

ESKY WIRELESS INC.

ES310
User Manual
V1.2

2015

22-303,328 XINGHUSTREET,SUZHOU,CHINA

Information to User

This device complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

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 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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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

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

warning

The device has been evaluated to meet general RF exposure requirement. This device should be installed in where that has no emission source and no metallic object obscures.

RF Exposure Compliance

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or Transmitter.

Industry Canada(IC)

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

(1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radio électrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Catalogue

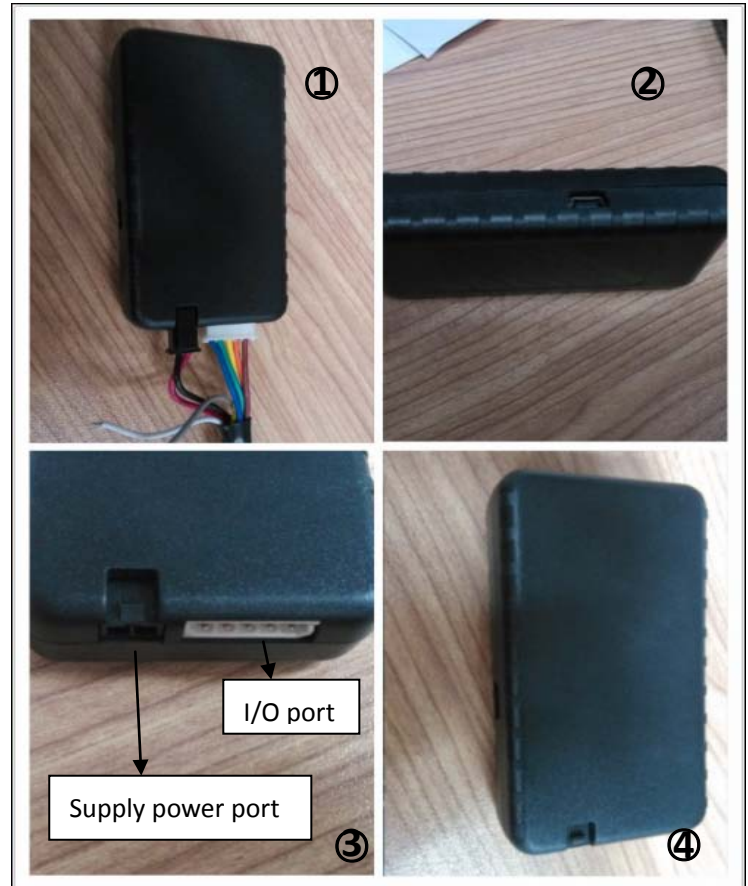
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Version history

Version	Data	Note	Author
V1.0	2013-10-1	First version	Apple
V1.1	2013-10-8		Jane
V1.2	2013-10-11	Add chapter 3.6.4 Default Account for User	Apple

1. Structure Introduction

- ① ES310 works with power line and I/O line
- ② USB port
- ③ Supply power port and I/O port
- ④ Dimension: 83mm*43.2mm*17.7mm



2. Preparation

Make sure the equipments below are all available.

