Revision: V1.9

MT90 | User Manual

Thanks for purchasing this Meitrack MT90. This device will provide you high quality GPS tracking service based on Meitrack's exceptional technology and standards.

This user manual has been specially designed to guide you through the functions and features of your MT90.

- Please read this manual carefully before using your device to ensure safe and correct use.
- The descriptions of your manual are based on the default setting of MT90.
- Please keep this manual for future reference.

Warm Tips

Choose a rate plan wisely: Your MT90 can use up Internet bandwidth quickly. Before you use your MT90, we strongly recommend that you talk to your mobile operator about data rates. If you're on a standard data plan, the costs could really add up. Switching to a flat-rate plan could be a lot cheaper.

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MT90 Applications

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

MT90 Features

- SiRF IV GPS and Quad Band GSM 850 / 900 / 1800 / 1900Mhz
- Small in Size (77x47x20mm) and Light in Weight (65g)
- Waterproof IP65
- Low Power Consumption and Long Standby Time
- GPS and GSM Base Station of Bi-module Positioning
- Track by SMS / GPRS (MEITRACK Protocol)
- Inbuilt Accelerometer Sensor
- Inbuilt Battery

MT90 Main Functions

Track on Demand	Track by Time Interval	Track by Distance Interval
Two-way Audio	Data Logger	SOS Alarm
Geo-fence Alarm	GPS Blind Area Alarm	Low Battery Alarm
Speeding Alarm	Mileage Report	Listen-in (Voice Monitoring)

MT90 Specifications

Item	Specifications
Dimension	77 x 47 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

Item	Specifications
Operating Temperature	-20°C~55°C
Humidity	5%~95%
Work Time	45 hours in power-saving mode and 14 hours in normal mode
LED	2 LED lights to show power, GPS, GSM and other status
Button	5 Buttons for making phone call and sending SMS
Microphone/Speaker	Internal microphone and speaker
Memory	8MB
Sensor	Accelerometer
GSM Frequency	GSM850 / 900 / 1800 /1900MHz
Channel	48 channels all-in-view tracking
GPS Chip	Latest GPS SiRF IV chipset
GPS Sensitivity	-163Db
Positioning Accuracy	10 Meters, 2D RMS

