

# AVL-900

## User Manual



## **GoPass Technology Corp.**

17F., 866-1 Chung-Cheng Road, Chung Ho City, Taipei, Taiwan

Tel: (886-2) 3234-8838

Fax: (886-2) 3234-9868

E-mail: [support@gopasstech.com](mailto:support@gopasstech.com)

Website: <http://www.gopasstech.com>

# Table of Contents

<b>I. Hardware Installation.....</b>	<b>3</b>
A. Working Directions.....	3
B. System Introduction.....	4
C. Wiring Installation.....	5
1. Product Parts List.....	5
2. Precaution before Installation.....	6
3. Panel Description.....	6
4. INSTALLATION.....	7
5. Power Charging.....	10
6. Wiring Description.....	11
7. Description of the LED Indicators.....	11
8. Inspection Item after Installation.....	11
D. Operating Instructions.....	12
E. Hardware Specifications.....	13
F. Troubleshooting.....	14
<b>II. Track GPS Location by Google Earth/Maps.....</b>	<b>16</b>
<b>III. PDA Virtual COM Port Installation.....</b>	<b>19</b>
1. Installation.....	19
2. Un-installation.....	28
<b>IV. PDA Track Operation.....</b>	<b>30</b>
A. Architecture.....	30
B. Operation.....	32
1. SMS Track.....	32

1-1 Tools .....	33
[Install/Uninstall] .....	33
[Driver Options] .....	35
[Default Password].....	36
[Contact List] .....	37
1-2 Help .....	39
1-3 Functions.....	39
[General].....	40
[Track] .....	42
[Phone].....	46
[Park].....	47
[Message] .....	49
2. Operation Instruction- Navigation software of PAPAGO .....	50
3. Setting of Microsoft Pocket Streets .....	52
4. Tomtom Route Planner GPS Setting.....	53
5. Setting of Magic e-Map.....	54

## **V. PC Track Installation .....56**

1. Create a Virtual COM Port .....	56
2. Install Gopass PC Track Software .....	59
3. Send SMS Command Codes .....	60
4. Check GPS Data In-flow.....	63

## **VI. How to set up IP coordinate? .....64**

## **VII. Worldwide APN (Access Point Name) List .....67**

# I. Hardware Installation

## A. Working Directions

Thank you for your purchase of AVL-900 GPS/ GPRS Locator Tracker. 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 detach this product for maintenance or repair, your warranty will be invalidated.
2. When connecting the other devices, read carefully their instruction manuals, so as to carry out 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 interference to 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. We suggest replacing the stand-by battery each year in order to ensure its normal function.
10. 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.
11. For safety reason, do not tell the other people your AVL-900 mobile number, without taking precautions. Otherwise, your privacy may be compromised along with other safety problem.

## **B. System Introduction**

AVL-900 is a high-tech product through cooperation with mobile operators. It combines GPS Global Positioning System and GSM/GPRS communication system, which can clearly inform you the position & situation of your car.

GPS is the abbreviation for Global Positioning System, which is a product of the cold war between USA and USSR. During the cold war, USA arranged 24 position location satellites around the earth orbit, in order to measure the space coordinate and time of the measured objects through the triangular location method. These satellites were initially for military purpose. Then, they were allowed to be used for civilian purpose. Their locating precision can be kept within 10 to 15 meters.

GSM is the second digital mobile communication system (GPRS, second and fifth digital mobile communication system), and at present it is the mobile communication system that has the largest coverage and owns the most number of users. This product combines GPS and GSM/GPRS technologies together. It uses GPS system to locate your car, and sends the position/ situation report back to you via GSM/GPRS communication system.

With a delicate microphone, you can monitor the present situation in your car from a faraway place. You can use the telephone remote control function to set monitoring mode, which will report the situation of your car to you periodically.

Following are the function descriptions for the AVL-900 products.

### **1. In-Car Monitoring Function**

You can monitor the situation inside the vehicle by make a call (after 5 rings) to the unit; or by sending a SMS message (100) to the unit; it will return phone call automatically for monitoring action.

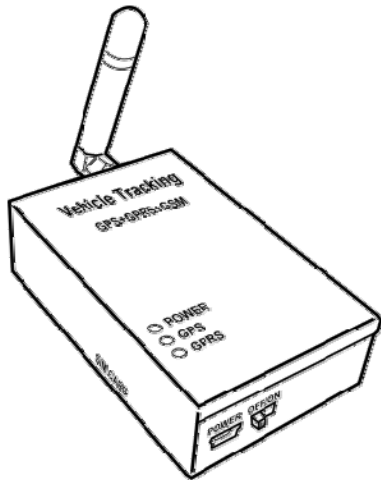
### **2. GPS Position Tracking Function**

With this function, the vehicle owner will be able to know the geographic coordinates, speed, direction, and other related information of the car anytime in any place. The report methods can be via SMS short message service, or via GPRS. You can also select a one time report or continuous report (tracking function).

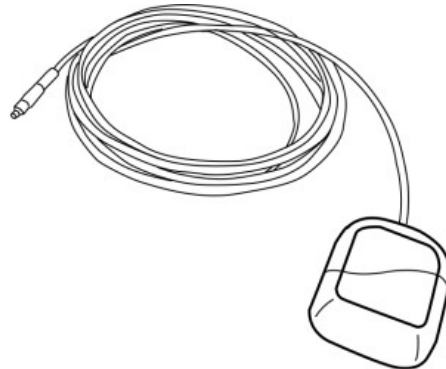
# C. Wiring Installation

## 1. Product Parts List

- AVL Unit + GPRS Antenna



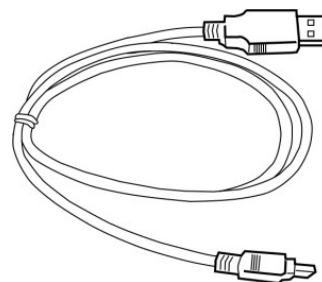
- GPS Antenna



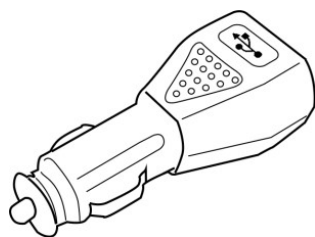
- Microphone with Connecting Wire



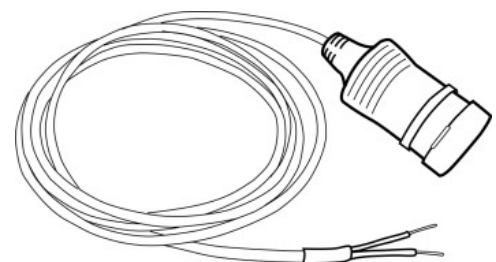
- USB-Mini USB Adapting Cable



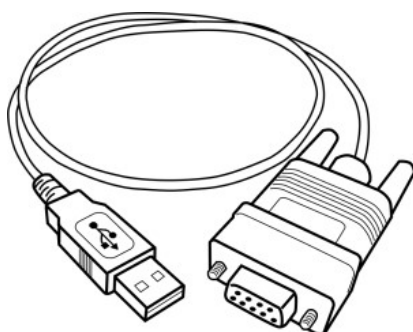
- Car Charger with USB Connector



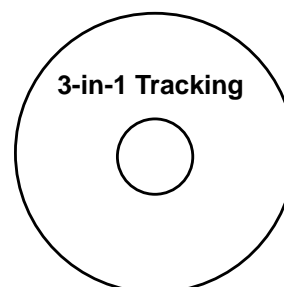
- Car Charger Lighter Socket



- USB - RS232



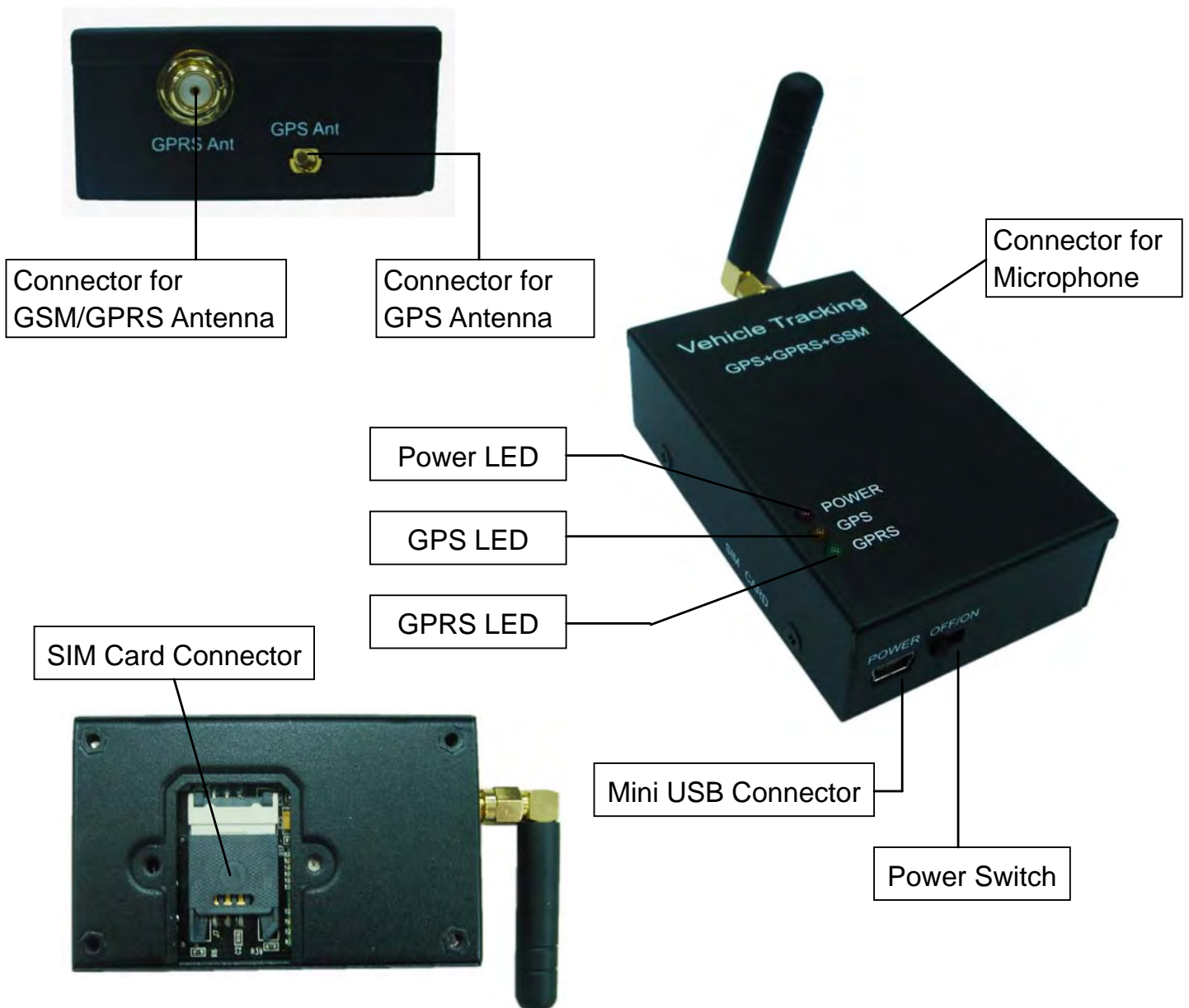
- CD



## 2. Precaution before Installation

- Check if all the parts are included.
- Prepare a SIM card for GSM/ GPRS communication (It must have GPRS function). Use some other mobile phone to confirm that the PIN code has not been set, and that it can dial out and receive telephone calls without problem.
- Before install the SIM card, make sure to cut off power from the AVL unit. The correct installation method is to push the tray completely into the AVL unit, until you feel it is hooked by something.
- Find a suitable place inside the car for installing the unit.
- Check if all the wiring has been connected correctly; then connect the AVL unit to the power source.

## 3. Panel Description



## 4. INSTALLATION

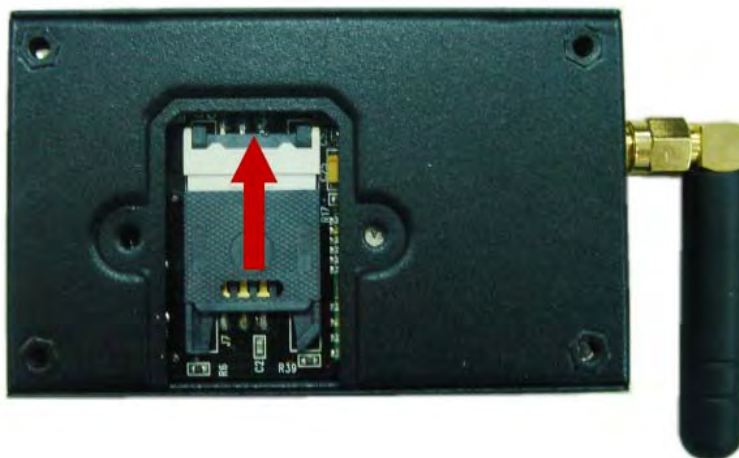
### Step 1: Install GPRS Antenna

- \* Connect the GPRS Antenna to the unit.
- \* Fasten the connection by turning the screw in the bottom.  
Please do not swing round the antenna itself.

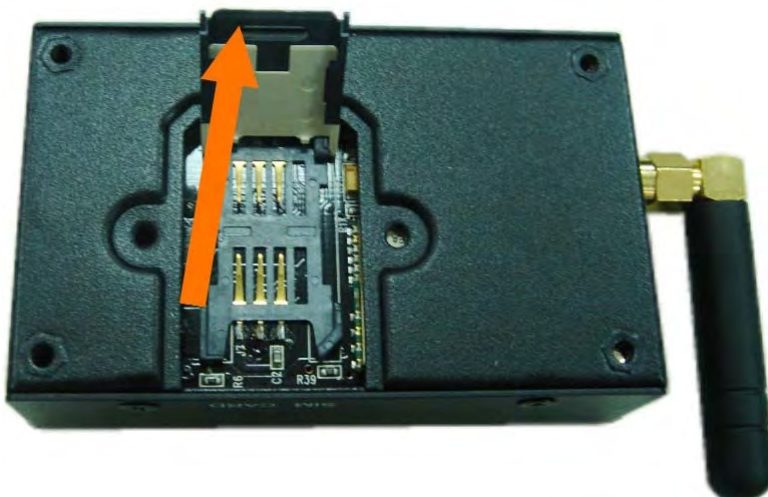


### Step 2: Install SIM Card

- (1) Unscrew and remove the back cover of your locator.
- (2) Push the holder top upward, as illustrated, to loose it.

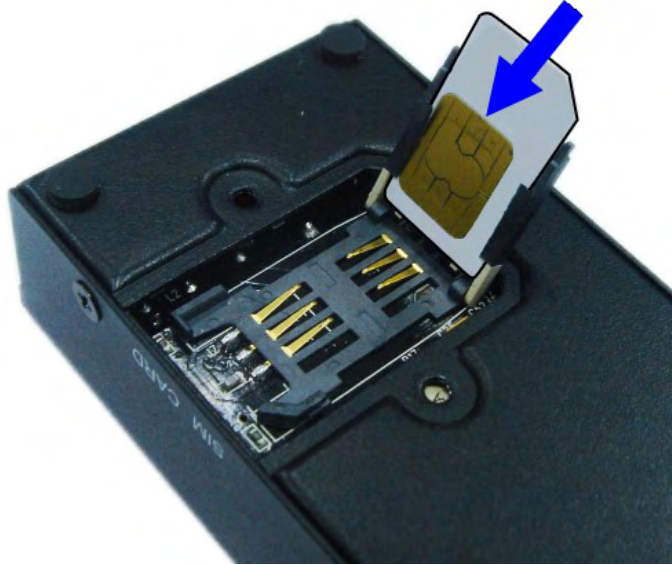


- (3) Pull the holder top up.



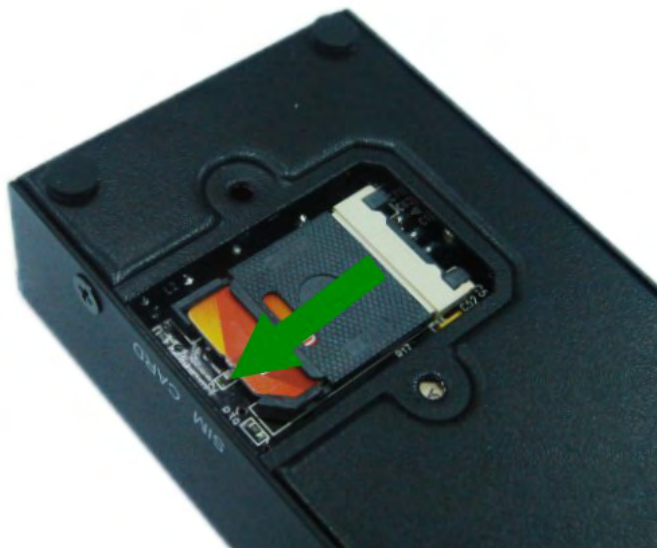


- (4) Insert the SIM card by sliding it into the card holder slot, with the chip module facing to the connectors on PCB. as shown in the picture.



- (5) Flip down the holder top.

- (6) Push the holder top leftward, and let it snap in completely.



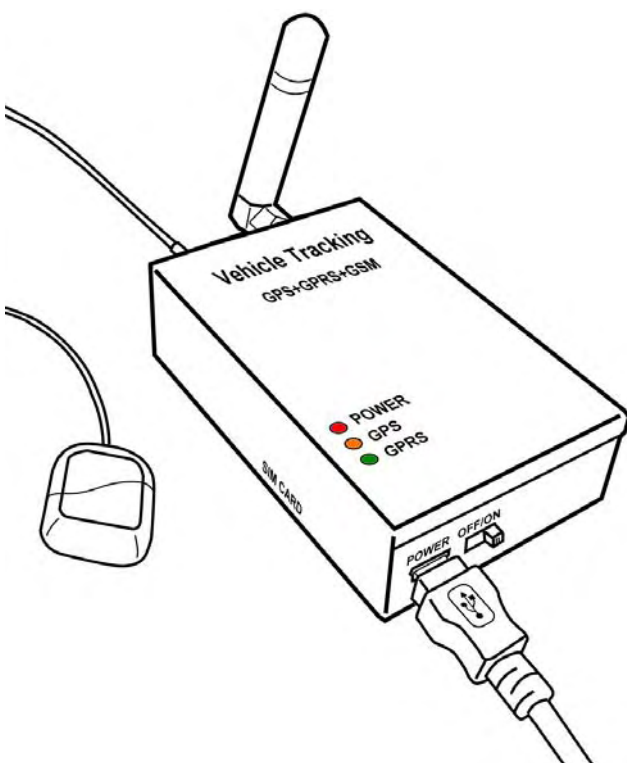
- (7) Put back the bottom cover and screw it up.

- ※ Make sure to turn off the power before install the SIM card.
- ※ Make sure to deactivate the PIN code, so that the SIM card can operate without PIN protection.
- ※ Before install the SIM card to the GPS Tracker, please use a mobile phone to make sure the SIM card can make & receive phone calls without problem.
- ※ Before install the SIM card to the GPS Tracker, please use a mobile phone to empty the SMS storage of the SIM card.

### Step 3: Connect GPS Antenna



- ◆ GPS antenna is used to receive satellite signals in the sky. It should be positioned at a place where it will have an unobstructed view of the sky. The ideal location is top of the dashboard or close to the rear window of the car.
- ◆ GPS antenna can pick up signals through glass and plastic, but will not “see the sky” through metal or other conductive surfaces. To avoid distractions of GPS signal, make sure the antenna is not covered or shielded by any object containing metal, such as the metallic windshield.
- ◆ If your car is with metallic windshield, please cut a hole on the windshield above the place where you put the GPS antenna, so that the antenna can receive the GPS signals.



