

CDMA VEHICLE TRACKER

Users Manual

July, 2012
ACT231, V0.3



AnyDATA

AnyTime AnyPlace Any Wireless Data Solutions™

AnyDATA CDMA ACT231

Copyright © 2009 AnyDATA Corp. All Rights Reserved.

Any part of this document may not be distributed, communicated, reproduced or transmitted in any form or by any means, electronic or mechanical or otherwise, for any purpose, without the permission of AnyDATA Corp.

This document can be subjected to revision without further notice.

Contact Address

Headquarter

AnyData Corporation

5 Oldfield, Irvine, CA 92618,

<http://www.anydata.net>

e-mail: info@anydata.com

Rep:1-949-833-0011

Fax: 1-949-833-0022

AnyData(China)

489 Song Tao Road, Sector B,

1st Fl. Pudong ZhanJiang Hi-

Tech Park, Shanghai, 201203,

P.R.China

<http://www.anydata.net.cn>

e-mail: info@anydata.net.cn

Rep:+86-21-5080-4828

Fax:+86-21-5080-3828

AnyData.Net Inc.(Korea)

DaeGo Bldg, 8th., 1591-10

Kwanyang-dong, Dongan_gu,

Anyang City, Kyunggi-do Korea.

<http://www.anydata.co.kr>

e-mail: infodata@anydata.net

Rep:+82-31-380-7100

Fax:+82-31-476-6021

Contents


Contents	3
Figures	4
Tables	4
1 Introduction	5
1.1 Purpose.....	5
1.2 Technical Detail.....	5
1.3 Revision History.....	5
2 Physical Contents	6
3 Description: Vehicle GPS Locator (ACT231)	7
3.1 The Latest Vehicle Tracker in GPS Technology.....	7
3.2 Alerts & Messages.....	7
3.3 Tracking Reports.....	7
3.4 Vehicle Door Lock/Unlock with remote control.....	7
3.5 Vehicle Door Lock/Unlock with remote control from cloud server.....	8
3.6 Vehicle Door Lock/Unlock with remote control through Bluetooth.....	9
4 handing the Vehicle GPS Locator	10
4.1 Set-up.....	10
4.2 Power supply from vehicle (typical 13.5V).....	10
5 Powering On/Off the Vehicle GPS Locator	11
5.1 Powering On/OFF.....	11
6 Vehicle GPS Locator Specifications	12
6.1 Form Factor	12
6.2 Hardware Specifications	12
6.3 Software Specifications	12
6.4 External INTERFACE.....	12
6.5 Environmental	13
7 Limitations of Liability	13

Figures

Figure 2.1: Package Contents.....	6
Figure 3.1: External Interface	8
Figure 4.1: Installation of ACT231 in vehicle.....	10

Tables

Table 1.1: Revision History.....	5
----------------------------------	---

	<p>RF Exposure Warning:</p> <p>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 cm.</p> <p>Information to user (FCC Part 15.21):</p> <p>Changes or modifications not expressively approved by the party responsible for compliance could void the user's authority to operate the equipment.</p> <p>Statement according to FCC part15.19</p> <p>This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions :</p> <ul style="list-style-type: none"> (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.
--	--

<p>Information to user (Industry Canada license-exempt RSS standards)</p> <p>This device complies with Industry Canada license-exempt RSS standard(s).</p> <p>Operation is subject to the following two conditions:</p> <ul style="list-style-type: none">(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.

1 INTRODUCTION

1.1 PURPOSE

This manual discusses the purpose and usage of the Vehicle GPS Locator (ACT231).

1.2 TECHNICAL DETAIL

Please refer to [Technical Manual.pdf](#) for a more detailed description of the ACT231.

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	JUN 2012	Initial Release - ACT231
V 0.2	JUL 2012	updated
V 0.3	JUL 2012	Updated

2 PHYSICAL CONTENTS



Figure 2.1: Package Contents

The box should contain:

- One ACT231 Vehicle GPS Tracker
- One User Guide

3 DESCRIPTION: VEHICLE GPS LOCATOR (ACT231)

3.1 THE LATEST VEHICLE TRACKER IN GPS TECHNOLOGY

Utilizing both assisted and standalone GPS, ACT231 is able to determine your location via a combination of cell triangulation and the greatest number of GPS satellites available. ACT231 charges via the included USB wall charger. ACT231 is equipped with a battery life of 3-7 days with normal usage.