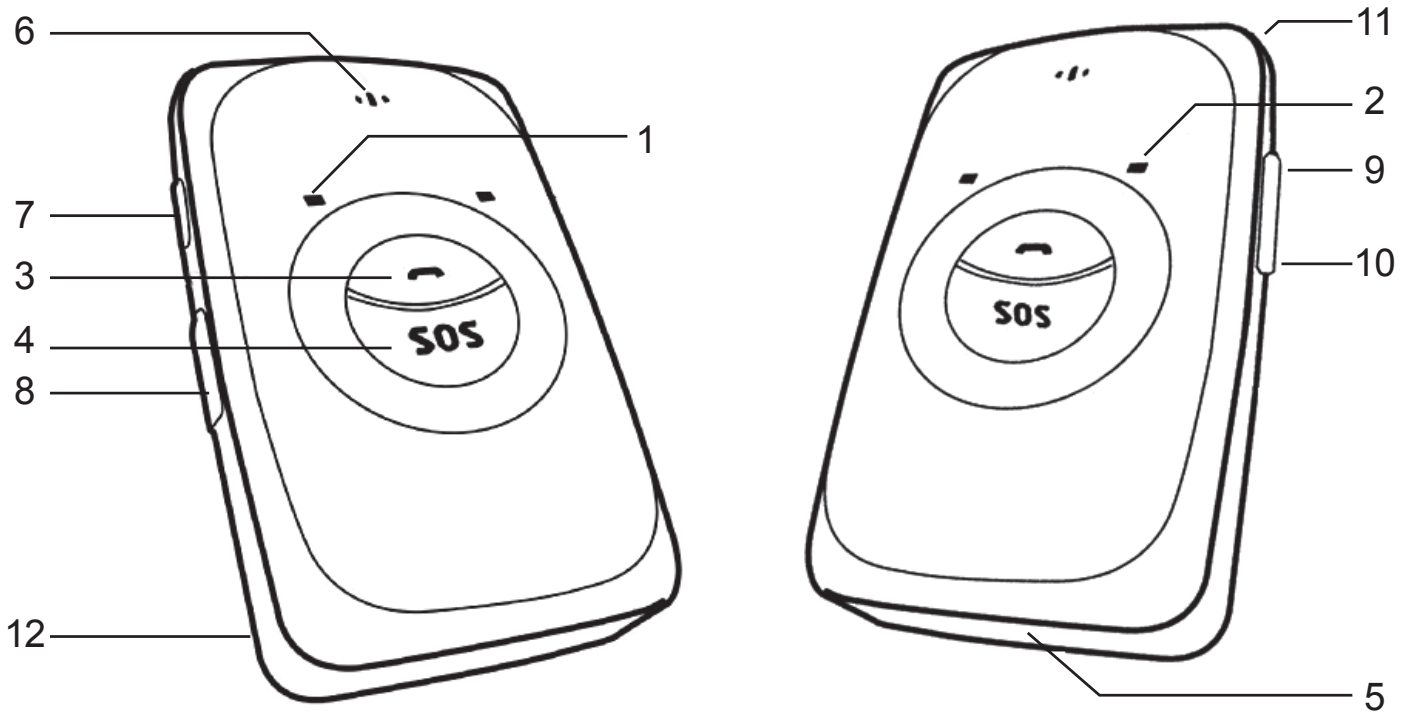
Inside the Box

Please check your product box for the following items:

- MT90 Device
- Battery
- USB Cable
- Travel Adapter (Charger)
- Mini Screwdriver
- Lanyard
- User Manual, Warranty Manual and CD

Soft Reminder: Use only Meitrack-approved software. Pirated or illeagal software may cause damage or malfunctions that are not covered by Meitrack's warranty. The supplied accessories perform best for your device.

Your MT90



No.	Item	Description
1	GPS LED Flashlight (Blue)	Indicates GPS and battery status, please refer to below LED Indications.
2	GSM LED Flashlight (Green)	Indicates GSM status, please refer to below LED Indications.

No.	Item	Description
3	Answer / Hang-up Button	Press to receive an incoming call. Press to complete a conversation. Long press for 2 seconds to send GPRS message to the server when no incoming call or conversation.
4	SOS Button	Long press for 2 seconds, MT90 will dial 3 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.

No.	Item	Description
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 parameters, updating software and so on.
9	Volume+ / GPS Log Button	◇ Light 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 buzzer “BI” once, the logger will run automatically. MT90 will log the route every 30 seconds (default) automatically. Route record can be exported with the computer. ◇ Long press for 2 seconds again, when the buzzer “BI” twice, and the logger will stop automatically. Note: you can disable GPS Log button through Meitrack Manager to avoid operating failure (default: valid).

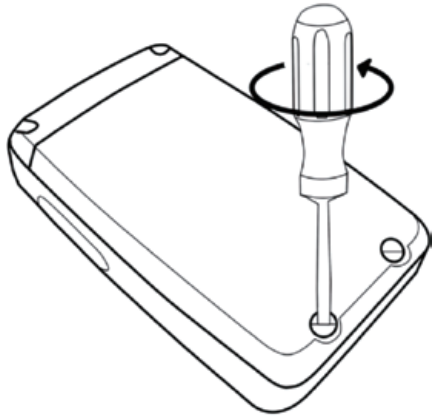
No.	Item	Description
10	Volume- / GPRS Button	Light press to turn down the volume. In standby mode, long press for 2 seconds, when the buzzer “BI” once, GPRS function will be enabled automatically. (Precondition: GPRS parameter must be set in advance, default GPRS message interval is 10 minutes). Long 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.

LED Indications

Long press the switch for 2 seconds to turn on / off MT90.

