



GSM/GPRS/WIFI/GPS Tracker

GT500

User Manual

TRACGT500UM001

Revision: 1.00



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0. Revision history

Revision	Date	Author	Description of change
1.00	2012-6-18	Johnson Jiang	Initial

1. Introduction

GT500 is a powerful GSM/GPS/Wifi Multi-purpose tracker for personal tracking. With superior receiving sensitivity, fast TTFF and Quad-Band GSM frequencies 850 / 900 / 1800 / 1900MHz, its location can be monitored in real time or periodically reported by a backend server or other device. Based on the embedded @Track protocol the GT500 can communicate with the backend server through the GPRS / GSM / WIFI network to transfer reports of emergency / SOS, Geo-fence boundary crossings , low battery or scheduled GPS position, GSM Cell ID or Wifi access point Mac address among other advanced features. Users can easily dial preset phone number by using user define button or the SOS button. System Integrators can easily communicate with the GT500 by using the @Track protocol. The Wifi access point Mac address reporting will help of accurate in-door location fix with Wifi access.

This device complies with part 22, part 24, part 15.247 of the FCC rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference, including interference that may cause undesired operation.

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

2. Specifications

GSM/GPS/WIFI Specifications

GSM Frequency	Quad-Band: 850/900/1800/1900MHz
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GPS Chipset	uBlox All-In-One GPS Receiver Sensitive, Fast and Accurate
GPS Sensitivity	Cold start: -148dBm Reacquisition : -160dBm Tracking: -162dBm
Position Accuracy	Autonomous: < 2.5 m SBAS: 2.0 m
TTFF (Open Sky)	Cold start 30s Warm start <30s Hot start <1s

WIFI Chipset	MTK MAC/BB WLAN Chip.
WIFI Frequency	2.4G – 2.497GHz.
WIFI Compatible	IEEE 802.11g/b Compliant.

General Specifications

Dimension	94mm * 48.5mm * 18mm
Weight	90g
Battery	Li-ion 1000mAh , 3.7V
Standby Time	Without reporting : 250 to 280 Hours 5 minutes reporting : 50 to 60 Hours 10 minutes reporting : 70 to 80 Hours
Charge Voltage	5V DC
Operation Temperature	-20°C~+55°C

3. Product Overview

3.1. Appearance



3.2. Buttons/Mini USB/SIM-Card Interface Description

Button /Mini USB Interface Description	
Power Button	<ul style="list-style-type: none"> ● Turn on/off GT500.
Volume Button	<ul style="list-style-type: none"> ● Two sides buttons to increase / decrease volume.
Dial / Reject Button	<ul style="list-style-type: none"> ● Dial or Reject incoming call.
SOS Button	<ul style="list-style-type: none"> ● SOS / Emergence.
GEO Button	<ul style="list-style-type: none"> ● For GEO Fence function.
User Define Button	<ul style="list-style-type: none"> ● For User-define function.
SIM-Card Interface	<ul style="list-style-type: none"> ● Insert 1.8V/3V SIM-Card.
Mini USB Interface	<ul style="list-style-type: none"> ● Connect a 3.7V Li-ion or Li-Polymer battery. ● Connect 5V DC adapter can charge internal battery. ● Only Backend server developer or administrator can use the Data_Cable_M to configure GT500.

3.3. Lights Description

There are four lights in GT500, the description as following.




light	Event	State
Battery light	Battery voltage is lower than 30%	Light flash slowly
	Charging	Light Solid
	Charging finished	Light Dark
	Charging Exception	Light flash quickly
GPS light	GPS fixing	Light flash quickly
	GPS fixed	Light Solid for a while
GSM light	Searching GSM network	Light flash quickly
	GSM network state ok	Light flash slowly
Wifi light	Wifi Searching AP host	Light flash quickly
	Wifi connection established	Light flash slowly

