M508 GPS Tracking Device

（GPS+GPRS+GSM）

User Manual

Edition 1.3

http://www.gatorcn.com

China Printing

ADD：10th Floor, Xin Zhongtai commercial building, Xin Wu Yuan, Gushu Rd 2, Xixiang, Bao'an, Shenzhen (EXIT A, Gushu Metro station)

TEL：+86-755-23085553

Mob: +86-15013716322

WEB： **http://www.gatorcn.com**

EMAIL： **vip7@gatorcn.com**

Notes:

- Please mount the device steadily on the flat place before using;

- Please make sure the voltage value is right before connecting with battery, and placing the wires to where shouldn't be trodden;

- Please power off when plugging or taking out of any module or connecto;

- Please keep the device dry and don't let any liquid fall into the device in case any damage caused in the device or circuit;

If any problem caused as follows, please turn to professional technician:

- When power wire, keyboard, or socket are damaged;

- When liquid infiltrating into the device;

- When the device work unusually or cannot resume to normal even operated according to the instruction;

- When the device cannot work as usual after falling, throwing or breaking;

- When there is obvious damage in the device.

Content

1. Product Introduction

GPS Tracking device mainly consists of two parts such as GPS module and GSM module. GPS module is for getting location data from satellite, and GSM module is for transferring data to server so that people can check the information via PC or mobile phone. Our GPS Tracking device M508, with the best quality, stable performance and versatile functions， can be applied to various kind of fleet management like construction trucks, rental cars, logistics vehicles and public transportation, anti-theft system and security purpose.

2. Characteristics

1) small size, easy to install;
2) accurate GPS positioning, dynamic positioning deviation is less than 5 m;
3) support GPRS and SMS tracking mode, adopt UDP / TCP communication protocol TCP in GPRS mode;
4) able to get current location immediately, and support real-time tracking (GPS data uploading at intervals);
5) support two way voice communication via handset;
6) support two way SMS communication via Mobile and PC software;
7) support authorized tapping;
8) support protection from high level voltage;
9) support the data resend from signal dead zone;
10) support remotely disable engine;
11) 3 digital inputs for detecting the status of engine, door, air condition, etc.;
12) support illegal door-open/illegal engine-start alarm, SOS alarm, power-off alarm, over-speed alarm, parking alarm, Geo-fence alarm, fatigue driving alarm.

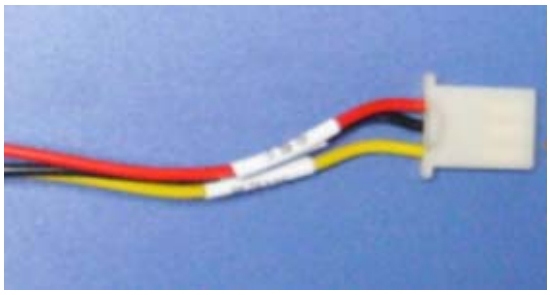
13) support fuel consumption detection and fuel changing alarm;
14) support temperature detection and temperature changing alarm;
15) support mileage statistics;
16) support remote update
17) support one serial peripherals (such as the handset, scheduling screen, camera);

3. Specifications

3.1、Hardware parameter	
working voltage	8VDC～36VDC
Working current	50mA~160mA
GSM module	SIMCOM 300/340 inside contain frequency GSM 900/1800 inside contain frequency GSM 850/900/1800/1900Mhz (can tailor)
Communication protocol	UDP/TCP(can customize)
GPS module	GPS JRC 595 with SIRFⅢ chipset
GPS sensitivity	-157dBm
GPS frequency	L1, 1575.42 MHz
C/A coding	1.023 MHz chip rate
Channels	20 channels for tracking
Position accuracy	10 meter, 2D RMS
Speed accuracy	0.1 meter/second
Time accuracy	GPS synchronization
Default data	WGS-84
Recover	Average 0.1 second
Hot start	Average 1 second

Warm start	Average 38 second
Cold start	Average 42 second
Height limit	18,000 meter (60,000 feet) max
Speed limit	515 kilometer/second (1000 knots)max
Acceleration limit	Less than 4g
Expansion peripheral	Peripherals can be accessed by an extension (such as: Handset / scheduling screen / camera etc.)
3.2、Others	
Work temperature	-20°～ 70° C
Storage temperature	-30°～ 85° C
Humidity	5% ～ 95% non-condensing
Terminal size	97 mm × 64mm × 24mm
Inside battery	Continuing working not less than 4 hours
LED light	Red: MCU status; yellow: module status；

4. Connector Description

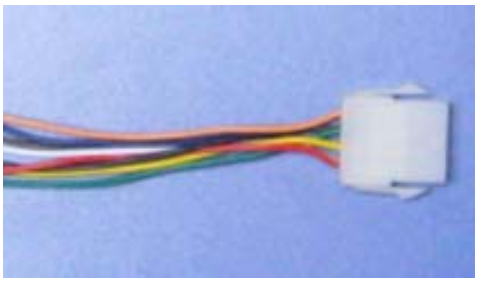


4.1 Power interface

Description

pin	color	function explanation/connection method
1	red	Power positive input, the working voltage 9VDC ~ 34VDC, connect the positive of car battery;
2	dark	Power negative input, then the negative terminal of vehicle battery;
3	yellow	ACC check line，connect car key ACC line access;

