



- Max. Takeoff Weight: 1999g
- Diagonal Wheelbase: 466mm
- Max. Horizontal Speed (no wind near sea level): 23m/s
- Max. Flight Time (no wind) : 42mins
- Max. Hovering Time (no wind) : 38mins
- Max. Takeoff Altitude: 4km
- Max. Image Transmission Distance: 20KM
- GNSS: GPS + GALILEO + GLONASS+BEIDOU
- Omnidirectional Sensing Obstacle Avoidance System
- Four Light PTZ Camera

## Product Overview

The DH-UAV-200S-T brings powerful technologies and advanced autonomy to users. DH-UAV-200S-T assesses complex environments to create real-time 3D flight paths for unparalleled obstacle avoidance. Advanced sensors make flight in GPS unavailable areas possible and the incredible new thermal payload unlocks new object identification and tracking scenarios. With a foldable, weather-resistant design, the UAV is as portable as it is capable.

## Characteristic Function

### ***Multiple task mode***

The App provides waypoint task, rectangular task, polygon task, tilt photography, spiral task, aerial belt task, imitation flight, map building and other task modes. Users can import the captured photos into the modeling software for 2D or 3D model reconstruction. Applicable to inspection, patrol, and search and rescue scenarios.

### ***Autonomous route flight***

The autonomous flight technology is used to collect the surrounding environmental data in real time, and realize global path planning, 3D scene reconstruction, autonomous obstacle circumnavigation and homing in complex environments such as mountains, forests and buildings, enabling the security, inspection and mapping industry.

### ***Precise navigation without GPS***

When the GPS signal cannot be covered, is disabled, and the accuracy and refresh frequency are insufficient, you can still obtain high-precision and low-latency distance and coordinate information to achieve high-precision indoor and outdoor navigation and positioning.

### ***Ultra-accurate identification and tracking***

Ultra-accurate identification and tracking flexibly match different mounts, based on AI image recognition technology, automatically identify and accurately lock different kinds of targets such as heat sources, moving people and vehicles in the observation area, to achieve high-altitude tracking and data acquisition.

### ***Four light PTZ camera***

Equipped with flagship mount, integrated wide Angle, telephoto, infrared, laser ranging in one, intelligent linkage between multiple sensors, breaking through visual limitations, bringing revolutionary experience to all-weather operations.

- **Laser Range Finder**

One-click positioning, quickly obtain the target position, the longest ranging distance up to 1.2 kilometers.

- **Thermal camera**

Thermal imaging resolution of 640x512, using 13mm focus distance lens, support 16x digital zoom, farther and clearer.

- **Wide-angle camera**

Video: up to 4K 30p extreme low light video, up to ISO64000, in the moonlight environment, still can shoot clear video details. Photo: Support intelligent hardware multi-frame noise reduction, HDR fusion technology, fine and clear photos in the low light environment.

- **Visible zoom camera**

The zoom camera supports 8K 10x continuous optical zoom and up to 160x hybrid zoom, with cars and boats clearly visible from 2km away. Operators do not need to go to the site, which not only improves work efficiency, but also ensures the safety of personnel and flight equipment. Efficient enabling energy inspection, emergency rescue and public security and other industry applications.

### ***Triple anti-jamming***

The built-in flight control computing unit, GPS receiving module and graph transmission module enable the aircraft to identify flight control interference signals and satellite positioning interference signals, with excellent anti-electromagnetic, anti-RF and anti-GPS decoy characteristics, giving it reliable flight stability.

### ***720° Omnidirectional obstacle avoidance all-weather operation***

Using "binocular fish-eye vision + millimeter wave radar" multi-source sensor fusion perception technology, with 720° omnidirectional perception and obstacle avoidance capabilities, even in the bridge bottom water surface, high voltage wires and other complex operating environments, can also ensure flight safety and obstacle avoidance, all-weather operation, day and night.

### ***Enhanced graphics transmission performance***

Equipped with 4 image transmission antennas, 2 transmitting signals and 4 receiving signals, the communication distance between the aircraft and the ground control terminal can reach 20 kilometers; Support 900 MHz/2.4 GHz/5.2 GHz/5.8 GHz four adaptive frequency hopping frequency band transmission, according to the electromagnetic interference situation, choose the best channel has strong anti-interference ability; Real-time transmission image quality reaches 1080p/60fps, and has a high transmission bit rate of 64Mbps and low latency transmission characteristics of < 150ms; AES-256 encryption is used for full-link data transmission and storage to ensure that end-to-end communication data is not monitored.

