

TZ-AVL11 User Guide

Automatic Vehicle Location

(TAG06/TAG06B)

V1.0.6



Catalog

1.1 Product overview.....	3
1.2 Introduction.....	3
1.3 Key Feature.....	3
1.4 Accessories.....	4
1.5 Specification.....	5
1.6 Outside feature.....	6
1.6.1 Socket and Switch.....	7
1.6.2 TAG06 and TAG06B parameter.....	7
1.6.3 I/O ports.....	9
1.6.4 Connect Relay to control the Car Oil/Power. (port 1/2).....	10
1.6.5 Connect to the fuel sensor to detect the fuel.(port 3).....	10
1.7 Getting Start.....	11
1.7.1 Hardware Features.....	11
1.7.2 Light and Button Functionality.....	11
1.7.3 First Use.....	12
2.1 Use the command to set device by SMS.....	12
2.1.1 change the deivce password.....	13
2.1.2 Use the GPRS function.....	13
2.1.3 Set into sleep function.....	14
2.1.4 Set RF function.....	17
2.1.5 Other useful commands.....	18
3.1 The format of the GPRS.....	19
4.1. SMS instruction list.....	19
5.1. Q&A.....	25
6.1.Update the firmware of the AVL.....	26
IAP Update User Guide.....	26

1.1 Product overview

AVL11 is a receiving terminal and gateway products of temperature and humidity monitoring system; this product has a positioning function with the installation of GPS tracking, usually used on logistics vehicles and other modes of transport or placed in the warehouse and other fixed places; this product with 433 wireless mode which can receive a plurality of TAG06/TAG06B sensors to collect temperature and humidity data, then upload data to the server through GPRS; and it has the characteristics of long distance transmission, high stability and fast data transmission, and the appearance of fashion, and easy to install, to monitoring temperature and humidity when change location information or real-time monitoring of warehouse and other fixed places, users can check data changes from real-time remote monitoring of temperature and humidity information in storage cold chain logistics.

1.2 Introduction

Software Function	
Single location	√
Tracking	√
Over-speed alarm	√
Geo-fence alarm	√
Wake up alarm	√
Sleep alarm	√
SOS alarm	√
GPRS Function	√
Heartbeat function	√
I/O ports trigger alarm	√
Low battery alarm	√
Exterior battery cut off alarm	√
Inner Lithium battery	√
Charged by exterior DC	√
Tremble Sensor-based	√
Anti-theft Alarm	√
Received 433 TAG	√
Digital input	√(1 ports)
Digital output	√(2 ports)
Analog input	√(1 ports)

1.3 Key Feature

- Internal Polymer Lithium Ion Battery in the AVL

- **Can be charged by exterior DC 11-36 V**
- **Can be charged by USB 5V**
- **Exterior battery cut off alarm**
- **Support mini USB port or OTA to update firmware**
- **Low power consumption**
- **Over-speed alarm**
- **Geo-fence alarm**
- **Low power alarm**
- **With GSM/GPRS module and GPS chipset**
- **Support single location and continual tracking**
- **Can Real-time tracking your vehicle via map on PC**
- **GPRS function, receiving position data and alarm data on Server**
- **Anti-theft alarm, support alarm when someone tremble your car once you park it and send an alarm report via GPRS data**
- **Remotely detect the status of the Windows or Doors or Engine close/open through the Digital Input sockets.**
- **Remotely cut the Oil/Engine power through the Digital Output socket.**
- **SOS button send out exact location for immediate rescue. After user press SOS button in the AVL, AVL unit will send out the location and SOS alarm to the preset number via SMS or a Server via GPRS**
- **With 32Mbit memory, this can store about 16000 PCS data. When GPRS is lose connection, those data will be store and send when GPRS connection is recover.**
- **Detect the car of the fuel.**
- **With listen-in function.**
- **RFID Tag receiver (note:only AA and 88 types of data containing the TAG06 ID).**
- **Into sleep mode when without GPRS data for preset time or no shock ,wake up the machine by the heartbeat function/sms/calling.**

1.4 Accessories

Thank you for your purchase of the AVL, after you get it, please checking all

the accessories in the box:

	Accessories
I/O interface Cables	✓
User Manual CD	✓
USB cable	✓
Car charger(5V)	✓
Below is Optional:	
Configure Cable (Optional)	✓
Car Charge (Optional)	✓

If there is any part damaged or absent, please contact your dealer as soon as possible, and if you have any questions or problems when using it, you can contact our service center.

1.5 Specification

Feature	Characteristics
Dimension	122mm*81mm*30.8mm
Exterior Power Supply	DC 9V -- 36V
USB charge	5V
Inner lithium battery	DC 3.6V -- 4.2V/4500mh
the Built-in GSM antenna	Receive GSM Signal better
the Built-in GPS antenna	Receive GPS signal better
Power Consumption when exterior voltage is 12V	Active mode(avg.) <100mA Sleep mode < 2mA
Air pressure	860Kpa --1060Kpa
Position accuracy	10 --15 meters
GSM chip	SIMCOM, 4 Frequency GSM 850/ 900/1800 /1900MHZ is optional)
GPS chip	(super-sensitivity and high accuracy)
RFID Frequency	433MHZ
LED	3 LEDs indicates GSM signal, GPS signal, and change

1.6 Outside feature



1.6.1 Socket and Switch

Hardware	Function
A. Three LED	GSM LED(Right), Power Led(Red), GPS Led(Blue)
B. USB Port	Support "USB Converter" to update firmware
C. I/O Sockets	Expanding function, as below

Note:

AVL11 does not have the switch, so need to connect internal battery or connect 11V – 36V external power supply can be start the device

1.6.2 TAG06 and TAG06B parameter

TAG06: temperature sensor



Parameters	Characteristics
Working Frequency	433Mhz
RF Output Power	20dbm
Distance	800m(optional)
Modulation	GFSK

Operating temperature	-40~85℃
Storage temperature	-55~125 ℃
Backup Battery	750mAh /3.6V
Application Life	3 years
Weight	80g
Dimension	63mm*38mm*31mm

TAG06B: temperature&humidity sensor



Parameters	Characteristics
Working Frequency	433Mhz
RF Output Power	20dbm
Distance	800m(optional)
Modulation	GFSK
Operating temperature	-40~85℃
Storage temperature	-55~125 ℃
Storage humidty	0~100%
Backup Battery	750mAh /3.6V
Application Life	3 years
Weight	80g
Dimension	63mm*38mm*31mm

Note:

TAG ID contained in the GPRS data, you need enable 136 instructions to take effect

