

Leptron RDASS Precision Unmanned Quadcopter

The Rapidly Deployed Aerial Surveillance System (RDASS) Precision by Leptron UAS, Inc. is a vertical takeoff and landing multirotor platform used for stability, versatility and professional-grade remote sensing. The RDASS Precision model offers the same aerodynamic aircraft design as the RDASS HD, but it integrates a military-grade autopilot system with precision GPS and an advanced inertial navigation system. The RDASS is commanded from Leptron's Precision Ground Control Station (PGCS) that supports autonomous flight operations with the option of taking direct control at any time. The PGCS also offers the pilot superior situational awareness by displaying aircraft position on a moving map and real-time video from the aircraft's camera(s).

The RDASS camera mounting system accepts Leptron stabilized or fixed gimbal configurations. Each gimbal is perfectly balanced to minimize power consumption to optimize in-air performance. Additionally, the RDASS Precision can be equipped with navigation LEDs, red and blue strobe lights, and additional video viewing stations. With dozens of user defined system configurations available, the RDASS Precision is an ideal choice for law enforcement and military operations.

FEATURES

- **RDASS Model:** Precision
- **Airframe Materials:** Lightweight 3D Printed ABS and Carbon Fiber
- **User Selectable Cameras**
- **Payloads:** Fixed, Stabilized Single or Dual Camera Combinations
- **Video:** High Definition Output, HD Remote Video Streaming Compatible
- **Endurance:** 20 Minutes
- **Flight Modes:** Manual and Fully Autonomous
- **Auto Landing and Motor Shut-off**
- **Intelligent Fault Detection:** Auto Return Home due to either Lost Link or Low Battery
- **Dome Colors:** Black, Red, or Yellow



Leptron RDASS Precision with optional Stabilized Single-Camera setup using a GoPro Hero4 camera

Leptron Unmanned Aircraft Systems, Inc.

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SPECIFICATIONS

Platform Type	Multi-Rotor (four fixed-pitch rotors)
Rotor Tip to Rotor Tip Dimensions	31½ inches (80.1 cm)
Operating Temperature	-10°C – 50°C
Take-off Weight	7 lbs. 13 oz. (3539 g)
Weight without Battery	5 lbs. (2269 g)
Hovering Accuracy (GPS Mode)	Vertical: ±31 in. (0.8 m) Horizontal: ±98 in. (2.5 m)
Maximum Yaw Angular Velocity	180°/s
Maximum Tilt Angle	35°
Maximum Horizontal Flight Velocity	35 mph (30 knots, 15 m/s)
Wind Limits	35 mph (30 knots, 15 m/s) continuous or gusts of 25 mph (22 knots, 11 m/s)
Vertical Speed Limits	800 feet/min. (4.1 m/s)
Supported Flight Battery	LiPo 6S
Operational Ceiling	12,000 feet DA (3650 m)
Maximum Payload	1 lb. 8 ounces (680 g)
Operational Range	1.5 mi. (2.4 km)
Maximum Power Consumption	800 Watts (1.1 hp)

RDASS PRECISION KIT INCLUDES

- RDASS Precision Quadcopter
- 2 to 4 Flight Batteries
- Radio Wireless Remote Control
- Precision Ground Control Station (PGCS)
- RDASS Precision Controller
- Charger, 2 Channel
- Maintenance Kit
- Hard-Sided Case with Pre-Cut Foam

OPTIONAL ACCESSORIES

- Video and Flight Data Observation
Additional Video Out
Additional Video Ethernet Out
- Aircraft Navigation Lighting, and
Emergency Red and Blue Strobe



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PRECISION GROUND CONTROL STATION (PGCS)

Leptron's Precision Ground Control Station is designed for military and law enforcement use. The rugged touch screen display resists liquids, dust, and debris. Brightness controls are adjustable for day and night operations. Plan autonomous flights by simply dropping waypoints they specify for altitude, orientation, and aircraft speed. The rugged tablet screen displays aircraft flight data and live video simultaneously. An integrated on-screen check list provides the pilot peace of mind that the aircraft is prepared for flight.

