



Model 106 GSM/GPS/GPRS Vehicle Tracker

User Manual



Thank you for purchasing RTITraq. Please read this manual carefully before using this product, to ensure proper operation. Please note that all specifications and information contained herein are subject to change without prior notice. Any changes will be integrated into the latest release. The manufacturer assumes no responsibility for any errors or omissions in this document.

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Introduction

1.1 The **RTITraq** is based on the GSM/GPRS network and GPS satellite positioning system, which sets multiple functions of security, positioning, monitoring surveillance, emergency alarms and tracking. It can track and monitor remote targets by SMS or internet.

1.2.0 Features

1.2.1 Supports both GPS / GSM station positioning methods.

1.2.2 Supports SMS/GPRS/Internet Network data transmission (GPRS/Internet instructions on included CD).

1.2.3 Supports GPRS on-line and automatic reconnect GPRS upon signal loss.

1.2.4 Supports SMS/GPRS dual-mode switching.

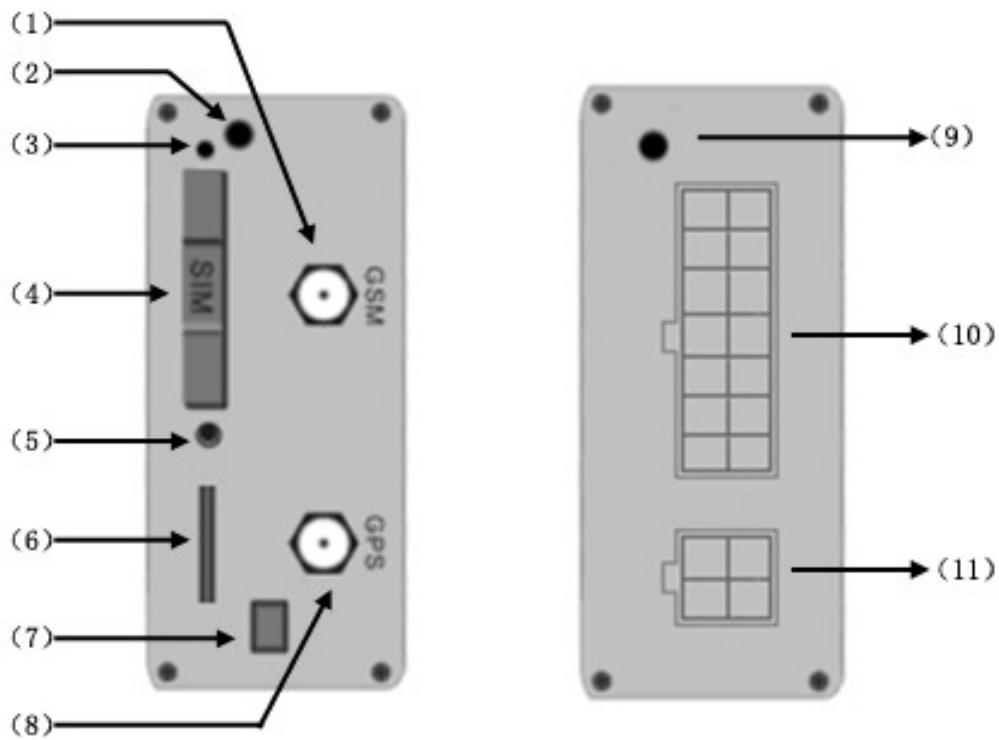
1.2.5 Supports configuration by remote terminal.

1.2.6 Support for point-to-point, point to group, group-to-group monitoring.

1.2.7 Set multiple functions of security, positioning, monitoring, surveillance, emergency alarms and tracking.

Applications

Used widely for vehicle and other moving objects tracking. Ie and other moving objects.

Hardware Description

- (1) GSM Antenna Connector
- (2) J4 Microphone Jack
- (3) LED Indicator
- (4) SIM Card Slot
- (5) SIM Card Pop-up Switch
- (6) SD Card Slot
- (7) Backup Battery Switch
- (8) GPS Antenna Connector
- (9) Remote Controller Receiver Antenna (Model B)
- (10) J1 14-Pin Control Harness Port
- (11) J2 Camera Port

4.0 Specifications

Content	Specifications
Dimensions	3.35" x 2.80" x 1.02" (85*71*26mm)
Weight	0.154 lb. (170g)
Network	GSM/GPRS
Band	850/900/1800/1900Mhz
GSM/GPRS Module	SIM900B
GPS Module	SIRF3 chip
GPS Sensitivity	-159dBm
GPS Accuracy	5 meters
GPS Start Time	Cold status 45s / Warm status 35s / Hot status 1s
Applicable Vehicle power	12 V to 24V
Backup Battery	Chargeable, changeable 3.7V 800mAh Li-ion battery
Storage Temp	-4° F to 189° F (-40°C to +85°C)
Operation Temp.	-4° F to 149° F (-20°C to +65°C)
Humidity	5% to 95% non-condensing

