



Survey Grade Drone for Infrastructure Inspection

- ▶ **Best in class sensor: Sony Alpha ILX-LR1 and lenses, integrated with drone and remote ground controller**
- ▶ **Long range radio (3-5 miles, depending on environment)**
- ▶ **Collision avoidance available Q4 2025**
- ▶ **14 lb all up weight, compact, backpack-able**
- ▶ **Automated in-flight precision geotagging**
- ▶ **Location, time, and date scored into every frame for synchronous data**
- ▶ **RTK, sub 1-3 cm accuracy**
- ▶ **Support for photogrammetry and infrastructure inspection missions**
- ▶ **Made in USA, NDAA compliant**

Lightweight quadcopter for superior inspection

The Osprey drone is purpose built to inspect, measure, map, and model critical infrastructure. Get powerful and timely information from a drone that is small, smart, and ready to scale.

Better photos make better models

The Osprey is specifically designed to support the SONY ILX-LR1 61-MP camera offering extraordinary sensitivity, resolution, and dynamic range. It has a 61-MP effective megapixel* full-frame image sensor, interchangeable E-mount precision lenses, full remote operation and a 35mm full-frame back-illuminated Exmor R™ CMOS image sensor with approximately 61 million effective* pixels.

Photogrammetry and digital twins

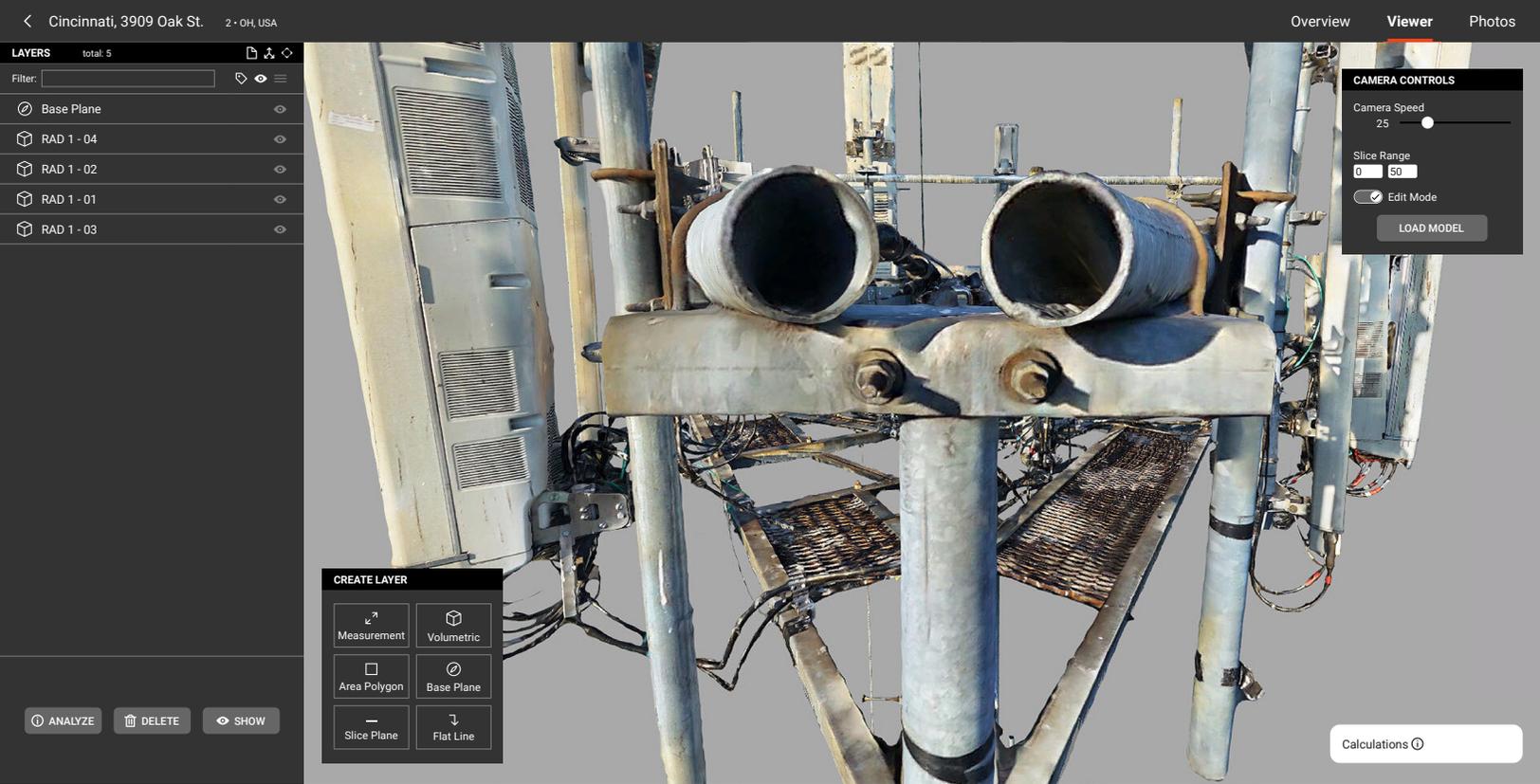
Using sophisticated algorithms, Skyfish extracts the exact, minute, detailed features from thousands of photos, correlates and triangulates these features, then stitches the photos seamlessly into high fidelity 3D reality models. The result is an exact life-like replication, or “digital twin” of the target infrastructure.