**Step 4: Connect to the power source, and turn on the unit**

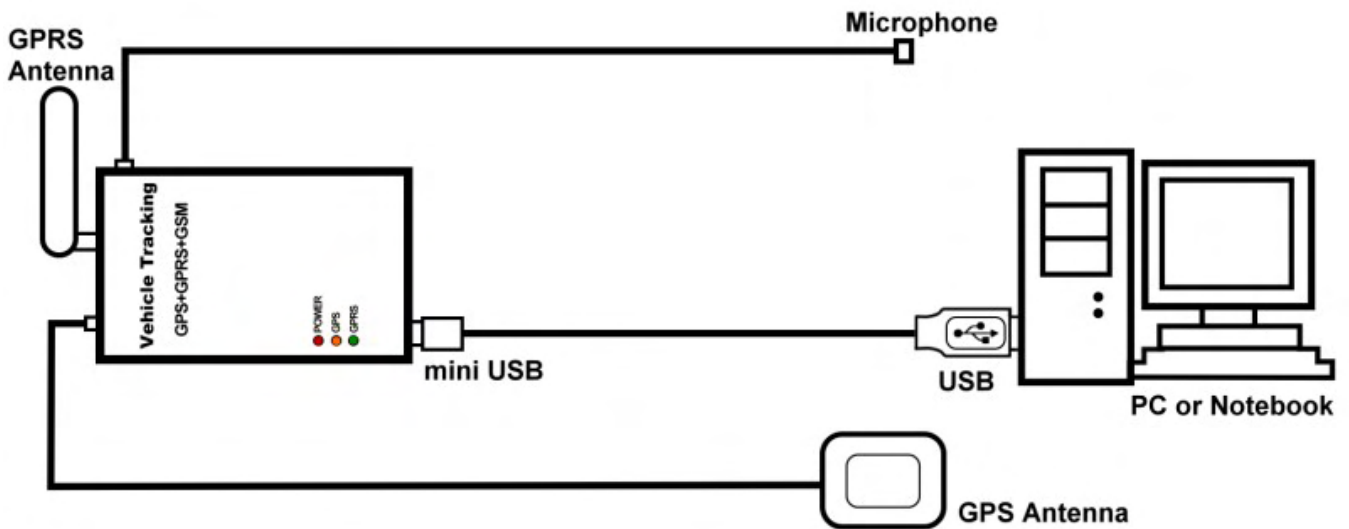
**Step 5: Check if GPS can works properly**

※ **Method** : When GPS has got position fixed, the GPS LED will turn from constant glow to “blinking light”. Check if the GPS LED has turned to “**blinking light**”.

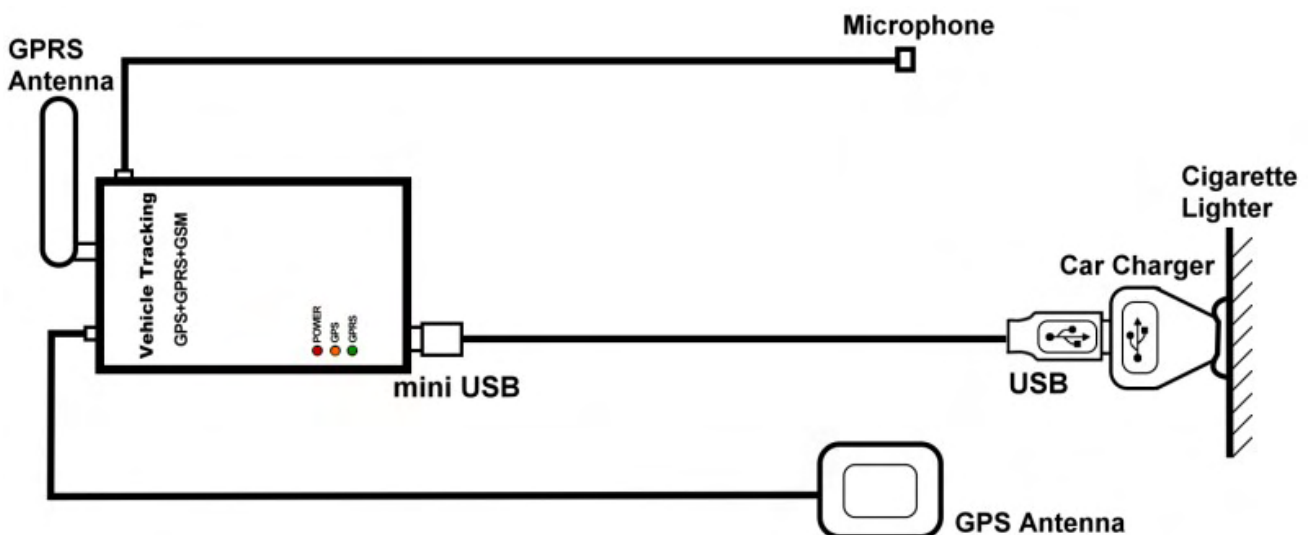
## 5. Power Charging

**Note: Microphone jack will be LOCK once connecting to Vehicle Tracker.**

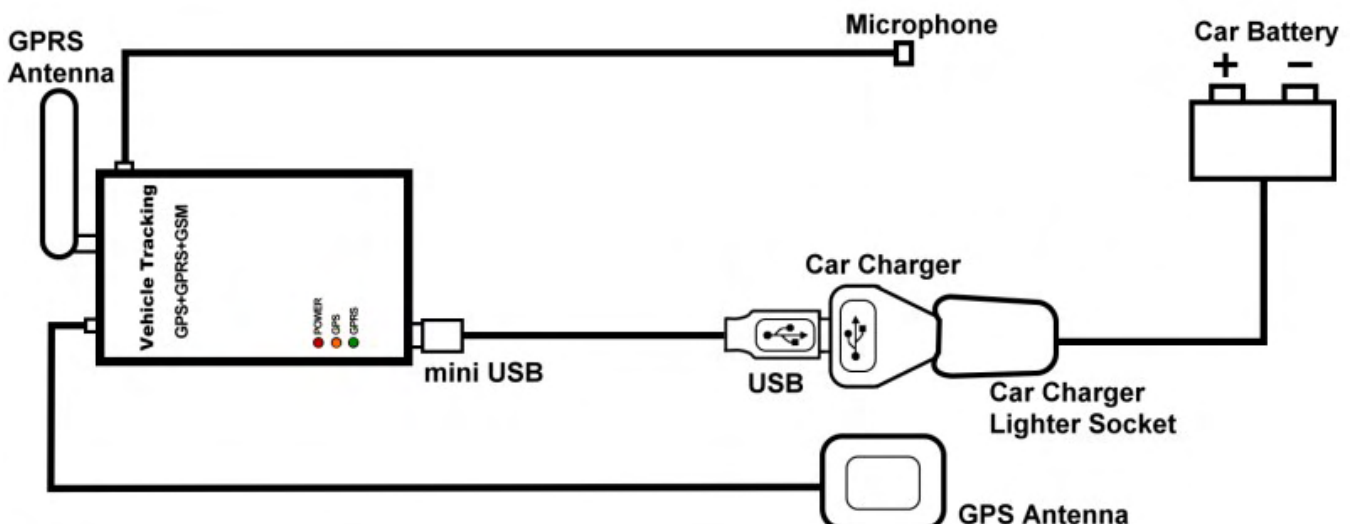
- **Method 1: While testing in the room, USB connects to the PC or Notebook directly.**



- **Method 2: Car charger connects to the car cigarette lighter directly.**



- **Method 3: Car charger connects to the car charger lighter socket.**



## 6. Wiring Description

- Connect the wiring correctly.
- The AVL unit should be connected to power source, after all the wiring work has been completed and checked.
- GPS antenna is used to receive satellite signals in the sky. It should be fixed to face the sky; and should not be covered or shielded by any object containing metal, such as the metallic windshield.
- Microphone should be fixed on top of the driver’s seat or around the steering wheel.
- Wiring connections must be firm and reliable; and the joints should be wrapped with insulating tape tightly.
- After the microphone has been connected and tested, the joints should be wrapped with insulating tape tightly, so that they will not become loose.
- The unused electrical wire should be properly insulated.

## 7. Description of the LED Indicators

	<b>SYSTEM STATE (RED LAMP)</b>	<b>GPS STATE (ORANGE LAMP)</b>	<b>GSM/GPRS STATE (GREEN LAMP)</b>
<b>Flash</b>	NC	GPS is on, but position not yet fixed	GSM is on, and can be used normally
<b>Constant Glow</b>	normal	GPS is on, and position is fixed	GSM online
<b>Constant Dark</b>	in trouble Or no power	GPS is off, or GPS has troubles	GSM is unusable. It is in trouble or improperly installed SIM card

## 8. Inspection Item after Installation

- After connected to the power source, the RED LED Indicator should be “constant glow”.
- The orange indicator for GSM/GPRS state should flash normally.
- The status of the red indicator for GPS state
  - go to an open air place, check the status of the red indicator
  - make sure GPS has got position fixed, and the red indicator “constant glow”
  - make a phone call to the AVL unit, and ask it to report its current position
- Complete the installation, and restore the interior of the car.

## D. Operating Instructions

### 1. Monitoring Function



If you want to know what is happening inside the car, you can send a SMS message (111) to the unit to monitor the situation in the car right away. You can also make a telephone call to the unit, after 5 beep, it will monitor the situation automatically.

### 2. Position Report Function



No matter where you are, when you want to know the position of your vehicle, send a SMS message to the AVL locator tracker; it will report its location back to you by SMS or GPRS.

### 3. Tracking Function



Tracking report function can be turned on or off according to the requirements of the user. There are two reporting methods: a). Network, and b). SMS message report.

**Note:** Tracking function will continually report vehicle position until it is turned off.

### 4. Geo-fence Park Function



When park your car or leave your valuable asset at a certain place, you can press "PARK" button to guard it. The unit will send a SMS message to the preset phone number, when someone moves the car or the asset without permission over a preset distance. The accuracy of GPS positioning is liable to be affected by time, weather, and other environmental factors. It is suggested to set the geo-fence range over 200 meters.

### 5. Password



Password is the key to operate AVL-900 GPS Tracker. It is a 4-digit data. The default password is "8888". Be sure to change the password after the installation, and keep it firmly in mind. As well,

**Note:** In order to protect your privacy, do not tell others the password, unless it is necessary. Please change the password, if it has been known by the persons who you do not want them to access the data.

## E. Hardware Specifications

Dimensions	79.0 x 48.0 x 24.0 (mm)
GSM/GPRS Module	Siemens TC65
Bandwidth	EGSM900 : TX880-915MHz , RX 925-960MHz DCS1800 : TX 1710-1785MHz , RX 1805-1880MHz GSM850 : TX824-849MHz , RX 869-894MHz GSM1900 : TX1850-1910MHz , RX 1930-1990MHz
Maximum RF Output Power	EGSM900 、 GSM850 : 33 dBm(2W) GSM1800 、 GSM1900 : 30 dBm(1W)
Resistance	50Ω
Transmission Speed	Circuit switched 4.8/9.6 kbps
GPS Module	SiRF Star III
Frequency	L1 , 1575.42MHZ
Channels	20
Position Accuracy	10 meters CEP without SA
Speed Accuracy	0.1 meters/second , without SA
Coordinate System	WGS-84
Hot Start	< 8 Seconds
Warm Start	< 38 Seconds
Cold Start	< 60 Seconds
Height	18000 meters ( 60000 feet ) max.
Speed	515 meters / second ( 1000 knots ) max.
Acceleration	4g max.
Working Voltage	5 to 24 VDC
Power Consumption	0.8W
Power Consumption	1.5~2W
Housing	Metal
Operation Temperature	-20°C to +70°C
Storage Temperature	-30°C to +80°C
Humidity	0~95%, non-condensing

## **F. Troubleshooting**

### **1. After AVL-900 installed, why there is no response?**

- Check the polarity of power connection to see if a wrong polarity is connected.
- Check the power is on or not.

### **2. Why does GSM fail to communicate?**

- Check if the SIM card is opened
- Check whether the SIM card has password
- Check if the SIM card is correctly placed.
- Make sure the SIM card does support GPRS function.
- Make sure to cut off power, before pulling out the SIM card.
- If the vehicle is parked in a place where the GSM signal is weak.
- GSM base station of mobile operator is crashing.
- Whether this SIM card is suspended (such as forget to pay the bill...)

### **3. Why GPS can not calculate the position?**

- Check if GPS antenna is correctly installed, or if it is placed in a proper position.
- Make sure there is not be any metal shield, such as windshield heat insulation paper with metallic content, above the GPS antenna - which may block the reception of GPS signal.
- Do not park your vehicle under shielding or under a building.
- If necessary, put the GPS antenna outside the vehicle temporarily.

### **4. Why does GPS positioning take such a long time?**

The time used for positioning is affected by many factors, such as the weather, distribution of clouds, roadside trees, elevated roads, nearby high buildings, heat insulating papers containing metal elements, and even the covering of the hands, may affect the reception effect of satellite signals. Positioning a vehicle in an idle state take less time than positioning it in motion state.

## **5. Does the weather affect GPS operation?**

GPS system is able to overcome weather problem in its initial design. GPS satellite positioning signals consist of short waves; the transmission of short waves will not be affected by weather conditions. GPS signals may produce error factors during transmission, such as solar wind, earth rotation, variation of aerosphere density, building reflection, etc. All of which may cause deviations to GPS short wave affect signals. But weather factors will not affect the normal function of GPS.

## **6. Why can not it monitor?**

- Check the microphone connector whether it was connected properly or not.
- Check the memory for SMS messages in the SIM card, to see if it is full or not.
- Can not receive GSM signal in the place where you locate.



**\*Note:** If you do not have a PDA Phone to run our application software, please use a standard mobile phone to send SMS (short message) according to the attached "Command Codes List".

## II. Track GPS Location by Google Earth/Maps

You can get the latitude & longitude data by sending "111#Password" SMS command Code to the GPS Tracker. Input the received latitude & longitude data to **Google Earth** (from earth.google.com) or **Google Maps** (maps.google.com), then you can find the position fix in the map. Please find below the example.

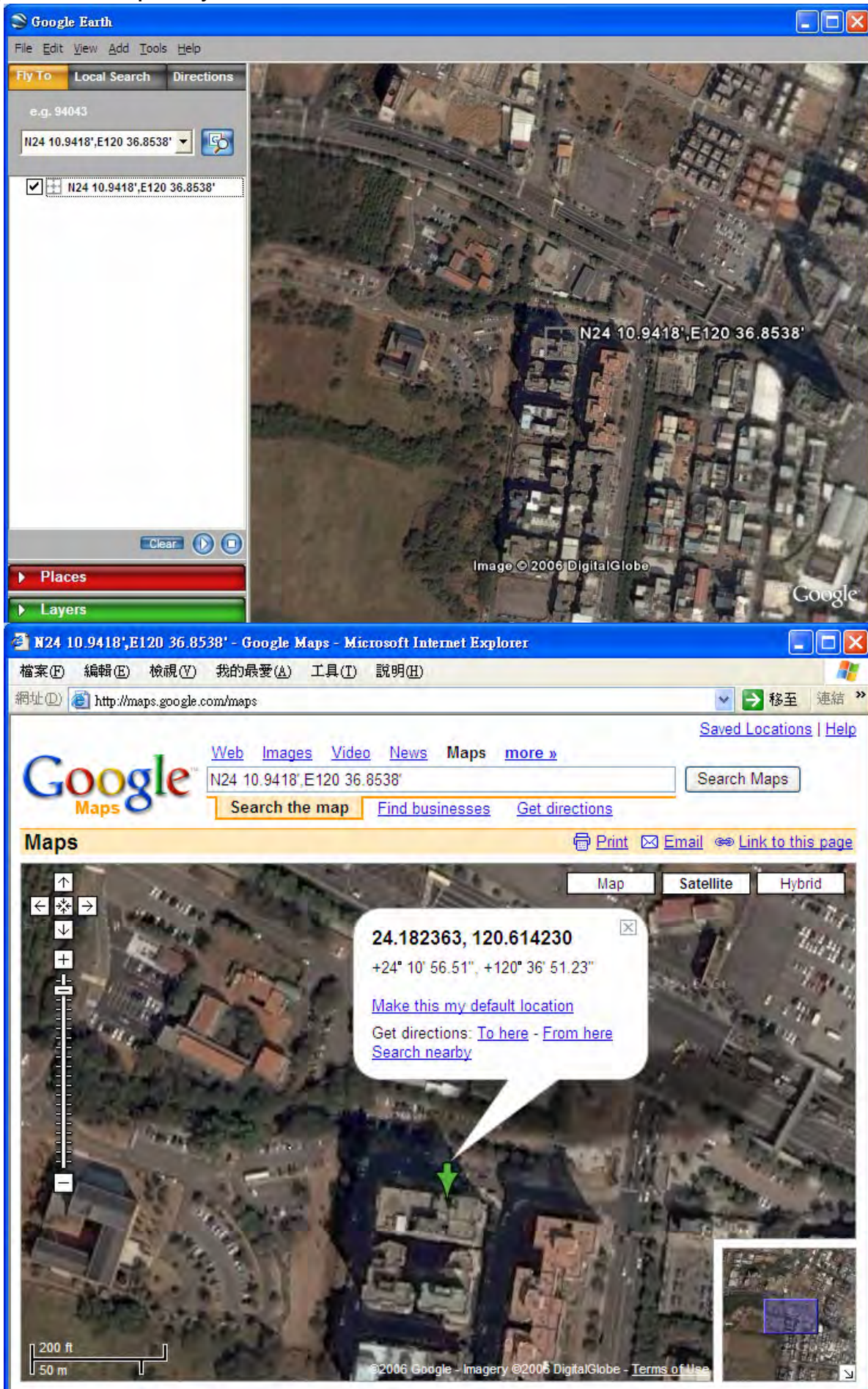
1) Send a SMS Command Code "111#8888" to the GPS Tracker.



2) GPS Tracker will send back some data similar to below, with GPRMC data and latitude/ longitude figures.



3) Input the latitude/ longitude data (**N24 10.9418', E120 36.8538'**) into the column of "Search" and click on search button, Google Earth will display the position map for you.



## P.S. GPRMC Data Format :

**\$GPRMC,204700,A,3403.868,N,11709.432,W,001.9,336.9,170698,013.6,E\*6E**

\$GPRMC	204700	A	3403.868	N	11709.432	W	001.9	336.9	170698	013.6	E	*6E
	<1>	<2>	<3>	<4>	<5>	<6>	<7>	<8>	<9>	<10>	<11>	<12>

- 1) UTC time: ( hhmmss.sss )
- 2) Status of Position Fix: A = data available; V = data not available.
- 3) Latitude: ( ddm.mmmm )
- 4) Hemisphere: ( N ) or ( S ) for North or South hemisphere.
- 5) Longitude: ( ddm.mmmm )
- 6) Hemisphere: ( E ) or ( W ) for East or West hemisphere.
- 7) Moving Speed: 0.0 to 1851.8 knots
- 8) Moving Direction: 000.0 to 359.9 degree.
- 9) Date: ( ddmmyy ) °
- 10) Magnetic variation degrees: 000.0 to 180.0 degree
- 11) E or W of magnetic variation
- 12) Checksum.