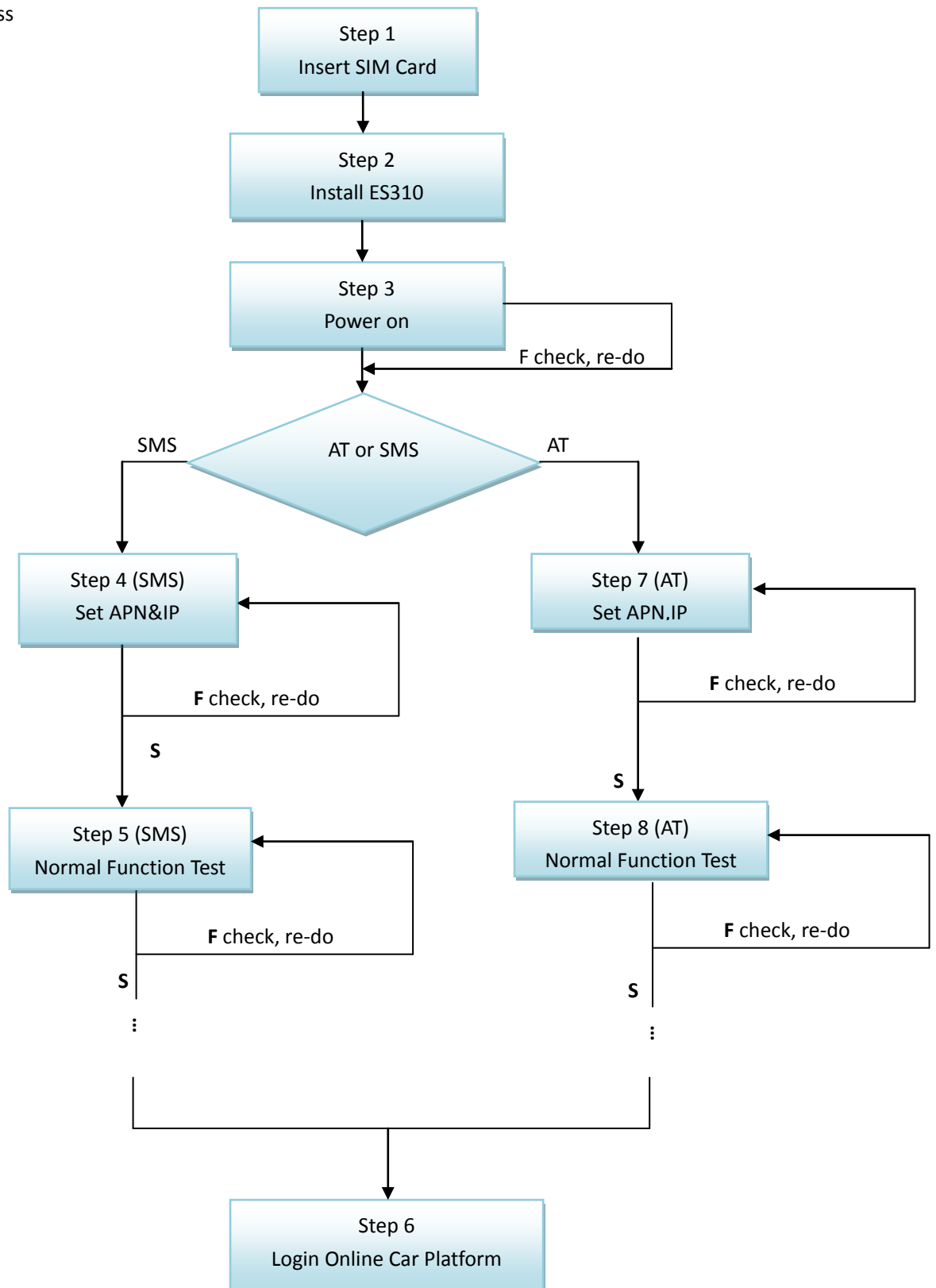
Equipment Lists:

Equipment Name	Number	Note
ES310	1	Necessary
WCDMA SIM Card	1	Necessary
power Line	1	Necessary
I/O Line	1	Necessary
Power supply (12V- 36V)	1	Necessary (Cigarette Lighter/ OBD)
Data line	1	Not Necessary (For AT command)

3. Quick Using Steps

S: Success

F: Fail



3.1 Step 1: Insert SIM Card

Open the terminal cover, and put the metal side of SIM card face down and then fasten the card slot cover.



Note:

SIM Hot-Plug is forbidden for this device.

