

TRIUMPH-1

216 channels

GPS + GLONASS + Galileo



**Better than 30 cm GIS... instantly
or 5 cm static**



Actual size

GISmore

stand-alone or
inside the hat

**Bluetooth wireless
connection
to GISmore**

- GPS L1
- Galileo E1
- GLONASS L1
- 100 Hz update rate
- RAIM
- Rechargeable Li-Ion Battery
- GNSS Antenna
- GSM Module
- Bluetooth® Interface
- Bluetooth/GSM Antenna



**Many
ways
to use**

All Boards Shown in Their Actual Sizes

Eurocard Form Factor



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



TR-G2 16 EACH OF GPS L1, GALILEO E1

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

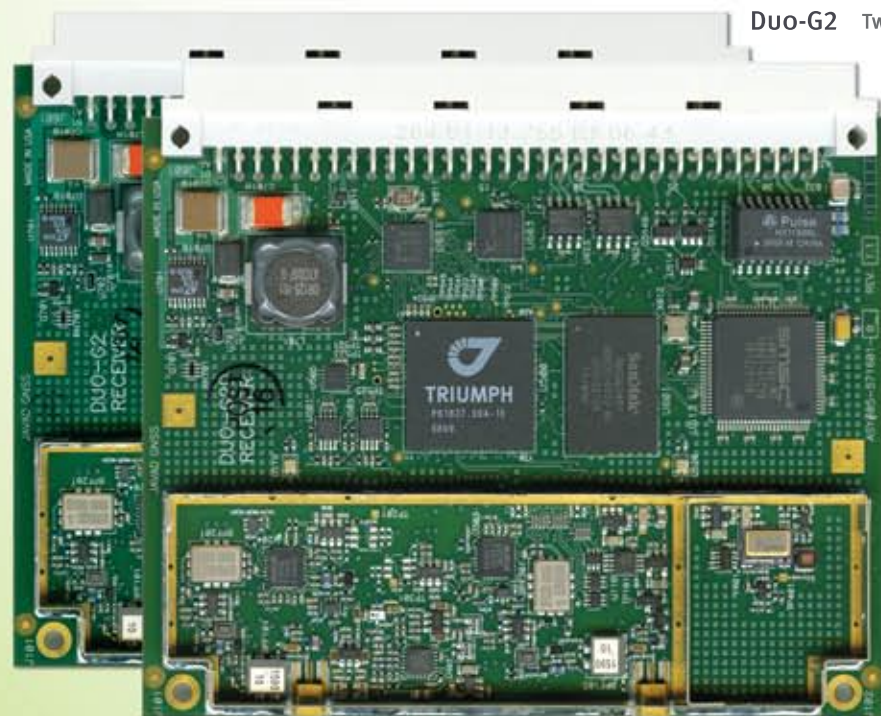
TR-G3T 16 EACH OF GPS L1/L2/L2C/L5, GALILEO E1/E5A, GLONASS L1/L2



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

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

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

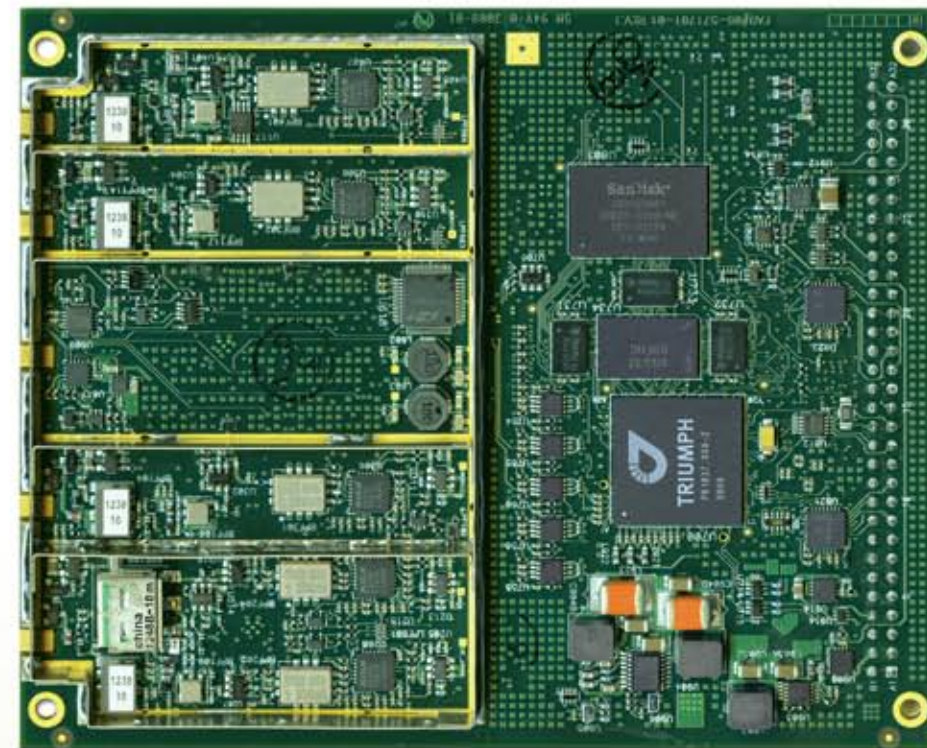


DUO-G2 TWO SETS OF 14 EACH OF GPS L1, GALILEO E1

DUO-G2D

TWO SETS OF 14 EACH OF GPS L1/L2, GALILEO E1

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



QUATTRO-G3D

ONE SET OF 14 EACH OF GPS L1/L2, GALILEO E1, GLONASS L1/L2; AND THREE SET OF 14 EACH OF GPS L1/L2, GALILEO E1

Quattro-G3D is a 100x120 mm Eurocard 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.

