

Installation instructions for ConnectorPC Gold tracking software (ver 3.2.1) and map

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To enable tracking of your Followit locator on a PC or laptop,
please read the following instructions.

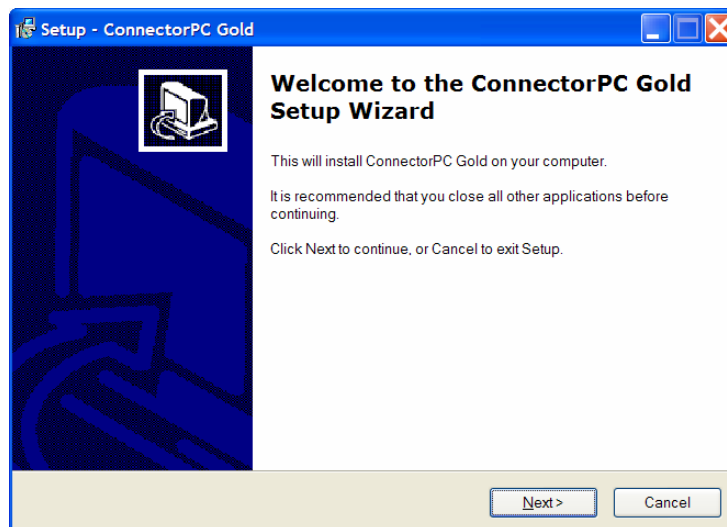
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1. How to install ConnectorPC Gold Version 3.2.1 on WinXP

If this is a completely new installation, start at step 4. If you are upgrading from a previous version of ConnectorPC Gold, start at step 1.

1. Uninstall any previous version of ConnectorPC Gold by clicking on Start>All programs>ConnectorPC Gold>Uninstall ConnectorPC Gold.
2. Uninstall any previously VSPD driver by clicking on Start>All programs>VSPD>Uninstall.
3. Restart your PC

4. Place the Tel Trak CD into the CD ROM and click next to install:



Follow the on screen instructions and accept or decline the agreements. If you do not accept the agreements the installation will stop.

The install shield will install a VSPD driver which allows the tracking software to send GPS positions to the map (Route66 or MS AutoRoute).

By default the following com ports are used:

- | | |
|------|--|
| Com1 | Phone com port. Change this com port to the com port No used by your GSM phone. Typically com1 is the RS232 serial port on the back of a desktop. If using Bluetooth or a USB data cable to link the GSM phone to the PC you will have to check what com port is used for the GSM phone, see section 4.1 (Bluetooth) and 4.3 (USB data cable). |
| Com6 | Map com port. The map (Route66 or MS AutoRoute) should be set to accept GPS data on Com6 |

If these com ports are already used by other applications, other com ports can be selected for ConnectorPC Gold. See page 12 if you need to change the com ports.

For all Windows versions, click on Finish for the VSPD and then Finish for the tracking software. When the installation has totally completed and the screen is clear again, remove the CD and restart the PC. This is important otherwise the new settings will not take effect.

2. Registering ConnectorPC Gold

ConnectorPC Gold now includes a 7 day free trial period. The trial period starts from the time of installation. It is best to register the software as soon as possible rather than wait for the 7 day trial period to expire.

To register the software, please ensure you are logged on to your PC as a computer administrator. Registration is a fairly straight forward procedure and will involve obtaining an unlock code from Tel Trak via email. Double click on the ConnectorPC Gold icon on the desktop and then click next. The following screen will appear:

Step 1. Complete your name, company or business name and email address, then click next

Step 2. Type in the CD key which came with CD. A registration code will be generated. You must email this to Tel Trak Technologies Ltd who will then send an Unlock code back. Use the Send Email button to automatically generate an email or click on 'Copy to Clipboard', then open up your email application, prepare an email for sending to sales@teltrak.com and paste the contents of the clipboard manually into the email.

Step 3. Tel Trak will email you an unlock code. Copy and paste the unlock code from the Tel Trak email into ConnectorPC Gold and click on the button Register.

ConnectorPC Gold should now be ready for use.

3. Map Application (MS AutoRoute or Route66) Installation

The mapping application needs support for NMEA 0183, a standardized GPS position interface protocol. The NMEA sentences used are: GPGLL, GPRMC & GPGLL.