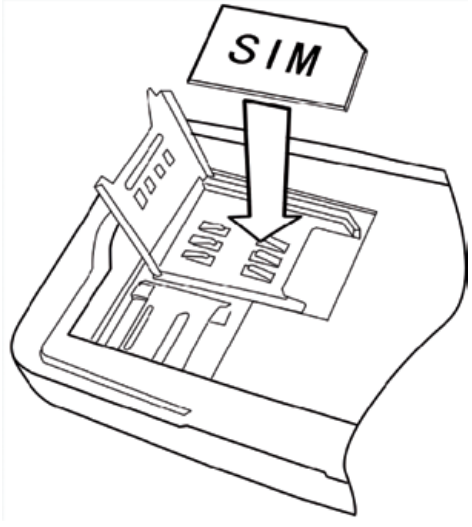
GPS LED Flashlight (Blue)	
On	**Charging**
Flashing (every 5 seconds)	Sleeping
Flash (1 second on, 1 second off)	No GPS fix or initializing
Off	GPS fix
Fast Flash (0.3 second on, 0.3 second off)	Low battery

GSM LED Flashlight(Green)	
On	**A call is coming in or busy**
Flashing (every 5 seconds)	Sleeping
Flashing (1 second on and 1 second off)	No GSM signal or initializing
Off	MT90 is connected to the GSM network



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.



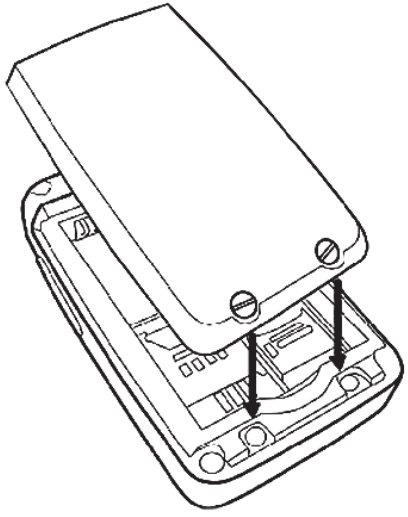
2. Insert the SIM Card

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 be using the 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

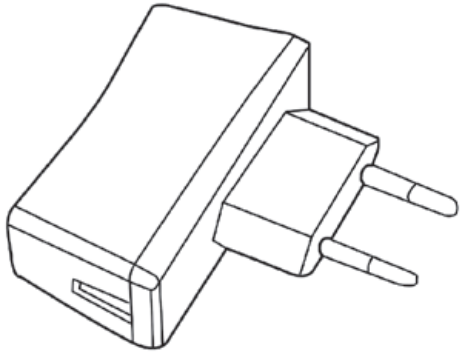
Insert the contacts side of the battery first and then gently push the battery cover into place.

Notes: 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.

5. Charge the Battery

The battery is partially charged when shipped. Before using the device for the first time, it is 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.

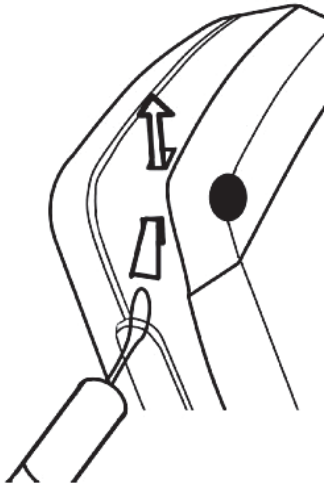
Note: While charging, the device may heat up. This is normal and should not affect your device's lifespan or performance.If the battery is low, it may affect the positioning effect and data transfer. Please charge the battery before using.



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 p ower 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 promoted to set up your device. For more information on how to set up your device, please read the following instructions.

