

**YIELD TECHNOLOGY Co., LTD.**



**SUPERGUARD  
GPS VEHICLE TRACKING SYSTEM**

----- Operation Manual -----

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GPS/GPRS Vehicle Security System

Model EZT-VT07B

.....  
: Thank you for purchasing the  
: SuperGuard GPS/ GPRS Vehicle  
: Tracking and Monitoring device. Please  
: read all instructions carefully before  
: operation, to ensure your complete  
: understanding and to obtain the best  
: possible performance from the unit.  
: .....  
: .....

**Warranty**

The Yield Technology Co., Ltd. (YTC) warrants to the purchaser that this product, under normal use and conditions, will be free from defects in materials and workmanship for a period of 12 months from the date of original purchase. If a product proves defective during this warranty period, YTC, at its option, either will repair the defective product without charge for parts and labor, or will provide an exchange for the defective product.

In order to obtain service under this warranty, the purchaser must notify YTC of the defect before the expiration of the warranty period and make suitable arrangements for the performance of service. The purchaser shall be responsible for appropriate packaging and shipping with a carrier designated by YTC, with shipping charges paid by recipient (YTC).

This warranty shall not apply to any defect, failure or damage caused by improper use or improper or inadequate maintenance and care, alterations, mishandling or accidents. YTC shall not be obligated to furnish service under this warranty to costs incurred for installation, to correction of antenna problems, removal or reinstallation or to damage to video tapes, discs, speakers, accessories or vehicle electrical system.

The extend of YTC’s liability under this warranty is limited to the repair or replacement provided above and, in no event, shall the company’s liability exceed the purchase price paid for this product.

THIS WARRANTY IS GIVEN BY YTC IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED. YTC AND ITS VENDORS DISCLAIM ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. YTC’S RESPONSIBILITY TO REPAIR OR REPLACE DEFECTIVE PRODUCTS IS THE SOLE AND EXCLUSIVE REMEDY PROVIDED TO THE PURCHASER FOR BREACH OF THIS WARRANTY. YTC AND ITS VENDORS WILL NOT BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES IRRESPECTIVE OF WHETHER YTC OR THE VENDOR HAS ADVANCE NOTICE OF THE POSSIBILITY OF SUCH DAMAGES.

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## 1. Parts & Accessories

On receipt of your SuperGuard system, please check that all contents are complete and correct.

SuperGuard GPS/GPRS Main Unit



Dual 4-Pin Wiring Harness



3.7V Rechargeable Li-Ion Battery pack

## 2. SuperGuard Vehicle Unit – Features

The SuperGuard EZT is a GPS vehicle tracking device, ideal for fleet management and commercial data centers.

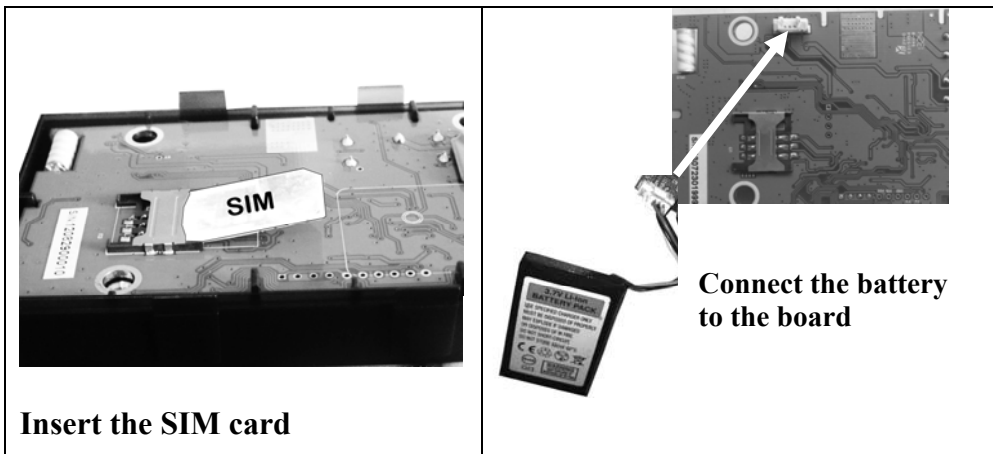
- Easy and quick to install, saving costly installation time and fees.
- Data exchange between device and data center is maintained over GPRS and Internet connection. All commands and configuration details can be sent through GPRS or SMS.
- Configure up to 5 authorized contact numbers to inquire vehicle location through 2-RING phone call or SMS. You can also query device location, travelled distance, trip distance and other status via Internet at all times.
- Setup and configure monitoring activities and alerts.
- Setup tracking schedules, live tracking and parameters including trip information such as total travelled distance or trip distance in km can be configured according to your needs.
- Define and load up to 4 restricted areas (Geo-Fence areas) to the device and setup maximum speed alert, idle time alert, power alerts a.o.
- The engine immobilizer allows you to disable the vehicle ignition according to specified trigger times through GPRS or SMS command.
- You can configure and activate several power saving modes according to ignition off time, no movement or no communication time.
- The EZT comes with a GSM jammer alert that can be configured to send alert SMS and disable engine.