Duo... 2-in-1

Quattro... 4-in-1



ALPHA

- INTERNAL BATTERY
- CHARGER
- GSM
- BLUETOOTH

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

Front panel connectors:

Power Input + serial port A + USB + Antenna

Back panel connectors:

Can have up to 3 connectors of 1-PPS
• Event Marker • IRIG • GSM Antenna (without Bluetooth antenna).

When Bluetooth antenna is installed only one extra connector can be installed.

Example 1: BT Antenna + GSM Antenna

Example 2: 1-PPS output + Event Marker + GSM Antenna



DELTA

FOR: TRE-G2T, TRE-G3T, Duo-G2, Duo-G2D, QUATTRO-G3D

Front panel connectors:

Option 1: Power Input + Serial A + Serial B + Serial C + Antenna

Option 2: Power Input + USB + Serial A + Serial C + Antenna

Options 3: Power Input + USB + Serial A + Serial C + Ethernet

Back panel connectors:

Can have up to 4 connector of 1-PPS A
• 1-PPS B • Event A • Event B • Antenna • CAN • IRIG B

Example: 1-PPS A + 1-PPS B + Event A + Event B



SIGMA

- INTERNAL BATTERY
- CHARGER
- MODEM
- GSM

FOR: TRE-G2T, TRE-G3T, Duo-G2, Duo-G2D, QUATTRO-G3D

Front panel connectors:

Can have Power Input • Second Power Input • USB • Serial A • Serial B or C • Ethernet

and up to 4 connectors of 1-PPS A • 1-PPS B • Event A • Event B • Antenna • CAN • IRIG • RS422

Back panel connectors:

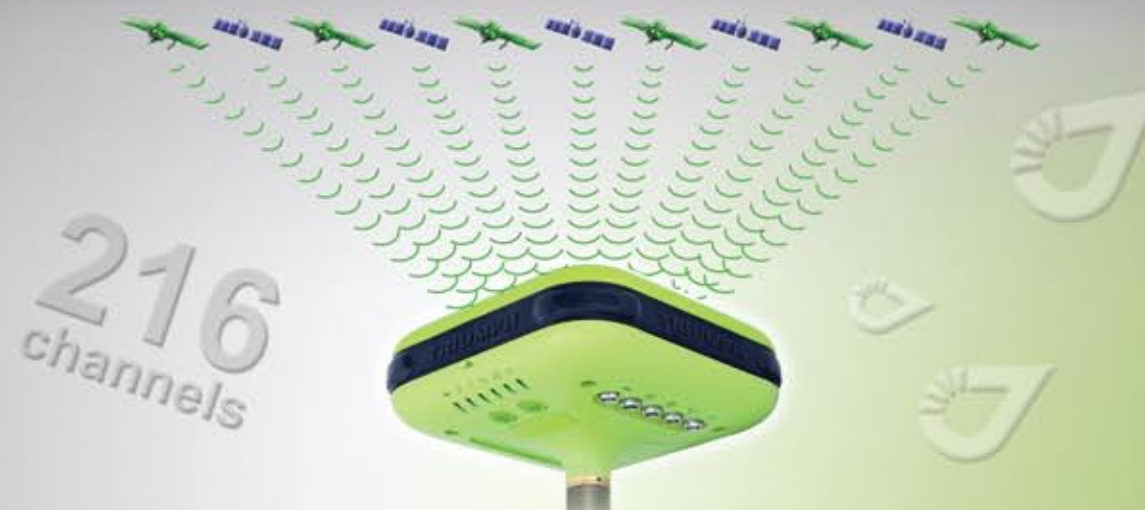
Can have SIM door and GSM Antenna connector and up to 4 connectors of 1-PPS A • 1-PPS B • Event A • Event B • Antenna • IRIG • Modem Antenna

Example: GSM Antenna + SIM door + 1-PPS A + 1-PPS B + Event A + Modem Antenna



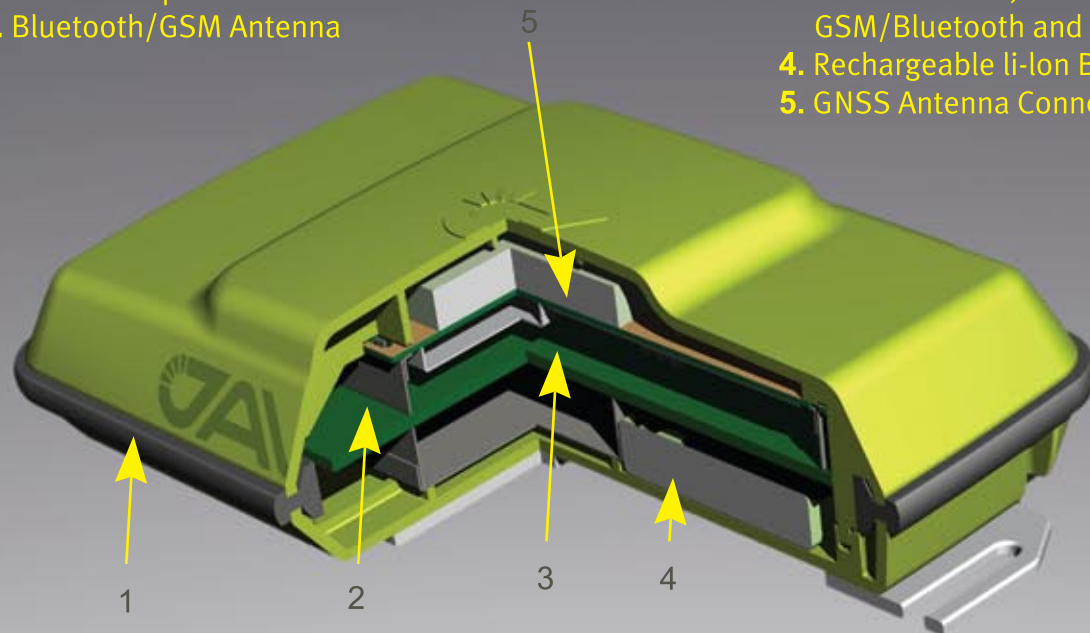
Our GLONASS is as good as GPS

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



1. Guard Bumper
2. Bluetooth/GSM Antenna

3. GNSS Receiver, Power Board, GSM/Bluetooth and Memory
4. Rechargeable li-Ion Battery
5. GNSS Antenna Connectors



216-channel TRIUMPH

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
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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
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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: 5 cm + 0.5 ppm * base_line_length
Vertical: 5 cm + 0.5 ppm * base_line_length