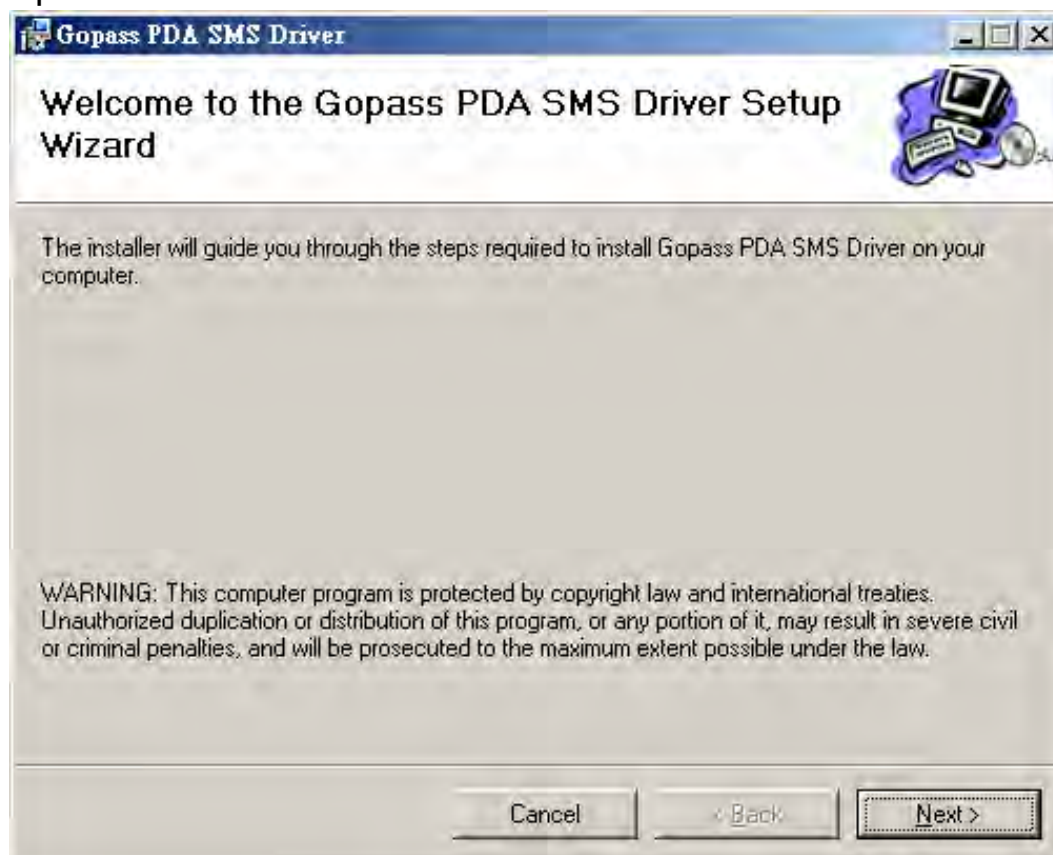
# III. PDA Virtual COM Port Installation

## 1. Installation

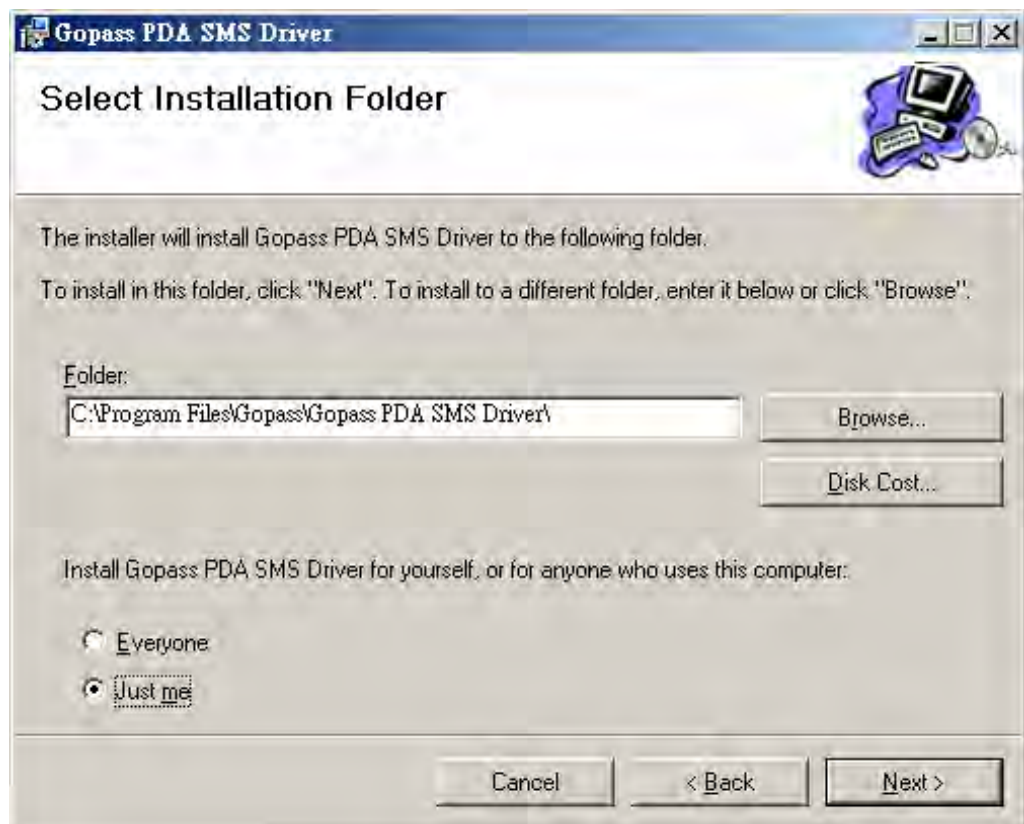
1-1 Put the CD to the CD driver of your computer. Please select a proper driver according your PDA software system to install “PDA Track”.



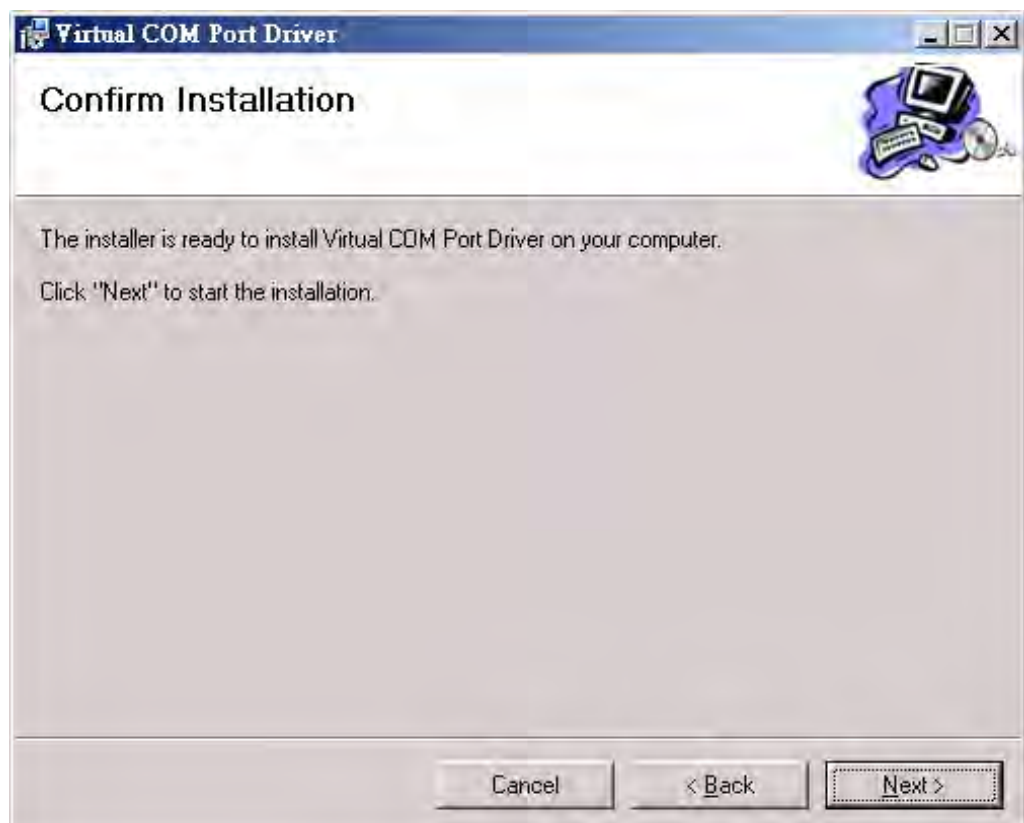
1-2 Please press “NEXT” to continue the installation.



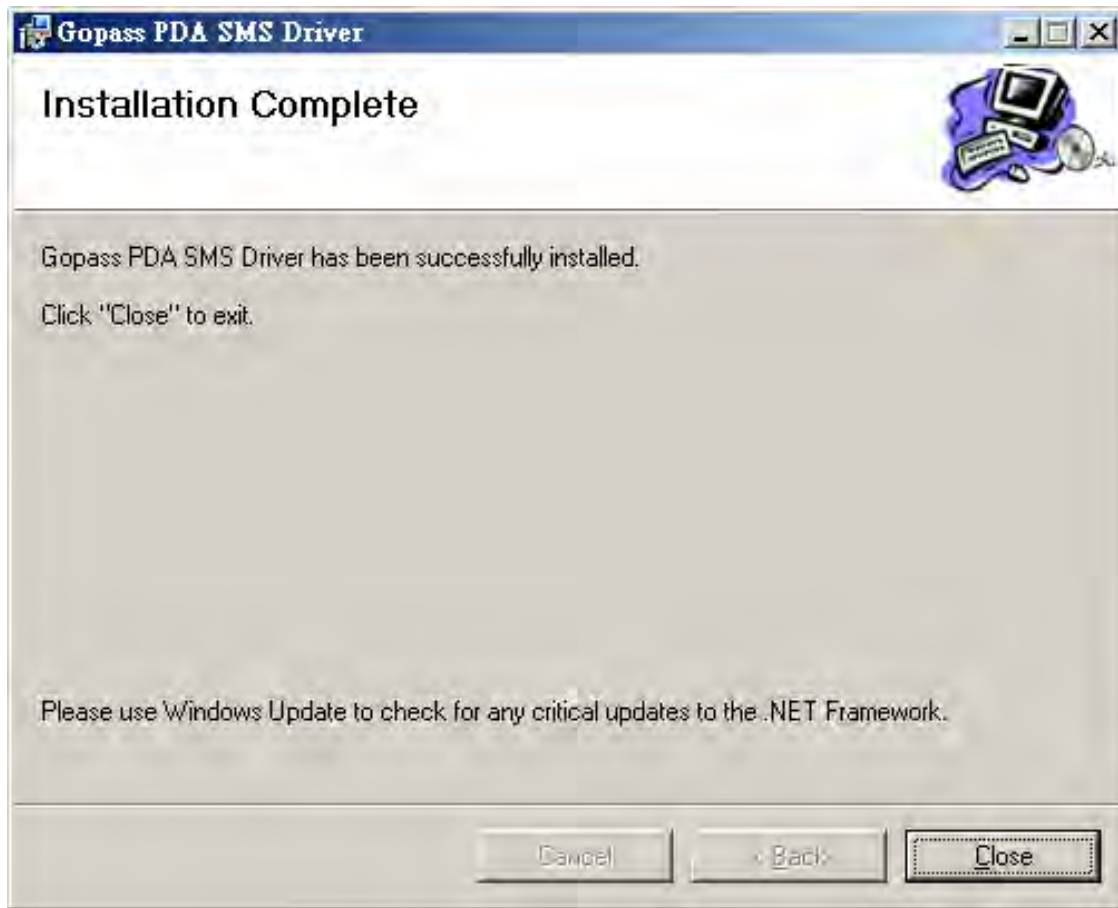
1-3 The following figure shows **GoPass PDA SMS Driver**, which can be installed any folders in your PC. You can update or re-install it without using an original CD in the future. Also, If PDA is not available when installing it. **GoPass PDA SMS Driver** can be installed in your PDA automatically next time when PDA is connected.



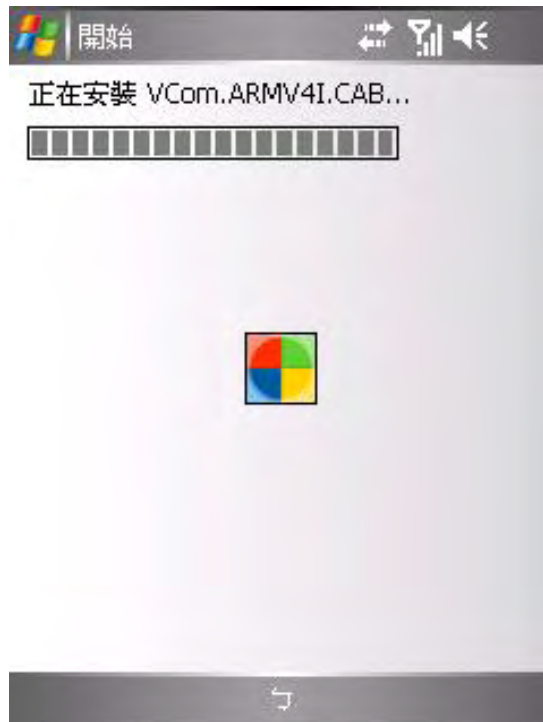
1-4 Click "**Next**" to confirm you want to install Virtual COM Port Driver to your computer.



1-5 The installation of PDA SMS Driver is completed.



1-6 Please install it in **“Device”**, driver will be installed. (Note: the **“Device”** must be selected). Therefore, driver will be installed in System correctly. As a result, Windows can find it and start the driver properly.



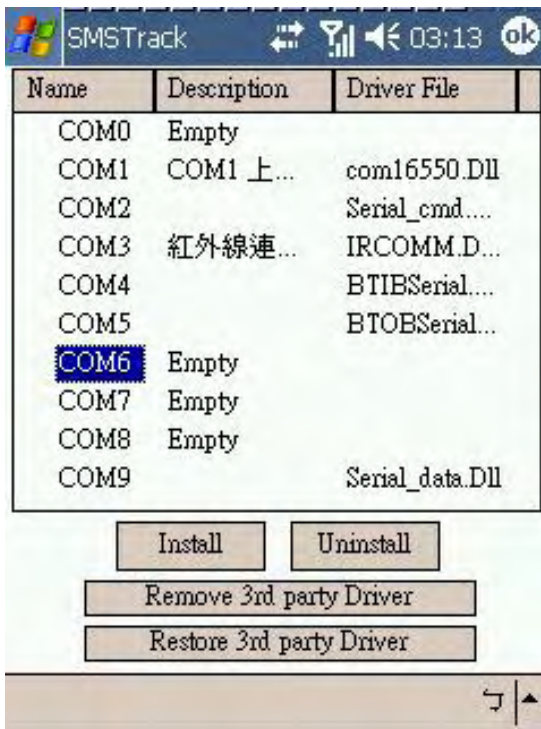
1-7 After PDA installation is completed, click “Start” → “Programs” → “**SMS Track**” to set up the COM port.



1-8 After the execution of **SMS Track**, the following screen will prompt. Please click “Tools” → “**Install/Uninstall**” to install the Virtual COM Port.

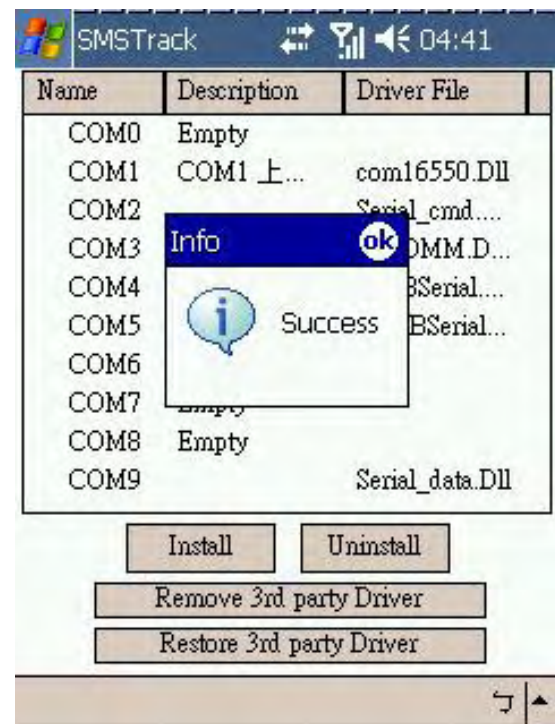
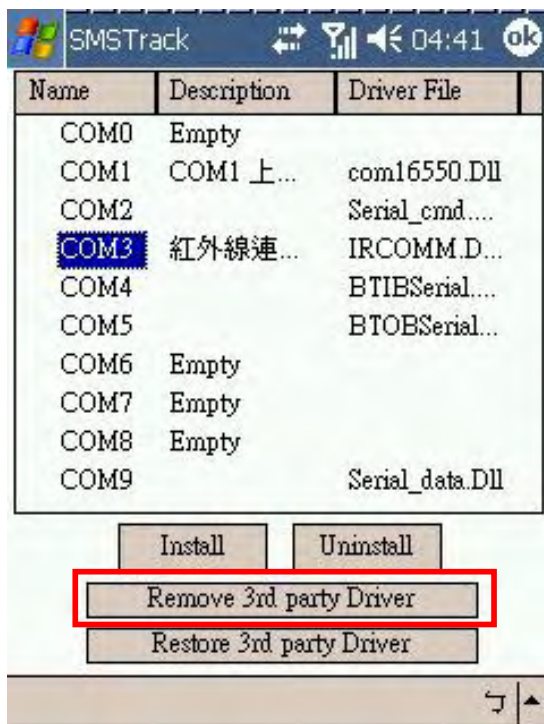


1-9 The following screen will prompt. The left column is for the name of the COM Port;



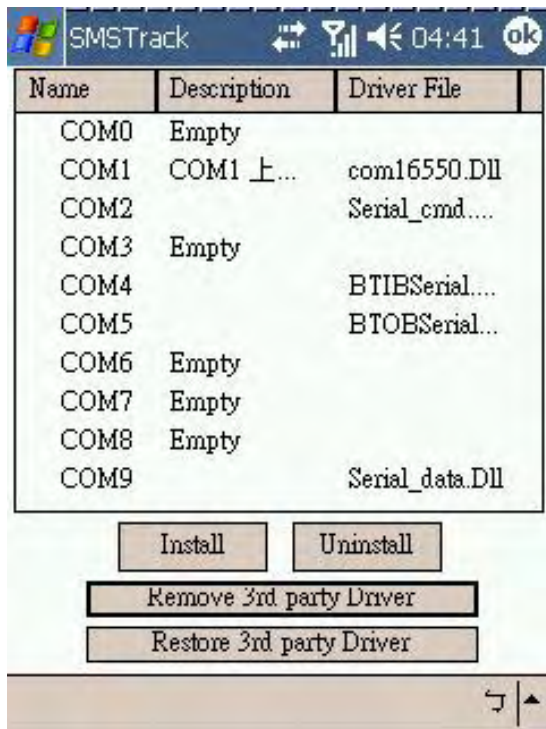
the center column is to describe the status of the COM port; the right column is to show the name of COM Port Driver. We can find in the description column, some of the COM Ports are currently **Empty**, which means these COM ports have not yet been used by any other device, and we can install the Virtual COM Port on these ports marked with “**Empty**” in the description column. For example, we can find below COM6 is Empty, so we can install Virtual COM Port on COM6 by click on it, then press “Install”.

1-10 If all your COM ports are occupied, please click an unnecessary one and remove it by clicking an “**Remove 3<sup>rd</sup> party Driver**” button. For example, clicking COM3 (IR COM), The “Success” screen will prompt after removing it successfully.

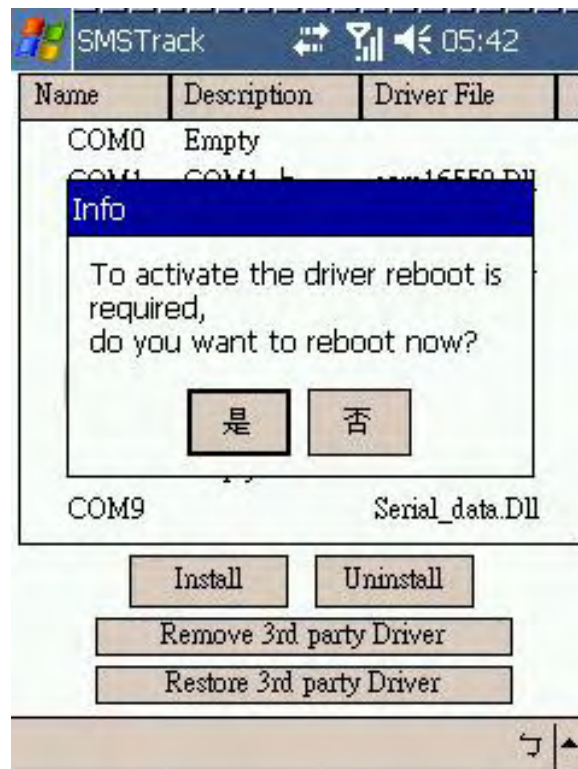




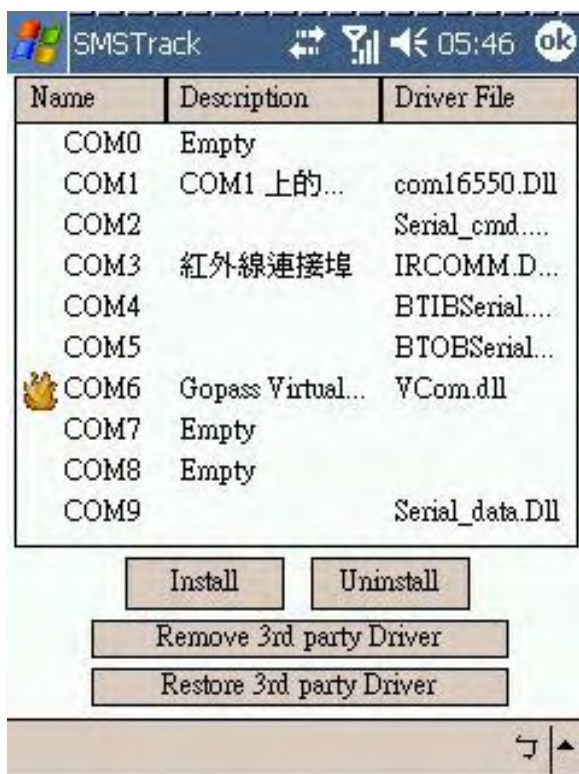
1-11 To restore it (COM3), please click “**Restore 3<sup>rd</sup> party Driver**” button, infrared port (COM3), and “**Restore**” button.



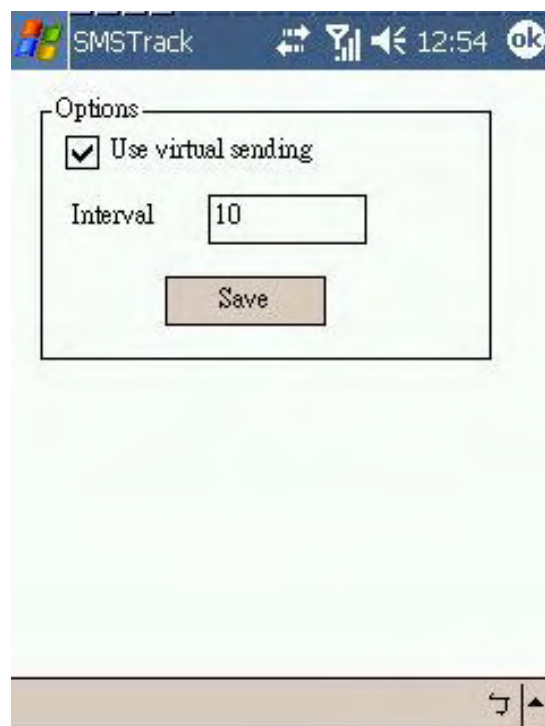
1-12 Request for reboot if the installation is successful. Click “**Yes**” to restart a PDA. Or click “**No**” for not restart it. (P.S. You can reboot your cell phone in **SMS Track** at any time.)