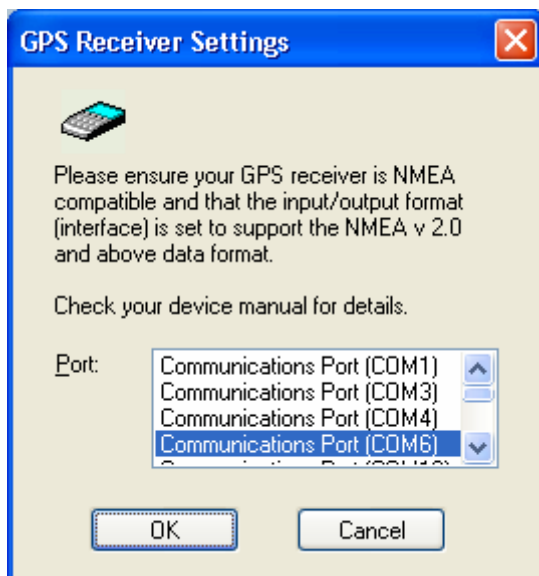
Tel Trak recommend and provide the Route66 or MS AutoRoute detailed street maps.

3.1. To install MS AutoRoute:

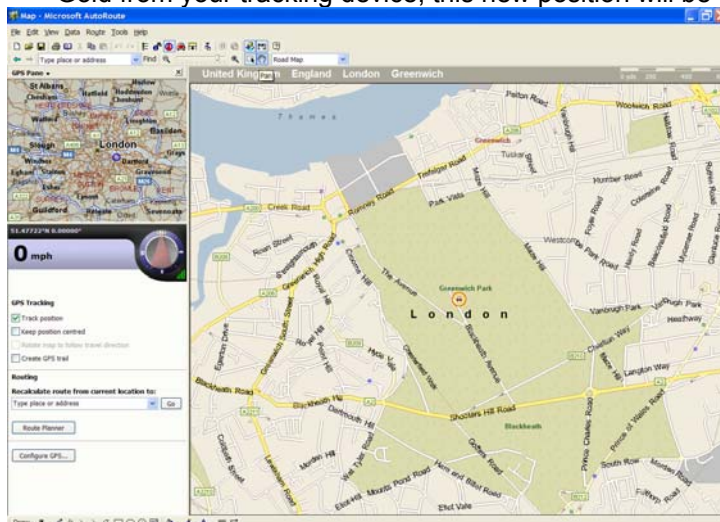
- Place the MS AutoRoute CD Setup Disc1 in the CD Rom and follow the installation instructions.
- You will then be asked to place MS AutoRoute CD Run Disc 2 in the CD Rom.

After MS AutoRoute installation please do the following to set MS AutoRoute to receive GPS positions from ConnectorPC Gold:

- Double click on the Microsoft AutoRoute icon on the desktop.
- Click on 'Tools' then GPS and select 'Configure GPS Receiver'
- Select Port Communications Port (Com6). You only have to do this once during installation.

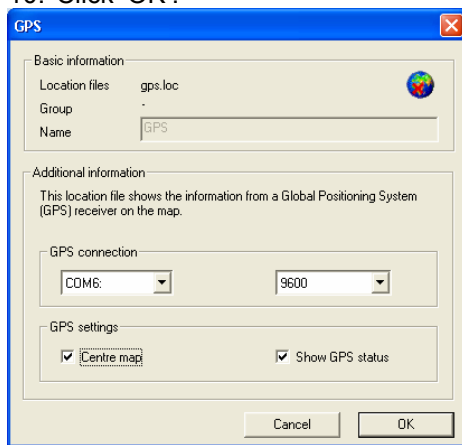


- Click on 'Tools', GPS and select GPS task pane. In the task pane check the box 'Track Position'. ConnectorPC Gold includes an 'Example position' which is at Lat 51.477, Lon 0 ie Greenwich in London. This is automatically sent out on the map com port (default com6). As soon as MS AutoRoute is configured to receive GPS data on com6 and the option track position is selected, the position should be displayed on the map. When a new position is received by ConnectorPC Gold from your tracking device, this new position will be displayed on the map.



3.2. To install Route66:

1. Place the Route66 CD in the CD Rom and follow the installation instructions.
2. After installation please do the following to set Route66 to receive GPS positions from ConnectorPC Gold:
3. Double click on the Route66 icon on the desktop.
4. Click on 'Map and route' and then on 'Plan route'
5. Click on Location files (this button is on the left side of screen)
6. Click on the drop down menu ▼ on the GPS line and then click 'activate GPS'.
7. Wait 15 seconds and a grey window should appear in the screen, with a blue bar at the top entitled GPS. Click on the drop down menu ▼ in the grey bar immediately below the blue bar and then select 'edit properties'
8. For GPS connection select (COM6).
9. For GPS settings tick 'centre map' (just click in the box)
10. Click 'OK'.



11. Route 66 is now ready to receive GPS positions from ConnectorPC Gold via the Virtual serial port driver. Don't be alarmed if Route66 reports 'GPS receiver cannot be found'. When one starts tracking, GPS positions will be passed to Route66 and the map will automatically centre on the latest position received.

