TRIUMPH-1
216 channels
GPS + GLONASS + Galileo

Actual size

GISmore

GISmore receiver is based on our TRIUMPH Technology implemented in our TRIUMPH Chip. For the first time in the GNSS history we offer very powerful GIS field mapping receiver with up to 100 Hz RTK, 216 channels of single frequency GPS, Galileo and GLONASS in a small attractive, sturdy, and watertight box.

Using its internal Bluetooth and GSM/GPRS connection the receiver can access local GNSS Reference Station Network. As standard future the GISmore receiver provides access to the SBAS correction services. In addition to post-processed DGPS capabilities, the GISmore utilizes external correction services for real-time DGPS mapping and navigation applications.

Standard Configuration

- GISmore Receiver (256 MB)
- GPS L1
- Galileo E1
- GLONASS L1
- 100 Hz update rate
- RAIM
- Internal Rechargeable Li-Ion Battery
- Internal GNSS Antenna
- Internal GSM Module
- Bluetooth® Interface
- Internal Bluetooth/GSM Antenna

TR-G2   16 EACH OF GPS L1, GALILEO E1

TR-G2T   16 EACH OF GPS L1/L2/L2C/L5, GALILEO E1/E5A

For the first time in the GNSS history we offer up to 100 Hz RTK.

Based on 216-channel TRIUMPH chip, our family of nine OEM boards can support you in any GNSS application... now and in the future.

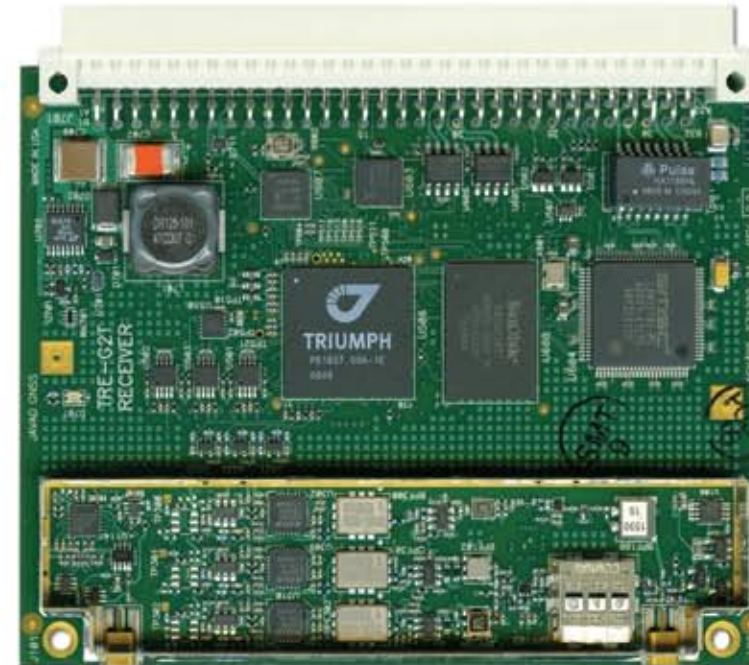We have been able to achieve tremendous advances in technology while reducing costs substantially. Please visit www.javad.com for details and prices.

All communications in all boards are complete with all necessary hardware and firmware.

For example, the CAN interface is complete with all associated hardware and firmware, not just the CAN bus.

The same is true with serial ports and the Ethernet port.

Simply stated, additional functions are not needed to incorporate our OEM boards in most applications.
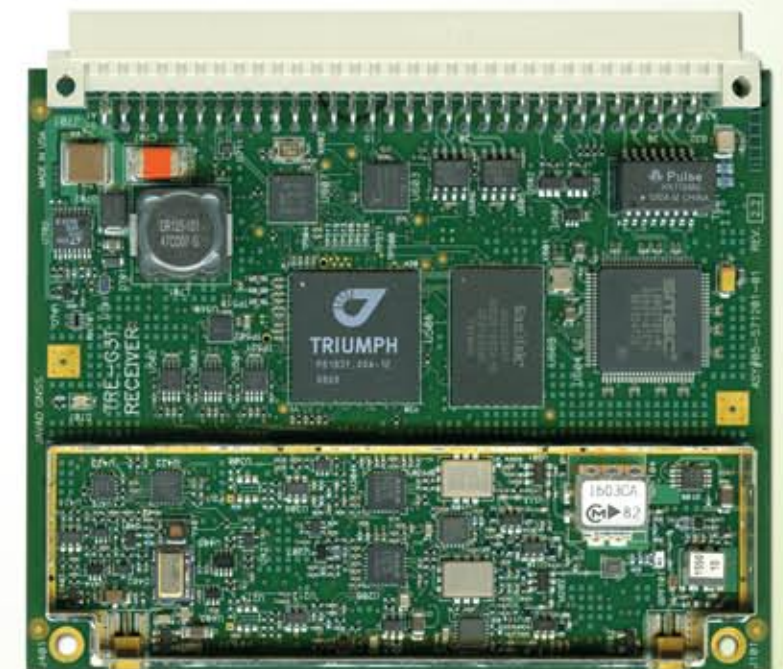
In addition to timing strobes and event markers, each OEM board also include options of complete IRIG timing system.