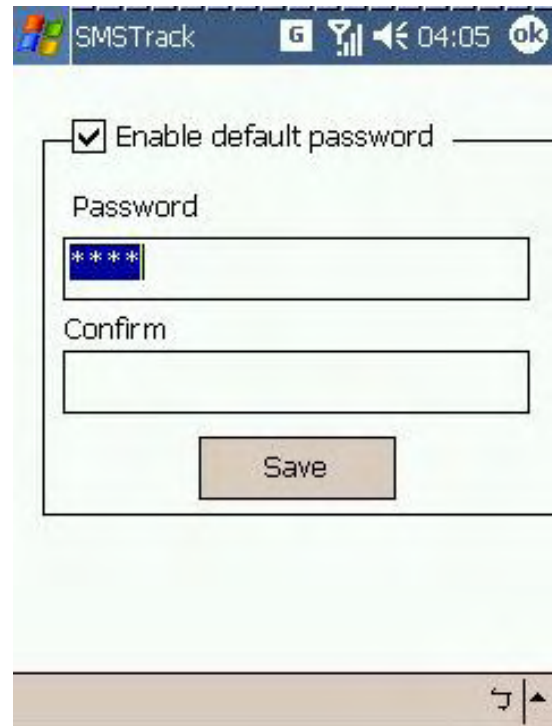
1-13 The installation of Virtual COM Port is completed after restart.



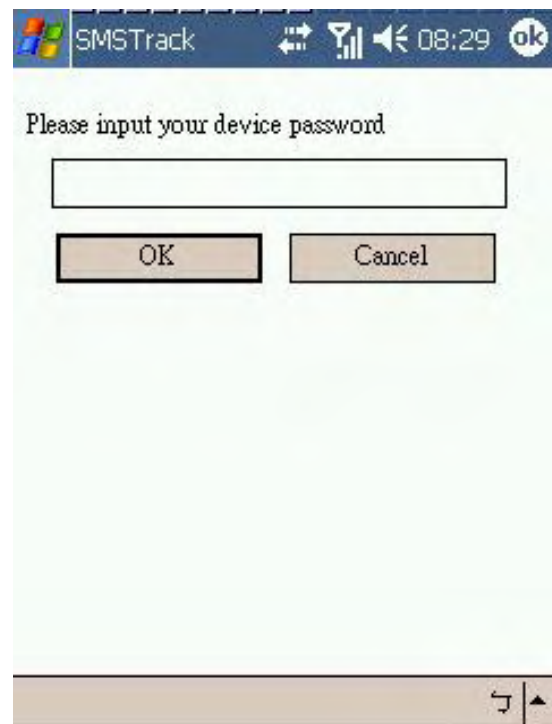
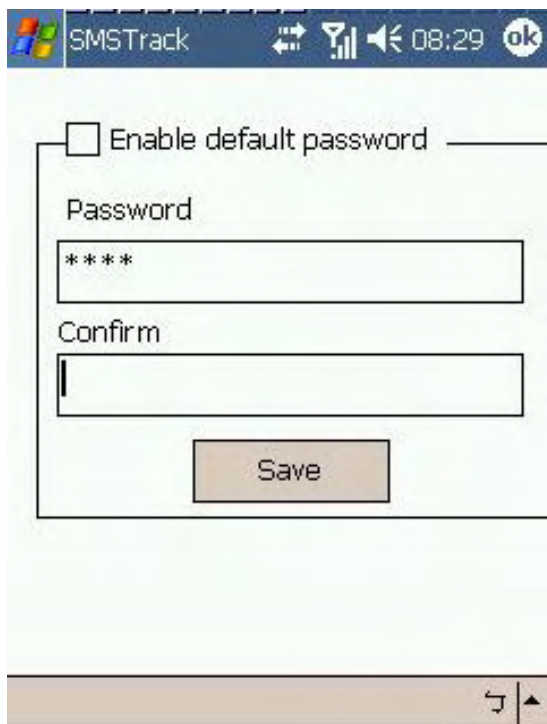
1-14 Some software requests GPS data to be sent continually in order to work properly. Regarding this issue, we provide a Virtual sending function. Go to Tools→ **Driver Options**, to set the time interval of GPS returned message. (They system default is set at every 10 seconds. Please keep the original default if uncertain about this setting).



1-15 The devices (AVL/ GPS-911) provided by GoPass need a password in order to make any commands. The default password is 8888. For frequent commands, please go to Tools→ “**Default Password**” to check “**Enable default password**”. Otherwise, it will request a password each time you make a command.



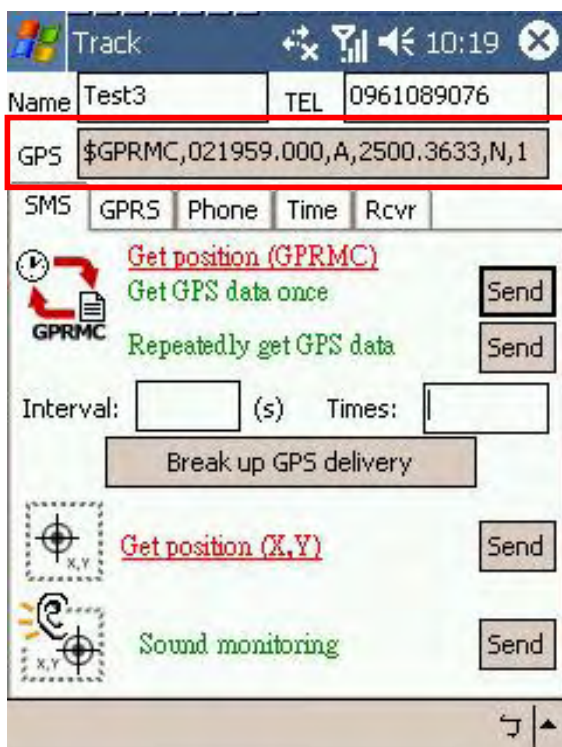
For security or infrequent commands, un-check “**Enable default password**”, and click OK. Then, it will request a password every time you make a command.



1-16 Go to Tools → “**Contact List**”. Add *name* and *Tel.* After adding it, select the name you want to track, and click *OK* to close this screen. Then go to **Track** screen. ( Note: you can also key in any tel. # in the TEL column, which you like to track)



1-17 Send “**Get Position(GPRMC)**” to the device, you will receive the GPRMC data from the device in a few seconds. Then, open the mapping software to track it.

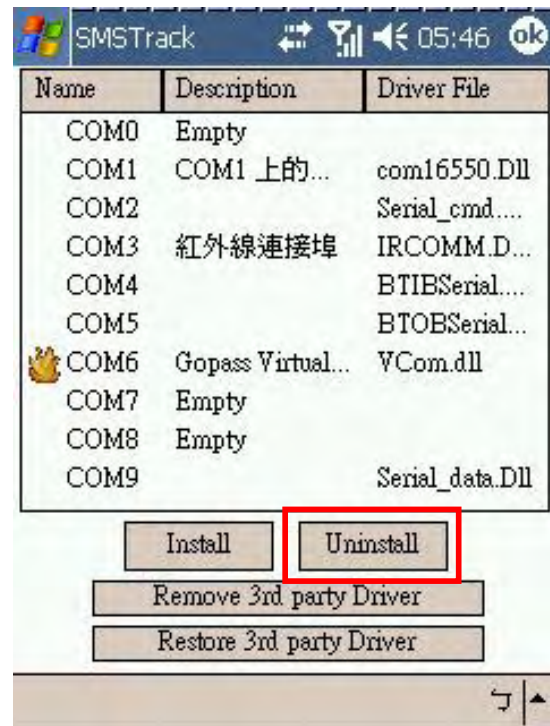


## 2. Un-installation

For un-installation, 2 programs need to be removed – i.e. PDA driver, and the setting tool. Please follow the below instructions to remove the programs.

### 2-1 Remove PDA Driver

Run **SMS Track** program, select Tools → “**Install/Uninstall**”. The screen will prompt. This screen is used for install & uninstalls the driver. Please select “**Uninstall**”. Then click “**YES**” to reboot the device.



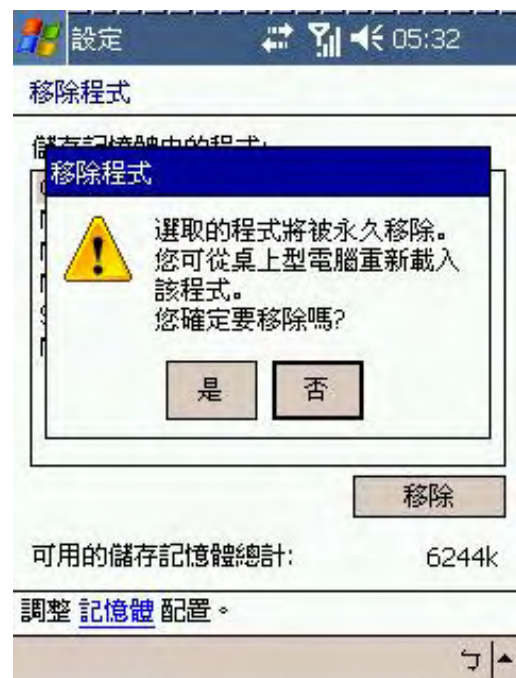
## 2-2 Remove the Program

After the reboot, the virtual COM port is removed; it will not take up the resources of COM0 – COM9. By then, you can select if you do want to remove SMS Track program. As the program is quite tiny, we suggest you not to remove it, if not necessary. If you really do not want to keep SMS Track, please remove it as per the following guide lines.

2-2-1 Click “**Remove Programs**” from Setting of your PDA Phone ; select “**Gopass Virtual COM Port Driver**”; then click on “**Remove**” to remove the program permanently from your PDA Phone.



2-2-2 After delete it, **SMS Track** will be fully deleted.

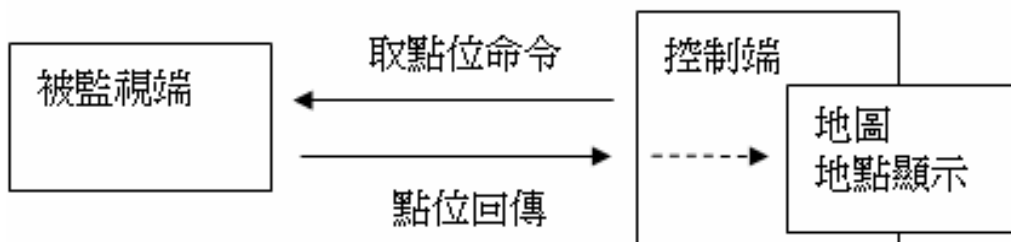
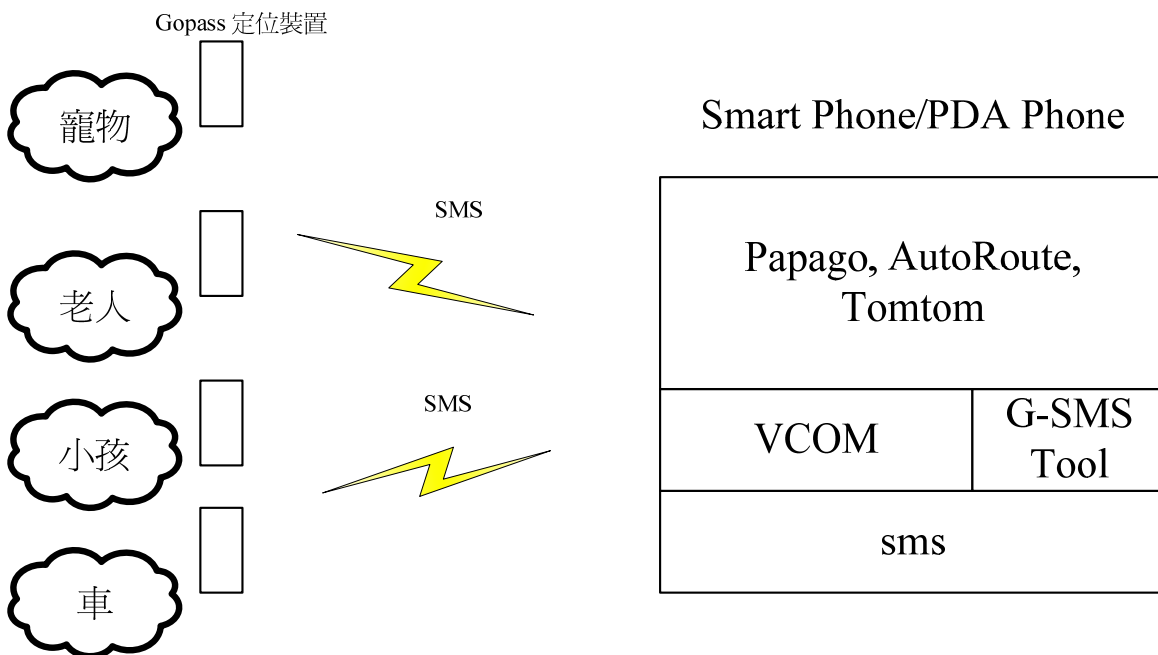


# IV. PDA Track Operation

## A. Architecture

This system was specially developed for GoPass GPS Trackers. With this application software, + GoPass GPS Tracker, + PDA Phone, you will be able to use your own mobile to track the position of your loved one without the need of a call center. For example, you can use this system to monitor your child, the elders, the pets, your car, or the assets installed with our GPS Tracker - live and real-time.

### 1. System Structure

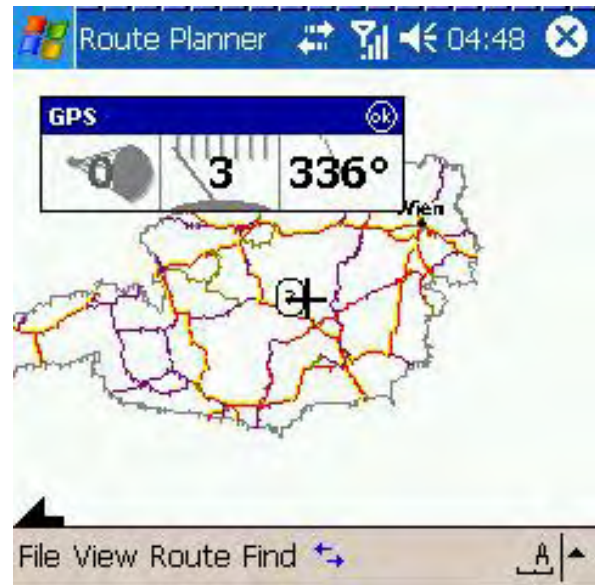


## 2. Compatible software

Compatible software are Microsoft Pocket Streets、Tomtom Route Planner、Papago and Magic e-Map.



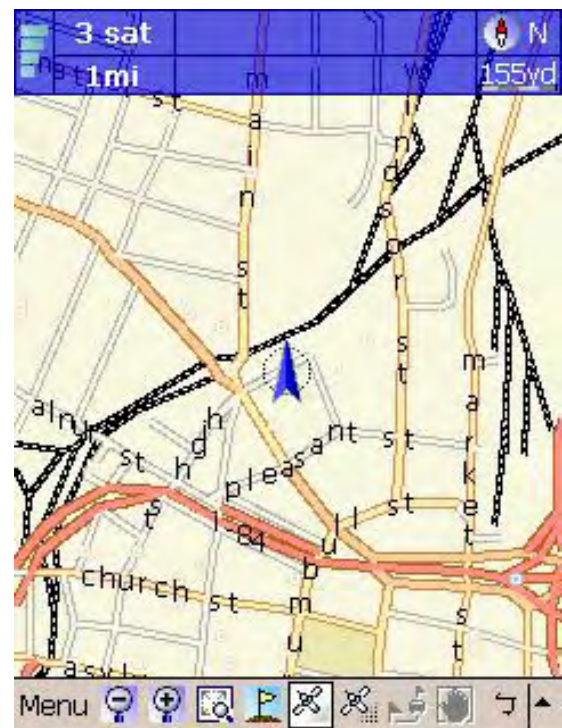
(Pocket Streets)



(Route Planner)



(PAPAGO)



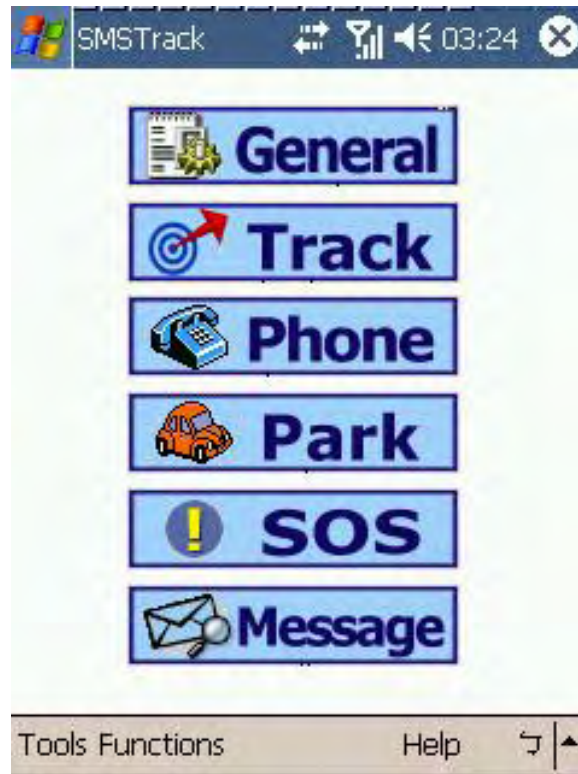
(Magic e-Map)









## B. Operation

### 1. SMS Track

[MAIN SCREEN]



 <b>General</b>	Basic Settings
 <b>Track</b>	Track Position
 <b>Phone</b>	Phone Conversation
 <b>Park</b>	Geo-fence (Park) Function
 <b>SOS</b>	SOS Help (not workable for AVL-900)
 <b>Message</b>	Check SMS Messages Received
<b>Tools</b>	Installation Options
<b>Functions</b>	Functions List
<b>Help</b>	User's Manual

## 1-1 Tools

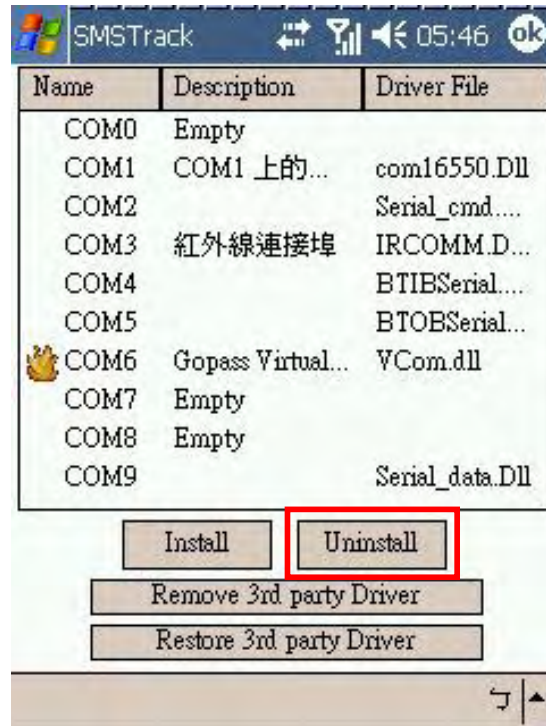


### [Install/Uninstall]

1. You can find in the description column, some of the COM Ports are currently Empty, which means these COM ports have not yet been used by any other device, and we can install the Virtual COM Port on these ports marked with “**Empty**” in the description column. For example, we can find below COM6 is Empty, so we can install Virtual COM Port on COM6 by click on it, then press “**Install**”.



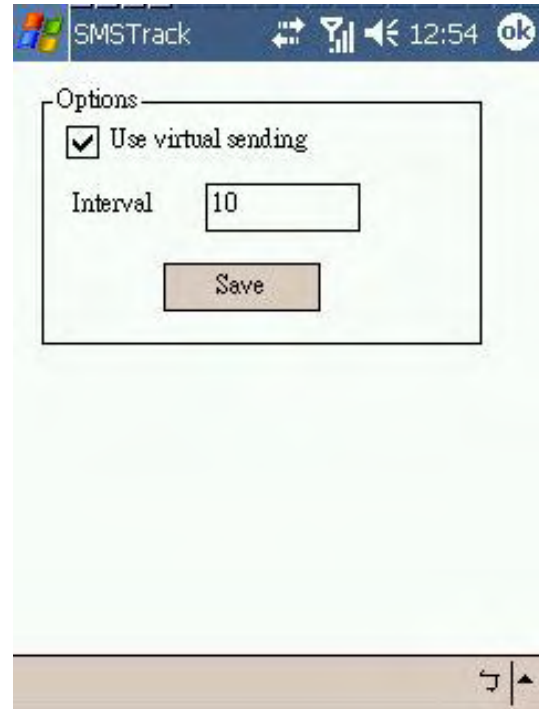
2. If you want to remove the software from your device, you can tap “**Uninstall**” button for the removal. Please do reboot your device after the removal.



