

GSM/GPS Car Tracking Terminal USER MANUAL

CAT-3D



Ver:2.01

2011-03-02

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CAT3D_V1-NB_1.hex

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INTRODUCTION

Functions and Features

- > Apply to protect all type of cars, trucks, taxi, jeeps as well as other automobiles.
- > Simple installation, and no affection to the existing alarm system.
- > The microwave sensor detects intrusion includes: door opening, window breakage, and motion inside the car
- > Auto arm or manual arm by phone.
- > Monitoring / speaking by MIC / SPK.
- > Disarm by hang up phone.
- > Stop engine remotely by SMS.
- > Locating and tracking:
 - ◆ Dual location: GPS Location tracking data report to monitor center by SMS/GPRS
 - ◆ locate your vehicle through both GPS positioning and GSM base station
 - ◆ Query locating information by SMS/ computer or via website
 - ◆ Query address by mobile-phone or on computer.
 - ◆ Real-time or pre-set time tracking by SMS/GPRS;
 - ◆ Global Track Web-based center with Google-earth or Google-Map support and clear satellite image view
 - ◆ GEO, Over speed and Move Alert
- > Alert report:
 - ◆ Shake alert
 - ◆ Door open alert
 - ◆ ACC on alert
 - ◆ Power off alert
 - ◆ Hi-jack alert
- > Support by car battery or 12V LI battery to work
- > With backup battery(4.2V): after Power Failure Alert, it will supply power for tracking and GSM.

Technical Specification

- > GSM Work Frequency: 850 /900 /1800 /1900MHz
- > Microwave sensor: sending power<3mw
- > Temperature: Working Temp -20℃ ~ +60℃
- > Humidity: 20—95%
- > GSM Antenna
 - Cable type: Gain: 3dBi cable-length:3-5meters connector :SMA
 - Portable antenna: Gain: 2dBi height: 5cm connector: SMA
- > GPS Antenna: Voltage 3V cable-length: 3-5 meters connector: SMA
- > Stop relay: 12V/24V 40A
- > Mainframe Power supply: 12/24V DC
- > Backup battery: Poly-Li battery, 950mAh 3.7V
- > Mainframe Dimension: 110x70x23mm
- > Weight: G.W. :1Kg/set (including accessories)

Safety Instructions

- > Please do not use the device in the areas where wireless device uses are prohibited.
- > Please use the accessories in the package, such as the antennas and relay.

INSTALLATION

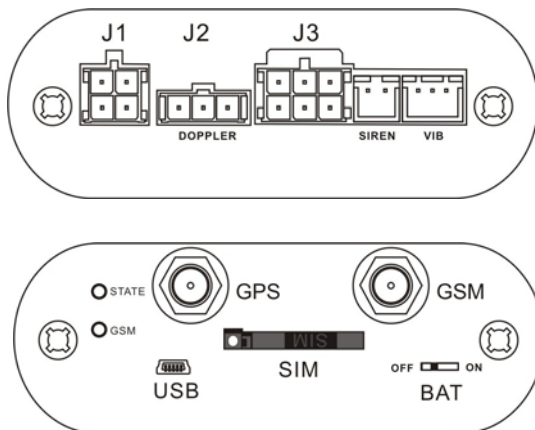
Accessories

User necessities

1. 1-3 mobile phones for recipients A/B/C
(Note: with SMS functions.)
2. One valid GSM SIM card for the device
(with Caller ID & SMS functions and enough balance);

Basic components

1.Main Unit



2. GSM antenna



3. GPS antenna



4.J1---Molex3.0-2x2

Power by car battery
ACC detecting
Stop relay



5. J2--- Molex3.0-1x3

Doppler detector



6. J3-----Molex3.0-2x3 connecting wires
MIC, SPK and S-button



7. Siren (optional)



8. Stop relay(optional)

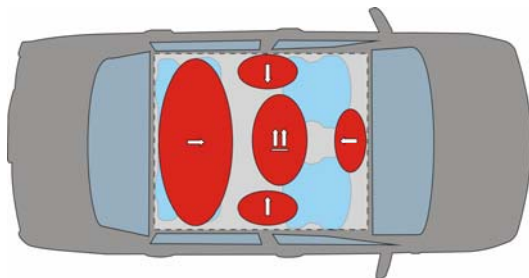


9. Shake detector(Vib)



Installation Process

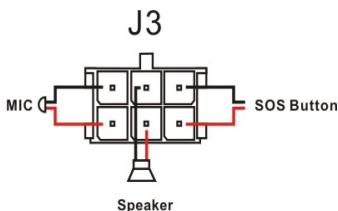
1. SIM Card Installation
2. GSM---GSM Antenna Installation
3. GPS--- GPS Antenna Installation
4. Doppler detector installation: Fix the detector on the floor of the car, the range and the direction of place below:



Then plug the wire connector to socket J2

5. Plug the mic-spk-button connector to socket J3.

Fix the MIC, SPK, and S-button on appropriate location.

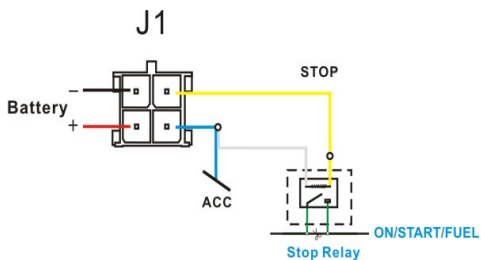


6. Plug the connector of siren to "Siren" port. Fix the siren.

7. Plug the connector of shake detector to "VIB" port. Fix the detector.

8. Power supply: Connect power wires to car battery

ACC and Stop relay: if need ACC alert and immobilize the car in emergency, please connect)



then plug the socket to J1

9. Slide the battery switch to "ON".

10. Check: after installation, check all the wires to be connected well;

Fix: fix the main-frame steadily.

Test: open every doors, the detector will be triggered (the led will be lighted when triggered)

Instructions Before Use

1. After installation and power on, LED shows the following status:

GSM LED (D1: red) :

Flashing fast: indicates that GSM have not registered

Flashing slowly: indicates the GSM works well.

State LED (D2: green):

LED On: sending SMS

LED Off: down loading

Flashing slowly: indicates system locating normally.

Flashing fast: indicates system is locating invalid.

2. Factory default :

Recipient:	Non
Password:	1234
Time Zone:	+/-0000
Status:	Unarmed
Pre-setting auto-arming delay:	3 mins
Auto-arming:	On
Shake Alert:	On
GEO alert:	Off
Over speed alert:	Off

3. Battery: Auto-charging when it connects to power

4. GSM/GPS Ant: locate the antennas in suitable area to get signal well.

OPERATIONS

Operations by SMS

SMS Format: *Password*Command#. (sending by any mobile phone)

PWD: the abbreviated password in SMS format.

1. Setting Up

1.1 Set up recipient A, B and C

1.1.1 Setting up recipients by phone

Mobile-phone A call the number of device

>> connected and heard ring

>> press the S-Button once in 10secs

>> hang up, Recipient A set up successfully

Mobile-phone B call the number of device

>> connected and heard ring

>> press the S-Button twice in 10secs

>> hang up, Recipient B set up successfully

Mobile-phone C call the number of device

>> connected and heard ring

>> press the S-Button three times in 10secs

>> hang up, Recipient C set up successfully

1.1.2 Setting up recipients by SMS

Send the SMS to the device:

```
*PWD*AXXXXXXXXXX*BXXXX  
XXXXXXXX*CXXXXXXXXXXXXX#
```

Setup ok, the reply SMS:

```
Armed/Unarmed; A: XXXXXX  
X, B:XXXXXX,C:XXXXXXXXX;
```

Change or Cancel recipients:

Re-set with new numbers via phone call or SMS.

Note: ① A,B,C indicates the recipients A,B,C.

xxxxx...indicates the recipients mobile phone number. Max: 20 digits.

② “+country code” must be added when SMS format requires

SMS Format: + Country Code + mobile phone number.

Exp: Recipient A,C setup: *1234

*A+8613666504824*B*C+8613666502528 # (+86 refers to China code; 136xxxxx refers to Recipients mobile number)

③ Recipient number shows blank if you do not set up it.

1.2 Set up Time-zone

Send the SMS to the device:

*PWD*GMT+/-xxxx#

Setup OK, the reply SMS:

GMT+/-xxxx Setup OK !

Note: ‘+’ is east zone; ‘-’ is west zone

Exp: Setting up East 8 zone(GMT+08:00), the SMS is *1234*GMT+0800#
West 3:30 zone(GMT-3:30), the SMS is *1111* GMT-0330#

1.3 Set up the Delay of Auto-arming

Send the SMS to the device:

*PWD*AUTO-ARM Txx#

Setup OK, the reply SMS:

Auto-Arm Txx Setup OK!

Note: xx indicate delay of auto-arming; range is 03-99 minutes. during the pre-set time without any motion in the car, then system enters into “Armed” status.

2. Basic Operation

2.1 Modify Password

Send the SMS to the device:

*PWD*Exxxx#

Setup ok, the reply SMS:

Password has been changed!

Note: >> xxxx refers new password. It is constituted by 4 ASCII codes.
>> Factory default:1234.

2.2 Arm

2.2.1 Auto-arming

The device will auto-arm after pre-setting delay if there is not any motion inside the car or motion of the car door.

On auto-arming state, if alert is triggered, will report to recipient A.

For convenience to operate, the auto-arm function can be On/Off by SMS, so you will not be disturbed by incoming call every time of opening the car doors. (Refer to the command: Auto-arm on/off)

2.2.2 Manual Arming (By Dialing):

Recipient A/B/C dials to the phone number of the device when need to activate arming, after connecting and then hang up within 25secs, enters into "Armed" status.

On manual-arming state, if alert is triggered, will report to the recipient phone which dialed to arm.

2.2.3 Armed by SMS:

Send the SMS to the device:

*PWD*S#

SMS replies:

Armed; Setup OK!

2.3 Disarm

2.3.1 Disarm by phone

When car doors opened or window broken, the device will auto-call one of recipients, if hang up during ring (without picking up), alarm enters into unarmed state.

Note: >> if auto-arming, disarm call dials to recipient A
>> Armed by dialing, disarm call to arming phone.

2.3.2 Disarm by SMS:

Send the SMS:

*PWD*C#

Setup ok, the reply SMS:

Unarmed; Setup Ok!

2.4 Shake Alert On/Off

Off: Send the SMS to the device:

*PWD*N#

Successfully, it replies:

Shake Alert Off!

On: Send the SMS to the device:

*PWD*H#

Set up successfully, it replies:

Shake Alert On!

2.5 Auto-Arm Off/On

Auto-Arm off:

Send the SMS:

*PWD*Aoff#

SMS replies:

Armed/Unarmed
Auto-arm off !

Auto-arm on:

Send the SMS:

*PWD*Aon#

SMS replies:

Armed/Unarmed
Auto-arm on !

2.6 Move Alert: On/Off

On: Send the SMS to the device: Setup ok, the reply SMS:

*PWD*MOVExxx#

Movexxx Alert On!

Off : Send the SMS to the device: Setup ok, the reply SMS:

*PWD*MOVE000#

Move Alert Off!

Note: >> xxx : 200~999. (unit: meter)

>> **On armed status**, the car drives (or pulled away) over the range (a circle which center is the parking position and radius is xxx metre), the alert will be triggered.

2.7 Overspeed alert: On/Off

On: Send the SMS to the device: Setup ok, SMS replies:

*PWD*SPDxxx,ss#

Over SPDxxx,ss Alert On!

Off: Send the SMS to the device: Setup ok, the reply SMS:

*PWD*SPD000#

Over SPD Alert Off!

Note: >> xxx: choose 020~999,

Min speed is 20Km/H; Max limited speed is 999 Km/h.

If xxx is less than 20, may not receive the "Over speed Alert" SMS

>> ss: 01~99min: indicate continuous overspeed statue, the interval to repor the alert.

2.8 Over GEO range report: On/Off

On: Send the SMS to the device: Successfully, the reply SMS:

*PWD*SC:N/SXX.XXX,
E/WXXX.XXX,XXXXX#

GEO Report On !

Off: Send the SMS to the device: Successfully, the reply SMS:

*PWD*SC:00#

GEO Report Off!

