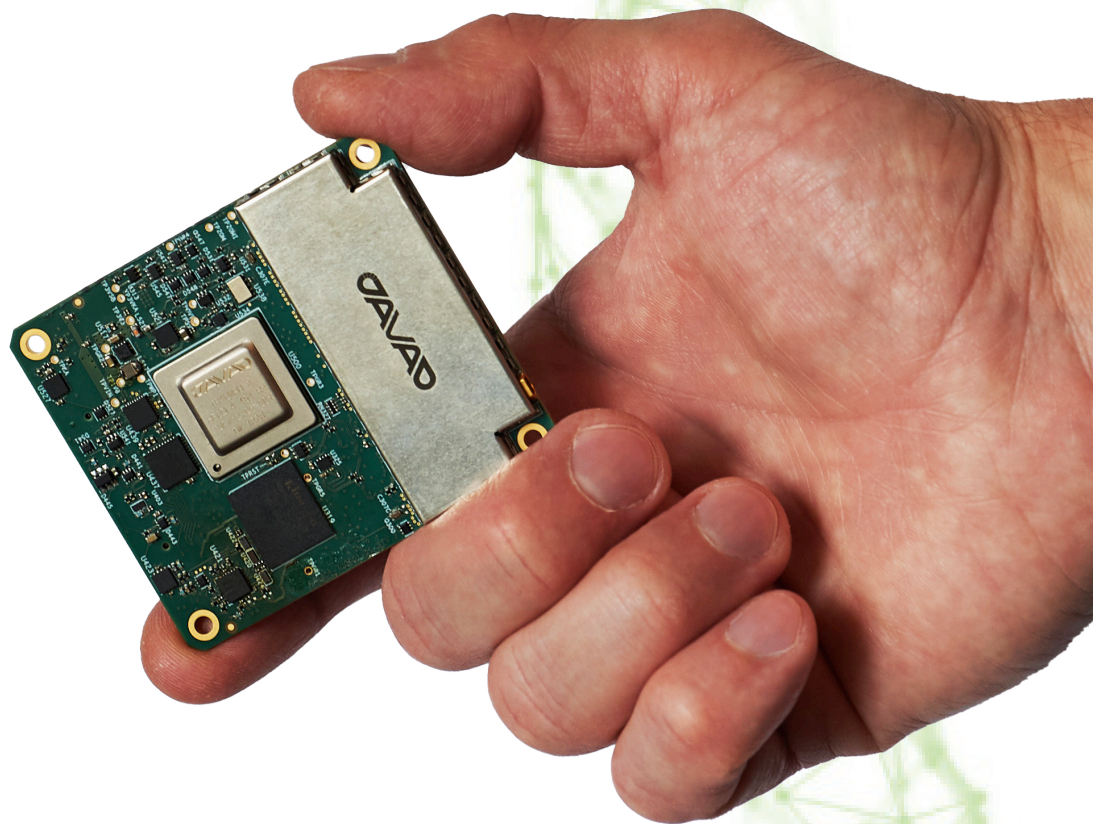




# TR-3S

High Performance Compact OEM Board



## Key Features

- 874 Channels
- GPS, GLONASS, Galileo, BeiDou, QZSS,
- IRNSS, SBAS, L-Band
- Advanced Multipath Reduction
- Serial, USB
- CAN, IRIG, Event Mark, 1PPS
- 16 GB Memory

The TR-3S is a small-sized OEM GNSS board with 874 channels for all-in-view tracking capability of multi-constellation, multi-frequency GNSS

# TR-3S Specifications



<b>Number of Channels</b>	874	
<b>GNSS Constellations</b>	GPS GLONASS Galileo BeiDou QZSS  BeiDou SBAS IRNSS L-band	C/A, L1C (P+D) including TMBOC (6,1,4/33) , P1, P2, L2C (L+M), L5 (I+Q) C/A, P1, P2, L2C, L3 (I+Q) E1 (B+C) including CBOC (6,1,1/11), E5A (I+Q), E5B (I+Q), AltBoc, E6 (B+C) B1, B1C(P+D) including TMBOC(6,1,4/33) , B2B(I+Q), B2, B2A(I+Q), AltBoc, B3 C/A, L1C (P+D) including TMBOC (6,1,4/33) , L2C (L+M), L5 (I+Q), L6 (L61/L62), L1S, L1Sb, L5SL1, L5 (P+D) B1, B1C (P+D) including TMBOC (6,1,4/33) , B2B (I+Q), B2, B2A (I+Q), AltBoc, B3 L1, L5 (P+D) L5, S 1525-1560 MHz
<b>Tracking Features</b>	Spoofing detection Advanced Multipath Reduction Fast acquisition channels High accuracy velocity measurement	
<b>Input/Output</b>	RS232 RS232/RS422 USB to RS232 IRIG Event Marker 1PPS CAN Logic-Level GPIO RTCM SC104 NMEA 0183 Spectrum BINEX	One serial port (up to 460.8 Kbps) Two configurable serial ports (up to 460.8 Kbps) Built-in FTDI converter (12Mbps USB 2.0 FullSpeed. Up to 1.5Mbps RS232 speed) Timecode output One input One output synchronized to GPS or UTC interface Two configurable ports Versions 2.x and 3.x Input/Output Versions 2.x and 3.0 Output Data output Data output
<b>Data Features</b>	Up to 200 Hz update rate for real time position and raw data (code and carrier) 10 cm code phase and 1 mm carrier phase precision Hardware Viterbi decoder Hardware Reed-Solomon and LDPC decoders Code Differential Rover/Base Geoid and Magnetic Variation models RAIM Different DATUMs support Output of grid coordinates	
<b>Storage</b>	Memory	Up to 16 GB of onboard non-removable for data storage (TBD)
<b>Time for First Fix</b>	Cold Start Warm Start Reacquisition	< 35 s < 5 s < 1 second
<b>Position Accuracy</b>	Autonomous DGPS RTK Static/Fast Static	< 2 m < 0.5 m Horizontal: 1 cm + 1 ppm Vertical: 1.5 cm + 1 ppm Horizontal: 0.3 cm + 0.1 ppm Vertical: 0.35 cm + 0.4 ppm
<b>Physical &amp; Electrical</b>	Connectors Size Weight	40 pins for digital, MMCX for antenna 66 x 57 x 11 mm (2.59 x 2.24 x 0.43 in) 30 g (0.066 lbs)
<b>Environmental</b>	Operating t° Storage t° Vibration	-40° C to +80° C -40° C to +85° C High shock and vibration resistance

GNSS performance is dependent on signal quality, satellite geometry, ionospheric and tropospheric conditions, baseline length, multipath effects and RF interference. Specifications may be changed without notice.