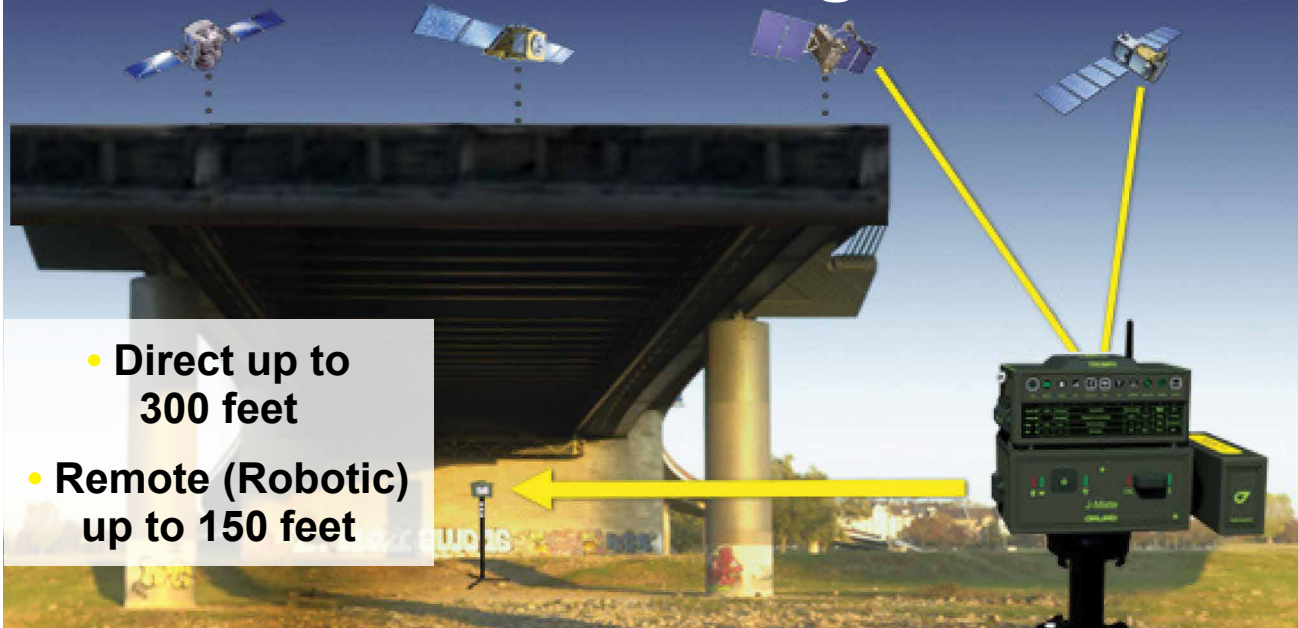


Where Have You Been with Your TRIUMPH-LS Lately?

"I bought my system March of last year (2019) and since then have definitely drunk the Kool Aid. It has revolutionized my life, getting good shots in places GNSS has not been appropriate until very recently. Chopping line is mostly out of my life. I survey mostly smaller localized jobs less than 100 acres and with the 1 watt internal radio, I regularly get 4,000' of coverage and have gone 6,300' from ridgetop to ridgetop. I am a big fan of the collapsible monopole for serious brush work and absolutely despise a fixed 2 meter rod."

See inside TLS2TLS, following the Target and more >>

Total Solution Bridge to RTK



- Direct up to 300 feet
- Remote (Robotic) up to 150 feet

J-Mate is a bridge between RTK and areas that GNSS signal is not available.

TLS2TLS

You can send and receive text messages and files from and to other TRIUMPH-LS units. In the Main screen click TLS2TLS and then in the “Compose” screen, click and enter names and serial numbers of the TRIUMPH-LS units that you want to communicate with.

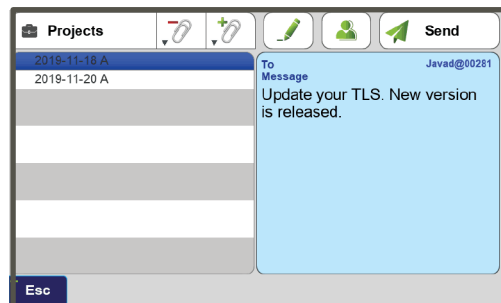
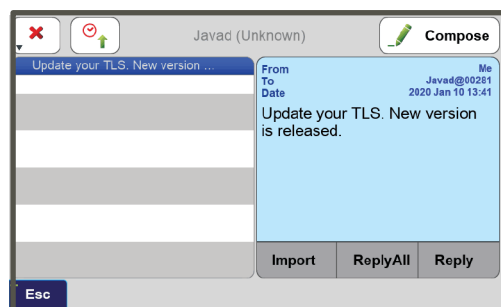


You can attach Projects, Screenshots, Images, Audio, GNSS RAW files to your text messages and send to the selected TRIUMPH-LS units.