3.3. To check that ConnectorPC Gold can communicate with the map

The latest version of ConnectorPC Gold includes a dummy position of Greenwich, London. This is automatically sent to the map on the default com port (com port 6). Just set MS AutoRoute to listen for GPS positions on com 6 and the position should be displayed. Once you receive new position data from your Followit locator, this new position data will be sent to the map automatically.

To send a test GPS position from ConnectorPC Gold to the map, do as follows:

- Double click on the yellow and blue ConnectorPC Gold icon on the desktop
- Click on 'Main' then on 'Send Lat/Long position to map'.
- Send the following data to the map
- Lat Deg 51 Dec 5
- Lon Deg 0 Dec 0
- Then look at the map. A red four headed arrow in Route 66 should show a point in London very near the Millenium Dome and Blackwall tunnel. MS AutoRoute will show an icon of a car.

You have now successfully installed the tracking software and mapping (Route66 or MS AutoRoute) application.

4. Connecting a GSM phone to the PC

A GSM phone or PC card is used to send commands and receive position messages back from the remote Followit locator tracking units.

The following GSM phones are compatible with the PC software:

- Nokia6310i/6230i/6021
- Sony Ericsson K700i/T630/610/T300T68/T65/T39/T28/R520m
- Sony Ericsson GC79/GC75 (WinXP/2000)
- Nokia Data card 2.0 (Win98/ME/2000)

GSM phones can be connected to the PC by RS232 data cable, USB data cable or Bluetooth. RS232 data cable is the simplest method because no additional software needs to be installed, but many laptops do not have this serial port, so ConnectorPC gold is usually supplied together with a Bluetooth USB adapter.

4.1. USB Bluetooth Adapter

If your PC already has Bluetooth, please use that and do not install the supplied Bluetooth USB adapter. If your PC does not have Bluetooth, install the USB Bluetooth adapter as follows:

Install and run the Bluetooth driver CD.

Select the USB Adapter for PC

During installation a message 'No Bluetooth device was detected....' At this point insert the Bluetooth USB dongle and wait for the software to install.

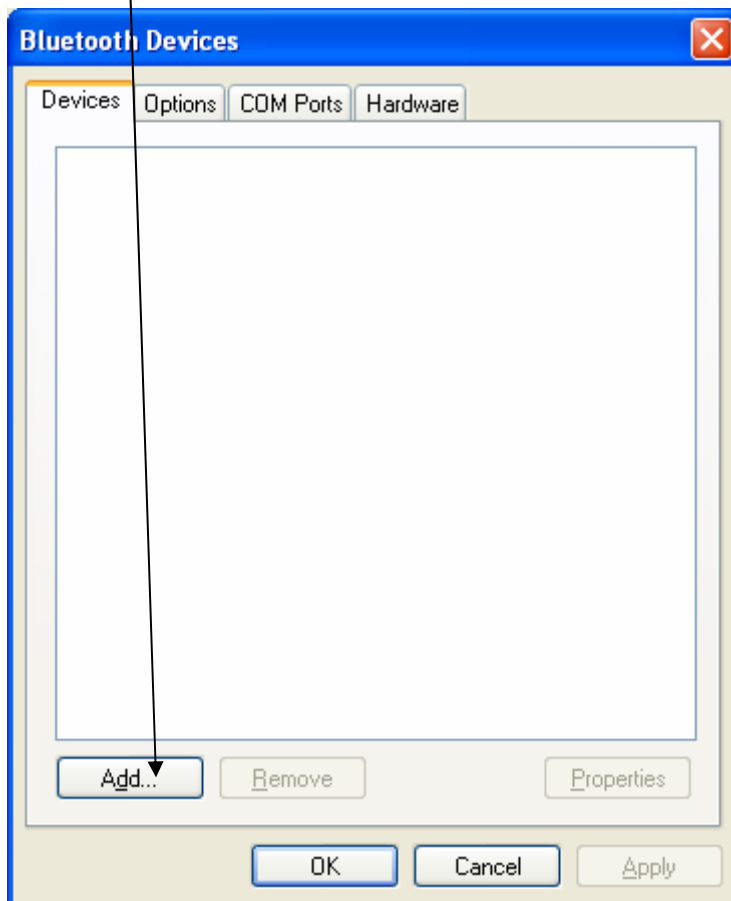
After installation reboot your PC

Double click on the Bluetooth icon (with the white B) in the bottom right hand corner of the PC screen.

