CHCNAV

iBase Ag

GNSS BASE STATION



PRECISION
AGRICULTURE

CHCNAV

ROBUST GNSS BASE STATION FOR PRECISION AG

The iBase Ag GNSS receiver is a fully integrated professional base station, specifically designed to meet most of farmers' needs when working with CHCNAV ag machine guidance by RTK over UHF mode. The performance of the iBase Ag UHF base station will largely increase the efficiency and productivity during farming operations. Integrated feature brings ease of use on a daily base, it is also easily enhanced by external battery and external radio to last longer time and cover longer distance. Its 5-watt internal radio module provides operational coverage up to 15 km with optimal conditions.

THE CONCEPT OF AG RTK BASE STATION REDEFINED

Start farming operations in fractions of seconds

The iBase Ag GNSS receiver is an advanced, all-in-one base station designed specifically to meet the needs of farmers using CHCNAV agricultural guidance and autosteering systems with UHF-based RTK corrections. With the iBase Ag UHF base station, farmers can significantly improve the efficiency and productivity of their precision farming operations. Built-in features make it incredibly easy to use on a daily basis, while compatibility with external batteries and radios allows for all the day use and much larger coverage.

INDUSTRIAL GRADE DESIGN

Rugged design for uninterrupted work

iBase Ag is the GNSS base receiver you can rely on, whatever the conditions on the farm. Its industrial design meets the stringent IP67 standard for protection against water and dust ingress. In addition, the IK08 shock rating ensures that the iBase Ag GNSS receiver can withstand accidental drops from a tripod to a hard ground, significantly extending its lifespan.

LOWER CONSUMPTION, LONGER AUTONOMY, BROADER COVERAGE!

Increased performance with 50% less power consumption

The iBase Ag GNSS base station features an advanced electronic design that reduces power consumption without compromising UHF modem performance. Equipped with two hot-swappable high-capacity batteries, it can operate continuously for up to 10 hours while transmitting RTK corrections at 5 watts. With optimal UHF coverage of up to 15 km and up to 5 km in difficult terrain such as wooded and hilly areas, the iBase Ag GNSS base station ensures seamless performance in all operating conditions.

BEST GNSS SIGNAL TRACKING IN ITS CLASS

Full GNSS with 1408 channels and advanced multipath mitigation

The iBase Ag GNSS base station features state-of-the-art technology that utilizes GPS, GLONASS, Galileo and BeiDou to provide accurate positioning information. By integrating advanced GNSS antenna technology and multipath mitigation algorithms, the base station ensures that the highest quality GNSS corrections are transmitted to the guidance or autosteering kits. The iBase Ag transmits standard RTK corrections in RTCM 3.x format, providing optimal performance and accuracy for demanding agricultural operations.

CHCNAV

INTEGRATED GNSS
BASE RECEIVER



AFFORDABLE GNSS RTK STATION FOR CHCNAV PRECISION AG SYSTEMS.

SPECIFICATIONS

GNSS Performance [1]	
Channels	1408 channels
GPS	L1C, A, L2P(Y), L2C, L5
GLONASS	L1, L2
Galileo	E1, E5a, E5b, E6*
BeiDou	B1I, B2I, B3I, B1C, B2a, B2b
QZSS	L1, L2, L5, L6*
SBAS	L1, L5

GNSS Accuracies [2]	
Real time kinematics (RTK)	Horizontal: 8 mm + 1 ppm RMS Vertical: 15 mm +1 ppm RMS Initialization time: < 10 s Initialization reliability: > 99.9%
Post-processing kinematics (PPK)	Horizontal: 3 mm + 1 ppm RMS Vertical: 5 mm + 1 ppm RMS
Post-processing static	Horizontal: 2.5 mm + 0.5 ppm RMS Vertical: 5 mm + 1 ppm RMS
Code differential	Horizontal: 0.4 m RMS Vertical: 0.8 m RMS
Autonomous	Horizontal: 1 m RMS Vertical: 1.5 m RMS
Positioning rate	Up to 10 Hz
Time to first fix [3]	Cold start: < 45 s Hot start: < 30 s Signal re-acquisition: < 2 s
IMU update rate	200 Hz, AUTO-IMU
Till angle	0-60°
RTK tilt-compensated	Additional horizontal pole-tilt uncertainty typically less than 8 mm + 0.7 mm/° tilt down to 30°

Hardware	
Size (L x W x H)	Φ160.5 mm x 103 mm (Φ6.32 in × 4.06 in)
Weight	1.73 kg (3.81 lb)
Environment	Operating: -40 °C to +65°C (-40°F to +149°F) Storage: -40°C to +85°C (-40°F to +185°F)
Humidity	100% condensation
Ingress protection	IP67 waterproof and dustproof, protected from temporary immersion to depth of 1 m
Shock	Survive a 2-meter pole drop
Tilt sensor	E-Bubble leveling
Front panel	2 LED 0.96" OLED Display

Certifications
NGS Antenna Calibration

Communications	
Network modem	Integrated 4G modem LTE (FDD): B1,B2,B3,B4,B5,B7,B8,B20 DC-HSPA+/HSPA+/HSPA/UMTS: B1,B2,B5,B8 EDGE/GPRS/GSM 850/900/1800/1900 MHz
Wi-Fi	802.11 b/g/n, access point mode
Bluetooth®	v 4.1
Others	NFC
Ports	1 x 7-pin LEMO port (external power, RS-232) 1 x UHF antenna port (TNC female)
UHF radio [4]	Standard Internal Tx: 410 - 470 MHz Transmit Power: up to 5 W Protocol: CHC,Transparent, TT450, SATEL-3AS Link rate: 9,600 bps / 19,200 bps Range: Typical 5 km to 8 km, up to 25km with optimal conditions
Data formats	RTCM2.x, RTCM3.x, CMR input / output HCN, HRC, RINEX2.11, 3.02 NMEA 0183 output NTRIP Client, NTRIP Caster
Data storage	8 GB memory

Electrical	
Power consumption	12 W (depending on user settings)
Li-ion battery capacity	2 x 7000 mAh, 7.4 V
Operating time on internal battery [5]	UHF transmit (5 W): 8 h to 10 h Static: up to 25 h
External power input	9 V DC to 28 V DC

* Specifications are subject to change without notice.

(1) Compliant, but subject to availability of BDS ICD and Galileo commercial service definition. Galileo E6 and QZSS L6 will be provided through future firmware upgrade. (2) Accuracy and reliability are determined under open sky, free of multipaths, optimal GNSS geometry and atmospheric condition. Performances assume minimum of 5 satellites, follow up of recommended general GPS practices. (3) Typical observed values. (4) The use of UHF datalink may be subject to local regulations. Users must ensure that the device is not operated without the permission of the local authorities on frequencies or power output other than those specifically reserved and intended for use without required permit. (5) Battery life is subject to operating temperature.

©2024 Shanghai Huace Navigation Technology Ltd. All rights reserved. The CHCNAV and CHCNAV logo are trademarks of Shanghai Huace Navigation Technology Limited. All other trademarks are the property of their respective owners. Revision September 2024.

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
Infopark Building, Sétány 1,
1117 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