

# GPS Vehicle Tracker



## **USER MANUAL (Model: VT200)**

Please read carefully before operation

---

## Contents

1. Product Overview.....	- 3 -
2. Applications .....	- 3 -
3. Product Function and Specifications.....	- 3 -
3.1 Product Function.....	- 3 -
3.2 Specifications .....	- 4 -
4. VT200 and Accessories .....	- 5 -
5. First Use .....	- 5 -
5.1 Install SIM Card .....	- 5 -
5.2 Charging .....	- 6 -
5.3 LED Indications .....	- 6 -
6. Basic SMS commands.....	- 6 -
6.1 Position report .....	- 6 -
6.2 Set function of receiving actual address name via SMS.....	- 7 -
6.3 Get GoogleMap's link via SMS .....	- 8 -
6.4 To cut off Engine, immobilize the vehicle .....	- 9 -
6.5 Set over speed alarm.....	- 9 -
7. Simplified SMS Commands.....	- 9 -
7.1 Engine Stop/Vehicle Immobilize.....	- 9 -
7.2 Engine Restore .....	- 9 -
7.3 Check Location Address Name.....	- 9 -
7.4 Location Coordinate Check.....	- 9 -
7.5 Get Location GoogleMap's URL with Mobilephone.....	- 9 -
7.6 Voice Monitoring.....	- 9 -
8. Set SMS for GPRS tracking.....	- 9 -
8.1 Set ID by SMS .....	- 9 -
8.2 Configure by Computer .....	- 9 -
8.3 Set IP Address and Port by SMS .....	- 9 -
8.4 Enable GPRS Function.....	- 10 -
8.5 Set Time Interval for Sending GPRS Packet.....	- 10 -
9. Installation .....	- 10 -
9.1 Install I/O Cable .....	- 10 -
9.1.1 Power/GND .....	- 11 -
9.1.2 Digital Input (Negative Triggering) .....	- 11 -
9.1.3 Digital Input (Positive Triggering) .....	- 11 -
9.1.4 Output .....	- 12 -
9.2 Install GPS/GSM Antenna.....	- 13 -
9.3 Install Microphone (Optional).....	- 13 -
10. Troubleshooting.....	- 13 -
Appendix 1: Configure by Computer.....	- 15 -
APPENDIX 2: SMS Command List.....	- 20 -

## 1. Product Overview

VT200 is a GPS/GSM/GPRS tracking device which is specially developed and designed for vehicle real-time tracking and security. With superior GPS and GPRS modules, VT200 has good sensitivity and stable performance. Especially, VT200 is well designed to work with our web-based tracking system, which is suitable for a company to establish a tracking server to provide real-time tracking solutions to their customers or manage their fleet.

## 2. Applications

- Vehicle Real Time Tracking
- Car Security/Anti-Hijack
- Fleet Management

## 3. Product Function and Specifications

### 3.1 Product Function

- Track by SMS/GPRS (TCP/UDP)
- Track on Demand
- Track by time Interval
- Track by Distance Interval
- Track on Mobile Phone
- SOS panic button
- Geo-fence Alarm
- Overspeed Alarm
- GOOGLE map link for location via SMS, which shows you location on map via mobilephone.
- Get location physical address name by SMS request & from the web-platform.
- Remote Engine Cut
- Two Inputs, two Outputs.
- Mileage Report
- Wiretapping/remote listening(default)
- Analog Input : 1 Analog Input For Temperature& Fuel sensor monitoring and detecting
- Can equip with RFID kit for alarm functions

### 3.2 Specifications

Items	Specifications
Dimension	75*54*25mm
Weight	123g
Charging Voltage	9V~24V
SIM card type	3V
Power consumption	Active mode(peak) < 1.0A Active mode(avg.) < 300mA
Operating Temperature	-20°C~+75°C
Humidity	Up to 75% non-condensing
External Antenna	Connected via 50Ω coax connector
External SIM Card	Connected via SIM card connector
Button	1 SOS and 1 power on/off
Microphone	Default
Transmit Power	Class 4(2W) for E-GSM 900 and 850 Class 1(1W) for DCS 1800 Class 1(1W) for PCS 1900
Sensitivity	-104dBm minimum for E-GSM 900 AND 850 -102dBm minimum for DCS 1800 -102dBm minimum for PCS 1900
GPS Chip	Latest GPS SIRF-Star III chipset
GPRS	Multi-slot Class 8(4Rx, 1Tx., 5slot Max.) Support all 4 coding schemes(CS-1,CS-2,CS-3 and CS-4) Maximum download speed is 85.6kbps Maximum upload speed is 21.4kbps
Speech Codec	Triple rate Codec Half rate—ETS 06.20 Full rate—ETS 06.10 Enhance full rate—ETS 06.50/06.06/06.08
I/O	2 Digital Inputs ( 1positive triggering and 1negative triggering) 1 Analog Input 2 Outputs

## 4. VT200 and Accessories



VT200 Main Unit



GPS Antenna



GSM Antenna



Microphone



8P I/O Cable



Relay

## 5 First Use

### 5.1 Install SIM Card

Check that the SIM has not run out of credit (test the SIM in a phone to make sure it can send and receive SMS);

Before installing the SIM card, turn off the power for VT200

Then install the SIM card as following



## 5.2 Charging

Connect the device with external power like car battery, and turn on its power switch and it will do charging automatically.