TRE-G2T   16 EACH OF GPS L1/L2/L2C/L5, GALILEO E1/E5A

All boards have on-board power supply which accepts any voltage from +4.5 to +40 volts and delivers clean filtered voltages where needed. This eliminates the risk of power contamination (ripples) that can be created when clean power is generated elsewhere and delivered to the boards via cables.

All boards also include drivers for four LEDs and ON/OFF, and FUNCTION button controllers.

All boards also come with large amount of flash memory for data storage.

Please see our website www.javad.com for detailed signal specifications, connector pins, and physical board details.

TR-G3   16 EACH OF GPS L1, GALILEO E1, GLONASS L1

TR-G3T   16 EACH OF GPS L1/L2/L2C/L5, GALILEO E1/E5A, GLONASS L1/L2

TRE-G3T   16 EACH OF GPS L1/L2/L2C/L5, GALILEO E1/E5A, GLONASS L1/L2
TRE-G3T-AJ HAS THE ANTI JAMMING CAPABILITY

Duo-G2 accepts inputs from up to two antennas. It is equivalent of two GPS/Galileo L1 receivers which operate synchronously with a common oscillator and central processor to coordinate all communications and other activities.

G2D is for heading applications where single frequency GPS and Galileo can do the job and cost is a significant factor.
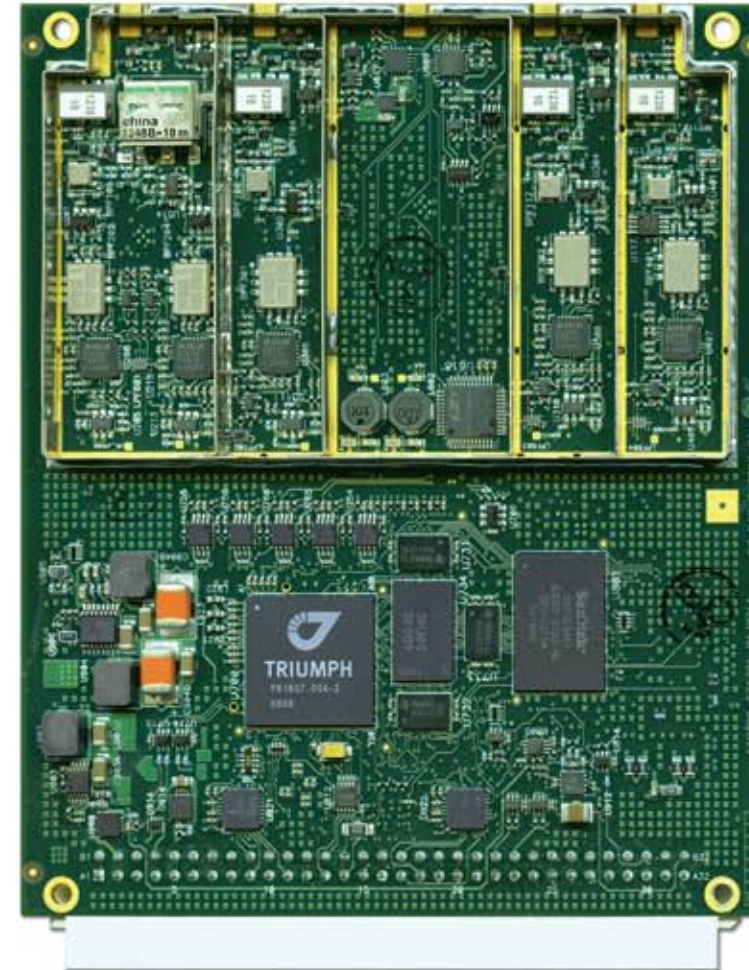
It can also be used in positioning applications where a single antenna is not sufficient to observe satellites in all orientations and positions.

Duo-G2   Two sets of 14 each of GPS L1, Galileo E1

Quattro-G3D is a 100x120 mm Euro-card board that accepts inputs from up to four antennas.

Smaller than a full Eurocard size, it is equivalent of four receivers which operate synchronously with a common oscillator and central processor to coordinate all communications and other activities. One of the receivers (the main) tracks 14 each of GPS L1/L2, GLONASS L1/L2 and Galileo E1. This receiver can perform long baseline RTK in conjunction with a base. The other three receivers each track 14 each of GPS L1/L2, and Galileo E1 and along with the main one can provide attitude (orientation) solutions.