Turn on your Nokia6310i or other Bluetooth enabled GSM phone (Commands in blue are for the Nokia6310i phone, for Sony Ericsson HSM phones select 'Discoverable' in the Bluetooth menu)

[Menu>Bluetooth>Bluetooth>on](#)

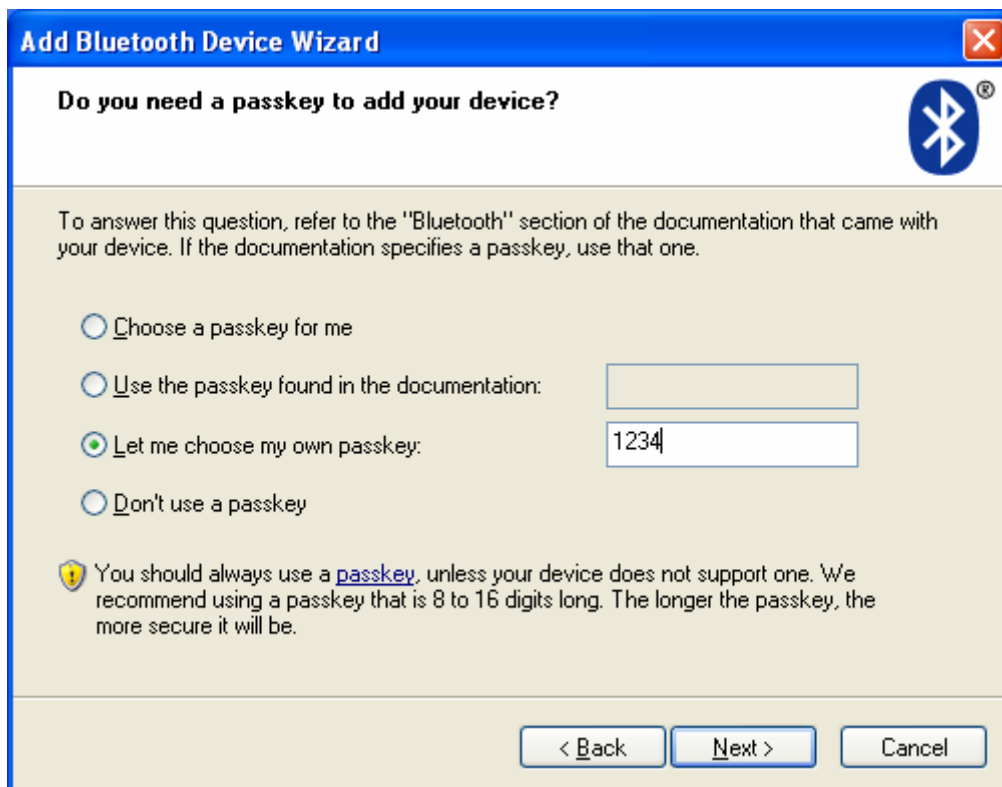
Click Add



Select My device is set up and ready to be found



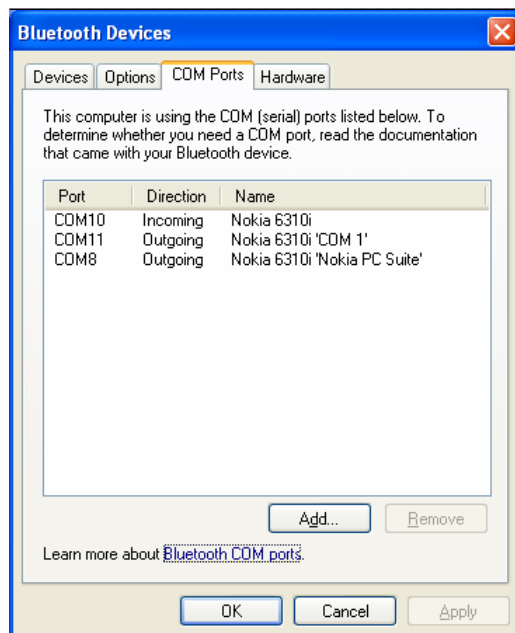
Bluetooth searches for other Bluetooth devices
Double click on the Nokia6310i icon



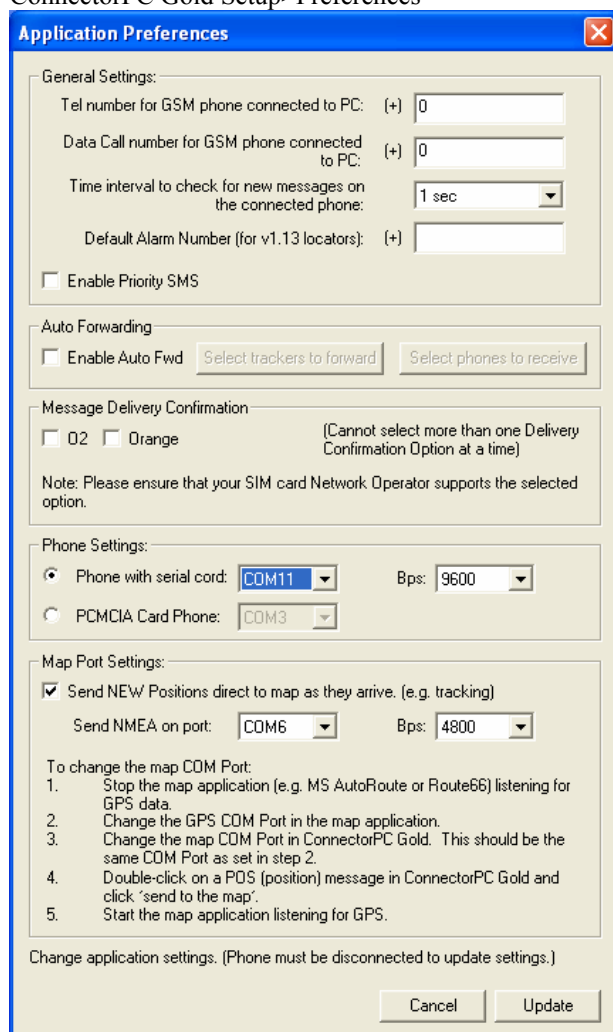
On the Nokia phone click [Accept](#) and enter the same passkey [1234](#).

