CHCNAV

i73+

POCKET IMU-RTK
UHF BASE + ROVER

SURVEYING
& ENGINEERING

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COMPACT GNSS RECEIVER WITH BUILT-IN UHF MODEM

The i73+ GNSS is an extremely compact, powerful and versatile GNSS receiver with integrated UHF Tx/Rx modem which can be used either as a base station or as a rover. Powered by CHCNAV iStar technology that optimally tracks satellite signals from all constellations, the i73+ GNSS achieves survey-grade, fixed RTK centimeter positioning within 30 seconds after power-up. Its automatic pole tilt compensation increases the efficiency of point measurements by up to 20% and stakeout surveys by up to 30%. Easy to carry in one hand, the i73+ GNSS is an effective, lightweight GNSS solution that adapts to a variety of jobsite configurations, making intensive field surveys more convenient and also less tiring for the operator.

BEST-IN-CLASS SIGNAL TRACKING

Full GNSS with 1408 channels advanced tracking

The integrated advanced 1408-channel GNSS technology takes advantage of GPS, Glonass, Galileo and BeiDou, in particular the latest BeiDou III signal, and provides robust data quality at all times. The i73+ extends GNSS surveying capabilities while maintaining centimeter-level survey-grade accuracy. GNSS surveying has never been more efficient.

THE POWER OF GNSS+IMU RTK TECHNOLOGY

Survey anywhere with its built-in interference-free IMU.

Even in a complex electromagnetic environment, the i73+ initializes its IMU in 3 seconds, with no need for repeated re-initialization. It delivers 3 cm accuracy up to a 30-degree pole tilt, increasing the efficiency of point measurement by 20% and stakeout by 30%. The i73+ GNSS eliminates the challenge of measuring hidden or dangerous points while making the work of survey crews safer and more efficient. GNSS surveys are made easier by removing the need for the operator to focus on perfect leveling of its surveying pole.

PORTABLE INTERNAL UHF BASE + ROVER

Integrated Tx/Rx UHF modem in a compact design

The i73+ features a built-in transceiver radio module that is compatible with major radio protocols, making it the perfect choice for a portable built-in UHF base and rover kit with fewer accessories. i73+ is a highly productive NTRIP rover when used with a handheld controller or tablet and connected to a GNSS RTK network via CHCNAV LandStar field software. The i73+ is a highly rugged and reliable receiver without downtime used for surveying of any terrain, mapping or construction site.

THE ULTIMATE POCKET GNSS IMU RECEIVER

Extremely rugged to cope with challenging environments

The i73+ benefits from the ultra-compact magnesium alloy design of the i73 series, making it one of the lightest receivers in its class, weighing only 0.73 kg including battery. The i73+ is more than 40% lighter than a traditional GNSS receiver, making it more convenient to carry, use and operate without fatigue. The i73+ GNSS is packed with technology, fits in your hands and offers maximum productivity for GNSS surveys.

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INTEGRATED
UHF MODEM

ENABLE GNSS RTK ANYTIME, ANYWHERE

SPECIFICATIONS

GNSS Performance [1]	
Channels	1408 channels
GPS	L1C/A/L2P (Y)/L2C/L5
GLONASS	L1, L2, L3*
Galileo	E1, E5a, E5b, E6*
BeiDou	B1I, B2I, B3I,B1C,B2a,B2b
QZSS	L1, L2, L5, L6*
NavIC/ IRNSS	L5*
PPP	B2b-PPP
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
High-precision static	Horizontal: 2.5 mm + 0.1 ppm RMS Vertical: 3.5 mm + 0.4 ppm RMS
Static and rapid static	Horizontal: 2.5 mm + 0.1 ppm RMS Vertical: 5 mm + 0.5 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 [3]	1 Hz, 5 Hz and 10 Hz
Time to first fix [4]	Cold start: < 45 s Hot start: < 10 s Signal re-acquisition: < 2 s
IMU update rate	200 Hz
Tilt angle	0~60°
RTK tilt - compensated	Additional horizontal pole-tilt uncertainty typically less than 8 mm + 0.7 mm/° tilt

Hardware	
Size (L x W x H)	119 mm x 119 mm x 85 mm (4.7 in × 4.7 in x 3.3 in)
Weight	0.73 kg (1.60 lb)
Front panel	4 LED, 2 physical buttons
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	Calibration-free IMU for pole-tilt compensation. Immune to magnetic disturbances. E-Bubble leveling

Communication	
Wi-Fi	802.11 b/g/n, access point mode
Bluetooth®	V 4.2
Others	NFC
Ports	1 x USB Type-C port (external power, data download, firmware update) 1 x UHF antenna port (TNC female)
UHF radio	Standard Internal Tx/Rx: 410 - 470 MHz Transmit Power: 0.5 W, 1W Protocol: CHC, Transparent, TT450, Satel [5] Link rate: 9,600 bps to 19,200 bps Range: Typical 3 km, up to 8 km with optimal conditions
Data formats	RTCM 2.x, RTCM 3.x, CMR input / output HCN, HRC, RINEX 2.11, 3.02 NMEA 0183 output NTRIP Client, NTRIP Caster
Data storage	8 GB internal memory

Electrical	
Power consumption	Typical 2.2 W (depending on user settings)
Li-ion battery capacity	Built-in non-removable battery 6,800 mAh, 7.4 V
Operating time on internal battery [6]	RTK Rover: up to 24 h UHF RTK Base: up to 10.5 h Static: up to 25 h

Certifications

CE Mark; FCC Part 15 Subpart B Class B; NGS Antenna Calibration

*All specifications are subject to change without notice.

(1) Compliant, but subject to availability of BDS ICD, GLONASS, Galileo, QZSS and IRNSS commercial service definition. GLONASS L3, Galileo E6, QZSS L6 and IRNSS L5 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) Compliant and 10 Hz to be provided through future firmware upgrade. (4) Typical observed values. (5) Compliant and Satel protocol to be provided through future firmware upgrade. (6) Battery life is subject to operating temperature.

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