

GPS Personal Tracker

User Manual

V1.4

PT08

Contents

1. Product Overview	3
What's New	3
Functionalities	3
2. PT08 Characteristics	3
3. For Your Safety	4
4. Getting Started	4
4.1 Tracker and Accessories	5
4.2 View	5
4.3 Functional Parts	5
5. First Use	6
6. Change Password	6
7. Time Zone	6
8. Track	7
8.1 Track by SMS	7
8.2 Track by Calling	8
8.3 Tracker by Preset Interval	8
8.4 Google Earth and Google Map	9
8.5 Track by 800D	9
8.5.1 Configure PT08 by Parameter Editor V1.39	9
8.5.2 Configure PT08 by SMS	10
8.5.3 Add PT08 to 800D web based tracking software	11
9. Authorization	13
10. Movement and Geo-fence	13
11. Listen in (Voice Monitoring)	14
12. Power Down	15
13. Track Log	15
13.1 Track by Interval	15
13.2 Auto Log when on GPRS	15
14. Initialization	15
15. Copyright and Disclaimer	16
Contacts	17

1. Product Overview

Thanks for purchasing GPS Tracker PT08.

The PT08 is a very small, light-weight, quality tracking device specially designed for lone workers, children, personal safety, car security or even pets.

Through GPS and GSM or GPRS communications, PT08 can get its position and send the position data back to your mobile phone or server to be displayed on maps.

What's New

- **Compact Size** - only 61mm x 42mm x 15mm
- **Light Weight** - only 50g (with battery)
- **Low Power Consumption** - 4 days in standby mode
- **Fast and Stable Reception for GPS/GSM Signal** by using famous Telit's module integrating full 20-channel GPS functionality. It combines the high performance from Telit's proven GSM/GPRS core technology with the latest SiRFstarIII™ high sensitivity single-chip GPS receiver.
- **Modern and Professional Design**
- **Quad-band GSM** - Workable anywhere all over the world.
- **Optional clip for watch belt or pet collar**



Functionalities

- Tracking via SMS or GPRS (TCP/UDP) with Our Protocol
- Track on demand
- Show tracker's location directly on mobile phone
- Track by time interval
- Listen in (Voice Monitoring)
- GSM blind area memory
- Logging capacity up to 180,000 waypoints
- SOS panic button
- Movement alarm
- Geo-fencing control
- Low battery alarm
- GPS blind area alarm (in/out).



2. PT08 Characteristics

Items	Specification
Device	
Charging Voltage	DC 4.2-5.5V/400mA (Mini USB port)
Battery	Rechargeable and removable 800 mAh battery (3.7V)
Dimension	61x42x15mm
Weight	50g (with battery)
Operating temperature	-20° to 55° C
Humidity	5% to 95% Non-condensing
Work time	96 hours in standby mode and 10 hours in continuous working mode
LED	2 LEDs showing GPS, GSM status
Button	One SOS panic button and one power On/Off button

PT08 USER MANUAL

Microphone	Built-in microphone for Voice Monitoring
Memory	4MB
GSM	
GSM module	Quad-band GSM 850/900/1800/1900MHz
SIM Card Interface	Support SIM card: 1.8V, 3V
GPS	
GPS Chipset	Latest SiRF Star III high sensitivity single-chip GPS receiver
GPS Sensitivity	-159dB
GPS Frequency	L1, 1575.42 MHz
C/A Code	1.023 MHz chip rate
Channels	20 channel all-in-view tracking
Position Accuracy	10 meters, 2D RMS
Velocity Accuracy	0.1 m/s
Time Accuracy	1 us synchronized to GPS time
Default datum	WGS-84
Reacquisition	0.1 sec., average
Hot start	<2 sec., average
Warm start	38 sec., average
Cold start	42 sec., average
Altitude Limit	18,000 meters (60,000 feet) max.
Velocity Limit	515 meters/second (1000 knots) max.
Acceleration Limit	Less than 4g
Jerk Limit	20 m/sec
Certification	
Module Approvals	CE, GCF, FCC, RoHS, PTCRB, IC

3. For Your Safety

Read these simple guidelines. Not following them may be dangerous or illegal. Read the full user manual for more information.