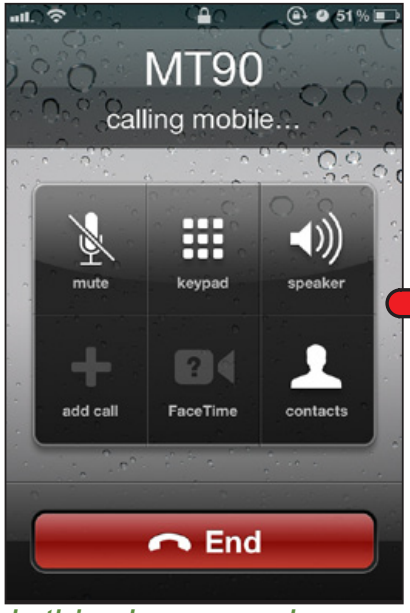
Quick Operation Instruction

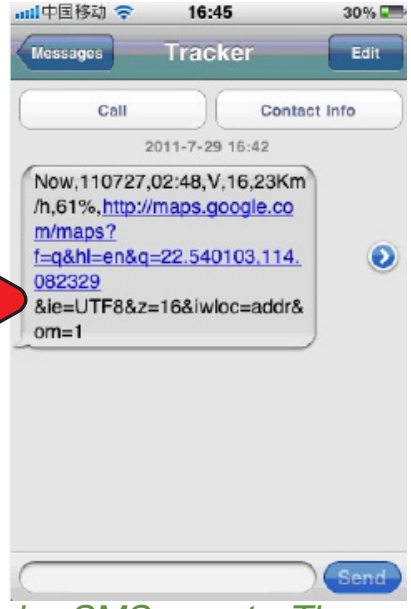
Operation Tips: To properly use the MT90, common parameters should be set in advance before initial use. This can be done by using the parameter editor or by sending SMS commands to the device. Doing so will adapt the tracker to local time, allowing you to better enjoy the GPS service of Meitrack.

1. Real-time Location Tracking

This location-tracking for knowing the current location of MT90, to ensure normal function of the GPS signal.

- Call the SIM card number embedded in MT90, hang up till 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

2. SOS

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 up SOS emergency communications number.

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

  Note: The default value is empty,if the function numbers are less than three while setting, it must be add ","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 function numbers, or you can also consult your local mobile operator.*

3. Listening-in (Voice Monitoring)

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.

- The Content of Mobile Phone SMS:
  0000, A72, Monitor Number 1, Monitor Number 2
- Sent to the embedded SIM card numbers.
  IMEI, A72, OK

  Successfully set up monitor number.

- When the pre-set monitor number calls the MT90, the device will answer automatically and enter into the listening state. It will not emit any sound.

Note: The default value is empty, if the monitor numbers are less than two while setting, it must be added “,” to avoid setting failed.

To clear the combination of monitor number directly sending **0000, A72**

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

4. Sleep Mode

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

- 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. GSM module work, GPS module work by 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.

MT90 can enter sleep mode under movement , and movement can't 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.

5. Time Zone

This command modifies the SMS report to display the correct local time. Default Beijing time, GMT480. Please follow below instructions for time zone modification.

- The Content of Mobile Phone SMS:

  0000, B35, 480

  Sent to the embedded SIM card numbers.

- MT90 Automatic Reply SMS:

  IMEI, B35, OK

  Set up the time zone successfully.

  Note: This value is your MT90's IMEI number. The device will send this data automatically and these numbers do not represent anything significant to the functionality of the tracker. Below the same applies.

6. More Settings

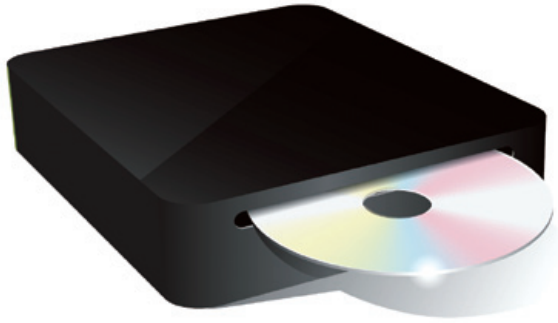
You can configure MT90 by mobile phone or by computer using the Meitrack Manager to Setting Mutiple Software. For more details, please refer to "Configuration by Computer".

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

Configuration by Computer

This part mainly shows you how to use the Meitrack Manager.
Please refer to the Meitrack Manager User Guide for more information regarding configuration and functions.

Install the MT90 software of Meitrack Manager



Find the software of Meitrack Manager from the CD.

setup.exe

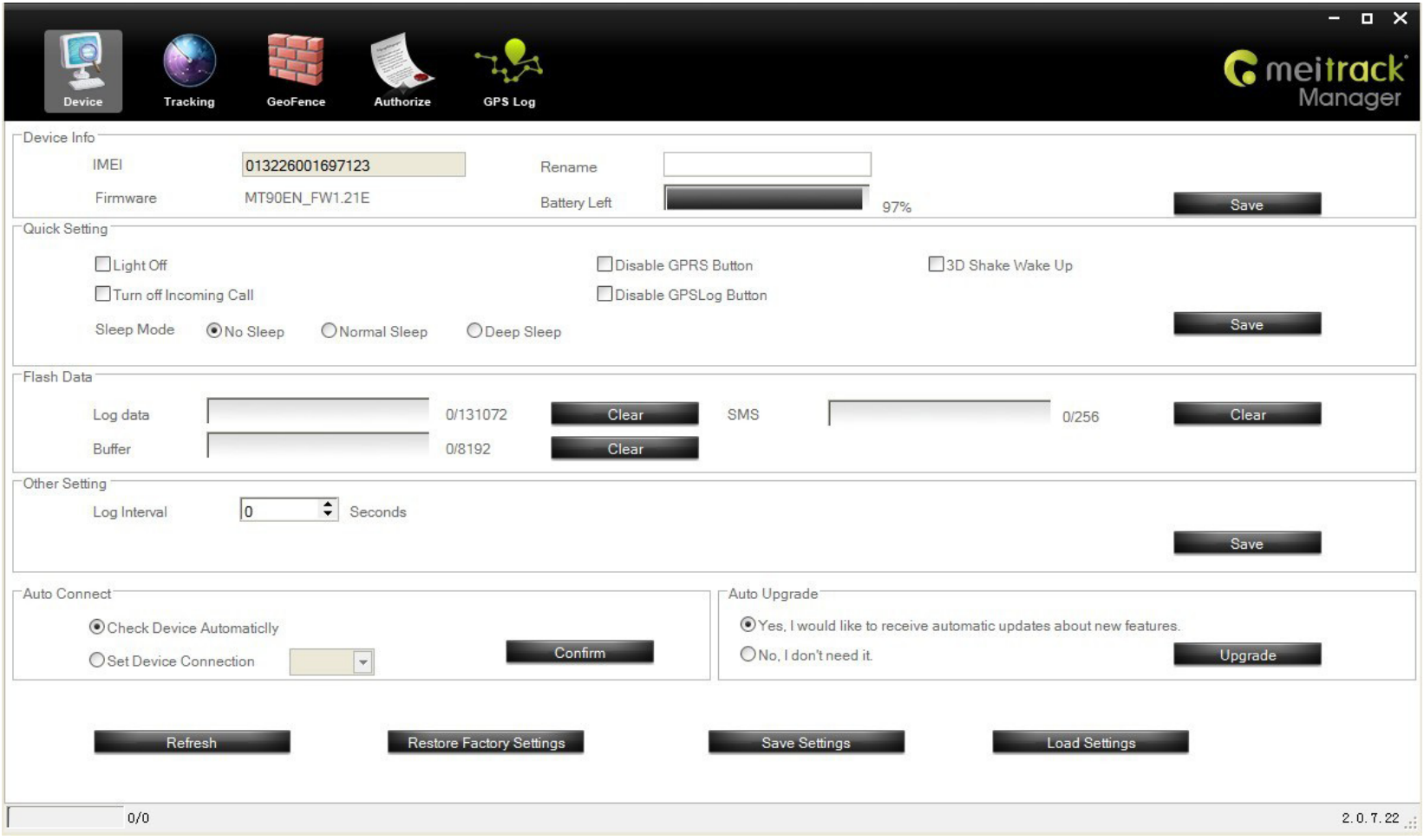
Install it following the steps, and find the application icon of Meitrack Manager.

Meitrack Manager

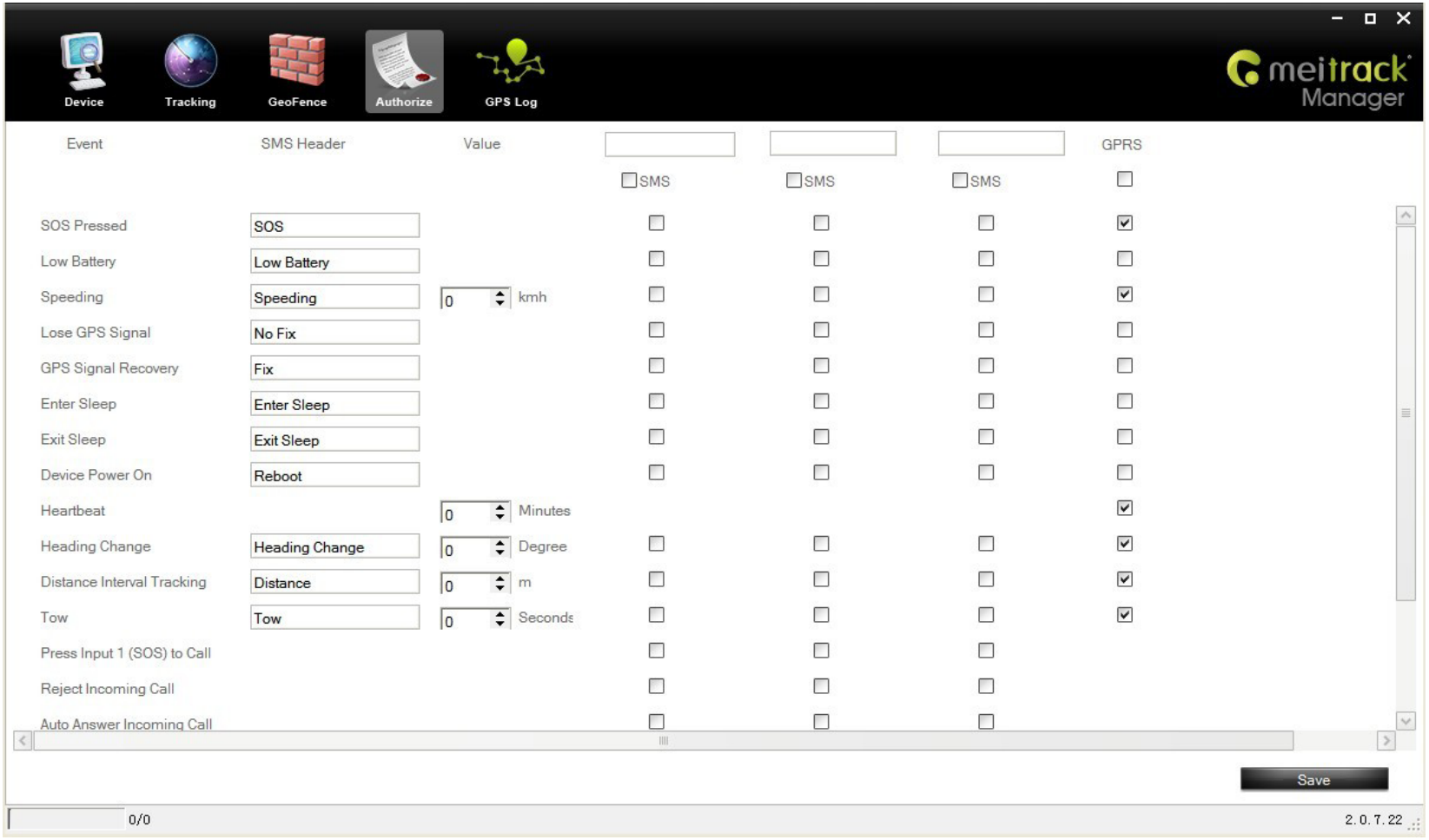
Connect MT90 with computer, and sync the setting of Meitrack Manager.

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

Run ‘Meitrack Manager.exe’, it will detect Comm port and read all MT90’s parameters automatically:



SMS Tracking



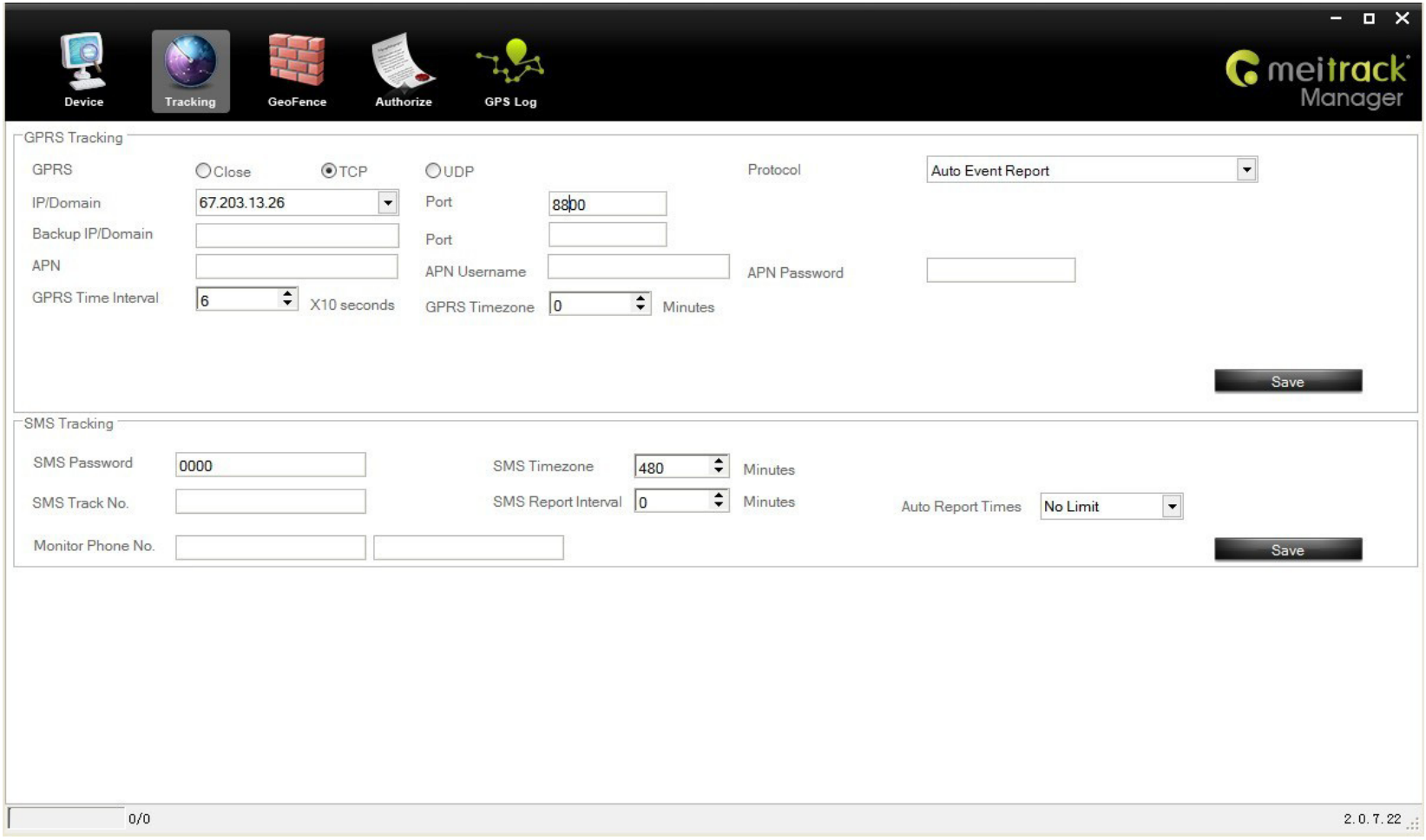
Items	Descriptions
SMS Password	The defaulted value 0000 of SMS password for sending SMS commands by mobile phones.
SMS Time Zone	Default time of the tracker is GMT 480, you can use this to correct the trackers time to your local time for SMS report. minute = 0, GMT 0 (default); minute = [-32768,32767], set time difference in minutes to GMT. Time zone for SMS is the same as GPS Log, but separate from GPRS packet.
Authorization No.	A phone number to receive SMS reports, incoming call and selected event reports.
SOS Call	Press SOS button and make a call to authorized phone No.
Reject Incoming Call	Hang up automatically when an incoming call is received from correspondent authorized phone No.

Items	Descriptions
Auto Answer Incoming Call	Auto answers incoming call from authorized phone No. and enables two-way audio.
Report SMS Location	Report SMS location after receiving an incoming call.
SOS Alarm	Report to authorized phone No. when SOS button is pressed. SMS header defaulted as “SOS”.
Low Battery Alarm	Report when backup battery’s voltage is below 3.5V. SMS header defaulted as “Low Battery”.
Speeding Alarm	Report when MT90 speeds higher than the pre-set value. SMS header defaulted as “Speeding”.
GPS Blind Area Alarm	◇ Enter Alarm: report when MT90 enters GPS Blind Area. SMS header defaulted as “No Fix”. ◇ Exit Alarm: report when MT90 exits GPS Blind Area.SMS header defaulted as “Fix”.