1.6.3 I/O ports

Interface from left to right, in accordance with the order

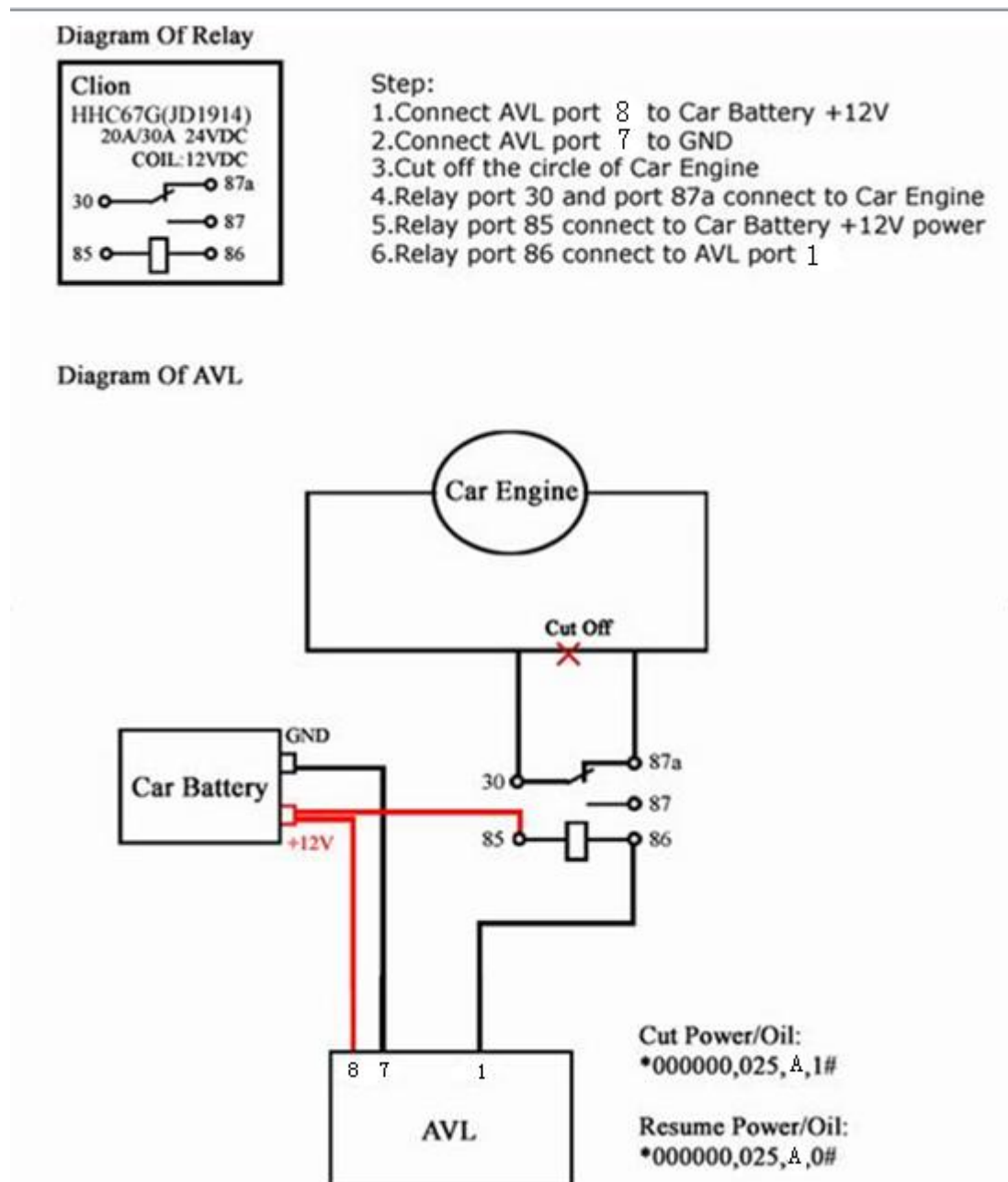


(1) Digital Output A	(2) Digital Output B	(3) Analog Input	(4) Digital Input 1	(5) GND	(6) SOS	(7) GND	(8) V+(9-24)
----------------------------	----------------------------	------------------------	---------------------------	------------	------------	------------	-----------------

The 8 socket function is as below:

NO.	Function
I/O 1	Using a phone can set the voltage value of the digital output through “025” instruction, high or low, by virtue of it, user can remote Control the Car window or door close/open
I/O 2	The function is the same as I/O 1
I/O 3	AD input, Gather to the digital of voltage
I/O 4	he triggered voltage must be high, alarm type is “50”, “51”, through it , user can monitor the status of ignition or Car door status <i>*At present, most of customers use this cable to connect to the engine of car.</i>
I/O 5	GND, use for input GND(connect SOS button)
I/O 6	When SOS Button cable is connected to GND(port 05), namely trigger, the unit will send out a data via SMS or GPRS, alarm type is “01”
I/O 7	GND, the voltage is ‘0’, The cathode of power input socket
I/O 8	The anode of power input socket

1.6.4 Connect Relay to control the Car Oil/Power. (port 1/2)



1.6.5 Connect to the fuel sensor to detect the fuel.(port 3)

Our AVL can get the voltage by the AD collection and according to the voltage change to know the fuel level in the tank. because the fuel tank in different car is different .so you need to find out the different relation between the voltage and fuel .our AVL can collect the voltage from 0-18V.so that mean if you want

to know the fuel level in the fuel tank, so you should work out the coordinate relation between voltage and fuel in your server. when the GPRS data come to the server, the server work out fuel level in the tank by analyze the GPRS data.

1.7 Getting Start

This section will describe how to setup your AVL11 after installation.

1.7.1 Hardware Features



device



I/O interface
cable



Configure
Cable
(option)



CD

1.7.2 Light and Button Functionality

The AVL11 has three LED lights with three different colors to indicate the status of the unit.

Red LED - indicating charge status	
Off	No charge / the charge is complete
On	Charging

Blue LED - indicating GPS status	
On	One button is pressed
Flashing (0.1 second)	The unit is being Initialized
Flashing (on for 0.1 second and off for 2.9 seconds)	AVL11 has a GPS fix

Flashing (on for 1 second and off for 2 seconds)	AVL11 has no GPS fix
---	----------------------

Green LED - indicating GSM status	
On	One call is coming in
Flashing (0.1 second)	The unit is being Initialized/Receive a text message
Flashing (on for 0.1 second and off for 2.9 seconds)	AVL11 is connected to the GSM network
Flashing (on for 1 second and off for 2 seconds)	AVL11 is not connected to the GSM network

1.7.3 First Use

Please read this manual before using your AVL11

Please read this manual before using your AVL11

4.4.1 Ensure that your AVL11 has a working SIM installed.

- 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)
- Check if the SIM card holder is locked-

If you require the function of sending an SMS location report to the authorized phone number when it makes a call to the AVL11, please make sure the SIM installed supports displaying caller ID.

4.4.2 Line of the proposed machine configuration does not provide 5V charge, because the machine will lead to the 5V power supply configuration lines connected to the computer, configure the line machine to run a problem, we will configure the line within the red 5V power line cut, if your configuration still provide the 5V line, please cut the red 5V power cord configuration line, only with the 5V USB power supply or external power supply 11-24V



4.4.3 Check the LED

Check that the Green LED (GSM) is flashing 0.1 second on and 2.9 seconds off.

Check that the Blue LED (GPS) is flashing 0.1 second on and for 2.9

[18:20:45] 83stef 83stef: GPRS ON
seconds off.

2.1 Use the command to set device by SMS

2.1.1 change the device password

Notes: \$\$\$\$\$\$ is the password, and the default is:000000

If you want to modify the password :

The command of format:

*\$\$\$\$\$\$,001,@@@@@@#

Explication: \$\$\$\$\$\$: the old password

@@@@@@: the new password

For example: *000000,001,123456#

After you send the command of SMS to device, it will reply to your mobile phone: **Receive:'001'OK**

*000000,001,123456#

2.1.2 Use the GPRS function

Notes: At first of all, make sure the SIM card insert to the device and have the GPRS function.

Step1: Set the APN (Access Point Name)

Different network of provider have the different APN at every country, if you don't know, pls refer to the attachment.