Switch on safely	Do not switch on PT08 when wireless phone use is prohibited or when it may cause interference or danger.
Switch off in hospitals	Follow any restrictions. Switch PT08 off near medical equipment.
Switch off in aircraft	Follow any restrictions. Wireless devices can cause interference in aircraft.
Switch off when refueling	Do not use PT08 when at a refueling point. Do not use near fuels or chemicals.
Switch off near blasting	Follow any restrictions. Do not use PT08 when blasting is in progress.
Qualified service	Only qualified personnel can repair PT08.
Water resistance	PT08 is not fully water resistant. Keep it dry. Use waterproof bag if necessary.

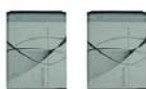
4. Getting Started

This section will describe how to set up your PT08.

4.1 Tracker and Accessories



PT08



Two Batteries
(Nokia BL-5B compatible)



Wall Charger



Car Charger



Desktop Charger



USB Cable



USB to
Serial



CD

4.2 View



Front view



Back view



Side view

4.3 Functional Parts



1. GSM LED (Green)
2. GPS LED (Blue)
3. Mini USB
4. Microphone
5. SOS Button
6. Power On/Off Button
7. Lanyard Loop

GPS LED - Blue	
Normally ON	SOS button is being pressed and held
Flashing (every 0.1 second)	The unit is being Initialized
Flashing (0.1 second on and 2.9 seconds off)	PT08 has a GPS fix
Flashing (1 second on and 2 seconds off)	PT08 has no GPS fix
GSM LED - Green	
Flashing (every 0.1 second)	The unit is being Initialized
Flashing (0.1 second on and 2.9 seconds off)	PT08 is connected to the GSM network
Flashing (1 second on and 2 seconds off)	PT08 is not connected to the GSM network
Buttons	
Power On/Off Button	To turn on/off PT08
SOS Button	When it is pressed, PT08 will send its position data back to the authorized phone number or base
Other Connectors	
Mini USB	Used for charging, firmware update, configuration on PC and exporting stored data. (USB to Serial Converter is required for firmware update, configuration and exporting stored data)
Microphone	for Voice Monitoring (listen in only)

Lanyard Loop	for connecting lanyard
---------------------	------------------------

5. First Use

- For the unit's first use, it will take around 4 hours to fully charge the battery.
Two ways to charge the battery:
 - Put the battery into the tracker and charge it by wall or car charger
 - Put the battery on the desktop charger
- When charged, insert a workable SIM card and turn the unit on pressing the On/Off button for 4 seconds.
- It is important to keep the unit still and under the open sky for it to successfully get a fix on the satellites.
- Once the tracker has a GPS fix it will start to flash blue (0.1 second on and 2.9 seconds off).
- Check that if Green LED is also flashing (0.1 second on and 2.9 seconds off) which means it has GSM connection



6. Change Password

Command: ****PXXXX

Description: Send this SMS command to change user's password

Notes:

The tracker will only accept SMS commands from a user with the correct password. Commands with wrong password will be ignored.

**** is the user's password. The default password is 0000.

XXXX is new password. Passwords are in 4 digits

Example:



Command



Response

The password is now changed to 1234.

7. Time Zone

Command: ****ZX

Description: Use this command to correct the time into your local time

Notes:

X=0, to turn off this function

X=[1, 65535] to set time difference in minute to GMT.

For those ahead of GMT, just input the time difference in minute directly. For example, 0000Z120.

'-' is required for those behind GMT. For example, 0000Z-240.

This correction is only applied to location reports by SMS and SMS alarms, NOT GPRS.

Example:



Command

Response

8. Track

8.1 Track by SMS

Track on Demand - Reply with longitude, latitude, speed and date

Command: ****T

Description: Get the current location of your PT08, send this SMS to PT08 and it will report its longitude and latitude by SMS.

Example:



Command

Response

Track on Demand - Reply with a Google Map link

Command: ****H

Description: Send this command to PT08 then you receive an SMS with an http link. Click on the link then the location can be shown directly on Google Map on your mobile phone. For example:

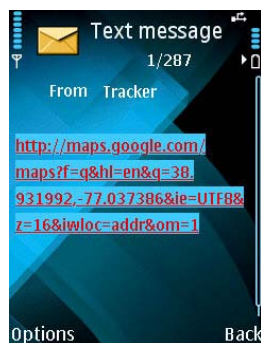
<http://maps.google.com/maps?f=q&hl=en&q=22.543908,114.088564&ie=UTF8&z=16&iwloc=addr&om=1>

Notes: Only smart phones and PDA support this function.