Note: >>N/S is lat. and E/W is the Long. of the range center; format: degree
>> xxxxx choose 00300~50000; unit: metre

Exp: *1234*SC:N41.820,E123.392,00800#

- > N41.820:north latitude of the range center point 41.820°. for exp:1° is 01.000
- > E123.392: east longitude of the center point 123.392°. for exp: 1°is 001.000
- > 00800: radius of the range is 800m (unit: metre)

2.9 Immobilize / Relieve

2.8.1 STOP the car by SMS in emergency

Send the SMS to the device: Successfully, the reply SMS:

*PWD*STOP#

Engine has be turned off!

Note: To restart your engine, you will have to relieve 'k' command.

2.8.2 Re-energize By SMS:

Send the SMS: Successfully, the reply SMS:

*PWD*k#

Relieve 'STOP' & Unarmed

2.10 Resume to Factory Default

Send the SMS to the device:

```
*PWD*V#
```

Successfully, the reply SMS:

```
Factory Default Restored!
```

2.11 Wrong Message

- ◆ the password is wrong, the device will send the prompt SMS:

```
'Key' incorrect, please confirm!
```

- ◆ In case the password is right but command format invalid, you will receive the prompt SMS:

```
Invalid command, please confirm!
```

3. Query

3.1 Recipients Query

Send the SMS to the device:

```
*PWD*Y#
```

the reply SMS:

```
Armed/Unarmed;A:XXXXXXXXX  
,B:XXXXXXXX,C:XXXXXXXXXX;
```

3.2 Status query

Send the SMS to the device:

```
*PWD*X#
```

the reply SMS:

```
Armed/Unarmed; ACC on/off;Power:on/off;LAC:  
xxxxxCID:xxxxx;Time:xx-xx-xx xx:xx:xx Speed:  
xxxkm/hS/Nxx.xxxx W/Exxx.xxxx
```

3.3 Vehicle GPS Data Query

A. GPS Data Query: (Format: Degree/ Minute/Second)

Send the SMS to query:

```
*PWD*GPSM#
```

the reply SMS:

```
Time:xx-xx-xx xx:xx:xxSpeed:xxx  
km/hS/NxxdxmxxS/WExxxdxmxxS
```

B. GPS Data Query: (Format: Degree)

Send the SMS to query:

```
*PWD*GPSD#
```

the reply SMS:

```
Time:xx-xx-xx xx:xx:xxSpeed:xxx  
km/h S/Nxx.xxxxx W/Exxx.xxxxx
```

C. GPS Data Query: (GPS Standard Format)

Send the SMS to query:

```
*PWD*GPS#
```

the reply SMS:

```
$GPRMCxxxxxxx
```

D. GPS Data with Google link Query

Send the SMS:

```
*PWD*GPSW#
```

SMS reply:

```
http://maps.google.com/maps?f=q&hl=en&q=\(-\)xx.xxxxx,\(-\)xx.xxxxx&ie=UTF8&z=16&iwloc=addr&om=1
```

Note: The link can be used for address query on mobile-phone or computer.

E. GPS Location invalid, replies by the last valid GPS data:

SMS reply:

```
No GPS! Time:xx-xx-xx xx:xx:xx  
Speed:xxxkm/h S/Nxx.xxxxx  
W/Exxx.xxxxx
```


4. Monitor and Speak

4.1 Call to the device:

When there is incoming call, Only Recipients number can be auto-connected. Then the recipient can monitor the status inside the car and communicate with driver by the MIC and SPK.

Press the S-button or calling phone hang up to end.

4.2 Alert monitor:

When door opened(window broken) alert and SOS is triggered, CAT will call a recipient, if connected, the recipient can monitor voice inside the car or speak to persons in the car.

Press the S-button or hang up to end.

ALERT REPORT

(Rec A stands for recipient A, Rec B stands for recipient B, Rec C stands for recipient C.)

1. Shake Alert:

On Armed Mode, when the Vibration is triggered, alert will be reported to Rec **A** via SMS, the siren will ring to scare at each alert.

```
Shake Alert! Time:XX-XX-XX XX:XX:XX Speed:XXXkm/h
http://maps.google.com/maps?f=q&hl=en&q=(-)xx.xxxxxx,(-)xxx.xxxxxx
&ie=UTF8&z=16&iwloc=addr&om=1
```

- Note:** > If the car shake continuously, alert will be sent every 30s.
> The sensitivity of the vibration sensor can be adjusted.

