CHCNAV

X500

ROTOR UAV

MAPPING
& GEOSPATIAL

HIGH-PERFORMANCE ROTOR UAV

The CHCNAV X500 rotor UAV is a professional-grade drone engineered for exceptional payload capacity and endurance. Equipped with advanced flight controls and high-precision positioning, it delivers superior maneuverability, stability, and flight performance. Its built-in visual SLAM and obstacle detection radar ensure intelligent, safe operations. Compatible with CHCNAV sensors and third-party payloads, the X500 is ideal for applications such as surveying, urban surveillance, emergency scouting, disaster relief, and inspection missions.

HIGH PERFORMANCE

The X500 supports a 5 kg payload capacity and offers a flight endurance of 58 minutes, or up to 50 minutes when equipped with the CHCNAV AA10 LiDAR. Its IP55 rating and 12 m/s wind resistance enable reliable performance in challenging environments.

HIGHLY EFFICIENT ENERGY SYSTEM

Paired with the BS10 charging station, which holds up to six batteries, it allows fast charging from 20% to 90% in just 40 minutes ensuring uninterrupted operation throughout the day.

INTELLIGENT AND SIMPLIFIED FLIGHT SOFTWARE

CHCNAV's SmartGo ground control software supports diverse flight path options, including rectangular, strip, polygonal, and facade routes. It provides real-time updates on the drone's status, heading, and surrounding obstacles, ensuring enhanced safety for beyond-visual-line-of-sight (BVLOS) operations.

STABLE AND SAFE FLIGHT

The X500 features robust redundancy with dual GNSS, triple IMU backups, dual-redundant flight control, and safe return strategies. Its millimeter-wave radar ensures precise obstacle detection and avoidance, including trees, buildings, and towers. The vSLAM visual positioning system enables landings on moving vehicles and vessels.

VERSATILE PAYLOAD OPTIONS

The X500 supports up to three concurrent payloads and is compatible with CHCNAV LiDARs and cameras. Its open SDK interface facilitates integration with third-party devices, enabling customization for specific mission requirements. Built on the universal Mavlink protocol, it ensures adaptability to multiple applications.

LONG-RANGE OPERATION

The X500 uses CHCNAV's video transmission system, enabling a range of up to 20 km. Advanced algorithms optimize wireless HD video transmission by minimizing latency and enhancing reliability. Its 1080p HD FPV feed and 10.1" large-screen remote control provide intuitive operating experience.

Intelligent and Efficient

Reliable and Impact-Resistant Design

Adjusts flight attitude to avoid crashes in case of collisions. Triple rotor spin protection ensures safe landings even if a propeller fails.

Dual Hot-Swap Batteries

Enables seamless takeoffs and continuous power for multiple flights.

Intelligent Battery Station

Functions as a power bank for greater efficiency in the field.

Lightweight and Portable

Designed for single-person operation and easy transport.

SPECIFICATIONS

General System Performance

Type	Quadcopter with 4 propellers
Structure	Carbon fiber, quickly release design
Dimensions (unfolded, without propellers)	770 x 804 x 450 mm(L x W x H) 30.3" × 31.7" × 17.7"
Dimensions (folded, with propellers)	485 x 410 x 450 cmm(L x W x H) 19.1" × 16.1" × 17.7"
Diagonal wheelbase	1000mm
Empty weight (with single downward gimbal)	Approx. 4.4 kg (without batteries) Approx. 8.9 kg (with two batteries)
Max. payload	5.0 kg
Max. takeoff weight	13.9 kg
Hovering accuracy (with moderate or no wind)	Vertical: ±0.5 m (with GNSS positioning) ±0.1 m (with RTK positioning) Horizontal: ±1.5 m (with GNSS positioning) ±0.1 m (with RTK positioning)
RTK accuracy (RTK FIX)	1 cm ± 1 ppm Hz 1.5 cm ± 1 ppm V
GNSS	GPS + GLONASS + BeiDou + Galileo
Operating temperature	-20° to 50° C (-4° to 122° F)
Storage temperature	-40° to 70° C (-40° to 158° F)
Transport container dimensions	770 x 520 x 310 mm(L x W x H) 30.3" × 20.5" × 12.2"