Example:



Command



Response



View

8.2 Track by Calling

Command: ****RX

Description: Enable the tracker to report its longitude and latitude or Google Map link by SMS after a missed call is made to the tracker.

Notes:

X=0, turn off this function

X=1, SMS in normal format

X=2, SMS in Google Map format

Example:



Command



Response

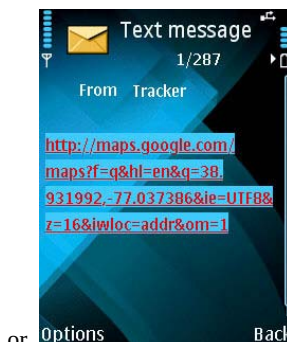
Then call the tracker and it will reply as follows:



Call



Response



or

8.3 Track by Preset Interval

Command: ****AX

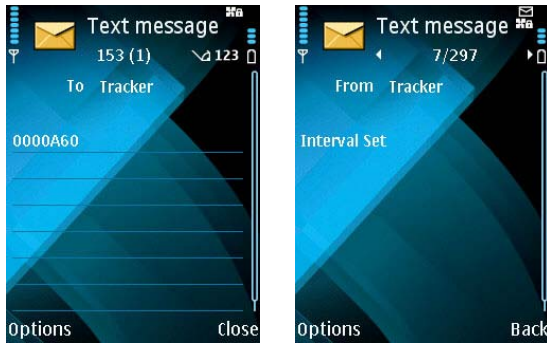
Description: Sets an interval for the tracker to continuously return its location by SMS

Notes:

X is the interval in minute with range [0, 999].

If X=0 it will stop tracking by interval)

Example:



Command

Response

The tracker will report its location by SMS every 60 minutes.

8.4 Google Earth and Google Map

Download Google Earth from <http://earth.google.com/>.

Start Google Earth (For more information about Google Earth please refer to <http://earth.google.com/>) or go to <http://maps.google.com> in your Internet Explorer

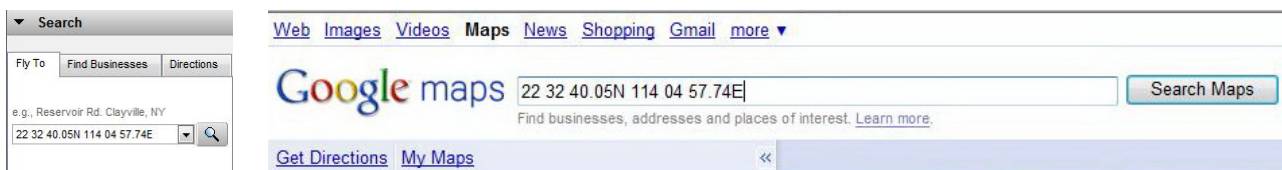
Input the latitude and longitude that you receive from the tracker by SMS and click the search button. Google Earth or Google Maps will display the location for you.

Example:

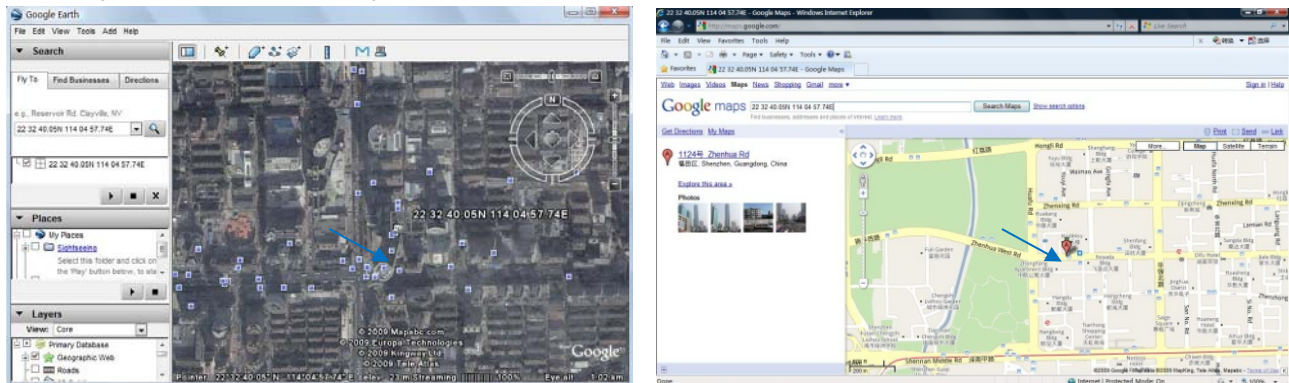
When you receive: Latitude = 22 32 40.05N Longitude = 114 04 57.74E