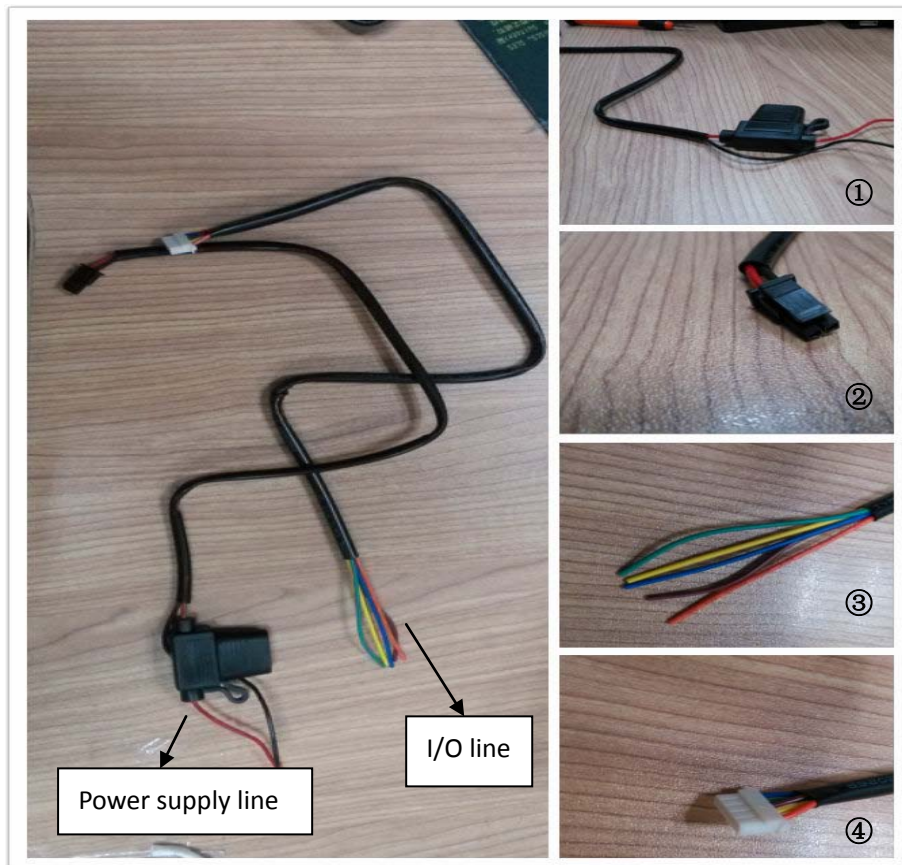


1. Metal side faces

2. Fasten card slot

3.2 Step 2: Install ES310

The terminal is GPS positioning product, it is recommended that you follow the instructions to install.



3.2.1 Connect Lines to ES310

First, connect power supply line to ES310.

Plug the part ② of power supply line into ES310 power supply port (chapter 1 ③)



Second, connect I/O line to ES310

Plug the part ④ of power supply line into ES310 power supply port (chapter 1 ③)



3.2.2 Connect ES310 to the Vehicle

Power lines, it can connect with cigarette lighter or OBD

I/O line, connects terminal with the I/O connector of wire harness.

For the detailed description, please refer to chapter 4.

3.3 Step 3: Power On

When finishing installation, as long as power supply line is connected with cigarette lighter or OBD, ES310 is powered on and starts work.

Note: If ES310 is connected with cigarette lighter, then only the car is ignition on, cigarette lighter will has voltage. That means, ES310 can be powered on.



(cigarette lighter)



(OBD)

Then, please check LEDs status.

When ES310 is powered on, the two LEDs –Yellow and green LEDs will light for 10 seconds; then, only green LED will blink four times; after blinking, yellow and green LEDs will blink together. Wait for a while, yellow LED will light without blink.

The meaning of each LED means, please refer to chapter 5.1.

If not, your situation is:

1) No LED lights



Please check the way you power on or the voltage that power supplies.

2) Only green LED lights



- Please make sure that SIM card is inserted.
- Please make sure that SIM card is available.
- Please make sure that SIM card is not hot plug.



Note:

If you want to test all the commands via SMS, please refer to Step 3, Step 4 and Step 5.

Or if set command by USB (AT), please refer to step 7, step 8.

3.4 Step 4: Set APN, Report Server IP (SMS)

The command to re-set APN and server IP is “GPRS”. The format of “GPRS” is shown below.

Content [↗]	Command Code [↗]	Separator [↗]	Parameter 1 [↗]	Separator [↗]	Parameter 2 [↗]	Separator [↗]	Parameter 3 [↗]	Separator [↗]	Parameter 4 [↗]	End Sign [↗]
↖	GPRS [↖]	, [↖]	apn [↖]	, [↖]	IP: PORT [↖]	, [↖]	User name [↖]	, [↖]	pass word [↖]	# [↖]

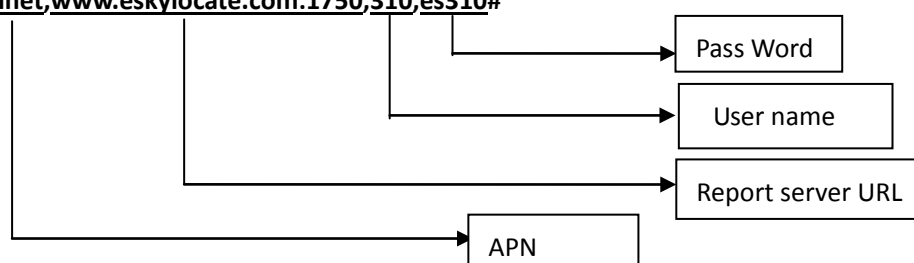
For example:

The APN of China Mobile is CMNET.

