HAICOM™
GPS

HI-601VT-lite

GPS/GSM

Real-Time Tracker

USER MANUAL

HI-601VT GPS/GSM Tracker

INTRODUCTIONS:

With HI-601VT GPS/GSM tracker, one can track, remote control, tapping any object globally in real time by using any regular SIM card (with one phone number), any regular phone (home phone, mobile phone, smart phone, etc.) and any local mapping software or Google Earth. No any special software needed. Because HI-601VT is small in size and main unit come with the big capacity rechargeable battery, it is also very suitable for personal tracking. On the HI-601VT, one can press the "panic button" and HI-601VT will instantly dial back to the preset telephone numbers (can set three numbers in different priority).

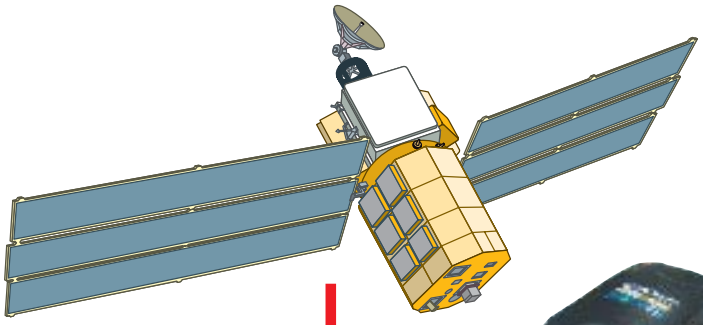
With the optional car kit accessories, car control cables, micro-phone, moving sensor, one can remotely control certain functions:

Car control cable sets: To stop the car oil and electricity from any phone.

Micro-phone sets: to hear the voice around HI-601VT.

Vibration sensor: HI-601VT will automatically dial back when the moving occur.

Basic Theory:



GPS satellite

HI-601VT

GPS receiver → Micro-chip processor → GSM module

GSM network

Receive up-dated GPS digital location

Transfer GPS data into dialtone (voice message)

Send dialtone via GSM network to host telephone

Phone with dialtone

Decoder

Decoding analog dialtone into digital GPS data

Computer with local map

Send via Bluetooth or serial connector

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HOW HI-601VT works:

Unlike most GPS/GSM tracker using the GPRS communication or SMS message in none-real time mode and require control station (require monthly fee) or Internet access, HI-601VT no need any control center and special software. Since it is point to point solution, it is also no need to check the object from the Internet. wherever one can make the phone call, one can track the object and see the moving from any local mapping software or Google Earth in real time simultaneously.

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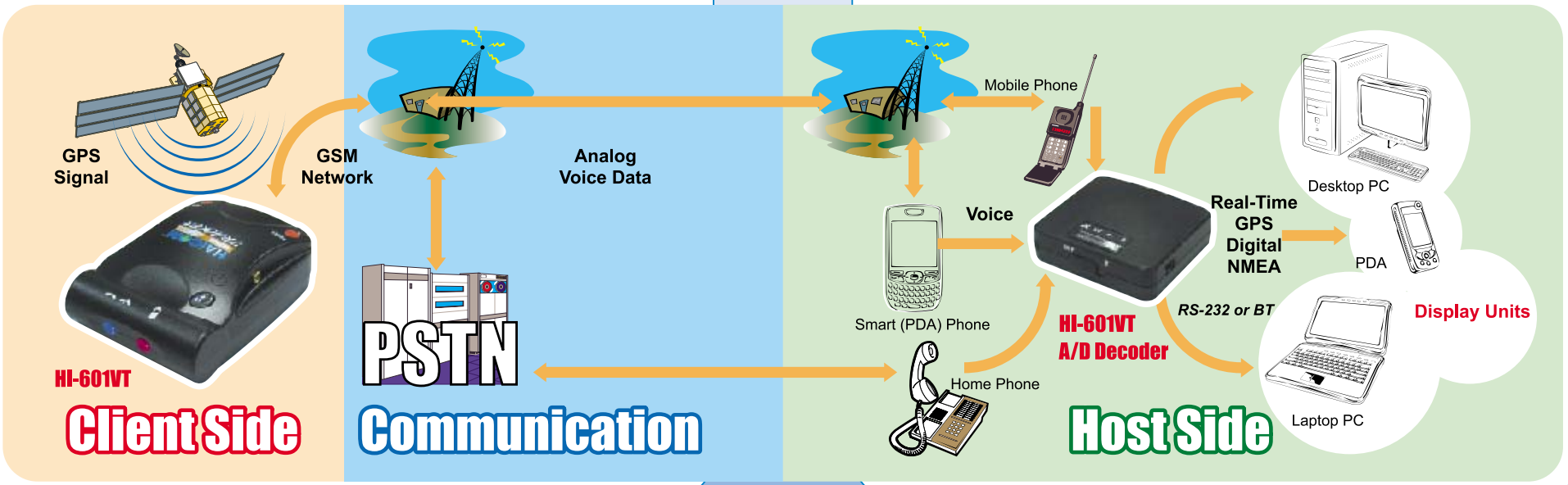
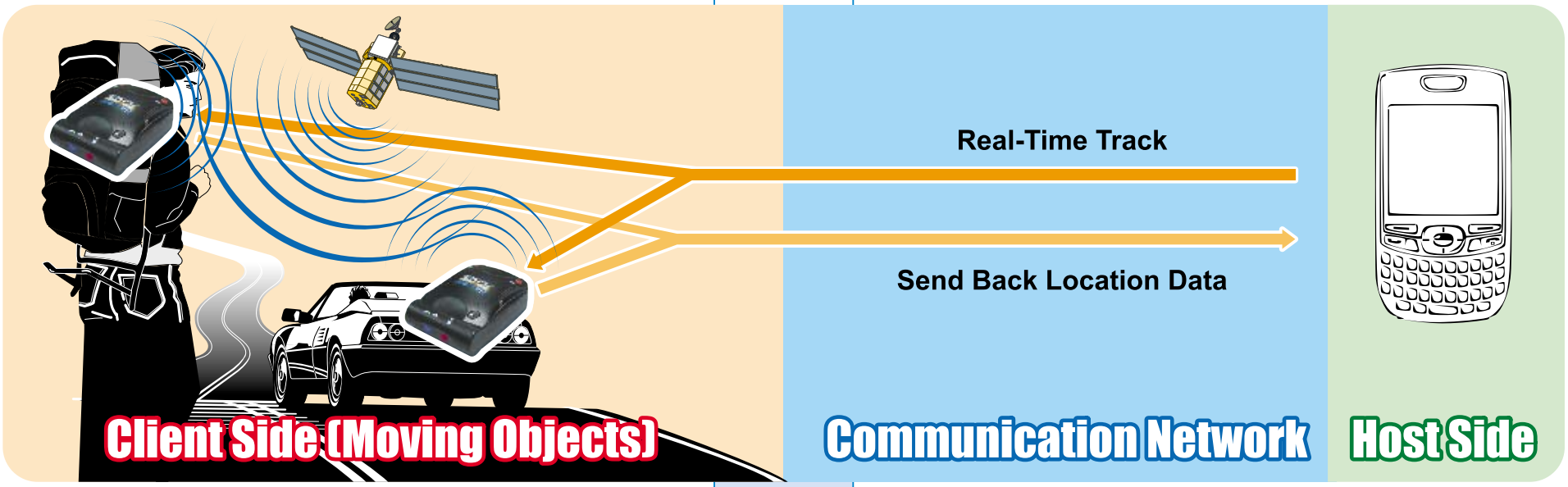
Just like you call someone and someone tells you where the object is and shows you where he is on the mapping software. HI-601VT provide non-stop and continue real time tracking without time limitation. Just like you talk to someone over the phone as long as you can.