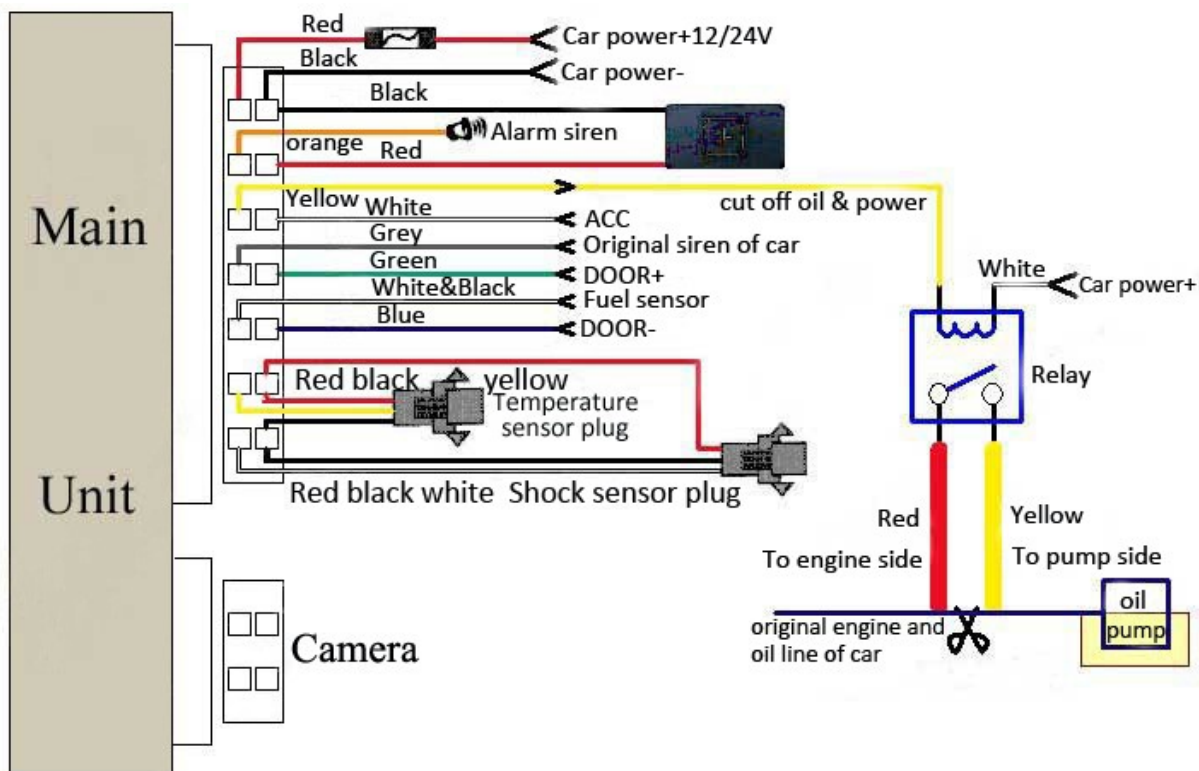
5.0 Terminal Installation

5.0.1 Installation should be performed by qualified personnel only.

5.0.2 Take care to position the antennas in a location with strong signals.

5.0.3 Install in a location that is free of water and dust.

5.0.4 Locate the 14PIN harness and insert it into the corresponding connector on the RTITraq, then connect the wires into the vehicle circuits as shown below:



Wiring diagram

5.0.5 Note: The orange wire can be connected to the original car horn; it can also be connected to a separate siren (purchased separately).

5.0.6 The tracker is compatible with an original vehicle anti-theft device. In order to use the feature, note that the gray wire can connect to an existing car siren, to synchronize the tracker alarm and disarm.

5.0.7 Determine whether the door trigger is positive- or negative-active. If positive, then connect the green wire; if negative, then connect the blue wire.

5.0.8 Insert the shock sensor plug into the sensor port. (Shock sensor is optional)

5.0.9 Insert the camera plug into the camera port. (Camera is optional)

5.0.10 Fuel Sensor wiring: Refer to the wiring instructions on the fuel sensor. Connect the Red wire to car power (+), the Black wire to car power (-) and the White & Black wire to White & Black wire on the 14-Pin harness(Fuel sensor port). Fuel sensor is optional.

