



Union Rich Development Corporation  
5F, No.7, Lane 50, Sec. 3 Nan-Kang Rd., Taipei, Taiwan  
Tel: 886-2-2651-6779 Fax: 886-2-2786-3070  
Website: <http://www.altina.com.tw>

## The Feature and Specification of GGM-309U

Product Name : GGM-309U(USB Connector)



### 1 PRODUCT FEATURE

- Ø SiRF Star III Low Power Consumption Chipset
- Ø Integrated ARM7TDMI CPU
- Ø Cold Start : within 50 seconds
- Ø 20 parallel satellite-tracking channels for fast acquisition and reacquisition
- Ø A rechargeable battery sustains internal clock and memory. The battery is recharged during normal operation
- Ø Support NMEA 0183 V2.2 command
- Ø Differential capability utilizes real-time RTCM corrections producing 1-5 meter position accuracy.
- Ø User initialization is not required.

- Ø Dual communication channels and user selectable baud rates allow maximum interface capability and flexibility.
- Ø Optional communication levels, RS-232 and TTL meet ordinary application and new fashions of connecting PDA with TTL or RS-232 output.
- Ø Built-in WAAS Demodulator.
- Ø Water proof design
- Ø LED display status: The LED provides users visible positioning status. LED “BLINKING” when power connected and “ON” when GGM309U got positioned.
- Ø FLASH base program memory

## 2 SPECIFICATION

### Key Feture

Frequency	L1, 1575.42 MHz
C/A Code	1.023 MHz chip rate
Channels	20
Sensitivity	Acquisition : -144~ -149 dBm Tracking : -155~ -160dBm

### Non DGPS (Differential GPS)

Position	5 to 25 meter CEP, without SA
Horizontal	
Velocity	0.1 meter/second, without SA
Time	1 microsecond synchronized GPS time

### DGPS (Differential GPS)

Position	1 to 5 meter, typical
Horizontal	
Velocity	0.05 meter/second, typical
EGNOS/WAAS	< 2.2 m, horizontal 95% of time
Datum	WGS-84

### Performance

Hot start	2 sec., average
Warm start	38 sec., average
Cold start	50 sec., average
Reacquisition	0.1 sec. average

GPS Protocol	Default: NMEA 0183 V2.2 (Secondary: SiRF binary)
GPS Output Data	SiRF binary >> position, velocity, altitude, status and control ; NMEA 0183 protocol, and supports command: GGA, GSA, GSV, RMC, VTG, GLL (VTG and GLL are optional)
GPS transfer rate	Software command setting (Default : 4800,n,8,1 for NMEA )
Acceleration Limit	Less than 4g
Altitude Limit	18,000 meters (60,000 feet) ma
Velocity Limit	515 meters/sec. (1,000 knots) max.
Jerk Limit	20 meters/second, max
Operating	-40°C to +85°C(internal temperature).
Storage	-45°C to +100°C
Input Voltage	+4.75 ~ 5.5 VDC without accessories.
Power consumption	<80mA at 4.5- 5.5V input
Dimension	2.36" x 1.57" x 0.7" (60mm x 40mm x 17.83mm)
Cable Length	60" (1500mm)