Step by Step operation explanations:

1. Switch power on HI-601VT main unit.
2. The GPS receiver module in HI-601VT start receive GPS satellite signal (The GPS LED blinking means the GPS is in 3D fixed and the data is valid)
3. The GSM module starts sending the GPS data via GSM network back to the host side (The GSM LED blinking means the GSM network stand by and stay on means the GSM connected with some host)
4. Dial the Telephone number from the host side to the HI-601VT main unit.
5. Switch on HI-601VT decoder (Switch on the middle for data out via wired connection and to the most right side for wireless Bluetooth connection)
6. Attach the decoder ot the phone speaker.
7. The HI-601VT A/D decoder start to decoding the Analog GPS voice message into real-time GPS digital NMEA message.
8. On the decoder unit, connect the PS/II output cable or set up Bluetooh connection to the display unit (such as smart phone, PDA, laptopPC, desktopPC, etc.)
9. Using any standard NMEA mapping software, select the com port, start GPS (just like using normal GPS receiver)

HI-601VT main unit overview

Alarm release

Connector for data control output and power in

SOS panic button

GPS status LED

Mini1394 connector for GPS data output and power in

GSM status LED

Power status LED

GPS MMCX external antenna plug

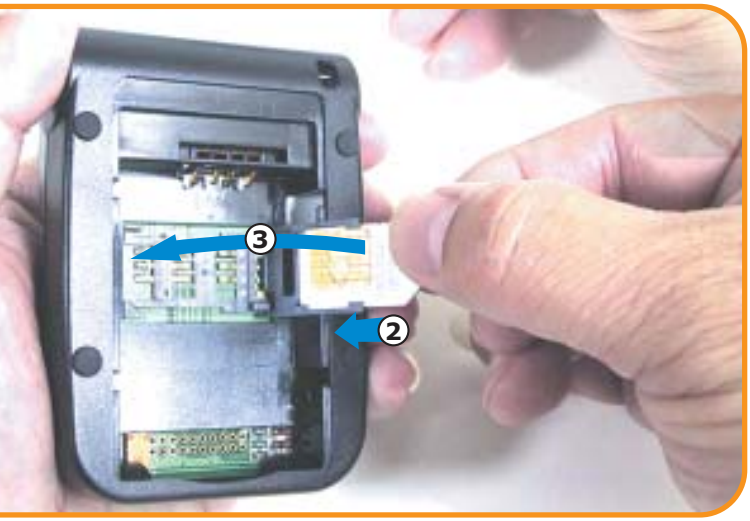
Power ON/OFF

Getting Start 8

Open battery cabinet cover

Insert SIM card

* Make sure SIM card no need pin code



Put battery in

Close battery cabinet cover

GSM LED indicator

Status	LED
GSM Stand-by	Off 3 sec. and on 75 micro Sec.
Searching network or no SIM card	On 600 micro sec. and off 600 micro sec.
Network connected	Stay on

Power LED indicator

Status	LED (Color)
Battery low	Red
External powered (Power full)	Green
External powered - charging	Orange

GPS LED indicator

Status	LED
Searching GPS	Stay on
GPS 3D fixed	Blinking

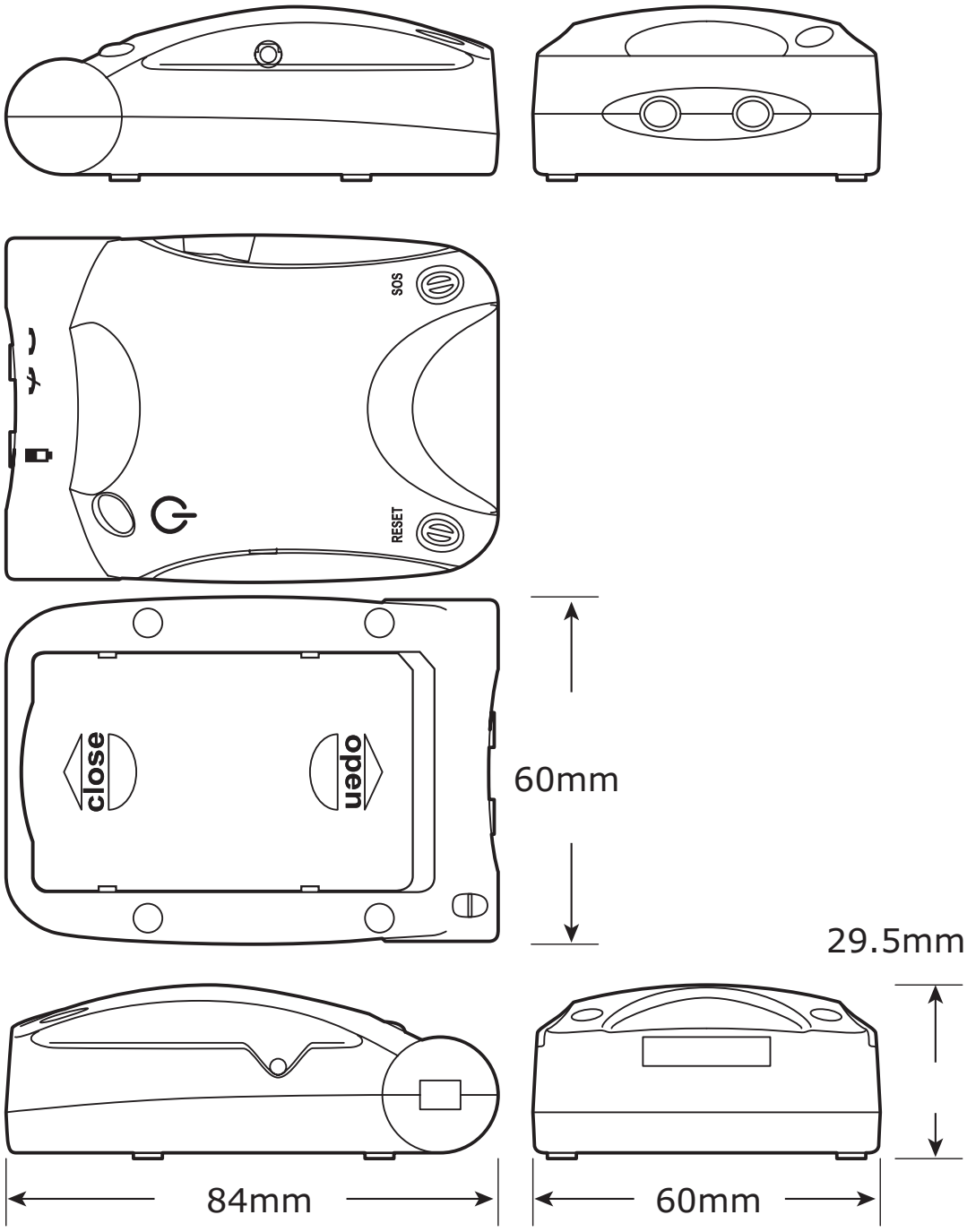
HI-601VT set contains two main units:

1. HI-601VT unit installed on the "client side":
   in your car, someones' back pack, etc.
2. Decoder unit carried with the "host side"

Inside HI-601VT contain five main parts: 1) SiRF StarIII high sensitive GPS receiver module, 2) Tri-band GSM module, 3) System control circuit section, 4) Power management section, 5) Rechargeable battery

Decoder unit contain three parts: 1) A/D converter circuit section, 2) Bluetooth module, 3) Two 3A batteries

Dimension:



GPS Receiver

Specifications

Chipset	SiRF Star III
Protocol	NMEA0183 GGA, GSA, GSV, RMC, GLL
Baud Rate	4800, N, 8, 1
Max. Update Rate	1 Hz
Datum	WGS84
Channel	20 channel
Frequency	L1, 1575.42MHz
Hot Start	8 sec. Average
Warm Start	38 sec. Average
Cold Start	48 sec. Average
Reacquisition Tike	100 ms
Position Accuracy	15m 2D RMS, SA off
Macimum Altitude	18,000m
Maximum velocity	515m/s
Voltage	DC 3.3V+-10%
Power consumption	90mA continuous mode
Antenna Type	Built-in active antenna
External Antenna Connector	MMCX (Optional)
Dimension	84 (L) x 60 (W) x 29.5 (H)mm
LED Indicator	3D Positioning (blinking) or Searching GPS (on)

GSM module features

Feature		Implementation
Power saving		Minimizes power consumption in SLEEP mode to 3mA
Charging		Supports charging control for Li-Ion battery
Frequency bands		* MC55 Tri-band: EGSM 900, GSM 1800, GSM 1900 * MC56 Tri-band: EGSM 850, GSM 1800, GSM 1900
		• Compliant to GSM Phase 2/2+
GSM Class		Small MS
Transmit power		• Class 4 (2W) at EGSM900 and GSM850
		• Class 1 (1W) at GSM1800 and GSM1900
GPRS Connectivity		• GPRS multi-slot class 10
		• GPRS mobile station class B
Temperature range		• Normal operation: -20°C to +55°C
		• Restricted operation:-25°C to -20°C & +55°C to +70°C
Temperature control and auto switch-off		• Constant temperature control prevents damage to MC55/56 when the specified temperature is exceeded. When an emergency call is in progress the automatic temperature shutdown functionality is deactivated.
DATA	GPRS:	• GPRS data downlink transfer: max. 85.6 kbps
		• GPRS data uplink transfer: max. 42.8 kbps
		• Coding scheme: CS-1, CS-2, CS-3 and CS-4
		• Supports the two protocols PAP (Password Authentication Protocol) and CHAP (Challenge Handshake Authentication Protocol) commonly used for PPP connections.
		• Support of Packet Switched Broadcast Control Channel (PBCCH) allows you to benefit from enhanced GPRS performance when offered by the network operators.
	CSD:	• CSD transmission rates: 2.4, 4.8, 9.6, 14.4 kbps, non-transparent, V.110
		• Unstructured Supplementary services Data (USSD) support
	WAP:	• WAP compliant
SMS		• MT, MO, CB, Text and PDU mode
		• SMS storage: SIM card plus 25 SMS locations in the mobile equipment
		• Transmission of SMS alternatively over CSD or GPRS. Preferred mode can be user-defined.
MMS		MMS compliant

