



TR-G2

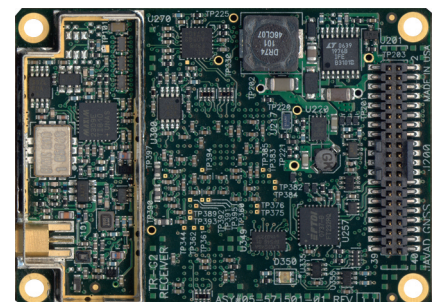
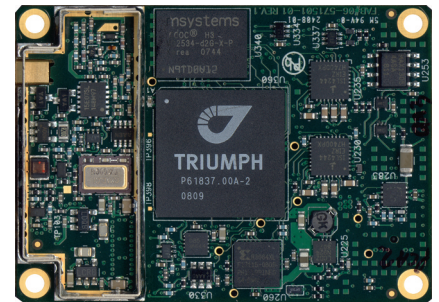
GPS L1
Galileo E1

TR-G2 OEM board is based on our TRIUMPH Technology implemented in our TRIUMPH Chip. For the first time in the GNSS history we offer up to 100 Hz RTK. The TR-G2 board tracks GPS L1 and Galileo E1.

The on-board power supply on TR-G2 OEM board accepts any voltage from +4.5 to +40 volts and delivers clean filtered voltage where needed. This eliminates the risk of power contamination (ripples) that can be created when clean power is generated elsewhere and delivered to the board via cables.

TR-G2 board also includes driver for one LED. In addition, the board comes with large amount of flash for data storage. The CAN interface in TR-G2 board is provided complete with all associated hardware and firmware, not just the CAN bus. The same is true with all the serial RS232 ports in our board. Simply stated, additional functions are not needed to incorporate any of our TR-G2 OEM board in most applications.

In addition to timing strobe and event marker, the TR-G2 OEM board includes the option of complete IRIG timing system.



TR-G2 OEM Board

(rev. 5.1 and later)

Description	I/O	Signal Name	Pin #	Pin #	Signal Name	I/O	Description
Power Ground		PGND	1	2	PGND		Power Ground
+4.5 to +40 VDC Power Input	I	PWR_IN	3	4	PWR_IN	I	+4.5 to +40 VDC Power Input
Reserved		-	5	6	FUO		Factory use only, must be left open
Reserved		-	7	8	FUO		Factory use only, must be left open
Active Low Reset input *1	I	RESET_IN*	9	10	GND		Signal Ground
Serial port A CTS line	I	CTSA	11	12	TXDA	O	Serial port A TXD line
Serial port A RTS line	O	RTSA	13	14	RXDA	I	Serial port A RXD line
Signal Ground		GND	15	16	CTSB/RXB+	I	Serial port B: RS232 CTS line or RS422 RX+ line
Serial port B: RS232 TXD line or RS422 TX- line	O	TXDB/TXB-	17	18	RTSB/TXB+	O	Serial port B: RS232 RTS line or RS422 TX+ line
Serial port B: RS232 RXD line or RS422 RX- line	I	RXDB/RXB-	19	20	LED1_GRN	O	External LED Control *2
External LED Control *2	O	LED1_RED	21	22	-		Reserved
Reserved		-	23	24	IRIG_OUT	O	IRIG port output line *3
USB port Power Input line	I	USB_PWR	25	26	GND		Signal Ground
USB port D+ line	I/O	USB_D+	27	28	USB_D-	I/O	USB port D- line
1 Puls Per Second output *4	O	1PPS	29	30	GND		Signal Ground
Event input *5	I	EVENT	31	32	GPIO0	I/O	Configurable Logic-Level I/O 0 line
Configurable Logic-Level I/O 1 line	I/O	GPIO1	33	34	GND		Signal Ground
CAN port CAN-H line	I/O	CANH	35	36	CANL	I/O	CAN port CAN-L line
Serial port D: RS232 RTS line or RS422 TX+ line	O	RTSD/TXD+	37	38	TXDD/TXD-	O	Serial port D: RS232 TXD line or RS422 TX- line
Serial port D: RS232 CTS line or RS422 RX+ line	I	CTSD/RXD+	39	40	RXDD/RXD-	I	Serial port D: RS232 RXD line or RS422 RX- line

*1. Connect to ground to activate. Internal pull-up 2.2 kOhm to +3V.
 *2. LED1_GRN and LED1_RED are used to control the STAT LED of the MinPad. The output is a +3V driver in series with 100 Ohm resistor for each LED. LED should be with common cathode.
 *3. AM sine-wave signal; 2.1Vp-p (Mark), 0.7Vp-p (Space).

*4. Voh > 2.0V (typ) at 50 Ohm load.
 *5. Internal pull-up 5 kOhm to +3V
 Digital connector: Micro Header, 2x20 pos, 0.050" pitch. Samtec p/n FTSH-120-01-L-DV-K-A.
 RF connector: MMCX Jack, edge mount. Amphenol p/n 908-22100. The central pin of the connector is power supply for LNA, +5 VDC with sourced current up to 0.1A.

TRACKING FEATURES

- Total 216 channels: all-in-view
- GPS L1
- Galileo E1
- SBAS
- Advanced Multipath Reduction
- Fast acquisition channels
- High accuracy velocity measurement
- Almost unlimited altitude and velocity (for authorized users)

DATA FEATURES

- Up to 100 Hz update rate for real time position and raw data (code and carrier)
- 10 cm code phase and 1 mm carrier phase ports

precision

- Hardware Viterbi decoder
- RTCM SC104 versions 2.x, and 3.x Input/Output
- NMEA 0183 versions 2.x and 3.0 Output
- Code Differential Rover
- Code Differential Base
- Geoid and Magnetic Variation models
- RAIM
- Different DATUMs support
- Output of grid coordinates

DATA STORAGE

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

INPUT/OUTPUT

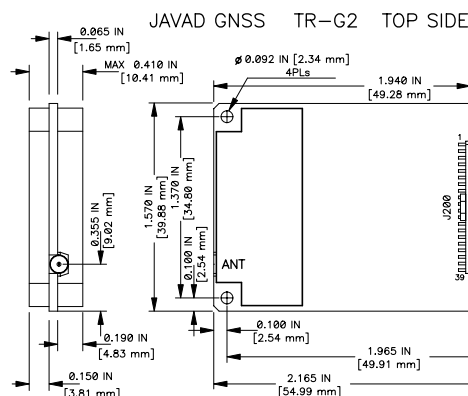
- High speed RS232 serial port (up to 460.8 Kbps)
- Two high speed configurable RS232 or RS422 serial ports (up to 460.8 Kbps)
- Full speed USB device port (12 Mbps)
- CAN interface
- IRIG timecode output
- One Event Marker input
- One 1 PPS output synchronized to GPS or UTC
- One external LED driver
- Two Configurable Logic-Level GPIO ports

ELECTRICAL

- On-board power supply accepts any unregulated voltage between +4.5 to +40 Volts
- Power consumption: 1.2 Watt (typ)

ENVIRONMENTAL&PHYSICAL

- Operating Temperature: -40°C to +80°C
- Storage Temperature: -40°C to +85°C
- High shock and vibration resistance
- Dimensions: 55x40 mm
- Weight: 21 g
- Connectors: 40 pins for digital, MMCX for antenna



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