### 3. Preparations

In order to install the SuperGuard Vehicle Unit properly, the following preparations should be carried out:

Prepare one operational GSM SIM card. Make sure that the SIM card

- can operate without PIN protection (ask the GSM operator to do this). Ask the GSM operator for the SMSC (SMS Service Center) and Data Call (if applicable) numbers.
- Empty the SMS storage of the SIM card using operational GSM phone (please refer your GSM phone manual to do this).
- Unscrew and remove the bottom cover of your Vehicle Unit. Slide the SIM card into the SIM card holder as seen in the picture below.
- To connect the battery, securely plug the battery connector in the connector on the board. This will power on the device, and the green GSM LED will start flashing.
- Replace back cover and secure with the screws.



### 4. Installation

*NOTE: Please note that installation methods may vary between vehicle models. For expert wiring and connecting please contact a professional car electronics workshop for installation support and maintenance.*

The Vehicle Unit will only operate on 12V~24V systems with negative earth (Negative to body).

- Before starting installation, disconnect the vehicle battery and observe other manufacturers safety instructions regarding alarm systems, airbags or anti theft radio coding.
- If you want to install the Vehicle Unit in the passenger compartment, make sure that cables and wiring are protected from sharp edges and is routed in such a manner that it will not be pinched.
- The EZT device should be mounted horizontally, and at a place where the top side has an unobstructed view of the sky. The ideal location is on top or directly under the dashboard plastic, and close to the windshield. The device will not work if it is placed beneath metal or metallic glass coatings.
- Complete all electrical wiring and connections to the vehicle before connecting the wire harnesses to the device.

## Connecting The Vehicle Unit:

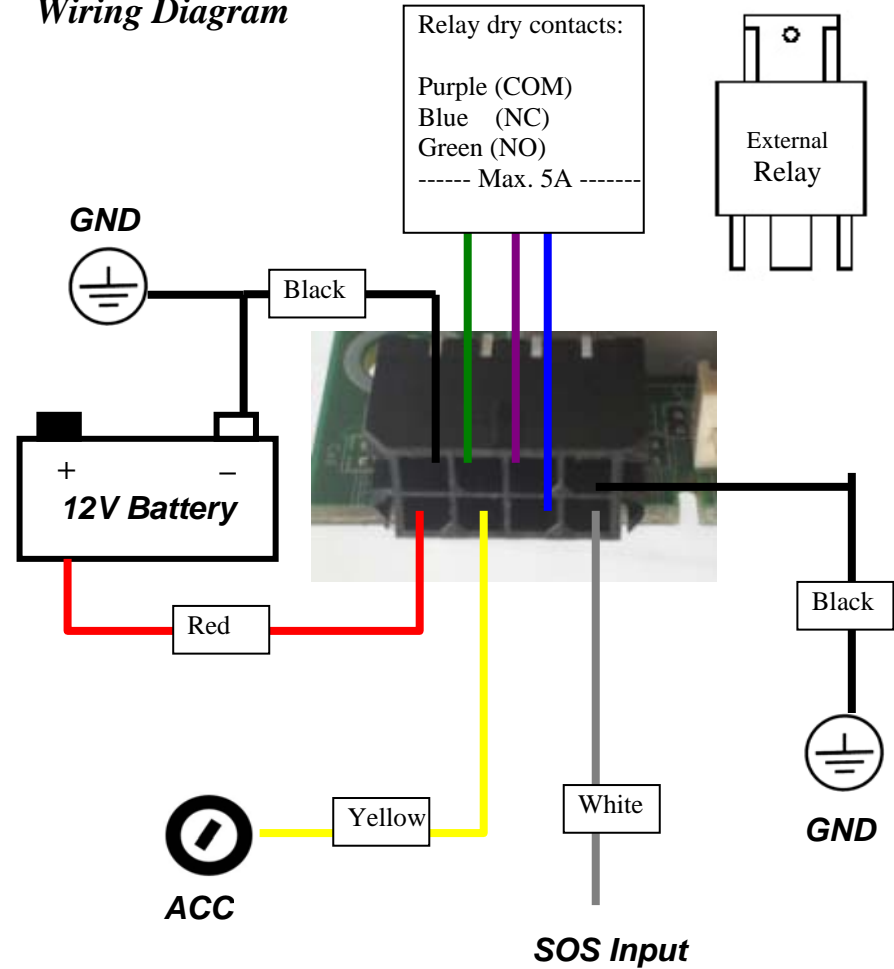
**NOTE: Finish all wiring and connections to the correct vehicle outputs and inputs before you apply the connectors to the Vehicle Unit !!!**



