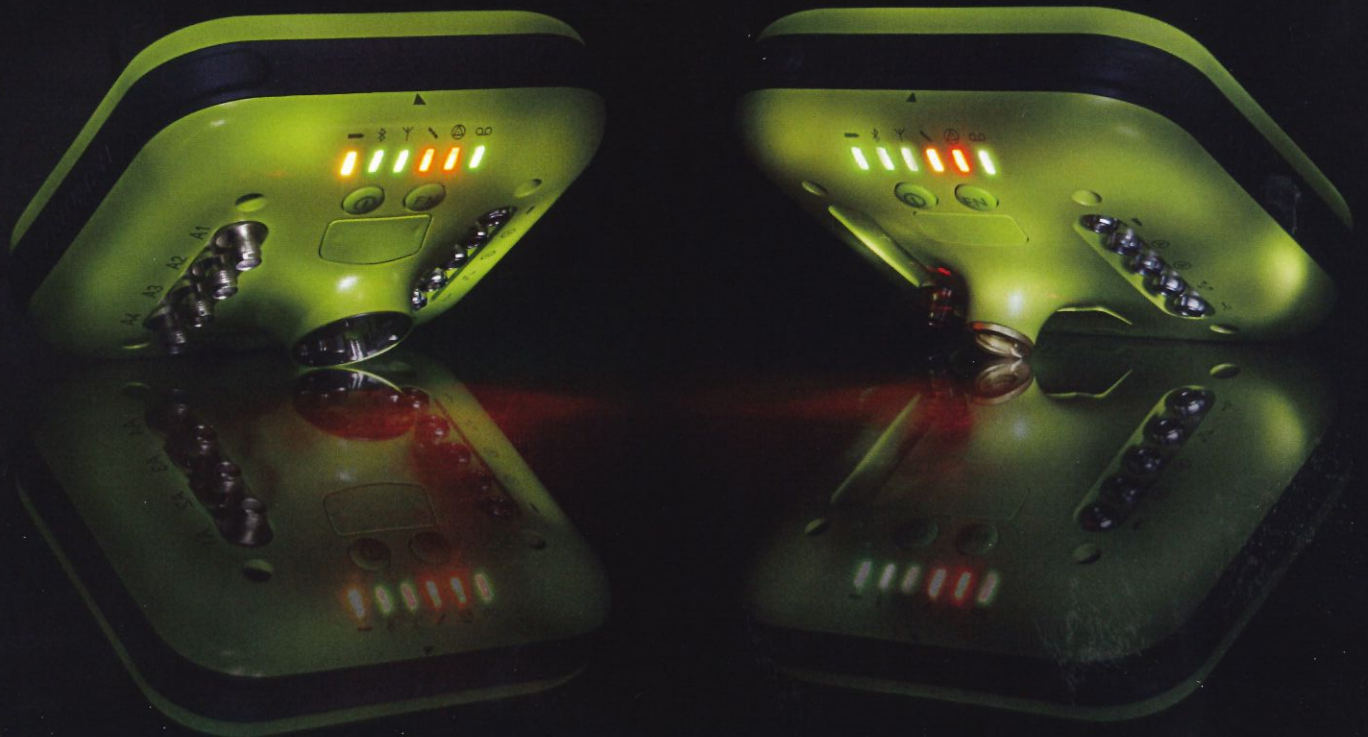




JAVAD
WWW.JAVAD.COM

TRIUMPH 1 TRIUMPH – 4X 216 channels

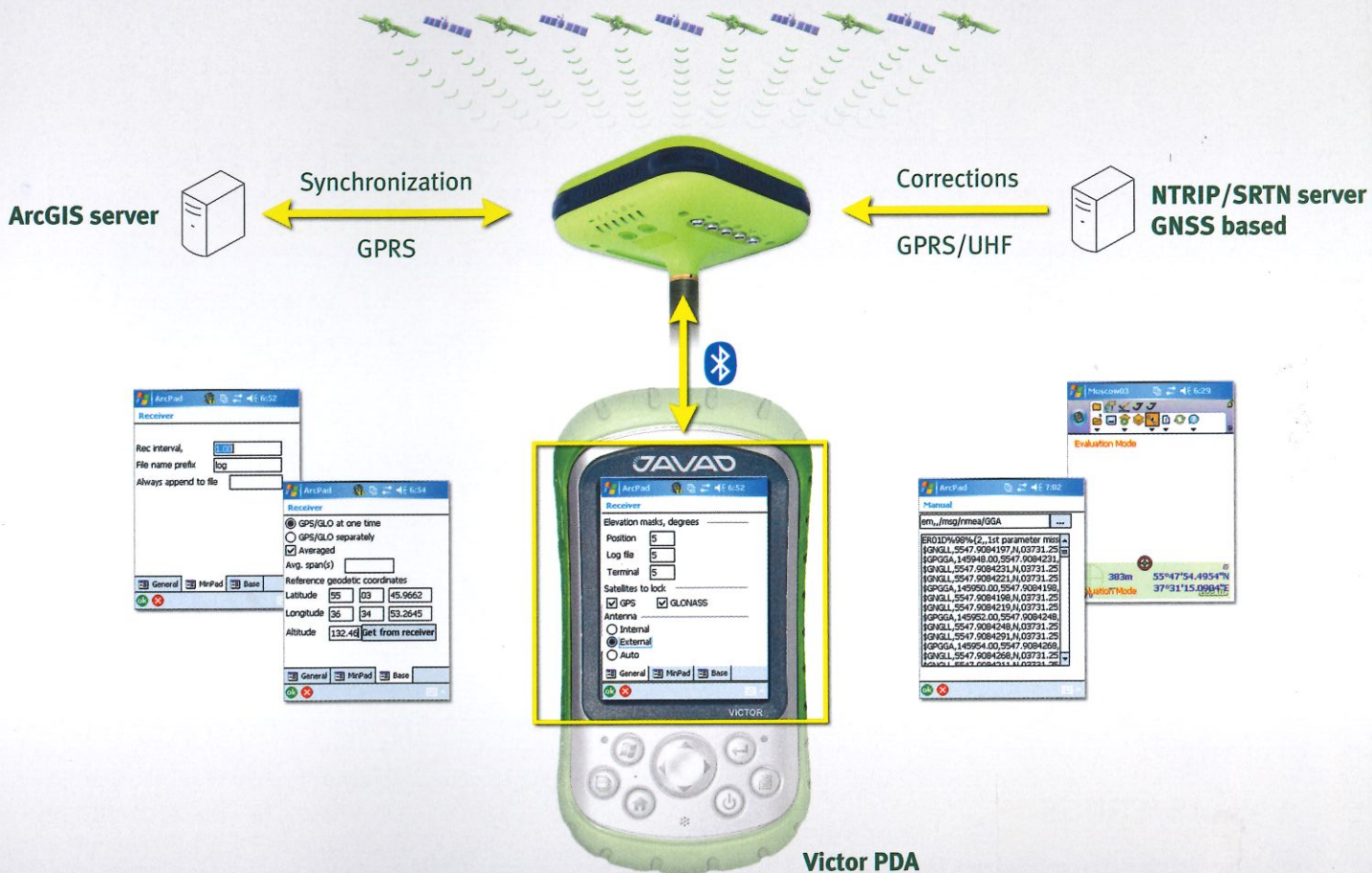
JAVAD ArcPad Extension
in focus



JAVAD ArcPad Extension

In response to a long-standing request from ESRI, JAVAD GNSS is pleased to announce that ArcPad users can now communicate directly with ESRI ArcGIS Server via our Triumph receiver so no additional devices (external radio) or settings are required. Real-time centimeter-level positioning is now possible in the field for ArcPad users.

- JAVAD ArcPad Extension enhances the spectrum of ArcPad's surveying capabilities by adding state of the art JAVAD GNSS solutions. JAVAD ArcPad Extension provides a full range of functions to control the GNSS receiver and manage the surveying process.
- JAVAD ArcPad Extension establishes a connection to the receiver via serial, USB, or Bluetooth and configures the base station parameters that govern the RTK and UHF radio setups, and GSM modem settings.



- Quality control of real-time positioning results are assured in the field. The JAVAD GNSS Victor PDA displays the status/process progress continuously via the Bluetooth connection to the receiver.
- Advanced RTK accuracy and ArcPad vector/raster map visualization capabilities deliver reliable object positioning and a new level of job control in the field.
- JAVAD ArcPad Extension is an optimal ESRI-compatible solution for a wide variety of civil engineering or cartography tasks where centimeter level accuracies are required. At the core of this solution lies highly integrated JAVAD GNSS technology optimized for use with ESRI's GIS software.