The received messages are shown in the first screen. You can “Import” the attached files, if any, to your local unit. Click “Reply” to reply to a message.

You can reply to received messages by clicking the “Reply” (only to sender) or “ReplyAll” (to all recipients) buttons.


You may receive “Public” messages from JAVAD GNSS team. You do not to reply to them.



As with the TRIUMPH-LS, with the J-Mate we also provide software improvement updates regularly and free of charge. Download the J-Mate update in your TRIUMPH-LS and then inject it to the J-Mate.

Searching and finding objects by laser and by Optics

J-Mate has the unique feature of searching for objects by laser and by optics (camera).

Click button  and select “Target Feature” to see the setup screen for target selection and parameters. If you know the approximate distance to the target, click the check box and enter the distance and accuracy percentage. This will help J-Mate to ignore targets that are outside the range.

Horizontal and Vertical Limits are the limits that J-Mate will search around the starting point to find targets.

“**Keep Fixed Height**” check box, scans horizontally on fixed target height. You may rarely need to use this feature. It will reduce the scanning speed by a factor of 2.

“Laser time limit”

The time that it takes for a laser measurement depends on the reflective surface of the target and weather conditions (dust and moisture in the air).

On a good white reflective surface and in clean air, it takes about 50 milliseconds to have a laser reading. If there is no reflective surface, or the reflective surface is black, it may take up to 4 seconds to have a laser reading.

If the surface of the object that you want to scan is a good reflective surface, limit the laser time to a fraction of a second. This will cause the laser to skip points that do not reflect enough energy in the time limit that you specified. This will significantly increase the scan speed and will ignore points that are not possibly your target and reduces the chance of identifying a wrong object.

Target Features and its offset from the top of the pole are shown in the “Target Features” screen. You can change the parameters by selecting the “Custom” button.

TRIUMPH-LS Back: You can use this feature to search for the back of TRIUMPH-LS and measure to its center to make sure laser range measurement is not from an unintended object.

TRIUMPH-LS New Options

Integrated J-Target painted on the back of TRIUMPH-LS



Little heads-up on what is coming for TRIUMPH-LS

Soon will be an option available for the TRIUMPH-LS with the following features, using the new ASIC:

- Improved signal tracking and signal processing (wideband tracking) and adding Galileo and BeiDou L6 bands.
- Improved multipath reduction due to wide band tracking.
- Improved spectrum analysis to show and reject spoofers and jammers option.
- Improved RTK with four “Super Engines”. Each engine uses all signals of all satellites but with different parameters for different conditions.
- Improved internal Wi-Fi antenna that works both as directional and omnidirectional. No need for external Wi-Fi antenna.
- Improved internal Bluetooth antenna and longer range.
- Lower power consumption and extended battery life.

Price for the current TRIUMPH-LS remains at \$12,990 and can be purchased as before.

Price of the improved option is \$4,990. ($\$12,990 + \$4,990 = \$17,980$).

Please see our website for additional available options for the TRIUMPH-LS.

Owners of current TRIUMPH-LS units (in working condition) can upgrade their units to the improved option at \$5,450 and for \$5,700 we will also install a brand new set of batteries.

J - M a t e f o l l o w s y o u >

Zebra

Zebra is a pattern of black and white rings around the pole. Zebra can be searched only by optical search.

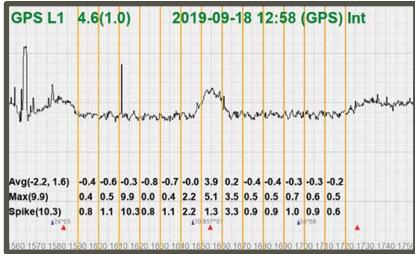


We added the “Aim” option for stake-out.

In this mode J-Mate points to the selected stake point and you follow the laser to reach the intended point. This is in addition to the robotic mode which J-Mate follows your Zebra pole.

carrying the target

RTK Engines



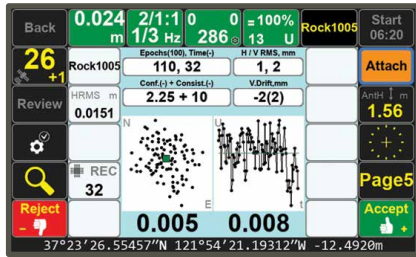
30 MHz-wide spectrum of the signal.

