RGM-4600 Operational Manual

Version 0.1
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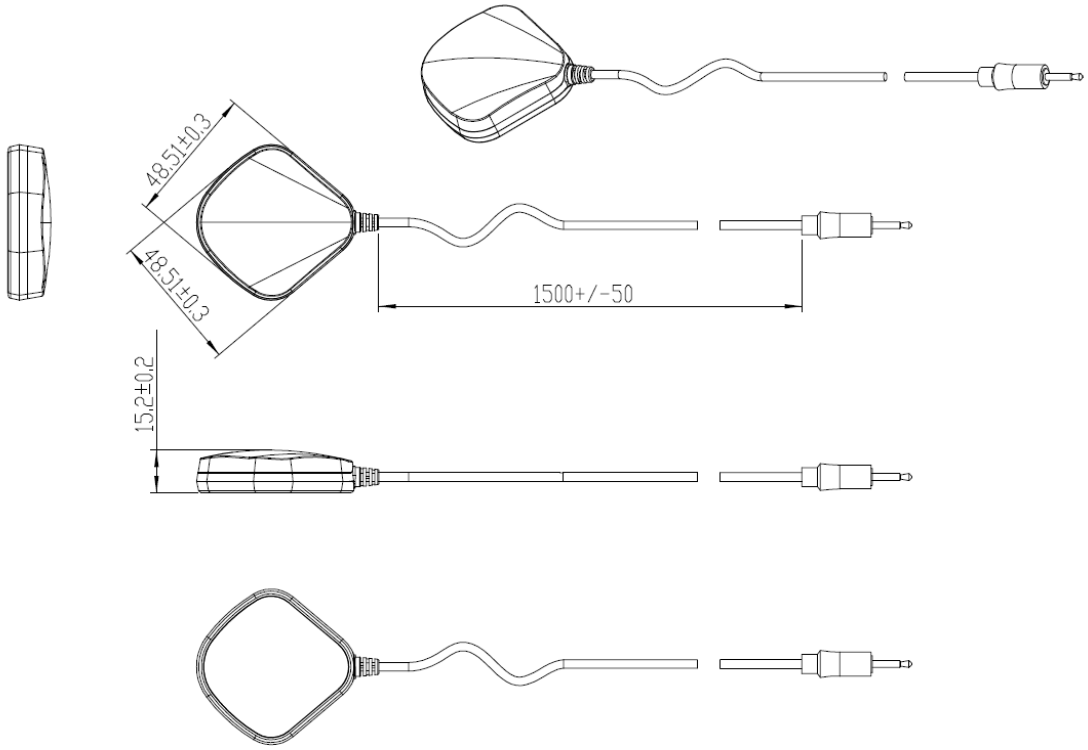
1. Overview

RGM-4600 G-Mouse GPS Receiver using SiRF Star IV extreme fast TTFF GPS engine that has lower power consumption, extremely high sensitivity, and more rapid time-to-fix. Connecting to the notebook PC or Handheld PC implementing map or navigation software, RGM-4600 helps you locate one or multiple objects, conduct personal & vehicle navigation, and/or apply for geographical surveys.

2. Specification

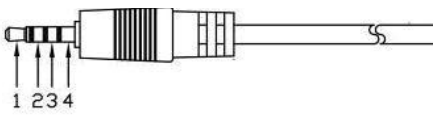
GPS Receiver	
Chipset	SiRF Star IV, GSD4e ROM
Frequency	L1,1,575.42 MHz
Channels	48 track verification channels
C/A Code	1,023 MHz
Chipset Sensitivity	- Tracking Sensitivity -163dBm - Navigation Sensitivity -160dBm - Autonomous Acquisition -148dBm
Chipset Fix time (Open SKY, typical)	- Reacquisition: less than 1s - Hot start: less than 1s - Warm start: less than 35s - Cold start: less than 35s
Accuracy	Position: 2.5meters (50% 24hr static, -130dBm)
Interface Protocol	NMEA0183 standard
Altitude / Velocity	18000 meter maximum ; 515 meter/second maximum
Power /Connection cable	
Voltages	DC 5V ± 5%
Current	TTL Mode: Tracking : 60mA(Typical) RS232 Mode: Tracking : 70mA(Typical)
Interface output	TTL or RS232
Connection cable	mini-USB or USB or PS2
Backup battery	Build in 3.3mAhr backup battery
Size/Environment	
Size (mm)	48.5 x 48.5 x 15.1mm
Weight	≦ 60g
Temperature	- Operating: -20 ~ 60℃ - Storage: -20 ~ 60℃
Humidity	≦95%

3. Outline dimension



4. Product Pin definition

Pin define: EARPHONE-2.5(1500MM, 4P)



WIRE CONNECTION

P1
1(VCC)
2(RXD)
3(GND)
4(TXD)

- **VCC(5V DC power Input)**

This is the main DC power supply input pin. It provides voltage to G-Mouse.

- **GND**

System Power Ground

- **RX**

This is the main receiver channel and is used to receive software commands to the board from SIRF demo software or from user written software.

- **TX**

This is the main transmitting channel and is used to output navigation and measure data to SiRF demo or user written software

5. GPS Receiver User's Tip

A. GPS signals are affected by weather and environmental conditions. It is suggested to use the GPS receiver under less shielding environments to ensure GPS receiver has better receiving performance.

B. When GPS receiver is in moving condition, it will prolong the time to fix the position. It is suggested to wait for the satellite signals to be locked at a fixed point when first power-on the GPS receiver before using.

C. The following situations will affect the GPS receiving performance:
   i. Solar control filmed windows.
   ii. Metal shielded, such as umbrella, or in vehicle.
   iii. Among high buildings.
   iv. Under bridges and tunnels.
   v. Under high voltage cables and near by radio wave sources, such as mobile phone base stations.
   vi. Bad and heavy cloudy weather.

D. If the satellite signals can not be locked or have encountered receiving problem (within the urban area), the following steps are suggested:
   i. Plug the external active antenna into the GPS receiver and set the antenna outdoor or on the roof of the vehicle for better receiving..
   ii. Move to another open space or reposition the GPS receiver towards the direction with fewer blockages.
   iii. Move the GPS receiver away from sources of interference
   iv. Wait until the weather condition has improved.

E. With a backup battery, the GPS receiver can fix a position immediately at next power-on if the built-in backup battery is fully charged.

6. Contact Information

- contact us: http://www.royaltek.com/contact
- Headquarter:

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- Web Site: http://www.royaltek.com

7. Appendix

Install USB Driver (This is for USB interface application)

Install the USB Driver from CD.

When screen shows the installation window as follows:

Click “Next> to next page”, or click”<Back” to back last stage or “Cancel” to give up installation.