3.4. Vibration Feedback Indication

Category	Key Mode & Event	Vibration Feedback
SOS button	Disable SOS function status	short - 1
	Make SOS call	short - 2
	GPS fix + Make SOS call	long - 1
USER button	GPS fix	long - 1
	Make User call	short - 2
	GPS fix + Make User call	long - 1
GEO button	Ignore the Geo-Fence key operation	short - 1
	Switch off the Geo-Fence ID 1	short - 1
	Switch on the Geo-Fence ID 1	short - 2
	Switch on the Geo-Fence ID 1 in current position	long - 1
Volume button	Volume Down long press to enable incoming call vibration, disable ring	short - 1
	Volume Up long press to disable incoming call vibration enable ring	short - 2
Power button	Power On indication	short - 2
	Power Off indication	short - 1
Sensor	Fall detected	short repeat for 5s

4. Getting Started

4.1. Parts List

Name	Picture	Remark
GT500 Locator		The GSM/GPRS/WIFI/GPS locator.
AC-DC Power Adapter (Standard accessory)		It is used to charge the internal battery of GT500.
GT500 Data Cable (Optional accessory)		It is the USB data cable which can be used for firmware upgrading and configuration. (Please note , it only for backend server developer or administrator ,It is not in delivery list of GT500)

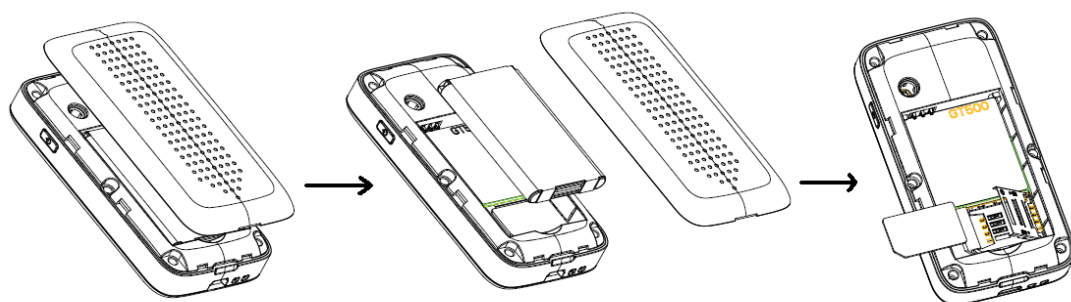
4.2. Battery Charging

- Please connect AC-DC power adapter with GT500.
- Insert the AC-DC power adapter into the power socket.
- During charging, the battery light is flashing fast. When the battery is full charged, the battery lights will be dark.
- You can also charge the battery by USB cable which connects GT500 with the PC.
- Charging time is about 4-5 hours.

Note: Before the first time using GT500, please full charge the battery.

4.3. Install SIM Card

- First, open the cover of SIM-card.
- Then insert the SIM card into the slot of SIM card according to the direction shown.
- Finally, cover the slot.



4.4. Turn on/Turn off

- Turn on:
 - ◆ Press the Power button until the vibrator is shaking (at least 3 seconds) and release it to turn on GT500. At the same time, GSM light will flash.
- Turn off:
 - ◆ Press the Power button until the vibrator is shaking (at least 3 seconds) and release it to turn off GT500 when GT500 is working. At the same time, all lights will be dark.

5. Troubleshooting and Safety info

5.1. Troubleshooting

Trou ble	Possible Reason	Solution
After GT500 is turned on, the Battery light flashes quickly always.	Charging is abnormal.	Please unplug wall charger from GT500 and check wall charger.
Messages can't be reported to the backend server by GPRS.	The SIM card in GT500 doesn't support GPRS.	Try a GPRS supported SIM card.
	APN is wrong. Some APN can not visit the internet directly.	Ask the network operator for the right APN.
	The IP address or port of the backend server is wrong.	Make sure the IP address for the backend server is an identified address in the internet.
Unable to power off GT500.	The function was disabled.	Please use manage tool to turn off or by server command.
No response from UART when configure GT500 through UART	GT500 is in power saving mode.	Remove the Data_Cable_M, and plug it in again. After this operation, GT500 will exit from power saving mode for 10 seconds.
		Re-try GT500 manager tool again, it will try to wake up device.
GT500 can't get successful GPS fixing.	The GPS signal is weak.	Please move GT500 to a place with open sky.
		It is better to let the top surface face to sky.

5.2. Safety info

- Please do not disassemble the device by yourself.
- Please do not put the device on the overheating or too humid place, avoid exposure to direct sunlight. Too high temperature will damage the device or even cause the battery explosion.
- Please do not use GT500 on the airplane or near medical equipment.