**Dual 4-PIN Cable Description/ Colors**

PIN	Cable Description	Color
<b>PIN No.</b>		
<b>1</b>	<b>Ground (GND)</b>	<b>Black</b>
<b>2</b>	<b>SOS Button/ AD Input</b>	<b>White</b>
<b>3</b>	<b>Internal relay – COM(max. 5A)</b>	<b>Purple</b>
<b>4</b>	<b>Internal relay – NC (max. 5A)</b>	<b>Blue</b>
<b>5</b>	<b>Internal relay – NO (max. 5A)</b>	<b>Green</b>
<b>6</b>	<b>ACC Input (+12V) from ignition</b>	<b>Yellow</b>
<b>7</b>	<b>Ground (GND)</b>	<b>Black</b>
<b>8</b>	<b>+12V power/ car battery input (+)</b>	<b>Red</b>

## Wiring Diagram



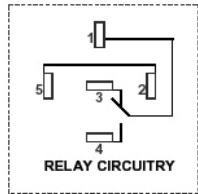
Connector View

**VT-07 EZT Installation of External Relay for Immobilizer function:**

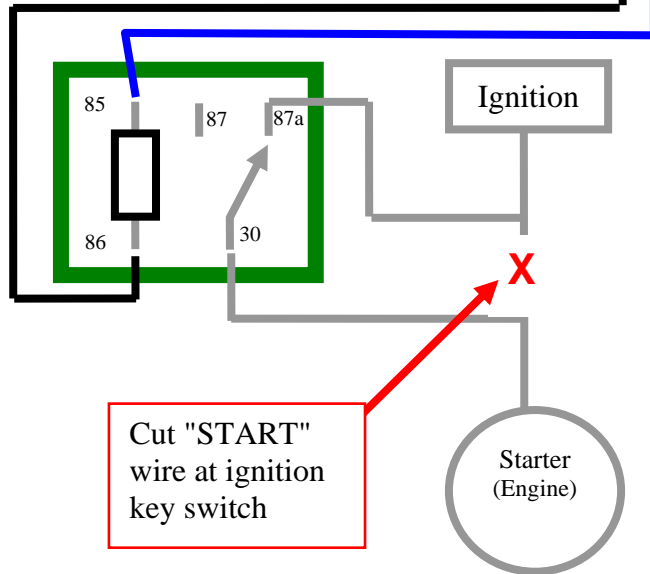


**Vehicle Unit Connection: External Relay**

PIN No.	Cable Description	Color
1	Ground (GND)	Black
2	SOS input	White
3	Connect to PIN6	Purple
4	External Relay, to relay power 85 (+)	Blue
5	Do NOT connect	Green
6	ACC Input (+12V) from ignition	Yellow
7	Ground (GND) and connect to relay (86)	Black
8	+12V power/ car battery input (+)	Red



Cut "START" wire at ignition key switch



**5. Vehicle Unit – LED Indicators**



**GPS LED (blue)**

- If LED flashes (once per second):  
Device has GPS lock.
- If LED stays off:  
Device is scanning for GPS signal, no GPS fix.
- If LED stays on continuously:  
Device is transmitting GPRS data to server.

**GSM LED (green)**

- If LED flashes once every 2 seconds (1/2s):  
Device has registered successfully to GSM network.
- If LED flashes once per second (1/1s):  
Device is connected to GPRS network. Device is online and able to receive commands over GPRS and SMS and send data to server.
- If LED stays on continuously:  
Device Device is transmitting GPRS data to server or is in a phone call.
- If LED flashes rapidly (twice per second):  
GSM error detected, such as SIM card not found or communication command error.

## 6. Getting Started

After applying the wire harness to the Vehicle Unit, the device will power up and automatically attempt to register to GSM network. Provided that your vehicle and the device is positioned in a location with clear un-obstructed view of the sky, the device will then start scanning for GPS satellites to obtain its first GPS lock. This first fix can take several minutes.