Dual frequency GPS alone can provide very fast and reliable orientation solutions due to very short antenna separations (about one meter) and the fact that typical applications are in open fields. The main GPS+GLONASS L1/L2 unit can help in providing long baseline RTK solution

Quattor can also be used in positioning applications where multiple antennas will increase signal availability.

Quattro-G3D   One set of 14 each of GPS L1/L2, Galileo E1, GLONASS L1/L2; and three sets of 14 each of GPS L1/L2, Galileo E1

Duo-G2D is similar to Duo-G2 but it tracks dual frequency GPS. It can calculate orientations faster and in more demanding environments where less satellites are visible or the baselines are longer.

Duo-G2D   Two sets of 14 each of GPS L1/L2, Galileo E1

ALPHA
• Internal battery • Charger • GSM • Bluetooth

for: TR-G3, TR-G2T, TR-G3T

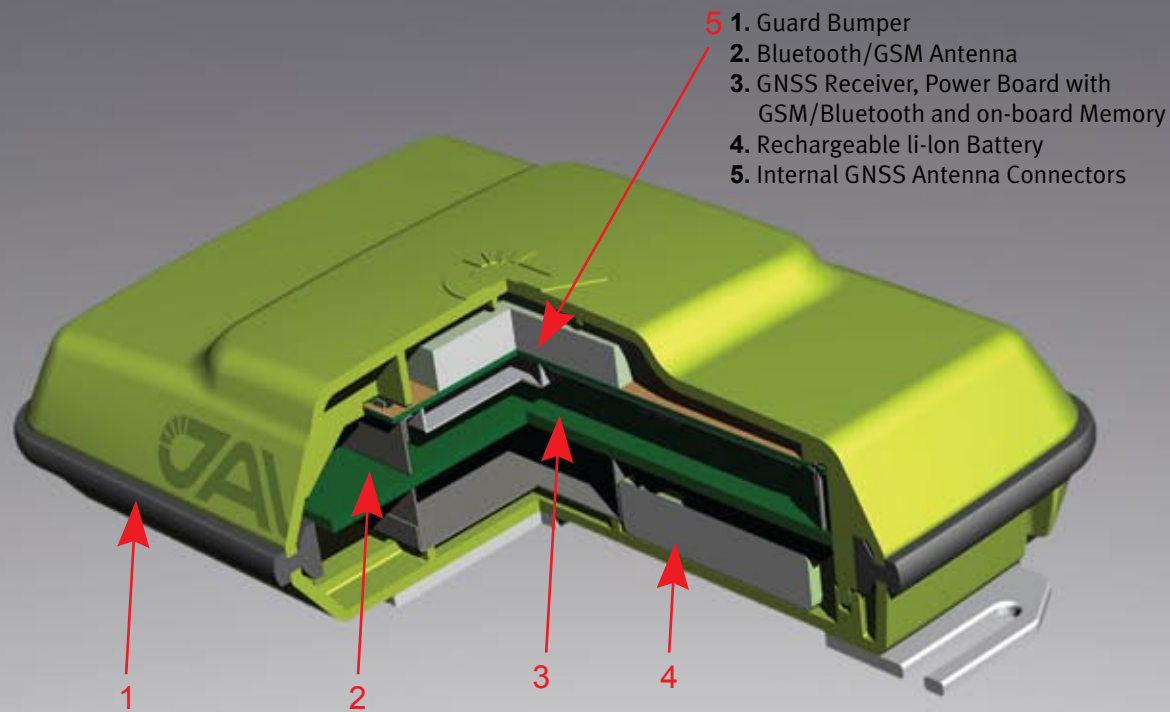**DELTA**
for: TRE-G2T, TRE-G3T, Duo-G2, Duo G2D, Quattro-G3D

SIGMA
• Internal battery • Charger • Modem • GSM • Bluetooth
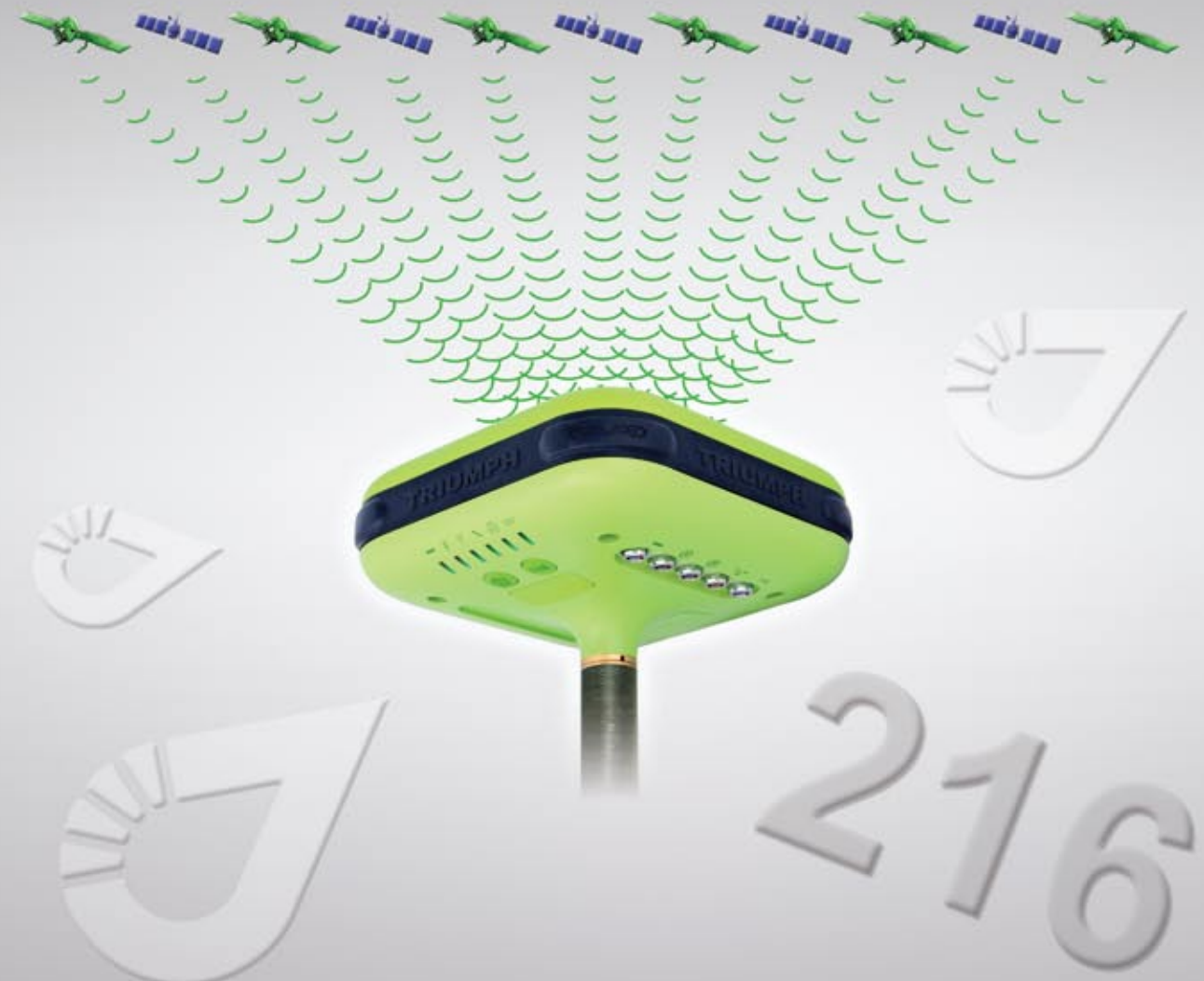
for: TRE-G2T, TRE-G3T, Duo-G2, Duo G2D, Quattro-G3D

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1. Guard Bumper
2. Bluetooth/GSM Antenna
3. GNSS Receiver, Power Board with GSM/Bluetooth and on-board Memory
4. Rechargeable li-Ion Battery
5. Internal GNSS Antenna Connectors

Our GLONASS is as good as GPS

We dynamically and continuously calibrate GLONASS inter-channel biases with an accuracy of

0.2 millimeter

Tracking Specification

Tracking Channels
GPS L1/Galileo E1/GLONASS L1

Signals Tracked
L1 C/A, Code & Carrier

Power Specification

Battery
Internal Li-Ion battery (3.7 V, 1.05 Ah) with internal charger

Operating time	Standby mode
	Call mode
Input Voltage	+4.5 to +6.5 volts

GNSS Antenna Specifications

GNSS Antenna	Internal
Antenna Type	Microstrip (Zero Centered)
Ground Plane	Antenna on a flat ground plane

Radio Specifications

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

GSM/GPRS Antenna	Internal

I/O

Communication Port
Bluetooth V2.0+EDR Class 2 supporting SPP Slave and Master Profiles

External Power port	1 port
GSM Status Indicator	One LED

Performance Specifications

Static, Fast Static Accuracy
Horizontal: 0.3 cm + 0.5 ppm $*$ base_line_length
Vertical: 0.5 cm + 0.5 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
Cold Start	<65 seconds
Warm Start	<5 seconds
Reacquisition	<1 second

Memory & Recording

Internal Memory
Up to 256 MB of onboard non-removable memory for data storage

Raw Data Recording
Up to 100 times per second (100 Hz)

Data Type
Code and Carrier from GPS L1/Galileo E1/GLONASS L1

Environmental Specifications

Enclosure	Aluminum extrusion, waterproof
Operating Temperature	-4° C to +55° C
Dimensions	W: 79 mm x H: 33 mm x D: 131 mm
Weight	210 g