The Bluetooth driver on the PC sets up several com ports. Click on the com port tab.
Note the Outgoing com port marked Nokia6310i Com1. This is actually assigned to Com11 in the example below. The com port may be different on your PC.

In ConnectorPC Gold go to Setup>Preferences.
Change the phone com port to com11.



ConnectorPC Gold Setup>Preferences



4.2. RS232 data cable

Most desktops and some laptops have RS232 ports typically marked with the sign 10101 next to them. Simply plug the data cable in the 9pin RS232 port in the desktop/laptop and also the phone. Typically the RS232 port in the PC is set to com1 which is the default in ConnectorPC Gold and one can simply click on the Connect button in ConnectorPC Gold. This will flash yellow and will go green when a connection is established between the phone and ConnectorPC Gold. If it doesn't go green go to Start>Control Panel>System>Hardware tab>Device manager. Then click on Ports and check the com port marked Communications Port e.g. Communications Port (Com1). If for example com2 is shown as the Communications port, then do the following: in ConnectorPC Gold go to Setup>Preferences and change the phone com port to com2. Click Update. If you click on Connect, ConnectorPC Gold should connect to the phone.

4.3. USB data cable

USB data cables such as the Sony Ericsson DCU-11 are supplied with USB software drivers. Install the software on the CD first, then connect the GSM phone to the PC using the USB data cable. The USB data cable will be assigned a com port by the software driver. To check which com port has been assigned: click on Start>Control Panel>System>Hardware tab>Device manager. Then click on Ports and check the com port marked DCU-11. Make a note of this com port e.g. com4. Then in ConnectorPC Gold go to Setup>Preferences and change the phone com port to match (e.g.com 4 in this case).

5. Initialise Followit tracking unit (locator) and first 'track' commands

The Followit locator (tracking unit) first needs to be configured so it knows for example:

- a mobile phone No. to send position information to.
- whether to be active all the time or go to sleep for user defined time intervals (the SMS check interval) and then wake up and check for new commands

The command for this is called the 'Initialise' command. After the Followit tracking unit has been initialised a track command can be sent to it and the unit will report its position back to your PC/laptop, where it will be displayed on a detailed street map.

If you have purchased a Followit automotive unit please refer to the Vehicle Installation guidelines.

For Followit Surveillance and Personal Safety units please follow the following guidelines:

- 1) Charge up the Power Supply battery for 3 hours
- 2) Insert a sim card with credit in the Followit locator
- 3) Place the unit in a wide open space e.g. on a garden bench away from buildings with the GPS Sarantel antenna pointed straight up. The Sarantel antenna has a black domed cap with a small gold metal case followed by a short cable. The Followit Surveillance and Personal Safety use the Sarantel antenna. This needs a strong first fix but is then very sensitive. So please place the unit when first powered up in a wide open space with GPS antenna pointing at the sky.
- 4) Connect the GSM phone to the PC using either a Bluetooth, USB data cable or RS232 data cable as set out in section 4.
- 5) In ConnectorPC Gold under Setup/Preferences
 - a) Enter the tel. No. of the GSM phone connected to the PC. Enter this also as the default alarm No.
 - b) Change the com port in Setup/Preferences under Phone settings to the com port used by the GSM phone and noted in step 4) above.
- 6) Enter the tracking unit phone and ID No in ConnectorPC Gold under Setup/ Add/Edit/Delete locators. Give the unit a nickname.
- 7) Click on Connect in the top left hand corner of the PC screen: this connects the PC software to the GSM phone via Bluetooth or the data cable. A green sign saying 'Connected' should now be displayed in the top left of the screen.
- 8) Select your tracking unit in the Active Locator unit box (top left of screen)
- 9) Send an initialise command to the unit. Click on initialise, ensure the Followit locator is selected and click send. Make sure you receive a MODE SET OK reply back. This is a confirmation from the unit that it has received the command.
- 10) When the unit has been outside with a clear sky view for 15minutes proceed to step 11.
- 11) Send a track command to the Followit locator with the No. of GPS fixes set to 3, the GPS interval set to 5minutes and the GPS fail time set to 5minutes. Typically after 45 seconds the first reply will be MODE SET OK which simply confirms the unit has received the Track command. The next reply from the unit should be a position fix from volatile memory. The subsequent 2 replies (at 5minute intervals) should be position fixes which will be stored in the tracking unit's nonvolatile memory. If you have Route66 powered up and GPS activated these positions will be displayed on the Route66 detailed street map.
- 12) Confirm the position is correct on Route66 (or MS AutoRoute)
- 13) The unit can now be placed in more difficult environments such as under an asset. Should you have problems please consult the trouble shooting guide on the Tel Trak installation CD.



