GNSS RTK SMARTK RECEIVER

**Surveying and Positioning Systems**

- **GNSS RTK receiver**
- **SMARTK**
- **MILLIMETRIC accuracy**
- 760 channels double frequency

**Superior Value and Performance**

- Embedded Self-Configuring Operative System with free lifetime updates and support
- Sunlight-Readable Graphic OLED Display
- Works as Rover or Base Transmitting and Receiving by UHF or Mobile Network
- Water and Shockproof enclosure
- Works with 4 Lithium batteries cells at 6400mAh
- Made with industrial components, for decades of use and repairable even after heavy damage
- The best Cost/Benefit ratio of the market

**Total Power and Control**

Perfect for Land Surveying, Machine Control and Robotics

- RTK, PPK and SBAS Positioning
- GPS, GLONASS, COMPASS (BEIDOU), GALILEO and SBAS Constellations
- Full L1+L2 or L1-Only Versions
- Internal UHF Transmits at 2W
- External UHF Transmits at 35W
- Exclusive **Auto-Caster Technology**: Direct Data Link between Base and Rovers by mobile network
- 3D Digital Compensator
- Auditive Verticality Alarm

**Industrial Grade Integrated RTK receiver**

- Compatible with any NMEA software for Windows or Linux PC, Win Mobile or Android
- Embedded Self-Configuring Operative System with free lifetime updates and support
- Sunlight-Readable Graphic OLED Display
- Works as Rover or Base Transmitting and Receiving by UHF or Mobile Network
- Water and Shockproof enclosure
- Works with 4 Lithium batteries cells at 6400mAh
- Made with industrial components, for decades of use and repairable even after heavy damage
- The best Cost/Benefit ratio of the market
GNSS RTK SMARTK RECEIVER

**SmartTK GNSS RTK Integrated Receiver**

**System Overview**
- Dual-frequency GNSS RTK Receiver with 760 channels and integrated antenna.
- Internal Transceiving 2W UHF Radiomodem compatible with most brands.
- Works as Network, Auto-Caster or UHF Rover with its internal radiomodem.
- Unlinks Base with Auto-Caster, internal (2W) or external (35W) radio modem.
- Integrated Quad-Band cellular modem with North Auto-Caster® P2P technology.
- Triple Axis Compensator with integrated Auto-Calibration.
- Verticality Alarm that permits the survey work without using the bubble.
- Integrated Bluetooth® wireless technology
- IP68 Rugged and water-resistant design

**North Software Options - Unique design to work Natively with NMEA drivers.**
- North GPS Surveyor™ for Windows PC.
- Carlson SurvPC™ and SurvCE™
- Microsurvey Field Genius™
- Esri ArcPad™
- Compatible with any Windows PC, Mobile, Linux, Android or NMEA Software.

**Performance Specifications**

**Receiver**
- North Stealth Survey GNSS Receiver Board with 760 Channels
- North Stealth Multishield technology, for maximum error filtering.
- Multiple radio samplers gives the most accurate band tuning available.
- Patented SAW filtering method for Doppler signal sampling.
- Available as GNSS Full L1+L2 or L1-Only versions.
- High precision multicorrelating GNSS pseudorange measurements.
- GNSS carrier phase with low noise with <1 mm precision in a 1 Hz bandwidth
- North Low-Track Technology for increased reception of horizontal signals.
- Signal-to-Noise ratios reported in dB-Hz
- Satellite signals tracked:
  - GPS: L1/A, L1C, L1E, L2C, L2E and L5
  - COMPASS: B1 and B2
  - GALILEO: E1, E5a and E5b
  - SBAS: EGNOS, WAAS, MSAS, GAGAN

**Sensitivity**
- L1C/A, L1C, L1E, L2C, L2E and L5: -110 dBm BER 10⁻⁵
- L1P, L2C/A, L2P and L3: -110 dBm BER 10⁻⁵

**Frequency Control**
- Synthesized 12.5 kHz Resolution

**Accuracy**
- L1C/A, L1P, L2C/A, L2P and L3: <5 mm

**Power Consumption**
- 2.8W (UHF Rx) // 6.3-10.0 VDC Rx/Tx

**Data Link Auto-Caster for Mobile Network**
- Direc Auto-Caster Base to Rover P2P communication
- Protocols: Transparent / NTRIP

**Energy**
- Typical power consumption: 2.8W (UHF Rx) // 6.3-10.0 VDC Rx/Tx
- Battery: 6400mAh Lithium-Ion battery (split in two modules of 3200mAh each)
- Working Temperature: -30 °C to +70 °C / Storage Temperature: -40 °C to +80°C
- Humidity 100%, condensing
- Shock and vibration tested to meet the following environmental standards:
  - Shock Non-operating: Designed to survive a 2 m pole drop onto plywood over concrete.

**STANDARD ROVER SET INCLUDES:**
- 1 SmartTK Receiver
- 1 Tablet Controller with holding Bracket
- 2 Rechargeable Batteries (internal)
- 1 Battery Charger
- 1 USB Data / Power Cable (Serial optional)
- 1 IP68 ABS Plastic Rugged Carrying Case
- 1 Rover UHF Antenna

**STANDARD BASE AND ROVER SET INCLUDES:**
- 2 SmartTK Receivers
- 1 Tablet Controller with holding Bracket
- 4 Rechargeable Batteries (internal)
- 2 Battery Chargers
- 1 USB Data / Power Cables (Serial optional) and 1 Power Cable
- 2 IP68 ABS Plastic Rugged Carrying Case
- 1 Rover UHF Antennas and 1 Base Long Shaft Transmitting UHF Antenna
- 1 Tribrach
- 2 10cm Minipoles with Disk adapter for Tripod
- 1 35W External Radiomodem (Optional)

**Notes:**
- All specifications are subject to change without previous notice. This description may include typographical errors
- UHF type approvals are country specific

**HARDWARE**

**Dimensions (WxH):** 17.5 cm x 8.5 cm
**Weight:** 1.4 kg with internal battery, internal radio, standard UHF antenna
**Working Temperature:** -30 °C to +70 °C / Storage Temperature: -40 °C to +80°C

**Shock and vibration tested to meet the following environmental standards:**
- Shock Non-operating: Designed to survive a 2 m pole drop onto plywood over concrete.

**Data Link UHF Radiomodem**
- Internal Transmitting Power: Switchable 0.5W / 2W
- External Transmitting Power: 35W with external power supply.
- Power draw: 0.3 Watts Rx // 3.8-8.0 VDC Rx/Tx
- Antenna: External, TNC, 50 Ohm
- Link Rate/Modulation: 19,200 bps, 9600 bps, 4800 bps

**Link Protocols:**
- Transparent, Pacific Crest, Trimble, Fast Asynchronous

**Unlimited UHF Channels in the range of 410 – 470KHz Included**

**Frequency Control:**
- Synthesized 12.5 kHz Resolution

**Sensitivity:**
- -110 dBm BER 10⁻⁵

**Optional Modes:**
- Transmitting and Receiving only

**Notes:**
- FTP and Reliability specifications may be affected by multipath, satellite geometry and transmission conditions. Specifications assume at least 5 satellites and follow up of recommended practices.
- Specifications are subject to change without previous notice. This description may include typographical errors.