Format: *\$\$\$\$\$,011,APN,Username,Password#

Notes: The username and password could to be null1.

For example: *000000,011,cmnet,,#

Explication: The China Mobile's APN is "cmnet", and the username and password are empty.

After you send the command of SMS to device, it will reply to your mobile phone: **Receive:'011'OK**

*000000,011,cmnet,,#

Step2: Set the server's IP & PORT

Format: *\$\$\$\$\$,015,0,IP,PORT#

For example: *000000,015,0,72.167.29.18,3308#

72.167.29.18 is our server's IP address,3308 is the port.

If client have the server by himself, pls make sure the IP and port is correct.

After you send the command of SMS to device, it will reply to your mobile phone:

Receive:'015'OK

***000000,015,0,72.167.29.18,3308#**

Step3: Set GPRS time interval

Format: *\$\$\$\$\$,018,X,Y#

X: the time interval (unit is sec),Y: the times of the data have to send by GPRS.

For example:*000000,018,60,999#

The device will send GPRS every 1 mins and no times limit.

After you send the command of SMS to device, it will reply to your mobile phone: **Receive:'018'OK**

***000000,018,60,999#**

Step4: Open the GPRS function

Format: *\$\$\$\$\$,016,X#

X: close/open the GPRS function,

For example: *000000,016,1#

After you send the command of SMS to device, it will reply to your mobile phone: **Receive:'016'OK**

***000000,016,1#**

2.1.3 Set into sleep function

Notes: the AVL11 have not vibration function,there are only have Into sleep mode when without GPRS data for preset time or have no shock ,Wake up the machine only by the heartbeat function/sms/calling.

Set sleep function:

A. When the machine does not send data into sleep, the heartbeats to wake up

Step1: open the sleep mode

Format: *\$\$\$\$\$,021,XY#

X: close/open the sleep mode

Y: close/open the tremble sensor

For example: *000000,021,10#

When you want to use the sleep mode of function, make sure open the sleep mode,don't need to enable the vibration mode

After you send the command of SMS to device, it will reply to your mobile

phone: **Receive:'021'OK**

***000000,021,10#**

Step2:Set the sleep waiting time, not send GPRS data calculated

Format: *\$\$\$\$\$,020,X#

X: Set the wait time,unit:Second

For example: *000000,020,30#

Wait for 30 second period if there is no GPRS data, the machine goes into Sleep

020 command waiting for sleep must set up more than 018 interval GPRS data sent a short time, the machine will enter the sleep

After you send the command of SMS to device, it will reply to your mobile

phone: **Receive:'020'OK**

***000000,020,30#**

For 30 seconds without sending GPRS data,machine into sleep.

Set heartbeat function wake up the device :

Step3: enable heartbeat function

Format: *\$\$\$\$\$,040,1#

X=1:enable the heartbeat function

After you send the command of SMS to device, it will reply to your mobile

phone: **Receive:'040'OK**

***000000,040,1#**

Step4: Set the heartbeat interval

Format: *\$\$\$\$\$,041,60#

X=60: 60 minutes to send a heartbeat

After you send the command of SMS to device, it will reply to your mobile phone: Receive:'041'OK

***000000,041,60#**

Machine into sleep after 60 minutes will wake up the machine at a time

B. When the machine does not vibrate into sleep, the heart beats to wake up

Step1: open the sleep mode

Format: *\$\$\$\$\$,021,XY#

X: close/open the sleep mode

Y: close/open the tremble sensor

For example: *000000,021,11#

When you want to use the sleep mode of function, make sure open the sleep mode and vibration mode

After you send the command of SMS to device, it will reply to your mobile phone: Receive:'021'OK

***000000,021,11#**

Step2:Set the sleep waiting time, not send GPRS data calculated

t: *\$\$\$\$\$,044,X#

X: Set the no vibration time ,unit:Second

For example: *000000,044,30#

Wait for 30 seconds without vibration, the machine goes into Sleep

phone: Receive:'044'OK

***000000,044,30#**

For 30 seconds without sending GPRS data,machine into sleep.

Set heartbeat function wake up the device :

Step3: enable heartbeat function

Format: *\$\$\$\$\$,040,1#

X=1:enable the heartbeat function

After you send the command of SMS to device, it will reply to your mobile phone: Receive:'040'OK

***000000,040,1#**

Step4: Set the heartbeat interval

Format: *\$\$\$\$\$,041,60#

X=60: 60 minutes to send a heartbeat

After you send the command of SMS to device, it will reply to your mobile phone: Receive:'041'OK

***000000,041,60#**

Machine into sleep after 60 minutes will wake up the machine at a time

2.1.4 Set RF function

Step1: enable RF function (can receive TAG06/TAG06B)

Format: *\$\$\$\$\$,136,X#

X: open/close this function

X=0, open

X=1, close

For example: *000000,136,1#

Open RF function

After you send the command of SMS to device, it will reply to your mobile phone: Receive:'136'OK

***000000,136,1#**

Step2: Set the receive rate for the TAG module

Note : All of the default TAG module receive rate is 100K, such as the requirements of other rates, need to customize, such as no custom, please do not use the 140 command,otherwise you may not receive the TAG06/TAG06B data.

Format: *\$\$\$\$\$,140,X#

X: receive rate for the TAG module

X=0, 1K

X=2, 2K

X=2, 10K

X=3, 38.4K

X=4, 100K(default)

For example: *000000,140,0#

Use the TAG module receive rate is 1K.

After you send the command of SMS to device, it will reply to your mobile

phone: Receive:'140'OK

***000000,140,0#**

2.1.5 Other useful commands

- **Get current location:**
*\$\$\$\$\$,000#
- **Get the IMEI from the device:**
*\$\$\$\$\$,801#
- **Reboot the device by SMS:**
*\$\$\$\$\$,991#
- **Initialization the device**
*\$\$\$\$\$,990,099#
- **Clear the device flash**
*\$\$\$\$\$,500#

3.1 The format of the GPRS

AVL11 GPRS data is hex format. The GPRS command at the same as sms command in this user guide.

Please refer to the document AVL11 GPRS protocol

4.1. SMS instruction list.

If you want to know more about the AVL11, and design your special AVL11, you can refer to the SMS instruction list.

\$\$\$\$\$\$ is user's password, and initial password is 000000

	SMS Instruction	Format	Note
1	Request one position	*\$\$\$\$\$,000#	
2	Modify user password	*\$\$\$\$\$,001,@@@@@@#	\$\$\$\$\$ is old password @@@@@@ is new Password
3	Set the time intervals of position by SMS The Position SMS will send to the preset SOS number.	*\$\$\$\$\$,002,X,Y#	X (Max 5 Digital) =0, Stop send position SMS =[1,60000] Time interval (Unit: mins) Y (Max 3 Digital) =[1,999) times send SMS Y=0, Disable this function Y=999, continue send SMS
4	Set a preset phone & SMS number for SOS button	*\$\$\$\$\$,003,0,F,CallNumber, SMS Number#	F = 0, Disable this function =1, Only send an alarm SMS to the preset SMS Number Notice :Tel Number and SMS Number (must <25 digits)
5	Set low power alarm When the AVL11 voltage is lower than the preset value, AVL11 will send one lower power alarm GPRS data to the Preset Server.	*\$\$\$\$\$,004,XXX,YYY#	XXX is the low power alarm voltage, eg: 3.8v,XXX=380 YYY is the auto shut down voltage, eg: 3.5v,YYY=350 For example: *\$\$\$\$\$,004,380,350#
6	Set over speed alarm When the AVL11 speed higher	*\$\$\$\$\$,005,S,X,Y,Z#	S=1 Enable speed alarm, S=0 Disable speed alarm. X=[10<XXX<250] (The speed