The reporting server is esky car online platform: www.eskylocate.com and the port is 1750.

So the content of SMS should be:

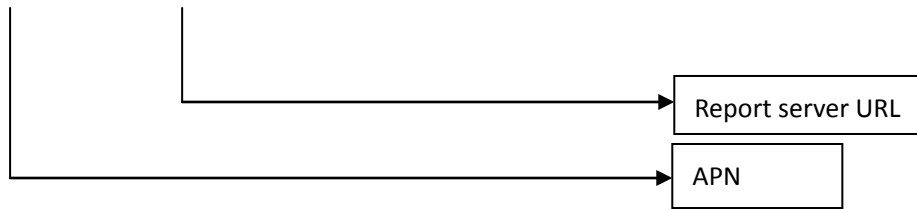
gprs,cmnet,www.eskylocate.com:1750,310,es310#



Note: It's also no problem if the user name and the pass word are not set.

For example (the content of SMS):

gprs,cmnet, www.eskylocate.com:1750#



The possible responses:

 ① GPRS=Success!


That means everything goes well.

GO TO Step 5.

 ② GPRS=Fail!



- Make sure no parameters are missed.

 ③ No Response.



- Make sure your phone number has bound before.
- Make sure GPRS spelling correct. No space in the beginning.
- Make sure ending character '#'. No space in the end.
- Make sure that SIM card has plugged, or plugged in right way.
- Make sure SIM supports SMS service. Try to use the SIM card send SMS by your mobile phone.
- Make sure WCDMA coverage is good.

2) After setting APN, IP and port

Wait for 1 ~2 minutes, you will see that yellow LED is no longer blink. And if GPS has fixed, green LED does not blink, either.

If not,

① Yellow LED never stops blinking.



- Make sure that the APN or IP and port are all right.
- Make sure GSM coverage is good.

② Green LED never stops blinking.



- Make sure ES310 is in the open air
- Make sure GPS signal coverage is good.

3.5 Step 5: Query Current Location (SMS)

If Step1 ~ Step 4 have passed, Then you can refer to <ES310 Protocol> to go on test other functions.


The Query Current Location command is “Where, [PASSWORD] #”.

For example:

The content of SMS should be:

Where, 000000#

The possible responses:

 ① WHERE=31.86384+120.92707+10.74468!

If the reply SMS contains latitude, longitude and speed. It means that ES310 has GPS fixed.

 ② Where=0+0+0!

If the response 0+0+0! means that ES310 can't get GPS signal.

To get GPS fixed, you can try:

- If ES310 is in the building, then put ES310 outdoor where GPS signal is good coverage.
- If ES310 is in the open air, please wait for a moment.

 ③ No Response.



- Make sure the password is correct.
- Make sure spelling correct. No space in the command.
- Make sure ending character is '#'. No space after.
- Make sure GSM coverage is good.

3.6 Step 6: Login Online Car Platform

3.6.1 Visit Car Online Platform

Click: <http://www.eskywireless.com.cn> See Figure 1



Figure 1: Loading Page

If you don't see this page, please do:

- ① Check your Internet Connection.
- ② Check your operation system (No IOS).
- ③ You don't have install plug-in (silverlight), Microsoft will give you the link of installation. If not, you have to install it by yourself:

<http://www.microsoft.com/getsilverlight/Get-Started/Install/Default.aspx>

3.6.2 Login Page

After finish loading, go into Log-In page.

If the language of this log-in page is Chinese, please change the language. Just click the area where the red box notes in Figure 2.