Flight Performance

Max. ascent speed	8 m/s
Max. descent speed	6 m/s
Max. speed	23 m/s
Max. wind resistance	12 m/s (level 6)
Max. flight time(1)	58 mins with no payload 52 mins with 2 kg payload 40 mins with 4 kg payload
IP rating(2)	IP55
Obstacle avoidance module	Forward millimeter wave radar
Obstacle detection range	80 m
Landing deviation(3)	≤ 10 cm (with vision positioning) ≤ 8 cm (with RTK fixed)

Remote Controller

Screen	10.1-inch touchscreen resolution: 1920 ×1200 max. brightness: 1000 nits
Weight	Approx. 1.5 kg
Built-in battery	Li-ion
Operating time	Approx. 5 hours
Operating temperature	-20° to 50° C (-4° to 122° F)
Operating frequency	2.403 GHz to 2.483 GHz
Max. transmission distance (unobstructed, free of interference)	Specialized UAV frequency, auti-disturb feature, radius 20 km

Intelligent Battery

Model	B10
Battery	Li-ion (10000 mAh @47.04 V)
Energy	470.4 Wh
Weight	Approx. 2.25 kg
Operating temperature	-20° to 50° C (-4° to 122° F)
Ideal Storage temperature	22° to 30° C (71.6° to 86° F)
Charging temperature(4)	-20° to 40° C (-4° to 104° F)
Charging Time	Approx. 70 mins to fully charge 2*B10 Approx. 40 mins to charge them from 20% to 90%

Supported Payload

Supported payload configurations	Single downward payload Single upward payload Dual downward payload Single downward payload + single upward payload
Supported CHCNAV payload(5)	RGB camera: C5/C30 LiDAR: AU20/AA15/AA10/AA9
Third-party payload(5)	Supports only certified payloads developed based on CHCNAV SDK

Intelligent Battery Station

Model	BS10
Size	586 x 372 x 302 mm(L x W x H) 23.1" × 14.6" × 11.9"
Net weight	Approx. 9.9 kg
Compatible stored items	Six B10 intelligent flight batteries
Input voltage	100-120 VAC, 50-60 Hz 220-240 VAC, 50-60 Hz
Max. input power	1200W
Output power	1000W
Operating temperature	-20° to 40° C (-4° to 104° F)

*Specifications are subject to change without notice.

(1) Measured with X500 flying at approximately 10 m/s in a windless environment until the battery level reached 0%. Data is for reference only, and actual usage time may vary based on flight mode, accessories, and environmental conditions. Please follow app reminders.

(2) The IP rating was tested under controlled conditions; it is not permanently effective and may decrease due to product wear and tear.

(3) GNSS performance was measured with the X500 in open environments with good signal conditions. Results may vary based on takeoff/landing environments and weather conditions.

(4) When the temperature drops below 11°C (51.8°F), the battery activates an auto-heating function. Charging at low temperatures may reduce battery life. It is recommended to charge within 15°C to 35°C (59°F to 95°F).

(5) Supported payload types are listed in the user manual and updated with the latest support details.

WWW.CHCNAV.COM | MARKETING@CHCNAV.COM

CHC Navigation Headquarter
Shanghai Huace Navigation Technology Ltd.
577 Songying Road, Qingpu,
201703 Shanghai, China
+86 21 54260273

CHC Navigation Europe
IOffice Campus, Building A,
Gubacsi út 6, 1097
Budapest, HUNGARY
+36 20 421 6430
Europe_office@chcnav.com

CHC Navigation USA LLC
6380 S. Valley View Blvd, Suite 246,
Las Vegas, NV 89118, USA
+1 702 405 6578

CHC Navigation India
409 Trade Center, Khokhra Circle,
Maninagar East, Ahmedabad,
Gujarat, India
+91 90 99 98 08 02