	than the preset value, AVL11 will send one over speed alarm GPRS data to the Preset Server.		<p>preset value) unit is km/h Y is the times over speed [10,999],unit is second Z=[10,360],(The time interval to send speed alarm) unit is second.</p>
7	<p>Set Geo-fence alarm When the AVL11 move out preset scope, AVL11 will send one Geo-fence GPRS data to the Preset Server.</p>	<p>*\$\$\$\$\$\$,006,+lat1,+long1,+lat2,+long2,X,Y#</p>	<p>Lat=[-9000.0000,+9000.0000] Long=[-18000.0000,+18000.0000] X=[10,360] is for time interval send alarm message. Y=0, Disable GEO-fence alarm. Y=1, Into GEO-fence alarm. Y=2, Out of GEO-fence alarm. Note:Long1>long2&lat1>lat2 Make sure the position of north latitude and east longitude set it (+),otherwise set it (-) Format:+AAAAA.BBBB Make sure set the two position have the same digit after comma.</p>
8	Extend setting	<p>*\$\$\$\$\$\$,008,ABCDEFG#</p>	<p>A=0, Disable position report function which get position SMS by Calling A=1, Enable position report function which get position SMS by Calling B=0, Send the SMS in Text format. B=1, Send the SMS in NMEA format. C=1, AVL do NOT hung up when one call incoming C=0, AVL hung up after 4~5 rings when call incoming D=0 E=0, ADB Normal AD collect E=1, ADB Oil collect.(The average of two minutes to collect) F=0, ADA Normal AD collect F=1, ADA Oil collect.(The average of two minutes to collect) G=0</p>
9	Change band	<p>*\$\$\$\$\$\$,009,S#</p>	<p>S=0, work in 900/1800 S=1, work in 850/1900</p>

			<p>S=2, Automatic selection</p> <p><i>*note: the default of parameter is S=2, Automatically select the frequency band, if the unit of GSM module support three frequency(900/1800/1900), then you could set the parameter to S=0, if the unit of GSM module support the four frequency(850/900/1800/1900),then you could set the parameter to S=1.</i></p>
10	Set APN,Username,Password	*\$\$\$\$\$,011,APN,Username,Password#	<p>APN : APN string (must < 28 chars)</p> <p>User name: Your username (must < 28 chars)</p> <p>Password: Your password (must < 28 chars)</p> <p>* If haven't username or password, then left it blank.</p> <p>For example: *000000,011,CMNET,,## (It haven't username and password)</p>
11	Set DNS	*\$\$\$\$\$,014,X,DNS1,DNS2#	<p>X=0 Disable the DN</p> <p>X=1 Enable the DNS DNS is the domain name server , xxx.xxx.xxx.xxx</p>
12	Set IP Address & port number	*\$\$\$\$\$,015,0,IP,PORT#	<p>X=0 use IP connect the server</p> <p>X=1 use DN connect the server</p> <p>IP : xxx.xxx.xxx.xxx</p> <p>DN:(domain name) www.xxx.com</p> <p>PORT : [1,65535]</p>
13	Set the time intervals of GPRS Data	*\$\$\$\$\$,018,X,Y#	<p>X (3 Digital)</p> <p>=0 stop send time interval GPRS</p> <p>= [10,999] Time interval (Unit: sec)</p> <p>Y (3 Digital)</p> <p>=0, stop send time interval GPRS</p> <p>= [1,999] After send YYY times stop.</p> <p>=999, continue send GPRS un-stop</p>
14	Enable/Disable GPRS function	*\$\$\$\$\$,016,X#	<p>X=0 Disable GPRS unction</p> <p>X=1 Enable GPRS Function</p> <p>This is the last step of GPRS setting.</p>
15	Set the GPRS mode	*\$\$\$\$\$,019,X#	<p>X=0, Use the UDP mode</p>

			X=1, Use the TCP mode
16	Enable/Disable I/O port	*\$\$\$\$\$,025,X,Y#	X=A means the output port 1 X=B means the output port 2 Y=0, Out port is low (the oil of circuit is restore) Y=1, Out port is high-the state of the dangling (the oil of circuit will cut off) For Example: *000000,025,A,1#
17	Into sleep mode when without GPRS data for preset time	*\$\$\$\$\$,020,X#	X=[0,65536]s 0 is disable this function [20-65536] is set Into sleep mode when without GPRS data for preset time *Note:018 command X time need over than 020 X time
18	Tremble sensor switch	*\$\$\$\$\$,021,XY#	X = 0 Disable Sleep mode X = 1 Enable Sleep mode Y = 0 Disable the tremble sensor Y = 1 Enable the tremble sensor *Note: There have no tremble function in here , so please set Y=0.
19	Set the Module	*\$\$\$\$\$,022,X,Y#	X=0, Close the GPS module when into sleep X=1, Open the GPS module when into sleep. Y=0, Close the GSM module when into sleep Y=1, Open the GSM module when into sleep
20	Heart Beat Switch	*\$\$\$\$\$,040,X#	X=0 Disable the heart beat function(Default) X=1 Enable the heart beat function
21	Heart Beat Intervals	*\$\$\$\$\$,041,X#	X is the heart beat interval, unit is minute [1<X<9999] X=0, Disable this function.
22	Reading the IMEI number	*\$\$\$\$\$,801#	This command to ask AVL11 reply the IMEI number and the firmware of version.
23	Initialization Tracker	*\$\$\$\$\$,990,099#	It will set all parameter to factory default value (Excluding the Password).
24	Reboot by SMS command	*\$\$\$\$\$,991#	It will reboot the AVL11 by this

			SMS command.
25	Map Link	*\$\$\$\$\$,100#	the device wil reply a sms link .after clicking the sms link, you will get a segment of googl map for the device location on your cell phone.
26	Parking alarm	*\$\$\$\$\$,110,X#	X=1 Enable Tremble alarm function, then if the AVL11 is Trembling for 5s continually, it will alarm(0x30), X=0 Disable Tremble alarm function
27	Set Oil sensor	*\$\$\$\$\$,113,A,B#	A,B=[0,2000], the real voltage is [0,20V]. A is the empty fuel of corresponding voltage, B is the full fuel of corresponding voltage. <i>*note: Every different types of car have different corresponding relation.</i> <i>Pls test it by yourself ,then set the command.</i> <i>Eg: *000000,113,100,500#</i> <i>Explain: it means empty fuel of corresponding voltage is 1V,and the he full fuel of corresponding voltage is 5V,if the AVL detect the voltage is 4V,then the value of fuel percent is $(4-1)/(5-1)=75\%$.</i>
28	OutA Change switch	*\$\$\$\$\$,116,A#	A=1, active 117 command set . A=0, Don` t active 117 command set
29	Set OutA Change	*\$\$\$\$\$,117,A,B,C,D#	A=[0,999]km/h , the thresold of speed. B=[0,60000] ms, the interval of outA off C=[0,60000] ms, the interval of OutA on D=[0,99], the times of OutA change <i>If the speed is lower than, the OutA will off B seconds, then restore C seconds, repeat it D times.</i> <i>*note: because of the safety, you had better set the parameter like this:</i> <i>*000000,117,60,500,3000,5#</i>