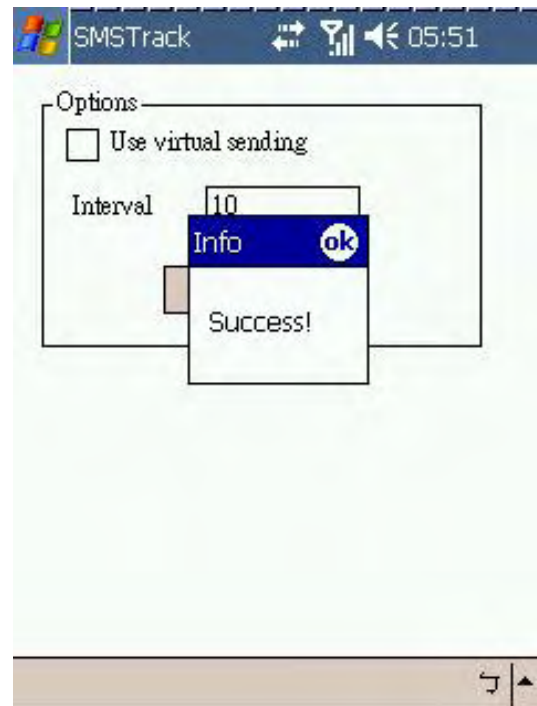
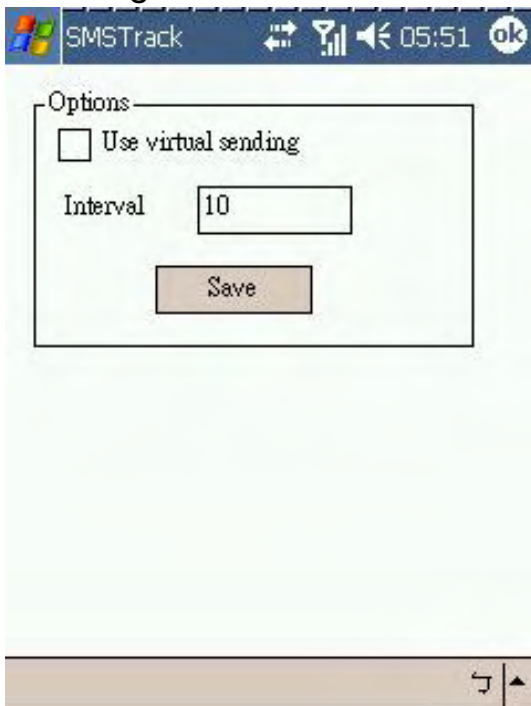
3. If all the COM Ports have been used, and you can not find any “Empty” COM Port in the Description column, please select a device (COM Port) you will not use for the time being, and tab “**Remove 3rd party Driver**” button to remove its driver; make the COM Port empty and available for you to install the Virtual COM Port. You can recover the removed driver later by tabbing “**Restore 3rd party Driver**”.

## [Driver Options]

Some mapping software requires GPS data to be received continuously, to meet the requirement, our driver can send GPS data to the mapping software virtually. Tap Tools→ “**Driver Options**” to set the time interval to send the GPS data to your mapping software virtually. (The default interval is 10 seconds. Please keep the default value, if you are not very well-known about the setting).



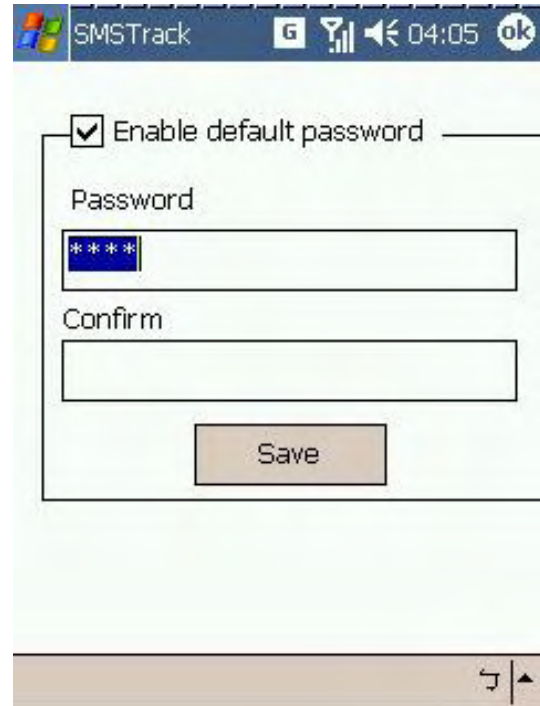
Un-tick “**Use virtual sending**”, if you do not need the GPS data to be sent virtually; tap on “**Save**” will prompt the “**Success**” screen; after then tap on “**OK**” to leave the setting.



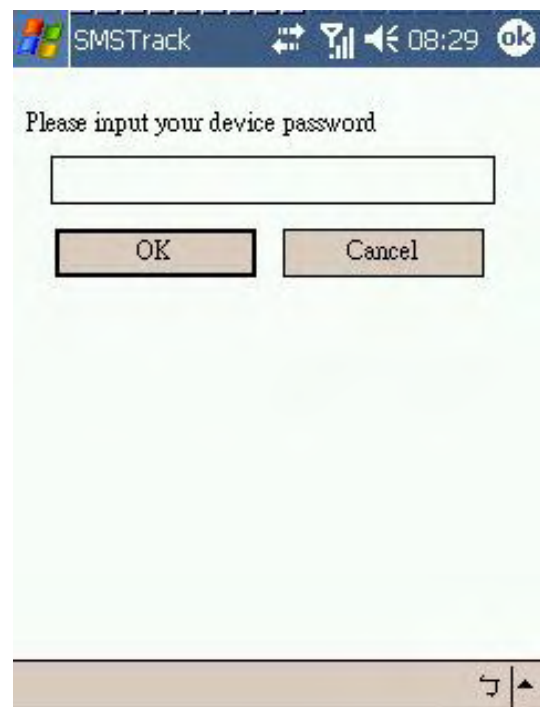
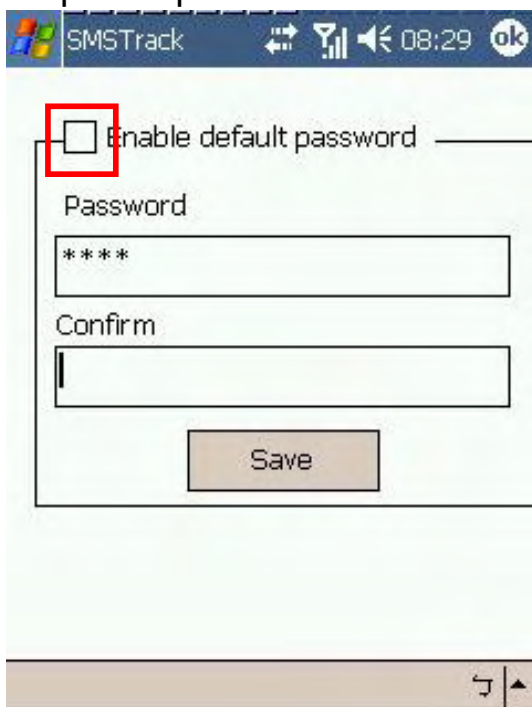
## [Default Password]

Password is required to operate the GPS Tracker. You must add the password to your commands to have the GPS Tracker worked accordingly. The factory default password is “**8888**”. You can re-set the password in this screen.

It is good to tick “**Enable default password**”, if you need to send commands constantly; otherwise you will be requested to input the password each time when you send a command.



Un-tick “**Enable default password**”, if you do not want the program to remember your preset password.

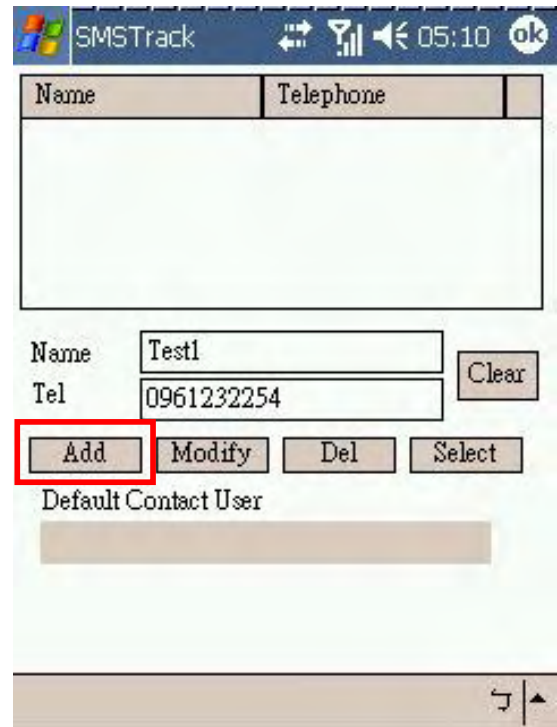


## [Contact List]

1. Tap Tools → **Contact List...** to bring up a name/ phone# list. You can view/ input here the SIM card numbers + the name of the holder of the GPS Trackers, which you want to track. To add a new person/ phone number to the list, please input “Name” and “Tel”, then tap “**Add**” button.



Step1. Open contact list



Step2. Add

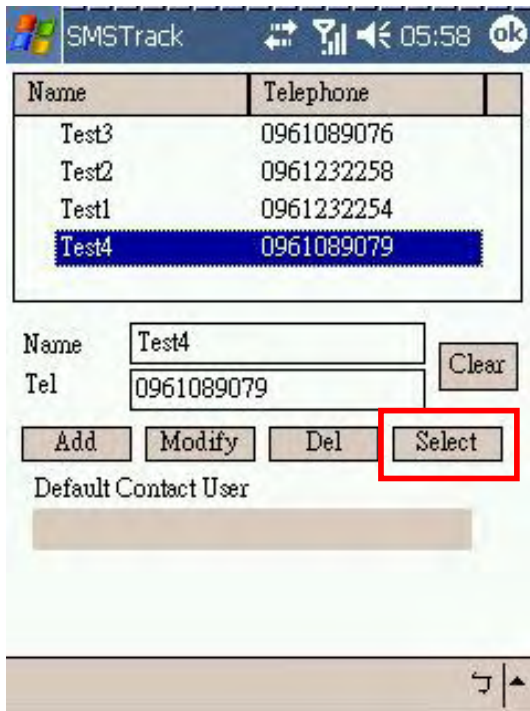


Step3. Add - Inquiry



Step4. Add - Success

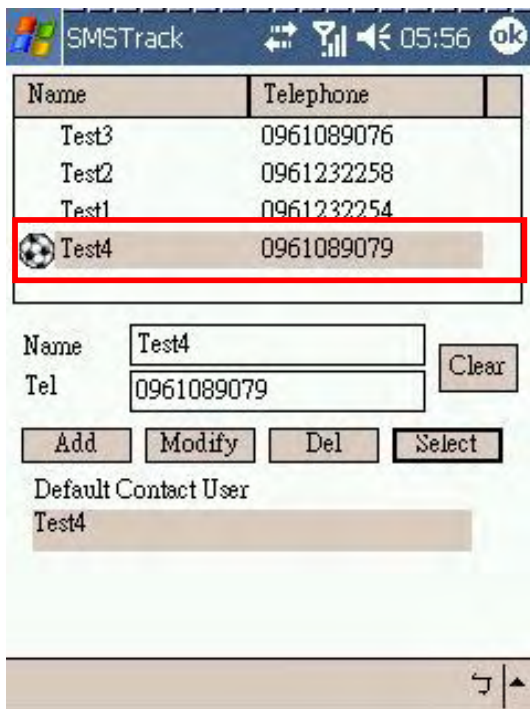
2. You can add up to **65,000 persons/ phone numbers** to the contact list, but each time only one person/ phone number can be selected for tracking. Your command will be sent only to the selected person/ phone number. The selection can be changed by tapping the name/ phone number, and **“Select”** button.



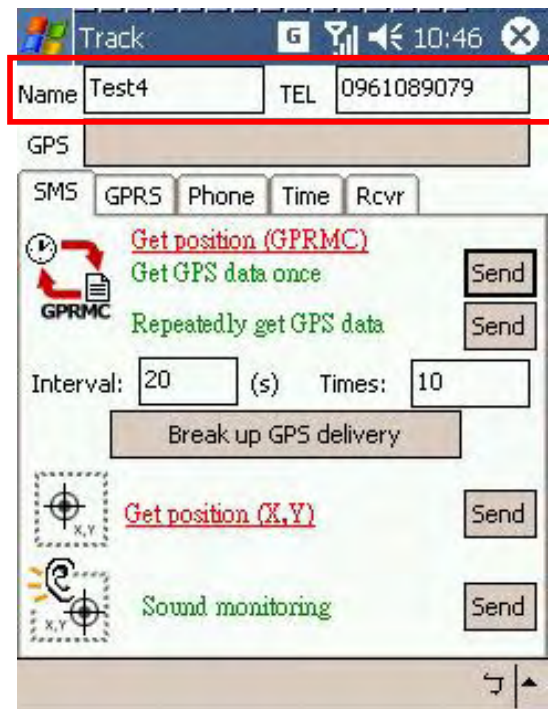
Step1. Select default contact



Step2. Setting default contact



Step3. Setting default contact list - Finish



Step4. Setting default contact user – main

## 1-2 Help



Tap **“Help”** - **“Command Code”** to view all the available command codes in SMS.

Tap **“Help”** - **“About”** to check about the version and copyright of this program.

## 1-3 Functions

The main functions provided by this program can be divided into 5 parts – i.e. General, Track, Phone, Park, and SOS, as illustrated below.

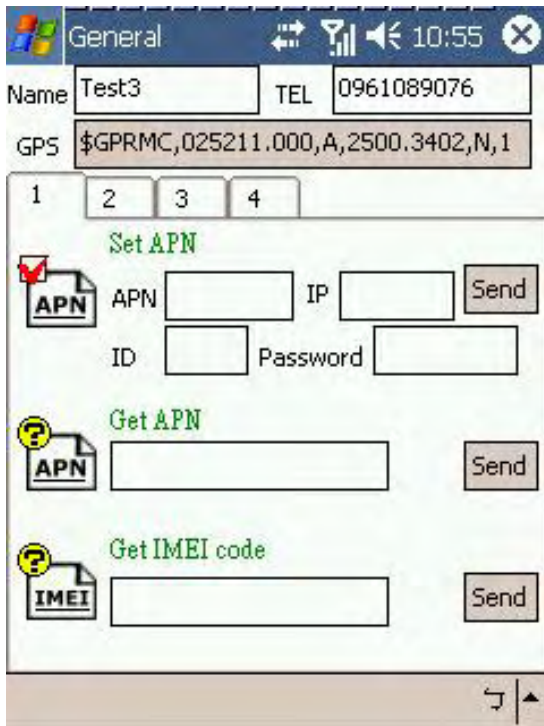


Following are the detailed operation instructions to each of the functions.



# [General]

## 1. General→1



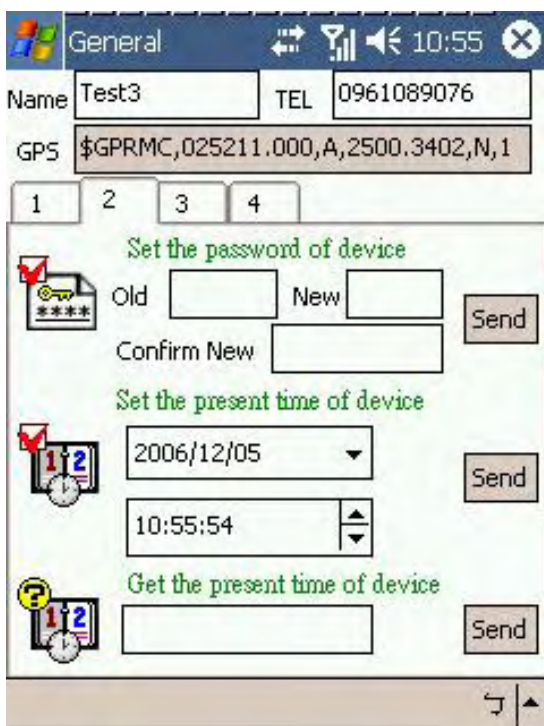
### Set APN ( Access Point Name ) :

Please check with your mobile operator or the attached table for the data. (ID & Password is not a must). \* This is for advanced users to do tracking via GPRS/ internet. For beginners, it is not necessary to bother about the set-up.

Ex: APN  IP

- Get APN
- Get IMEI code

## 2. General→2



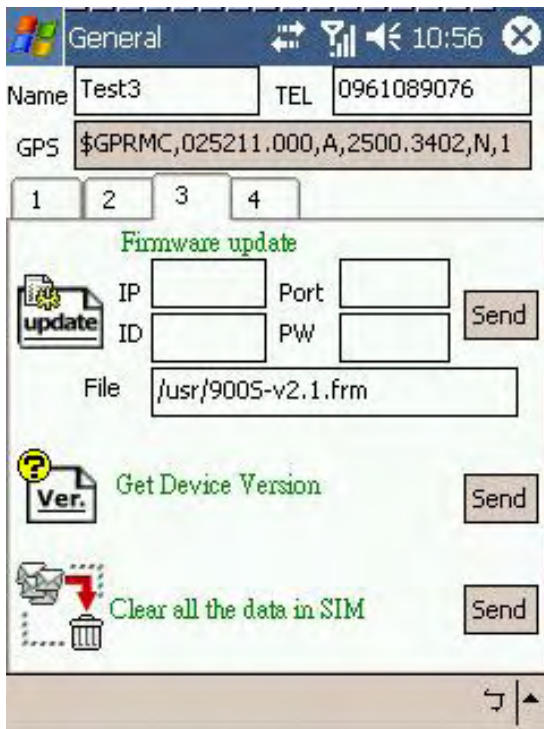
### Set the password of device:

The default password is "8888".

Ex: Old  New   
Confirm New

- Set the present time of device
- Get the present time of device

### 3. General→3



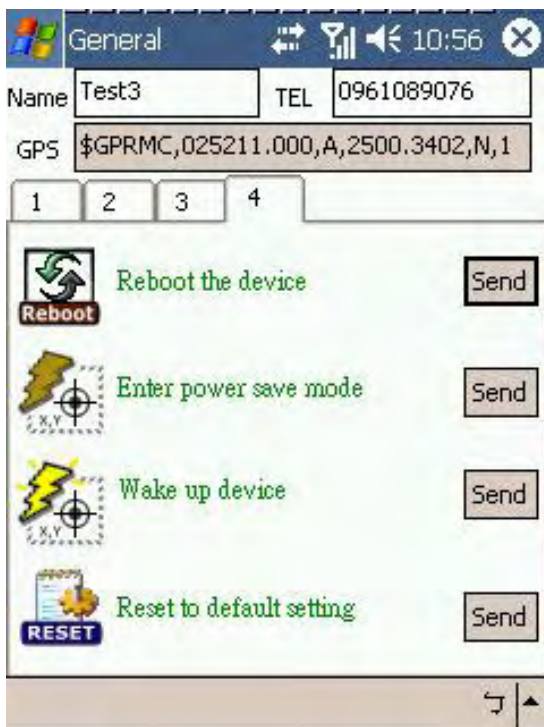
- **Firmware update:**

To update the firmware via FTP. If you have your own FTP Server, you can save the new firmware in FTP Server for your customers to update the firmware.

Ex: IP  Port   
ID  PW   
File

- **Get Device Version:** Get version data.
- **Clear all the data in SIM:** Clear all the data saved in the SIM card.

### 4. General→4



- **Reboot the device**

- **Enter power save mode:**

Send back current position data by SMS; and then enter into power saving mode.

