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# Automatic vehicle locator Model: VT-750 Java platform



# **Data Sheet**

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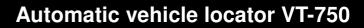
MADE IN TAIWAN



# Automatic vehicle locator VT-750

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# 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 massage system. Control center sets command by sending SMS for monitoring through GSM system or Internet access.



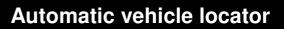
# Automatic vehicle locator VT-750

#### 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 ۵
- Up to 5 SMS numbers for emergency report
- Self geofence and out of range alert
- Speed detection ٠
- OTA firmware upgrading ٠
- GPS reporting internal user programmable
  System status report(IO,power,battery)
- Security administration

## 5. Ordering Information

#### VT750-112

Designator	function	Symbol	Description
	Type of digital IO1	А	digital IO1 as general purpose IO
		в	GPIO1 can be used to control watchdog timer
1			(reserved)
			More details information refers to VT750
			software development guide
	Type of GPS enable method	0	GPS enabled by GPIO5
			More details information refers to VT750
			software development guide
2		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 down 50uA	
Power Consumption	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/	
Dutaut Dawar	Class 4(2W) for EGSM 850 and 900	
Output Power	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	5m CEP
(2)Datum	WGS-84
Time To First Fix	
(1)Cold start	45Sec(typ)
(2)Warm start	35Sec(typ)
(3)Hot start	1Sec(typ)
Dynamic condition	4G (39.2m/sec <sup>2</sup> )
Interface	UART
Operational Limits	
(1) Altitude	< 18,000m
(2) velocity	< 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 /	One or more GPRS contexts activated.
3 s Off	
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
Tomporatura	Operating	-20 ℃ to +60 ℃
Temperature	storage	-40 ℃ to +80 ℃



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