

GLOBALSAT GPS Receiver

Hardware Specification

Product No : MR-350 S4

User Manual Version 1.2



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Issue Date	APPR	CHECK	PREPARE
2013/11/27	Ray		Mason

Product Description

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The MR-350 S4 includes an embedded receiver and an antenna. This receiver up to 48 tracking verification channels while providing fast time-to-first-fix, precise position updates, low power consumption, and adds the capability of Wide Area Augmentation System (WASS). The MR-350 S4 design uses the latest technology and high-level circuit integration to achieve superior performance while minimizing space and power requirements. All critical components of the system include the RF/IF receiver hardware and the digital baseband are designed and manufactured by GlobalSat to ensure the quality and capability of the GPS.

The MR-350 S4 can be utilized in a variety of applications that require a permanent mounting configuration. With bulkhead (through-hole) mounting and a low-profile housing, the MR-350 is completely self-contained and waterproof. Typical application can include marine environments, aviation, commercial use such as fire truck, police cars and utility vehicles and buses. The extended 4.5 meters cable allows for easy routing to your equipment behind, headliners and side panels and terminates to a custom PS/2 connector.

Product Features

- SiRF Star IV high performance GPS Chipset
- Very high sensitivity (Tracking Sensitivity: chipset -163dBm)
- Extremely fast TTFF (Time To First Fix) at low signal level
- Support NMEA 0183 V3.0 (GGA, GSA, GSV, RMC)
- Build in Super Cap to reserve system data for rapid satellite acquisition
- Build in patch antenna
- Support RS-232(baud rate 4800) interface
- Support Wide Area Augmentation System(WASS)
- Waterproof IPX7

Product Specification

● General

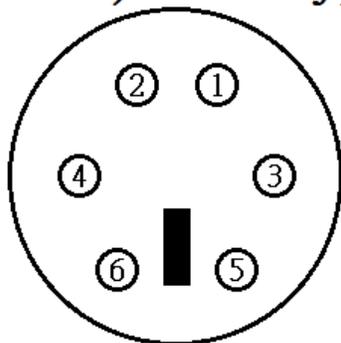
Chipset	SiRF StarIV
Frequency	L1, 1575.42MHz
CA Code	1.023 MHz
Channels	48 track verification channels
Sensitivity	-163 dBm

● Accuracy

H-Position Autonomous	<2.5m
Speed	<0.01m/s
Heading	<0.01°

- **Datum**
 - Default WGS-84
- **Acquisition Time**
 - Reacquisition 0.1 sec., average
 - Hot start 1 sec., average
 - Warm start 35 sec., average
 - Cold start 35 sec., average
- **Dynamic Conditions**
 - Altitude 18,000 meters (60,000 feet) max
 - Velocity 515 meters / second (1000 knots) max
 - Acceleration Less than 4g
- **Electrical Characteristics**
 - Main power input 4.5V ~ 6.5V DC input
 - Power consumption 80mA
 - Operating temperature -40°C to +85°C
- **Protocol**
 - Baud rate 4800 bps
 - Output message GGA, GSA, GSV, RMC
- **Physical Characteristics**
 - Dimension 62mm diameter, 21mm height
 - Cable length 4.5 meters

Pin Assignment (MD-6) Male-type



- Pin1:Ground(Black)
- Pin2:VCC(Red)
- Pin3:1PPS(Yellow)
- Pin4:RX(White)
- Pin5:TX(Green)
- Pin6:NC



Pin Description

P/N	Define	Description
1	Ground	Ground
2	VCC	This pin is the main DC supply for a 4.5V ~6.5 DC input power.
3	1PPS	This pin output signal based on firmware setting.
4	RX	This pin is the main receive channel for receiving software commands to the GPS receiver from SiRFdemo software or from user written software.
5	TX	This is the main transmit channel for outputting navigation and measurement data to user's navigation software or user written software.
6	NC	Just NC.

Reversion history

Reversion	Date	Name	Status / Comments
V1.0	2013/3/27	Mason	initial version
V1.1	2013/11/25	Mason	Modify Pin assignment picture
V1.2	2013/11/27	Mason	Modify 1PPS description