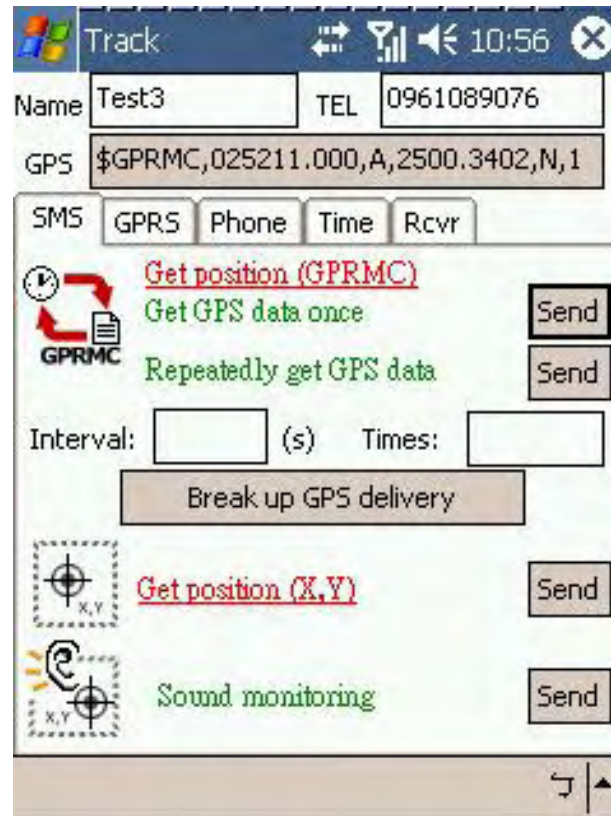
- **Wake up device:**

Send back current position data by SMS; and wake up from power saving mode.

- **Reset to default setting**

# [Track]

## 1. Track→SMS



- **Get position (GPRMC):** Send back GPS data in GPRMC format. These data will be sent automatically to the mapping software installed in your PDA. Run the mapping software to track the position/ movement of your car or loved one.

**Interval:** The time interval in seconds to send back GPS position data.

**Times:** How many times for the unit to send back data => “-1” is for continuously sending; “0” is for stop sending; “n” (a figure) is for sending “n” times.

**Break up GPS delivery:** Discontinue the transmission of the GPS data.

- **Get position (X,Y):** Send back the latitude and the longitude data by SMS. Run Google Earth/ Maps, and input the received data in the “Search” column, you will see the position of your car/ loved one on the map.
- **Sound monitoring:** Send back position data by SMS first; then call back for remote voice monitoring. You can monitor the situation of your loved one from mobile, **LIVE & Real-Time**.

## 2. Track→GPRS



- **Set GIS Server parameters:**

Change IP/ Domain Name and Listen Port of the GIS Server (control center).

Ex: IP  Port

*\* This is for advanced users to do tracking via GPRS/ internet. It is required only if you want do the tracking via GPRS/ internet thru a web server or control center. For beginners, it is not necessary to bother about the set-up.*

- **Get GIS Server parameters:**

Get IP/ Domain Name and Listen Port of the GIS Server (control center).

- **Set GPS delivery time interval:**

Set the time interval for the GPS Tracker to send back data.

- **Get GPS delivery time interval:**

Get the data of the time interval for the GPS Tracker to send back data.

### 3. Track→Phone

When you make a phone call to the GPS Tracker, it will send back its position data after rings twice, before the phone call is answered. This screen is for you to make the relative settings.



- **Set Phone-Track list:**

Set the phone number list, which can get the position data from the GPS Tracker.  
(Phone-Track function will not be functioned, if no data is entered here)

**Enable:** Activate or disable the phone list.

**Add:** Add a new phone number to get position data.

**Del:** Delete the phone number from the list.

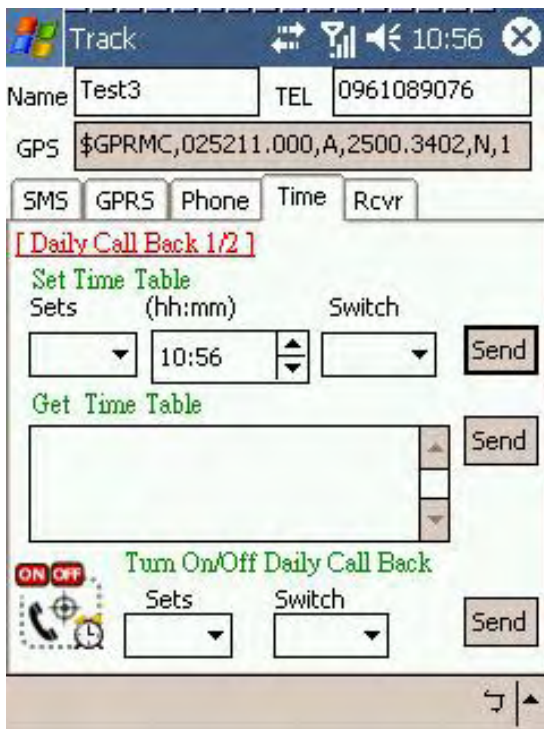
- **Get Phone-Track list:**

Get the phone number list, which can get the position data via Phone Track.

- **Phone Track:**

Activate or shut off Phone Track function.

## 4. Track→Time



- **Set Time Table:**  
Set the time table for the GPS Tracker to call back every day.  
**Sets:** Set upto 5 different times for the GPS Tracker to call back.  
**Switch:** On / Off
- **Get Time Table:**  
Get the time table for the GPS Tracker to call back automatically every day.
- **Turn On/Off Daily Call Back:**  
Turn on/ off the time(s) for the GPS Tracker to call back automatically at the preset time(s).

## 5. Track→Rcvr



- **Set daily call back recipient (phone):**  
Set the phone numbers to receive the phone calls of daily call back at the preset time.
- **Get daily call back recipient (phone):**  
Get the list of the ones who receive the phone calls of daily call back at the preset time.

# [Phone]

## 1. Phone→Dial Button



- **Set the first set phone number:**  
Re-set the first set dial-out phone number.  
(can be without “Name”)
- **Get the first set phone number:** Get the number of the first set dial-out phone number.
- **Set the second set phone number:**  
Re-set the 2nd set dial-out phone number.  
(can be without “Name”)
- **Get the second set phone number:** Get the number of the 2nd set dial-out phone number.

## 2. Phone→Auto Answer



- **Auto phone answering:**  
Set auto answering phone call mode.  
**Switch:** Disable – disable auto answer mode.  
Enable – auto answer mode.  
**Auto answer after [ ] rings**  
※ It is a must, if auto answering mode is enabled.

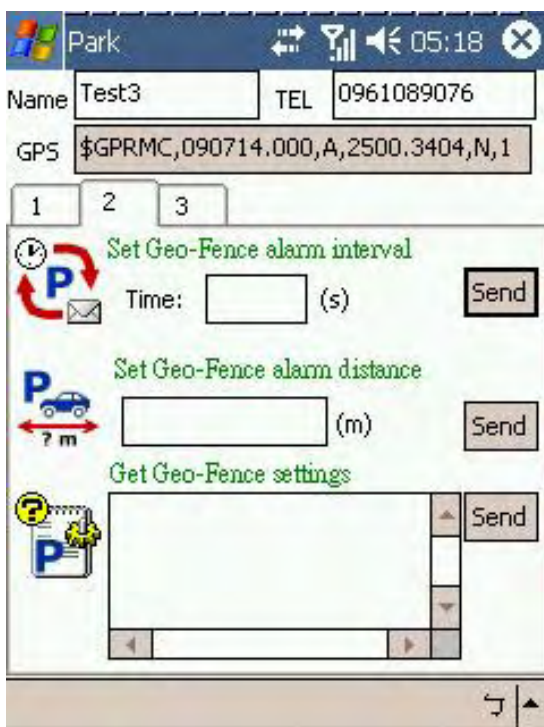
# [Park]

## 1. Park→1



- **Set Geo-Fence Phones:**  
Set the phone numbers for the GPS Tracker to call back, when the vehicle/ object is moved beyond the geo-fence setting range.
- **Get Geo-Fence Phones:**  
Get the phone numbers for GPS Tracker to call back for Geo-fence (Park) function.

## 2. Park→2



- **Set Geo-Fence alarm time interval:**  
Set the time interval for the GPS Tracker to send back the SMS message, if the car/ object is moved beyond the preset geo-fence range.  
**Time:** the time interval in seconds
- **Set Geo-Fence alarm distance:**  
Set the distance for geo-fence range. The GPS Tracker will send SMS message to the preset mobile number, if the car/ object is moved over the preset distance (in meters).
- **Get Geo-Fence settings:** Get the setting details about Geo-fence Park function.



### 3. Park→3

Park

Name Test4 TEL 0961089079

GPS \$GPRMC,101837.000,A,2500.3599,N,1

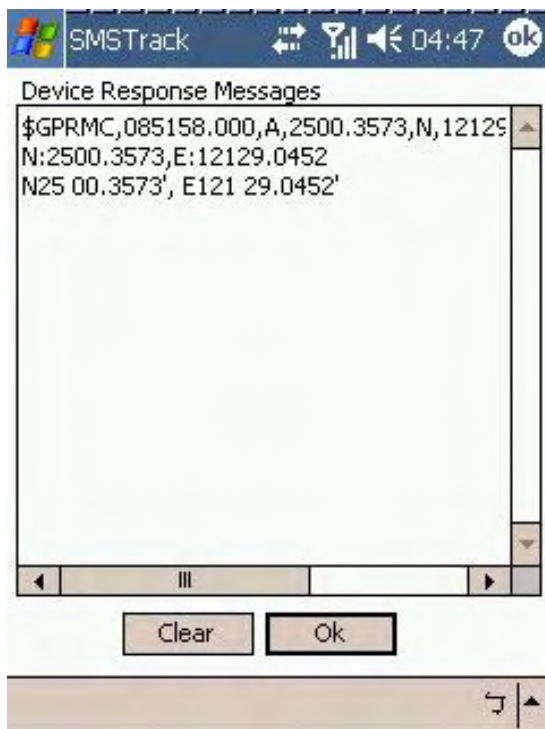
1 2 3

Geo-Fence alarm switch  
Switch  Send

Set Geo-Fence notification mode  
Mode  Send

- **Geo-Fence alarm switch:**  
Activate or disable Geo-fence Park Function.  
**Switch:** Off / On
- **Set Geo-Fence notification mode:**  
Set the mode for Geo-fence Park function.  
**Mode:** SMS/ TEL

## [Message]



- **Device Response Messages:**

Check the messages sent back from the GPS Tracker. For example, it will send back some data as illustrated in the left screen, when you tap **Track - Get position (X,Y)**

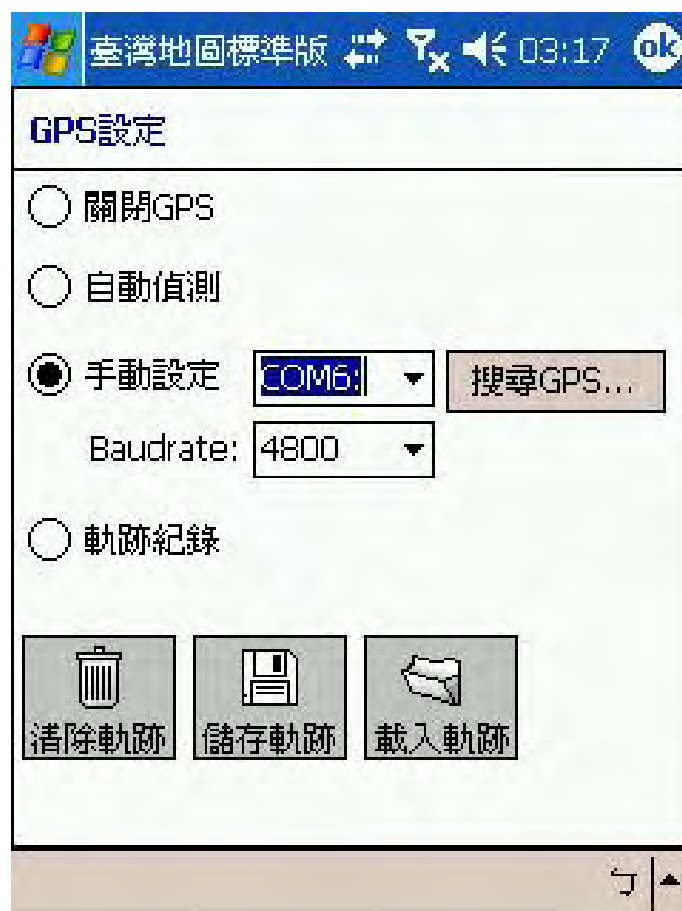
**Clear:** Clear the messages.

**OK:** Exit.

## 2. Operation Instruction- Navigation software of PAPAGO

After getting data of position by **SMS Track**, the virtual COM port will remember this position's information. When opening any navigation software, a virtual COM port will find out a navigation software, requiring some data of GPS position. Then it will send the last obtained data to this software in order to show this software there is a real existing GPS. Then, you can monitor your obtained data's position. The following is our explanation of monitor by using PAPAGO software.

2-1 GPS port setting: Open PAPAGO, choose tool -> GPS/ tracking... Open GPS setting, as a following figure. This figure is to set the source of GPS data, we set SMS Track in COM6; Baudrate, can be set in any number. No matter what number is set, Driver will send all data go PAPAGO software correctly. Then, click ok. – As figure 39.



2-2 After GPS port is set, GPS will be in a positioning state. When opening GPS position, it will be in GPS state automatically: you can click either GPS buttons shown as below. -- As figure 40 and 41.

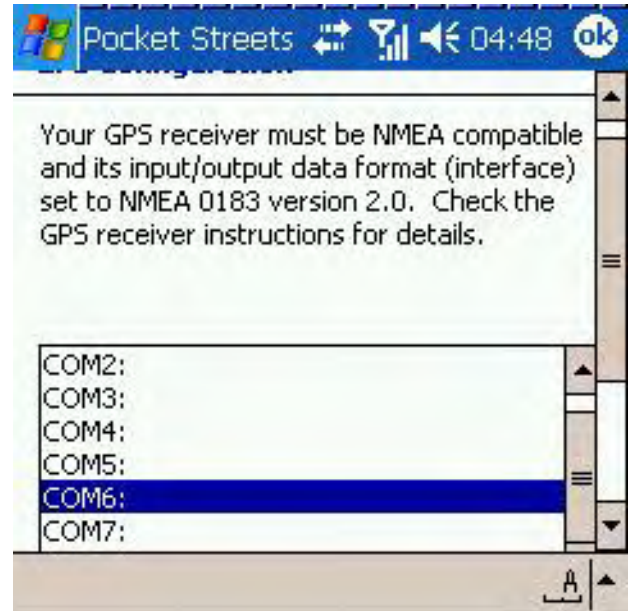
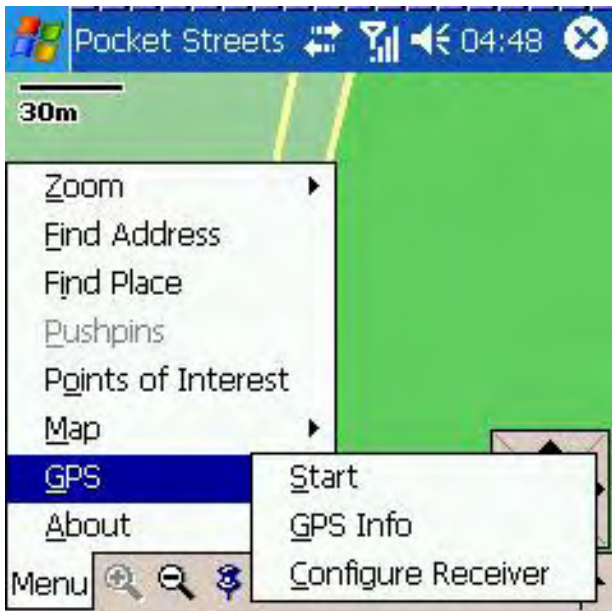


2-3 In a GPS state, you can get position information and GPS data, GPS data is obtained by SMS. -- As figure 42 and 43.



### 3. Setting of Microsoft Pocket Streets

3-1 Setting of GPS parameter of Microsoft Pocket Streets is as figure 44 and 45. Please open Microsoft Pocket Streets. Program, click menu -> GPS -> Configure Receiver. The image of setting GPS port name will be appeared. Please choose the position of Virtual COM port you set. For instance, we set in COM6. Click ok to save it.

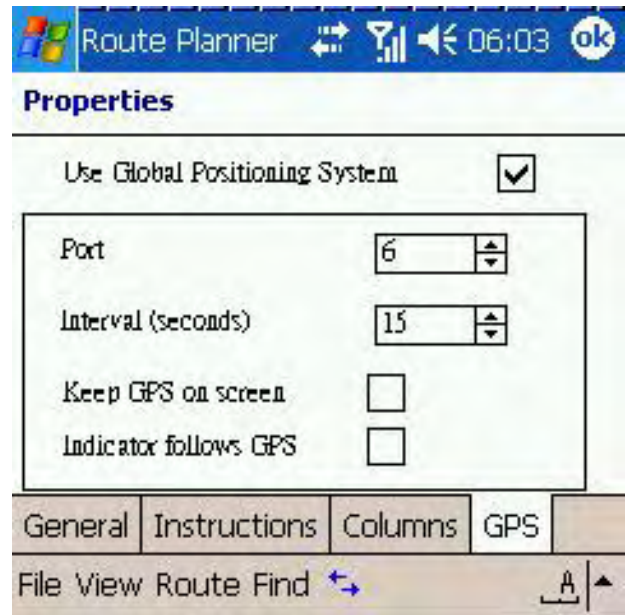


3-2 To open the GPS position of Pocket Street is shown as figure 46 and 47 <figure Pocket Streets GPS>. To start Pocket Street by clicking menu -> GPS -> Start in the Pocket Streets. You can monitor the current position state from GPS data provided by Pocket Streets.



## 4. Tomtom Route Planner GPS Setting

4-1 As a below figure, the selection of setting GPS port of Tomtom: Menu -> properties... First, open parameter setting, choose GPS and start GPS by clicking "Use Global Positioning System." Select 6 in COM port owing to our virtual COM Port driver is installed in COM 6. Finally, click ok to save. – figure 48 and 49.



4-2 After the GPS parameter is set, to start GPS position by go to View -> GPS. -- As figure 50.

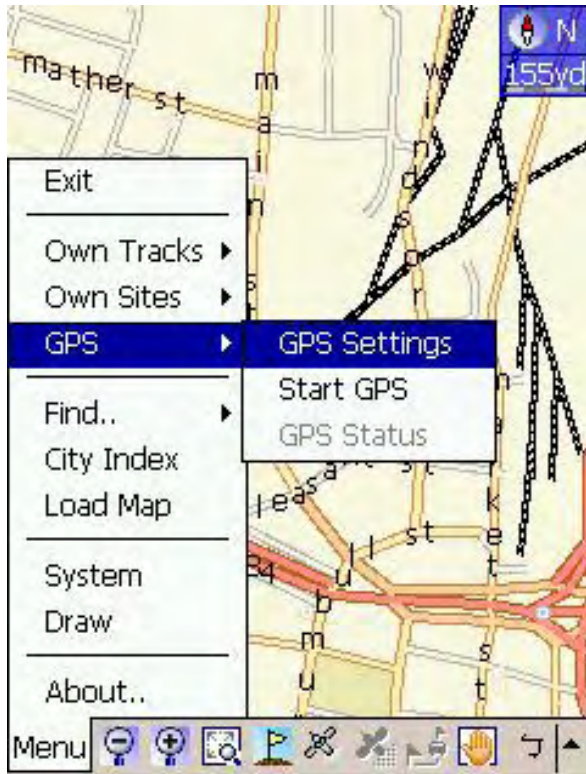


4-3 After starting it, you can see GPS data, a function provided by Tomtom. As figure 51.

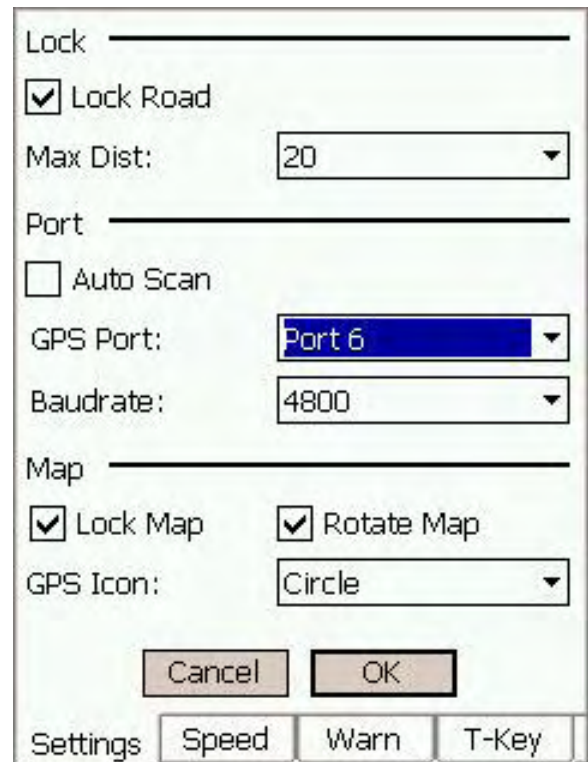


## 5. Setting of Magic e-Map

5-1 To set GPS parameter of e-Map is shown as a below figure 2.5.1. First, open e-Map program: click menu -> GPS -> GPS Setting. The image of GPS setting will appear as a figure 2.5.2. In figure 2.5.2, we cancel "Auto Scan," and set our Virtual COM port name in the GPS Port. For instance, set number 6 in the COM and click ok to save. The GPS parameter is set successfully. – As figure 50 and 51.