Type as the following picture shows:

(Note: you should input the latitude and longitude as: 22 32 40.05N 114 04 57.74E)



And then you can find the location of your tracker:

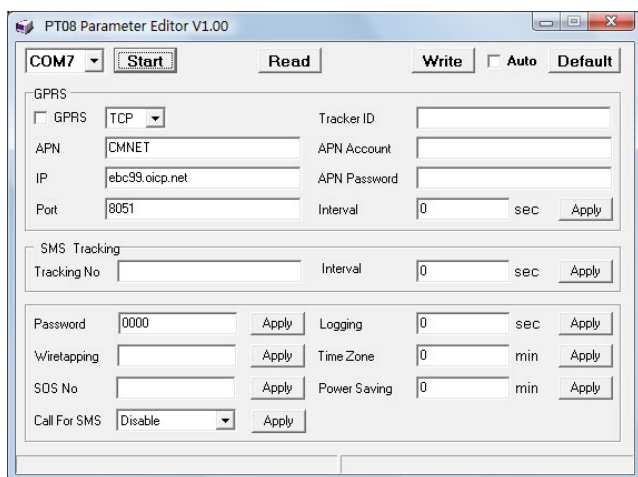


Or you can use local map software on PDA or car navigation device to input the coordinates.

8.5 Track by 800D web based tracking system

8.5.1 Configure PT08 by Parameter Editor

The tracker can be configured by computer using the Parameter Editor instead of sending SMS commands.



PT08 Parameter Editor

Please refer to <PT08 Parameter Editor> for more information.

8.5.2 Configure PT08 by SMS

Step 1: Set Tracker ID

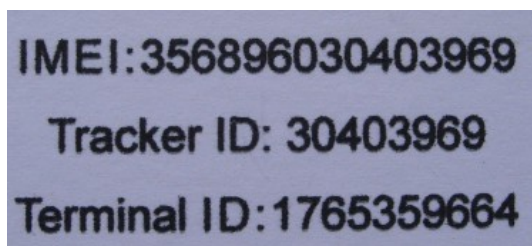
Command: ****NX

Description: Send this command to set an ID for the tracker.

Notes:

X is the tracker ID in digit only and the last 8 digits of IMEI

On the packing box of PT08, you can find a white label writes “IMEI, Tracker ID, Terminal ID”.



Example:

The “Tracker ID: 30403969” and then you should send.

0000N30403969

PT08 will reply “ID SET”

Tracker ID is 30403969 now.

Step 2: Enable GPRS Tracking

Command: ****GIP,Port, APN,Username,Password,X,T

Description: This command is to set IP, Port, APN, etc. to enable GPRS tracking.

Notes:

IP: xxx.xxx.xxx.xxx

Port: [1,65534]

APN defaulted as CMNET.

If no username and password required, just leave them blank.

X=0, turn off GPRS tracking (default);

X=1, enable TCP

X=2, enable UDP

Below is our 800D web based tracking server IP and Port.

IP: 119.146.223.203

Port: 8886

APN defaulted as CMNET. Please contact your SIM card provider for your APN name.

If no username and password required, just leave them blank.

X=0, turn off GPRS tracking (default);

X=1, enable TCP

X=2, enable UDP

T is the interval of sending GPRS packet with range [0, 65535]. It is in the unit of 10 seconds.

Example:

0000G119.146.223.203,8886,CMNET,Myname,6688,1,06 [with APN user name and password]

0000G119.146.223.203,8886,CMNET,,,1,06 [without APN user name and password]

PT08 will reply "GPRS SET"

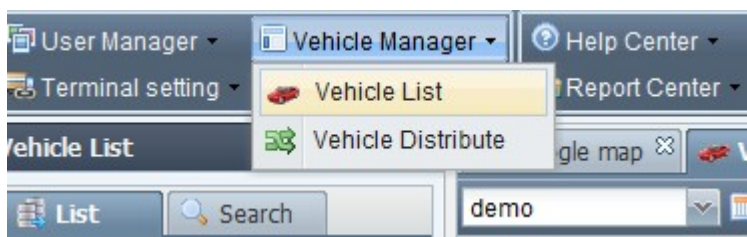
PT08 will send location every 60 seconds.

