THE HOVERHAWK II

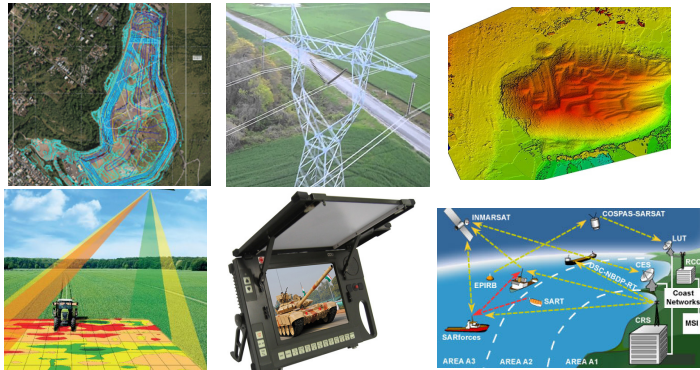## COMPACT. LONGER FLIGHT RANGE.
SIMPLE OPERATION

The HORIZON HoverHawk 2 is a compact Hexacopter, and is one of the first of its kind to be designed, assembled and produced in Singapore. It is designed to have a long flight time based on a single battery, and has been interfaced with DJI parts and software for ease of operation and maintenance, given the familiarity of the current market with the UAV maker. Also, the UAV has been engineered for stable and reliable flights without any compromise of operational safety. The HoverHawk 2 design focuses on efficiency of set up, high portability, and intuitive and efficient single person operation.

Applications:

- Aerial mapping and surveying
- Inspection and monitoring
- Precision agriculture
- Volumetric Estimations
- Unmanned Cargo System
- Military Surveillance Applications
- Search and Rescue operations

Features:

- Designed and Manufactured in Singapore
- Compact and portable: small footprint and fold down rotor arm design
- 6 rotors for flight redundancy - easy one man operation
- Modified for longer flying time, to allow greater area coverage
- Familiar interface for DJI pilots

QUICK AND EASY SET UP

Propulsion:

Proprietary single strand winding technology delivers unmatched consistency and stability. Advanced production line and strict quality control ensure the highest level of reliability.

Smart ESCs with integrated sensors and patented algorithms transmits real-time diagnostics of propulsion system status. Revolutionary sine-wave drive architecture reduces power consumption and increases efficiencyof all manoeuvres.

Build-in spark-proof circuitry offers enhanced protection when plugging in or unplugging the power source, thus extending the life of the ESCs and connectors and making them more reliable.

COMPACT AND PORTABLE

Flight Controller:

The new attitude determination and multi-sensor fusion algorithms improve the flight controller control accuracy. With a fault-tolerant control system, a hexacopter can land safely even in the event of propulsion system failure.

MISSION READY ALWAYS

Video Transmission:

Broadcast everything live - from global news events to sports to your local concerts and gatherings, all directly to large-screen displays, multi-million YouTube audiences and standard TV channels. The Lightbridge 2 has been designed from the ground up to meet the requirements of professional broadcasting at high frame rates and HD clarity. USB, mini-HDMI and 3G-SDI ports support video output at up to 1080p/60fps or broadcast standard output of 720p/59.94fps and 1080i/50fps.

Lightbridge 2 wirelessly transmits HD video at a range of up to 3.1 miles (5 km).All this to ensure that you will be able to explore distant locations and capture any perspective, always receiving a crystal clear image of your camera's sight.

Camera:

This compact camera shoots video at up to 4Kp30 or 1080p60 and takes crisp, clear 12 megapixel stills. The rectilinear, curved lens design eliminates distortion, and the 20mm focal length opens up your shots to a remarkably wide angle without that fish-eye look.

Plug and Play thermal sensors and Surveillance sensors both optional integrations for this UAV system.

STABLE AND RELIABLE FLIGHT

Low Battery RTH with LiPo battery

With LiPo battery, the Low Voltage RTH will be triggered when the LiPo battery is depleted to a point that may affect the safe return of the aircraft.

Failsafe RTH

Failsafe RTH is activated automatically if the remote controller signal (including video relay signal if DJI Lightbridge 2 used) is lost for more than 3 seconds, provided that the Home Point has been successfully recorded and the compass is working normally. The RTH process may be interrupted and the operator can regain control over the aircraft if a remote controller signal is resumed.

Smart RTH

Use the RTH button on the remote controller when GPS is available to enable Smart RTH. During the Smart RTH procedure, the aircraft returns to the last recorded Home Point but you may control the aircraft's orientation to avoid collisions. Press the Smart RTH button once to start the process. Press the Smart RTH button again to exit Smart RTH and regain the control.

In the autonomous capturing mode, the app controls HoverHawk 2 to capture vertical and oblique photographs. The capturing is designed for 3D oblique photogrammetry for reconstructing true 3D models in addition to the traditional vertical photogrammetry for creating 2D orthomaps.