< GPS Parameter setting >

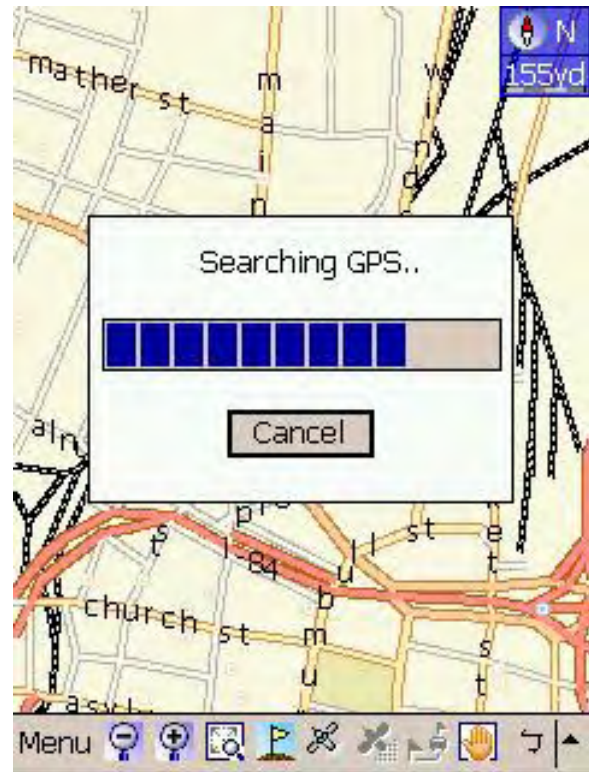


< GPS Setting >

5-2 To start GPS setting of e-Map is shown as figure 2.5.3: Choose menu -> GPS -> Start GPS. Then, e-Map will search GPS data. If the position goes successfully, the search will go successfully. No matter there is any data in SMS, if the position fails, e-Map can't find GPS. --As figure 52 and 53.



< Start GPS >

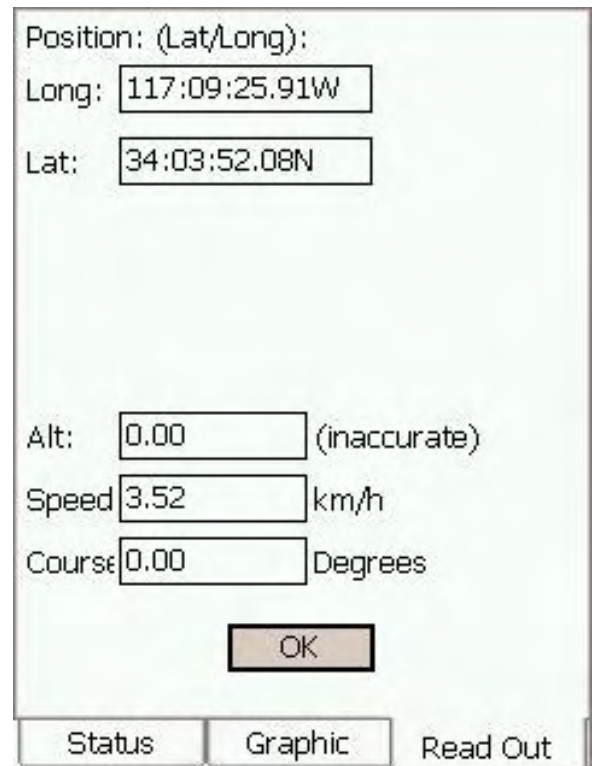


< Searching >

5-3 You can see your GPS position in the main page as figure 54. Or choose menu -> GPS -> GPS State to observe current received data, as figure 55.



< Position Successfully >



< Current GPS state >



# V. PC Track Installation

## \*\* REMARKS :

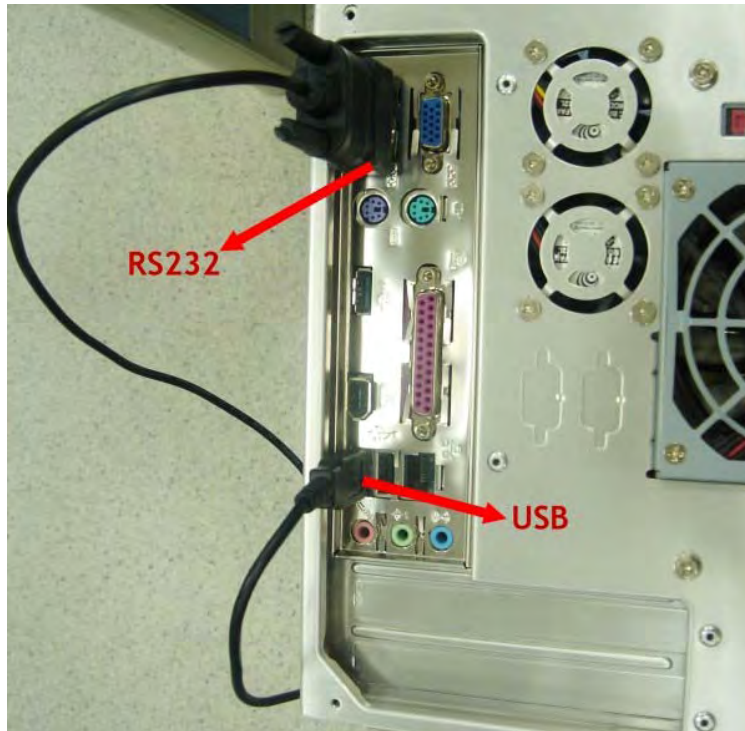
- a). **Fixed IP Address is required for the operation; Intranet is NOT workable for PC Track.**
- b). Make sure you did have installed a GSM SIM Card to GPS-911; and its GPRS function had been enabled.
- c). Find the correct **APN** (Access Point Name) data for your GPRS from Appendix, or check with your mobile operator for the details.
- d). If PC links to internet directly, a Fixed IP Address is required (check with your system operator).
- e). If PC links to internet thru Router/ Intranet, you need to set up an **IP coordinate** to have the GPS data sent to Router IP be conveyed to your PC (please refer to appendix **VI. How to set up IP coordinate ?**)
- f). You can also link to internet via ADSL, Modem, USB GPRS Modem, PCMCIA GPRS Modem.
- g). Please browse <http://www.gopass.com.tw/seemyip.htm> to get the **Real IP Address** of your PC. If it is not the same as "Now IP Address" shown in Gopass Map, please take this IP; the data shown in "Now IP Address" is an internal IP. (\*IP addresses like 192.x.x.x, 10.x.x.x, or the likes are internal/ virtual IP; not the external real IP. The telecom companies with limit IP will use NAT technology to have internal IP mirrored to external IP).

## 1. Create a Virtual COM Port

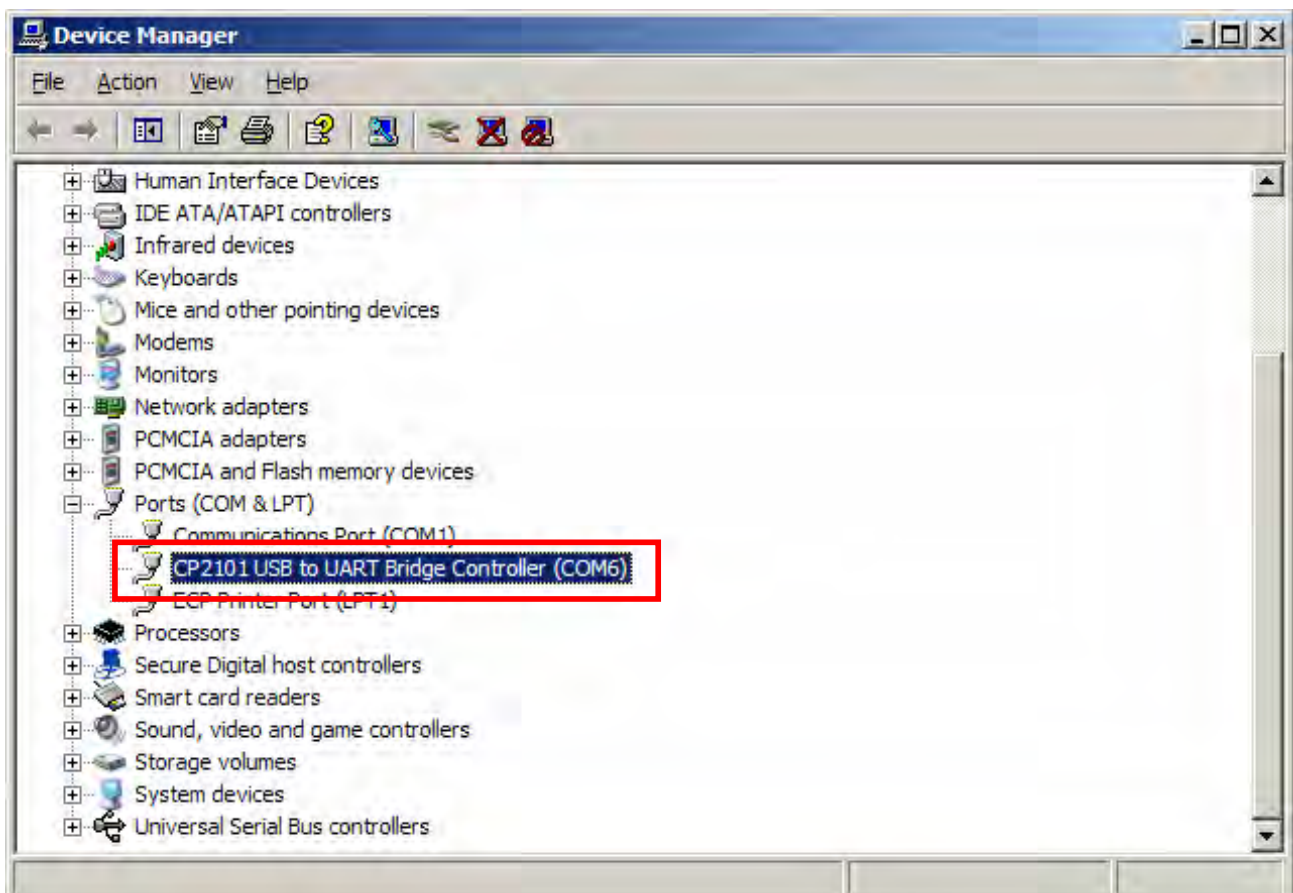
- 1-1 Put the CD delivered with the tracker to the CD driver of your computer; click "**CP2102 Win2000/XP**" or "**CP2102 Win98**" according to the OS of your computer, to install the driver for USB-RS232 cable.



1-2 Connect the USB-RS232 adapting cable delivered with the device to the USB port & the RS232 port of your PC.

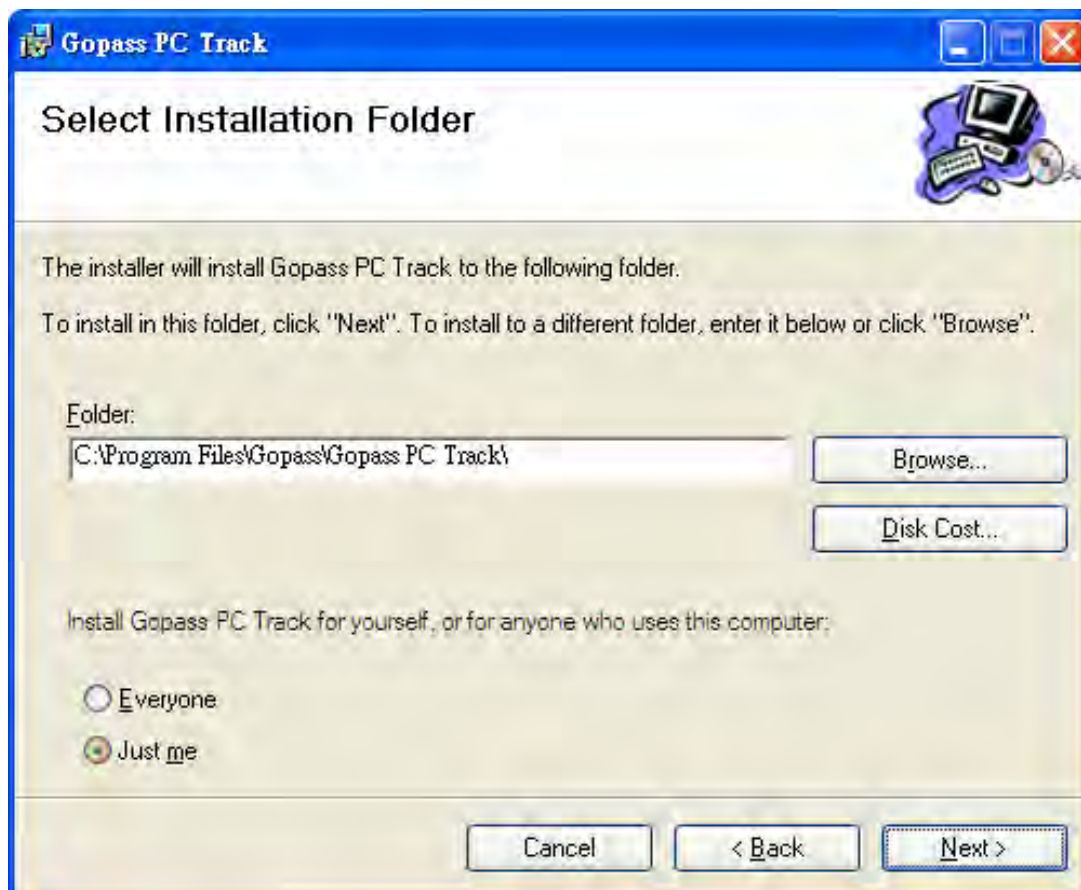


1-3 After connect the USB-RS232 cable, please click “My computer” → “Properties” → “Hardware” → “**Device Manager**”; then check with the virtual COM port is on which port (ex. COM6).

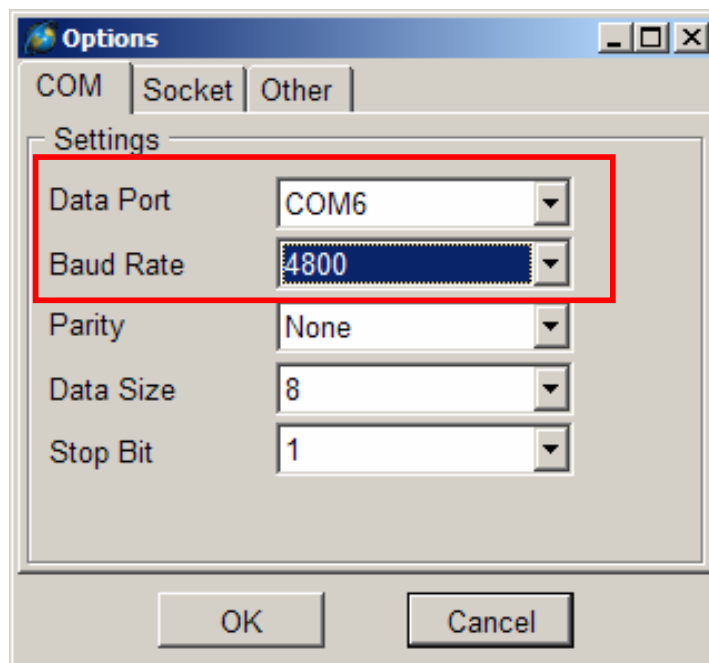
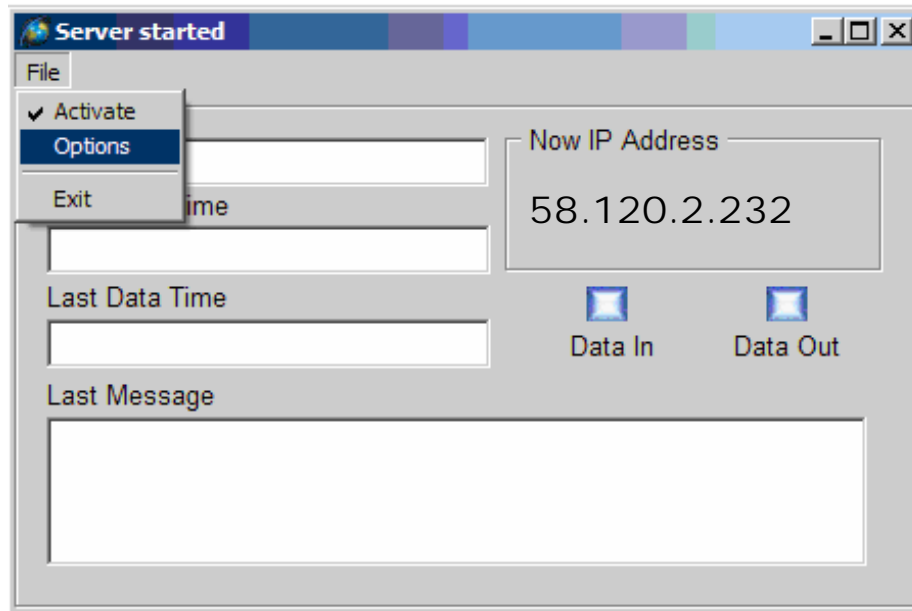


## 2. Install Gopass PC Track Software

2-1 Put the CD delivered with the tracker to the CD driver of your computer; click on “PC/Notebook Track” to install “Gopass PC Track” program into your computer.

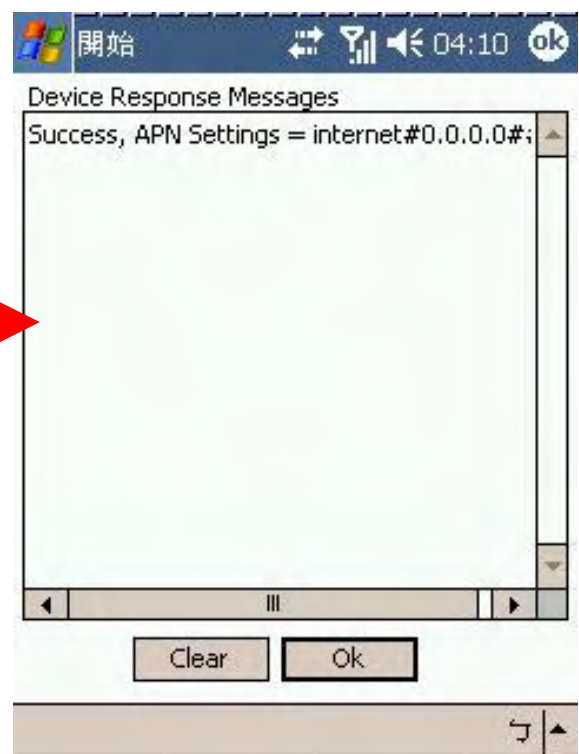
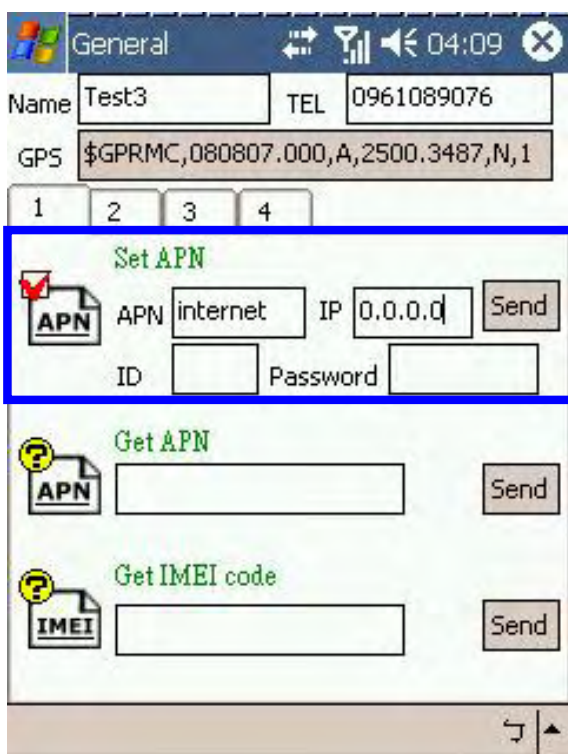


2-2 Click “Start” → “All Programs” → “Gopass PC Track” → “**Gopass Map**” to run the program you have just installed. The data of “**Now IP Address**” will be shown up, if your computer can link to internet. Then set up “**Date Port**” and “**Baud Rate**” in “Options” of “File” (ex. Port:COM6 ; Rate:4800).



### 3. Send SMS Command Codes

3-1 Please check with your mobile operator for the APN command codes; and send APN command codes to the SIM card of the tracker by your mobile via SMS command code **600#Password #APN#IP** (ex. 600#8888#internet).



3-2 Send the data of “Now IP Address” to the SIM card of the tracker by your mobile via SMS command code **999#Password#ServerIP#Port** (ex. 999#8888#59.120.2.232#3000 ), so that the tracker knows to where it should send back the position data. (You will receive a SMS reply from the tracker confirming Server IP has been changed successfully in about 10 seconds - depends on the environment of your mobile operator.)

