



Automatic vehicle locator Model: VT-750

Java platform



Data Sheet

UniTraQ International Corp. All right reserved, © 2012
[2F., No.136, Ziqiang S. Rd., Zhubei City, Hsinchu County 30264, Taiwan \(R.O.C.\)](#)

TEL : 886-3-6578491 FAX : 886-3-6578492

MADE IN TAIWAN

Context

1. Introductions.....	1
2. Features.....	2
3. Applications.....	2
4. Optional java program.....	3
5. Ordering Information.....	3
6. Electrical Specification.....	4
6.1 General Specification.....	4
6.2 GPRS/GSM Specification.....	4
6.3 GPS Specification.....	5
7. RS232 Interface.....	6
8. Antenna Connect.....	6
8.1 GPRS/GSM Antenna Connect	6
8.2 GPS Antenna Connect.....	6
9. LED Indicator.....	6
9.1 Main Power Indicator.....	6
9.2 Backup Battery Charger Indicator.....	6
9.3 GPS Status Indicator.....	7
9.4 GPRS/GSM Status Indicator.....	7
10. Mechanical specifications.....	8
11. Environment specification.....	8



VT-750 Automatic vehicle locator

1. Introductions

VT-750 is a versatile and economical platform for mobile positioning applications. It integrates UniTraQ GPS module, Cinterion TC65i Quad-band 850/900/1800/1900GSM/GPRS communication engine and computer processing power all onto a single board.

It is enclosed in a solid casing for easy installation. VT-750 provides reliable Real Time vehicle GPS positions anytime anywhere in the world, providing the correct position and status of vehicles from remote locations onto computer displayed maps. Benefits such as increased fleet efficiency, improved public and driver safety, better emergency response time, enhanced fleet control, and good public relations are all realized through the proper implementation of VT-750 system.

The VT-750 system takes advantage of JAVA machine to transmit NMEA message to 24-hrs Control Center by Packet-Switch for monitoring through either GPRS or SMS message system. Control center sets command by sending SMS for monitoring through GSM system or Internet access.

2. Features

- ◆ Supports Quad band
850/900/1800/1900 MHZ operation
- ◆ JAVA platform
- ◆ Java IMP_2.0 virtual machine for
easy and fast application
development
- ◆ GPRS multi-slot class 12 and mobile
station class B
- ◆ Integrated TCP/IP stacks
- ◆ SMS transfer via GSM/GPRS
- ◆ Remote control via SMS
- ◆ Real-time GPS tracking
- ◆ Real-time vehicle status monitoring
- ◆ Dual data communication capability
through GPRS and SMS
- ◆ Supports speaker and microphone
interface
- ◆ 6 Bi-directional digital IO ports with
voltage protected up to 40V
- ◆ RS232 interface with DB9 connector
for Java program updating
- ◆ Power supply and low battery
detection acknowledge
- ◆ 4 LED indicators for power, battery
charger in progress, GSM/GPRS and
GPS status
- ◆ Built-in 1100mAh Recharge battery

3. Applications

- ◆ Security (cash carrier vehicle and police vehicle)
- ◆ Commercial vehicle monitor and driver performance
monitor
- ◆ Fleet management
- ◆ Logistics
- ◆ Rental car monitoring and theft recovery
- ◆ Emergency (ambulance and fire engine)
- ◆ Hazardous waste management

4. Optional java program

- ◆ Data logger in flash mode
- ◆ Up to 5 SMS numbers for emergency report
- ◆ Self geofence and out of range alert
- ◆ Speed detection
- ◆ OTA firmware upgrading
- ◆ GPS reporting internal user programmable
- ◆ System status report(IO,power,battery)
- ◆ Security administration

5. Ordering Information

VT750-①②

Designator	function	Symbol	Description
①	Type of digital IO1	A	digital IO1 as general purpose IO
		B	GPIO1 can be used to control watchdog timer (reserved) More details information refers to VT750 software development guide
②	Type of GPS enable method	0	GPS enabled by GPIO5 More details information refers to VT750 software development guide
		1	GPS enabled by hardware (reserved) More details information refers to VT750 software development guide

6. Electrical Specifications

6.1 General Specifications

Parameter	specification
Platform	Java, J2ME profile IMP 2.0, 400KB RAM, 1.7MB flash
Power Supply	9~60 VDC
Power Consumption	Power down 50uA
	Sleep mode 3mA
	GPRS class 12(Ave) 600mA
Firmware Upgrade	RS232 interface or by the air interface
Function Setting	RS232 interface or by the air interface
SIM card type	1.8V, 3V
LED Status Indicator	Main Power/ Battery charge in progress/GPRS/GPS
Serial port interface	RS232 interface with DB9 connector
Digital GPIO	6 Bi-directional digital IO ports with voltage protected up to 40V