# Technical Specification

Aircraft	
Net Weight	1620g(with battery and gimbal)
Max. Takeoff Weight	1999g
Product Dimensions	576*660*149mm (unfolded with propeller) 340*407*148mm (unfolded without propeller) 257*136*133mm (folding without propeller)
Diagonal Wheelbase	466mm
Max. Ascent Speed	8m/s
Max. Descent Speed	6m/s
Max. Horizontal Speed (windless near sea level)	23m/s Maximum speed in Ludicrous Mode is 19m/s when operating in EU regions
Max. Takeoff Altitude	4000m
Max. Flight Time	42mins(no wind)
Max. Hovering Time	38mins(no wind)
Max. Wind Resistance Speed	12 m/s
IP Rating	IP43
Max. Tilt Angle	35°
Max. Angular Velocity	Pitch: 300°/s; Heading: 120°/s
Operating Temperature	-20°C ~ 50°C
Internal Storage	128GB internal storage, with 64GB of available space (Remaining available space will vary with different firmware versions)
Operating Frequency	2.4GHz/5.8GHz 5.2GHz (only applicable for FCC, CE, and UKCA regions) 900MHz (only applicable for FCC regions)
GNSS	GPS+Galileo+BeiDou+GLONASS
Hovering Accuracy	Vertically: ±0.1 m (when vision systems working normally); ±0.5 m (when GNSS working normally); Horizontally: ±0.3 m (when vision systems working normally); ±0.5 m (when GNSS working normally)

Smart Controller	
Screen	7.9 inch, 2000nits max. brightness, 2048*1536 resolution
Battery	Capacity: 5800mAh Battery Type: Intelligent Lithium Ion Battery Voltage: 11.55V Energy: 67Wh Charing time: 120mins
Operating Time	2.5 hours (Max. brightness) 4.5 hours (50% brightness)
Max. Transmission Distance	20km (FCC) ; 8km (CE) (no interference, no occlusion)
IP Rating	IP43
Storage	128G
Transmitter Power (EIRP)	2.4GHz FCC:<28dBm CE/SRRC/MIC:<20dBm 5.8GHz FCC/SRRC:<28dBm CE:<14dBm 902-928MHz FCC:<28dBm 5.65-5.755GHz MIC:<31dBm
GNSS	GPS+GLONASS+Galileo+Beidou
Operating Temperature	-20°C ~ 40°C
Wi-Fi Protocol	WiFi Direct, Wi-Fi Display, 802.11a/b/g/n/ac Support 2 x 2 MIMO Wi-Fi
Operating Frequency	2.400 - 2.4835 GHz; 5.150 - 5.250GHz*(MIC only); 5.725 – 5.850 GHz*(Except MIC)
WIFI Transmitter Power (EIRP)	2.400 - 2.4835 GHz FCC:<23dBm; CE/SRRC/MIC: < 20dBm 5.150 - 5.250GHz MIC:<17dBm 5.725 – 5.850 GHz FCC/SRRC:<22dBm CE:<14dBm

Image Transmission	
Operating Frequency	2.4G / 5.2G(FCC\ CE\UKCA) / 5.8G / 900MHz(FCC)
Max. Transmission Distance	20km (FCC); 8km (CE) (without interference)
Transmitter Power (EIRP)	2.4GHz: <33dBm(FCC), <20dBm(CE/SRRC/MIC) 5.8GHz: <33dBm(FCC), <30dBm(SRRC), <14dBm(CE) 5.15-5.25GHz: < 23dBm(FCC/SRRC/MIC) 902-928MHz:<30dBm(FCC) 5.65-5.755GHz, MIC: <27dBm

Visible Zoom Camera	
Sensor	1/2" CMOS, Effective pixels: 48M
Lens	Focal length: 11.8-43.3mm (35mm, equivalent: 64-234mm) Aperture: f/2.8-f/4.8 Focusing distance: 5m ~ ∞
Exposure Compensation	±3EV 0.3EV/step
ISO Range	Normal Mode: Auto: ISO100 ~ ISO6400 Manual: Photo: ISO100 ~ ISO12800 Video: ISO100 ~ ISO6400
Shutter Speed	Photo: 8s ~ 1/8000s Video: 1s ~ 1/8000s
Zoom	10X continuous optical zoom 160X hybrid zoom
Max. Photo Resolution	8000*6000
Max. Video Resolution	4000*3000

PTZ	
Mechanical Range	Pitch: -135° ~ 45° Roll: -45°~ 45° Heading: -45° ~ 45°
Controllable Range	-90° ~ 30°
Stable System	3-axis mechanical gimbal (pitch, roll, heading)
Angular Jitter	< 0.005°
Max. Control Speed	200°/s(pitch)

Thermal Camera	
Thermal Sensor	Uncooled VOx Microbolometer
Lens	FOV: 42° Focal length: 13mm Aperture: f/1.2 Focusing Distance: 6m ~ ∞
Infrared Temperature Measurement Accuracy	±3°C or reading ±3% (using the larger value) @ambient temperature range -20°C~60°C
Video Resolution	640*512@25FPS
Photo Size	640*512
Pixel Pitch	12 um
Temperature Measurement Method	Center measurement Pot measurement Rectangular measurement
Temperature Measurement Range	-20°C ~ 150°C, 0 ~ 550°C
Temperature Alert	High and low temperature alarm thresholds, reporting coordinates and temperature values
Palette	White Hot/Black Hot/Searing / Rainbow/Grey/Ironbow/Cold and Hot