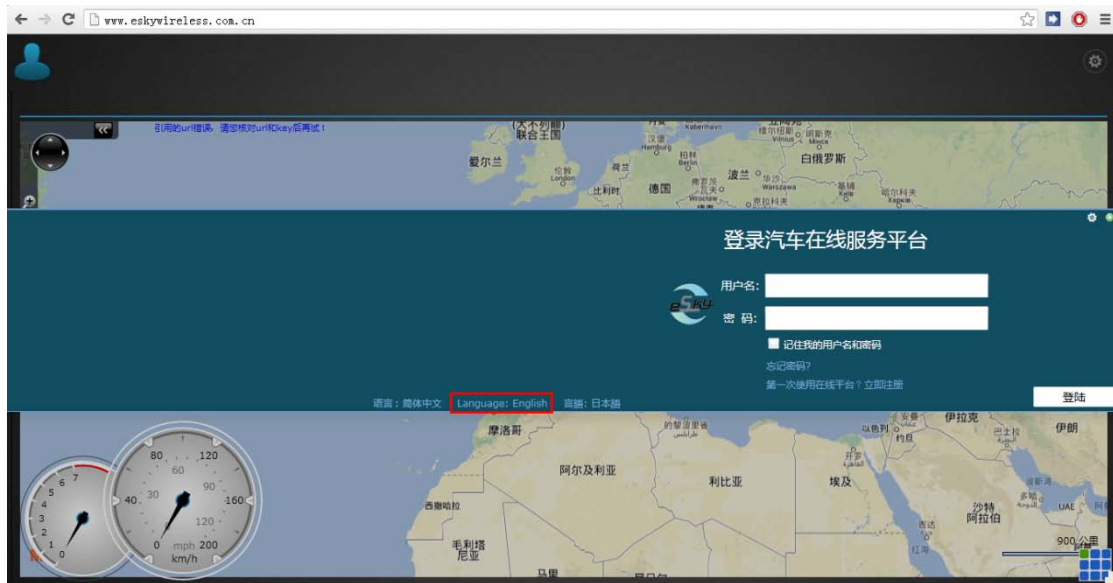


Figure 2: Chinese Log-In Page

Figure 3 shows the English Log-In page. Now click “Not a member yet? Take a minute to sign up” to register an account.

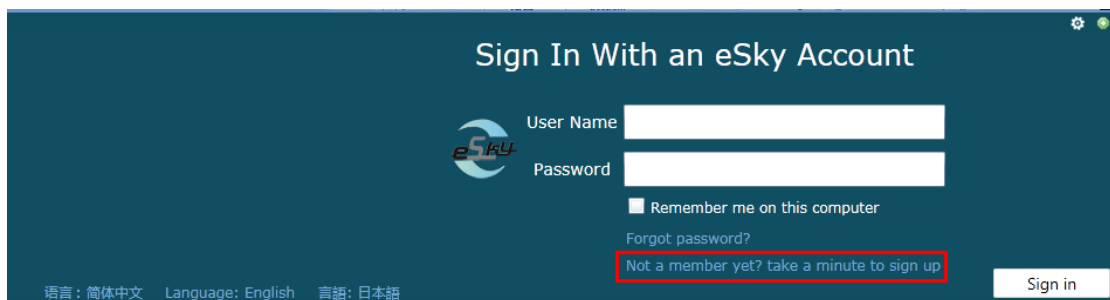


Figure 3: English Log-In Page

3.6.3 Register an Account

Fill up all the items as shown in Figure 4. Without any error hints, click “Confirm”.

Notes:

- ① Make sure IMEI is the exactly number you can see on the product label. Totally 15 numbers. And also it's unique, so don't register with using same IMEI.
- ② Table “Version”, please choose ES310.
- ③ Make sure your E-mail address is correct. You can re-get your password via E-mail if you forgot the password.

A screenshot of a 'Register' pop-up window. The window has a blue header with the title 'Register' and a close button (X) in the top right corner. The form contains several input fields with labels and instructions to their right. The fields are: 'UserName' with the value 'trackingtest' and instruction 'letters or numbers'; 'Password' with masked characters '*****' and instruction 'at least 6 characters.'; 'Password Comfirm' with masked characters '*****' and instruction 'input password again'; 'IMEI' with the value '865439000115370' and instruction 'see the buttom of the product'; 'Owner' with the value 'Benny' and instruction 'car owner'; 'Mobile' with the value '18626281111' and instruction 'mobile number'; 'License Plate Num' with the value '7R518' and instruction 'License number'; 'Country' with a dropdown menu showing 'China' and instruction 'select country'; 'Version' with a dropdown menu showing 'ES310' and instruction 'Software'; and 'Mail' with the value 'benny.zhang@eskywireless.com' and instruction 'e-Mail address'. A 'Confirm' button is located at the bottom right of the form.

