

# Geoforce VT1 Standard Vehicle Tracker Installation Guide

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## Step 1: Prepare for the Installation

Be sure you have all the required components and tools needed.

This must include:

1. The Geoforce VT1 Standard Vehicle Tracker unit.  
(Either the VT1-XIR-PNP-LTEATT-LD or VT1-XIR-PNP-LTEVZW-LD)
2. Optional components:
  - Cable tie(s)
  - OBD-II Y-Harness



## Step 2: Record the Asset and VT1 Serial Numbers

1. Record the VT1's Electronic Serial Number (ESN) printed on device label.
2. Record the asset serial number (in which the VT1 was installed).
3. Send this information to your Geoforce account administrator.



## Step 3: Plan the Installation

### Unit Placement

The VT1 uses a compact enclosure with an integrated OBD-II plug with both GPS and cellular antennas mounted internally. It is more important to consider GPS performance than cellular performance since GPS signal strengths are much lower than those seen by cellular networks supported by the VT1.

To maximize the quality of the location computed by the GPS, the antenna should have as clear a view of the sky as possible. But, as most OBD-II ports are located under the dashboard, this isn't always easy. Our technology can use multipath GPS signals when needed to provide accurate position information in even the most challenging installations. For more covert installations, or if you anticipate that personnel will tamper with the unit, using an optional Y-harness may prove beneficial.



### Mounting

#### Conventional

The VT1 contains a sensitive three-axis accelerometer used to provide safety event data to Track and Trace. The factory OBD-II port normally provides enough rigidity for proper accelerometer function. If the VT1 is located such that it can be kicked or dislodged, secure the unit by looping a cable tie around the device and the OBD-II port shell.



#### Y-Harness

If an optional OBD-II Y-harness is used, the VT1 **MUST** be rigidly affixed to the solid body of the vehicle by other means. Avoid attaching the VT1 to wire bundles or plastic panels. Secure the unit to the vehicle using multiple cable ties or 3M VHB adhesive tape with the non-label side of the unit facing out, toward the passenger cabin.

## Step 4: Connect Components

1. Make sure the vehicle is outside with a **clear view of the sky**.
2. Install the optional OBD-II Y-harness, if provided.
3. Insert the VT1 into the vehicle's OBD-II port.
4. **Wait up to 15 minutes** as the VT1 connects to the wireless network and obtains its credentials from the communications network.
5. Start the vehicle's engine and allow it to idle for 30 seconds before selecting ignition off.



The following table describes the primary, secondary and override (if applicable) operations of the LEDs on the VT1-XIR.

LED Color	Primary Operation	Secondary Operation	Override Operation
<b>ORANGE</b> "O"	<b>Indicate Cellular Communications Status</b> <ul style="list-style-type: none"> <li>• <b>LED = off:</b> Cell modem off (low power mode/sleep)</li> <li>• <b>LED = fast blink (5Hz):</b> Cell modem searching for network</li> <li>• <b>LED = on:</b> Cell modem registered home/roaming</li> </ul>	n/a	<b>Indicate Ignition Off</b> When ignition state is off, the LED will flash continuously at 0.5Hz. When ignition state is on, the LED will revert to Primary Operation.
<b>GREEN</b> "G"	<b>Indicate GPS Lock Status</b> <ul style="list-style-type: none"> <li>• <b>LED = off:</b> GPS module off (sleep) or no signal lock</li> <li>• <b>LED = on:</b> for 2sec before transition to Secondary Operation: signal locked</li> </ul>	<b>Indicate Locked Current Satellite Count</b> When GPS solution is Locked Good and the Primary Operation has completed, the LED will flash (1Hz) the amount of times corresponding to the number of satellites utilized in the current GPS solution, with a pause before repeating.	None
<b>CYAN</b> "C"	<b>Indicate Bluetooth Connection Status (if applicable)</b> <ul style="list-style-type: none"> <li>• <b>LED = off:</b> BT module off or unconnected,</li> <li>• <b>LED = slow blink (0.5Hz):</b> BT module connected</li> </ul>	<b>Indicate System Module Faults</b> If a system module fault is detected in firmware, the LED will flash (1Hz) the number of times corresponding to the fault index defined below, with a pause before repeating. <ul style="list-style-type: none"> <li>• <b>2 blinks</b> = Cellular module fault</li> <li>• <b>3 blinks</b> = GPS module fault</li> <li>• <b>5 blinks</b> = Bluetooth module fault (if applicable)</li> <li>• <b>6 blinks</b> = Accelerometer module fault</li> <li>• <b>7 blinks</b> = OBD module fault</li> <li>• <b>1 blink</b> = TPS module fault (if applicable)</li> </ul>	None

## Step 5: Installation Verification via SMS to 972-325-5402

1. Start a new SMS message on your phone to 972-325-5402.
2. Enter the ESN into the message body. Enter only one ESN per line.
3. Wait for a response.
4. If the response is affirmative, secure the VT1 according to your mounting method.