## 5.3 LED Indications

Push the Power switch to turn on/off VT200



GPS LED (Red)	
Flashing ( every 0.1 second)	Initializing or back-up battery power is low
Flashing (0.1 second on and 2.9 seconds off)	VT200 has a GPS fix
Flashing (1 second on and 2 seconds off)	VT200 has no GPS fix
GSM LED (Green)	
Flashing ( every 0.1 second)	Initializing
Flashing (0.1 second on and 2.9 seconds off)	VT200 is connected to the GSM network
Flashing (1 second on and 2 seconds off)	VT200 is not connected to the GSM network

## 6. Basic SMS Commands:

### 6.1 Track on demand

**Description:** To know the position of your VT200N , send an SMS or make a telephone call directly to VT200N and you will receive an SMS with its location and other information.

**Command:** W<password>,000

**For example:** send SMS W000000,000

**Remark:** The default password is **000000**



Item	Description
ID: 1234567890	The tracker's ID number
ACC=OFF	The engine is turned off
Latitude=23 08 57.58N, longitude=113 18 59.31E	Latitude and longitude information, "N" in latitude means North, "E" in latitude means East,
Speed=0.00Km/h	Speed information
Odometer=0.013km/h	Odometer information
2012-09-26,11:32	Date and time

You can copy this coordinate get from the SMS into <http://maps.google.com> and see its location as below:



Another easier way to get VT200's position:

- Call VT200 using your mobile phone.
- After listening to the ring for 10 - 20 seconds, hang up the phone.
- Then, after 20 second, your mobile phone will receive a position SMS.

## 6.2 Set receiving actual address name via SMS

**Description:** To know specific address of your VT200N, send an SMS and you will receive an SMS with its location physical address name.

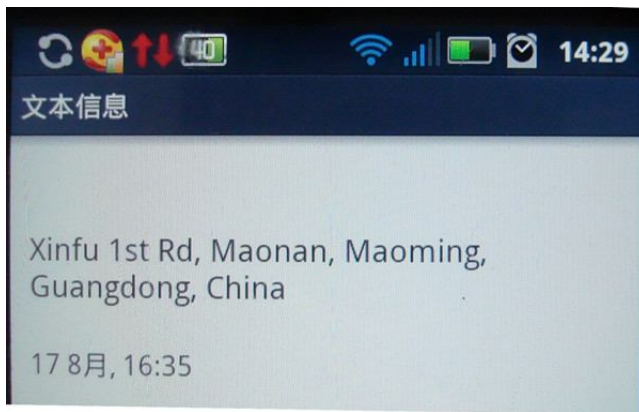
Command:W<password>,<111>

**Example:**

**SMS send:** W000000,111

**SMS receive:** Xinfu 1<sup>st</sup> Rd, Maonan, Maoming, Guangdong, China





### 6.3 Get GoogleMap's link via SMS

**Description:** You will get a google map URL after sending the command, click the URL then the location can be shown directly on Google Maps on your mobile phone.

**Command:** W<password>,100

**For example:** send SMS W000000,100

**SMS Get:** as following picture



Note: by click the link, you can get the location in Googlemap from your mobilephone, see belowing





## 6.4 To cut off Engine, immobilize the vehicle

**Command:** W<password>,020,P,F

**Description:** P=1, means output1, P=2 means output2 ... P=5, means output5

F=0, to disable this output function; F=1, to enable this output function

**SMS send:**W000000,020,1,1

If the output1 is connect to oil-cut relay, this command is to enable the engine-cut function, the engine oil pump line will be cut-off to immobilize the vehicle.

While send W000000,020,1,0 is to restore the engine oil pump line and the vehicle can be started again.

## 6.5 Set over speed alarm

**Command :**W<password>,005,XX

**Description:** XX(the speed preset value) XX=00, disable XX=[01<XX<20](unit:10Km)

**Example:**

**SMS send:**W000000,005,10

**SMS receive:**SET OK! SPEED LIMIT:100Km/h

**Meaning:** If your speed is over 100Km/h, an alarm SMS will send to your phone to warn you.

## 7.Simplified SMS Commands:

**7.1 Engine Stop/Vehicle Immobilize:** 000000STP

**7.2 Engine Restore:** 000000RES

**7.3 Check Location Address Name:** 000000ADD

**7.4 Location Coordinate Check:** 000000CHK

**7.5 Get Location GoogleMap's URL with Mobilephone:** 000000MAP

**7.6 Voice Monitoring:** 000000MON13800138000 please replace 13800138000 with the supervisor mobilephone number

## 8.Set by SMS for GPRS tracking

### 8.1 Set ID by SMS

**Command:** W<password>,010,ID

**Description:** every tracker have a unique ID. Tracker ID must be less than 14 digitals

**Example:**

**SMS send:**W000000,010,20120823

**Meaning:** this tracker's ID is 20120823

### 8.2 Set APN by SMS

**Command:** W<password>,011,APN,APN name, APN password

**Description:** APN name, APN username, APN password

if no password required, just put in APN name only.

