MatrixRTK, an Intelligent RTK System

MatrixRTK is a new generation GNSS RTK system. With high-performance multi-constellation and multi-frequency GNSS board inside, MatrixRTK can provide high accuracy and stability signal reception. Working with the choke ring antenna, MatrixRTK can improve the capability of anti-jamming and output high-quality RTK corrections, which is a ideal solution for CORS station.

The built-in large capacity battery can support up to 24 hours field work. The rugged housing protects the equipment from harsh environments. And accessing remotely makes it easy for remote operation.

**Key Features:**

- 220 Channels, supports multi constellations & frequencies
  - GPS: L1C/A, L1C, L2C, L2E, L5
  - GLONASS: L1C/A, L1P, L2C/A, L2P
  - BDS: B1, B2
  - GALILEO: E1 BOC, E5A, E5B, E5AltBOC
  - SBAS: L1C/A, L5
- Supports 64GB internal storage and up to 1TB external SD card
- Rapid RTK integer ambiguity resolution
- Supports stable high-precision measurements output
- Controller and software make host system start convenient
- Supports 3G, Wi-Fi and external radio, etc.
- Supports accessing remotely, easy for remote operation.
Technical Specifications

Performance Specifications

- **Static GNSS surveying**
  - High-Precision Static
    - Horizontal ............ 3 mm + 0.1 ppm RMS
    - Vertical ............... 3.5 mm + 0.4 ppm RMS
  - Static and Fast Static
    - Horizontal ............ 3 mm + 0.5 ppm RMS
    - Vertical ............... 5 mm + 0.5 ppm RMS

- **RTK Positioning Accuracy**
  - Horizontal ............ 8 mm + 1 ppm RMS
  - Vertical ............... 15 mm + 1 ppm RMS

- **Post-processed Kinematic (PPK) surveying**
  - Horizontal ............ 8 mm + 1 ppm RMS
  - Vertical ............... 15 mm + 1 ppm RMS

- **Network RTK**
  - Horizontal ............ 8 mm + 0.5 ppm RMS
  - Vertical ............... 15 mm + 0.5 ppm RMS

- Carrier phase measurements precision .... <1 mm
- SBAS Positioning Accuracy .................. 0.5m
- Initialization(typical) ...................... <10s
- Initialization Reliability ................. >99.9%
- Data Rate .................................. up to 20Hz
- RTK format .................. CMR, CMR+, sCMRx, RTCM2.0/3.0
- Operation System .................. Linux
- Data Storage .................. 64GB internal storage
  Up to 1TB external SD card.

Communication

- 4G .................................. TD-LTE, FDD-LTE, TD-SCDMA, WCDMA, GPRS, GSM
- Wi-Fi .................................. 802.11b/g
- USB .................................. USB 2.0 x 2
- Serial port .................. RS-232 x 3, RS485/RS422 x 1
- Ethernet .................. 10/100M BASE-T x 1
- External Radio Station (Optional)
  - Power .................. 5W/10W/20W/30W
  - Frequency ................. 450MHz-470MHz
  - Distance (typical) ................. 15km

Physical Characteristics

- Battery (Lithium) ................. 12500mAh/7.4V x 1
  Supports up to 24 hours working
- Input Voltage .................. 7~36VDC
  With over-discharge protection
- Power Consumption (typical) ................. < 4 W
- Size .................. 147.6mm*64.3mm*246.0mm
- Weight .................. 2.5kg including battery
- Material .................. Magnesium alloy
- Dust & Water Proof .................. IP67
- Free Drop onto Concrete ................. 1 m
- Operating Temperature ................. -40°C ~ +75°C
- Storage Temperature ................. -40°C ~ +80°C
- Relative Humidity ................. 100% not condensed

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