For battery operated units, charge up the Power supply battery pack for at least 3hours. Whilst the Power supply battery is connected to a battery charger, the red light on the side will glow until the battery is fully charged and will then go out. The Power supply battery will reach its maximum capacity after it has been fully charged and discharged 3 or 4 times. It is easiest to tell if the Power Supply battery unit is fully charged if it is charged separately from the tracking unit (locator). This way current is not being drawn from the battery at the same time as it is being charged, but in both cases the charging time from flat is approx 3hrs.

To understand about the different operating modes of the Followit locator (tracking unit), please look under Help/ View Help file in ConnectorPC Gold.

6. Operating the Followit Locator in sleep mode

To achieve long battery life the Followit locator can be put into sleep mode. In sleep mode the locator wakes up for 1 minute at a time at predefined intervals (e.g. every 10 minutes) and then goes back to sleep (e.g. for the next 9 minutes) before waking up again. When the unit wakes up, it executes commands already sent to it (e.g. track command) and checks for new commands e.g. switch back to active mode (GPS on all the time)

The Followit locator is placed in sleep mode or switched back to active mode by sending initialise commands. Click on the initialise command, select the nickname of the Followit locator in the drop down menu at the top of the dialogue window. Now select GPS condition: sleep.

Then set the GPS+GSM wakeup interval in terms of hours hours, minutes minutes, seconds seconds. If you set this to a long period e.g. 010000 (1 hour) this means the unit will wake up once per hour. If you want to reprogram the device, this is quite a long time to wait, so it is best to keep the wake up interval as short as possible consistent with the battery life you need. As a rough rule of thumb a fully charged Followit battery will last 300 x the wake up interval.

Click send and wait for the confirmation message MODE SET OK back from the unit. This confirms the unit has received the command.

After receiving an initialise command telling the unit to go to sleep, the locator will remain awake for a approximately a further 3 minutes. During this time the user can send an additional command to actually do something e.g. track. After 3minutes the unit will go to sleep and wake up at the interval specified. One can send new commands to the locator at any time, but the locator will only receive these when it next wakes up.

Typically the user will next send a track command. The GPS fix interval should be set to the same interval used in the previous initialise command.

Send Tracking (Interval) Request Message

Select Locator:

Tracking / Interval Parameters

GPS fix interval: Hour: Min: Sec:

No. of GPS fixes: [0 = infinite]

Action condition:

GPS data fail time: (minutes)

Request Locator to get GPS position fix at a given interval. Fixes can either be buffered or directly transmitted by SMS.

The user can specify the positions should be stored (buffered) in the locator's non volatile flash memory or transmitted immediately. Specify in the action condition: whether to just store or both store and transmit. The locator can store up to 3000 positions in its internal flash memory. If you choose to store more than 10 positions in the locator you will need to use a data call to download them at a later time over the air (see the Data call manual on the CD). The simplest choice here is to 'Send position fixes' each time the locator wakes up.

One method is to put the locator into sleep mode with say a 10minute wake up interval and also send a track command with action condition set to buffer position fixes and GPS fix interval also 10minutes. Set the No. of GPS fixes to 500. The locator will then wake up every 10minutes take a GPS fix, store this in its non volatile flash memory and then go back to sleep. It will do this 500 times or until the battery runs out whichever is sooner. The battery will last approx 300x 10minutes (~50hrs).

To get a GPS fix send a Find it (buffer request) command. The next time the unit wakes up, it will try and get a fix from its volatile memory and failing that it will go to its flash memory and send the last known position.

7. Requirements

Basic requirements for communication between Followit tracking units (Locators) and ConnectorPC Gold are:

1. ConnectorPC Gold
2. GSM phone connected to the PC.
 - a) RS232 data cable on a serial port (e.g. hardware port like COM1 or equivalent)
 - b) USB data cable (e.g. Sony Ericsson DCU-11)
 - c) GSM card phone (PCMCIA).
3. Followit tracking unit (locator)
4. GSM sim cards for both the PC phone and the Vanguard tracking units.