30	Extend Setting	*\$\$\$\$\$,118,ABCDEFGH#	B=0, Disable send the interval GPRS data normally when Input 1(Port 4) close(Default) B=1, Enable send the interval GPRS data normally when Input 1 (Port 4) close A=C=D=E=F=G=0, reserved
31	Acceleration and deceleration alarm	*\$\$\$\$\$,120,A,B,C#	A=0 Disable this function (Default) A=1 Active this function. B= [0,2000] Acceleration 0.1m/S ² B= [0,2000] deceleration 0.1m/S ²
32	Roaming sending GPRS data interval time	*\$\$\$\$\$,121,X,Y#	X=0 Disable this function (Default) X=1 Active this function. Y=[0,999] Roaming time interval (Unit: sec)
33	According to the digital input1 state decided to time intervals of GPRS Data	*\$\$\$\$\$,127,X#	X=[0,6000]seconds,input1no detection to high level (engine off) time interval
34	Open the RF (receive TAG06 or TAG06B)	*\$\$\$\$\$,136,X#	X = 1,open the RF. X = 0 ,close the RF.
35	Open TAG06 battery voltage display	*\$\$\$\$\$,139,X#	X = 1 , open the TAG06 battery voltage display X = 0 , close the TAG06 battery voltage display
36	Set the receive rate for the TAG module	*\$\$\$\$\$,140,X#	X=0, 1K X=1, 2K X=2, 10K X=3, 38.4K(default) X=4, 100K
37	Angle Alarm	*\$\$\$\$\$,400,X,Y#	X=0, Disable this function (Default) X=1, Active this function. Y= [1,360] Angle range
38	Clear data flash	*\$\$\$\$\$,500#	Clear stored in the flash memory inside the machine
39	Reboot time	*\$\$\$\$\$,600,X,Y#	X=0,Disable this function (Default) X=1, Active this function. Y= [10,9999]/ Minutes, Reboot time interval

5.1. Q&A

1. Question: Unit will not turn on

Answer: 1) Battery needs to charge.
2) The switch is broken.

Resolution: 1) Recharge the unit for 3 hours.
2) Needs to repair.

2. Question: Turn on the unit, and come into sleep mode.

Answer: 1) The battery needs to charge
2) The device needs to initialize after update new firmware.

Resolution: 1) Charge the unit.
2) Please don't turn off and on after you update the new firmware.

3. Question: Unit will not reply with SMS

Answer: 1) The unit don't register the GSM network.
2) The signal is poor
3) Wrong password or wrong command format
4) The SIM is AVL11 has run out of credit

Resolution: 1) Check the SIM card has enough money for work.
2) Check the unit registers the GSM network.
3) Check the CSQ value of the GSM signal.
4) Please care about the command format, attention it is “;” not a “;”.

4. Question: GSM function can't work normal

Answer: 1) There is no GSM signal.
2) Not insert the SIM card
3) SIM card has PIN code active
4) SIM card damaged
5) Battery is low

Resolution: 1) Compare with a mobile to check the GSM signal.
2) Make sure you insert a SIM card and the SIM can work.
3) Remove the PIN code of the SIM card.
4) Charge the unit to ensure the GSM start working.

5. Question: Can't receive the GPS

Answer: 1) Unit doesn't have a open sky
2) Bad GPS reception
3) Battery is low

Resolution: 1) Move the unit to an open sky. Tall buildings, trees, cloud or heavy rain will case the bad GPS reception.

- 2) Place the front side of the unit towards sky.
- 3) Charge the unit and get enough power for the unit working.

6. Question: Can't connect the server via the GPRS.

- Answer:**
- 1) SIM card in AVL11 doesn't support GPRS function.
 - 2) The APN is not correct.
 - 3) GPRS function is closed.
 - 4) Incorrect IP and Port
 - 5) GSM signal is weak.

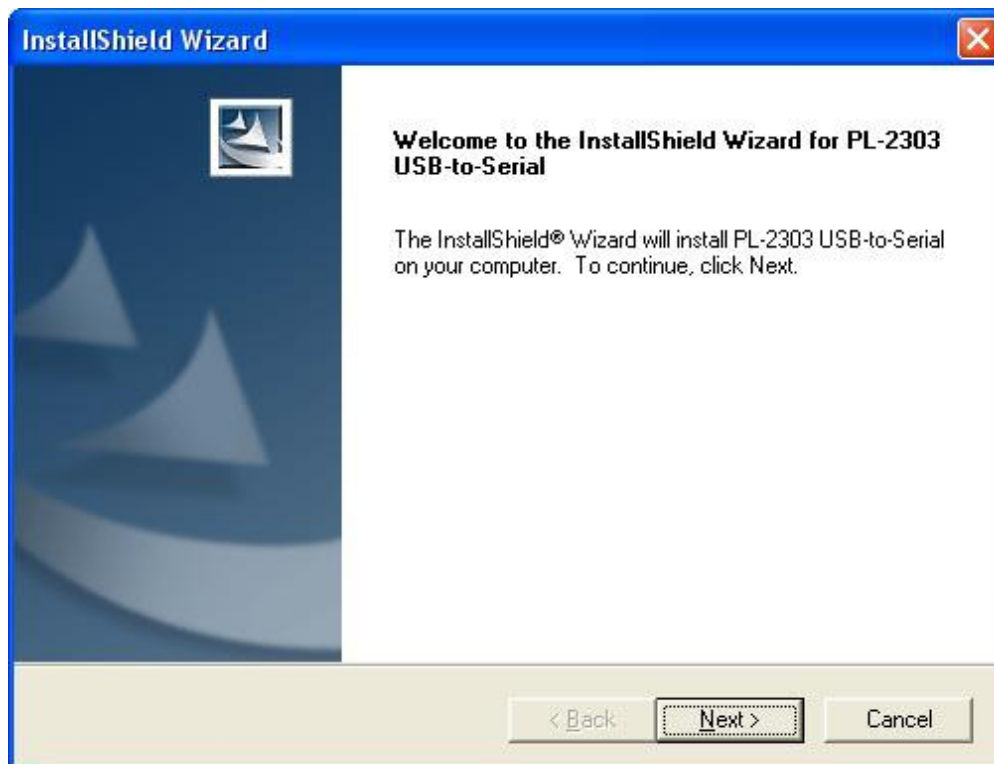
- Resolution:**
- 1) Open the GPRS function for the SIM card.
 - 2) Make sure the APN correct.
 - 3) Open the GPRS function for the unit (016 command).
 - 4) Get the correct socket of the server.
 - 5) Move the device to a good GSM signal area.

