CHCNAV

i73

POCKET GNSS+IMU RECEIVER

SURVEYING & ENGINEERING

CHCNAV

ULTIMATE POCKET GNSS+IMU RECEIVER

The i73 GNSS receiver removes barriers to portability without sacrificing performance. Featuring full GNSS technology, it offers best-in-class GNSS signal tracking even in a harsh environment, enabling GNSS surveying beyond usual constraints. The i73 GNSS incorporates the latest innovations such as an inertial module providing automatic pole-tilt compensation in a very compact design.
Connected to a GNSS RTK network via CHCNAV LandStar field software, or combined with the iBase GNSS receiver, the i73 GNSS is a highly productive rover for surveying and stakeout in any topographic, mapping or construction site applications.

THE ULTIMATE POCKET GNSS IMU RECEIVER

Extremely rugged to cope with challenging environments.

The i73's magnesium alloy design makes it one of the lightest receivers in its class: only 0.73 kg including battery. The i73 is more than 40% lighter than a typical GNSS receiver, making it more convenient to carry, use and operate without fatigue. The i73 GNSS is a concentrate of technology that fits into your hands and delivers maximum GNSS survey productivity.

BEST-IN-CLASS SIGNAL TRACKING

Full GNSS with 624 channels advanced tracking.

The integrated advanced 624-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.

REMOVE THE BARRIERS TO INTENSIVE USE

Get full power with 15 hours of battery operation.

The integrated high-capacity intelligent Li-ion battery provides up to 15 hours operation in the field. Full-day projects can be easily completed without worrying about a power outage. The built-in USB-C is extremely convenient for charging the i73, using standard smartphone chargers or external power banks.

THE POWER OF GNSS+IMU RTK TECHNOLOGY

Survey anywhere with its built-in interference-free inertial motion unit.

The i73 compensates for up to 45 ° tilt of the survey range pole, eliminating the challenges associated with surveying concealed or unsafe points to reach. The i73 GNSS makes work safer and more efficient. It increases the efficiency of point measurements by 20% and stakeout surveys by up to 30%. GNSS surveying is made easier: no more need to be focused on perfect range pole levelling.

GNSS SURVEYING, THE WAY YOU WORK

A versatile GNSS rover covering your current and future needs.

The i73 is designed as a perfect GNSS measurement tool that adapts to the way you work. It seamlessly connects to RTK GNSS networks via any Android controller or smartphone with Landstar field data collection software. When working on a site with a local UHF GNSS station, the i73 can be easily switched to UHF mode using its internal modem. Combined with CHCNAV's iBase GNSS station, GNSS RTK surveying truly achieves the next level of operational experience.

IMU-RTK TECHNOLOGY AT A NEW SCALE

ENABLE GNSS RTK ANYTIME, ANYWHERE

SPECIFICATIONS

GNSS Performance [1]	
Channels	624 channels
GPS	L1, L2, L5
GLONASS	L1, L2
Galileo	E1, E5a, E5b
BeiDou	B1, B2, B3
SBAS	L1
QZSS	L1, L2, 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 + 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	1 Hz, 5 Hz and 10 Hz
Time to first fix [3]	Cold start: < 45 s Hot start: < 30 s Signal re-acquisition: < 2 s
RTK tilt-compensation	Additional horizontal pole-tilt uncertainty typically less than 10 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 × 3.3 in)
Weight	0.73 kg (1.60 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 1m
Shock	Survive a 2-meter pole drop
Tilt sensor	Calibration-free IMU for pole-tilt compensation. Immune to magnetic disturbances.
Front panel	4 LED
Certifications	
FCC Part 15 (class B Device), FCC Part 22, 24, 90; CE Mark; NGS Antenna Calibration.	

Communication	
Wi-Fi	802.11 b/g/n, access point mode
Bluetooth ®	BT4.1
Others	NFC
Ports	1 x USB Type-C port (data download, charging, firmware update) 1 x UHF antenna port (TNC female)
UHF radio	Standard Internal Rx: 430 - 470 MHz Protocol: CHC, Transparent, TT450 Link rate: 9600 bps / 19200 bps
Data formats	RTCM2.x, RTCM3.x, CMR input/ output HCN, HRC, RINEX2.11, 3.02 NMEA0183 output
Data storage	8 GB internal memory
Electrical	
Power consumption	4 W (depending on user settings)
Li-ion battery capacity	Built-in non-removable battery 6800 mAh, 7.4V
Operating time on internal battery [4]	RTK Rover 12 h Static: up to 15 h

*All specifications are subject to change without notice.
(1) Compliant, but subject to availability of BDS ICD and Galileo commercial service definition. BDS B3 and Galileo E6 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) Battery life is subject to operating temperature.

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