

CDMA VEHICLE TRACKER

Users Manual

Oct, 2012 ACT210, V0.1



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RF Exposure Warning:

The radiated output power of this device is below the FCC radio frequency exposure limits. Nevertheless, the device should be used in such a manner that the potential for human contact during normal operation is minimized. In order to avoid the possibility of exceeding the FCC radio frequency exposure limit, human proximity to the antenna should not be less than 20 mm.

Information to user (FCC Part 15.21):

Changes or modifications not expressively approved by the party responsible for compliance could void the user's authority to operate the equipment.

Statement according to FCC part15.19

This device complies with part 15 of the FCC Rules.

Operation is subject to the following two conditions :

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Information to user (Industry Canada license-exempt RSS standards)

This device complies with Industry Canada license-exempt RSS standard(s).

Operation is subject to the following two conditions:

- (1) This device may not cause interference, and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

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1 Introduction

1.1 PURPOSE

This manual discusses the purpose and usage of the Vehicle GPS Locator (ACT210).

1.2 TECHNICAL DETAIL

Please refer to $\underline{\text{Technical Manual.pdf}}$ for a more detailed description of the ACT210.

1.3 REVISION HISTORY

The revision history for this manual is shown in Table 1.1.

Table 1.1: Revision History

Version		Date	Description
	V 0.1	OCT 2012	Initial Release - ACT210

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2 PHYSICAL CONTENTS



Figure 2.1: Package Contents

The box should contain:

- One ACT210 Vehicle GPS Tracker
- One User Guide

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3 DESCRIPTION: VEHICLE GPS LOCATOR (ACT210)

3.1 THE LATEST VEHICLE TRACKER IN GPS TECHNOLOGY

Utilizing both assisted and standalone GPS, ACT210 is able to determine your location via a combination of cell triangulation and the greatest number of GPS satellites available. ACT210 charges via the included USB wall charger. ACT210 is equipped with a battery life of 3-7 days with normal usage.

3.2 ALERTS & MESSAGES

ACT210 has no button for user-set alert functions; the LBS (Location based server) can only know the device location and alerts including the vehicle information.

3.3 TRACKING REPORTS

The ACT210 can be configured to report its location on a sw scenario based chronological interval. The interval is remotely configurable and can be set via appropriate web and mobile software platforms. In addition to interval tracking, the ACT210 is capable of servicing single location requests on demand via one-time-fix requests made through the web/mobile platforms.

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Figure 3.1: External Interface

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4 HANDING THE VEHICLE GPS LOCATOR

4.1 SET-UP

- 1. Most of vehicle has an OBD-II (On Board Diagnostics) connector, which is located within 2 feet of the steering wheel.
- 2. The installation is very easy, just put the ACT210 to the OBD-II connector in user vehicle.
- 3. The ACT210 will power on automatically from vehicle battery and start initiation for CDMA network access.
- 4. After install of device to vehicle, all services are served by server.





Figure 4.1: Installation of ACT210 in vehicle

4.2 POWER SUPPLY FROM VEHICLE (TYPICAL 13.5V)

- 1. After insertion of ACT210 to OBD-II connector, the device has automatically power-on with the car battery, typically $9\sim20V$.
- 2. If the engine has off, then the device decide to power off the OBD interface circuit, and run the CDMA RF with GPS for the unauthorized movement function.
- 3. If the engine has on, then the device work on the OBD interface circuit, which is charge of gathering the vehicle information such as fuel gauge, speed, engine RMP, and so on to report it to LBS server via the CDMA network.

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5 POWERING ON/OFF THE VEHICLE GPS LOCATOR

5.1 Powering On/OFF

To Power ON:

- 1. Insert the device to OBD-II connector.
- 2. Then, the device has automatically powered on according to vehicle condition.
- 3. There is no visual way to confirm whether device has power-on or not.
- 4. But, user can make sure the location from web-server, or application.

To Power OFF:

- 1. If the device is needed for totally power-off, then just remove it from the OBD-II connector.
- 2. In case of the car has engine off with ACT210, and passed several days, the device has automatically power-off to protect the battery drain fully.
- 3. The device will stay power-off until the car ignition-on again.
- 4. If the device detects the battery level over 13.5V, then start the powering on.

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6 VEHICLE GPS LOCATOR SPECIFICATIONS

6.1 FORM FACTOR

- Dimensions: 80 x 45 mm, 22mm in Height
- Weight 66.5g

6.2 HARDWARE SPECIFICATIONS

- Full TIA/EIA/IS-98D Compliance Assisted & Standalone GPS
- Operating Voltage 9 ~ 20V, (internally 3.5V for CDMA RF)
- Max Output Power 0.3W
- Current Consumption Idle mode (50mA @ 12V)
- Light Sleep Mode (20mA @ 12V)
- Deep Sleep Mode (4mA @ 12V)
- Sensitivity Less than -104dBm
- Receive Frequency 869.04 ~ 893.97MHz for BC0, 1931.25 ~ 1988.75MHz for BC1.
- Transmit Frequency $824.04 \sim 848.97 \text{MHz}$ for BCO, $1851.25 \sim 1908.75 \text{MHz}$
- Bluetooth (2.1+EDR) : $2402MHz \sim 2480MHz$

6.3 SOFTWARE SPECIFICATIONS

- CDMA2000: CDMA2000 protocol between IS-707-A.5: Packet Data Service for Mobile and Base Station
- IS-95A/B: CDMA protocol between TIA/EIA-637: Short Message Service for Mobile and Base Station
- IS-801 & TIA-801-A: Position determination Built-in TCP/IP service standard for Dual-Mode spread spectrum systems

6.4 EXTERNAL INTERFACE

- OBD-II
- Micro USB (Type B)

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6.5 ENVIRONMENTAL

• Operating Temperature : -30 ~ +70C

• Storage Temperature : -40 ~ +85C

• Humidity (Operating) 5% ~ 95% non-condensing, (50C)

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