8.5.3 Add PT08 to 800D web based tracking software

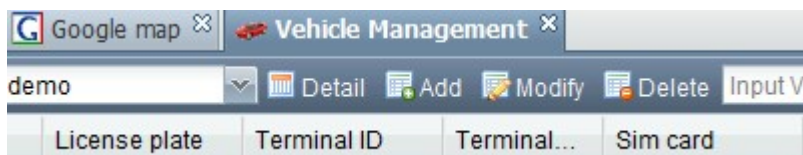
Please go to <http://119.146.223.203>

Enter the user name and password we provided.

After log in, please go to "Vehicle Manager-Vehicle List"



You will see the below window



Please click "Add" button, you will see the below window:

 A screenshot of a web form titled 'Add vehicle'. It contains several input fields: '*License plate:', '*Sim card:', '*Terminal Type:' (with a dropdown menu showing 'TE5'), and '*Terminal ID:'. Below these are fields for 'Owner Name:', 'Telephone:', 'Address:', and 'Remark:'. At the bottom, there is an 'Icon:' section with four car icons (blue, grey, red, yellow) and a 'Submit' button.

License Plate: Define by yourself; you can enter A-Z number or Numeric.

Very Important Note: Terminal ID and Plate number are unique on the software, you can add once only, you need to delete it from database before adding it again. Only admin account can delete id from database, general user cannot. You do not need to delete and re-add if the device cannot work on software, because it's caused by

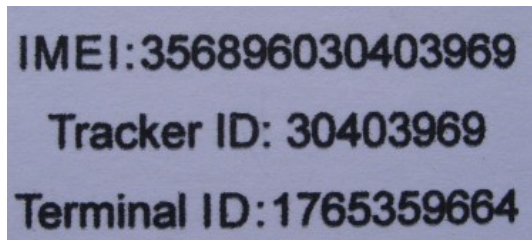
your wrong sms setting, not the software.

Terminal Type: Choose" TE5"

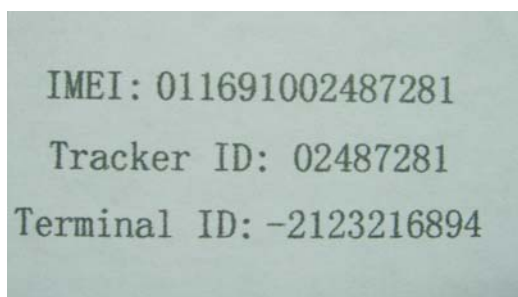
SIM card: the SIM card phone number you put in PT08.

Terminal ID: On the packing box of PT08, you can find a white label writes "IMEI, Tracker ID, Terminal ID" .

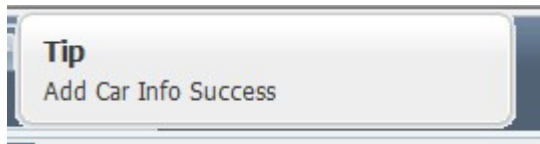
Very Important Note: Please do not omit the minus if there's a minus before the terminal ID.



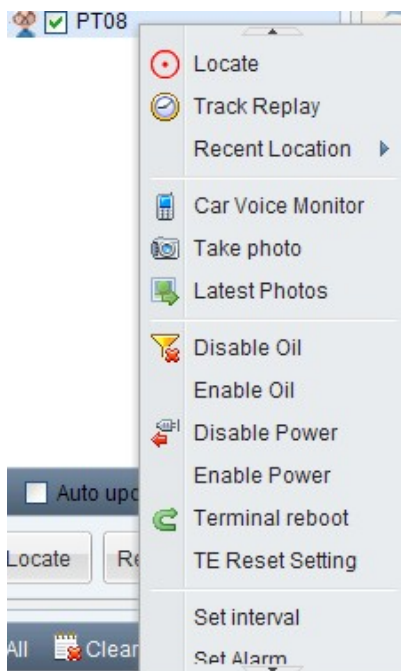
And,



Click "Submit", and then you add the car successfully on the software 800d.



Put a check mark on the device, and right click, you will see the menu as below picture. Now you can track online.