### 8.3 Set IP Address and Port by SMS

Description: IP address is 210.209.68.180 Port is 9500

SMS command: W<password>,012,<IP>,<port>

Example:

SMS send: W000000,012, 210.209.68.180,9500

We support domain name instead of IP address:

Example: W000000,012,www.global-track.net,9500

### 8.4 Enable GPRS Function

**Command:** W<password>,013,X

**Description:** X=0,close GPRS(Default)

X=1,enable TCP

X=2,enable UDP

### 8.5 Set Time Interval for Sending GPRS Packet

**Command:** W<password>,014,XXXXX

**Description:** XXXXX should be in five digitals and in unit of 10 seconds.

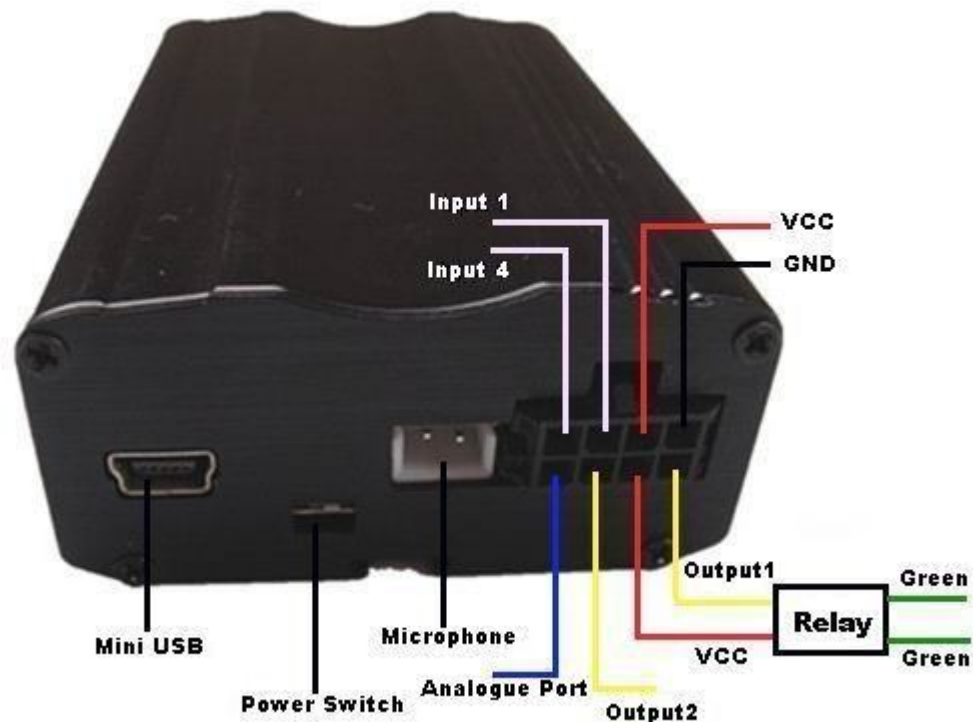
XXXXX =00000, to disable this function

XXXXX =00001~65535, time interval for sending GPRS packet and in unit of 10 seconds

## 9. Installation

### 9.1 Install I/O Cable

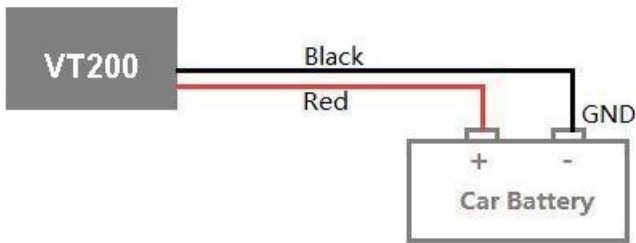
The I/O cable includes power, negative/positive input and output.



PIN Number	Color	Description
1 (IN1/SOS)	White	Digital Input 1 (negative triggering), E.g. connect SOS panic button
2 (IN4)	White	Digital Input 2 (positive triggering), E.g. detecting status of ACC on/off
3 (OUT1)	Yellow	E.g. Connect relay to cut off engine or fuel
4 (OUT2)	Yellow	E.g. Connect siren or control door open/close

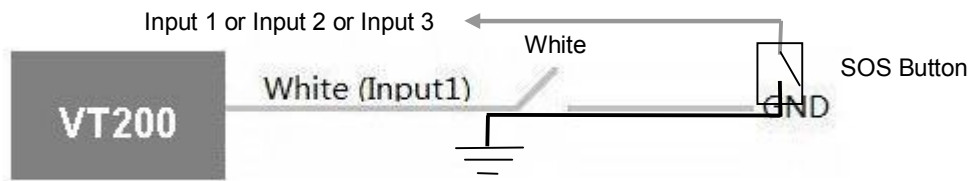
### 9.1.1 Power/GND

Connect GND (-Black) and Power (+Red) wires to the battery of vehicle.

