

# GPS Receiver GRB-288

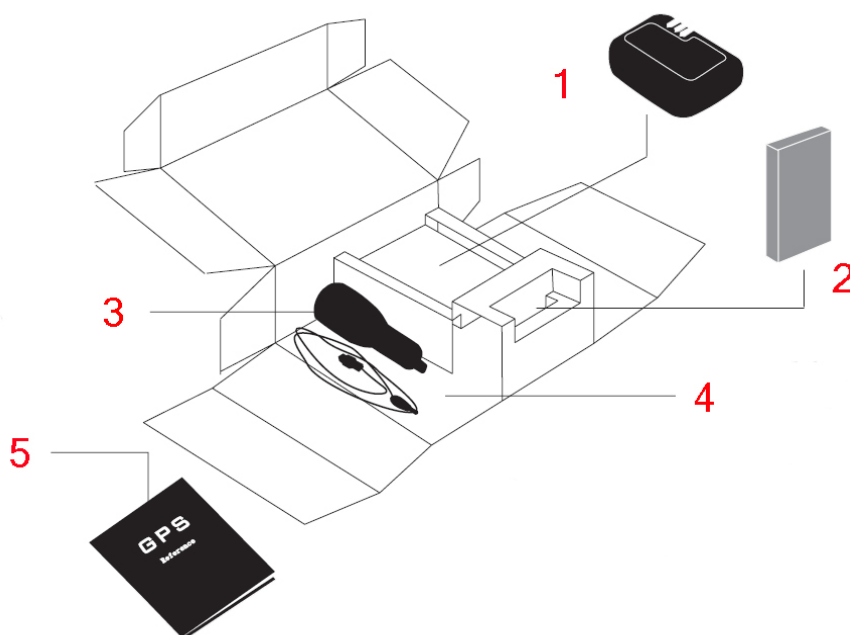
## User's Guide



### Packing List

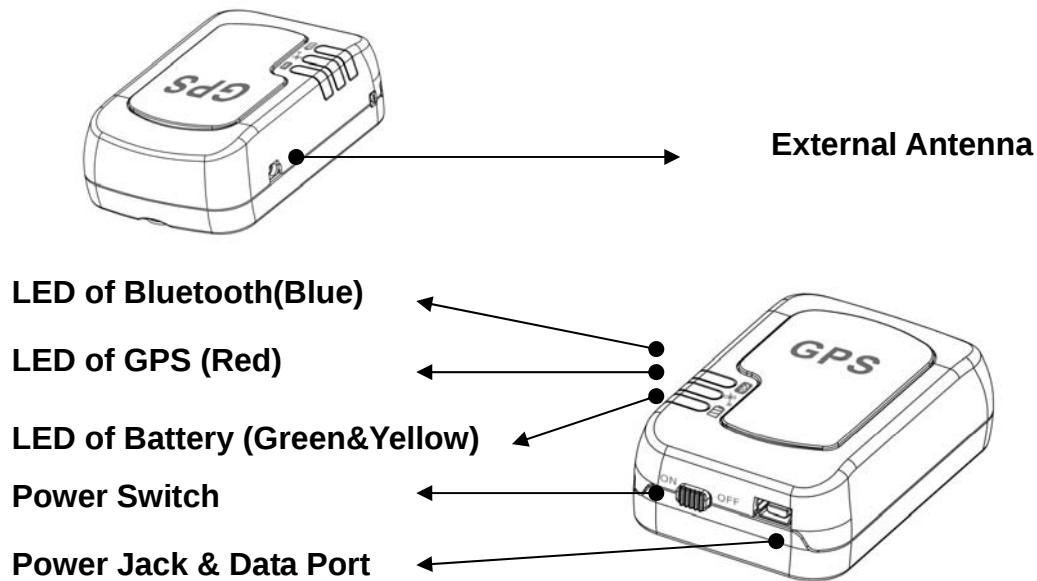
Congratulations on your purchase of the GRB-288 GPS Receiver. We hope it will be useful to you for a long time. Before you begin, make sure that your package includes the following items. If any of these items are missing, please contact your local dealer or distributor.

- |                                   |         |
|-----------------------------------|---------|
| 1. GRB-288 Bluetooth GPS receiver | 1 piece |
| 2. Rechargeable Li-ion battery    | 1 Piece |
| 3. Cigarette adapter              | 1 piece |
| 4. USB Cable                      | 1 Piece |
| 5. GRB-288 User's guide           | 1 Piece |



# Hardware Description

## 1). GRB-288 Body description



## 2). LED status

| SYMBOL                                                                              |           | COLOR  | STATUS    |                | DESCRIPTION                     |
|-------------------------------------------------------------------------------------|-----------|--------|-----------|----------------|---------------------------------|
|  | Bluetooth | Blue   | Blinking  | 1 time / 1 sec | Standby Mode                    |
|                                                                                     |           |        | Light on  |                | Transferring Data               |
|  | Charge    | Yellow | Light on  |                | Power too low                   |
|                                                                                     |           | Green  | Light on  |                | In charging                     |
|                                                                                     |           | N/A    | Light off |                | Battery full or Not in charging |
|  | GPS       | Red    | Blinking  | 2 times/1 sec  | Acquiring Satellites            |
|                                                                                     |           |        | Blinking  | 1 time / 3 sec | Position Fixed                  |

