# TRIUMPH-1
## 216 channels
### GPS + GLONASS + Galileo

## Connectivity

- *Power*
- *2 serial*
- *USB*
- *Ethernet*
- *WiFi*
- *Bluetooth*

# Functionality
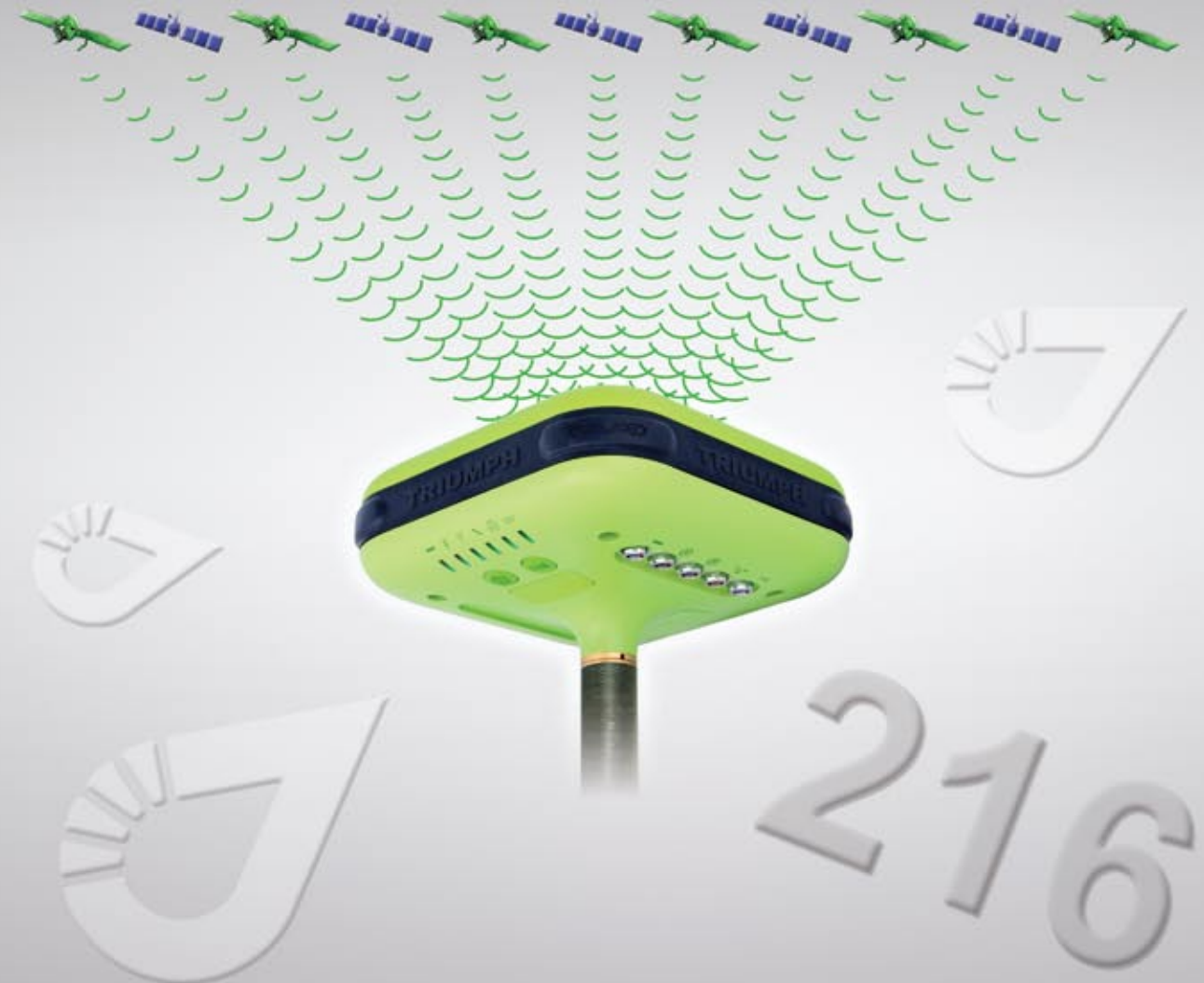
- Record
- Solution
- Satellites
- Modem
- Bluetooth
- Battery

# Our GLONASS is as good as GPS

We dynamically and continuously calibrate GLONASS inter-channel biases with an accuracy of **0.2 millimeter**
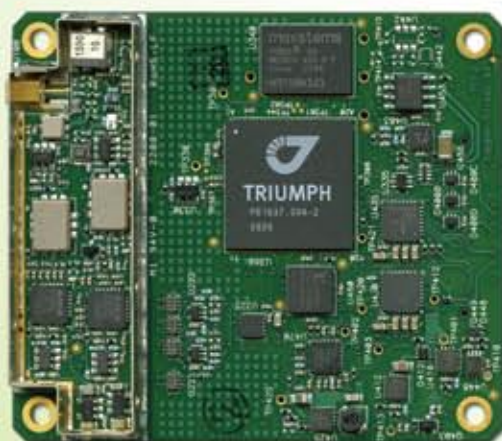
216

**JAVAD**
WWW.JAVAD.COM

**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.

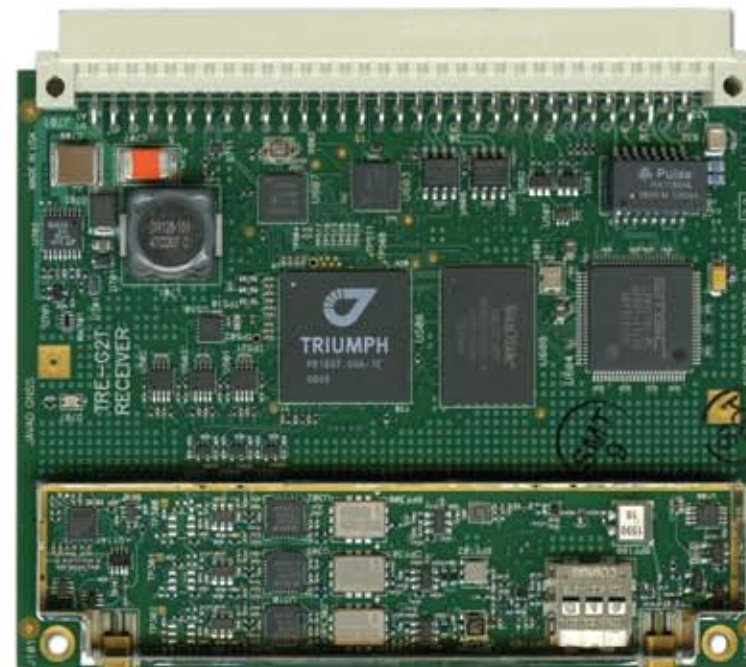We have been able to achieve tremendous advances in technology while reducing costs substantially. Please visit www.javad.com for details and prices.



**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



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.



**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.
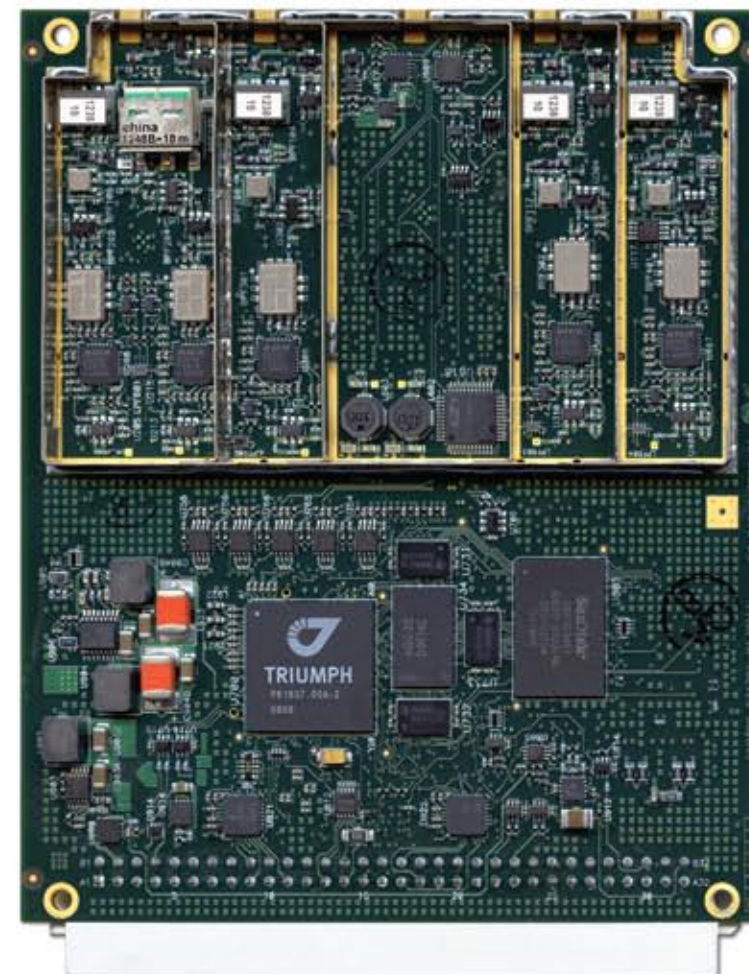
It can also be used in positioning applications where a single antenna is not sufficient to observe satellites in all orientations and positions.

**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

Quattro 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