

Leptron RDASS HD Unmanned Quadcopter



The Rapidly Deployed Aerial Surveillance System (RDASS) HD by Leptron UAS, Inc. is a professional-grade vertical takeoff and landing platform engineered for stability, versatility, and remote data collection. The RDASS HD is developed with a unique aerodynamic design and advanced electronics that maintain incredible aircraft stability even in unpredictable wind conditions. Enhanced safety features such as intelligent fault detection- automatically prompts the RDASS HD to safely return home and land in the event of lost communications, low battery, or when commanded by the pilot.

The RDASS camera mounting system accepts Leptron stabilized or fixed gimbal configurations. Each gimbal is perfectly balanced to eliminate excessive power draw caused by in-air leveling corrections. Additionally, the RDASS HD can be equipped with navigation LEDs, remote video viewing, and a ground control station. With dozens of user defined system configurations available, the RDASS is an ideal choice for industry professionals.

FEATURES

- **RDASS Model:** HD (High Definition)
- **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
- **Intelligent Fault Detection:** Auto Return Home due to either Lost Link or Low Battery
- **Dome Colors:** Black, Red, or Yellow



Leptron RDASS HD with optional Stabilized Dual-Camera setup using FLIR VUE Pro and GoPro Hero4 cameras, and optional Navigation Lights

Leptron Unmanned Aircraft Systems, Inc.

2650 East 40th Avenue
Denver, Colorado 80205
Phone 303-384-3469
FAX 303-322-7242
www.leptron.com

1-800-722-2800

Leptron RDASS HD

Unmanned Quadcopter

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 HD UNMANNED SYSTEM KITS INCLUDE

- RDASS HD Helicopter
- 2 Flight Batteries
- Radio Wireless Remote Control with Video Monitor
- Charger, 2 Channel
- Maintenance Kit
- Hard-Sided Case with Pre-Cut Foam



Leptron RDASS HD Kit with 7" Screen



Leptron RDASS HD2 Kit with iPad

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RDASS HD CONTROLLER

The RDASS HD 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 HD Controller with 7" Display

Leptron has integrated a 7" tablet onto the RDASS HD Controller that simultaneously displays high resolution video and aircraft flight data. The custom adjustable carbon fiber support brackets provide ergonomic viewing and unobstructed aircraft control.



RDASS HD Controller with 7" Display

VIDEO & FLIGHT DATA OBSERVATION

HD HiBright Display

The Leptron HD HiBright monitor provides superior visibility of both HD video and flight data information transmitted wirelessly from the RDASS. Featuring HiBright technology, flight details are easily observed in all lighting environments. The carbon fiber exterior offers a one-of-a-kind look and rugged, impact-resistant protection.

- 12" Viewing Screen
- High Definition Video Display
- Field Tri-Pod Included
- Compatible with the optional Additional Video Out Components

Additional Video HDMI 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.



12" HiBright Display

Additional Video Ethernet Out

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GROUND CONTROL STATION

The Leptron Ground Control Station (GCS) complements the RDASS HD with autonomous (autopilot) flight capability. The intuitive PC interface makes flight planning simple. Pilots can create custom flight plans, recall saved flights or select from existing templates. The Leptron GCS is easy to learn and provides any operator access to autonomous aerial data acquisition.

- 11.6" Touch-Screen Display
- Flight Planning Software
- 900 MHz Transceiver Bundle



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 HD 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 HD 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.



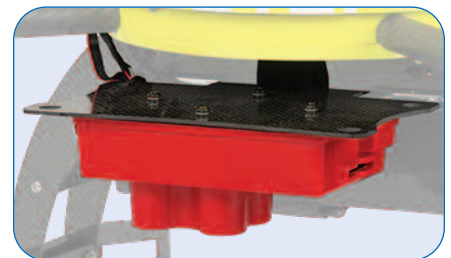
Stabilized Single-Camera Gimbal with GoPro Hero4 Black



Stabilized Dual-Camera Gimbal



Fixed Sony Alpha a6000 Camera Mount



RedEdge Multi-Spectral

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