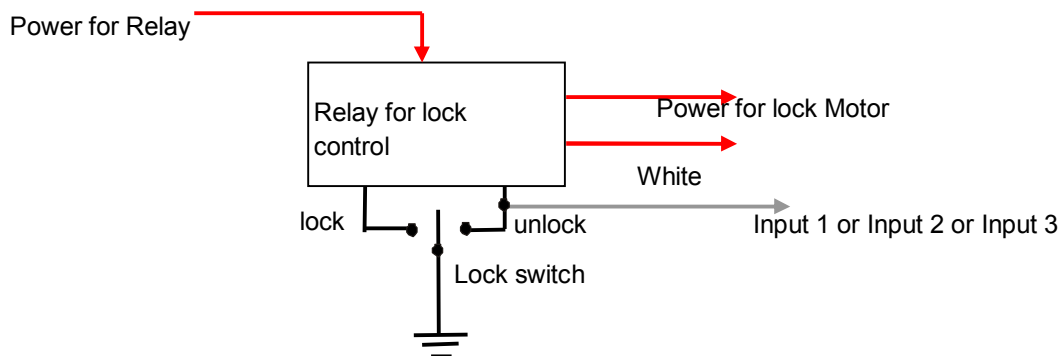


### 9.1.2 Digital Input

E.g. Detecting SOS button

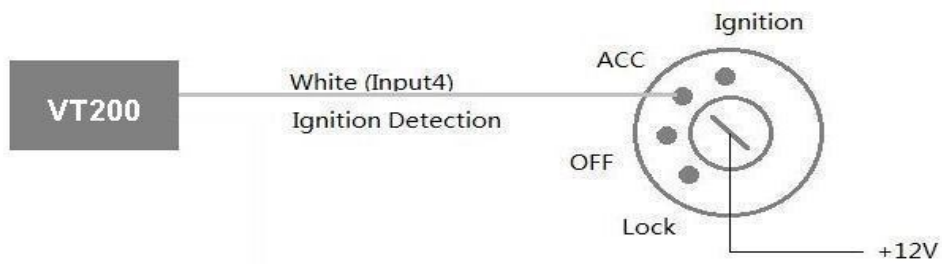


E.g. Detecting vehicle door open/close



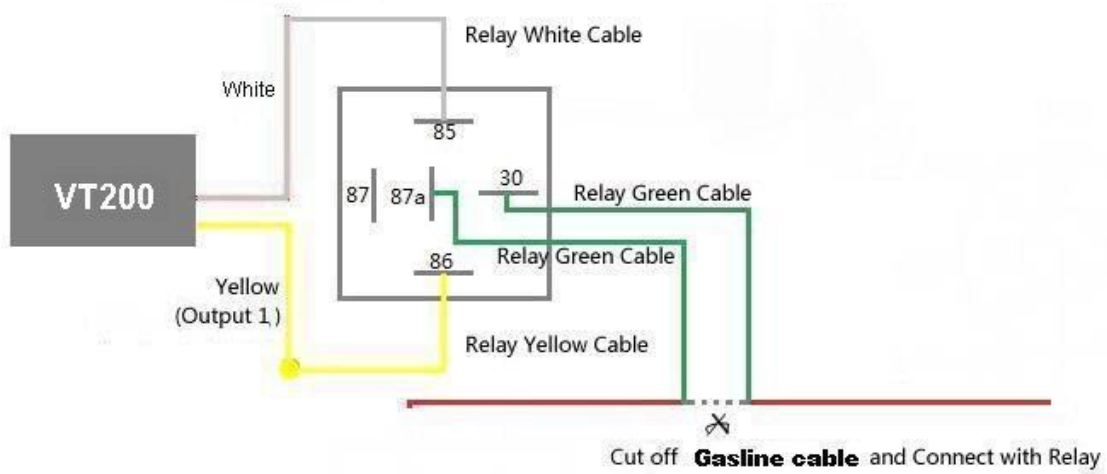
### 9.1.3 Digital Input (Positive Triggering)

E.g. Detecting vehicle door open/close



### 9.1.4 Output

E.g. Control fuel-cut



## 9.2 Install GPS/GSM Antenna



Connect the GSM antenna to the SMA connector which is 'GSM' text labeled. The GSM antenna is non-directional, so you can hide it in any place of vehicle.

Connect GPS antenna to the GPS connector which is 'GPS' labeled. The optimum location for the GPS antenna is on the roof of the vehicle. The covert and GPS antenna are directional, make sure they are facing up and lying as flat as possible. Secure them in place with glue or zip ties.

Note: Do not shield or cover the GPS antenna with any objects containing metal.

## 9.3 Install Microphone



## 10. Troubleshooting

Problem: Unit will not turn on	
Possible Cause:	Resolution:
Wiring was not connected properly	Check and make sure wiring connection

	is in order.
Battery needs charging	Recharge battery
<b>Problem: Unit will not respond to SMS</b>	
<b>Possible Cause:</b>	<b>Resolution:</b>
GSM antenna was not installed properly	Make VT200 connected to GSM network.
GSM Network is slow	Wait for SMS. Some GSM networks slow down during peak times or when they have equipment problems.
Unit is sleeping	Cancel sleeping mode
Wrong password in your SMS	Insert the correct password
The SIM in VT200 has run out of credit	Replace or top up the SIM card
No SIM card	Insert working SIM card. Check in phone that the SIM can send SMS messages.
SIM card has expired	Check in phone that the SIM can send SMS messages. Replace SIM card if needed.
SIM has PIN code set	Remove PIN code by inserting SIM in you phone and deleting the code
SIM is warped or damaged	Inspect SIM, clean the contacts. If re-inserting does not help try another to see if it will work.
Roaming not enabled	If you are in a different country your SIM account must have roaming enabled
Battery is low	Recharge the unit and the GSM will start working.
<b>Problem: SMS from VT200 states 'Last.....'</b>	
<b>Possible Cause:</b>	<b>Resolution:</b>
Unit does not have clear view of the sky	Move the antenna of the unit to a

	location where the sky is visible.
VT200 is in an inner place	Wait for the target to come out

## Appendix 1

### Configure by Computer

This part shows the basics of how to use the **TOPSHINE Parameter Editor**.

Note: Don't connect VT200 to external battery when configuring.