- Fully autonomous or manual touch screen flight command
- Customizable waypoints
- Autonomous take-off and landing
- Built-in flight data controller
- Minimum and maximum altitude settings
- Preset speed control – slow, cruise, dash
- Ability to modify flight plan mid-flight
- Thousands of touch waypoints
- Multiple automatic landing plans
- Flight Simulator



RDASS PRECISION CONTROLLER

The RDASS Precision Controller provides fine-tuned navigation command and preprogrammed switchology putting the pilot in complete control. The ergonomic design makes aircraft operation simple and reduces fatigue.

- Preprogrammed switch and stick assignments
- 192 x 96 Backlit LCD Status Screen
- Remote Take Back Control
- Return-Home Control
- Camera Tilt Control
- Intelligent Orientation Control
- Point of Interest (POI) Control
- Link to either the 12" HiBright display or 7" display for optimum video



RDASS Precision Controller

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VIDEO & FLIGHT DATA OBSERVATION

Additional Video Out

The Leptron Additional Video HDMI Out will securely streams video and flight data information from the RDASS to any HDMI compatible monitor that is within operating range of the aircraft.

Additional Video Ethernet Out

The Leptron Additional Video Ethernet Out securely stream video and flight data to remote viewing monitors. Simply log-in to control and configure live video streams from any location with web access and a standard web browsing application.



AIRCRAFT POSITION LIGHTING AND EMERGENCY RED & BLUE

Navigation Lighting

Leptron designed the aircraft navigation light ring to assist with maintaining visual orientation and position of the RDASS during both day and night operations. The pilot can select between strobe or steady illumination. The LEDs are bright and low power consuming.

Green – Aircraft Right

Red – Aircraft Left

White – Aircraft Tail

Emergency Lighting

Designed for emergency responders, the RDASS can be equipped with the blue & red strobe to assist with aircraft positioning and signal that help is on the way.



Navigation Lighting



Emergency Lighting



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CAMERA & GIMBAL CONFIGURATIONS

Stabilized Single-Camera Gimbal with GoPro Hero4 Black

Eliminate tilt and vibration to capture high-quality video and still images used for inspection, search and rescue, aerial photography, and many other applications with the Stabilized Single-Camera Gimbal.

Stabilized Dual-Camera Gimbal

The Stabilized Dual-Camera Gimbal by Leptron UAS, Inc. integrates both Infrared (IR) and Electro-Optical (EO) camera technology used for a wide range of UAS applications. Precision three-axis tuning prevents video rotation caused by aircraft movement. Additionally, the gimbal's vertical camera position is easily adjusted in-flight.

- Available in Wide or Zoomed Field of View
- IR - 640 x 512 IR Resolution at 30Hz.
- EO - 1920 x 1080 to 4k Video Resolution with 12.1 MP Still Image Resolution

Fixed Sony Alpha a6000 Camera Mount

Leptron designed the a6000 Camera Mount to provide a lightweight, versatile and advanced aerial data acquisition solution. The image processor produces high-resolution 24.3 MP still images and full HD video for professional aerial data collection.

Leptron GeoReferencer

The GeoReferencer is a camera add-on that uses its onboard GPS to provide a stand-alone geotagging and triggering solution. It easily integrates the Sony Alpha a6000 for a best-in-class aerial data collection solution.

- Stand-alone geotagging solution
- Intelligent and efficient camera triggering
- Option to embed position data

RedEdge Multi-Spectral

The MicaSense RedEdge™ is an advanced, lightweight, multispectral camera optimized for use on small unmanned aircraft systems. RedEdge™ provides accurate multi-band data for agricultural remote sensing applications.



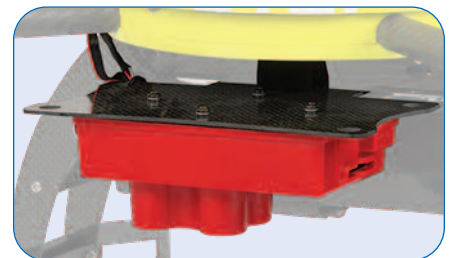
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Stabilized Dual-Camera Gimbal



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RedEdge Multi-Spectral

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