*MC55: none-America version *MC56: America version

Feature	Implementation
SIM interface	• Supported SIM card: 3V
	• External SIM card reader has to be connected via interface connector
Audio interfaces	Two analog audio interfaces, one digital audio interface(DAI)
Audio features	Speech code modes: • Half Rate (ETS 06.20) • Full Rate (ETS 06.10) • Enhanced Full Rate (ETS 06.50 / 06.60 / 06.80) • Adaptive Multi Rate (AMR)
	Handsfree operation • Echo cancellation • Noise reduction
Two serial interfaces: ASC0,ASC1	• 2.65V level, bi-directional bus for AT commands and data
	• ASC0 - full- featured 8-wire serial interface. Supports RTS0/CTS0 hardware handshake and software XON/XOFF flow control. Multiplex ability according to GSM 07.10 Multiplexer Protocol.
	• ASC1 - 4-wire serial interface. Supports RTS1/CTS1 hardware handshake and software XON/XOFF flow control.
	• Baud rate: 300bps... 230kbps on ASC0 and ASC1
	• Autobauding (on ASC0 only) detects 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, 230400 bps
SIM Application Toolkit	SIM Application Toolkit Supports SAT class3, GSM 11.14 Release 98, support of letter class "c"
Ringing tones	Offers a choice of 7 different ringing tones / melodies, easily selectable with AT command
Real time clock	Implemented
Timer function	Programmable via AT command
Support of TTY/CTM	To benefit from TTY communication via GSM, CTM equipment can be connected to one of the three audio interfaces.
Firmware upgrade	Firmware upgradable over serial interface and SIM interface

HI-601VT-lite Easy Real-Time Tracker 1. 2. 3.

1. Put in SIM card (please disable the pin code require) and turn the power on (make sure the HI-601VT can "see" the sky or no metal material blocking)

2. Call the telephone number inside HI-601VT and hear the continue dial tone. Connect the decoder and attach decoder microphone to the phone speaker.

3. Set up Bluetooth connection between the decoder and the PC or mobile device (just treat the decoder as a regular Bluetooth GPS receiver). Open local mapping software (or Google Earth), select the com port, start GPS.

Point to Point Track
No need call center
No need monthly fee
No need special software
Protect privacy

Example: Decoder mic attached to any smartphore speaker

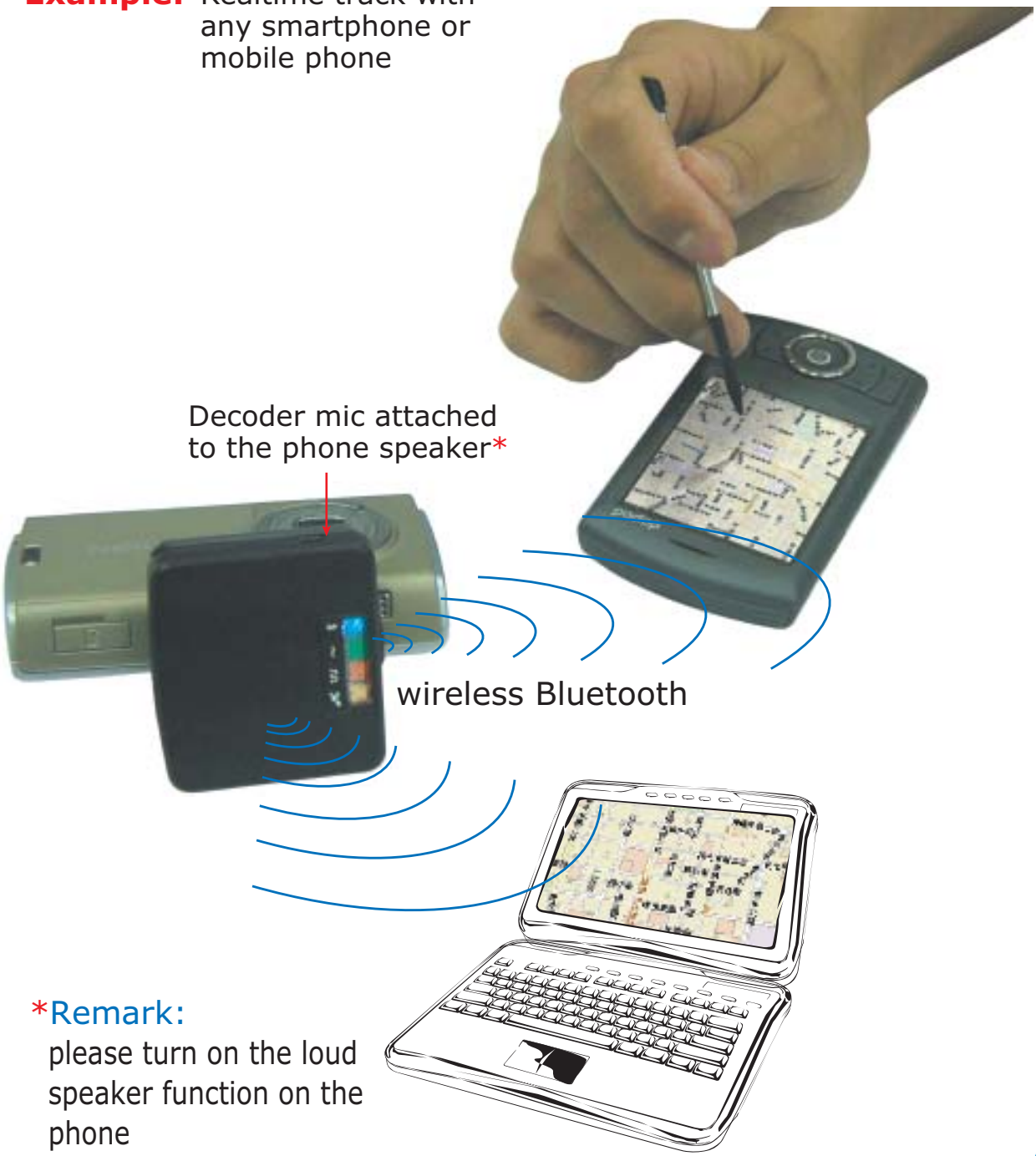
Realtime GPS data sent via Bluetooth wirelessly to the mobile device or PC

Treat this combination as a regular Bluetooth GPS receiver.

From the mapping software, select com port, start GPS.

Symbol	LED Color	Stay on	Blinking
	Orange	GPS data valid (3D fixed)	GPS data not valid
	Bluetooth	Bluetooth Connected	Bluetooth no connected
	Red	Decoding (4 seconds interval)	
	Green	Receiving data	

Example: Realtime track with any smartphone or mobile phone



*Remark:
please turn on the loud speaker function on the phone

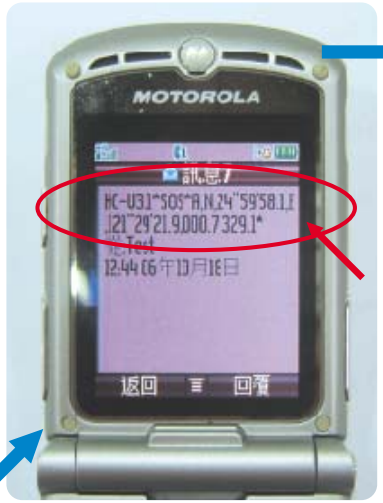
Example: Realtime track with the land-line phone

Receive Location via SMS

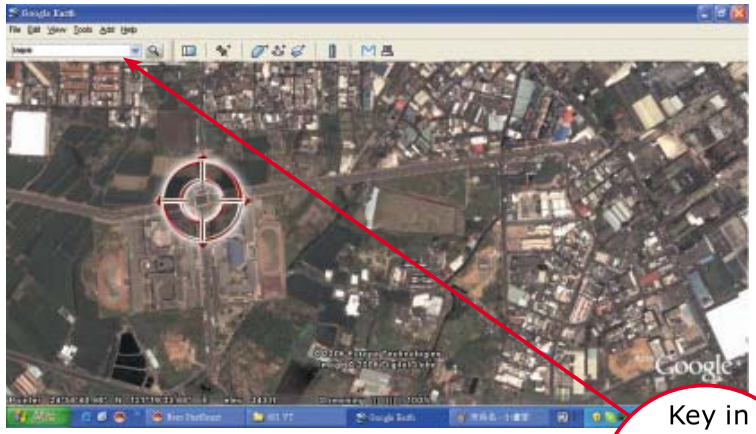
With smartphone or mobile phone and track with SMS in none-real time bases (without decoder):

The phone set up communication to HI-601VT. Press "71" and hang up the phone. In few seconds, the phone will receive a short message indicating the HI-601VT current coordinates. Then, go to Google Earth or any mapping software (in none navigation mode) and key in the coordinates. The map will point out the exact location.

