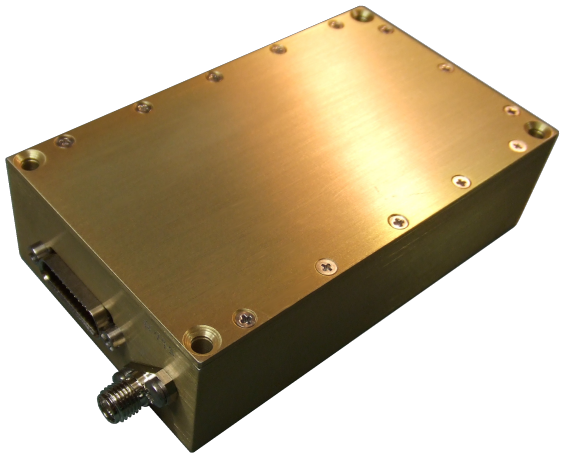
GPS-601 Satellite GNSS Receiver

The GPS-601 Satellite GNSS Receiver is an upgraded version of our GPS12-V1, one of SpaceQuest's best selling components of all time. The GPS-601 contains an improved core and an expanded interface card improving the components available features, accuracy, and compatibility, while still relying on the foundation of a space qualified and proven design.

Key Features

- 120 Channel GNSS Receiver
- Fast Time to First Fix
- Space Qualified Design
- 1Hz Pulse Per Second Output
- Build Time Interface Options
- Tracks GPS, GLONASS, Galileo, and BeiDou



Performance Specifications

Position Accuracy:	<5 meters RMS
Velocity Accuracy:	< 0.10 meters/sec RMS
Time Accuracy:	20 ηsec RMS
Time to First Fix:	Cold Start: 90 seconds Warm Start: 45 seconds Hot Start: 30 seconds
Channels:	120 Channels

GPS-601

Electrical and RF

Input Voltage:	3.3V Regulated, 5-20V Unregulated, or 6-42V Unregulated (Build Time Option)
Power Consumption:	1.0W@3.3V, 1.2W@7.5V, or 1.4W@28V (Includes Active Antenna)
Data Interface:	2 Serial Ports (LVTTL or RS-422) with Binary and ASCII Messages up to 921 kbps, 1 CAN Port up to 1Mbps (Optional), 1 USB2.0 Port (Optional)
Available Signals:	LVTTL Outputs: Pulse Per Second, Position Valid, Variable Frequency, LVTTL Inputs: Reset and 2 Edge-Trigger
I/O Messages:	Output: Over 150 Output Message Types (Position, Velocity, Time, etc.) Input: Over 100 Input Command Types
RF Inputs:	1 Active Antenna Male SMA Input
RF Levels:	L1: -122 to -87 (signal) dBm, -161 to -141 (noise) dBm/Hz

Mechanical and Environmental

Mass:	160 grams
Size:	93.98 mm x 55.88 mm x 26.04 mm (3.7” x 2.2” x 1.025”)
Operating Temperature:	-40°C to +85°C
Storage Temperature:	-55°C to +95°C
Radiation:	> 10 kRads

Product Line Heritage

SpaceQuest has delivered over 42 GPS Receivers, of which 18 have launched to date. A representative list of past missions and customers is shown below.

- AprizeSats 1, 2, 3, 4, 5, 8 and 10
- exactView 5, 6, and 11 (exactEarth)
- Genesis 1, 2 (Bigelow Aerospace)
- PicoSat (Naval Postgraduate School)
- M-SAT (Univ. of Missouri)
- FASTSat (NASA MSFC)
- TacSat-3 (Swales)
- Dynetics
- FalconSat-5 and 6 (USAFA)
- iSAT (NASA MSFC)
- PROX-1 (Georgia Tech)
- KAIST

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