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GPS Module Comparison

Below is a comparison table of the GPS modules sold by Parallax. This chart also includes our breadboard friendly **GPS Module (#28146)**, which features a co-processor for ask/receive making it particularly useful for BASIC Stamp projects. The modules below send out the entire NMEA0183 GPS string.

Choosing a GPS module is easy. We sell high-performance modules, which track up to 20 satellites with quick signal acquisition. All of these are compatible with the BASIC Stamp and Propeller, too. You will find source code examples on each product page.



Parallax GPS Module

PMB-648 GPS SiRF
Internal AntennaPMB-688 GPS SiRF
Internal / External
AntennaRXM-SG GPS Module
w/Ext AntennaVPN1513 GPS Receiver
Module**General**

Price:	\$79.99	\$34.99	\$39.99	\$79.99	\$59.99
Stock #	28146	28500	28501	28505	28506
Antenna	Built-in Patch	Built-in Patch	Built-in Patch or optional external (#28502)	Included External Antenna	
Connections	Breadboard-friendly 4-pin SIP	Included cable connects to breadboard or prototyp with stripped wires	Included cable connects to breadboard or prototype with stripped wires	Four general purpose I/O pins provide expansion for pin intensive projects	Breadboard-friendly 4-pin SIP
Special Features	2 modes of operation: RAW - Unformatted data Smart - Syntax Formatted data	TTL, RS232 Outputs	TTL outputs	3.3 V CMOS asynchronous serial @ 9600 baud default for microcontrollers, or USB for PC	2 modes of operation: RAW or Smart, plus fully reprogrammable Propeller w/ access to all I/O pins

Specifications

GPS Controller	SiRFstar III				
Receiver (L1 1575.42 MHz)	Tracking up to 20 Satellites				
Accuracy	Position: 2DRMS appx. 5m, WAAS support Velocity: 0.1 m/s Time: +/- 1 us				
Acquisition Time	Cold start: 42s (avg.) Warm start: 38s (avg.) Hot start: 1s (min.)			Cold start: 35s (avg.) Warm start: 15s (avg.) Hot start: 2s (min.)	Cold start: 42s (avg.) Warm start: 38s (avg.) Hot start: 1s (min.)
Sensitivity	Acquisition: -148 dBm Tracking: -159dBm				
Dynamics	Altitude: 18000m (max) Velocity: 515 m/s (max) Acceleration: +/- 4g (max)				
Navigation update rate	Once per second (Min.)				
Serial Port	TTL only	TTL / RS-232	TTL only	3.3 V CMOS asynchronous serial	TTL only
Baud Rate	4800 bps	4800 bps (Optional 9600, 19200, 38400)		9600 bps (Optional 4800, 19200, 38400, 57600)	9600 bps

Output message	NMEA 0183 v2.2 GGA, GSV, GSA, RMC (optional VTG, GLL)		NMEA 0183 v2.2 GGA, GSA, GVC, RMC (Optional: VTG GLL ZDA)
Datum	WGS84		
Power Supply	3.3V~5V		5V only
Power consumption	Typ 65 mA@5V	Typ 50 mA@5V	80 mA@5V
LED function	Always on: Valid Signal Flashing: Not Valid Signal Off: no power		
Operating Temperature	-20C ~ +70C	-28C ~ +78C	-30C ~ +85C
Humidity	5%-95%		

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