UserName	trackingtest	letters or numbers
Password	*****	at least 6 characters.
Password Comfirm	*****	input password again
IMEI	865439000115370	see the buttom of the product
Owner	Benny	car owner
Mobile	18626281111	mobile number
License Plate Num	7R518	License number
Country	China	select country
Version	ES310	Software
Mail	benny.zhang@eskywireless.com	e-Mail address

Confirm

Figure 4: Register Pop-up

After register successfully, return to Log-In page and enter the User Name and Password you just set.

3.6.4 Default Account for User

eSky Wireless Inc. has an default account for user to experience the Car Online Platform.

The default account:

User name: **esky**

Password: **esky1233456**

You are welcome to use the above user name and password to register on our platform.

3.6.5 Start Tracking

When you see the page like Figure 5, Congratulations! Now you can start tracking.

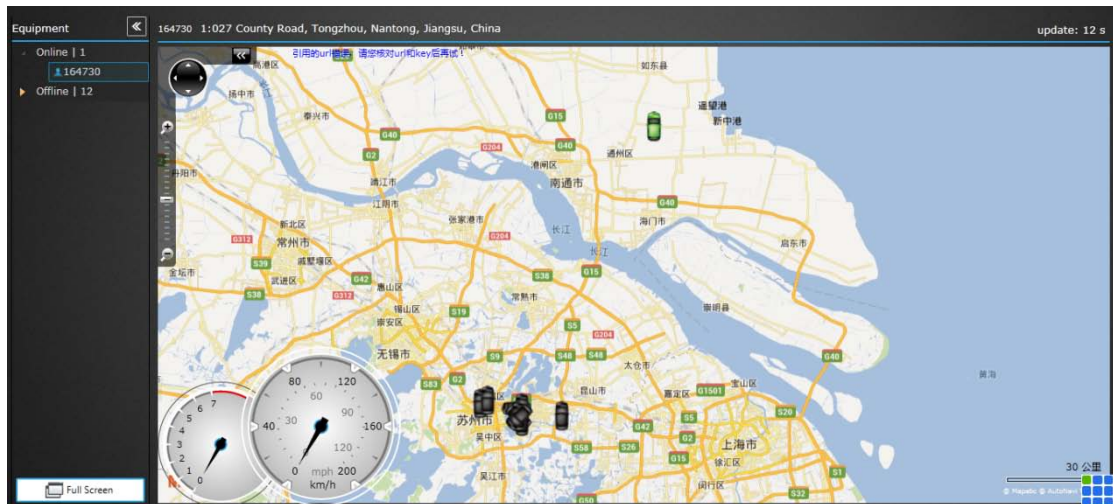


Figure 5: Main tracking Page

3.6.6 Modes Switch Page

If you have two or more ES310 devices, you can add the others in one account (Same UserID). Click the middle of 3*3 squared. As shown in Figure 6.



Figure 6: Modes Switch Page

Then click “Add” button, a new form will pop up shown in Figure 7. Enter new device’s information like register. Click “Confirm” to finish adding.

Add Device

×

Imei:

Mobile:

Owner:

Country:

▼

OverSpeed:

LPN:

Software

▼

Confirm

Figure 7: Add Device Pop-up

If commands are set by AT command, please refer to <serial Readme> to install ES310 device driver and set hyper terminal.

You can contact our technical support to ask for device driver and <serial Readme>.

If everything is ready, then follow me to enjoy the AT command trip.

3.7 Step 7: Set APN, Report Server IP (AT)



Note: AT command is based on the command in <ES310 protocol>.

If you are not in China or America, APN is necessary to change.

The command to re-set APN and server IP is "GPRS". The format of "GPRS" is shown below.