5.0.11 Insert the temperature sensor plug into the sensor port (Temperature sensor is optional)

5.0.12 Insert the external monitor Microphone into the monitor jack.

5.0.13 Connect the GPS and GSM antenna to the corresponding connectors, and find a suitable place to mount the antennas to ensure adequate signal reception.

SIM Card Installation

- (1) Use tweezers or other sharp object to grip the SIM CARD popup switch.
- (2) Remove the SIM card holder and place the SIM card in it. Replace the SIM card holder into its original position.
- (3) Make sure that the SIM card is capable of executing incoming calls display, where no calls can be diverted and PIN numbers can be locked. The SMS format must be in TXT format (the unit cannot recognize PDU format).

Turn on the RTITraq

Connect the positive (**RED**) and ground (**BLACK**) wires to the 12V or 24V vehicle power supply, then wait for 1 minute after connecting, to confirm that the tracker is operating properly. Upon confirmation, turn on the backup battery switch.

GSM/GPS LED Indicators

LED Indicator	Status
RED Steady ON	No GSM Network Signals
RED Flashing Quickly (1 per Second)	GSM Mode Active
RED Flashing Slowly (1 per 3 Seconds)	GPRS Mode Active
GREEN Flashing Slowly	GPS Signal Normal
GREEN OFF	No GPS Signal Detected
RED & GREEN Alternately Flash 3 Times	SD Card Has Been Detected

Initialization

Command: begin+password

Reply: begin ok

Note: Initializes all the settings to default factory settings. (default password: 123456)

Change Password

Command: password+old password+space+new password

Reply: password ok

Note:

Be sure to record the new password—it will be required in case you need to upload the software to restore the original setting.

Make sure the new password consists of a 6 digit numeral; otherwise, the tracker will not recognize the password.

Auto Authorization

Command: Call the **RTITraq** 10 times in succession to establish the calling number as authorized.

Reply: add master ok

You can enter a maximum of 5 authorized phone numbers for the tracker.

Authorization

Command: admin+password+space+phone number

Reply: admin ok

Note: Authorized numbers should be set by the first authorized number.

Delete Authorization

Command: noadmin+password+space+authorized number

Reply: noadmin ok

Note: If you want to track the target **RTITraq** when it enters into another country, you must add the country code before the cell phone number.

Single Locating

If no authorized numbers have been established, any phone number calling the **RTITraq** will reply with an SMS, including the current latitude and longitude information. If any authorized number has been set successfully, the **RTITraq** will respond only to authorized numbers with tracking information.

Calling the **RTITraq** from an authorized number will disconnect the call and respond with real-time latitude and longitude information.

When GPS signals are weak, the SMS message will report the last position where the tracker received a valid location. If it is different from the exact current location, note the time included in the received SMS message.

Auto Track

Command: fix030s005n +password

Reply: Reports the Geo-info 5 times at 30s intervals. (s:second, m:minute, h:hour).

Note: To report continuously at 30s intervals, replace 005 with *** wildcard.
Interval must not be less than 20s

Cancel Auto Track

Command: nofix+password"

Reply: (Tracker will stop auto-reporting)

Get Location in Absolute Street Address

You must set up the APN of your local GSM network for the SIM card in the **RTITraq** before using this function. If there is a user name and password established for GPRS login, please refer to the section on configuring the APN, user name and password for GPRS login.

Command: address+password
Reply: (real street address and name)
Example: 123 Main Street, Anytown U.S.A. 00000

Location-Based Service (LBS)

When the **RTITraq** can't receive valid GPS signals, it will report positions by location-based service(LBS). The messages include the GPS coordinates of the last position in SMS mode, but the LAC (Location Area Code) in the message will be the current new position. The location can be seen by inputting the LAC code in the menu "Manual Track" of the web platform www.gpstrackerxy.com. You can also send the command "address+password" to tracker to get the newest absolute address and GPS coordinates as well. **RTITraq** will automatically switch to track by location- based service in GPRS mode, and displayed on the map of web server with LBS mark. There may be some discrepancies with actual location by LBS tracking; the precision depends on GSM reception. **Note:** This feature can be used normally in most areas, depending on the signal strength of your GSM network. It may not be available in all areas.

View Photos on Cell Phone

Command: photo+password
Reply: (photo is sent)
Note: You must set up the APN of your GSM network before using this function.

Set Monitor Mode

Command: monitor+password
Reply: monitor ok!
Note: The factory default mode is Tracker mode.