#### How to Edit the Parameters of VT200

Step 1 **Buy one specific USB cable for configuration from Our Company**



**USB configure cable**

Step2 . **Install USB driver program for the configuration USB cable**

1. Run 'CP210x\_Prolific\_DriverInstaller' to install the driver for the USB data cable.

*Note: CP210x\_Prolific\_DriverInstaller is in the folder 'USB-232 Driver' in the CD.*

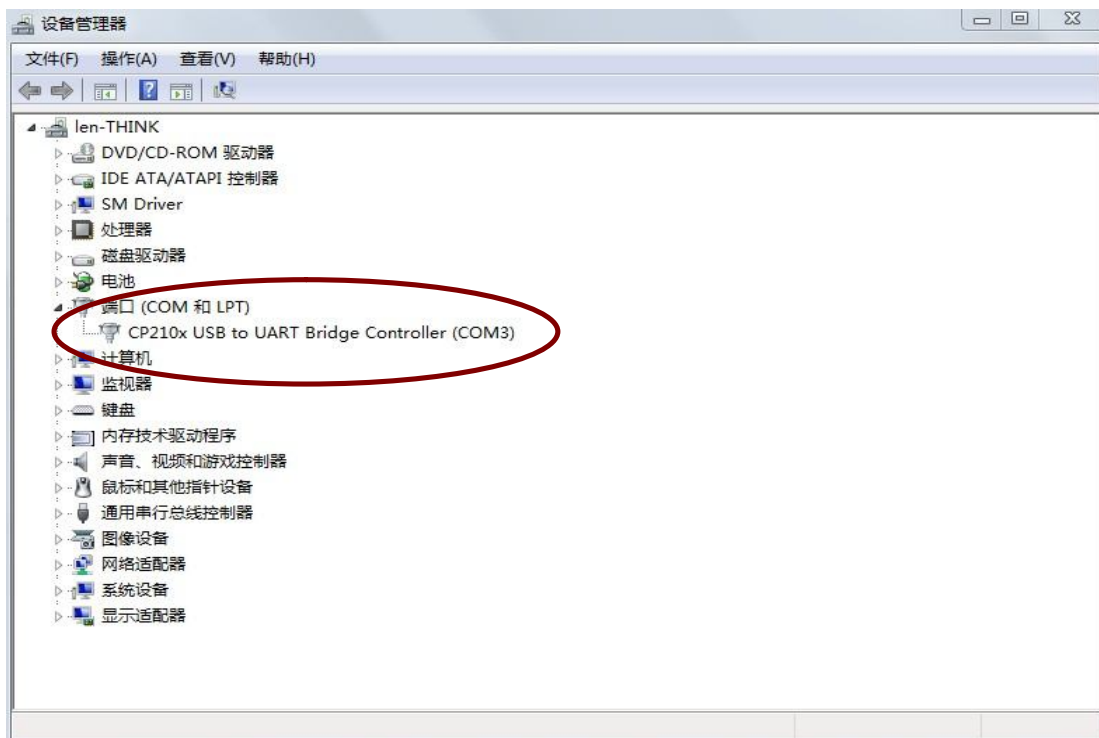
Connect the USB Data Cable between VT200 and PC.



2. Connect the configuration cable with PC, open device management of your computer,

you can find "Prolific USB-to-Serial Comm Port " ,as following picture shows.