Before the device is able to operate properly, some mandatory setup parameters need to be configured from the Control Base software or Tracking Websites.

The following basic initializations, SIM card details and GPRS dial-up information are required to be sent by SMS command in order to establish communication with the server:

- **CCNO (included in SuperGuard Service):** GSM number assigned as Control Base number with full authorization
- **ID:** Device ID (8 digits)
- **APN (Access Point Nodes)** for GPRS dial-up
- **UserID and Password** for GPRS dial-up (if required)
- **IP and Port** of host server for data exchange

TO ACTIVATE YOUR EZT DEVICE, PLEASE CONTACT YOUR DEALER OR TRACKING SERVICE PROVIDER.

**IMPORTANT NOTE:** *Once your device has been initialized, all following commands sent through the Control Base have to use the same GSM number (Control Center Number). To switch to a different Control Center number at a later time, you will need to send an Initialization command with the modified Control Center number using the original GSM number at the Control Base.*

## 7. Locating and Tracking



Authorized users can interrogate the Vehicle Unit to receive locations, street names and details.

### Vehicle Tracking

- From authorized contact numbers, you can get location details directly from the EZT by sending the command \$GOOGLE per SMS to the device. The device will reply with Google Street information, if available.
- You are able to configure single or scheduled GPS location updates in intervals starting from 10 seconds.
- The GPS odometer function can be configured to send travelled distances for each trip (ignition on/ off signal required), and total distance travelled.
- Up to 500 positions can be stored to the device and uploaded as batch data. You will also be able to configure sleeping modes for the GPS engine to reduce power consumption.

## 8. Vehicle Monitoring and Controls



Users are able to setup and configure monitoring activities and alerts to the Vehicle Unit.

### *Geo-Fence Alarms*

- The Vehicle Unit can be configured with a set of up to four restricted geographic areas (Geo-Fences).

### *Over Speed Alarms*

- The vehicle unit can be configured with a maximum speed limit and thresholds for overspeed alarms.

## 9. Technical Specifications

**SIZE (L/W/H):** 105 x 60 x 25 mm

**POWER SUPPLY:** DC 9V ~ DC 24V

**POWER CONSUMPTION (Spare Battery):**

- 4mA ~ 10mA Standby current
- 100mA ~ 120mA operating (SMS)
- 250mA ~ 350mA operating (Talk time)
- 100mA ~ 150mA operating (GPRS online)

**SPARE BATTERY:** 3.7V 700 mAh

- Battery standby time: 5 hours (apprx.)
- Battery charging time: 2 hours (apprx.)

**OPERATING TEMPERATURE:** -20°C ~ +70°C

**GSM/ GPS MODULE: QUAD BAND GSM**

- Operating Frequency:
  - GSM-850 (TX : 824Mhz ~849Mhz); (RX : 869Mhz ~894Mhz)
  - E-GSM-900 (TX : 880~915Mhz); (RX: 925Mhz ~ 960Mhz)
  - DCS-1800 (TX : 1710Mhz ~ 1785Mhz); (RX: 1805Mhz ~ 1880Mhz)
  - PCS-1900: ( TX : 1850.2Mhz ~ 1909.8Mhz ); ( RX : 1930.2Mhz ~ 1989.8Mhz )
- TX Output Power:
  - GSM-850:  
Max: 33dBm ± 5dB ; Min: 5dBm ± 5dB
  - E-GSM-900:  
Max : 33dBm ± 5dB ; Min : 5dBm ± 5dB
  - DCS-1800  
Max : 30dBm ± 5dB ; Min : 0dBm ± 5dB
  - PCS-1900:  
Max : 30dBm ± 5dB ; Min : 0dBm ± 5dB



- **Sensitivity:**
  - **GSM-850: < -106 dBm**
  - **E-GSM-900: < -106 dBm**
  - **DCS-1800: < 104 dBm**
  - **PCS-1900 : < 104 dBm**
  
- **GPS Sensitivity: > -160 dBm**
- **Protocol: NMEA-0183 V3.0**
- **Projection: WGS-84**

**GSM Application Programming Interface**  
**AT Commands**  
**UI APIs**

**GPS ANTENNA:**

- **Frequency band:  $1575.42 \pm 2$  Mhz**
- **Gain: +24 dBi Active Antenna**
- **Output Impedance: 50  $\Omega$**

**INPUTS:**

- **SOS Button/ analog input**
- **ACC Ignition input**