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RTK rover and base receivers support centimeter level positioning

The basic GPS (Global Positioning Systems) or enhanced GNSS (Global Navigation Satellite Systems) are suitable for general navigation and tracking applications with around 2-meter accuracy. Some applications like UAV (Unmanned aerial vehicle), precision farming, measurement, construction, etc. may need high precision positioning. The RTK (Real-time kinematic) technology is adopted to achieve such centimeter accuracy.

The RTK uses measurements of the phase of the received satellites' signal's carrier wave, and relies on the reference base station to provide real-time corrections, providing the centimeter level accuracy to the rover receiver.

Designed with u-blox **NEO-M8T** module, Navisys' **GR-8015** rover receiver supports the raw data, through which RTK could measure the carrier phase. To work with GR-8015, the public RTKLIB is available. Moreover, a private base or VRS (Virtual Reference Station) is needed as reference base station to broadcast correction information.



One application of GR-8015U rover receiver is to do the surveying in civil engineering work, which is proposed by Hitachi Solutions and Hitachi Construction Machinery. With the correction data received from VRS, a smart phone equipped and connected with GR-8015U receiver could record the video of the target object, convert it with high-accuracy positioning data, send it to the cloud to create 3D model with location, and measure the cubic volume of soil. Not only to support the communication facility to connect to the VRS and cloud, the smart phone also processes the RTK to achieve the high precision position.



*From Hitachim website

Navisys also launches the u-blox **NEO-M8P** module **GR-8030** rover receiver and **ZED-F9P** module based **GR-901**. Built-in RTK engine, both GR-8030 and GR-901 are easy to use for high precision positioning. Not only as rover receiver, GR-901 could also act as base receiver due to its high performance. With additional built-in rechargeable battery and BLE support, the wireless **GR-9029** works as standalone device to interface with host machine through Bluetooth.

