



ALPHA

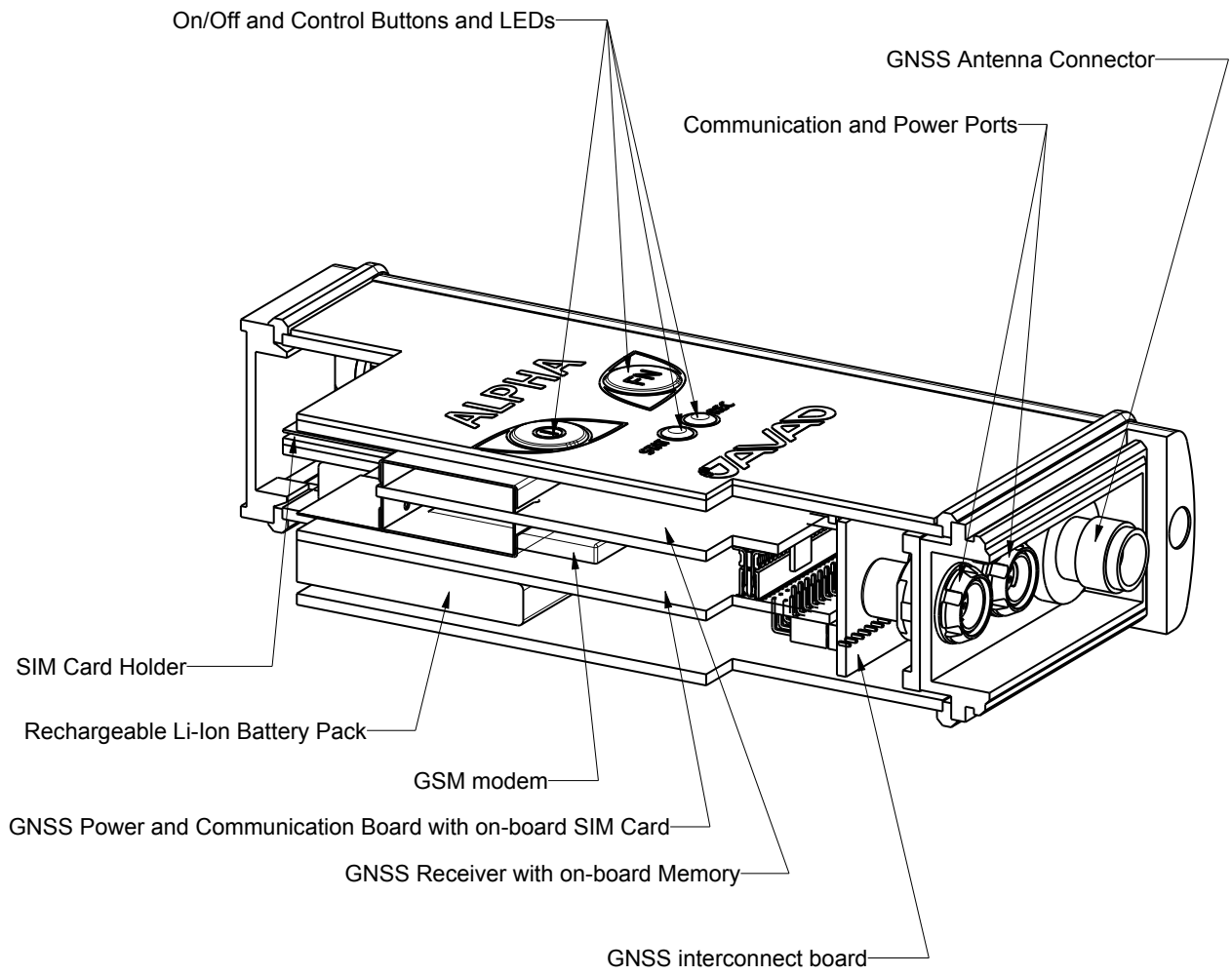
FOR TR-G3, TR-G2T, TR-G3T

ALPHA receiver is based on our TRIUMPH Technology implemented in our TRIUMPH Chip. For the first time in the GNSS history we offer up to 100 Hz RTK.

216 channels of single or dual frequency GPS, Galileo and GLONASS in a small attractive, sturdy, and watertight box, which contains either TR-G3, TR-G2T or TR-G3T board.

The on-board power supply on ALPHA receiver accepts any voltage from +7 to +40 volts and delivers clean filtered voltage where needed. This eliminates the risk of power contamination (ripples) that can be created when clean power is generated elsewhere and delivered to the board via cables. ALPHA receiver also includes TriPad (two LEDs, ON/OFF and function button), GSM module, Bluetooth® wireless technology and battery. In addition, the receiver comes with large amount of flash for data storage. Simply stated, additional functions are not needed to incorporate any of our ALPHA in most applications.

In addition to timing strobe and event marker, the ALPHA receiver includes the option of complete IRIG timing system.