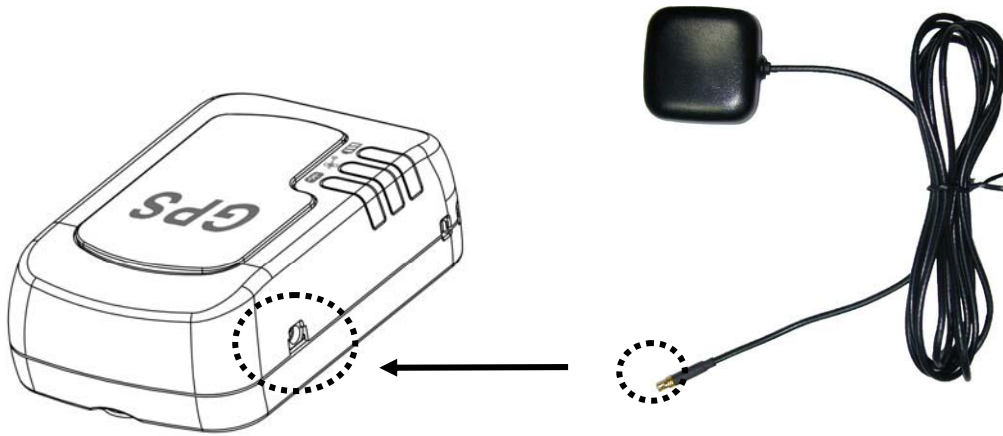
## 3) Charging



#### 4) External active antenna connector

Connector type: MMCX.

Active power voltage: 3.3V



## Getting Started

### STEP 1. Charge Battery

**Please charge battery till LED off for the first time.**

Battery too low                      Yellow LED On

**Power cable plug in**

Charging                              Green LED On

Full or Not in charging          Green LED Off

### STEP 2. Turn on Power

#### Bluetooth Status

Power On                              Blue LED blinking (1time/1sec)

Connection                          Blue LED Light On

#### GPS Status

**Put GRB-288 in clear view of the sky without any obstruction for better satellite acquiring.**

Search GPS                          Red LED blinking (2 time/1sec)

Position Fixed                      Red LED blinking (1 time/3sec)



# Software Installation

The following is the steps of software installation to setup on PDA,  
(Bluetooth Manger is one of popular program used for Bluetooth device)

Note: The device of Bluetooth baud rate is 38400bps.

## 1. Open Bluetooth Manager on pocket pc.

New



Connect



## 2. Search Bluetooth device "GRB-288"

Select

Explore a Bluetooth device



Next



## 3. Find the Bluetooth device

Next



Tap GRB-288



#### 4. Connect to SPP Slave

Select **SPP slave**



**Next**



**Finish**

#### 5. Finish Bluetooth Manager Setup

Tap and Hold

**GRB-288 :SPP slave**



**Connect**



Finish Bluetooth setup

(opposite arrow is displayed)



## Warranty

The GRB-288 is warranted to be free from defects in material and functions for a period of one year from the date of purchase. Any failure of this product within this period under normal conditions will be replaced at no charge to the customers.

## Optional accessories

GRB-288 has many accessories to satisfy customers' requirement.

| Item      | Description                            |
|-----------|----------------------------------------|
| GRB288-A1 | Travel power supply                    |
| GRB288-A2 | 2M /3.3V MMCX connector active antenna |

# Technical Specification

|                           |                         |                                            |
|---------------------------|-------------------------|--------------------------------------------|
| <b>General</b>            | Satellites Tracks       | Up to 16 Satellites                        |
|                           | Receiver                | L1, C/A code                               |
|                           | Update Rate             | 1 sec                                      |
|                           | Antenna type            | Built-in Patch Antenna                     |
|                           | External Active Antenna | MMCX-connector available                   |
|                           | Minimum signal tracked  | -145 dBm                                   |
|                           | Battery Life            | Up to 24 hours                             |
|                           | LED Indicator           | Yes                                        |
|                           | Operation Temperature   | -20°C ~ +70°C                              |
|                           | Storage Temperature     | -55°C ~ +100°C                             |
|                           | Power Consumption       | DCMAX 39mA ( TYP )                         |
|                           | Reacquisition           | 0.1 sec                                    |
|                           | Hot Start               | 3~6 sec                                    |
|                           | Warm Start              | 38 sec                                     |
|                           | Cold Start              | 45 sec                                     |
|                           | Dimensions              | 69.2(L)x45.2(W)x22(H) mm                   |
| <b>Accuracy</b>           | Position                | 6.4 meters CEP (90%) horizontal without SA |
|                           | Velocity                | 0.1 meters/second                          |
|                           | Time                    | 1 microsecond synchronized to GPS time     |
| <b>Dynamic Conditions</b> | Attitude                | 10,000 meters max                          |
|                           | Acceleration            | 2g, max                                    |
|                           | Horizontal Velocity     | 300 kilometers/hour max                    |
|                           | Vertical Velocity       | 6 kilometers/hour max                      |
|                           | Bluetooth               | V1.2                                       |
|                           | RF Tx Power             | Power Class 2 for 0~2dBm                   |
|                           | Receiver sensitivity    | Better than -82dBm with BER < 0.1%         |
|                           | Distance Range          | Up to 10 meters                            |
| <b>Protocol</b>           | Communication profile   | Bluetooth Serial Port Profile ( SPP )      |
|                           | Bluetooth baud rate     | 38400bps                                   |
|                           | Protocol Message        | NMEA-0183                                  |
|                           | Default NMEA            | GGA, GSA, GSV, RMC, VTG 38400 baud rate    |
|                           |                         | 8 bits data, 1 start, 1 stop, no parity.   |

Note: Changes or modifications are not expressly approved by the manufacturer could void the user's authority to operate the equipment. Changes or modifications to the device may void FCC and CE compliance. Infrequently used radio links should be tested regularly to protect against undetected interference or fault.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation