MEITRACK® Personal GPS Tracker

User Guide

MT90

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2. Applications

- Personal Tracking and Protection
- Pet Tracking
- Assets Tracking and Security
- Vehicle Tracking

3. Product Function and Specifications

3.1 Product Function

- SiRF Star IV GPS and Quad Band GSM 850/900/1800/1900 MHz
- Small in Size (77mm x 47mm x 20mm) and Light Weight (65g)
- Waterproof IP65
- Low Power Consumption and Long Standby Time
- GPS and GSM base station bi-module positioning
- Track by SMS/GPRS (TCP/UDP) communication (MEITRACK Protocol)
- Track on Demand
- Instant location query
- Track by Time Interval
- Track by Distance Interval
- Track on Mobile Phone
- Listen-in/2-way Call
- Internal 8 MB Trace Memory (130,000 GPS logs, 8000 GPRS caches, and 256 buffered SMSs)
- Inbuilt Accelerometer Sensor
- Inbuilt Backup Battery
- SOS Alarm

- Geofence Alarm
- Blind GPS Area Alarm
- Low Battery Alarm
- Speeding Alarm
- Mileage Report

3.2 Specifications

Items	Specification
Dimension	77mm x 47mm x 20mm
Weight	65g
Charging Voltage	Mini USB charging interface, DC4.2V~5.5V/400mA
Back-up Battery	1100mAh/3.7V rechargeable and replaceable lithium-ion battery(NokiaBL-5C compatible)
Power Consumption	65mA standby current
Operating Temperature	-20℃~55℃
Humidity	5%~95%
Work Time	45 hours in power-saving mode and 14 hours in normal mode
LED	3 LED lights to show power, GSM and GPS status
Button	5 buttons for making phone call and sending SMS
Microphone/Speaker	Internal microphone and speaker
Memory	8MB Byte
Sensor	Accelerometer
GSM Frequency	GSM 850/900/1800/1900 MHz
GPS Chip	Latest GPS SIRF-Star IV chipset
GPS Sensitivity	-163 dB
Positioning Accuracy	10 meters

4. MT90 and Accessories

- MT90 device
- Battery
- USB data cable
- Travel adapter (charger)
- Mini screwdriver
- Lanyard
- User guide and installation software CD

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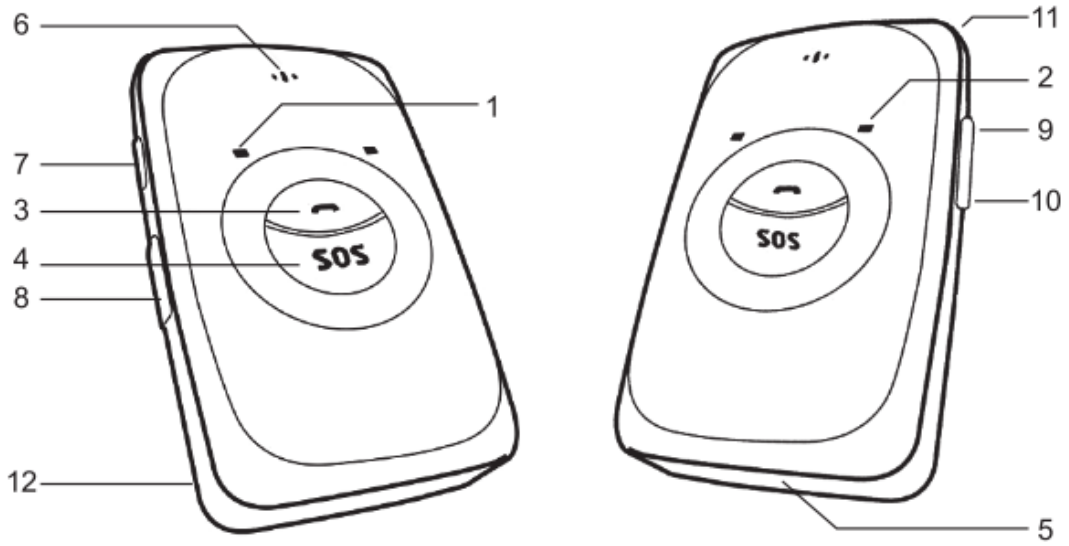
5. About MT90

5.1 View and Buttons



No.	Item	Description
1	GPS LED (Blue)	Indicating GPS and battery status, please refer to below LED indications.
2	GSM LED (Green)	Indicating GSM status, please refer to below LED indications.
3	Answer/Hand-up Button	➢ Press to receive an incoming call. ➢ Press to terminate the call. ➢ Long press for 2 seconds to send a GPRS message to the server when no incoming call or conversation is received.
4	SOS Button	➢ Long press for 2 seconds, MT90 will dial three preauthorized phone numbers in turn. It will stop dialing when one number answers. Meanwhile, MT90 will send an SMS to the preauthorized phone number and send GPRS message to the server if GPRS function is enabled. ➢ Press to wake up if MT90 is in sleep mode.
5	Microphone	It will run automatically when using listen-in and call functions.
6	Speaker	It will run automatically when using call function.
7	Power On/Off Button	➢ Long press for 2 seconds to turn on MT90. ➢ Long press for 2 seconds to turn off MT90. ➢ Press to wake MT90 up from sleep mode, power LED will slowly flash for 10 seconds.
8	Mini USB	Mini USB is used for charging, connecting to computer for setting up parameters, updating firmware and so on.

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9	Volume+/GPS Log Button	➢ Long press to turn up the volume. ➢ Long press for 2 seconds to start hands-free conversation. In standby mode, long press for 2 seconds, when the tracker sounds "Beep" once, the logger will run automatically. （MT90 will log the route every 30 seconds automatically. Route records can be exported with the computer. ➢ Long press for 2 seconds again, when the buffer "BI" twice, and the logger will stop automatically. Note: you can disable GPS Log button through Meitrack Manager to avoid operating failure (default: valid).
10	Volume-/GPRS Button	➢ Light press to turn down the volume. ➢ In standby mode, long press for 2 seconds, when the buzzer "BI" once, GPRS function will be enabled automatically. (Precondition: GPRS parameter must be set in advance, default GPRS message interval is 10 minutes) ➢ Long press for 2 seconds again, when the buzzer "BI" twice, GPRS function will be disabled automatically. Note: you can disable GPRS button through Meitrack Manager to avoid operating failure (default: valid).
11	Lanyard Loop	For connecting lanyard.
12	Battery Cover	Install the battery, SIM card and Micro SD card by removing the battery cover.

5.2 LED Indicators

Press and hold down the Power switch for 3-5 seconds, and then the MT90 will automatically start. The blue and green LEDs blink on for one second and off for one second, repeatedly.

GPS LED (Blue)	
Status	Description
Always on	Charging
Flashing (every 5 sec.)	Sleeping
Flash (1 sec on, 1 sec off)	GPS fails to fix or is initializing
Off	GPS fix
GSM LED (Green)	
Status	Description
Always on	A call is coming in or busy
Flashing (every 5 sec.)	Sleeping
Flash (1 sec on, 1 sec off)	No GSM signal or is initializing
Off	MT90 is connected to the GSM network

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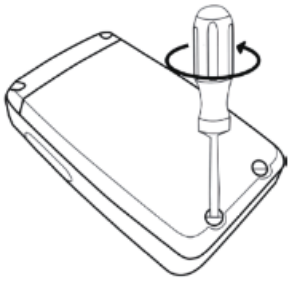
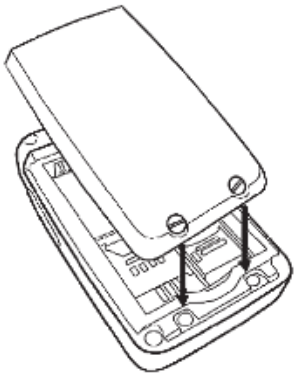
6. First Use

	1. Remove the Battery Cover With the device turned off, place your MT90 with the front facing down. Use the mini screwdriver to remove the two screws to release the back cover. Lift up the back cover from the notch at the bottom of the device.
	2. Insert the SIM Card Place the SIM card into the device with the gold-colored side facing down. Note: make sure there is enough credit on the SIM card. It is also important that the SIM card has Called ID Display function. If you will use GPRS function, you should pay attention to the current SIM card GPRS charge.
	3. Insert the Micro SD Card Insert the Micro SD card into the slot with its gold contacts facing down and push it until it clicks into place.
	4. Insert the Battery Insert the contacts side of the battery first and then gently push the battery cover into place. Note: battery performance depends on many factors, including signal strength, the temperature of the environment in which you operate your phone, the features and/or other program usage patterns.

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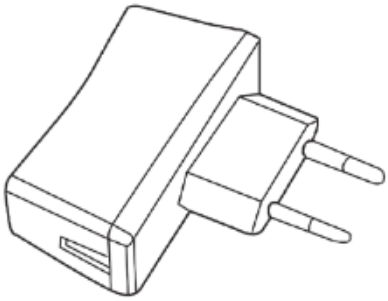
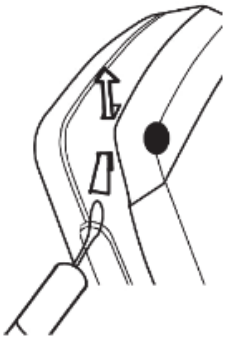
	5. Charge the Battery The battery is partially charged when shipped. Before using the device for the first time , it's recommended that you charge the battery for 8 hours. Connect one end of the USB cable to the device, and the other end of the USB cable to the USB port of the AC adapter. Please charge the battery for 8 hours for the first time by turning off the device. Note: while charging, the device may heat up. This is normal and should not affect your device's lifespan or performance. If the battery is low, it may affect the positioning effect and data transfer. Please charge the battery before using.
	6. Charge with the Travel Adapter Open the cover of the multifunction jack of the device. Plug the small end of the adapter into the multifunction jack. Then plug the larger end of the travel adapter into a power outlet. Note: improperly connecting the travel adapter can cause serious damage to the device. Any damage caused by misuse is not covered by the warranty.
	7. Attach A Lanyard Slide the lanyard through the slot and hook it over the small projection.

Once you've installed your battery, SIM card and Micro SD card, you can turn on your device and start using it.

When you turn on the device for the first time, you will be prompted to set your device. For more information on how to set your device, please read the following instructions.

7. Quick Operation Instruction

Operation Tips: Prior to normal usage, configuration has to be made either by SMS command or by software in order to obtain the local time information and coordinate, so that you can enjoy the Meitrack products.

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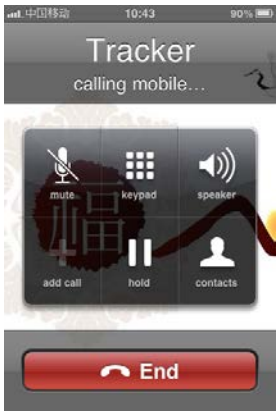
7.1 Real-time Location Tracking

This section is about how to inquire the current position of the portable MT90, ensuring that GPS is working normally.

- Call the SIM card number embedded in MT90, hang up after the dial sound 2-3 times, as follows:

If your phone does not support direct access, you can enter longitude and latitude to the URL to check the location. maps.google.com



In the SMS, the values after "lat" is the latitude, the values after "lng" is the longitude.

*Meitrack Manager and SMS command. The default password is 0000, password can be revised through Meitrack Manager and SMS command. MT90 will only accept commands from a user with the correct password and report SMS report to the user. If preauthorized phone number was set, only this phone number can receive SMS reports. The common format of SMS command is:

password,command,parameter

7.2 SOS – A71

This command is to set the SOS emergency communications number, call the phone number, inform the location by SMS and other SMS additional features at the same time.

The content of Mobile Phone SMS:

0000,A71,Function Number 1, Function Number 2, Function Number 3

Sent to the embedded SIM card numbers.

(tips: "," should be English comma and no space before and after the comma)

MT90 automatic reply SMS:

IMEI,A71,OK

Prompts successful, successfully set SOS emergency communications number.

When you press the SOS emergency button, MT90 will dial 3 preauthorized phone numbers. It will stop dialing when one number answers.

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Note: The default value is empty. The function numbers should be added "," to avoid setting failure. The last function number doesn't need a ",". For example:

0000,A71,13500000000,,

0000,A71,13500000000,13600000000,

0000,A71.13500000000,13600000000,13700000000

To clear the combination of functions directly sending 0000,A71

(If this function can't be achieved, please add your Country and Area Code before your phone number when you set the preauthorized numbers, or you can also consult your local mobile operator.)

7.3 Listening-in (Voice Monitoring) – A72

This command enables users to listen-in to the surrounding environment. Configuring this feature will allow the devices to confidentially and automatically answer and allow listening-in, one-way voice communication.

Note: If "**Auto Answer Incoming Call**" and "**Monitor**" is set for a same number, "**Auto Answer Incoming Call**" takes effect and "Monitor" does not take effect.

To set a monitor number, ensure that "**Auto Answer Incoming Call**" is not set for the number, or send the "0000,A71" instruction to clear all functional numbers so as to implement the monitor function.

- The Content of Mobil Phone SMS:

  0000,A72,Monitor Number 1,Monitor Number 2

  Sent to the embedded SIM card numbers.

- The MT90 automatically replies to the SMS:

  IMEI,A72,OK

  Successfully set the monitor number.

- When the preset monitor number calls the MT90, the device will answer the call automatically and enter into the listening state. The device will not emit any sound.

  Note:

  Number: A maximum of two monitor numbers can be set and each number contains 16 digits at most. If less than two functional numbers are set, the number must be followed by a comma "," so as to prevent a setting failure. If no functional numbers are set, the number remains blank (the default value is blank). That is, if no numbers are filled in and the comma "," retains, numbers on the corresponding positions are deleted and the monitor no longer takes effect.

  Example: 0000,A72,13844444444,13855555555

  SMS Get: 353358017784062,A72,OK

  To clear all monitor numbers, send the SMS instruction 0000,A72.

7.4 Smart Sleep Mode – A73

This command enables the sleep mode function. In this mode, logging, timinga and location are all disabled.

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The Content of Mobile Phone SMS:

0000,A73,sleep levels

Sent to the embedded SIM card numbers.

MT90 automatic reply SMS:

IMEI,A73,OK

Prompt successfully.

To restart the Log or regular position, you must first cancel the sleep mode.

Note:

X=0, turn off sleep mode (default)

X=1, normal sleep. The GSM module always works, and the GPS module works in sleep mode intermittently. The device can work 25% longer than no sleep mode. Note: This is not recommended for users who set "track by interval" or short time interval, because it will affect the completeness of tracking.

X=2, deep sleep, the tracker will enter this mode after it is inactive or stationary (No SOS/any triggered by the button/input/incoming calls/message) for 5 minutes. GPS module stops working and GSM module enters sleep mode. The tracker remains in this mode until it is activated by SOS/any triggered by the button/input/incoming calls/message. After that, it will repeat above processes.

Note: MT90 can enter sleep mode under movement, and movement cannot wake MT90 from sleep mode.

In any condition, the device will directly quit the sleep mode and back to normal working mode by SMS or GPRS command to turn off the sleep mode.

7.5 Time Zone – B35

This command modifies the SMS report to display the correct local time. Default: Beijing time, GMT480.

To modify the time zone, please follow the following instructions:

The Content of Mobile Phone SMS:

0000,B35,480

Sent to the embedded SIM card numbers.

MT90 automatic reply SMS:

IMEI,B35,OK

Set the time zone successfully.

Note: The time zone is in unit of minutes. The default time zone on the terminal is GMT 8 (480 minutes) and the time zones of the SMS report and the GPRS data packet are separate. The GPSLog time zone also adopts this time zone.

Number of minutes: 0, GMT 0 (default)

Number of minutes: [-32768,32767], set different time zones. Set the China time zone to 480. (Default)

Example: 0000,B35,480

SMS Get: 353358017784062,B35,OK (The time zone is set to Beijing time successfully.)

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This value is your MT90's IMEI number. These numbers don't represent anything significant to the functionality of the tracker. Below the same applies.

7.6 Rapid Start of the GPRS Function – F12

This command is used only to start the GPRS function of the embedded SIM card. The GPRS is connected to the Meitrack server by default.

Note:

The Content of Mobile Phone SMS:

0000,F12

Sent to the embedded SIM card numbers.

MT90 automatic reply SMS:

IMEI,F12,OK

Start the GPRS successfully.

Example: 0000,F12

SMS Get: 353358017784062,F12,OK

Note:

After the F12 command is set, the GPRS function will start soon, and the GPRS parameters will be automatically set as follows:

1. GPRS connection mode: TCP
2. Timing interval: 1 minutes
3. IP: 114.112.54.134; Port: 8800
4. APN: cmnet; APN user name and password: blank

If other server IP addresses are used, the F12 command is not applicable.

To change the server location, refer to the Meitrack Manager settings in the next chapter.

7.7 More Settings

You can configure MT90 by mobile phone or by using the Meitrack Manager to Setting Multiple Software. For more details, please refer to "Configuration by Computer".

For more details regarding SMS commands, please refer to MEITRACK SMS PROTOCOL.

8. Configuration by Computer

This part mainly shows you how to use the **Meitrack Manager.**

For more information regarding configuration and functions, please refer to the **Meitrack Manager User Guide**.

Install the MT90 software of Meitrack Manager

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Find the software of Meitrack Manager from the CD.

setup.exe

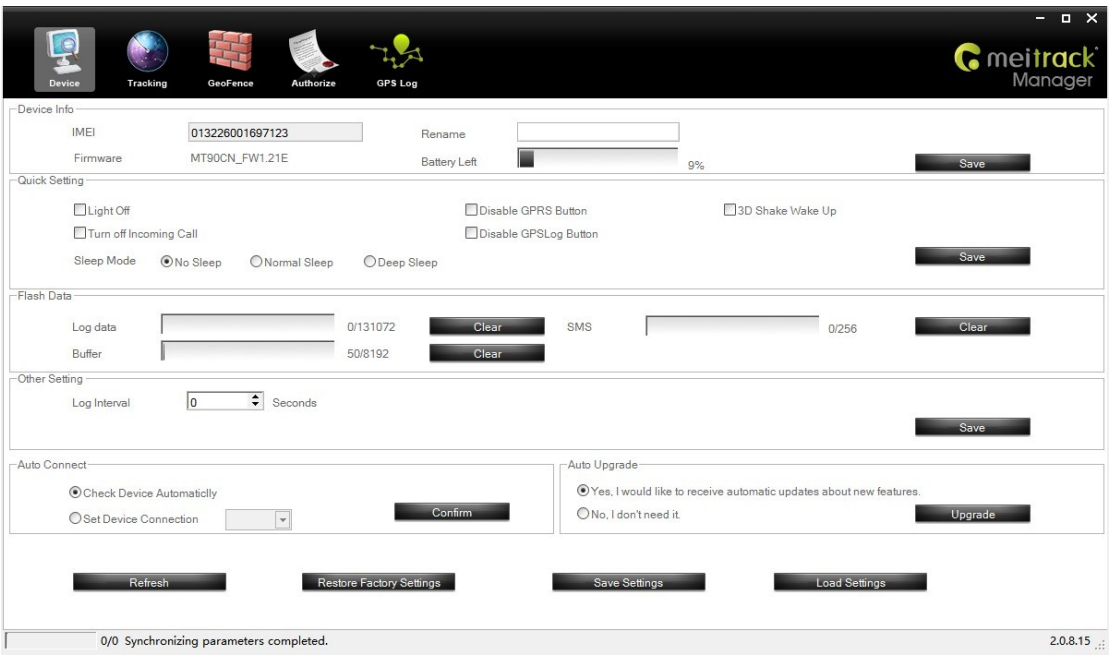
Install it following the steps, and find the application icon of Meitrack Manager.

Meitrack Manager

Connect MT90 with computer, and synchronize the setting of Meitrack Manager.

Connect USB cable with the USB port in the computer, and connect the other end to the MT90 device.

Run “Meitrack Manager.exe”, and connect the device to a computer using a USB data cable after the startup of the device. The software will detect Comm port number and read all MT90’s parameters automatically:



8.1 Tracking

Choose the second tab: Tracking.

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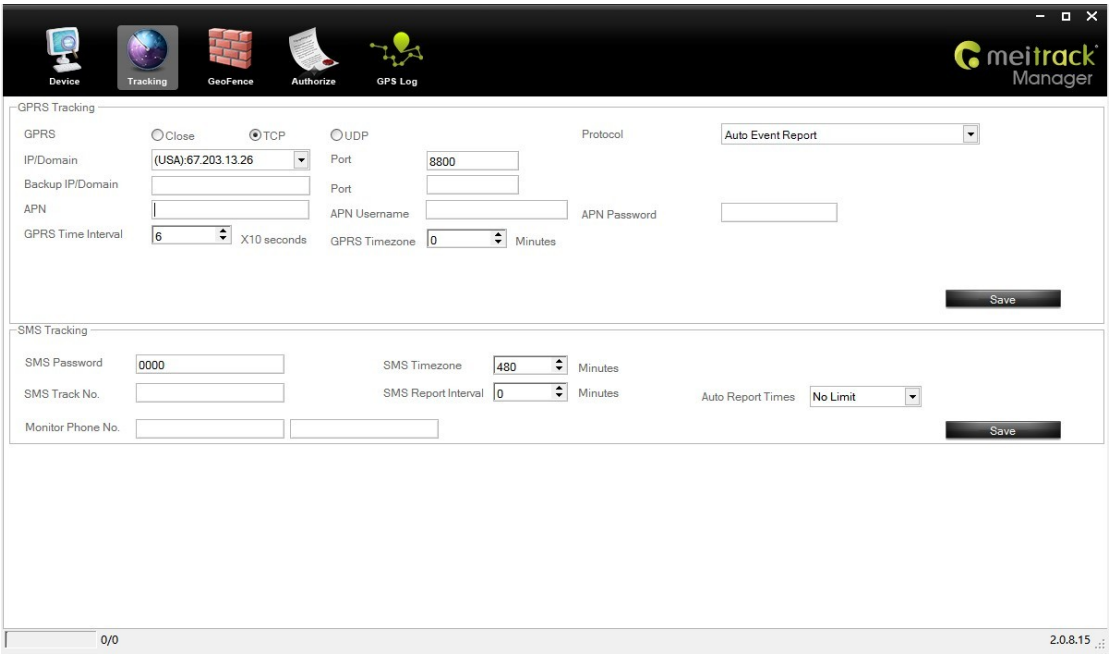