(1) Dial the number to HI-601VT (please make sure set up the dial back Tele# first: page 28)
(2) After connection, press "71". then, hang up.

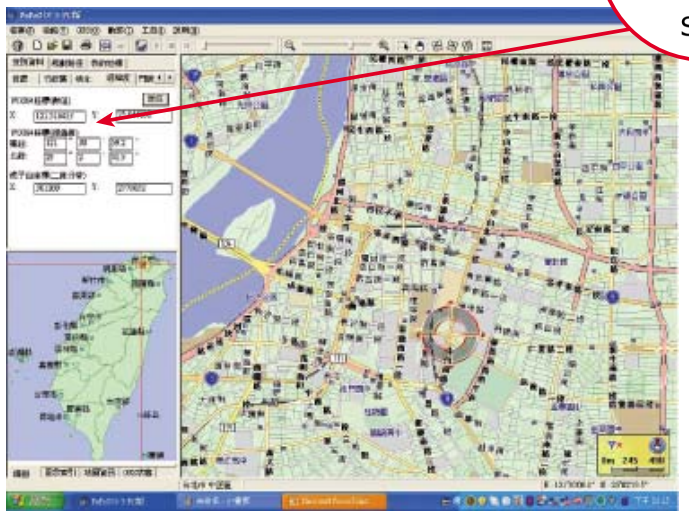


In few seconds, your mobile will receive a SMS message reqarding to the current location coordinate.



Key in the coordinates into the Google Earth or any mapping software for the location

Key in latitude and longitude data received from SMS



Use HI-601VT unit as a regular GPS receiver:

By connecting different kinds of optional accessory cables from the side of HI-601VT mini1394 connector, the HI-601VT can also be all kind regular GPS receivers.
For instance, HI-601VT can connect a HI-403BT cube and the combination can be a regular Bluetooth GPS receiver for car navigation. Or, connect an optional USB cable to become a USB GPS receiver for laptopPC navigation.

Use HI-601VT as a regular Bluetooth GPS receiver
(with HI-403BT box and cigarette lighter)

HI-601VT as a regular wired GPS mouse:

By connection different optional connecting cables, HI-601VT can be all kinds of independent wired GPS receiver solutions.

ACCESSORIES:

Standard Accessories:

1. HI-601VT unit
2. Decoder unit
3. Mini-1394 to USB power cable
4. AC power adaptor with USB plug
5. Cigarette lighter adaptor with USB plug
6. 1600 mAh Li-on rechargeable battery
7. Mini CD
8. User manual

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Optional Accessories:

1. Car control kits main unit
2. Car control cable sets
3. Micro-phone cable set
4. Vibration sensor cable set
5. HI-601VT to car kit cable
6. HI-403BTcube
7. Mini-1394 to PS/II (male) cable
8. USB cable
9. Car battery cable
10. Relay cable set

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HI-601VT setting

User can set up HI-601VT varies commands via the regular dial tone from any regular phone. After the connection, dial the digits to enter different set up procedures.

Two main types of settings:

(1) Basic setting (✳): Set up the device pass code, anti-thief, SOS 6 sets of dial back telephone numbers.

(2) Advance settings (#): Set up PIN code, and activate or deactivate varies functions.

1. Basic settings (✳)

Set up the device pass code, anti-thief, SOS 6 sets of dial back telephone numbers.

User can set up 6 sets of dial back telephone numbers inside HI-601VT. The first 3 numbers are for anti-thief dial back and the last 3 numbers are for SOS emergency dial back.

When the moving sensor, ultra-sound sensor and power cut off situation activated, HI-601VT will automatically dial back the pre-set telephone numbers in sequence. When receive the call from the anti-thief dial back, user will hear the voice message. You can press ✳✳✳ to reset the alarm. If not key in the ✳✳✳ HI-601VT will then send the SMS message back to the host phone in case of the host phone run out of power or under GSM weak signal.

The last 3 numbers are for SOS emergency dial back. When the panic button was activated, HI-601VT will dial back the 3 pre-set telephone numbers in sequence.

Set up the device pass code:

(1) Dial to HI-601VT, connected and hear continue dialtone

(2) Press ✳ and press the four digit numbers (the pre-set four digit number are 0 0 0 0) After this, user will hear a responding long " DU " to verify the basic set up procedures. If it is wrong set up, it will responding " du du du du "

(3) To change the pass code: press 0 and press the prefer pass code TWICE then, press ✳ to complete the procedure.

Set up the 3 numbers anti-thief dial back and the 3 SOS dial back numbers:

(1) Dial to HI-601VT, connected and hear continue dialtone

(2) Press ✳ then, the dialtone stopped, press the four digit pass code. Hear a long " DU " for pass code verified,

Press 1 then, press the first set (anti-thief) dial back telephone number.

Press ✳ to complete the procedure.

Press 2 then, press the second set (anti-thief) dial back telephone number.

Press ✳ to complete the procedure.

Press 3 then, press the third set (anti-thief) dial back telephone number.

Press ✳ to complete the procedure.

Press 4 then, press the fourth set (SOS) dial back telephone number.

Press ✳ to complete the procedure.

Press 5 then, press the fifth set (SOS) dial back telephone number.

Press ✳ to complete the procedure.

Press 6 then, press the sixth set (SOS) dial back telephone number.

Press ✳ to complete the procedure.

EXAMPLE:

Press " 3 0912 123456 ✳ " for set up the third anti-thief dial back telephone number (The 0912123456 is the telephone number)

Press " 3 ✳ " hear nothing -> for canceling the third dial back telephone number

The dial back telephone digit can be set from 7~16 digits

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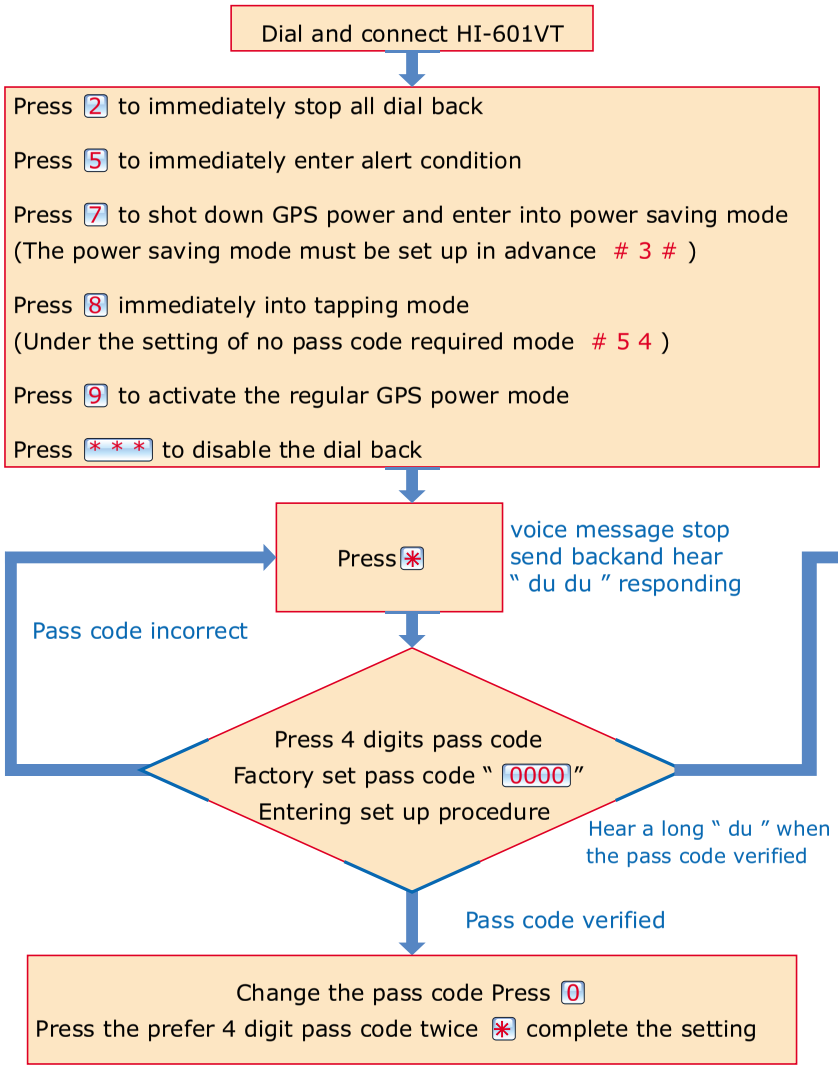
Basic setting flow chart (✳):



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Hear a long " du " to verify the pass code or " du du du du " for incorrect key in

Press 1 then, press the first set (anti-thief) dial back telephone number.
Press ✳ to complete the procedure.

