CHC Navigation Introduces i83 IMU-RTK GNSS Receiver

CHC Navigation (CHCNAV) has announced the availability of the i83 GNSS receiver, a new and innovative addition to its premium GNSS receiver series for surveying, mapping and construction professionals. The i83 GNSS is powered by 1,408-channel multi-band GNSS, the latest iStar technology, and a calibration-free, high-end IMU sensor for faster and reliable field GNSS surveying.

"The i83 receiver combines GNSS and IMU into one single receiver to provide optimal automatic pole tilt compensation that requires no calibration and is fully immune to magnetic interference. Operators just need to focus on their tasks and no longer need to level their pole vertically," said Rachel Wang, Product Manager of CHC Navigation's Surveying and Engineering Division. "In addition, we've designed a high-resolution colour display where users can clearly and intuitively get the GNSS receiver status to take full control of their survey operation."

Challenging GNSS Environments

The third-generation high-gain antenna with the latest advanced CHCNAV iStar algorithm improves GNSS satellite signal tracking efficiency by over 30%. The i83 GNSS receiver features 1,408 GNSS channels for unparalelled performance across GPS, Glonass, BeiDou, Galileo and QZSS constellations. The i83's onboard GNSS technology delivers centimetre-level positioning, maintains reliable fixed RTK accuracy and collects points faster than ever before, even in demanding conditions.

Compensate for Pole Tilt Automatically

The i83 GNSS' built-in IMU automatically compensates for pole tilt, increasing surveying, engineering and mapping efficiency by 30% over conventional GNSS RTK surveying methods. In less than 5 seconds, the 200 Hz inertial module is initialized to ensure survey-grade accuracy over a pole tilt range of up to 30 degrees. Productivity is dramatically increased, RTK usability greatly improved, and potential human error reduced, whether you are an engineer, site foreman or surveyor.

Universal GNSS Tool for Surveyors in All Projects

Integrated Wi-Fi, Bluetooth and NFC modules provide seamless connection to field data controllers or tablets. Integrated 4G and UHF modems enable any GNSS survey mode, from RTK Networks NTRIP connections to UHF base-rover configurations. GNSS RTK corrections can be accessed or broadcasted continuously for accurate positioning in all circumstances.

Users do not need to carry backup or external batteries in the field thanks to the i83 GNSS' ultra-low power SoC (system-on-chip) electronic design and smart power management. The i83 GNSS can operate for up to 18 hours as an GNSS RTK network rover or more than 8 hours as an RTK base station.