Items	**Descriptions**
GPRS	Close: Close the GPRS timing uploading function. TCP: TCP is a stable connection mode. This mode is used by default. UDP: UDP can save traffic but less stable.
IP/Domain and Port	Input main server's IP address and port number. Note: main IP: 67.203.13.26, main port: 8800.
Backup IP/Domain and Port	Input backup server's IP address and port number to avoid losing data when main server is down. The backup server will receive data automatically.
APN/APN user name/APN password	APN, APN username, APN password: max 32 bytes. If no username and password required, leave them blank.
GPRS Time Interval	➢ Track by time interval via GPRS. ➢ Set time interval for GPRS tracking. ➢ Interval is in unit of 10 sec. (fill in "6" means 60 secs) Interval = 0, stop tracking by time interval. ➢ Max time interval = 65535 * 10 sec.
GPRS Report Times	= 0, no limit, unlimited times for report. = [1,65535], set report times, MT90 will stop reporting when reaching the preset times. Note: GPRS upload interval is default as 60 seconds.
GPRS Time Zone	➢ Default time of the tracker is GMT0, you can use this to correct the trackers time to your local time for SMS report. ➢ Minute = 0, GMT0 (default)' ➢ Minute = [-32768,32767], set time difference in minutes to GMT.
Save	Save above settings to the tracker.

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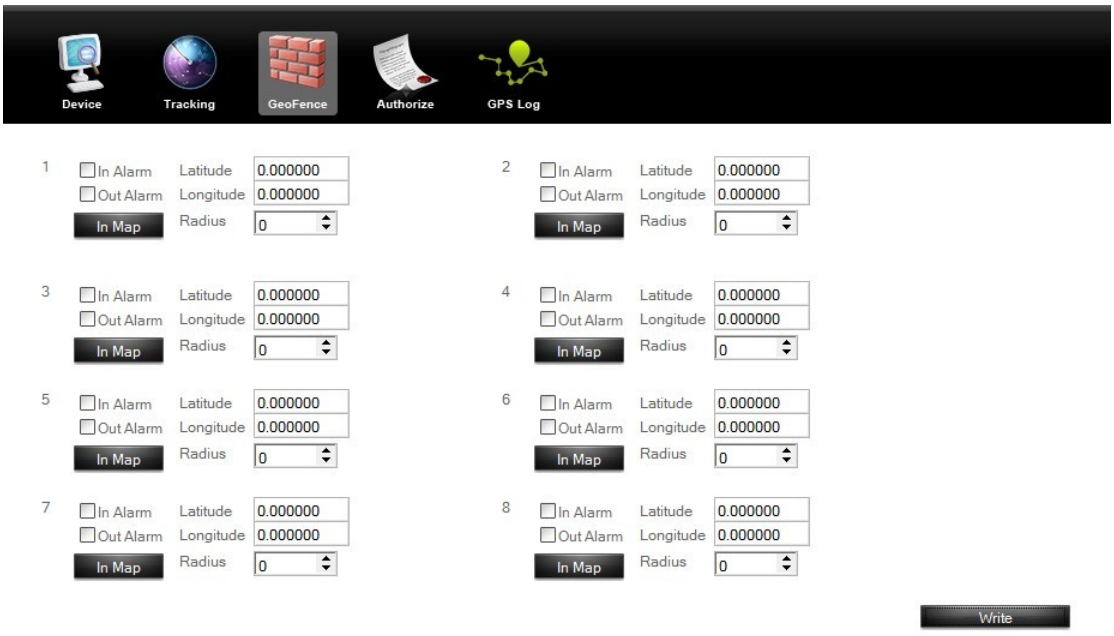
8.2 GeoFence

Choose the third tab: GeoFence.



The GeoFence is a circular fence centered at a point with the radius being of a present distance. The maximum number of fences is 8.

In Alarm: When the terminal enters the preset GeoFence, the alarm is triggered. The corresponding SMS header is displayed on the right textbox and is “In Alarm” by default.

Out Alarm: When the terminal leaves the preset GeoFence, the alarm is triggered. The corresponding SMS header is displayed on the right textbox and is “Out Alarm” by default.

In Map: To draw a fence on the map, click “In Map”.

8.3 Event Authorization

Choose the fourth tab: Authorize.

The lower half in the tab page is settings on GPRS events and buzzer alerting.

GPRS events and buzzer alerting can be set separately.