Wide-angle Camera	
Sensor	1/1.28 CMOS, Effective pixels: 50M
Lens	FOV: 85° Focal length: 4.5 mm (equivalent: 23 mm) Aperture: f/1.9 AF motor: PDAF focus
Exposure Compensation	±3EV 0.3EV/step
ISO Range	Photo: ISO100~ISO6400 Video: ISO100~ISO64000 (Night scene mode: up to ISO64000)
Shutter Speed	Photo: 8s ~ 1/8000s Video: 1s ~ 1/8000s
Max. Video Resolution	4000*3000

Laser Range Finder	
Measurement Accuracy	± (1 m + D×0.15%) D is the distance to a vertical surface
Measuring Range	5m ~ 1200m

Aircraft Battery	
Capacity	8070 mAh
Voltage	14.88V
Energy	120 Wh
Battery Type	LiPo 4S
Charging Temperature	-20°C ~ 45°C When the temperature is lower than 5° C, the selfheating function will be auto matically activated. There should be at least around 10% of the remaining pow er for heating.).
Net Weight	520g
Hot Swap	Support

Millimeter-wave Radar Sensing System	
Frequency	60GHz/24GHz Please fly safely and comply with your local laws and regulations to use 60G Hz.
Sensing Range	60GHz Radar: Up: 0.3 ~ 20m Down: 0.15 ~ 80m Front and rear: 0.3 ~ 50m 24GHz Radar: Down: 0.8 ~ 12m
FOV	Horizontal (6dB): ±60°/±22° (24G/60 G) Vertical (6dB): ±30°/±20° (24G/60G)
Operating Environment	The 60GHz millimeter-wave radar sensing system supports all-weather obstacle avoidance for glass, water, wires, buildings, and trees. Its obstacle avoidance distance varies with the obstacle's ability to reflect electromagnetic waves and its surface size. The 24Ghz millimeter-wave radar supports downward sensing, and its sensing range varies by the ground material. For example, the sensing range of cement ground is 12 meters, and the sensing range of grass with a thickness of more than 3cm is less than 6 meters.

Visual Sensing System	
Sensing Range	Front: 0.5 ~ 31m Rear: 0.5 ~ 25m Left and right : 0.5 ~ 26m Up: 0.2 ~ 26m Down: 0.3 ~ 23m
FOV	Front and rear: 60° horizontal, 80° vertical Up and down: left and right 180°, front and rear 120°
Operating Environment	Front/Rear/Left/Right/Up: The surface has rich texture and sufficient light conditions(>15lux, indoor fluorescent lamp normal exposure environment) Down: The surface is diffuse and the reflectivity is >20%(such as: walls, trees, people, etc.), adequate lighting conditions (>15lux, indoor fluorescent lamp normal irradiation ring)

Thunder Fusion Omnidirectional Sensing System	
Sensing Range	Front and rear: 0.3 ~ 50m Left and right : 0.5 ~ 26m Up: 0.2 ~ 26m Down: 0.15 ~ 80m (60GHz radar)
FOV	Front and rear: 120° horizontal, 80° vertical Up and down: left and right 180°, front and rear 120°
Operating Environment	Front/Rear/Up/down: It supports all-day and all-weather obstacle avoidance for obstacles such as glass, water surface, small branches, buildings and high-voltage lines. It should at least satisfy sufficient light conditions or strong reflection ability of obstacles to electromagnetic waves Left/Right: The surface has rich texture and sufficient light conditions (>15 lux, normal indoor fluorescent lamp illumination environment)

RTK Module	
Size	55.5*72.5*57 mm
Net Weight	59.5 g
Interface	Floating connector
Power	3.0 W on average
Position accuracy	1.5 cm + 1 ppm (vertical) 1 cm + 1 ppm (horizontal)

Voice Searchlight Machine	
Size	163×116×77mm
Broadcast Distance	300m
Searchlight Distance	150m

Autonomy	
Non-GPS Hovering and Manual Flight	Indoor: Hover horizontal drift ≤3cm (texture in at least one direction) Outdoor: During the day: the flight height is within 500m, and the horizontal error is < 0.01* height during the day Night: Flight height within 100m at night flight control
Non-GPS Return-to-Home	Within 500m flight height, horizontal error of Return-to-Home point < 30cm
Automatic Obstacle Rerouting	High-speed obstacle avoidance: when the minimum safe distance from the obstacle is 1.5m, the speed of obstacle avoidance is up to 20m/s Accurate obstacle avoidance: when the minimum safe distance from the obstacle is 0.5m, the maximum speed of obstacle avoidance is 3m/s
Multi-target Recognition and Tracking	Target recognition type: person, car, boat Number of object detections: 64 Comprehensive recognition accuracy: > 85%



### Voice searchlight machine (optional)

Providing remote audio output, as well as lighting the scene, is very helpful in controlling the scene.



### RTK module (optional)

Improve the ability to resist electromagnetic interference, achieve centimeter-level positioning accuracy, and assist in completing fine inspection tasks.