ConnectorPC Gold can be used alone to communicate with Followit tracking units but for full use of the software you need a mapping application such as Route66, which accepts GPS data on a com port in NMEA0183 format.

Detailed Operating Manual

In ConnectorPC Gold click on Help/View help file.

7.1. Minimum Computer System Requirements

PC (desktop or laptop) running Windows XP, 98

- 600MHz processor or faster
- 128 MB RAM.
- 32 bits color at 1280x1024 pixels (Min. screen resolution should be 1024x768 pixels)

- CD ROM (for installation purposes only- may not be necessary if your PC is networked for example)

- Hard disc requirements:

- For detailed Route66 UK street map: 1.5GB free
- For detailed Route66 European street map 5GB free

- RS232 port for connecting to a GSM phone via a data cable **or** a PCMCIA type II slot for a GSM PC card or USB port.

Note most desktops have RS232 ports but no PCMCIA slot whereas most modern laptops have a PCMCIA slot but no RS232 port.

Note! This is only the recommended system requirement. ConnectorPC Gold is not a very demanding application in terms of computing power, but in combination with mapping software (usually much more power consuming) it is recommended to run the software with these system settings. Tel Trak Technologies Ltd. is not responsible for problems that arise from installing and running this version of ConnectorPC Gold on Windows 98, ME, 2000, XP or any other PC operating system.

7.2. GSM phone/modem requirements

ConnectorPC Gold uses the GSM network for communication with Locator units. Therefore, a GSM phone with data cable connected to serial port or a Nokia Card Phone 2.0 installed as modem with a correctly assigned serial communication port (e.g. COM1) is necessary to communicate with the Locator units.

Version 3.0.0 of ConnectorPC Gold has been tested with the following GSM cellular phones:

- Sony Ericsson K700i
- Sony Ericsson T630
- Sony Ericsson T610
- Sony Ericsson T300 (but not the T200)
- Sony Ericsson T68
- Sony Ericsson T65
- Sony Ericsson T39
- Sony Ericsson T28
- Sony Ericsson R520m
- Sony Ericsson GC79 PC card (for WinXP/2000)
- Sony Ericsson GC75 PC card (for WinXP/2000)
- Nokia Card Phone 2.0 (for Win98/ME/2000)
- Nokia 6310
- Nokia 6310i
- Nokia 6230

Notes

1) Many business users have Palm Pilots or other PDAs. Older versions synchronise through com port 1 over the RS232 cable. The Palm Pilot/PDA will have to be either temporarily reassigned to another com port or else an additional RS232 serial port (hardware) needs to be installed in the PC so one can connect simultaneously to both the Palm Pilot and the Tracking & Comms software over RS232 cables.

2) Other phones than listed above cannot be guaranteed to work with Tel Trak's tracking & comms software. Infrared port communication is not supported. The "basic requirement" is that the mobile phone has an AT serial interface that allows SMS sending in PDU format. However, the AT serial interface and the PDU format is not standardized between GSM manufacturers (or even among phone models from the same manufacturer).

3) An RS232 cable (for example Ericsson model No. DRS-11 or Nokia DLR-3P) is required to connect the Sony Ericsson phones to the PC/laptop. RS232 cables usually have to be ordered in advance.

4) GSM user plans supporting SMS (Short Message Service) is needed for both the Locator unit and the GSM phone connected to your PC.

5) Nokia card phone 2.0 and Sony Ericsson GC79/75 PC cards: one must install their respective driver software and have it running when one wants to communicate with the tracking units using these.

Make a note of which com port has been used during the PC card installation or else click on Start/Control panel/Phones & Modems. Select the Nokia or Sony Ericsson PC card and Windows will show which com port has been assigned to it. Then in the tracking & communication SW go to Setup/Preferences and select the PCMCIA card under phone settings. Select the correct com port.

8. To check the ConnectorPC Gold program is functioning correctly:

Send a test SMS message to another mobile phone using ConnectorPC Gold.

Double click on the ConnectorPC Gold icon on the desk top

Connect your Sony Ericsson or Nokia 6310 mobile phone using either an RS232 cable to the RS232 port or with the Sony Ericsson DCU-11 USB cable to the USB port or Bluetooth

Click on 'Setup' then 'Preferences'

Type in the telephone No. of the mobile phone you will use to connect to the PC/laptop using the international country dialing prefix ie 44 for UK at the beginning. E.g. 4477.....

Click on the Connect button (upper right of screen)- this connects the PC to the Sony Ericsson mobile.

Click on the SMS button the bottom right hand corner

Type in the mobile phone No. in international format, but omitting the + sign. Example: 4477.....