Tracking Features*

- Total 216 channels: all-in-view
- ALPHA-G3
GPS C/A, P1, GLONASS L1, Galileo E1 (B+C), BeiDou B1, QZSS C/A, L1C(I+Q), SAIF, SBAS
- ALPHA-G2T
GPS C/A, P1, P2, L2C (L+M), L5 (I+Q), Galileo E1 (B+C), E5A (I+Q), BeiDou B1, QZSS C/A, L1C(I+Q), L2C (L+M), L5 (I+Q), SAIF, SBAS
- ALPHA-G3T
GPS C/A, P1, P2, L2C (L+M), L5 (I+Q), Galileo E1 (B+C), E5A (I+Q), GLONASS L1/L2, BeiDou B1, QZSS C/A, L1C(I+Q), L2C (L+M), L5 (I+Q), SAIF, SBAS
- Advanced Multipath Reduction
- Fast acquisition channels
- High accuracy velocity measurement

Performance Specifications

- Autonomous: <2 m
- Static, Fast Static Accuracy:
Horizontal: $0.3 \text{ cm} + 0.1 \text{ ppm} * \text{base_line_length}^{**}$
Vertical: $0.5 \text{ cm} + 0.5 \text{ ppm} * \text{base_line_length}$
- Kinematic Accuracy:
Horizontal: $1 \text{ cm} + 1 \text{ ppm} * \text{base_line_length}$
Vertical: $1.5 \text{ cm} + 1.5 \text{ ppm} * \text{base_line_length}$
- RTK (OTF) Accuracy:
Horizontal: $1 \text{ cm} + 1 \text{ ppm} * \text{base_line_length}$
Vertical: $1.5 \text{ cm} + 1.5 \text{ ppm} * \text{base_line_length}$
- DGPS Accuracy:
< 0.25 m post processing; < 0.5 m real-time
- Cold/Warm Start/ Reacquisition:
<35 seconds / <5 seconds / <1 second

Data Features

- Up to 100 Hz update rate for real time position and raw data (code and carrier)
- Up to 100 Hz update rate for RTK
- Hardware Viterbi decoder
- RTCM SC104 versions 2.x and 3.x Input/Output
- NMEA 0183 versions 2.x and 3.0 Output
- BINEX Output
- Code Differential Rover
- Code Differential Base
- Geoid and Magnetic Variation models
- RAIM
- Different DATUMs support
- Output of grid coordinates

Data Storage

- Up to 256 MB of on-board non-removable memory for data storage

Input/Output

- GNSS Antenna Connector: 50 Ohm TNC, +5 VDC (100 mA) to power LNA.
- Serial port RS232 up to 460.8 kbps
- Serial port RS-232/RS-422 up to 460.8 kbps
- Built-in USB to RS232 FTDI converter. 12Mbps USB 2.0 Full-Speed. Up to 1.5Mbps RS232 speed
- Bluetooth V2.0+EDR Class 2 supporting SPP Slave Profile
- 1 PPS synchronized; Event Marker; IRIG
- Status Indicator: Two LEDs, two function keys (TriPad)

Radio Specifications

- GSM/GPRS Module Internal GSM/GPRS quad-band module, GPRS Class 10
- GSM/GPRS Antenna External

Power Specification

- One internal Li-Ion battery (7.2 V, 1.37 Ah) with internal charger
- Operation Time: up to 8 hours
- External Power Input: +7 to +40 Volts

Environmental and Physical

- Enclosure: Aluminum extrusion, waterproof IP 66
- Operating Temperature: -40°C to +80°C***
- Storage Temperature: -45°C to +85°C****
- Humidity: 95% non-condensing
- High shock and vibration resistance
- Dimensions: 5.83 x 3.35 x 1.38 in (148 x 85 x 35 mm)
- Weight:
Alpha-G3: 0.95 lbs (0.430 kg)
Alpha-G2T: 0.96 lbs (0.435 kg)
Alpha-G3T: 0.99 lbs (0.448 kg)

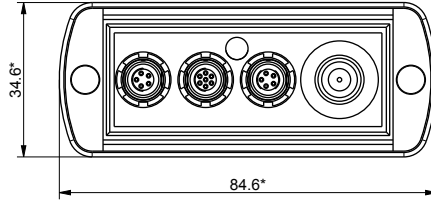
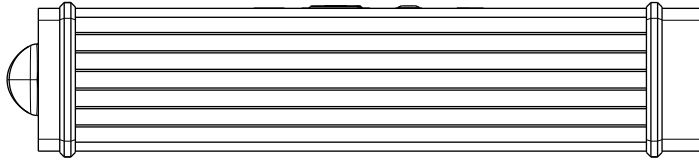
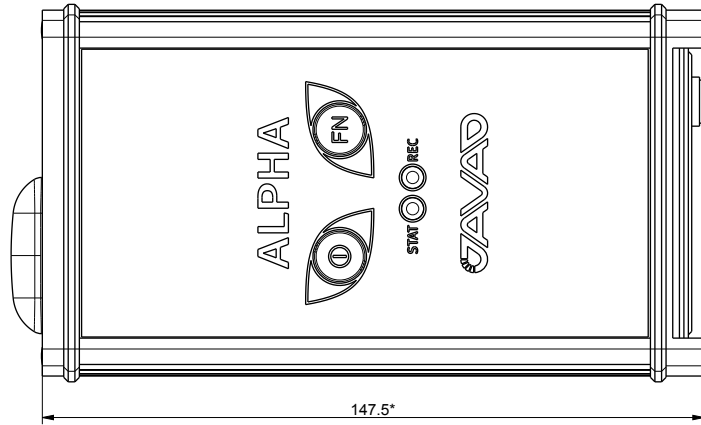
* For the full list of standard and optional features see www.javad.com

** For good observation conditions and proper length of observation session

*** The operating temperature range of Li-Ion batteries is -30 ° C to +55° ° C

****The storage temperature of Li-Ion batteries is -20 ° C to +45° C

ALPHA



All dimensions are in mm



JAVAD GNSS
www.javad.com
Rev.3.0 December 13, 2017

Specifications are subject to change without notice