Press 2 then, press the second set (anti-thief) dial back telephone number.
Press ✳ to complete the procedure.

Press 3 then, press the third set (anti-thief) dial back telephone number.
Press ✳ to complete the procedure.

Press 4 then, press the fourth set (SOS) dial back telephone number.
Press ✳ to complete the procedure.

Press 5 then, press the fifth set (SOS) dial back telephone number.
Press ✳ to complete the procedure.

Press 6 then, press the sixth set (SOS) dial back telephone number.
Press ✳ to complete the procedure.

EXAMPLE:

Press " 3 0912 123456 ✳ " for set up the third anti-thief dial back telephone number

Press " 3 ✳ " hear nothing -> for canceling the third dial back telephone number

2. Advance settings (#)

The HI-601VT advance settings are most for the functions which no need frequent changed:

1. SIM card PIN code settings (0)
2. Voice message encrypted settings (1, 57, 58)
3. SMS coordinate send back settings (21, 22, 23)
4. Anti-thief function settings (51, 52)
5. Tapping function encrypted settings (54, 55)
6. Moving sensor status settings (53, 56)
7. GPS position fix, certain speed dial back (6*, 6#)
8. Dial back number function testing (71, 74)
9. System SMS function testing (77)

SIM card PIN code settings (0)

To ensure the personal privacy, the SIM card inside HI-601VT may need to be changed to prevent from some others use it. Please put the SIM card into any normal GSM phone and change the 4 digits SIM card PIN codes. Then, take out the SIM card and put it into the HI-601VT.
Each time when the HI-601VT switch on, the SIM card PIN code (4 digits) will automatically key in.

Set up the HI-601VT for no need any SIM card PIN code:

1. Dial and connected with the HI-601VT from the normal phone, hear continue dialtone
2. Press # then, the dialtone stopped, perss the 4 digit pass codes
3. Press 0 then, press the 4 digit SIM card pass codes twice to complete the setting

GPS receiver saving mode (3✳, 3#, 7)

The default setting for the GPS receiver inside the HI-601 the power saving mode function is disabled.

The GPS power saving mode function is based on the moving sensor operation. When the car or object stand still (the moving sensor no action for more than 10 minutes) The GPS receiver will automatically shot down the power supply and into the sleeping mode. When the moving sensor activated again, the GPS receiver will back on powered. This function is most helpful for the application on personal tracking or motorbike tracking because the battery power is limited.

Settings:

1. Dial and connected with the HI-601VT from the normal phone, hear continue dialtone
2. Press # then, the dialtone stopped, press the 4 digit pass codes
3. Press 3 # to enable the power sleeping mode and 3 ✳ to disable the power saving mode.

To turn off the GPS power supply:

1. Dial and connected with the HI-601VT from the normal phone
2. Press 7

Remotely control to cut off oil supply (40, 4#, 4✳) first set

1. Dial and connected with the HI-601VT from the normal phone, hear contiune dialtone
2. Press # then, the dialtone stopped, press the 4 digit pass codes
3. Press 40 then hear a long " du " for correct key in and " du du du du " for incorrect key in
4. The HI-601VT will cut off the car oil supply after the above settings
5. In case of safety reason, press 4# and the HI-601VT will cut off the car oil supply after the above settings when the car speed stop or in 0 km
   If the settings correct, hear a long " du " and the device cut the oil. Or, hear " du du du du " for not success setting
   To disable the oil cutting, press 4✳ and If the settings correct, hear a long " du " and the device cut the oil. Or, hear " du du du du " for not success setting

The second sets are (48, 47, 4*)

Moving sensor and ultra-sound activated (51, 52):

The default setting for the moving sensor or ultra-sound function is disabled.

To activate the functions:

1. Dial and connected with the HI-601VT from the normal phone, hear contiune dialtone
2. Press # then, the dialtone stopped, press the 4 digit pass codes, hear " du "
3. Press 51 or 52 to disable it
4. Hear a long " du " for correct key in and " du du du du " for incorrect key in

Moving sensor and ultra-sound responding (53, 56):

After preset status, when the moving sensor senses the movement, HI-601VT will initiate the anti-thief dial back procedure to inform the host. Due to some car is heavy or the moving sensor installed on the easy-to-move place, user can set the moving sensor as continue movement so that the dial back procedure will only activated when the movement is keep happening.

1. Dial and connected with the HI-601VT from the normal phone
2. Press # then, press the 4 digit pass codes
3. Press 53 for immediately dial back respond or 56 for delay responding under continue movement status.

Activate in- car tapping with pass code required or not (8, 54, 55)

To hear people talking in-car and no need pass code required:

1. Dial and connected with the HI-601VT from the normal phone
2. Press 8 to enter immediately tapping mode.

For better privacy protection, user can set up the HI-601VT so that it will need pass code to enable the tapping function.

1. Dial and connected with the HI-601VT from the normal phone
2. Press # then, press the 4 digit pass codes
3. Press 54 for hearing people talking in-car and no need pass code required status or press 55 for required pass code to enable tapping function

Pass code required when tracking (1, 57, 58)

Under default setting, user can instantly do the real time tracking. But for personal privacy reason, user can set the condition that only use the pass code to do the tracking.

1. Dial and connected with the HI-601VT from the normal phone
2. Press # then, press the 4 digit pass codes
3. Press 1 to start receiving real-time GPS location message for 3 minutes

GPS location fixed dial back (6 ✳)

When GPS inside HI-601VT unable to get 3D satellite fixed (the car inside garage, underground, etc. as soon as the GPS gets 3D fixed again, HI-601VT will automatically dial back to inform the host.

1. Dial and connected with the HI-601VT from the normal phone
2. Press # then, press the 4 digit pass codes
3. Press 6✳ to get dial back call when the GPS gets satellites fixed again

Dial back when GPS in certain speed (6 #)

Dial back when the car at the first time more than certain speed (say 20 km). The function is to inform host when car is moving in certain speed after parking.

1. Dial and connected with the HI-601VT from the normal phone
2. Press # then, press the 4 digit pass codes
3. Press 6# to cut the car power under the above situation

Dial back number testing (71, 74, 77)

Make sure if the all pre set dial back numbers are correctly set up.

