



RTK robust enough for challenging environments, in a device that is light and easy to carry

With decades of experience in the surveying GNSS receiver, the T300 is a product which combines lots of market proved advantages together. It can track all the working GNSS constellations. By using ComNav's unique QUAN™ algorithm technology, it can function in RTK mode with all the GNSS constellations or by using any single GNSS constellation such as GLONASS or BeiDou. The strong anti-interference ability of the receiver makes it possible to work in any environment.

Design driven to improve user experience

Our R&D people are always thinking about how to improve the physical experience of users and workflow in the field. With this in mind, the T300 integrates a cutting edge GNSS board, Bluetooth®, UHF (Rx&Tx) into a compact board. Smart design makes the T300 the lightest and smallest (volume) receiver in the world.

Hot swap battery design

Extending the field working time is also a passion for our R&D people. They do lots of tests and analysis to reduce the power consumption, and make the whole system work more efficiently. In parallel, they've designed in the capability to hot swap the battery source. When the warning sounds and LED flashes, put your second battery in place. Then recharge the first while you keep working.

Consumer grade batteries... always available

Losing power in the field is significantly inconvenient for users, as the batteries for GNSS receivers are often unusual types and not readily available. Once again our R&D people developed a solution so that the T300 runs on normal consumer batteries.

Features

- ⚙️ **Ultra small**
- ⚙️ **Super light**
- ⚙️ **Many user-friendly conveniences built in**
- ⚙️ **GPS L1/L2/L5, BeiDou B1/B2/B3, GLONASS L1/L2**
- ⚙️ **Low power consumption**
- ⚙️ **Support long baseline E-RTK¹**

Signal Tracking

- 256 channels with simultaneously tracked satellite signals
 - GPS: L1, L2, L2C, L5
 - BeiDou: B1, B2, B3
 - GLONASS: L1, L2
 - SBAS: WAAS, EGNOS, MSAS, GAGAN

Performance Specifications

- Cold start: <50 s
- Warm start: <30 s
- Hot start: <15 s
- Initialization time: <10 s
- Singal re-acquisition: <2 s
- Initialization reliability: >99.9%

Positioning Specifications

- Post Processing Static
 - Horizontal: 2.5 mm + 0.5 ppm RMS
 - Vertical: 5 mm + 0.5 ppm RMS
- Real Time Kinematic
 - Horizontal: 8 mm + 1 ppm RMS
 - Vertical: 15 mm + 1 ppm RMS
- E-RTK¹ (baseline<100 km)
 - Horizontal: 0.2 m + 1 ppm RMS
 - Vertical: 0.4 m + 1 ppm RMS
- Code differential GNSS positioning
 - Horizontal: 0.25 m + 1 ppm RMS
 - Vertical: 0.5 m + 1 ppm RMS
- SBAS: Typically <1 m 3D RMS
- Standalone: <1.5 m 3D RMS

Communications

- 1 Serial port (7 pin Lemo)
Baud rates up to 921,600 bps
- UHF modem²: Tx/Rx with full frequency range from 410-470 MHz³
 - Transmit power: 0.5-2W adjustable
 - Range: 1-5 km⁴
- 3G module
 - 2 Bands GSM|GPRS EDGE 900/1800 MHz
 - 2 Bands UMTS| HSPA 900/2100 MHzSupport GSM, Point to Point/Points and NTRIP
- Position data output rates: 1Hz, 2Hz, 5Hz, 10Hz
- 5 LEDs (indicating Power, Satellite Tracking, GPRS Status and Differential Data)

- Bluetooth® : V 2.X protocol, work compatible with Windows OS and Android

Data Format

- Correction data I/O:
 - RTCM 2.X, 3.X, CMR (GPS only), CMR+ (GPS only)
- Position data output:
 - ASCII: NMEA-0183 GSV, RMC, HDT, VHD, GGA, GSA, ZDA, VTG, GST, PJK, PTNL
 - ComNav Binary update to 20Hz

Physical

- Size(W×H): 15.8 cm × 7.5 cm
- Weight: 0.95 kg (include 2 batteries)

Environmental

- Operating temperature: -40 °C to + 65 °C (40 °F to 149 °F)
- Storage temperature: -40 °C to + 85 °C (40 °F to 185 °F)
- Humidity: 100% condensation
- Waterproof and dust proof: IP67 protected from temporary immersion to depth of 1 meter, floats
- Shock: survives a 2 meter drop on to concrete

Electrical and Memory

- Input voltage: 5-27 VDC
- Power consumption: 2.85 W (3 constellations)⁵
- Li-ion battery capacity: 2 × 1800 mAh, up to 8 hours typically
- Memory: 256 MB internal with up to 16 GB pluggable memory card

Software

- ComNav field data collection software CGSurvey
- Carlson SurvCE field data collection software (optional)
- MicroSurvey FieldGenius field data collection software (optional)

- ¹ E-RTK, BeiDou B3 signal used in RTK calculate engine; concern the current situation, this mode can be used in APAC.
- ² ComNav will remove UHF modem according to different country's regulations.
- ³ 410-470 MHz, 3 frequency range, 410-430, 430-450, 450-470, need to clarify when place the order.
- ⁴ Radio work distance is related with many environment factors, the maximum distance is 5 km in very optimised situation.
- ⁵ Power consumption will increase if using internal UHF as transmitter.

Specifications subject to change without notice.

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