The Rapidly Deployed Aerial Surveillance System (RDASS) HD by Lepron 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 Lepron 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

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

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

## 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
**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**

Lepton 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.

**VIDEO & FLIGHT DATA OBSERVATION**

**HD HiBright Display**

The Lepton 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 Lepton Additional Video HDMI Out will securely stream 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 Lepton 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.
GROUND CONTROL STATION
The Lepton 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 Lepton 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
Lepton 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.
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.

Lepton 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.