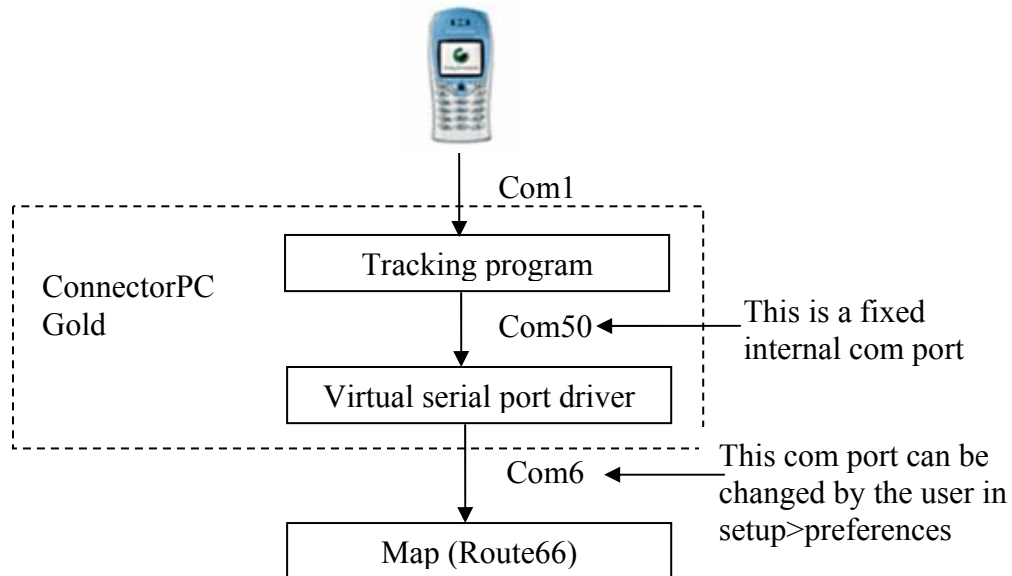
Type your message in the main box and click send.

You should now be able to send and receive text messages from ConnectorPC Gold software.

9. Virtual Serial Port Driver (VSPD)

This is installed automatically when the ConnectorPC Gold CD is inserted into your PC. This page is for your information or trouble shooting:

ConnectorPC Gold software uses a Virtual serial port driver (VSPD) to allow communication between the tracking/control program and the map (e.g.Route66 or MS AutoRoute). Tel Trak use the virtual serial port drivers from Eltima Software (Website <http://www.mks.zp.ua>).



Optional check procedure:

To confirm the Virtual serial ports Com50 and Com6 have been installed:

Start>Control panel>system>Hardware>Device Manager>Eltima Virtual Serial Ports. The default com ports set up are Com50 to Com6.

Should you wish to uninstall the VSPD software, simply click on Start/Programs/VSPD/Uninstall followed by a restart of your PC.

Changing Com ports

If the default map com port6 is already in use by another application, an alternative com port can be selected.

Program	To change the com port settings, go to:
ConnectorPC Gold	Setup/Preferences. Change the map com port to say com5
Route66	Plan route/GPS/Activate GPS/Edit properties and change the GPS com port to com5.
MS AutoRoute	Tools>Configure GPS receiver. Select com5 to match the map com port set in ConnectorPC Gold

As a final check:

9.1. To check that ConnectorPC Gold can communicate with the map

Send a test GPS position from ConnectorPC Gold to the map as follows:

12. Double click on the yellow and blue ConnectorPC Gold icon on the desktop
13. Click on 'Main' then on 'Send Lat/Long position to map'.
14. Send the following data to the map
15. Lat Deg 51 Dec 5
16. Lon Deg 0 Dec 0
17. Then look at the map. A red four headed arrow in Route 66 should show a point in London very near the Millenium Dome and Blackwall tunnel. MS AutoRoute will show an icon of a car.

You have now successfully installed the tracking software and mapping (Route66 or MS AutoRoute) application.

10. Other Information

10.1. Selecting a GSM Operator

There are various pros and cons in selecting an operator in the UK such as Vodafone, Orange or O2.

- If using the units in the countryside or known areas of weak mobile phone reception, check local knowledge about which operator offers the best coverage. Some black spots exist for all the networks often in more remote rural areas, but they are different for different networks
- Vodafone allows one to check one's prepay credit balance on the internet provided the sim card has been registered before it is placed in the tracking unit. This is particularly advantageous for tracking units where the sim card is not accessible, for example if it is buried under a car dashboard. O2 are planning a similar service, but this has not been checked by Tel Trak at this time.
- Check what roaming agreements the operator has in place if you may need to track the unit in other countries. Vodafone for example allows roaming in over 140 countries.
- Orange prepay- the credit balance on a prepay sim can be checked by calling an Orange operator and it is also automatically announce after any top up.
- O2 on line offer excellent contracts which include a large number of text messages per month. These contracts are not available in retail outlets, they are only available over the internet.