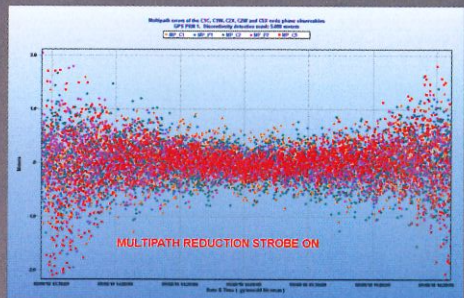
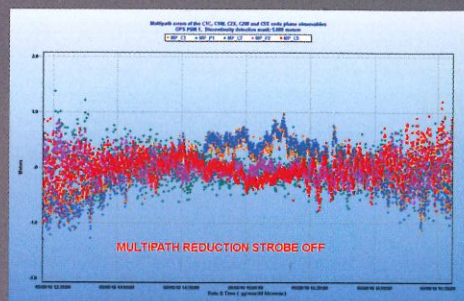
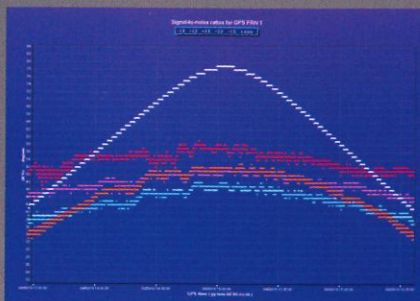
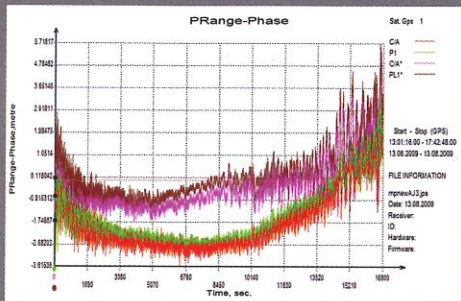
Please see www.javad.com for details.

Javad eliminates GPS SVN 49 anomalies

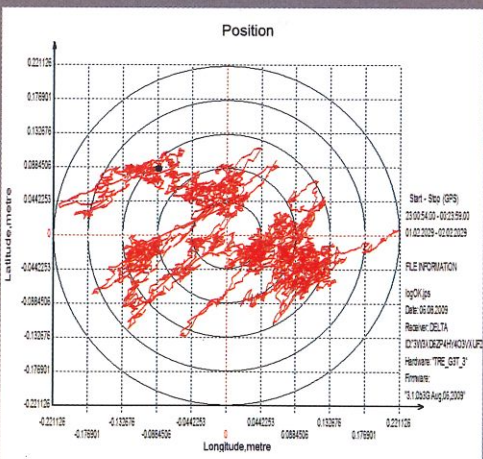
The anomalies in the recently launched SVN49 (PRN1) was a chance to demonstrate the advanced multipath reduction capabilities of JAVAD GNSS Triumph technologies.

Figure below shows SNV49 (PRN1) code-minus-phase plot for usual correlator (magenta - C/A code, brown - P/L1 code) and for "mpnew" (red - C/A code, green - P/L1 code), which shows almost all anomalies and satellite multipath are removed.

Figures below also describe the multipath performance of a pair of Triumph-1 receivers we ran in a zero baseline test. The left figure depicts the code multipath errors of the GPS PRN1 pseudoranges measured by the receiver with the 'normal' strobe enabled. The right figure shows the code multipath as estimated for the second receiver, where the optimized multipath reduction strobe was enabled. The center screenshot displays the signal-to-noise ratios and elevation angles of GPS SVN49 over the time interval analyzed.



The optimized multipath mitigation technique implemented in our Triumph technology allows nearly complete compensation for the satellite-induced multipath anomalies that would otherwise badly affect GPS SVN49 measurements. The same multipath reduction capabilities which removed the SVN49 multipath anomalies can remove the multipath effects which are a major source of error in precision positioning.



JAVAD GNSS receivers tracked all current and future Galileo satellite signals

Sat	(Fn)	E1	Az	C/A	P1	P2	TC	Count	F_C/A	F_P1	F_P2	Use
Gps	1	29	--	46	0	0	63	3818	0xA153	-----	-----	Y (0)
Gps	3	24	--	47	0	0	86	4986	0xA153	-----	-----	Y (0)
Gps	6	27	--	46	0	0	86	4986	0xA153	-----	-----	Y (0)
Gps	11	14	--	44	0	0	77	4622	0xA153	-----	-----	Y (0)
Gps	14	20	--	45	0	0	86	4986	0xA153	-----	-----	Y (0)
Gps	16	78	--	49	0	0	86	4986	0xA153	-----	-----	Y (0)
Gps	18	7	--	47	0	0	86	4986	0xA153	-----	-----	Y (0)
Gps	19	10	--	48	0	0	86	4986	0xA153	-----	-----	Y (0)
Gps	20	7	--	47	0	0	4	272	0xA153	-----	-----	Y (0)
Gps	22	38	--	47	0	0	86	4986	0xA153	-----	-----	Y (0)
Gps	31	23	--	45	0	0	86	4986	0xA153	-----	-----	Y (0)
Gln	6 (-2)	24	--	51	0	0	87	4986	0xA153	-----	-----	Y (0)
Gln	7 (-1)	28	--	51	0	0	87	4986	0xA153	-----	-----	Y (0)
Gln	9 (1)	21	--	50	0	0	87	4986	0xA153	-----	-----	Y (0)
Gln	10 (2)	75	--	52	0	0	87	4986	0xA153	-----	-----	Y (0)
Gln	11 (3)	44	--	50	0	0	81	4911	0xA153	-----	-----	Y (0)
Gal	71	18	--	50	0	0	85	4986	0xA153	-----	-----	Y (0)
Gal	78	18	--	50	0	0	81	4892	0xA153	-----	-----	Y (0)
Gal	79	30	--	49	0	0	85	4986	0xA153	-----	-----	Y (0)
Gal	83	23	--	48	0	0	59	3572	0xA153	-----	-----	Y (0)
Gal	84	70	--	49	0	0	86	4986	0xA153	-----	-----	Y (0)
Gal	85	58	--	50	0	0	84	4986	0xA153	-----	-----	Y (0)
Gal	86	13	--	49	0	0	86	4986	0xA153	-----	-----	Y (0)
Gal	89	33	--	50	0	0	85	4986	0xA153	-----	-----	Y (0)
Gal	90	35	--	51	0	0	86	4986	0xA153	-----	-----	Y (0)
Gal	91	11	--	51	0	0	86	4986	0xA153	-----	-----	Y (0)
Gal	97	8	--	50	0	0	29	1742	0xA153	-----	-----	Y (0)

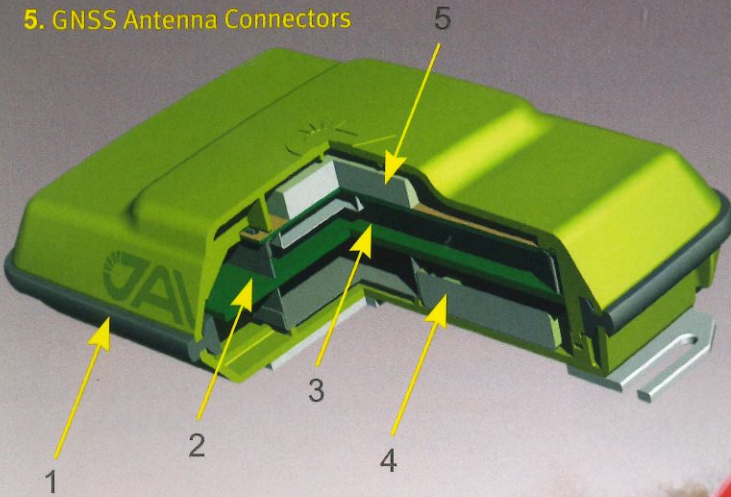
JAVAD GNSS receivers successfully tracked all Galileo satellites from Spirent simulator and produced Galileo-only and triple satellite (Gps+Glonass+Galileo) positions. Up to 27 satellites were tracked simultaneously.

The experiments were performed jointly by Spirent and JAVAD GNSS.

Actual size



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



GISmore

stand-alone or
inside the hat

Bluetooth wireless connection to GISmore

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

Many ways to use



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.



GPS + GLONASS + Galileo

TRIUMPH 1



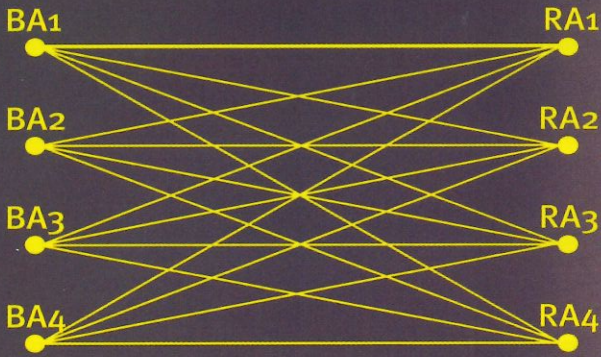
One base—one rover, one baseline

RTK with TRIUMPH – 4x is based on 16 baseline calculations instead of one. See details in www.javad.com.



4x4... ALL WILL DRIVE... RTK!

TRIUMPH-4x



4 base — 4 rover, 16 baselines



Please see www.javad.com for details

Software solutions for all tasks

Justin

A comprehensive Survey and GIS software

Justin has integrated native tools to use ESRI or MapInfo cartography windows.

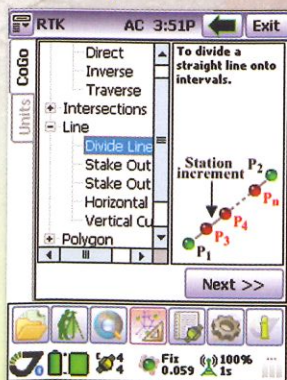
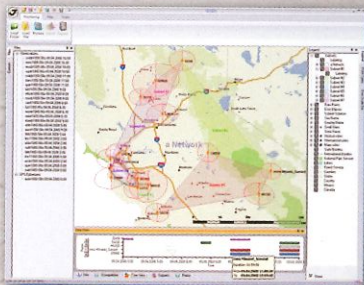
It can import data files as well as whole folders. Justin employs special technique to process high rover data rates (up to 100 Hz) using low base data rates. Other features include single epoch static solution, manual postprocessing with time line chart, using vertical profile to filter out suspected data and scientific data analysis and viewer.

Victor

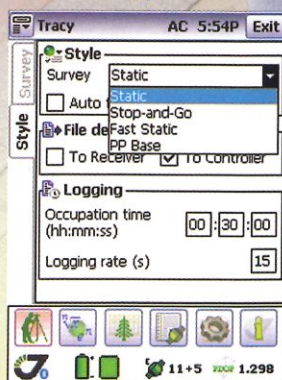
Victor is pre-loaded with our Tracy field software. When turned on, Victor automatically connects to TRIUMPH-1, TRIUMPH-4X or GISmore via its internal Bluetooth and guides you through field operations. It manages the GNSS receiver and modem operations automatically.

Giodis

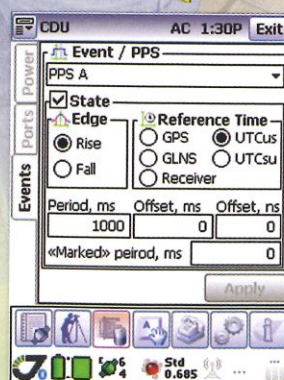
Full-featured office post-processing software



Support for survey and stakeout projects



Static, Fast Static and Stop&Go surveying



Configuration of all hardware

- **Lightweight** (17 ounces; 482 grams) magnesium case with easy-to-grip over-molding
- **Operating temperature** -22°F to 122°F (-30°C to 50°C)
- **Connectivity** via built in Bluetooth, USB Host and Client, plus 9-pin RS-232 and optional WiFi and Modems
- **Rechargeable, field replaceable, Li-Ion battery** It operates for more than 20 hours on one charge (3 to 5 hours of charging time)

Tracy

A versatile and powerful field software

Software for Windows Mobile OS to control receivers, automated GNSS post processing surveying tasks (Static, Fast Static, Stop&Go, Data Acquisition), and to perform RTK survey and stakeout tasks.

Other Receivers



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 connectors 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
- BLUETOOTH

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-PPSB • EventA • EventB • Antenna • IRIG • Modem Antenna • Bluetooth Antenna

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