Items	Descriptions
Sleep Alarm	Enter Alarm: report when MT90 enters sleep mode. SMS header defaulted as “Enter Sleep”. Exit Alarm: report when MT90 exits sleep mode. SMS header defaulted as “Exit Sleep”.
Distance Interval Alarm	Report when MT90’s journey reaches pre-set distance. Distance is in meters. SMS header defaulted as “Distance”.
Reboot	Report when MT90 reboots. SMS header defaulted as “Reboot”.
Geo Fence Alarm	Geo-fence is circle with preset radius. Max 8 Geo-fence waypoints can be set. Enter Alarm: report when MT90 enters Geo-fence. SMS header defaulted as “Enter GEO”. Exit Alarm: report when MT90 exits Geo-fence. SMS header defaulted as “Exit GEO”. Add New: set radius latitude and longitude, or draw Geo-fence on map directly in circle.

Items	Descriptions
Monitor Phone No.	Authorize a phone number to make a silent call to the tracker. The tracker will answer the call automatically which allows the caller to listen to what is happening around the tracker. There is no voice indication that the call is in progress. Phone Number: Max 2, 16 characters. If no preset phone number, it is empty (default).
SMS Track No.	Authorize a phone number to receive SMS report by time interval. SMS Report Interval: = 0, stop tracking by time interval (default); = [1,65535], track by interval in minute. Auto Report times: = no limit, unlimited times for report; = [1,255], it will stop reporting when reaching preset times.
Save	Save above settings to the tracker.

GPRS Tracking



Items	Descriptions
GPRS	Select TCP / UDP to enable GPRS communication. Close: Close GPRS upload time. TCP: TCP is a stable connection, it is recommended to use this model. UDP: UDP can save traffic and less stable. Note: GPRS connection is default as turn off.
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. Note: backup IP: 67.203.13.26, backup port: 8801.
APN APN user name APN password	APN, APN username, APN password: max 32 bytes. If no username and password required, leave them blank.

Items	Descriptions
GPRS Time Interval	Track by time interval via GPRS. Set time interval for GPRS tracking. Interval is in unit of 10 seconds. (fill in “6” means 60 seconds) Interval = 0, stop tracking by time interval. Max time interval = 65535x10 seconds
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 GMT 0, you can use this to correct the trackers time to your local time for GPRS report. minute = 0, GMT 0 (default); minute = [-32768,32767], set time difference in minutes to GMT.
Save	Save above settings to the tracker.

For more details on SMS or GPRS settings, please refer to MEITRACK SMS / GPRS Protocol.

Log on GPS Platform

Please visit Meitrack Family GPS Tracking System (www.trackingmate.com) and select Free, or visit directly by: http://free.trackingmate.com

Login: IMEI No.

Password: 0000(Default)

The function on the GPS platform can be realized as follows:

- Snail Tracking
- Geo-fence Control
- Receive and Display Alarms
- Report and Statistics
- Online Configuration

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

Please do not hesitate to email us at info@meitrack.com if you have any questions.

Safety and Usage Information

Handle and dispose of batteries and chargers with care

Use only Meitrack-approved accessories specially designed for your device. Incompatible accessories can cause serious injuries or damage to your device.

- Never place batteries or devices on or in heating devices, such as microwave ovens, stoves, or radiators. Batteries may explore when overheated.
- Never crush or puncture the battery. Avoid exposing the battery to high external pressure, which can lead to an internal short circuit and overheating.

Correct Disposal of Batteries of MT90

(Applicable in the European Union and other European countries with separate battery return system).

This marking in the battery, manual or packaging indicates that batteries on this product should not be disposed of with other household waste at the end of their working life. If batteries are not properly disposed of, these substances can cause harm to human health or the environment.

To protect the natural resources and to promote material reuse, please separate batteries from other types of waste and recycle them through your local, free battery return system.

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