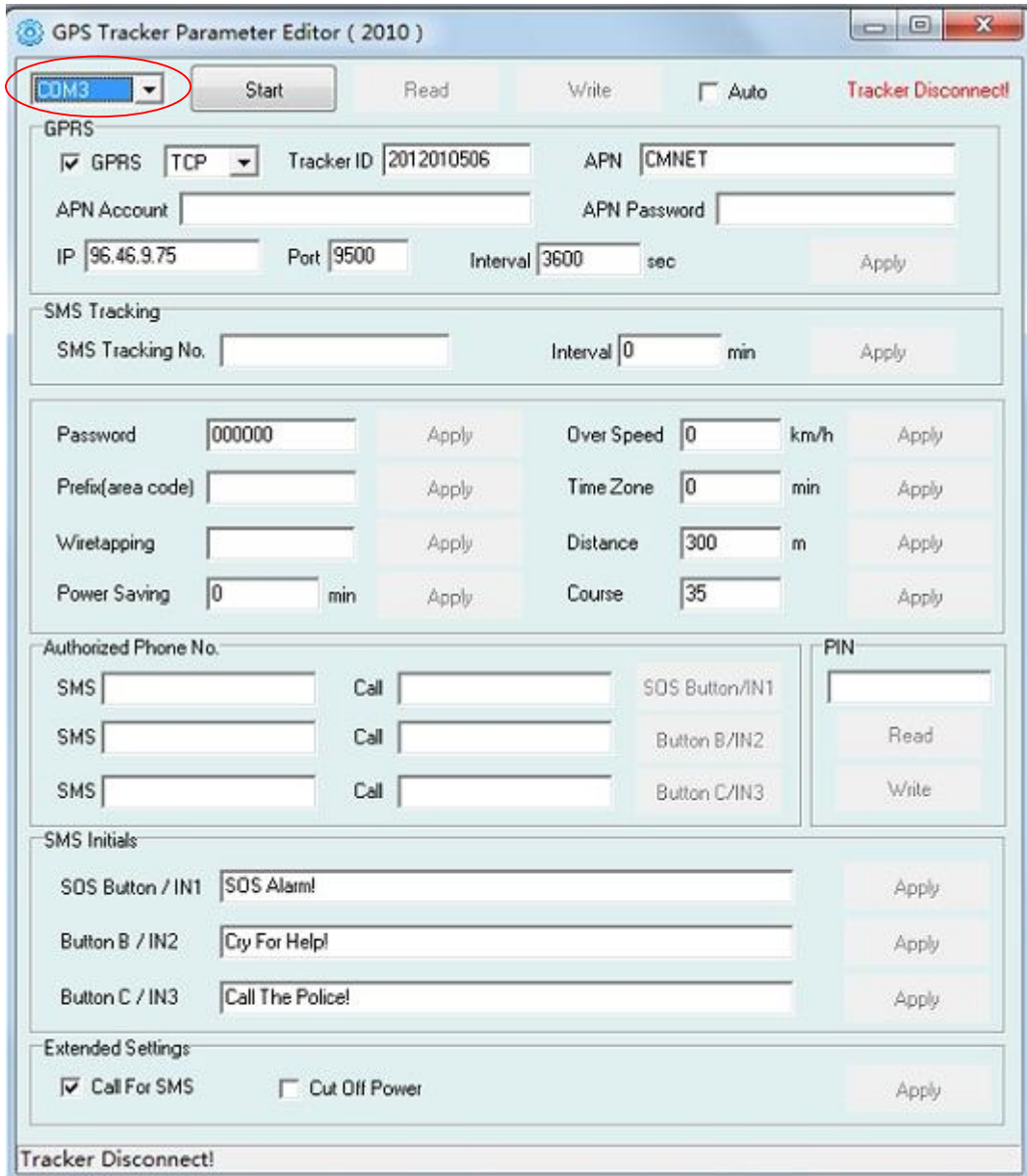




The usb port is virtual comm. Port (com3) in this example,

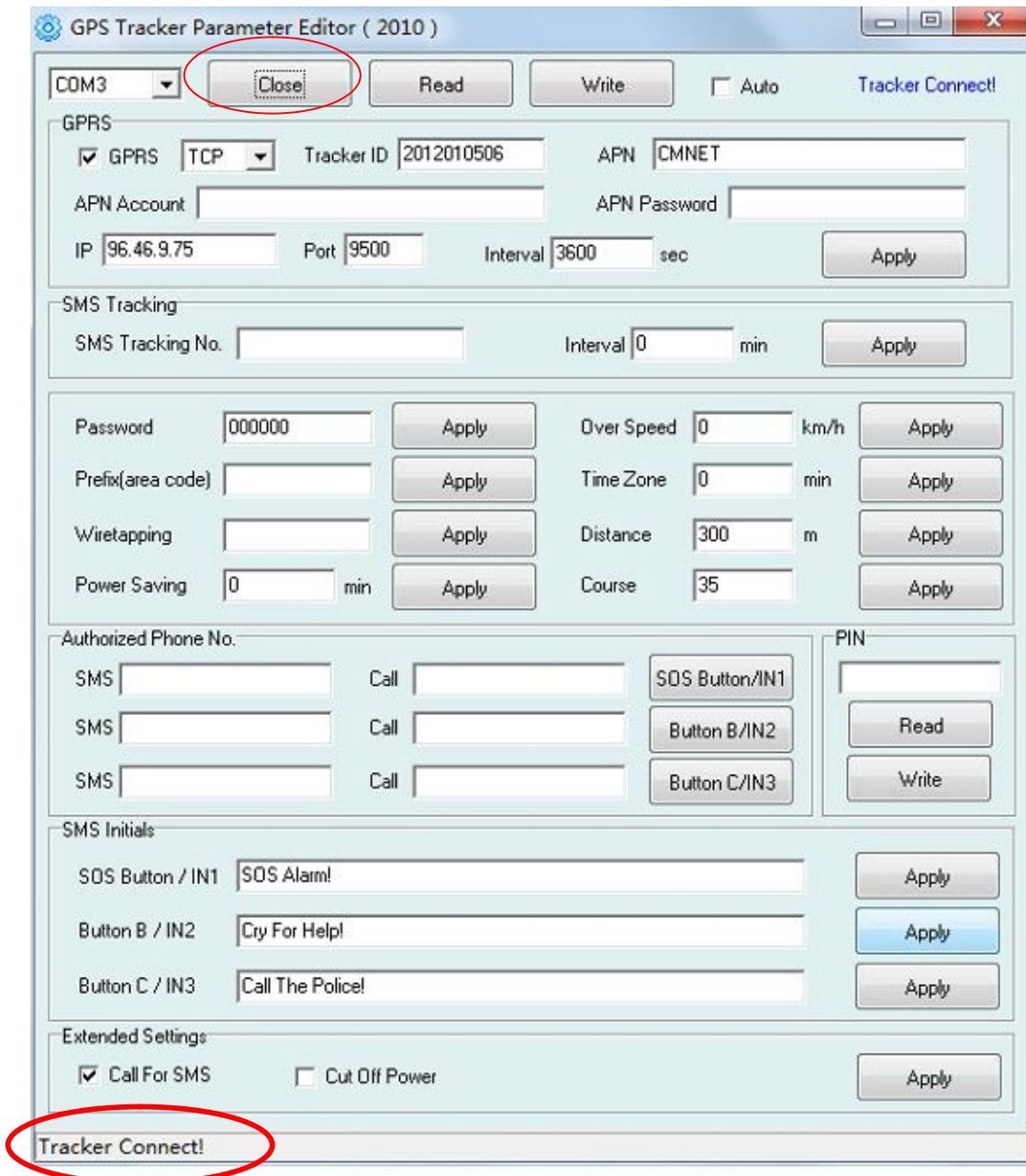
### Step3 .Open the GPS Tracker Parameter Editor