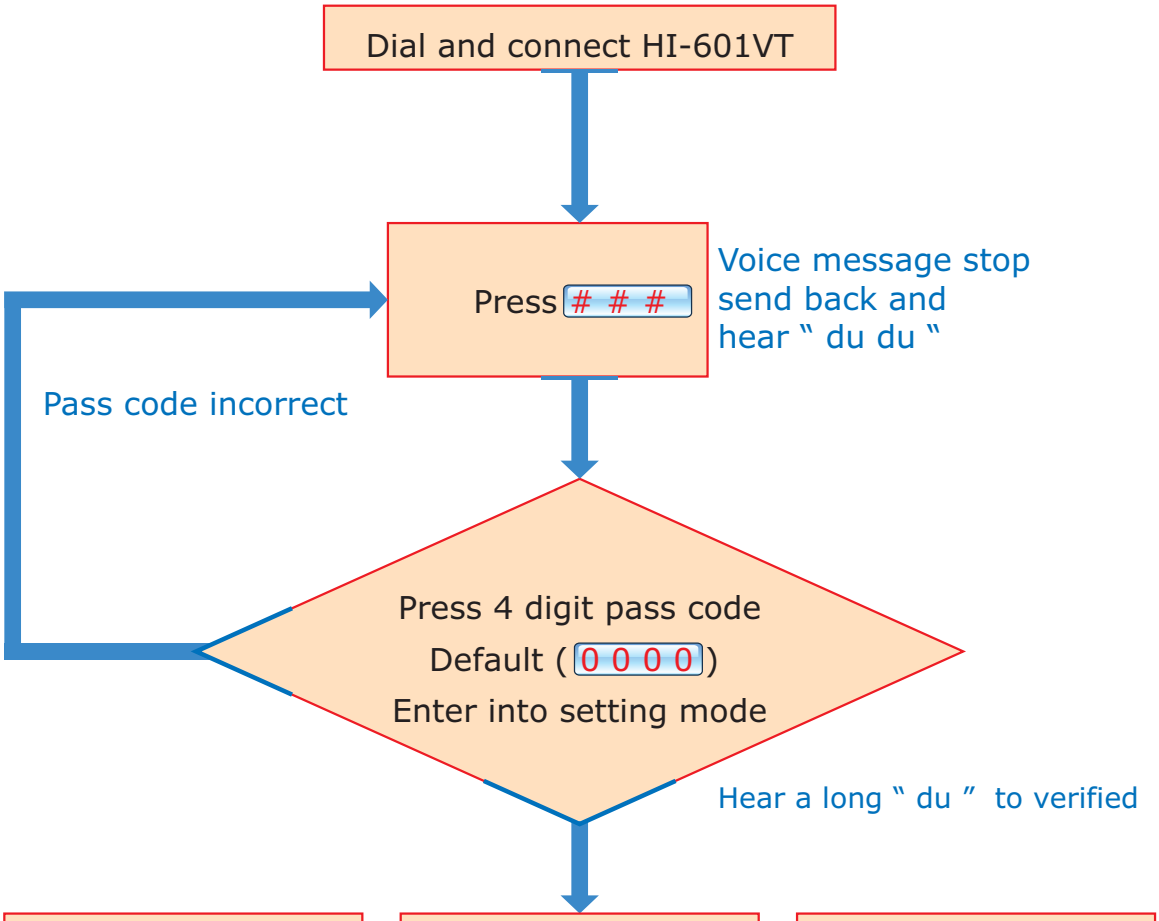
1. Dial and connected with the HI-601VT from the normal phone
2. Press # then, press the 4 digit pass codes
3. Press 71 to test the first 3 pre set telephone numbers or 74 to test the last emergency help dial back telephone number. Or press 77 to test the SMS network functionality.

Leaving setting mode and back to voice message send back mode (9)

To re-flash all the settings back to default:

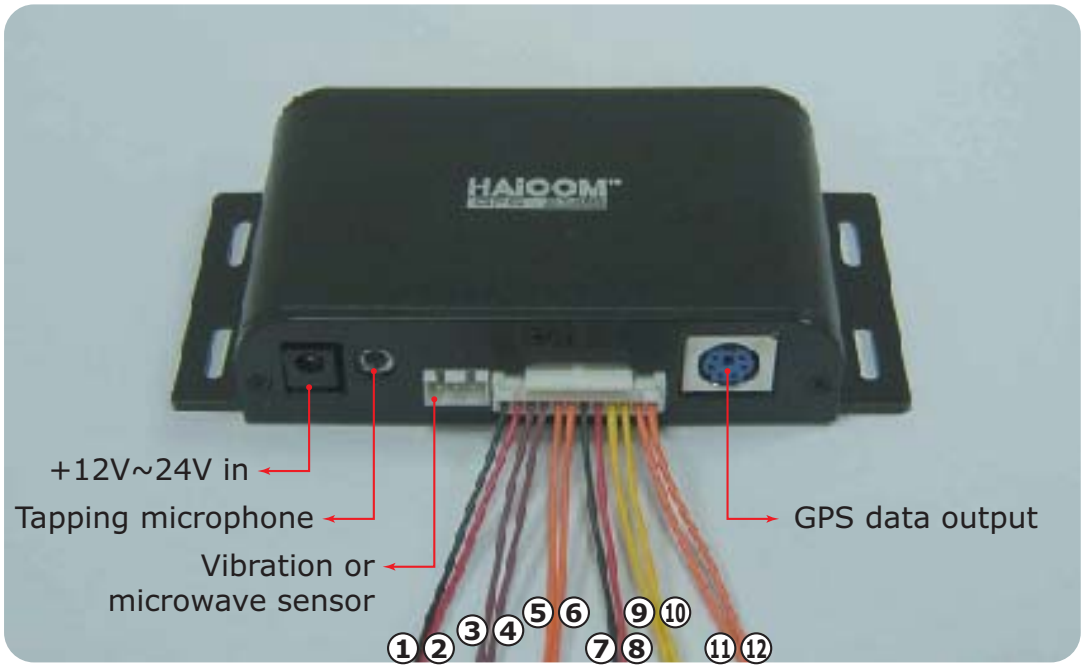
1. Dial and connected with the HI-601VT. Hear the continue dial tone
2. Press *96#*03890 and hang up

Advance setting flow chart (#):



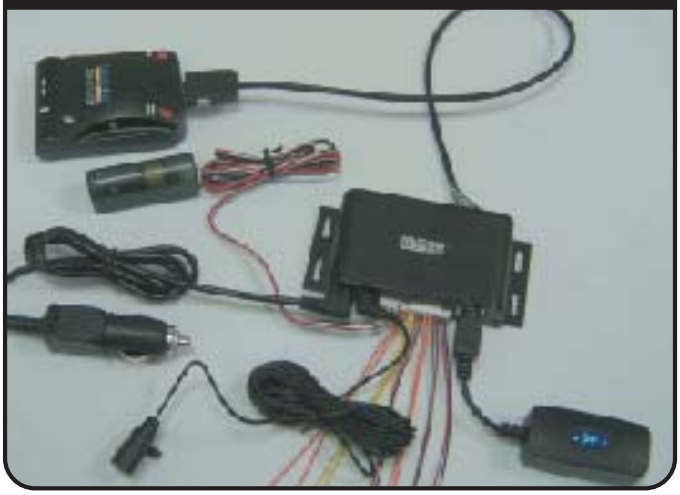
(0) PIN code set up	(1) Temporary disable tracking encrypted mode	(21, 22, 23) Send back the GPS coordinates Via SMS to designated phone number
(40) Immediately Oil cutting	(4✳) Disable oil cutting	(4#) Oil cutting when speed at 0 km

(51) Disable vibration or Ultra-sound function mode (Default)	(52) Activate vibration or Ultra-sound function mode	(53) Vibration and ultra-sound Immediately dial back settings
(54) Tapping no pass code required settings	(55) Tapping with pass code required	(56) Vibration and ultra-sound
(57) Tracking without encryption Setting	(58) Tracking with encryption Setting	
(6*) GPS location fixed Dial back	(6#) Dial back when GPS in certain speed	
(71) 3 sets anti-thief dial back numbers testing	(74) 3 sets SOS dial back numbers testing	(77) SMS massage dial back testing
(8) In-car tapping	(9) Back to tracking mode From the settings	



① GND
② Vin 12~24V
③ Alarm reset
④ Alarm reset
⑤ SOS switch
panic button
⑥ SOS switch
panic button
⑦ ×
⑧ Burglar trigger (*)
⑨ Remote Relay 1 (**)
⑩ Remote Relay 1 (**)
⑪ Remote Relay 2 (**)
⑫ Remote Relay 2 (**)

HI-601VT car kit set up example



** For oil or electricity cutting
* From in car alarm system

REMARKS:

1. For easy to use, user can carry the below small card for some important settings:

2. For safety reason, the telephone number inside HI-601VT is the first fence to prevent others. It is also the best pass code. As long as other people do not know the telephone number, the user can protect his privacy.

3. Under some special circumstances, the host need to tell other people the telephone number inside HI-601VT. User may need to set up special pass code to prevent the system modified by other party.

Pass code: _ _ _ _

Temporary disable the alert
After receive the alarm dial back,
Press ✳

Immediately into alert mode
After connection, press 5

Tapping mode
After connection, press 8
Press ✳ back to tracking mode

Remote oil cutting
After connection, dial code: _ _ _ _
40: cut oil
4#: cut oil when speed 0 km
4✳: disable cut oil
Second set
(48, 47, 4*)

MAIN FEATURES — Optional car kits

* **Support GSM, SMS full function multi-purpose tracking**
* **GPS real-time surveillance tracking**
* **Real-time in-car tapping**
* **All aspect protections by using GSM in dial up or SMS network to inform the host globally**
* **Moving sensor real time inform when the car towed or damaged**
* **Optional ultra-sound invasion sensor function**
* **Power cut off sensing system**
* **SOS panic button**
* **GPS speed set up inform when car moved**
* **In-car GPS navigation by smartphone, laptopPC, PDA**
* **Upgrade to the OEM fleet management system**

Thank you choosing Haicom HI-601VT GPS/GSM tracker. To ensure the device can be fully operated and all functions are applied correctly, please make sure read the manual carefully. Most importantly, HI-601VT tracker provides a solution for user a batter way to protect his/her properties and we are not 100% guarantee the device can function each time owing to all kinds of unexpected environment or component failure. Please DO NOT use HI-601VT if the application could cause life dangerous or injure.