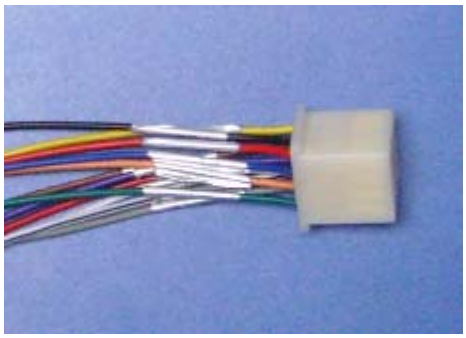
4.2 Vehicle handle interface



Description

pin	color	function explanation/connection method
1	red	Power positive output, 5VDC
2	yellow	RXD, serial output, RS-232 level, the baud rate 19200bps;
3	green	TXD, serial output, RS-232 level, the baud rate 19200bps;
4	orange	Detectaphone positive input, MIC＋ (with Orange line lead with the monitor DC)
5	white	Detectaphone negative input, MIC－
6	blue	Headphone positive output, SP＋
7	brown	Headphone negative output, SP－
8	black	Power negative output

4.3. Expanding Interface



Description

pin	color	function explanation/connection method
1	red	SOS alarm input, low-level triggered alarm, directly connect with the wire of SOS button
2	black	Relay negative input, connect with the white wire in relay
3	yellow	Relay positive input, connect with the yellow wire in relay
4	blue	HV2(high-level signal detection port 2 2,) input positive voltage to detect, which should be 5DC~input power supply, connecting with effective high-level signal wire.
5	purple	GND of SOS alarm wire
6	brown	SOS alarm indicator signal SOS, drive LED, when alarm is triggered, the LED will be on.
7	orange	Door open/close signal detection.
8	white	HV1(high-level signal detection port 1, it is described as A/C on/off signal detection), input positive voltage to detect, which should be 5DC~input power supply, connecting with effective high-level signal wire.
9	red	5VDC power (max output current: 220mA)
10	green	Positive pole for oil collecting signal, connecting with the added sensor of fuel volume or original sensor of vehicle
11	grey	Oil collecting control signal wire (when connecting with oil collector), please note: this wire are unable to connect with ground.
12	black	AD signal detection, detect the temperature.