SAT	EL	SIG	SS	MN	C1	SS	MAX	C1	NV	SN	Spec	noise	stat
GPS11	67	GA	36.7	4.5	16	24.5	25.5	2	77	-	-0.4	8%	OS
GPS10	15	GA	29.9	4.5	3	3.5	25.5	0	79	36	-0.4	8%	OT
GPS14	55	GA	30.5	4.5	16	13.1	25.5	2	4	-	-0.4	8%	OS

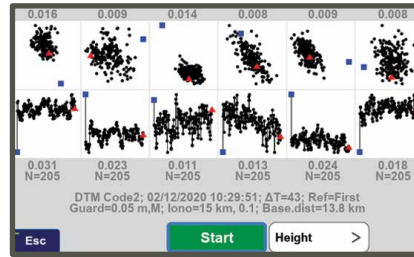
Two-peak information and spoofer.

GPS	CA	0%	P1	0%	P2	0%	2C	0%	L5	14%	IC
7	7	0	7	0	7	0	4	0	2	0	-
GLONASS	C1	0% <td>P1</td> <td>0% <td>P2</td> <td>0% <td>G2</td> <td>0% <td>L3</td> <td>65%</td> <td>-</td> </td></td></td>	P1	0% <td>P2</td> <td>0% <td>G2</td> <td>0% <td>L3</td> <td>65%</td> <td>-</td> </td></td>	P2	0% <td>G2</td> <td>0% <td>L3</td> <td>65%</td> <td>-</td> </td>	G2	0% <td>L3</td> <td>65%</td> <td>-</td>	L3	65%	-
5	5	0	5	0	5	0	5	0	1	0	N/A

Noise and spoofed signals.



Status of RTKsurvey collection.



Horizontal and vertical result of each engine.

New feature

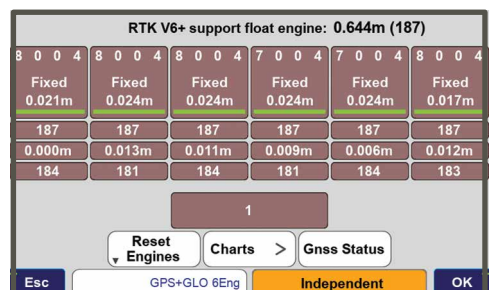
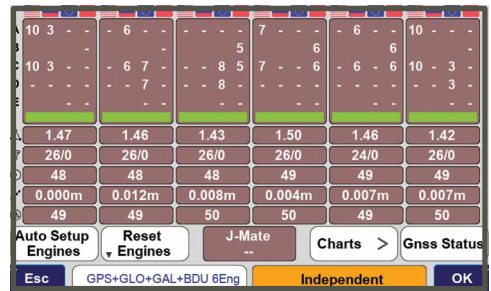
There are three types or RTK engines:

- 1) 6 engine GPS + GLONASS;
- 2) 6-engine multi constellation, and
- 3) 2-engine multi constellation.

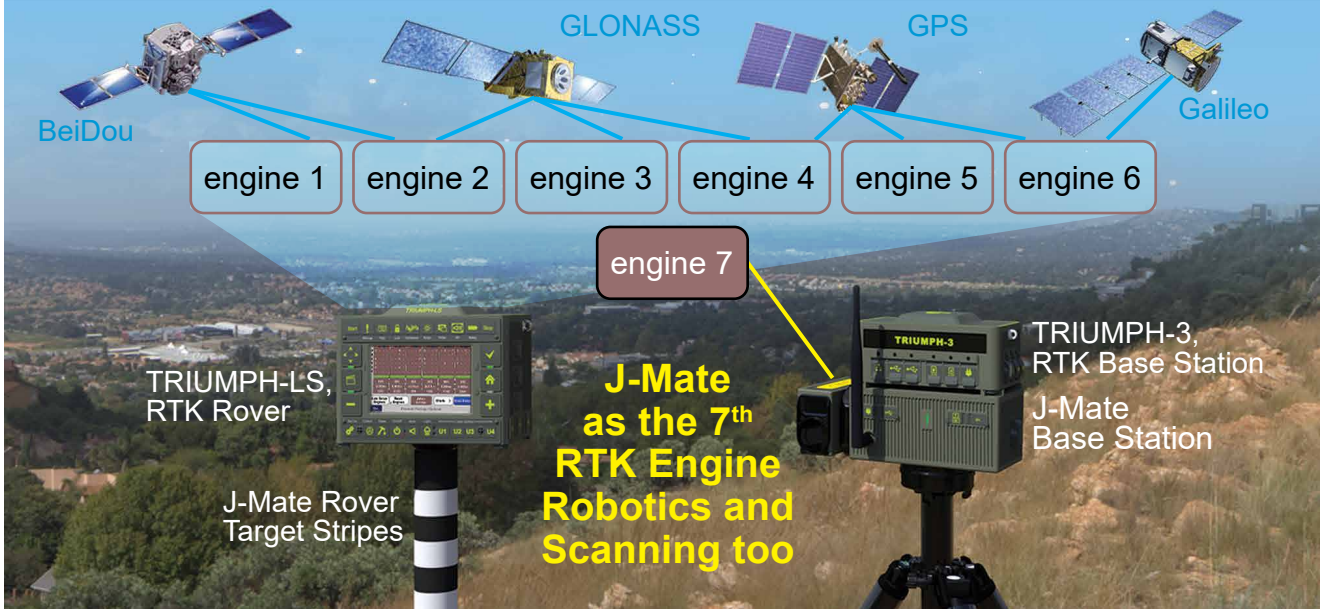
The engine selection button is on the bottom of the “engine view” screens. Changing the engine type takes about one minute for the TRIUMPH-LS to re-boot.

“Auto Setup Engines” button selects signals for each engine automatically. You can click and hold on each engine to assign signals manually. The number assigned to each signal is the “Figure of Merit” of that signal according to the number and strength. “0” is perfect. “10” is very bad.

“GDOP” of used satellites are shown below each engine. “GNSS Status” button shows the Figure of Merit number for each signal. Click on any signal number to get details. The lower the number, the better the signal.



RTK and Optical United



RTK has six engines. We treat the J-Mate solution as the seventh engine of the system.

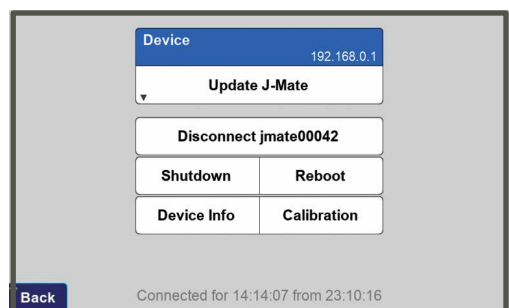
Connecting the TRIUMPH-LS to the J-Mate

Let's set the record straight: J-Mate is not a total-station. J-Mate and TRIUMPH-LS together make the "Total Solution" which is a combination of GNSS, RTK, camera, angle encoders and laser range measurements that together do, conveniently and cost-effectively, a lot more than a total station. For long distances, you use GNSS and for short distances (maximum of 300 feet in Direct mode and 100 feet in Remote/Robotic mode), you use the J-Mate along with the TRIUMPH-LS. Together they provide RTK level accuracy (few centimeters) in ranges from **zero to infinity**.

TRIUMPH-LS communicates with the J-Mate through Wi-Fi. Turn on both the TRIUMPH-LS and the J-Mate.

Click the Setup icon on the TRIUMPH-LS Home screen and click "J-Mate" to connect to J-Mate.

The J-Mate SSID will be in JMatexxxxx format, where xxxxx is your J-Mate's serial number. After Wi-Fi connection is established, click the "Collect" or "Stake" icons according to your job.



See details at www.javad.com

TRIUMPH-3

The new TRIUMPH-3 receiver inherits the best features of our famous TRIUMPH-1M.

Based on our new third generation TRIUMPH chip enclosed in a rugged magnesium alloy housing.



The TRIUMPH-3 receiver can operate as a portable base station for Real-time Kinematic (RTK) applications or as a receiver for post-processing, and as a scientific station collecting information for individual studies, such as ionosphere monitoring and the like.

It includes options for all of the software and hardware features required to perform a wide variety of tasks.

- UHF or Spread Spectrum Radio
- 4G/LTE module
- Wi-Fi 5 GHz and 2.4 GHz (802.11 a, b, g, n, d, e, i)
- Dual-mode Bluetooth and Bluetooth LE
- Full-duplex 10BASE-T/100Base-TX Ethernet port
- High Speed USB 2.0 Host (480 Mbps)
- High Speed USB 2.0 Device (480 Mbps)
- High Capacity microSD Card (microSDHC) up to 128GB Class 10;
- “Lift & Tilt”
- J-Mobile interface



Ideal as a base station