6.2 GPRS/GSM Specifications

Parameter	specification
Frequency	Quad band 850MHz/900MHz/1800MHz/ 1900MHz/
Output Power	Class 4(2W) for EGSM 850 and 900 Class 1(1W) for GSM 1800 and 1900
Protocol support	TCP/UDP/HTTP/FTP/SMTP/POP3/PPP
GPRS Multi-slot	Class 12
GPRS Mobil station	Class B
Coding scheme	CS1,CS2,CS3,CS4
PBCCH support	Yes
USSD support	Yes
DownLoad/UpLoad	85.6Kbps/21.4Kbps

6.3 GPS Specifications

Parameter	specification
Transmission data	NMEA 0183 Ver3.01
Receiver channels / Fixing method	65 channels
Acquisition sensitivity	-137 dBm
Tracking sensitivity	-158 dBm
Receiver frequency	1575.42MHz L1 C/A Code
Accuracy (1)Position (2)Datum	5m CEP WGS-84
Time To First Fix (1)Cold start (2)Warm start (3)Hot start	45Sec(typ) 35Sec(typ) 1Sec(typ)
Dynamic condition	4G (39.2m/sec ²)
Interface	UART
Operational Limits (1) Altitude (2) velocity	< 18,000m < 500m/s
Bit rate	4800 bps
Start bit	1 bit
Stop bit	1 bit
Data bit	8 bit
Parity	None
Output sentences	GPGGA/GPGSA/GPGSV/GPRMC
Refresh time	1Sec

7. RS232 Interface

VT-750 offers RS232 interface and RS232 meets the requirements of TIA/EIA-232-F. RS232 interface is a command and data interface which allows users to download Java firmware and set functions.

8. Antenna Interface

8.1 GPRS/GSM Antenna Connector

VT-750 offers a SMA type connector which must be connected to an external passive antenna.

8.2 GPS Antenna Connector

VT-750 offers a SMA type connector which must be connected to an external active antenna. The connector receives RF signal input and antenna power supply.

9. LED Indicator

9.1 Main Power Indicator

For the Main Power Indicator through green LED, detailed information is shown in the following table.

LED mode	Operation status
On	Main power on
Off	Main power off

9.2 Backup Battery Charger Indicator

For the Main Power Indicator through green LED, detailed information is shown in the following table.

LED mode	Operation status
On	Backup battery charge in progress
Off	Backup battery charge complete

9.3 GPS Status Indicator

For the GPS status indicator through red LED, detailed information is shown in the following table.

LED mode	Operation status
2 sec On /2 sec Off	Searching satellite
1 sec On /1 sec Off	Tracking satellite

9.4 GPRS/GSM Status Indicator

For the GPRS/GSM status indicator through yellow LED, detailed the information is shown in the following table. This part can be modified, please read the TC65i AT Command Set.

LED mode	Operation status
Off	GPRS/GSM is off
600 ms On / 600ms Off	No SIM card inserted or no PIN entered, or network search in progress, or ongoing user authentication, or network login in progress.
75 ms On / 3 s Off	Logged to network (monitoring control channels and user interactions). No call in progress.
75 ms on / 75 ms Off / 75 ms On / 3 s Off	One or more GPRS contexts activated.
Flashing	Indicates GPRS data transfer: When a GPRS transfer is in progress, the LED goes on within 1 second after data packets were exchanged. Flash duration is approximately 0.5 s.
On	Depending on type of call: Voice call: Connected to remote party. Data call: Connected to remote party or exchange of parameters while setting up or disconnecting a call.

10. Mechanical specification

Parameter	Specification
Dimension	85 mm(L) X62.5 mm(W) X 28 mm(H)
Weight	110g

11. Environment specification

Parameter		Specification
Temperature	Operating	-20 °C to +60 °C
	storage	-40 °C to +80 °C



UniTraQ International Corp

2F., No.136, Ziqiang S. Rd., Zhubei City, Hsinchu County 30264, Taiwan (R.O.C.)

TEL : 886-3-6578491 FAX : 886-3-6578492

Email support@unitraq.com
Website www.unitraq.com

© 2009 UniTraQ International Corp. All rights reserved.

Not to be reproduced in whole or part for any purpose without written permission of UniTraQ International Corp ("UniTraQ") Information provided by UniTraQ is believed to be accurate and reliable. These materials are provided by UniTraQ as a service to its customers and may be used for informational purposes only. UniTraQ assumes no responsibility for errors or omissions in these materials, nor for its use. UniTraQ reserves the right to change specification at any time without notice.

These materials are provided "as is" without warranty of any kind, either expressed or implied, relating to sale and/or use of UniTraQ products including liability or warranties relating to fitness for a particular purpose, consequential or incidental damages, merchantability, or infringement of any patent, copyright or other intellectual property right. UniTraQ further does not warrant the accuracy or completeness of the information, text, graphics or other items contained within these materials. UniTraQ shall not be liable for any special, indirect, incidental, or consequential damages, including without limitation, lost revenues or lost profits, which may result from the use of these materials.

UniTraQ products are not intended for use in medical, life-support devices, or applications involving potential risk of death, personal injury, or severe property damage in case of failure of the product.