1. Connect VT200 with PC by the configuration cable
2. Confirm VT200is in the Power Off states
3. Double click GPS Tracker Parameter Editor.exe and Select the COM Port, following picture shows:

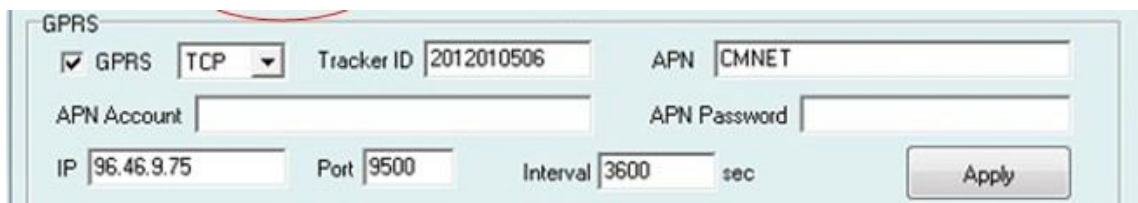


5. Click Start button to open the COM port,

6. Turn on VT200 and it will connect with the Editor automatic, As soon as they connect successful, all the buttons are availability and the status bar will clue on' **Tracker Connect!** ', then you can Read or Write the VT200'sParameters.



Instruction of parameter settings:



Item	Description
GPRS	Tick to enable GPRS function, select TCP or UDP mode
Tracker ID	Should be unique, in number, maximum 14 bytes
APN, APN Account, APN Password	Put your local APN, APN username and password if necessary
IP, Port	Put online tracking server IP and port, our default is IP: <a href="http://www.global-track.net">www.global-track.net</a> port: 9500
Interval	To put time interval to upload a data

**SMS Tracking**

SMS Tracking No.  Interval  min

Password   Over Speed  km/h

Prefix(area code)   Time Zone  min

Wiretapping   Distance  m

Power Saving  min  Course

Item	Description
SMS tracking No. Interval	To put a mobilephone number for automatic tracking by SMS at certain time interval in minutes
Password	To set SMS command password, the default is 000000,
Over Speed	To set speed limit for overspeed alarm
Prefix(area code)	To set country code
Time Zone	To set time zone, GMT*60 (minutes), if in west half western hemisphere, "-" is necessary to put ahead
Wiretapping	To set wiretapping mobilephone number
Distance	To set track and upload data by certain distance in meters
Power Saving	To set time enter into standby mode when shaking not detected to save power and gprs data traffic
Course	To set upload data via angle shifting by certain angles

**Authorized Phone No.**

SMS  Call

SMS  Call

SMS  Call

**PIN**

Item	Description
SMS Call SOS Buton/IN1	To set Mobilephone No. for SMS or Calling when SOS button/Input 1 is triggered
SMS Call Button B/IN2	To set Mobilephone No. for SMS or Calling when Button B/Input 2 is triggered
SMS Call Button C/IN3	To set Mobilephone No. for SMS or Calling when Button C/Input 3 is triggered

**SMS Initials**

SOS Button / IN1

Button B / IN2

Button C / IN3

SOS Button/IN1	To customize the reply SMS text when SOS Button/Input 1 triggered
Button B/IN2	To customize the reply SMS text when Button B/Input 2 triggered
Button C/IN3	To customize the reply SMS text when Button C/Input 3 triggered

**Extended Settings**

Call For SMS  Cut Off Power

Call for SMS	Tick it to reply SMS when calling in
Cut off Power	Tick it to send alert when the external power be cut off

## Appendix 2.

### SMS Command List

Description	Command	Remarks
<b>Get current location</b>	W*****,000	Get current location
<b>Get location in google map link format via SMS</b>	W*****,100	<a href="http://maps.google.com/maps?f=q&amp;hl=en&amp;q=22.542563,114.077971&amp;ie=UTF8&amp;z=16&amp;iwloc=addr&amp;om=1">http://maps.google.com/maps?f=q&amp;hl=en&amp;q=22.542563,114.077971&amp;ie=UTF8&amp;z=16&amp;iwloc=addr&amp;om=1</a>
<b>Change user' s password</b>	W*****,001,#####	***** is old password ##### is new password
<b>Set interval for automatic timed reports</b>	W*****,002,XXX	XXX is the interval in minute. If  XXX=000 it will stop tracking
<b>Set preset phone number for SOS button</b>	W*****,003,F,P,T	F=0, to disable this function;  F=1, only sending SMS;  F=2, only calling preset phone number;  F=3, both SMS and calling (default)  P is the button number and should be 1,or 2, or 3.  If SOS button is linked to IN1, then P=1.  T: Preset phone number  (T must be less than 16 digits)
<b>Set over speed alarm</b>  When VT200 speeds higher than the preset value, it will send one over speed alarm SMS to the SOS preset number.	W*****,005,XX	XX (the speed preset value)  =00 , disable  =[01<XX<20] (unit: 10Km)
<b>Set Geo-fence alarm (foursquare)</b>  When the VT200 moves out of preset scope, it will send one Geo-fence SMS to the SOS preset number.	W*****,006,XX	XX (set distance from current central point place )  =00, disable  =01, 30m  =02, 50m  =03, 100m  =04, 200m  =05, 300m