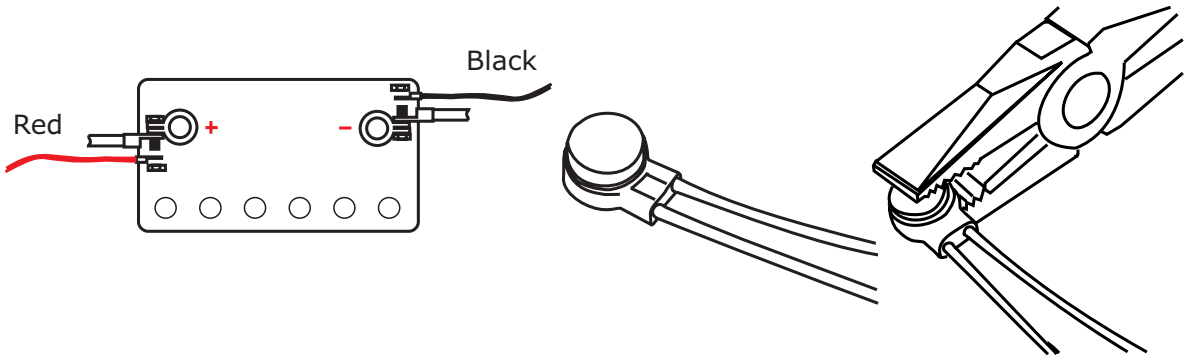
Also, please ask professional technicians to install the HI-601VT car kits only. The improper or wrong installation could cause the damage of your vehicle especially, when the vehicle computerize getting more and more popular and complicated. Haicom will not responsible the damage for these improper installations.

When use and connect the HI-601VT device and the car kits, the power source must directly come from the car battery.

When install the HI-601VT car kits, we strongly suggest that the car kit CAN NOT take power between the in-car computers or the wires controlled by the car key. Please use the dedicated power wires and connect them to the car battery correctly and directly. Connect between the in-car computer wiring could cause the circuit damage or effect these devices functionalities.

There are more and more new car equipped with all kinds of computers. Any wrong wiring could cause the computer fail. Technician can not just take any power wires in car and do the installation. The wires MUST connect directly from the battery.

Along with the optional car kit accessories, there is a 2 meters power wire with one black and one red. First un-screw the minus (-) screw on the battery and put the black wire on. Then, screw it back. Then, un-screw the plus (+) screw on the battery and put the red wire on. Then, screw it back.



IMPORTANT:

Please make sure the + - icons on the battery and only done by professional electric technician. The plus (+) and minus (-) wiring has to be correct. Otherwise, the device will damaged by the wrong wiring.

If you want to connect the wires with traditional way by using the tape, do make sure solder the connection first. Then, tape around it. The car moving and driving could cause the wire disconnected after some time. Again, do not connect the power to the HI-601VT car kit before complete the battery wiring.

If the car cigarette lighter still on even if the car key take out, user can choose and buy the optional cigarette lighter as the HI-601VT car kit power source. In this way, it is no need the above complicated professional installation.

Beside wiring to the car main battery, user can also use the optional cigarette lighter cables to supply the power to HI-601VT:

Cigarette lighter directly to HI-601VT

Cigarette lighter to HI-601VT via car kit control box

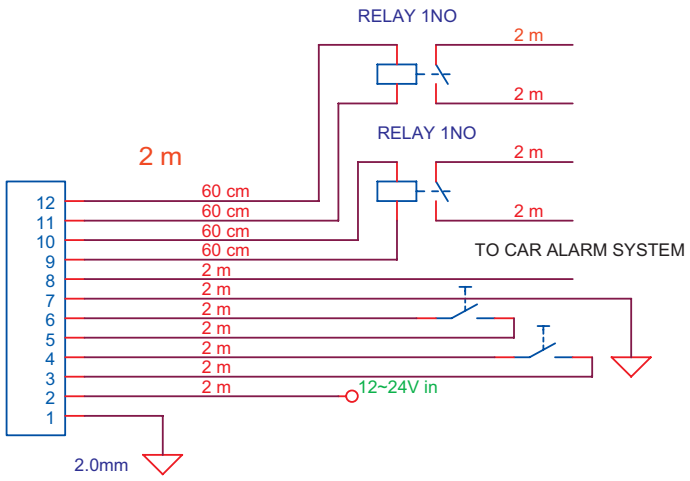
DO NOT connect the plus (+) power wire directly to the car kit. This action could cause the HI-601VT and the car kit circuit damage

When install the devices, connect the power wires to the car battery first and make sure the connections are correct. Then, connect the wires on the other end to HI-601VT and the car kit to prevent any wrong doing and damages.

HI-601VT and the car kits are not waterproof

DO NOT put the devices around moist or humid environment if there is no any waterproof protection on them.

HI-601VT
Car kit data Cable



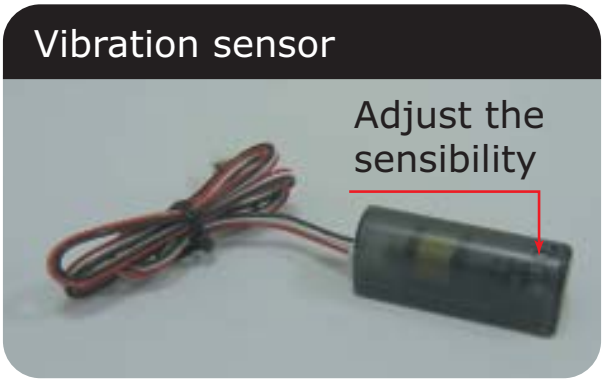
GPS receiver inside HI-601VT must "see" the sky

For some security reasons, user might hide HI-601VT somewhere in car or in the bag. Please make sure no metal or similar material above the HI-601VT main unit. In case of must put the HI-601VT
under certain metal material (like car trunk or under passenger seat, etc.), please use the GPS (MMCX type) external antenna to get better satellite signal (in this case, the GPS external antenna must see the sky. The GPS receiver must get 3D fixed so that HI-601VT able to transmit back the current exact location to the host.

HI-601VT all aspect multi-function

HI-601VT provides optional anti-thief and alert system to inform the host in real time. User can handle the problem when the situation happened.

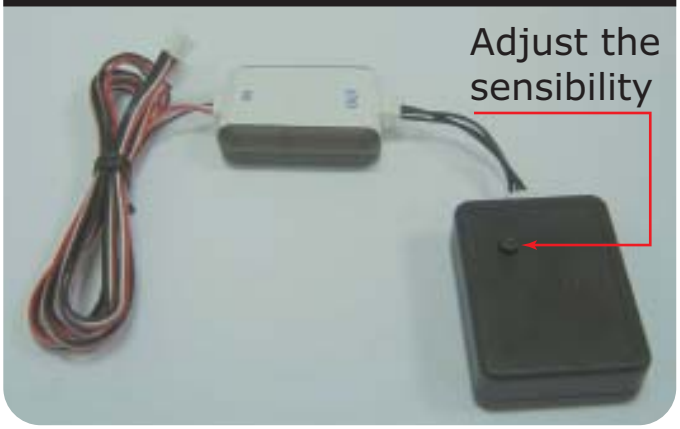
The purpose of the vibration moving sensor is to sense the external abnormal movements: Such as, the car gets external impact (the moving sensor sensitivity is adjustable depend on the car weight or how sensitive that user need) or get towed or moving. The moving sensor system will react and inform to the host by phone call or SMS message.



The purpose of the microwave sensing system is to detect if there is any intrusion into the car. The microwave sensing system can detect the status changes, such as, car windows smashed or some people get in the car (the microwave field

will changed when the above intrusion happen).
The microwave will react and inform the host by phone call or SMS message (the message will show "ALARM") When the sensor not sensing any abnormal situation in 10 minutes, the systems will enter into alert status.

Microwave sensor



When someone cut off the HI-601VT main power, the battery inside HI-601VT will become back up power supply and keep supply power to HI-601VT for around 20 hours. When the above situation happen, HI-601VT will react and inform the host by phone call or SMS message (the message will show "POWER")

When receive the above alert call back, user can tell and deal the situation. Then, press ✳ to disable the alert.