6.1.Update the firmware of the AVL

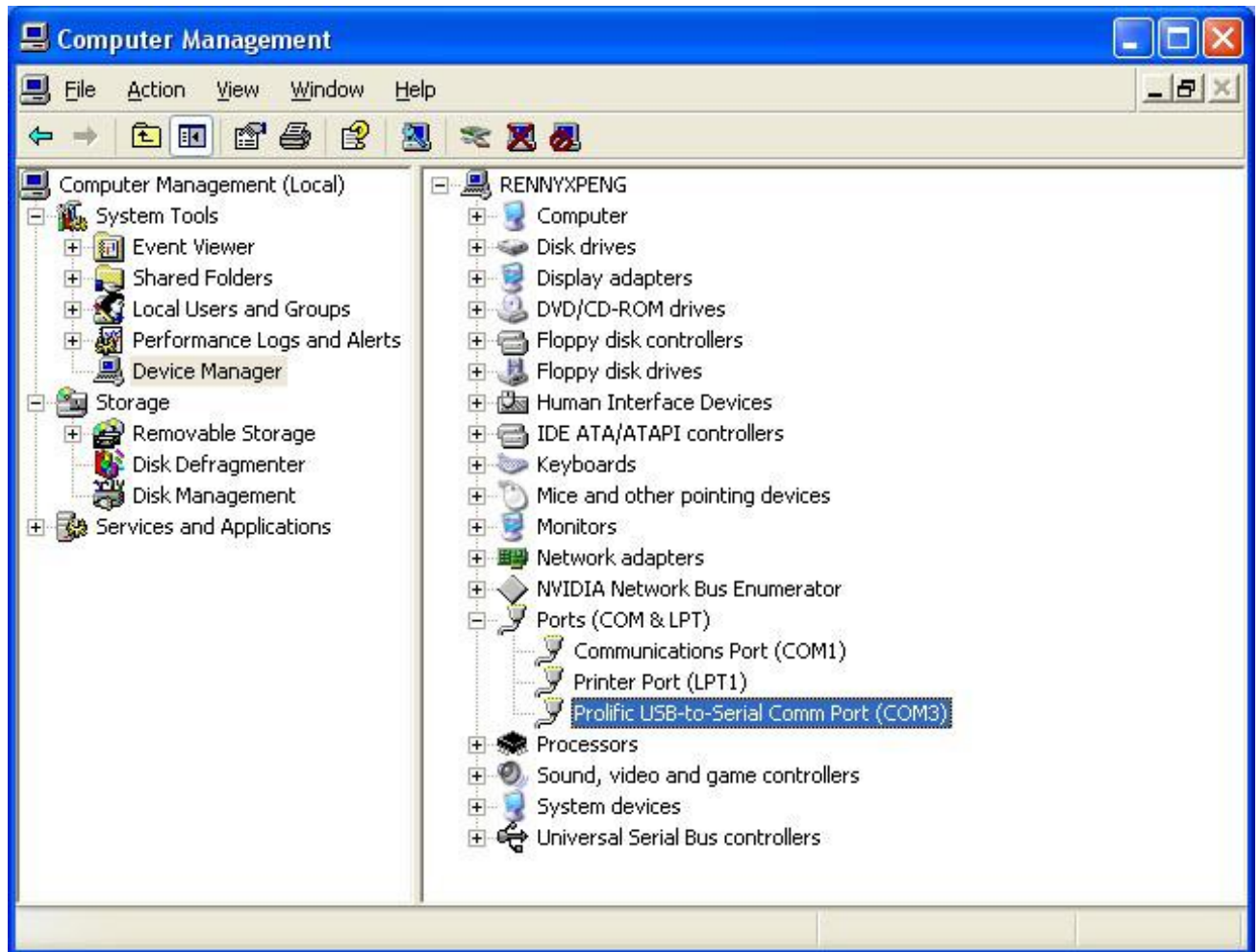
IAP Update User Guide

1) Install RS232 cable driver

A. At the first, Install the Driver for "USB Converter"

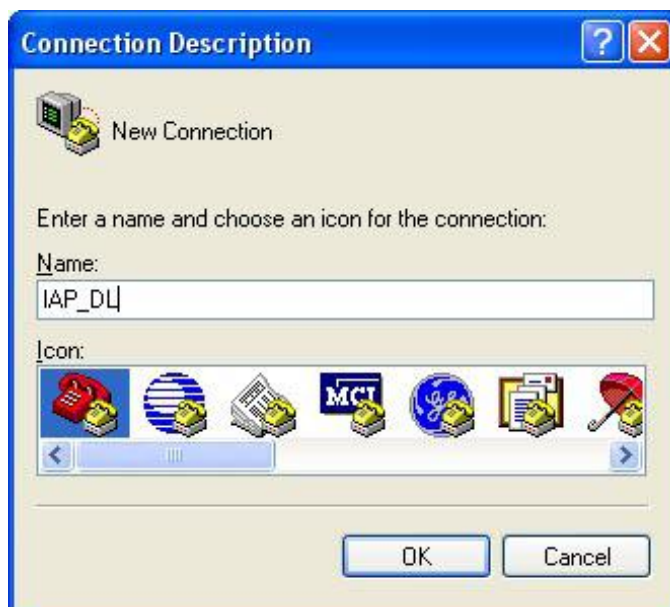


B. Connect the AVL unit to PC through RS232 cable, View the com port that the cable used



2) Turn on AVL device

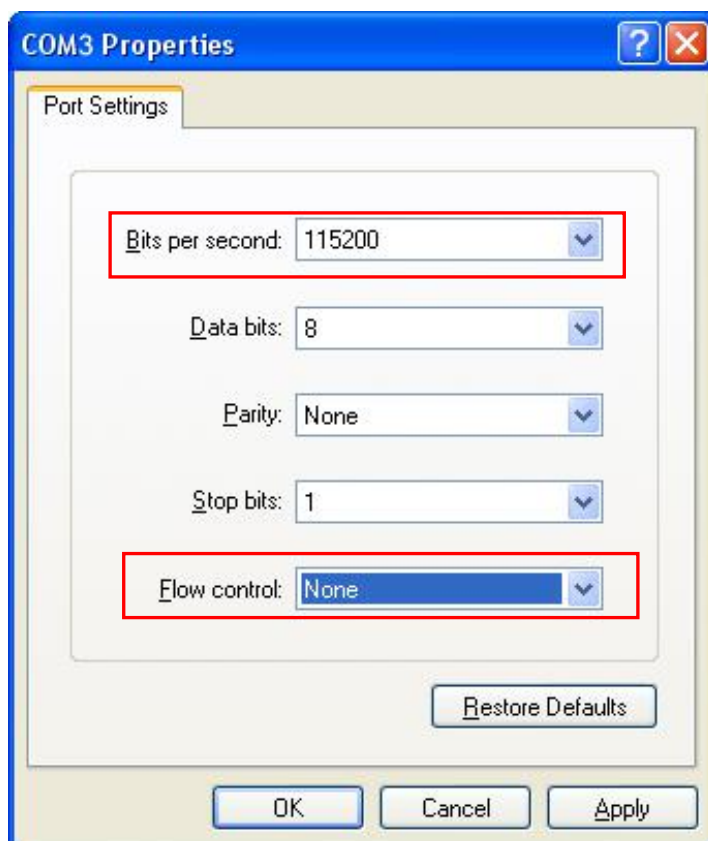
3) Build a New Hyper terminal connect, fill the name, example as IAP_DL



