◆FLIR®

THE FUTURE OF MULTI-MISSION SMALL UAS

SkyRanger R70

Developed for the most demanding UAS operators within the defense, security, and public safety markets, the SkyRanger R70 establishes a new benchmark for small UAS performance and reliability. With its expanded carrying capacity, open architecture, and advanced autonomy and artificial intelligence, the R70 is redefining what's possible with a small VTOL UAS.

The R70's multi-mission payloads provide ISR and payload delivery capabilities previously limited to much larger UAS. Optical sensors include the StormCaster-T a longwave infrared, continuous zoom ISR payload with exceptional line of sight stabilization, range of motion and geolocation accuracy, the HDZoom 30 providing eyes-on-target at distances up to 8 km and the EO/IR Mk-II for high-fidelity daylight and thermal imagery streamed securely anywhere in the world. With the Osprey, R70 operators can rapidly attach, carry and deliver nearly any object up to 3.5 kg for forward resupply, asset extraction or other specialized missions.

FEATURES

AUTONOMOUS AND INTELLIGENT
With multiple embedded NVIDIA TX2 processors, the R70 is a flying supercomputer with an engine for real-time artificial intelligence at the network edge, including object detection and classification. Four dedicated computer vision cameras enable autonomous operations, landing on a moving target and flights in GPS-denied environments.

CARRY MULTI-MISSION PAYLOADS UP TO 3.5 KG
With the new Osprey carry and delivery payload, R70 operators can attach and deliver nearly any object up to 3.5 kg such as radios, ground sensors, medkits, and more. The R70 adds a new front-mounted EO/IR payload to supplement bottom-mounted, non-camera payloads.

RESILIENT AND BATTLE-TESTED
The R70's carbon fiber and magnesium airframe is tested to IP-54/MIL-810G environmental tolerances. In flight the R70 can withstand sustained winds up to 65 kph, and operate up to 15,000' MSL. Mission success is underpinned by a robust digital MIMO communications link and two independent navigation subsystems. The R70 is able to execute semi-autonomous missions without an active wireless link for operations in denied RF environments.

FLEXIBLE & MODULAR
The Unmanned Development Kits (UDK) further extend the SkyRanger platform for end users, enabling complex integrations and rapid development of capabilities to meet tomorrows evolving mission sets. The UDK provides a full set of APIs, electro-mechanical models, tools and development hardware to enable meaningful native integrations and provide capability extension.

APPLICATIONS

IMMEDIATE ISR

CLANDESTINE OPERATIONS

PAYLOAD DELIVERY

SITUATIONAL AWARENESS

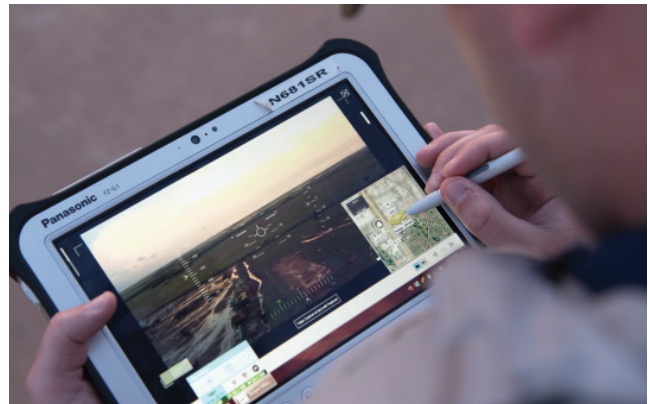BEYOND LINE-OF-SIGHT RECONNAISSANCE

FORCE PROTECTION

SPECIFICATIONS

Item Specification	
Total Length	80cm (31.5in) from motor mount to motor mount
Weight	Aircraft 4.7 kg (10.4 lbs) – Airframe, arms, legs, 4 batteries, no payload Standard pack 8.7 kg (19.2 lbs) – Aircraft, Base Station, HDZoom 30
Payloads	
Hot-Swappable	Yes
Custom	Supported through the R70 Payload Development Kit (PDK)
Carry, Drop, Emplace	Osprey: Up to 3.5 kg
Day Imager	HDZoom 30, EO/IR MK-II, Forward EO/IR
Night Imager	StormCaster-T: EO/IR MK-II, Forward EO/IR
Image Stills	StormCaster-T: 640 x 512 pixels HDZoom 30: 20 megapixels (5184 x 3888 pixels) EO/IR MK-II: 13 megapixels (4192 x 3104 pixels) / (640 x 512 pixels)
Zoom	StormCaster-T: 5x optical, 15x digital HDZoom 30: 30x optical, 60x digital EO/IR MK-II: 4x digital Forward EO/IR: NA
Field of View	StormCaster-T: 31° to 6° optical, 2° with digital zoom HDZoom 30: 68.6° to 2.6° (30x), 1.3° (60x) EO/IR MK-II: 58° / 45° (13mm) or 32° (19mm) Forward EO/IR: 90˚ / 57˚
Video Resolution	StormCaster-T: 640 x 512 60 FPS, H.264 recorded HDZoom 30: 1080p60 H.264 HD recorded EO/IR MK-II: 640 x 512 / 8.33 FPS H.264 recorded Forward EO/IR: 1920 x 1080 / 160 x 120
Video Metadata	Embedded STANAG 4609 KLV metadata
Performance	
Typical Endurance*	Over 40 minutes with standard propulsion system Tether Kit available *Endurance specifications measured with Forward EO/IR payload; actual flight time varies based on payload and operating conditions*
Max. Speed	Ground speed 50kph (31mph) Max ascent speed 4m/s (13ft/s) Max descent speed 3m/s (9ft/s)
Environment	
Temperature	-30°C to 50°C (-22°F to 122°F)
Wind	65kph sustained, 90kph gusting (40mph, 56mph)
Precipitation	IP-54, MIL-STD-810G
Data Link	
Frequency	915MHz, 922MHz, 2.2GHz, 2.489GHz + other frequencies
Radio Range	Up to 8km (5 miles) with standard base station
Mission Data	AES encryption, with a 256-bit physical key exchange
Launch Time	3-5 minutes

Carry payloads up to 3.5 kg

Intuitive, tablet-based GCS

Object detection and classification

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