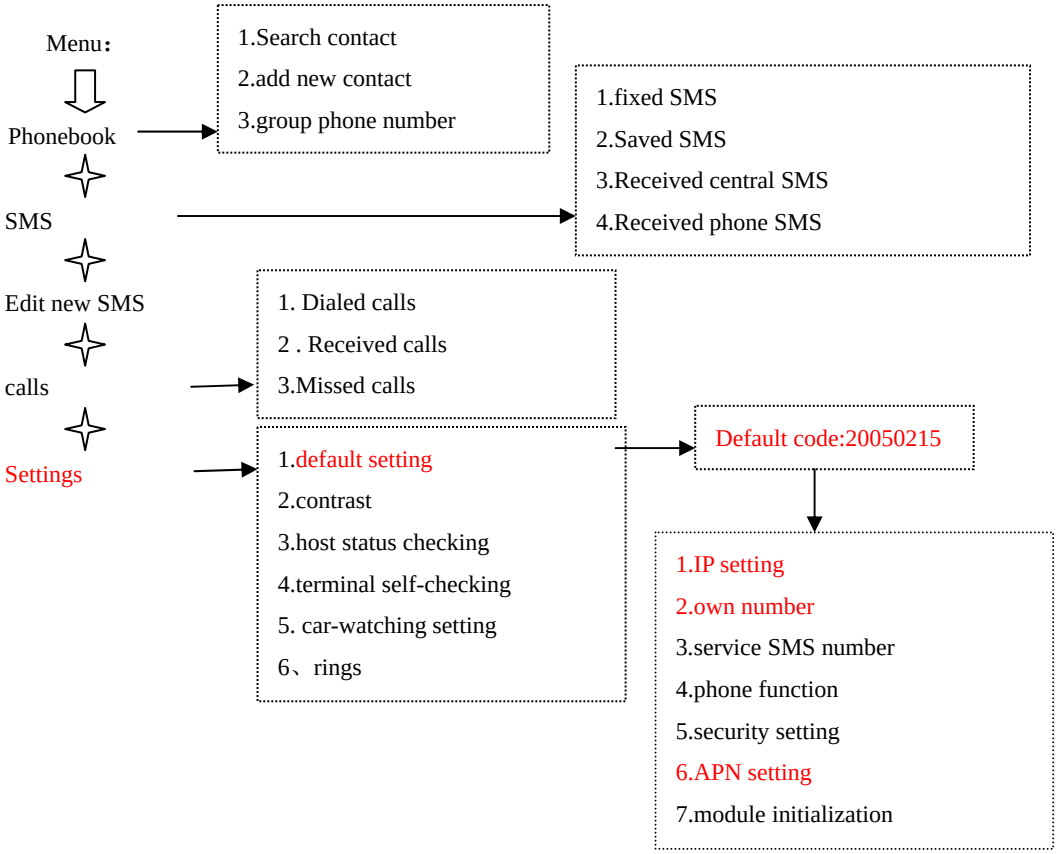
5. Installation

5.1 Warm reminder for Installation

In order to realize the full functions of this product, please read this manual carefully before starting to use the product.
1. This product can only be maintained and repaired by qualified professional service personnel. If you detachthis product for maintenance or repair, your warranty will be invalidated.
2. When connecting the other devices, read carefully their instruction manuals, so as to implement correct installation; do not connect incompatible device.
3. Please use genuine original parts and qualified batteries and peripheral equipments, so as to avoid damage to this product.
4. As this product is a high-tech product, please read carefully this manual before starting to use the product, so as to avoid inappropriate operation.
5. Drivers should not operate this product while driving a vehicle, thereby, affecting safe driving.
6. This product can work properly only when GSM communication is in good condition.
7. Please reduce electromagnetic wave interferenceto the product; and use it properly.
8. GPS communication is liable to be affected by environmental shielding; may fail to carry out positioning during certain circumstances. It will resume the positioning function as soon as it leaves the shielding environment. This is normal. Please do not worry when encountering such problem.
9. Each signal sent out from the system will be confirmed for successful transmission in the base station of the mobile operator. However, if system stoppage occurs or if the mobile telephone is preset to a switch off state by the customer, it cannot ensure successful transmission.
10. For safety reason, do not tell the other people your device SIM number, without taking precautions. Otherwise, your privacy may be compromised along with other safety problem.

5.2Parameter settings

5.2.1 via the handle.



1. connect with handle or scheduling screen, then do as follows:

   i. press menu, enter into "settings", choose "default setting", the password: 20050215, click "success" to get the next step.

   ii. Set ip address and port, the format: Y,IP,PORT (input"," pls press * ; input"." pls Press #),
   a) Y means network channel (0=private net, 1= public net), the default setting is 0;

   b) our platform server's IP= 211.154.139.208, and PORT=8888, If IP don't have three digits, please add "0" in front up to 3 digits;

   e.g.: 1) 0,211.154.139.208,8888
   2) 0,058.060.185.172,8886

   iii. Set system no(self number), please make sure the system number should be

11 digits; then click “success” to get the next step.
e.g. :13566001001, （the system no can be created by yourself if you have setup your own server, begin with the number from 134-154）

iv. Set APN. You can input the APN manually. If ok . all parameters are set successfully.

If the parameters are set successfully, within 60s the screen will show “◆” (detected GPS signal)，“GP” (detected GPRS signal), meanwhile, you can correctly track vehicle in software.

Notes:
The parameters must be correct, it is recommended check in the item of "host status query" after the set up.

5.2.2 Via SMS command.

1. Reboot

R,* Password ， *

2. Settings

Format: SS,*APN*,*USERNAME*,*PASSWORD*,*IP*,*Port*,*System number*,*Phone number for getting SMS alerts*,*Password*

e.g.:

SS,*CMNET*,**,**,*058.060.185.172*,*8886*,*13512345002*,*+8613418776340*,*123456*

Notes:

a) If no username and password, please leave it blank,

e.g.: 1) SS, *APN*,**,**,*IP*,*Port*,*System number*,* Phone number for getting SMS alerts *,*Password*

2) S,*APN*,*IP*,*Port*,*terminal ID*,**System number*,* Phone number for getting SMS alerts *,*Password*

b) System number’s length must be 11 digitals, and begin with the number from 134-154;

c) Please add country code in the front of phone number, e.g.: Chinese code is 86. phone number is 13612345678, You can set the phone number like this, *+8613612345678*

d) Default password is 123456

2. Change password

C,*password*,*new password*

5.2.3 Via simulative handle(PC software).

Please visit our website to download simulative handle program.the link as follows: http://www.gatorcn.com/

6. Standard Accessories

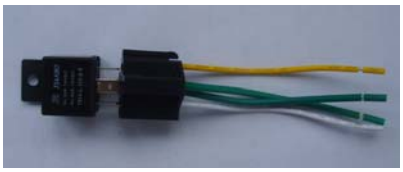
Power Line, 9PIN Expanding Line 1, 9PIN Expanding Line 2, SOS Alarm Line, GPS Antenna, GPRS Antenna, Velcro, Warranty Card, Return Receipt of Warranty Card, Qualification.

7. Optional accessories

7.1 Oil collector

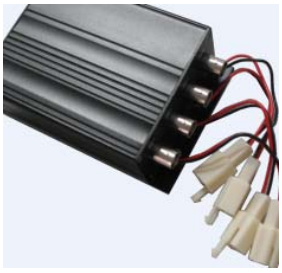
7.2 Tapping Line

7.3 Relay



7.4 Serial Camera

7.5 Image Acquisition



7.6 Handset

7.7 Scheduling Screen

7.8 LED AD Screen