2. Door Open Alert

When the door open, the **prompt beeps** will be triggered, the CAT auto-call to recipient (*Note: Auto-arm to A; Manual-arm to arming phone*), the call state below:

Call	Rec	Normal	Alarm
Connected	Hang up (if normal)	<ul style="list-style-type: none"> ◆ Disarming, beeps stop; ◆ Press S-button: stop beeps, enter to unarmed status 	
	Miss call	Press S-button: > To stop beeps, > enter to unarmed status	After rings, alert is triggered: <ol style="list-style-type: none"> i. SMS to the receiving recipient: <u>Door opened alert!</u> ii. Siren triggered iii. After no motion inside the car detected in pre-setting auto-arm delay: <ul style="list-style-type: none"> ◆ siren stops ringing ◆ enters to auto-armed status
	Pick up beeps stop (if intruded)	<ul style="list-style-type: none"> ◆ Monitor and speak, ◆ Press S-button: invalid ◆ Hang up to disarm 	After 30secs, alert is triggered: <ol style="list-style-type: none"> i. Monitor and speak ii. siren rings iii. stop alert: <ol style="list-style-type: none"> ① before auto-armed, hang up to stop siren, then auto-arming. ② after auto-armed (no motion inside the car in auto-arm delay), siren stops ringing, then auto-armed
Dis-connected	GSM Net busy or Weak signal	<ul style="list-style-type: none"> ◆ Press S-button: > to stop beeps > enter to unarmed status ◆ After GSM signal resumes, prompt call to recipient. 	Without pressing S-button within 40secs, siren begins to ring till no motion detected inside the car in pre-setting auto-arm delay: <ul style="list-style-type: none"> ◆ siren stops ringing ◆ enters to auto-armed status ◆ After GSM signal resumes, prompt call to recipient.

- 3. ACC On Alert:** On armed state, if ACC is turned on, Alert report SMS to Recipients A,B,C; Press S-button to stop alert.

```
ACC On Alert! Time:XX-XX-XX XX:XX:XX Speed:XXXkm/h
http://maps.google.com/maps?f=q&hl=en&q=(-)xx.xxxxxx,(-)xxx.xxxxxx&ie=UTF8&z=16&iwloc=addr&om=1
```

- 4. High-jack Alert: (SOS)** In emergency situation, press and hold the hidden S-button for 3 seconds, the SOS alert SMS will be sent to the recipients A,B,C. and call to B,C.

```
Hijack Alert! Time:XX-XX-XX XX:XX:XX Speed: XXXkm/h
http://maps.google.com/maps?f=q&hl=en&q=(-)xx.xxxxxx,(-)xxx.xxxxxx&ie=UTF8&z=16&iwloc=addr&om=1
```

- 5. Power-off Alert:** Alert reports to Recipients A,B,C

```
Power off Alert! Time:XX-XX-XX XX:XX:XX Speed:XXXkm/h
http://maps.google.com/maps?f=q&hl=en&q=(-)xx.xxxxxx,(-)xxx.xxxxxx&ie=UTF8&z=16&iwloc=addr&om=1
```

- 6. Move Alert:** On armed state, the car drives (or pulled away) over the range, the alert will be triggered and reports to Recipients A

```
Move Alert! Time:XX-XX-XX XX:XX:XX Speed:XXXkm/h
http://maps.google.com/maps?f=q&hl=en&q=(-)xx.xxxxxx,(-)xxx.xxxxxx&ie=UTF8&z=16&iwloc=addr&om=1
```

- 7. Over speed Alert:** Alert reports to Recipient A

```
Overspeed Alert! Time:XX-XX-XX XX:XX:XX Speed:XXXkm/h
http://maps.google.com/maps?f=q&hl=en&q=(-)xx.xxxxxx,(-)xxx.xxxxxx&ie=UTF8&z=16&iwloc=addr&om=1
```

- 8. GEO Alert:** Alert reports to Recipients A

```
GEO Alert! Time:XX-XX-XX XX:XX:XX Speed:XXXkm/h
http://maps.google.com/maps?f=q&hl=en&q=(-)xx.xxxxxx,(-)xxx.xxxxxx&ie=UTF8&z=16&iwloc=addr&om=1
```