadi Al Fey St.
Building 60, Office # 302
New Ministries Exit /
Khalifa Park Area
Abu Dhabi, U.A.E.
Office: +971 2 666 1561
e-Fax +1 503 914 1591

FLIR Systems Saudi Arabia
Office 127, First Floor
Akaria Plaza Building, Olaya Street
Riyadh, 11481, Saudi Arabia
Office: +966 11 464 5323
Fax +966 11 464 0438

ASIA

FLIR Systems Japan K.K.
Meguro Tokyu Bldg. 5F,
2-13-17
Kami-Osaki, Shinaga-
wa-ku.
Tokyo, 141-0021, Japan
T +81-3-6721-6648

www.flir.com/blackhornet

saleshelp@flir.com

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