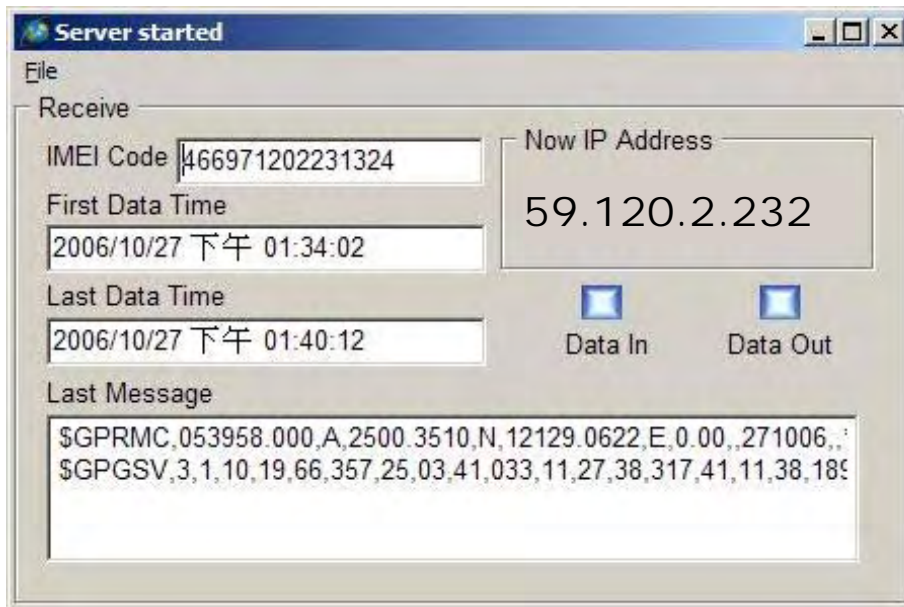


3-3 Send SMS command code **115#Password#XX** (ex. 115#8888#20) to the SIM card of the tracker, to initiate its GPRS function, and set the time interval for the tracker to send back data. (You will receive a SMS reply from the tracker in about 10 seconds, confirming that update call center settings successfully.)

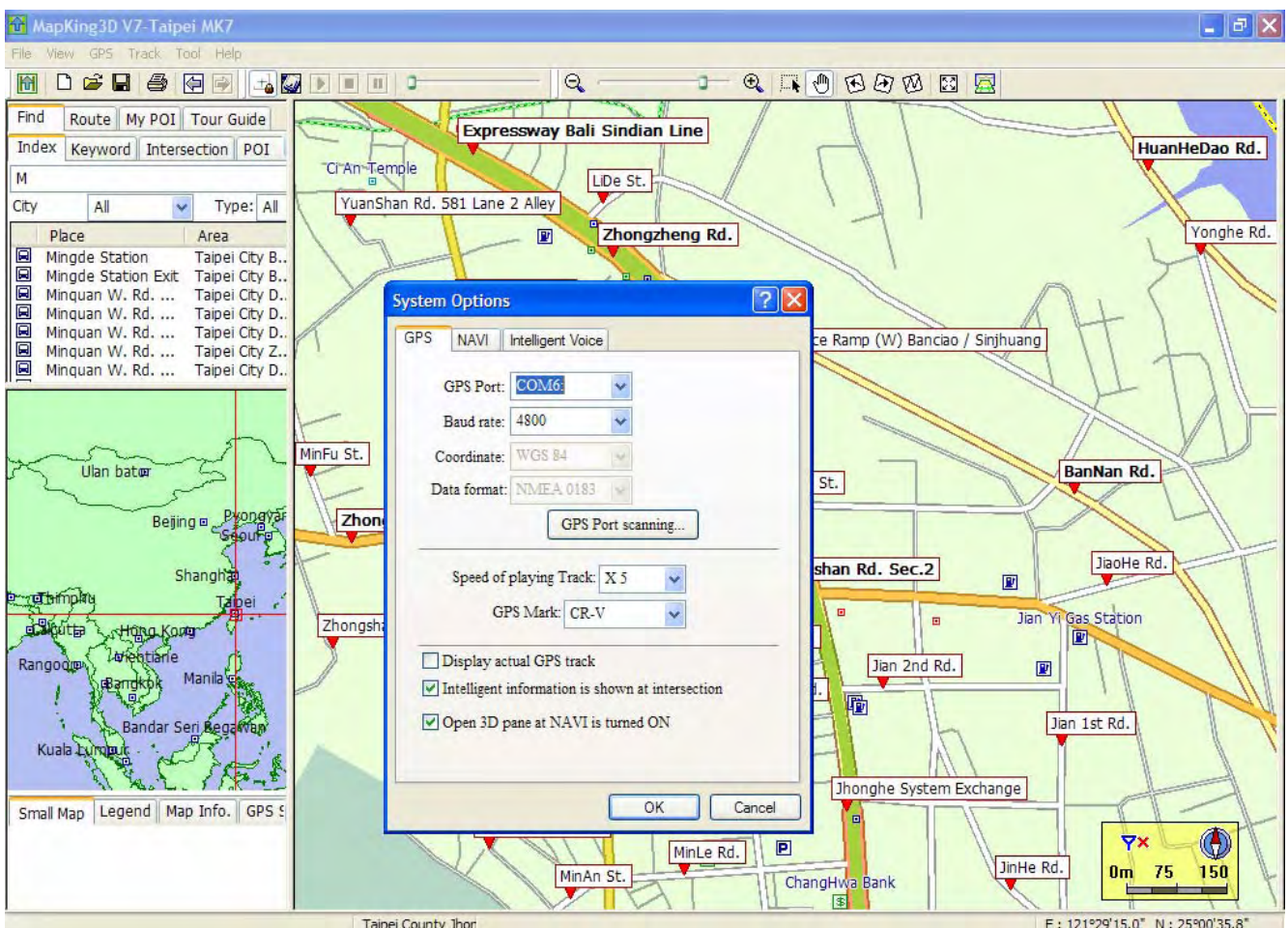


## 4. Check GPS Data In-flow

4-1 Click “Start” → “All Programs” → “Gopass PC Track” → “**Gopass Map**” to run the program. You will be able to see the GPS data flow-in.



4-2 Run the mapping software installed in your computer; set GPS Port to **COM1**, and Baud Rate to **4800**, you will be able to see the position/move of the tracker unit in the map real-time and live.





## VI. How to set up IP coordinate?

Nowadays, lots of internet products around us such as Windows server, Linux iptable, IP share devices, firewall, etc... It takes a long time to go over each IP coordinate. Besides, each product provides its user manual, please refer to its user manual. Here, we will use ZyXEL IP to give you an example.

1. First, log in your IP share device.
2. Click “NAT” from the Network of left corner. Go to “Port Forwarding”, the window will show as follows. Please click “Modify” to set up the ID coordinate.

The screenshot shows the ZyXEL P-334WT web interface. The browser address bar displays `http://192.168.1.1/tpSys.html`. The left sidebar contains a tree view with 'NAT' highlighted. The main content area shows the 'Port Forwarding' configuration page. The 'Default Server Setup' section has a 'Default Server' field set to '0.0.0.0'. Below is a table with 11 rows, each representing a port forwarding entry. The 'Modify' icon for the first entry is highlighted with a red box.

#	Active	Name	Start Port	End Port	Server IP Address	Modify
1	<input type="checkbox"/>		0	0		
2	<input type="checkbox"/>		0	0		
3	<input type="checkbox"/>		0	0		
4	<input type="checkbox"/>		0	0		
5	<input type="checkbox"/>		0	0		
6	<input type="checkbox"/>		0	0		
7	<input type="checkbox"/>		0	0		
8	<input type="checkbox"/>		0	0		
9	<input type="checkbox"/>		0	0		
10	<input type="checkbox"/>		0	0		
11	<input type="checkbox"/>		0	0		

3. The set-up connecting is as follows, fill out each blank as follows.

Active → Click (Check)

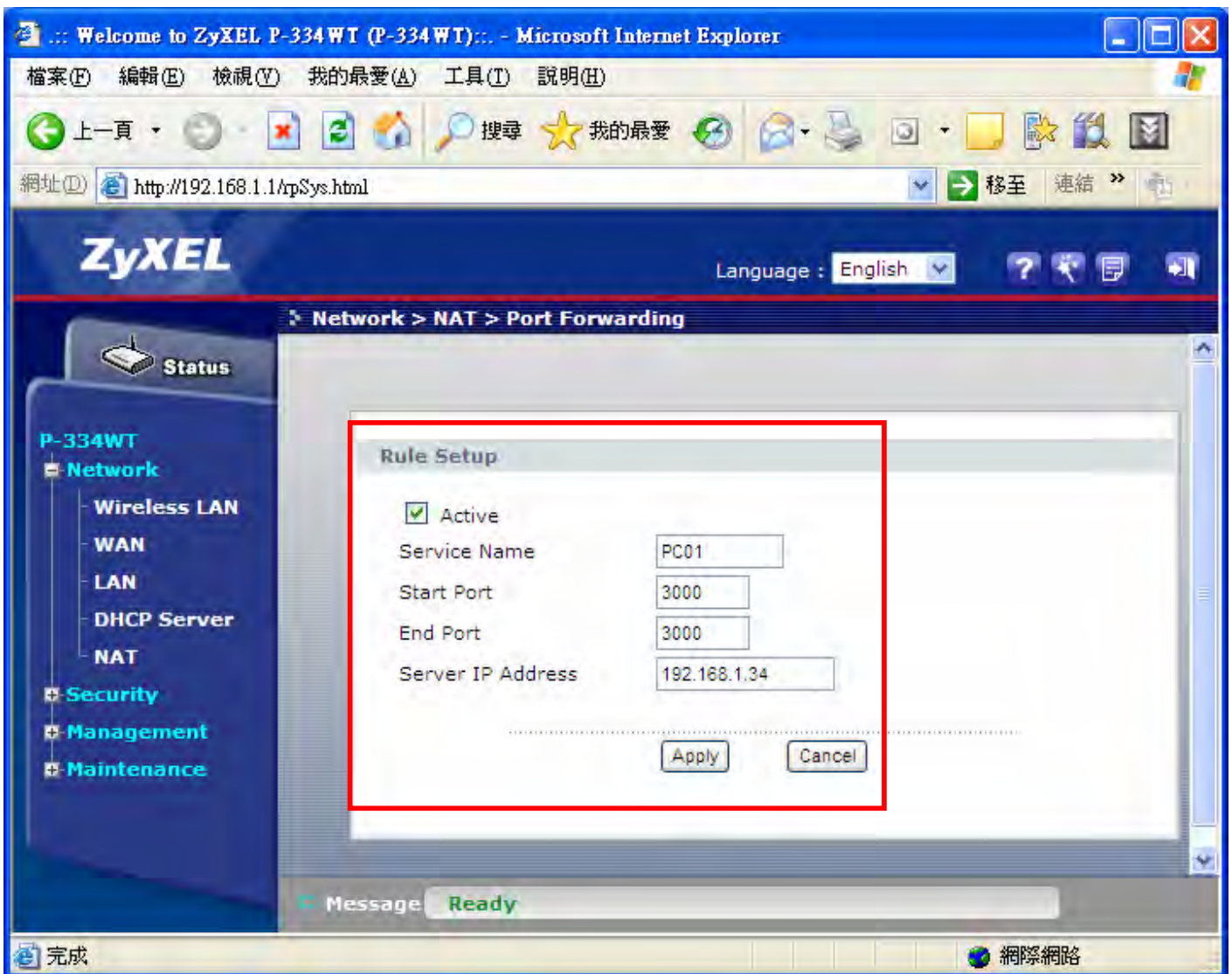
Service Name → PC01

Start Port → 3000

End Port → 3000

Server IP Address → 192.168.1.34

Click “Apply” after set-up.



4. Then, your server "PC01" can connect with the real IP.

The screenshot shows the ZyXEL P-334WT web interface in Microsoft Internet Explorer. The browser address bar shows `http://192.168.1.1/rpSys.html`. The page title is "Welcome to ZyXEL P-334WT (P-334WT)::: - Microsoft Internet Explorer". The interface is in English and shows the "Network > NAT > Port Forwarding" configuration page. The "Port Forwarding" tab is selected, and the "Default Server Setup" section shows the "Default Server" as `0.0.0.0`. The "Port Forwarding" table is highlighted with a red box, showing the following data:

#	Active	Name	Start Port	End Port	Server IP Address	Modify
1	<input checked="" type="checkbox"/>	PC01	3000	3000	192.168.1.34	
2	<input type="checkbox"/>		0	0		
3	<input type="checkbox"/>		0	0		
4	<input type="checkbox"/>		0	0		
5	<input type="checkbox"/>		0	0		
6	<input type="checkbox"/>		0	0		
7	<input type="checkbox"/>		0	0		
8	<input type="checkbox"/>		0	0		

The interface also shows a "Message Ready" status bar at the bottom. The taskbar at the bottom of the browser window shows the "完成" (Done) button and the "網際網路" (Internet) icon.

## VII. Worldwide APN (Access Point Name) List

Country	Mobile operator	Access point name
Argentina	Personal	gprs.personal.com
Argentina	Unifon	internet.gprs.unifon.com.ar
Australia	Telstra	telstra.internet
Australia	Optus	internet
Australia	Three	3netaccess
Australia	Vodafone	internet
Austria	Max Online	gprsinternet
Austria	One	wap.one.at
Belgium	Orange	orangeinternet
Belgium	Mobistar	web.pro.be
Belgium	Proximus	internet.proximus.be
Bermuda	AT&T	proxy
Bermuda	Mobility	net.bm
Brazil	Claro	claro.com.br
Brazil	Oi	gprs.oi.com.br
Brazil	TIM	tim.br
Bulgaria	Mobitel (Mtel)	inet-gprs.mtel.bg
Canada	Fido	internet.fido.ca
Canada	Rogers AT&T	internet.com
Chile	Entel PCS	imovil.entelpcs.cl bam.entelpcs.cl
Chile	Telefonica GSM	web.tmovil.cl
China	China Mobile	cmnet
Croatia	VIPNET	gprs.vipnet.hr
Czech Republic	Eurotel	internet
Czech Republic	Oskar	internet
Czech Republic	Oskar prepaid cards	ointernet
Czech Republic	T-Mobile	internet.t-mobile.cz

Denmark	TDCmobil	internet
Denmark	Orange	web.orange.dk
Egypt	Vodafone	internet.vodafone.net
Dominican Republic	Orange Dominicana	orangenet.com.do
Finland	Telia Mobile	internet
Finland	DNA	internet
Finland	Sonera	internet
Finland	Radiolinja	internet
Finland	Saunalahti	saunalahti
France	Orange	orange.fr
France	SFR	websfr
France	Bouygues Telecom	eBouygTel.com
Germany	D2 Vodafone	web.vodafone.de
Germany	E-Plus	internet.eplus.de
Germany	O2	internet
Germany	Quam	quam.de
Germany	T-Mobile D1	internet.t-d1.de
Greece	Vodafone	internet.vodafone.gr
Greece	Telestet	gint.b-online.gr
Greece	Cosmote	internet
Hungary	Vodafone (Prepaid "Optimized")	vitamax.internet.vodafone.net
Hungary	Vodafone (Prepaid "Standard")	vitamax.snet.vodafone.net
Hungary	Vodafone (Postpaid "Optimized")	internet.vodafone.net
Hungary	Vodafone (Postpaid "Standard")	standardnet.vodafone.net
Hong Kong	CSL	internet
Hong Kong	Orange	web.orangehk.com
Hong Kong	New World	internet
Hong Kong	People	internet
Hong Kong	SmarTone	internet

Hong Kong	Sunday	internet
India	Orange, Hutch	www
Iceland	Siminn	gprs.simi.is
India	BPL Mobile	bplgprs.com
India	Airtel	airtelgprs.com
Indonesia	Telkomsel	internet
Ireland	O2	internet
Ireland	Vodafone	live.vodafone.com
Israel	Cellcom	internetg
Israel	Orange	internet
Italy	TIM	uni.tim.it ibox.tim.it
Italy	Vodafone Omnitel	web.omnitel.it
Italy	Wind	internet.wind
Latvia	Latvia Mobile Telefone	internet.lmt.lv
Luxembourg	LUXGSM	web.pt.lu
Luxembourg	Tango	internet
Malaysia	Celcom	celcom.net.my
Mexico	Movistar	internet.movistar.mx
Mexico	Telcel	internet.itelcel.com
Montenegro	Monet	gprs.monetcg.com
Netherlands	T-Mobile	internet
Netherlands	KPM Mobile	internet
Netherlands	Orange	internet
Netherlands	O2	internet
Netherlands	Vodafone (normal)	web.vodafone.nl
Netherlands	Vodafone (business)	office.vodafone.nl
New Zealand	Vodafone NZ	www.vodafone.net.nz
Norway	Netcom	internet.netcom.no

Norway	Telenor	.internet
Pakistan	UFone	ufone.internet
Paraguay	Personal	.internet
Paraguay	Tigo	internet.tigo.py
Philippines	Smart	.internet
Philippines	Globe	internet.globe.com.ph
Poland	Era	erainternet
Poland	Idea	www.idea.pl
Poland	PlusGSM	www.plusgsm.pl
Portugal	Optimus	.internet
Portugal	TMN	.internet
Portugal	Vodafone (Telcel)	internet.vodafone.pt
Romania	Connex	internet.connex.ro
Romania	Orange	.internet
Russia	BeeLine	internet.beeline.ru
Russia	Megafon	internet.nw
Russia	MTS	internet.mts.ru
Russia	PrimTel	internet.primtel.ru
Saudi Arabia	Saudi Telecom	Jawalnet.com.sa
Serbia-Montenegro	Mobtel Srbija	.internet
Serbia-Montenegro	Telekom Srbija	gprsinternet
Singapore	M1	sunsurf
Singapore	Singtel	.internet
Singapore	Starhub	shwapint
Slovakia	Eurotel	.internet
Slovakia	Orange	.internet
South Africa	MTN	.internet
Spain	Amena	amenawap

Spain	Telefonica (Movistar)	movistar.es
Spain	Vodafone	airtelnet
Sweden	Telia	online.telia.se
Sweden	Vodafone SE	internet.vodafone.net
Switzerland	Swisscom	gprs.swisscom.ch
Switzerland	Orange CH	internet
Switzerland	sunrise	internet
Switzerland	UMC	www.umc.ua
Taiwan	Chunghwa Telecom	emome
Taiwan	Far EasTone	fetnet01
Taiwan	KG Telecom	internet
Taiwan	Taiwan Cellular	internet
Thailand	AIS	internet
Thailand	DTAC	www.dtac.co.th
Turkey	Avea	internet
Turkey	Aycell	aycell
Turkey	Telsim	telsim
Turkey	Turkcell	internet
UK	Jersey Telecom	pepper
UK	O2	mobile.o2.co.uk
UK	T-Mobile	general.t-mobile.co.uk
UK	Vodafone UK	internet
UK	Orange	orangeinternet
Ukraine	Kyivstar GSM	www.kyivstar.net
Ukraine	UMC	www.umc.ua
USA	T-Mobile	internet2.voicestream.com
USA	AT&T	proxy
USA	Cingular	isp.cingular
Venezuela	Digital TIM	gprsweb.digitel.ve
Vietnam	MobiFone	Mobi-gprs-wap



## **Export controls**

This device may contain commodities, technology or software subject to export laws and regulations from the US and other countries. Diversion contrary to law is prohibited.

## **FCC / INDUSTRY CANADA NOTICE**

Your device may cause TV or radio interference (for example, when using a telephone in close proximity to receiving equipment). The FCC or Industry Canada can require you to stop using your telephone if such interference cannot be eliminated. If you require assistance, contact your local service facility. This device complies with part 15 of the FCC rules.

## **Operation is subject to the following two conditions:**

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

## **Certification information (SAR)**

THIS MOBILE DEVICE MEETS GUIDELINES FOR EXPOSURE TO RADIO WAVES.

Your mobile device is a radio transmitter and receiver. It is designed not to exceed the limits for exposure to radio waves recommended by international guidelines.

Your mobile device is also designed to meet the requirements for exposure to radio waves established by the Federal Communications Commission (USA) and Industry Canada.

These requirements set a SAR limit of 1.6 W/kg averaged over 1 gram of tissue. The highest SAR value reported under this standard during product certification for when properly worn on the body is **0.293 W/kg**.

Information about this device model can be found at [www.fcc.gov/oet/fccid](http://www.fcc.gov/oet/fccid) by searching the equipment authorization system using **FCC ID: UBHAVL9X**.

### FCC RF Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.

This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter. “

To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 1.5 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter ” .

**Caution:**

The user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**Note:**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: □□□□

- Reorient or relocate the receiving antenna. □□
- Increase the separation between the equipment and receiver. □□
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help. □□