A user selects an area to be mapped, and then the app automatically generates and flies the five paths. The first path corresponds to the vertical views, while the other four corresponding to the oblique views with the camera oriented about 45 degrees downward looking in four different directions.

The five paths are necessary for true 3D models. But If you want to mainly create a 2D orthographic image, or an ortho map, you may opt for taking only vertical views, which is the first path generated by the app. Then you can forego the remaining four paths of oblique views.

OPTIONAL: SMS Tracking device integration

In the event that the UAV flies beyond the line of sight, or needs to be traced and recovered under any circumstances, the operator can send an SMS to a pre-defined number and be informed about the location of the UAV. The tracking device can be integrated non-invasively onto the UAV, and does not affect flight time. It has its only independent battery, good for 100hrs, and also its own GPS to facilitate location tracking.

HoverHawk II Specifications

STRUCTURE

Diagonal Wheelbase	685mm
Aircraft Dimensions	- 1015 mm x 1015 mm x 480 mm (Propellers, frame arms and GPS mount unfolded)
Package Dimensions	620 mm x 320 mm x 505 mm
Weight	4.6 kg
Max Takeoff Weight	6.6 kg
Flight Time (260g payload)	45 minutes
Operating Temperature	14° to 122° F (-10° to 50° C)

PERFORMANCE

Hovering Accuracy (P-Mode, with GPS)	Vertical: ±0.5 m, Horizontal: ±1.5 m
Max Angular Velocity	Pitch: 300°/s, Yaw: 150°/s
Max Pitch Angle	25°
Max Speed of Ascent	5 m/s
Max Speed of Descent	3 m/s
Max Wind Resistance	12 m/s
Max Flight Altitude above Sea Level	2500 m
Max Speed	10 m/s

BATTERY

Capacity	16000mAh
Voltage	22.2 V
Type	LiPo 6S
Energy	355.2Wh
Net Weight	1920 g
Operating Temperature	14° to 122° F (-10° to 50° C)
Storage Temperature	-4° to 113° F (-20° to 45° C)
Charge Temperature	41° to 104° F (5° to 40° C)
Max Charging Power	700 W

CHARGER

Model	iCharger
Voltage Output	26.3 V
Power Rating	1000 W

REMOTE CONTROLLER

Operating Frequency	- 5.725 GHz to 5.825 GHz
	- 2.400 GHz to 2.483 GHz
Max Transmission Distance (unobstructed, free of interference)	- FCC Compliant: 3.1 miles (5 km)
	- CE Compliant: 2.1 miles (3.5 km)
EIRP	- 10 dBm @ 900 M/li>
	- 13 dBm @ 5.8 G
	- 20 dBm @ 2.4 G
Video Output Port	HDMI, SDI, USB
	Master-and-Slave control
Mobile Device Holder	Supports smartphones and tablets
	9 W
Operating Temperature	14° to 122° F (-10° to 50° C)
Built-in Battery	6000 mAh, 2S LiPo
	170 mm

AUTOPILOT SOFTWARE

Name	Altizure
Auto Start/Auto landing	Standard Feature
Smart RTH	Standard Feature
Failsafe RTH	Standard Feature
Low battery RTK	Standard Feature
Android/iOS	Compatible

CAMERA SPECIFICATIONS

Plug and Play thermal sensors and Surveillance sensors both options

Camera Model	X3
Other supported Camera Models	DJI Z3, X5, X5R

SENSOR

Size	6.17 x 4.55 mm
Type	CMOS
Effective Pixels	12.4M
ISO Range	100~3200

MAX-PIXELS

Max-Pixels	12.4M
Burst Shooting	Full pixels 7fps
Shutter Speed	8~1/8000 sec
EV Range	-3~+3, 1/3
AEB	Supported
Interval	Supported
Time Lapsed	Supported, 5/7/10/20/30 sec
DNG	Supported

LENS

Optics	20mm (35mm format equivalent)f/2.8 focus at ∞
Iris	F/2.8
Diagonal FOV	94 degree
Equivalent	20mm
Distortion	0.90%
Focus Range	Infinite
Auto-Focus	N/A

VIDEO

Resolution	4096x2160(25/24P)
	3840x2160(30/25P)
	1920x1080(60/50/48/30/25/24P)
	1280x720(60/50/48/30/25/24P)
Encoder	MPEG4/AVC/H.264
Max-Bitrates	60Mbps@4096x2160(25/24P)
	60Mbps@3840x2160(30/25P)
	45Mbps@1920x1080(60/50/48/30/25/24P)
	15Mbps@1280x720(60/50/48/30/25/24P)
Format	MP4/MOV
Storage	Micro-SD Class 10
Video NR	Support
Stabilizer	Support

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