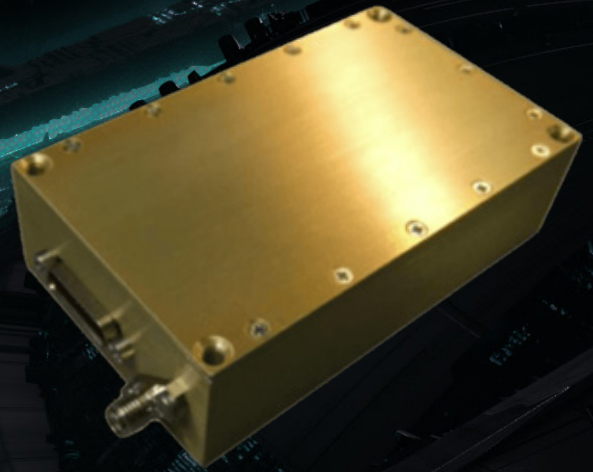




Satellite GNSS Receiver

# GNSS-700 SERIES

## COMPACT YET POWERFUL GNSS RECEIVER



The flight proven GNSS-700 Series Satellite GNSS (Global Navigation Satellite System) Receivers are an upgraded version of our GPS12-V1, one of AAC SpaceQuest's bestselling components of all time. Our compact yet powerful next generation GNSS-701/702/703 Satellite GNSS Receivers have an improved core and an expanded interface card improving the components available features, accuracy, and compatibility, while still relying on the foundation of a proven design with over a decade of heritage. GNSS-700 Series Receivers are used for accurate determination of orbital position of the satellite and accurate knowledge of time. Our AAC SpaceQuest GPS receivers have been used on missions such as AprizeSats 1, 2, 3, 4, 5, 8 and 10, Genesis 1, 2 (Bigelow Aerospace), exact-View 5, 6, and 11 (exactEarth), M-SAT (Univ. of Missouri), FalconSat-5 and 6 (USAF), FASTSat (NASA MSFC), and many more.

### KEY HIGHLIGHTS:

- 55 Channel GNSS Receiver
- Fast Time to First Fix
- Position Accuracy 701 = 1.5m, 702 = 1.2m
- < 0.03 m/s Velocity Accuracy
- 1Hz Pulse Per Second Output
- Build Time Interface Options
- Tracks GPS, GLONASS, Galileo, and BeiDou



### RELIABILITY

Flight proven across multiple mission applications for a range of customer requirements this readily available solution has inherited advanced error detection and correction.



### PERFORMANCE

The space qualified GNSS-701 functions with low power consumption to achieve high performance, up to 1Hz Pulse Per Second Output.



### HERITAGE

This solution has over a decade of heritage. AAC SpaceQuest has delivered over 42 GPS Receivers, of which 18 have launched to date.

# TECHNICAL SPECIFICATIONS

Performance Specifications	GNSS-701 Single Frequency	GNSS-702 Dual Frequency	GNSS-703 Multi-Frequency
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:	1.5 meters	1.2 meters	TBD
Velocity Accuracy:	<0.03 m/s RMS	TBD	TBD
Time Accuracy:	20 ns RMS	TBD	TBD
Time to First Fix:	Cold Start: 40s Hot Start: 19s	TBD	TBD

Electrical and RF	
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:	188 (+/- 5) grams
Size (incl. connectors):	103.51 mm x 55.88 mm x 26.98 mm (4.075" x 2.2" x 1.062")
Operating Temperature:	-40°C to +85°C
Storage Temperature:	-55°C to +95°C
Radiation:	> 10 kRads

To make an enquiry, request a quotation or learn about AAC Clyde Space's other products and services, please contact:

[enquiries@aac-clydespace.com](mailto:enquiries@aac-clydespace.com)



**#SPACEISAWESOME**

[www.aac-clyde.space](http://www.aac-clyde.space)

Copyright AAC Clyde Space 2022. All rights reserved. All information subject to change. Release date 25 May 2022.