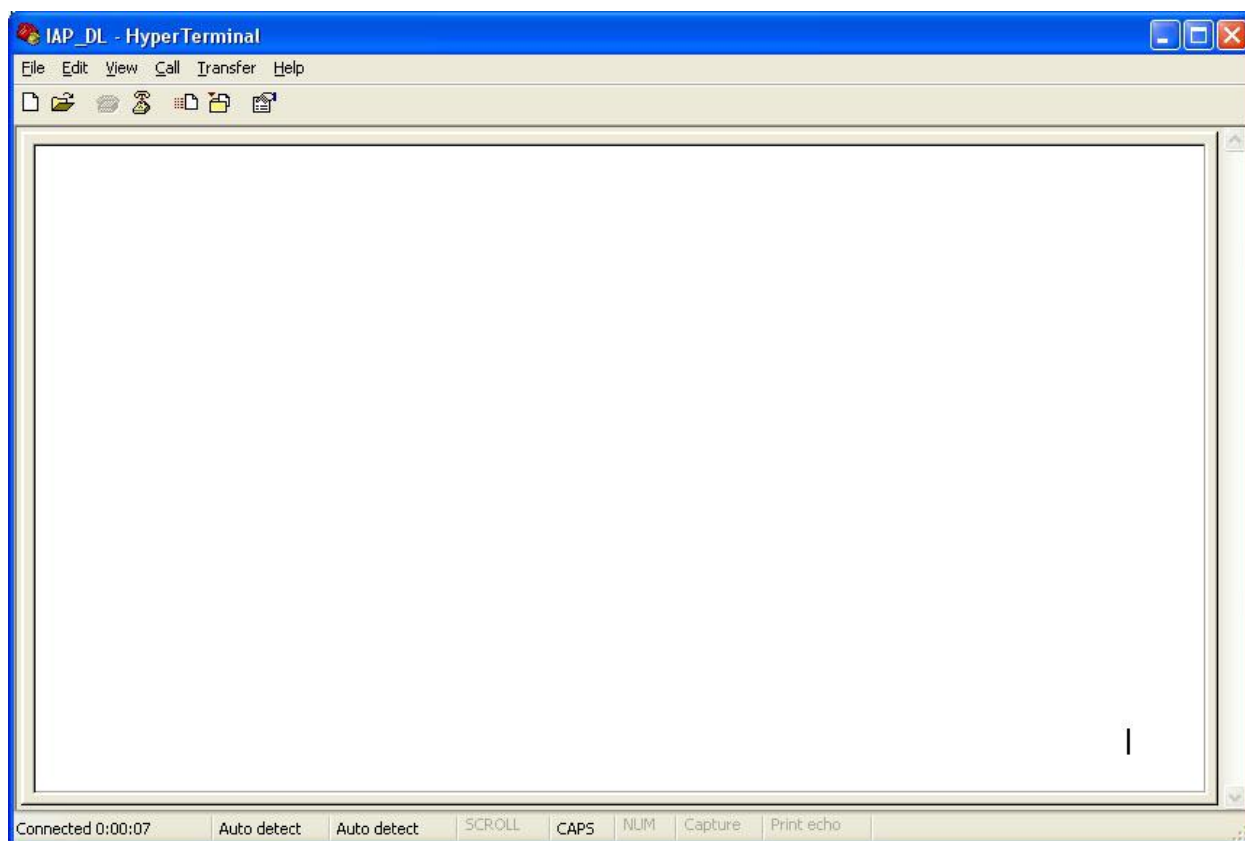
4) Choose the Com Port that the RS232 Cable used



Choose all the option same as picture show below (All setting must the same as the picture)