Content	Command Code	Separator	Password	Separator	Parameter1	Separator	Parameter2
	GPRS	,		,	apn	,	0

End Sign	Parameter 4	Separator	Parameter 3	Separator
#	Move interval	,	URL:PORT	,

For example:

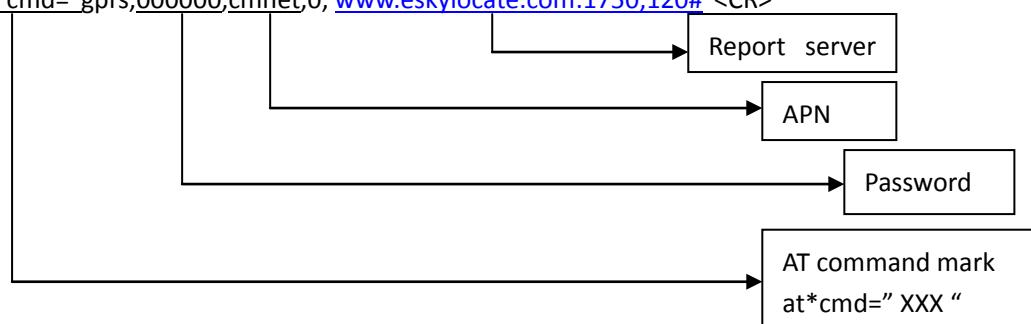
The APN of China Mobile is CMNET

The reporting server is esky car online platform: www.eskylocate.com

The default password is the 000000

So the AT command content should be:

at*cmd="gprs,000000,cmnet,0, [www.eskylocate.com:1750,120#](http://www.eskylocate.com)"<CR>





Note: Do not forget the ENTER at the end of command.

The possible response:



① OK

GPRS=Success!

It means APN, server IP have changed successfully.



② OK

GPRS=Fail!



Try again

Please don't set any command within 1 ~ 2 min after ES310 is powered on.

Make sure GPRS command spells correctly.



③ ERROR



Make sure that AT command mark spells correctly.



④ No response.



Type "enter" again.

Re-type GPRS command again without pause.

3.8 Step 8: Normal Function Test (AT)

Since AT command is based on commands in <ES310 Protocol>, so you can choose whatever command you want to test by AT command.

All you need to do is add AT command mark.



Note: Function "where" cannot be set by AT command.

For example:

Command "interval", format is shown below.

End Sign	Parameter1	Separator	Password	Separator	Command Code	Content
#	Report interval when vehicle is moving(sec)	,		,	INTERVAL	

AT command should be:

at*cmd="interval,000000,120#"


Possible Response:


 ① OK

INTE RVA L =Success!

 ② OK

INTERVAL=Fail!

 ③ ERROR

 ④ No Response.

4. Install and Operation

4.1 Installation Method

Note:

- 1) The following installation order, **please do not inverted**.
 - 2) During the installation process, **please do not supply the terminal**.
- The terminal installation is divided into hidden installation and open installation.

When the terminal is using special vehicles, hidden installation is recommended. Otherwise, open installation is chosen. (To avoid thieves' damage, the installation location should be hidden)

4.2 Installation Site

The places that we suggest to install:

The bottom of the front windshield decorative plates

Around of front dashboard (epidermis as nonmetallic material)

Below the decorative panels of rear windshield

Inside the front bumper (should pay attention of water)

Below the wipers plate (should pay attention of water)



***The bottom of the front windshield decorative plates**



***Between the air conditioning ducts and decorative plates**



4.3 Installation Notes

- ① Avoid put together with the emission source, for example, reversing radar, anti-theft devices and other on-board communications equipment.
- ② As for fixing the terminal, you can bound with ties or stick with wide sponge strength double-faced adhesive.
- ③ The terminal has GSM antenna and GPS antenna, so the installation should ensure that the ES310face up (that is GPS toward the sky). Besides, there is no on-metallic object that obscures above the terminal.
- ④ If your car's windshield pasted with metal insulation layer or the heating layer, GPS receiving signal will be weakened, and it may cause GPS work abnormal. So please change the location you installed the terminal.

5. Supplement

5.1 LED Indication

Yellow LED indicates GPRS status.

Green LED indicates GPS status.

	Power ON	Power OFF	GPS Searching	GPS Fix
GREEN	On 10-15sec		Blink	On
YELLOW	On 10-15sec		See **	See **

** : When server is connected, the yellow light will on. When PDP is activated but no server connection, the yellow will blink every second. But if PDP cannot be activated, it shows off.

5.2 I/O Harness

ES310 has 3 INPUTs, 2 OUTPUTs.



Count from right to left:

INPUT: orange wire is INPUT 0, yellow is INPUT 1, brown is INPUT 2,

OUTPUT: green is OUTPUT 0, blue is OUTPUT 1