SIGMA-G3T

FOR TRE-G3T

SIGMA-G3T is a powerful receiver for high accuracy applications, such as reference stations and CORS. 216 channels of single or dual frequency GPS, Galileo and GLONASS in a small attractive, sturdy, and watertight box, which contains TRE-G3T board.

SIGMA-G3T is a powerful and reliable receiver for high-precision navigation systems, including high dynamics systems, for machine and traffic control, as well as for high-precision surveying and geodynamics and aerogeophysics applications.

SIGMA can operate as a receiver for post-processing, as a Continuously Operating Reference Station (CORS) or portable base station for Real-time Kinematic (RTK) applications, and as a scientific station collecting information for special studies, such as ionosphere monitoring and the like.

Two external power inputs secure the power system redundancy and eliminate system failure. The on-board power supply on SIGMA receiver accepts any voltage from +10 to +30 volts and delivers clean filtered voltage where needed.

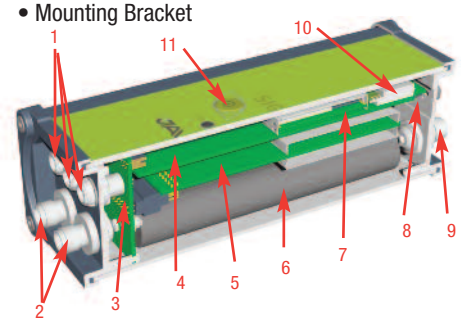
SIGMA-G3T

Standard Configuration

- GPS L1/L2/L2C/L5
- GLONASS L1/L2
- Update rate 1 Hz
- RAIM
- TriPad interface
- RS232 serial port (460.8 kbps)
- External GNSS Antenna TNC Female connector
- Rechargeable Li-Ion Batteries

Optional Features

- Galileo E1/E5A/E5B
- Galileo E5B**
- GLONASS L3**
- QZSS
- Beidou B1*
- Beidou B2**
- Update rate 5Hz, 10Hz, 20Hz, 50Hz & 100Hz
- RTK rate 1 Hz, 5Hz, 10Hz, 20Hz, 50Hz & 100Hz
- Data recording up to 2048MB***
- Multi-Base Code Differential Rover
- Code Differential Base
- Advanced Multipath Reduction
- Two event markers
- Two 1 PPS timing strobes
- 1 PPS level converter
- CAN port
- External Reference Frequency Input/Output
- External Reference Output Frequency converter
- Up to 3 high-speed RS232 serial ports
- High-speed RS232/RS422 serial port
- USB port
- Ethernet
- Bluetooth® Interface
- Internal 3.5G UMTS/HSPA Module
- Internal UHF/VHF Modem
- Internal GSM/GPRS/EDGE Module
- Internal CDMA2000 Module
- External UHF/VHF, GSM/CDMA2000, Bluetooth Antenna Connectors
- WAAS/EGNOS/MSAS (SBAS)
- Two External Power Inputs
- Mounting Bracket



1. Communication and Power Ports
2. External GNSS Antenna Connectors
3. GNSS Interconnect Board
4. GNSS Power and Communication Board with on-board SIM/UIM -card
5. GNSS Receiver with on-board Memory
6. Rechargeable Li-Ion Battery Pack
7. UHF/VHF Modem
8. SIM/UIM Card Holder
9. External UHF/VHF, GSM/CDMA2000, Bluetooth Antenna Connectors
10. 35.G/GSM/CDMA2000 Modem
11. On/Off Button

*Board TRE_G3TH_4 or newer
** Board TRE_G3TH_8 or newer
*** Up to 4096MB on request

Specifications are subject to change without notice.

Description	Total 216 channels: all-in-view (GPS L1/L2/L5, Galileo E1/E5A, GLONASS L1/L2/LS, QZSS L1/L2/L5, Beidou B1/B2, SBAS L1/L5) integrated receiver, rugged aluminum housing with TriPad interface and rechrheable Li-Ion battery pack
Tracking Specification	
Signals Tracked	GPS C/A, P1, P2, L2C (L+M), L5 (I+Q) Gallileo E1 (B+C), E5A (I+Q), E5B (I+Q), AltBoc GLONASS C/A, L2C, P1, P2, L3 (I+Q) QZSS C/A, L1C(I+Q), L2C (L+M), L5 (I+Q), SAIF Beidou B1, B2 SBAS L1, L5
Performance Specifications	
Autonomous	<2 m
Static, Fast Static accuracy	Horizontal: 0.3 cm + 0.1 ppm * base_line_length**** Vertical: 0.35 cm + 0.4 ppm * base_line_length****
Kinematic accuracy	Horizontal: 1 cm + 1 ppm * base_line_length Vertical: 1.5 cm + 1.5 ppm * base_line_length
RTK (OTF) accuracy	Horizontal: 1 cm + 1 ppm * base_line_length Vertical: 1.5 cm + 1.5 ppm * base_line_length
DGPS accuracy	< 0.25 m post processing, < 0.5 m real-time
Real-time heading accuracy	~ 0.004/L [rad] RMS, where L is the antenna separation in [m]
Cold Start	<35 seconds
Warm Start	<5 seconds
Reacquisition	<1 second
Power Specification	
Battery	Two internal Li-Ion batteries (7.4 V, 5.8 Ah each) with internal charger
Operating Time	Up to 18 hours
External Power Input	Two (primary and secondary)
Input Voltage	+10 to +30 volts
Radio Specifications	
3.5G UMTS/HSPA Module	Global (850/1900/2100) /North America (850/1900/1700-2100AWS) / Europe (900/2100)
GSM/GPRS/EDGE Module	Internal GSM/GPRS/EDGE quad-band module, GPRS/EDGE Class 10
CDMA 2000 Module	Internal CDMA2000 dual band module 800/1900MHz
UHF Radio Modem	Internal 360-470 MHz radio transceiver, up to 38.4 kbps
VHF Radio Modem	Internal 138-174 MHz radio transceiver, up to 38.4 kbps
Base Power Output	1 Watt
I/O	
GNSS Antenna Connector	50 Ohm TNC, +5 VDC (100 mA) to power LNA.
Communication Ports	Three serial RS232 ports (up to 460.8 kbps) High-speed RS232/RS422 serial port (up to 460.8 Kbps) High-speed USB 2.0 device port (480 Mbps) Full-duplex 10BASE-T/100BASE-TX Ethernet port Bluetooth V1.2 Class 2 supporting SPP Slave Profile CAN 2.0
Other I/O Signals	Two 1 PPS synchronized PPS level converter (0 to 4V on 50Ohm load) Two Event Markers IRIG External Reference Frequency Input/Output External Reference Output Frequency Converter (5/10/20MHz, -2dBm to +13dBm, step 1dB)
Status Indicator	Two LEDs, two function keys (TriPad)
Memory & Recording	
Internal Memory	Up to 2048MB of on-board non-removable memory for data storage
Raw Data Recording	Up to 100 times per second (100Hz)
Real Time Data	
Input/Output	JPS, RTCM SC104 v. 2.x and 3.x, CMR
Output	NMEA 0183 v. 2.x and 3.0, BINEX
Environmental Specifications	
Enclosure	Aluminum extrusion, waterproof IP67
Operating Temperature	-40° C to +75° C*****
Storage Temperature	-45° C to +85° C******
Humidity	100%
Dimensions	W: 132 mm x H: 61 mm x D: 190 mm
Weight	1277 g

****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

JAVAD GNSS
www.javad.com
Rev.2.7 July 9, 2013