User can set up to 3 sets of dial back telephone numbers. Please refer to the advance settings section on this manual for set up these telephone numbers.

In-car tapping function

When anti-thief function enabled, HI-601VT will call to the pre-set telephone numbers to inform the host. Beside, at any time, any where, the host can dial the telephone number inside HI-601VT and press 8 to hear the sound (or someone talking) inside the car and press ✳ to back to normal status (the system will also automatically back to normal status after 15 minutes tapping)

The tapping function provides the host to ensure the real situation inside the car and verify whether it is false alarm or not. Since the tapping is executed in car and the microphone sensitivity is good, user can hide in preferred location in car. Or, near the windshield or in front of driver side are recommended.

Microphone

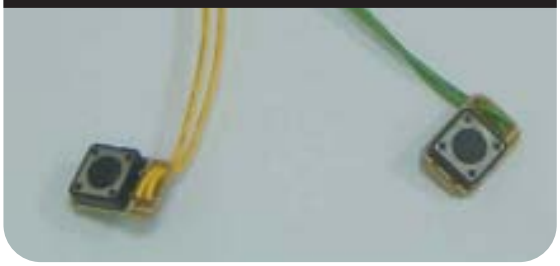
Remotely oil cutting function

When the car stolen, host can use any phone with you and dial 40 to immediately execute the oil cutting and force the thief give up the stolen. After control the situation, host can dial 4✳ to let the oil supply back to normal.

SOS emergency for help

When the car kits installed inside the car, host can wire the panic button secretly and only the host know where the button is. When host got hijack, host can push the panic button and HI-601VT will immediately dial back the pre-set 3 sets telephone numbers sequentially to some others who have the other two phones. In case the 3 phone calls fail or no one pick up, HI-601VT will then, send the SMS message to these phones.

SOS Button



The SMS message will look like this:

* HC-V.3.5*SOS*V,N, 23”51' 15.6, E, 120” 41' 09.6, 020.3, 358.2*

Example and explanations:

Latitude Longitude Speed (sea mile) Direction (360)

* HC-V.3.5*SOS*V,N, 23”51' 15.6, E, 120” 41' 09.6, 020.3, 358.2*

- V = GPS last location
- A = GPS current location
- SOS = SOS button triggered
- ALARM = in-car alarm triggered
- SENSOR = motion sensor initiated
- Firmware version

The SOS means it is an emergency for help and the coordinates in behind is the location where the object are.

GPS car navigation function

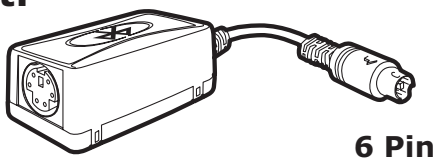
By connect the optional Bluetooth box (HI-403BTcube), the HI-601VT can also act as an in-car GPS receiver and user can use it as a normal Bluetooth GPS receiver.

Standard *Bluetooth* GPS receiver

LED indicator:

Blinking: Searching host device
Stay On: Bluetooh connected

Pin Assignment:



6 Pin PS/2 Male

Color	Function	CN1
Green	TX	5
White	RX	4
Red	VCC	2
Black	GND	1

6 Pin PS/2 Female

Color	Function		CN1
Green	RX	To BT (From GPS)	5
White	TX	From GPS (To BT)	4
Red	VCC		2
Black	GND		1

Permanent power on installation example:

HI-601VT connected to car battery via car kit control box

When used with the car battery cable for permenent power on installation, do make sure HI-601VT main unit can “see” the sky (no metal material on above) so that the GPS inside can get 3D fixed. In case of hiding HI-601VT inside car trunk, please use the GPS (MMCX) external antenna.

Permenent power on installation example:

HI-601VT connected to car battery with the battery cable

Real-time satellite positioning tracking, internet tracking, recording, check car via SMS

With the patented real-time voice decode technology user can use any phone (home phone, mobile phone, smartphone, etc.) to track the moving object any time, any where. From any mapping software on the home computer, PDA, smartphone, or any display unit, user can instantly know the object current location, direction, speed, etc.

HI-601VT basic theory is using any phone with us and connecting to the HI-601VT to get the real-time location and also control it. After the GPS location voice message sent back to the host phone, the inclusive decoder will transfer this voice message into the standard GPS NMEA digital format and meanwhile transfer this digital message to the GPS mapping software inside the personal computer, PDA, or smartphone. After selecting the correct com port, the GPS mapping software will transfer this standard NMEA data into the point on the map. The decoder is an independent signal processor which can transform the analog voice message into the standard digital GPS NMEA message. Any local GPS mapping software and no matter what language are able to use with it.

HI-601VT SETTINGS

There are two modes:

1. No pass code required mode
2. Pass code required mode

When the device set up as pass code required mode, all commands will be done after the pass code keyed-in and certified.

HI-601VT no pass code required operation mode:

When the device set up as pass code required mode, all commands will be done after the pass code key-in and passed. When it is under no pass code required mode, just dial the telephone number and operate it.

Under no pass code required mode, the telephone number inside HI-601VT is the best code and do not release to anyone to protect your privacy. In the mean time, the no pass code required mode is relatively easy to operate.

The pass code required mode must be done for some operations:

Car oil cutting operation (40, 4#, 4✳)

Dial and connect to the HI-601VT -> key-in " # " and " four digits pass code " -> after the pass code certified ->

40 immediately oil cutting

4# oil cutting when the car stop - 0 km (for safety reason)

4✳ dis-able the oil cutting

The operations no need pass code:

Real-time tracking:

When use the phone to track the HI-601VT, after phone connection, you will hear the voice message keep sending (continue dialtone) back to your phone. Use the inclusive decoder to decode the voice message into the standard NMEA GPS message. Please consult the How to USE Options from HI-601VT user manual page 10 to 14.

Immediately into alert condition (5):

Under normal situation, HI-601VT will into the alert condition when the moving sensor not sensing any movement for 10 minutes. After connected with the HI-601VT, you can dial " 5 " HI-601VT will immediately into alert condition. Under the below situations, HI-601VT will automatically dial back to the host side:

1. Moving sensor (please refer to the 52, 53, 56 related advance settings)
2. Ultra-sound invasion sensing (please refer to the 52, 53, 56 related advance settings)
3. HI-601VT power cut off by some one

Into tapping condition (8):

Press 9 for back to real time tracking mode

Immediately GPS power on mode (9):

Immediately enable the GPS receiver from the power sleeping mode (9)

When the GPS receiver under the power sleeping mode, to enable it back to regular power supply mode (not enable the moving sensor and the ultra-sound)

Dial and connect to the HI-601VT and press 9 to activate it. (please refer to the 3*, 3# advance settings)

The operations need pass code:

Car oil cutting operation (40, 4#, 4*)

Dial and connect to the HI-601VT -> key-in " # " and " four digits pass code " -> after the pass code certified ->

40 immediately oil cutting

4# oil cutting when the car stop - 0 km (for safety reason)

4* dis-able the oil cutting

Real-time tracking (1, 57, 58)

Dial and connect to the HI-601VT -> key-in " # " and " four digits pass code " -> after the pass code certified -> HI-601VT start to send back location in voice message for 3 minutes. Please refer to the 57, 58 related advance settings regarding to the real-time tracking under pass code required mode.

Use the inclusive decoder to decode the voice message into the standard NMEA GPS message. Please consult the How to USE Options from HI-601VT user manual page 10 to 14.

Immediately into alert condition (5):

Under normal situation, HI-601VT will into the alert condition when the moving sensor not sensing any movement for 10 minutes. After connected with the HI-601VT, you can dial " 5 " HI-601VT will immediately into alert condition. Under the below situations, HI-601VT will automatically dial back to the host side:

1. Moving sensor (please refer to the 52, 53, 56 related advance settings)
2. Ultra-sound invasion sensing (please refer to the 52, 53, 56 related advance settings)
3. HI-601VT power cut off by some one

Into tapping condition (8, 54, 55):

Dial and connect to the HI-601VT -> key-in " # " and " four digits pass code " -> after the pass code certified -> Press 8 entering the tapping mode.

Please refer to the 54, 55 related advance settings regarding to the tapping condition under pass code required mode.

Press 9 for back to real time tracking mode

Immediately GPS power on mode (9):

Immediately enable the GPS receiver from the power sleeping mode (9)

When the GPS receiver under the power sleeping mode, to enable it back to regular power supply mode (not enable the moving sensor and the ultra-sound)

Dial and connect to the HI-601VT and press 9 to activate it. (please refer to the 3✳, 3# advance settings)

CE

4 710635 517625