		<p>=06, 500m</p> <p>=07, 1000m</p> <p>=08, 2000m</p>
<b>Extend Settings</b>	W*****,008,ABCDEFGHJIJ###	<p>A=0, disable position report function when a call is made to VT200</p> <p>A=1, enable position report function to get position SMS by Calling VT200</p> <p>I=0, disable power failure alert</p> <p>I=1, enable power failure alert</p> <p>The functions of BCDEFGHJ are remained for furthur use.</p> <p>### is the ending character.</p>
<p><b>Set Geo-fence alarm</b></p> <p>017 command is for alarm when tracker moves out the preset scope;</p> <p>117 command is for alarm when tracker moves in.</p> <p>When the tracker moves in or out, it will send an SMS alarm to the authorized phone number for SOS.</p>	<p>W*****,017,data</p> <p>W*****,117,data</p>	<p>data is the coordinates which include:</p> <p>Lower-left X, Lower-left Y,Upper-right X,Upper-right Y</p> <p>For example, 11404.0000,E,2232.0010,N,11505.1234,E,2333.5678,N</p> <p>Note:</p> <ol style="list-style-type: none"> <li>1. Lower-left X,Y (longitude and latitude) should be smaller than Upper-right X,Y;</li> <li>2. All longitudes and latitudes should be in ASCII format as follows:-  Longitude: DDDMM.MMMM,E/W. 4 places of decimal. '0' is needed to be stuffed if no value available.  Latitude: DDMM.MMMM,N/S. 4 places of decimal. '0' is needed to be stuffed if no value available;</li> <li>3. Send W*****,017 or W*****,117 without data to disable this function.</li> </ol>
<b>Presetting by SMS for GPRS tracking</b>		
Set ID for VT200 by SMS	W*****,010,ID	Tracker ID must be less than 14 digits
Set APN by SMS	W*****,011,APN,APN Name, APN Password	<p>APN Name, APN Password If no password required, just insert APN name only;</p> <p>APN defaulted as 'CMNET';</p> <p>APN name + password not over 39 characters.</p>
Set IP Address and Port by	W*****,012,IP, Port	IP: xxx.xxx.xxx.xxx

SMS		Port: [1,65536]
Enable GPRS Function	W*****,013,X	X=0, close GPRS (default);  X=1, enable TCP  X=2, enable UDP
Set Time Interval for Sending GPRS Packet	W*****,014,XXXXX	XXXXX should be in five digitals and in unit of 10 seconds.  XXXXX=00000,to disable this function;  XXXXX=00001~65535, time interval for sending GPRS packet and in unit of 10 seconds.
<b>Output Control</b>		
	W*****,020,P,F	P =1, Out1 =2, Out2 =3, Out3 =4, Out4 =5, Out5 F =0, to disable the output  =1, to enable the output
<b>Output Control (Safe mode)</b> This function is achievable when the speed is below 10km/h and GPS is available.	W*****,120,ABCDE	ABCDE represents Out1, Out2, Out3, Out4, Out5 respectively.  If A or B or C or D or E,  =0, to disable the output  =1, to enable the output  =2, to remain previous status
<b>Set power saving mode when VT200 is still</b>  (In power saving mode, GPS stops working. GSM enters standby mode and stop sending out message until it is activated by an SMS or an incoming call)	W*****,026,XX	XX=00, to disable this function  XX=01~99, to set this function. It is in unit of minute.  Example:  If XX=10, VT200 will enter power saving mode in 10 minutes after it is immobile.
<b>Set phone number for wiretapping</b>	W*****,030,T	T is the telephone number for wiretapping and max. 16 digits
<b>Set time zone difference</b>	W*****,032,T	T=0, to disable this function  T=[1, 65535] to set time difference in minutes to GMT.  Default value is GMT  +, not necessary for those ahead of GMT. For example, either +120 or 120



		is acceptable. -, required for those behind GMT. For example, -120.
<b>Set character for SOS alert message</b>	W*****,033,P,Char	Char P is the button number. P=1, 2, or 3.  Char is the character in SOS message and max 32 characters
<b>Set tracking by driving angle change function</b>	W*****,036,Degree	Measured by Degree(s),  Degree=0,disable this function; X=1-359, means set angle degree interval in this function.
<b>Set tracking by distance function</b>	W*****,045,X	Measured by Meter(s),  X=0, disable this functio; X=1—65535, means the distance interval in this function.
<b>Set clear/reset odometer function</b>	W*****,046	To clear and reset odometer information to zero.
<b>Set function of receiving location physical address name via SMS</b>	W*****,111	This function need support of the GPRS01 or SMS01 tracking platform, address SMS will be received in text format.
<b>Get version and serial number</b>	W*****,600	To get version and serial number of current firmware
<b>Get IMEI No.</b>	W*****,601	To get device IMEI No.
<b>Reboot GPS and GSM Module</b>	W*****,900###	### is the ending character.
<b>Initialization</b> To turn all the parameters / settings (except for the password) to factory default.	W*****,990,099###	### is the ending character.
<b>Password Initialization</b>	W888888,999,666	This command will reset the current password to factory default password 000000