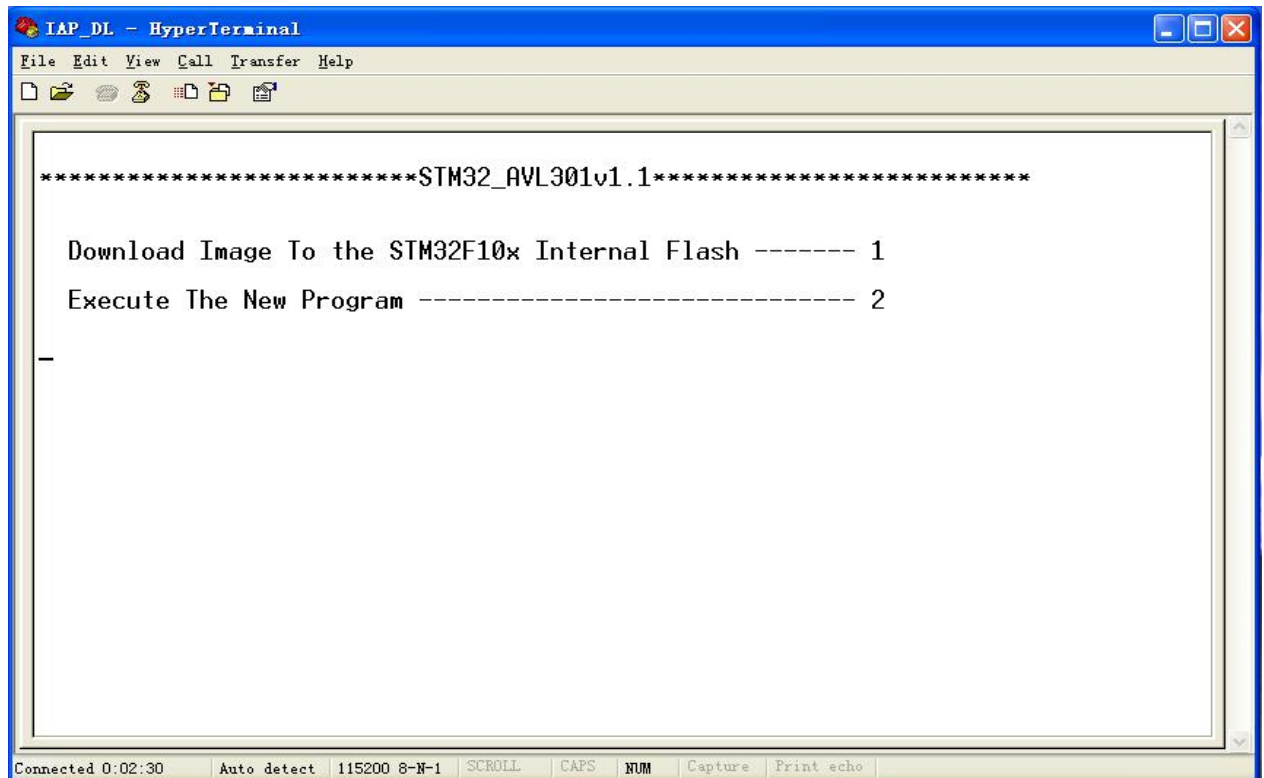


5) Into Configure Mode

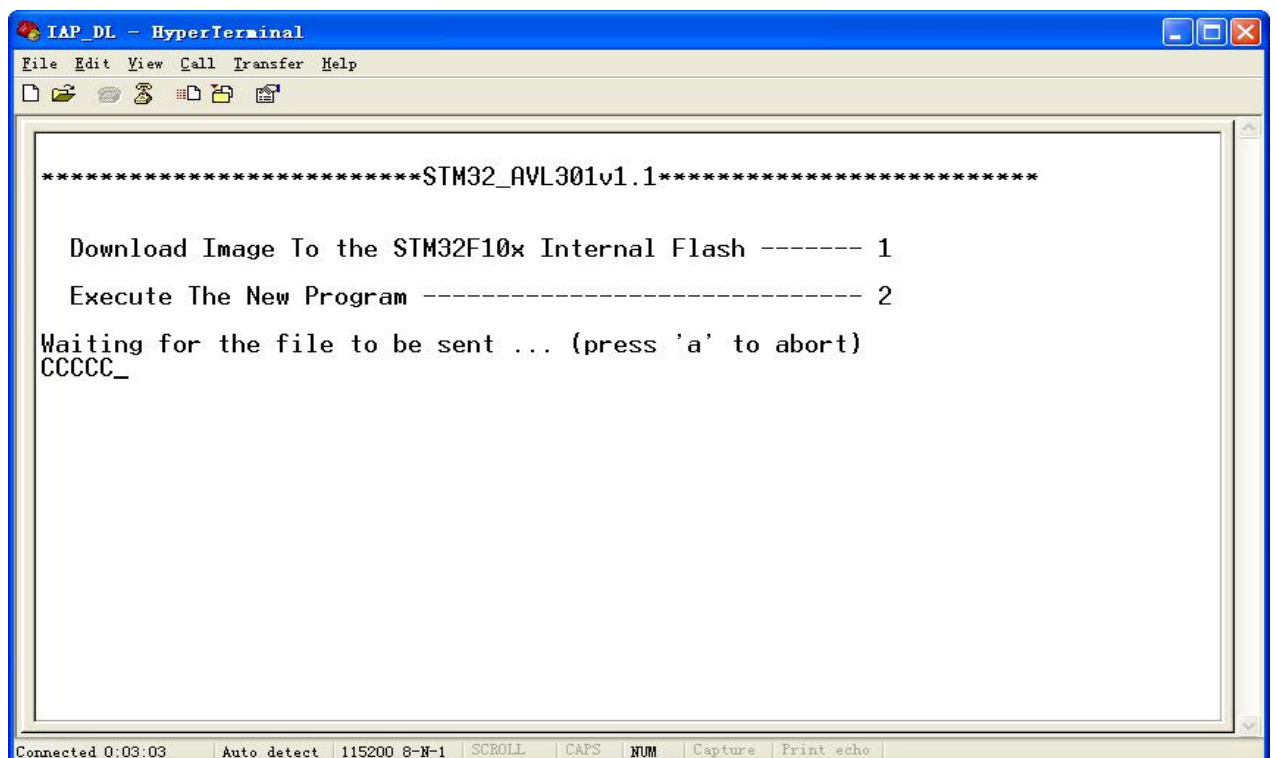


6) Turn Off AVL device

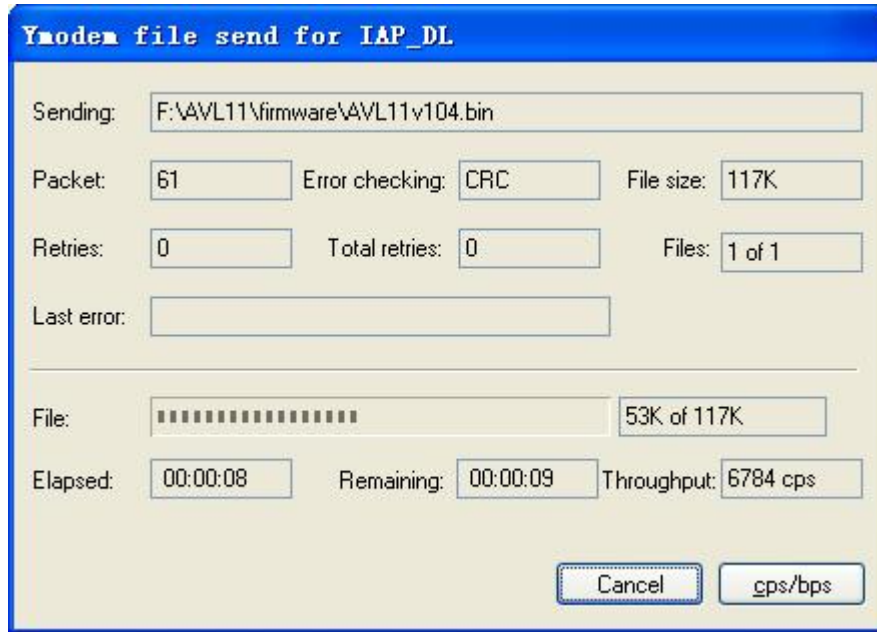
7) Press the SOS button and Turn on Power at the same time, Device all indicator will keep light at same time, Hyper terminal will display the interface like the picture follow



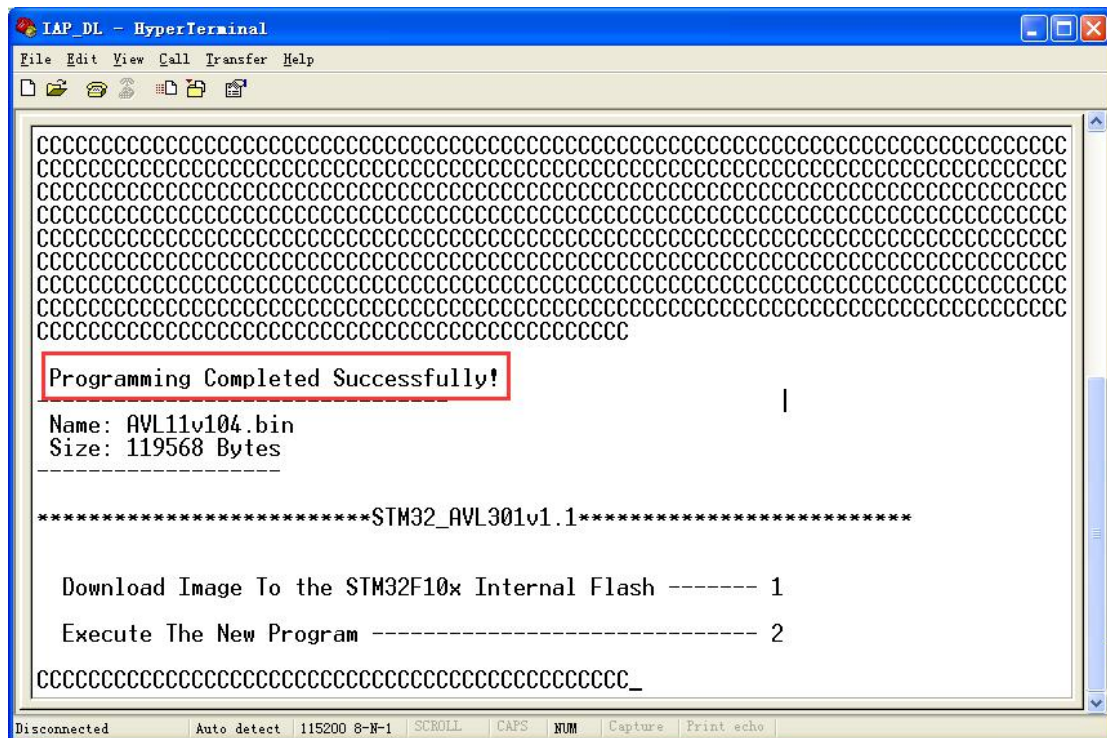
8) Press Keypad 1, Hyper terminal will display(**waiting for the file to be sent ...CCCCC**).



9) Then choose Send file (Send-> Send File)



12) When finish Update,will appear "**Programming Completed Successfully!**", GSM and GPS light is always on, press Keypad 2 or pull out the battery ,GPS and GSM light will turn off.



13) Turn On AVL11 again.(at this times the firmware will load the parameter to the unit). Then the firmware updates finished.

3.3 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	Teletet	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

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.printel.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	internet
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	gprswb.digital.ve