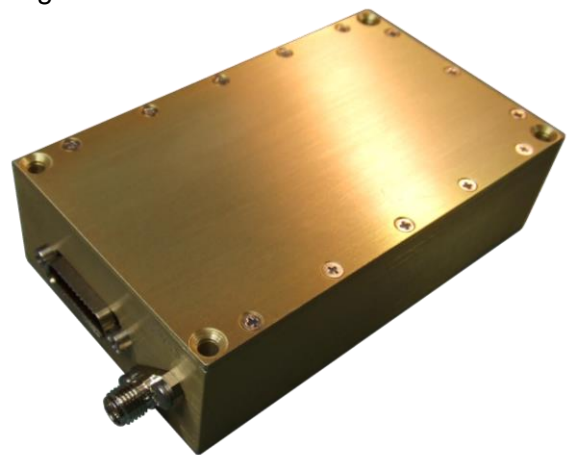


# GPS-701 Satellite GNSS Receiver

The GPS-701 Satellite GNSS Receiver is an upgraded version of our GPS12-V1, one of SpaceQuest's best selling components of all time. The GPS-701 contains an improved core and an expanded interface board that improves the unit's functionality, accuracy and compatibility, while still relying on the foundation of a space qualified and proven design.

## Key Features

- 555 Channel GNSS Receiver
- Fast Time to First Fix
- Space Qualified Design
- 1Hz Pulse Per Second Output
- Build Time Interface Options



## Performance Specifications

Model:	GPS-701-A Single Frequency	GPS-701-B Dual Frequency	GPS-701-C All Frequencies
Frequencies:	L1, E1, B1	+ L2, E5b, B2	+ L5, E5a, AltBOC, B3
Constellations:	GPS, GPS+GLO, GPS+GLO+GAL	GPS, GPS+GLO, GPS+GLO+BDS	GPS, GPS+GLO GPS+GLO+BDS, GPS+GLO+GAL+BDS
Position Accuracy:	<5 meters RMS	TBD	TBD
Velocity Accuracy:	< 0.10 meters/sec RMS	TBD	TBD
Time Accuracy:	20 nsec RMS	TBD	TBD
Time to First Fix:	Cold Start: 90s Warm Start: 45s Hot Start: 30s	TBD	TBD

## Electrical and RF

## GPS-701

Input Voltage:	3.3V Regulated, 4.5-20V Unregulated, or 8-42V Unregulated (Build Time Option)
Power Consumption:	A: 0.9W@3.3V, 1.0W@7.5V, 1.2W@28V (Includes Active Antenna) B: 1.3W@3.3V, 1.4W@7.5V, or 1.6W@28V (Includes Active Antenna) C: 1.8W@3.3V, 2.0W@7.5V, or 2.2W@28V (Includes Active Antenna)
Data Interface:	2 Serial Ports (LVCMOS or RS-422) with Binary and ASCII Messages up to 460 kbps, 1 USB2.0 Port
Available Signals:	LVCMOS Outputs: Pulse Per Second, Position Valid, Variable Frequency LVCMOS 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 SMA Female for Active Antenna

## 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 (USAF)
- iSAT (NASA MSFC)
- PROX-1 (Georgia Tech)
- KAIST