9. Authorization

Command: ****SX

Description: This is to authorize a phone number for the SOS button for receiving position reports or SMS alarms

Notes:

X is the mobile phone number to receive messages.

Example:



Command

Response

When the SOS button is pressed, the tracker will send an SMS to telephone number '13888888888' with location and SOS alarm.

10. Movement and Geo-fence

- Movement Alarm

Command: ****MX

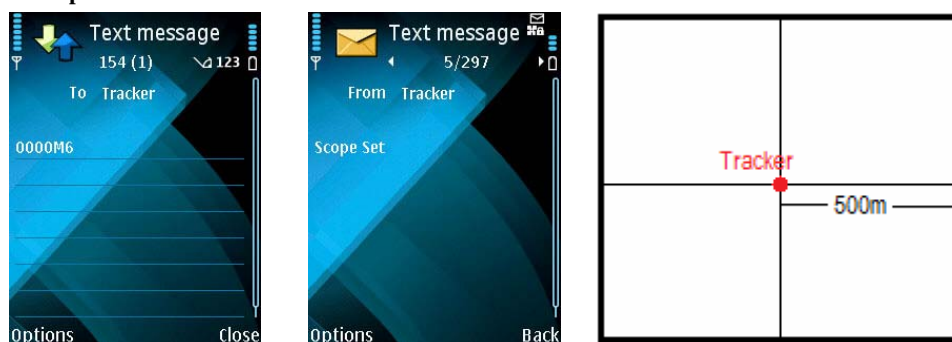
Description: Send this command to set movement alarm. When PT08 moves out of a preset square scope, it will send an SMS alarm to the authorized phone number for SOS button.

Notes:

X is preset distance to original place

X=0, to turn off this function	=5, 300m
=1, 30m	=6, 500m
=2, 50m	=7, 1000m
=3, 100m	=8, 2000m
=4, 200m	

Example:



Command

Response

An SMS alarm will be sent if the tracker holder moves more than 100 meters to the original place.

- Geo-fence Alarm

Command: ****EX or ****LX

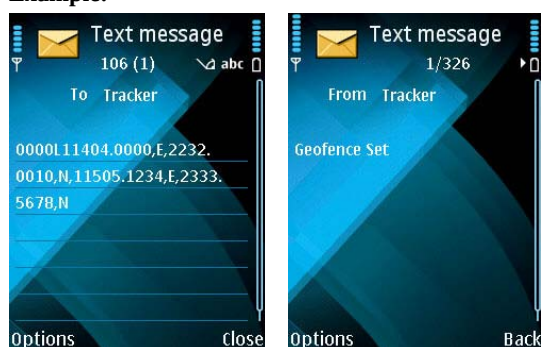
Description: Turns on Geo-fencing alarm. When the tracker moves in/out the preset scope, it will send an SMS alarm to the

authorized phone number for SOS.

Notes:

1. ****EX is to set alarm when the tracker enters the preset square scope and,
2. ****LX is to set alarm when the tracker exits the preset square scope.
3. Only one alarm can be set in either of above commands.
4. X is the coordinates which include Lower-left X,Lower-left Y,Upper-right X,Upper-right Y. For example:
11404.0000,E,2232.0010,N,11505.1234,E,2333.5678,N
5. Lower-left X should be less than Upper-right X;
6. All longitudes and latitudes should be in ASCII format as follows:
Longitude: DDDFF.FFFF,E/W. 4 places of decimal. '0' is needed to be stuffed if no value available.
Latitude: DDFF.FFFF,N/S. 4 places of decimal. '0' is needed to be stuffed if no value available;
7. Send ****M0 to turn off Geo-fence function.
8. Only one alarm can be set in either Movement Alarm or Geo-fence Alarm;

Example:



Command

Response

PT08 will send out SMS once it moves out the scope of 11404.0000,E,2232.0010,N,11505.1234,E,2333.5678,N

11. Listen in (Voice Monitoring)

Command: ****WX

Description: Authorizes a phone number to make a silence call to the tracker, the track answers the call automatically and allows the caller to listen to what happens around the tracker. There is no voice indication that the call is in progress.

Notes:

X is the telephone number for Voice Monitoring.

Example:



Command

Response

When you use 13888888888 to call PT08, it will answer the phone automatically and then you can hear what is happening around the tracker holder.

12. Power Down

Command: ****FX

Description: Make the tracker into power down mode when it is inactive for a period of time. In Power Down states, GPS stops working and GSM enters sleep and stop sending out message until it is activated by message, incoming calls or triggered by buttons.

Note:

X=0, to turn off this function.

X=1~255, to turn on Power Down after a specified period of being inactive. It is in unit of minute.

Example:0000F10

PT08 will reply "Sleep set"

The tracker will enter power down mode after it is inactive for 10 minutes.

13. Track Log

13.1 Track by Interval

Command: ****KX

Description: Set time interval for logging GPS information. The information is stored within the device memory. When the memory gets full, the newest record will be overwritten on top of the oldest (FIFO - First In, First Out). In that case, only the newest information is stored.

Note:

1. X=0, to turn off this function. X=[1, 65535] to set interval in the unit of SECOND.

2. The logged message is in GPRMC format and includes:

Date and time

Longitude

Latitude

Speed

Direction

3. All data, stored within the memory, may be exported to the PC using the USB connector. For this matter the "GPSLog" program has to be used (please refer to < GPSLog User Guide> and <GPRS Communication Protocol> for more information).

4. The device has 4MB internal memory space for storing the track log and is able to store up to 180,000 records within the memory.

Example:0000K60

PT08 will reply "Record set"

The tracker will store GPS data every 60 seconds.

13.2 Auto Log when no GPRS

When there is no GPRS connection, the tracker can store all GPS information triggered by preset tracking interval, alarms, request, or button activation and send this information (FIFO - First In, First Out) to server by GPRS or preauthorized mobile phone by SMS when GPRS connection recovers.

The interval memory can store up to 1500 SMS and 4600 GPRS message.

14. Initialization

Command: default

Description: This is to make all settings back to factory default.

Notes:

When PT08 is on, press the SOS button continuously for five times and then send 'default' to the tracker to make all settings back to

factory default

Example:



Command



Response

15. Copyright and Disclaimer

© All rights reserved.

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16. Troubleshooting

Problem: Tracker will not turn on	
Possible Cause:	Resolution:
The power button is not pressed long enough	Press and hold the button for 3-5 seconds.
Battery needs charging	Recharge battery for 4 hours
Problem: Tracker will not reply with SMS	
Possible Cause:	Resolution:
Green LED is flashing (on for 1 second and off for 2 seconds)	Make PT08 connected to GSM network.
GSM Network is slow	Wait for SMS. Some GSM networks slow down during peak time or when they have equipment problems.
Unit is sleeping	Cancel sleeping mode
Wrong password in your SMS or wrong SMS format	Write correct password or SMS format
The SIM card has run out of credit	Replace or top up the SIM card
Problem: Green LED is Flashing (on for 1 second and off for 2 seconds)	
Possible Cause:	Resolution:
No GSM signal	Check with a mobile phone to see if there is a signal in the area or try to call the unit to see if you hear a ring tone.
No SIM card	Insert a working SIM card. Check in phone that the SIM can send SMS message.
SIM card has expired	Check in phone that the SIM can send SMS message. Replace SIM card if needed.

SIM has PIN code set	Remove PIN code by inserting SIM in you phone and deleting the code.
SIM is warped or damaged	Inspect SIM, clean the contacts. If re-inserting does not help try another to see if it will work.
Roaming not enabled	If you are in a different country your SIM account must have roaming enabled.
Battery is low	Recharge the unit and the GSM will start working.
Problem: Blue LED is Flashing (on for 1 second and off for 2 seconds) or the SMS received starts with ‘Last...’	
Possible Cause:	Resolution:
Unit does not have clear view of the sky	Move the unit to a location where the sky is visible. Tall buildings, trees, heavy rain, can cause problems with the GPS reception.
Bad GPS reception	Place the front side of PT08 towards sky
Battery is low	Recharge the unit and the GPS will start working.
Problem: Unit Fails to Connect to Server via GPRS	
Possible Cause:	Resolution:
SIM card in PT08 does not support GPRS function	Enable SIM card GPRS function.
GPRS function of PT08 is turned off	Turn on GPRS function of PT08.
Incorrect IP address or PORT	Get the right IP address and PORT and reset to PT08.
GSM signal is weak	Move the unit to a location with good GSM reception.

Contacts

If you encounter any problems when using our products, and cannot solve them by yourself, please contact our technical support team by writing an e-Mail to us. We will be pleased to help you.