Based on the TRIUMPH Chip, TRIUMPH-1 is a fully integrated package ready for your demanding jobs, offering precise and automatic performance beyond anything that you have experienced so far.

An elegant, rugged, light, and hermetically sealed box accommodates all GNSS and Modem electronics, antennas, and up to 20 hours of rechargeable batteries and its sophisticated power management system. The close proximity of our batteries with the electronic section helps the batteries to absorb heat and function better in cold weathers. The batteries can be charged with any power supply from 10 volts to 30 volts, which includes car, ship and airplane batteries.

All GNSS, UHF, GSM, Bluetooth, and WiFi antennas are conveniently hidden and protected. An external antenna can also be connected to bypass the internal GNSS antenna. There are two SIM cards inside the box, one of them can be easily reached and changed via a small sealed door.
### Standard Configuration
- TRIUMPH-1-G2T/G3T Receiver (0 MB)
- GPS L1/L2/L2C/L5
- GLONASS L1/L2 (G3T only)
- RAIM
- MinPad Interface
- RS232 Serial Port (460.8 kbps)
- Internal GNSS antenna
- Rechargeable Li-Ion Battery

### Optional Feature
- Galileo E1/ESA
- Update Rate 1Hz, 5Hz, 10Hz, 20Hz, 50Hz & 100Hz
- RTK Rate 1Hz, 5Hz, 10Hz, 20Hz, 50Hz & 100Hz
- Data Recording up to 2048MB
- Multi-Base Code Differential Rover
- Code Differential Base
- Advanced Multipath Reduction
- In-Band Interference Rejection
- Event Marker
- 1 PPS timing strobe
- Up to 2 high Speed (460.8 kbps) RS232 Serial Ports
- USB port
- Internal GSM/GPRS/EDGE Module
- Internal UHF Modem
- Ethernet
- Bluetooth® Interface
- Wi-Fi (IEEE 802.11b/g)
- KFK WAAS/EGNOS (SBAS)
- External GNSS Antenna TNC Female connector

### Description
- Total 216 channels: all-in-view (GPS L1/L2/L2C/L5, Galileo E1/E5A, GLONASS L1/L2, SBAS) integrated receiver, rugged plastic and magnesium housing complete with MinPad interface

### Tracking Specification
- **Tracking Channels**
  - TRIUMPH-1-G2T: GPS L1/L2/L2C/L5, Galileo E1/E5A, SBAS
  - TRIUMPH-1-G3T: GPS L1/L2/L2C/L5, Galileo E1/E5A, GLONASS L1/L2, SBAS
- **Signals Tracked**
  - L1/L2 C/A and P Code & Carrier

### Performance Specifications
- **Autonomous**
  - Static, Fast Static Accuracy:
    - Horizontal: 0.3 cm + 0.5 ppm \( \times \) base_line_length
    - Vertical: 0.5 cm + 0.5 ppm \( \times \) base_line_length
- **Kinematic Accuracy**
  - Horizontal: 1 cm + 1 ppm \( \times \) base_line_length
  - Vertical: 1.5 cm + 1.5 ppm \( \times \) base_line_length
- **RTK (OTF) Accuracy**
  - Horizontal: 1 cm + 1 ppm \( \times \) base_line_length
  - Vertical: 1.5 cm + 1.5 ppm \( \times \) base_line_length
- **DGPS Accuracy**
  - < 0.25 m Post Processing
  - < 0.5 m Real Time
- **Cold Start**
  - <35 seconds
- **Warm Start**
  - <5 seconds
- **Reacquisition**
  - <1 second

### Power Specification
- **Battery**
  - Two internal Li-Ion batteries (7.4 V, 4.4 Ah each) with internal charger
  - Operation Time: Up to 15 hours
  - External Power Input: +10 to +30 volts

### GNSS Antenna Specifications
- **GNSS Antenna**
  - Integrated
- **Antenna Type**
  - Microstrip (Zero Centered)
- **Ground Plane**
  - Antenna on a flat ground plane

### Radio Specifications
- **GSM/GPRS/EDGE Module**
  - Internal GSM/GPRS/EDGE quad-band module, GPRS/EDGE Class 10
- **UHF Radio Modem**
  - Internal 406-470MHz radio transceiver, up to 38.4kbps
- **Base Power Output**
  - 1 Watt

### I/O
- **Communication Ports**
  - 2x serial (RS232) up to 460.8 kbps
  - High speed USB 2.0 device port (480 Mbps)
  - Full-duplex 10BASE-T/100BASE-TX Ethernet port
  - Wi-Fi (IEEE 802.11b/g)
  - Bluetooth V2.0+EDR Class 2 supporting SPP Slave and Master Profiles
- **Other I/O Signals**
  - 1 PPS synchronized
  - Event Marker
- **Status Indicator**
  - Six LEDs, two function keys (MinPad)

### Memory & Recording
- **Internal Memory**
  - Up to 2048MB of onboard non-removable memory for data storage
- **Raw Data Recording**
  - Up to 100 times per second (100Hz)
- **Data Type**
  - Code and Carrier from GPS L1/L2, Galileo E1/ESA, GLONASS L1/L2 (G3T only)

### Data Output
- **Real time data outputs**
  - RTCM SC104 versions 2.x and 3.x
  - ASCII Output
  - NMEA 0183 versions 2.x and 3.0
- **Output Rate**
  - Code and Carrier

### Environmental Specifications
- **Enclosure**
  - Molded magnesium alloy and plastic, waterproof IP67
  - Operating Temperature: -30° C to +55° C
  - Storage Temperature: -20° C to +45° C
- **Dimensions**
  - W: 178 mm x H: 96 mm x D: 178 mm
- **Weight**
  - 1700 g

Specifications are subject to change without notice.