Skyfish offers a fully integrated online portal (Skyportal™) for customers to view their digital twins, measure the thickness of steel, measure a cotter pin in a bolt, or the length of a cable to sub-centimeter accuracy inside the model.



Sony ILX-LR1 High-resolution camera

- ▶ 61-MP
- ▶ Full frame image sensor
- ▶ Interchangeable e-mount precision lenses
- ▶ 35mm full-frame back illuminated Exmor R™ CMOS image sensor
- ▶ Natural gradations and realistic colors
- ▶ Wide ISO range of 100-32,000



Flies longer

Complex missions can be accomplished with fewer battery changes in the field. Osprey can be configured to fly for up to 45 minutes, depending on the battery selected. The radio range is 3 to 5 miles.

Best-in-class location accuracy

The Skyfish platform has amazing location accuracy with an automated geotagging process that is frame synchronous. We inject sub-centimeter data into every still or moving frame (including the Sony LR1 and FPV.) The Osprey also uses an onboard RTK GPS solution with a stand-alone RTK Base Station. The base-station is survey grade, and can act as a relay to increase the range as required.

Ground remote control

Skyfish has customized QGroundControl for flight navigation and integrated the software with our proprietary remote controller. The rugged Skyfish controller is ready for deployment in harsh environments (e.g., desert, mountain, humidity) and features a large screen for better situational awareness during missions.

Easy portability

At ~14 lb all up weight, Osprey is compact and is ready for field deployment. Osprey transports in a backpack or small case for easy portability.

Made in the USA and NDAA compliant

Based in Missoula, MT, Skyfish designs drones, battery systems, airborne guidance, and ground stations, which provide real-time video and telemetry feeds from the aircraft – all in house, for the past 11 years. Skyfish is certified Airworthiness Level 3 by U.S. Army DevCom and Green UAS (in process).

Skyportal 3D reality models

Crystal clear and extremely accurate “digital twins” that are measurable within 1/32 of an inch.



Osprey Remote Controller Supports QGroundControl

- ▶ Daylight and night readable
- ▶ Comfortable to hold, easy to use
- ▶ 4 joysticks (2 for navigation, 2 for sensor control)
- ▶ Support for QGroundControl: Intuitive and powerful ground control station for the MAVLink protocol

Technical Specifications



Aircraft

Dimensions (unfolded)	30" L x 30" W x 12" H
Dimensions (folded)	15" L x 15" W x 12" H
Ground clearance	8.5" for payload
Empty weight	~7.5 lb (no battery, no gimbal/camera)
All up weight	~14 lb
Max. payload	~3.5 lb
Max. air speed	45 mph
Max. ascent/descent speed	Customizable up to 16 ft/s
Max. pitch angle	Customizable to 45°
System architecture	Modular motherboard
GPS	RTK capable
Operation temperature	0°F to 115°F (aircraft without payload) 32°F to 104°F (aircraft with payload)
Max service ceiling	10,000 ft MSL
Flight modes	4 autonomous modes, manual or custom modes
Flight time	Up to 45 minutes depending on battery selected
Propellers (material)	Carbon composite
Propellers (dimensions)	20", 2 CW, 2 CCW
Failsafe behaviors	Low voltage, automated component connection, in-flight actions, combine/customize/add failsafe behaviors

Power

Number of motors	4
Max. instant peak power	6 KW (1.5 KW /motor)
Normal power consumption	1 KW (250 W /motor)
Equivalent KV	330 RPM/V

Battery

Number of battery packs	1
Capacity	12,000 mAh / 24,000 mAh
Peak voltage	25 V
Nominal voltage	22.2 V
Life cycles	500+
Connectors	Governed slow start loading

* Number of effective pixels varies depending on attached lenses and camera settings

Photogrammetry Camera

[Read all specifications](#)

Sensor (make, model)	SONY, ILX-LR1
Weight	243 g / 8.6 oz (camera body only)
Dimensions	4" x 3" x 1 11/16"
Camera type	Interchangeable lens digital camera; 35mm full frame (35.7 x 23.8 mm), Exmor R CMOS sensor
Lens mount	E-mount
Number of pixels (effective)*	Still images ~61 MP max. Movies ~50.8 MP max.
Color temperature range	2500 K – 9900 K

Gimbal

[Read all specifications](#)

Gimbal (make, model)	Gremsy, Pixy LR
Weight	495 g / 1 lb
Max. controlled rotation speed	Pan axis: 180°/s Tilt axis: 180°/s Roll axis: 180°/s
Mechanical endpoint range	Pan axis control: ±326° Tilt axis control: +50° ~ -140° Roll axis control: +50° ~ -274°
Controlled rotation range	Pan axis control: ±320° Tilt axis control: +40° ~ -120° Roll axis control: ± 40°

Remote Controller

FORM FACTOR

Construction	Nylon chassis, ergonomic hand grips, proprietary RC control electronics and radio
Control	4 control sticks, integrated hall effect gimbals
Switches	6 assignable 2- and 3-way switches, lockable hat switch, momentary switch, custom switches

TABLET

Model	Panasonic® Toughbook™ FZ G1
Display	10.1" diagonal, 1920 x 1200 pixels, daylight-readable, gloved multi-touch
Battery	Li-ion 11 V, 8+ hours operating time, 2.5 hours charging time from fully depleted state
Software	Windows® 10 64-bit (base OS), QGroundControl (Skyfish customized)

RADIO

Frequency	Dual-band 2.4 GHz / 5.8 GHz, 30 dBm
Battery	14.8 V / 3,250 mAh