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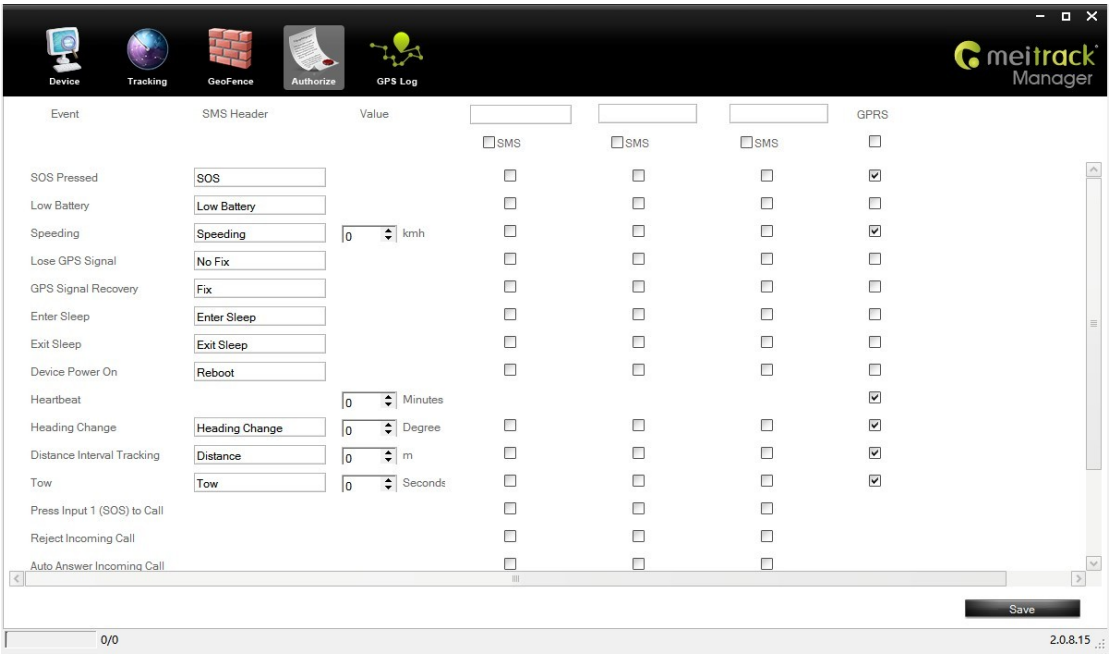

For more details about GPRS settings, please refer to MEITRACK SMS PROTOCOL and MEITRACK GPRS COMMUNICATION PROTOCOL.

9. Log on GPS Platform

Please register and log onto our free GPS platform by: http://www.meigps.com

User name: IMEI No.

Password: 0000 (default)

Functions implemented by the GPS platform are as follows:

- Query an address of an exact location at certain time
- Query the trace
- Add favorites
- View report forms

For more information about our GPS platform, please refer to Meitrack Family Personal Edition User Guide.

10. Safety and Usage Information

Use Only Meitrack-Approved Accessories

Incompatible accessories may cause serious injuries or damages to your device.

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Handle and Dispose of Batteries and Chargers with Care

- Use only Meitrack-approved batteries and chargers specially designed for your device. Incompatible batteries and chargers may cause serious injuries or damages to your device.
- Never place batteries or devices on fire or in heating devices, such as microwave ovens, stoves, or radiators. Batteries may explode when overheated.

Correct Disposal of Batteries of MT90

(Waste Electrical and Electronic Equipment Directive -- Applicable in European Union and other European countries with separate battery return system.)

This symbol in the manual indicates that this product and its accessories (such as chargers, batteries and USB cable) should not be disposed of with other household wastes when they reach the end of their life. If batteries are not properly disposed of, these wastes may cause harm to human health and the environment. To prevent the harm, please dispose of or recycle them separately from other waste so as to boost resource recycling and reuse.

For any questions, please feel free to contact us at info@meitrack.com.

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