Kinematic Accuracy
Horizontal: 5 cm + 1 ppm * base_line_length
Vertical: 5 cm + 1.5 ppm * base_line_length

RTK(OTF) Accuracy
Horizontal: 5 cm + 1 ppm * base_line_length
Vertical: 5 cm + 1.5 ppm * base_line_length

DGPS Accuracy < 0.25 m Post Processing,
< 0.5 m Real Time

Cold Start	<65 seconds
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Warm Start	<5 seconds
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Reacquisition	<1 second
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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
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Operating Temperature	-40° C to +55° C
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Dimensions	W: 79 mm x H: 33 mm x D: 131 mm
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Weight	210 g
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Stimulus Package for Surveyor's Recovery

Dear American and Canadian Surveyors...

With the current economic situation, we understand that for a while, your business may not have as much work as before. We view this as an opportunity for you to use this time to upgrade your equipment and train on the latest technology.

Our American-made GNSS receivers contain technology that no one else offers. For example:

- JAVAD GNSS offers **216-channel** receivers while the second best offer 76 channels. Furthermore, their 76-channel technology is based on designs which are at least six years old.

- By dynamically and continuously calibrating GLONASS signals to an accuracy of **0.2 millimeter**, only JAVAD GNSS offers quality GLONASS tracking that is as good as GPS. Without our GLONASS tracking, other receivers provide no advantage for you or worse, may hurt your observations and you may not even notice it.

- Only JAVAD GNSS can offer Galileo tracking. No one else has it. They even do not have "**memory code**", which is essential for Galileo.

To be a partner with you during this difficult time and help you upgrade your equipment to the latest technology — that can support you now and in the future — we offer the following program:

- For a limited time, you can purchase as many as three receivers at economy-sensitive prices.

- If you wish to purchase the unit(s) outright, you can buy our TRIUMPH-1 RTK receivers for **\$5,500** each.

- For a lower cash-outlay, you can purchase our TRIUMPH-1 RTK receivers for **\$3,300** each now and then pay an additional \$6,600 each as your business recovers. This is an honor system with no questions asked. It is only YOU who will decide when your business has recovered and you are in a position to pay the rest. We believe in trust and partnership.

Each TRIUMPH-1 receiver in this offer can be used as base or rover for 1 Hz RTK and consists of triple frequency GPS, integrated internal antenna, dual-internal rechargeable batteries (up to 20 hours of continuous work), Advanced Multipath Reduction in all channels, WAAS/EGNOS, internal UHF modem, internal GSM, Bluetooth, two serial ports, and USB. The receivers can be upgraded to include GLONASS and Galileo and many other features at low prices when you decide you need these enhancements.

As for data logging and post processing software, we offer our state-of-the-art Tracy and Justin software for an additional cost of \$1,000 each. Carlson software is another option that you may obtain from us or from Carlson Software directly.

We offer this program directly to you, or through our dealers who have agreed to

participate with almost no profit to them. Our worldwide support system can assist you in ways that you have never experienced. Our policy is to support all customers within **24 hours** for any problem they may have. With this offer, we will also provide a **two month money back guarantee** if, for whatever reason, you want to return the units. No questions asked.

In a return to the business days of yore, this is a no-collateral, handshake offer. From the bottom of my heart, I want to help rebuild the survey business in America. This is all about building partnerships. We are convinced that once you use our superior technology, we will be able to keep you as a future customer. As for our innovative win-win offer, I want to again stress that it is based on trust. For those of you who opt for option 3 above, when you make money with our equipment, you will be happy to pay us the remainder of the cost.

For more details or to order, please visit

JAVAD
WWW.JAVAD.COM