3.2 ALERTS & MESSAGES

ACT231 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 ACT231 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 ACT231 is capable of servicing single location requests on demand via one-time-fix requests made through the web/mobile platforms.

3.4 VEHICLE DOOR LOCK/UNLOCK WITH REMOTE CONTROL

The ACT231 has the door lock or unlock function, which is controlled by several methods; a cellular data radio, a Bluetooth radio for short-range communications, a UHF radio with short-range vehicle-based receivers. This device adapted the BT2.1+EDR function to detect the Smartphone presence/identification and RKE (Remote Keyless Entry) function to access the UHF receiver of vehicle.



Figure 3.1: External Interface

3.5 VEHICLE DOOR LOOK/UNLOCK WITH REMOTE CONTROL FROM CLOUD SERVER

The ACT231 equipped a replacement remote for original equipment and aftermarket automotive keyless entry systems (RKE). The features and functions associated with each of the six channels of the RKE are dependent on the year, make and model of the vehicle. Such functions include remote control operation of the vehicle's lock, unlock, horn, trunk, dome light, rear hatch, remote start and power side door functions. The functions are activated by command on the remote control from the cloud server. Selection from a variety of appropriately controlled command which correspond to the features of the vehicle shall be used for function identification. The remote control may be configured to operate more than one receiver. A user may toggle between receivers as often as necessary.

Please visit to <http://www.keylessride.com/> for more details on RKE.

3.6 VEHICLE DOOR LOCK/UNLOCK WITH REMOTE CONTROL THROUGH BLUETOOTH

Bluetooth can be used for vehicle door lock/unlock control. Bluetooth available smart phone can be paired to the device. Once paired user can lock/unlock the vehicle using the application on the smart phone. Please visit to <http://delphi.com/> for more details on Bluetooth use cases.

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 ACT231 to the OBD-II connector in user vehicle.
3. The ACT231 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 ACT231 in vehicle

4.2 POWER SUPPLY FROM VEHICLE (TYPICAL 13.5V)

1. After insertion of ACT231 to OBD-II connector, the device has automatically power-on with the car battery, typically 9~20V.
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.

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 ACT231, 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.

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 ~848.97MHz for BC0, 1851.25 ~ 1908.75MHz
- Bluetooth (2.1+EDR) : 2402MHz ~ 2480MHz
- RKE (Remote Keyless Entry) : 300MHz, 319MHz, and 433.92MHz

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)

6.5 ENVIRONMENTAL

- Operating Temperature : -30 ~ +70C
- Storage Temperature : -40 ~ +85C
- Humidity (Operating) 5% ~ 95% non-condensing, (50C)

7 LIMITATIONS OF LIABILITY

AnyDATA expressly assumes no responsibility for any error, omission, interruption, deletion, defect, delay in operation or transmission, communications failure, theft or destruction or unauthorized access to, or alteration of, any use of the AnyDATA Locating Service through the Internet or other communication services.

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL TRIPTRAK OR ITS SUPPLIERS BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, PUNITIVE OR CONSEQUENTIAL DAMAGES WHATSOEVER, INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR: LOSS OF PROFITS OR REVENUES, LOSS OF CONFIDENTIAL OR OTHER INFORMATION, BUSINESS INTERRUPTION, VEHICLE INJURY, DEATH, LOSS OF PRIVACY, CORRUPTION OR LOSS OF DATA, FAILURES TO TRANSMIT OR RECEIVE DATA OR ANY OTHER PECUNIARY LOSS WHATSOEVER ARISING OUT OF OR IN ANY WAY RELATED TO THE USE OF OR INABILITY TO USE THE DEVICE, TRIPTRAK LOCATING SERVICE, OR THE SUPPORT SERVICES OR OTHERWISE IN CONNECTION WITH ANY PROVISION OF THIS AGREEMENT, EVEN IF COMPANY OR ANY SUPPLIER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.