Set Tracker Mode

Command: tracker+password
Reply: tracker ok!
Note: This is the default mode.

Auto Storage

When the **RTITraq** loses GSM or GPRS signals, it will store positions and alerts automatically in the SD Card, according to current settings. When signals are restored, all stored data will be sent to authorized numbers or server platform. The tracking data will need to be uploaded to the platform via SMS command.

Time-based Storage

Command: save030s005n+password

Reply: save ok

Note: Accepts (s:seconds / m: minutes / hours) for interval. Above example saves data every 30 seconds, for 5 occurrences. You can substitute a wildcard *** for the occurrence parameter, for continuous storage.

Clear SC Card Storage

Command: clear+password

Reply: clear ok

Set Geo-Fence

Command: stockade+password+space+lat,lon;lat,lon

Reply: stockade ok

Note: First lat/lon = upper left corner; second lat/lon = lower right corner

Cancel Geo-Fence

Command: nostockade+password

Reply: nostockade ok

Set Movement Alarm

Command: move+password

Reply: move ok

Note: Default movement is 200m

Cancel Movement Alarm

Command: nomove+password

Reply: nomove ok

Set Overspeed Alarm

Command: speed+password+space+3digit-speed

Reply: speed ok!

Note: The recommended speed should be not less than 30km/h

Cancel Overspeed Alarm

Command: nospeed+password

Reply: nospeed ok

Set Temperature Alarm

Command: temperature+password+space+***F,***F

Reply: temperature ok

Note: *** is used to denote a three-digit temperature value. The first value is the lower limit, and the second value is the upper limit. Use 'F' or 'C' to specify scale. Available range: -050C to +125C.

Cancel Temperature Alarm

Command: notemperature+password

Reply: notemperature ok

Alarm Reports

Alarm Type	Alarm Message	Comment
Low Battery	low battery+lat./long	
Power Off	power alarm+lat./long	
Driver SOS Button	help me!+lat./long	Unit will stop sending message if any authorized number replies "help me!"
Geo-fence	stockade+geoinfo	
Movement	move ok	
Overspeed	speed+3digit-speed+geoinfo	
Fuel	oil:xx%+lat/lon (on-board siren on for 30s)	If fuel decreases by 8% in 3 minutes, then it will send a fuel leak or theft alarm
Temperature		

Cut Off the Fuel and Power System

Command: stop+password

Reply: stop engine succeed

Note: Vehicle will remain immobilized until a resume command is issued.

Resume the Fuel and Power System

Command: resume+password

Reply: resume engine succeed

Arm

Command: arm+password

Reply: tracker is activated

Note: User must stop the engine, which will send an SMS "arm+password" when the door has been exited and closed. You will receive an arm-status fail if the engine is turned on (key is in the ACC position), with the reply "set up fail! pls turn off ACC"

Disarm Alarms

Command: disarm + password

Reply: tracker is deactivated

Alarms During an Armed State

Alarm Type	Alarm Message	Comment
Door	door alarm+lat/lon	Siren will be sounded if in non-silent mode.
Shock Sensor	sensor alarm+lat/lon	Siren will be sounded if in non-silent mode.
ACC (Key is place in accessory position)	acc alarm+lat/lon	Siren will be sounded if in non-silent mode.

Photos During an Armed State

When a DOOR/ACC/SOS alarm is detected in the armed state, the RTITraq will send a photo and upload it to the monitoring platform and all authorized mobile phones. The photos will also be saved to the SD Card.

Set Silent Mode

Command: silent+password”

Reply: silent ok!

Note: The siren will not be sounded after an alarm is triggered, but **RTITraq** will continue to send alarm SMS messages to authorized numbers.

Cancel Silent Mode

Command: loud+password

Reply: loud ok!

Note: The siren will be sounded locally after an alarm is triggered.

Important: As a safety precaution, when the vehicle is an area without GSM network service, the siren will be sounded under non-silent mode if any alarm is triggered (door, sensor, ACC), but no SMS alarm will be sent.

Load Current Date

Command: load+password

Reply: load ok

Load Specified Date

Command: load+password+space+yearmonthdate

Reply: load ok

Report the Vehicle Status.

Command: check+password

Reply:

Power: ON/OFF

Battery: 100%

GPRS: ON/OFF

GPS: OK/NO GPS

ACC: OFF/ON

Door: OFF/ON

GSM Signal: 1-32 (performance). Note: The larger the number, the stronger the GSM signal.

Fuel: 100.00%

Temperature: +28.0

Resetting the RTITraq Unit

Command: reset+password

Reply: reset ok

Note: Press the tracker reset button for 1 second to perform a hardware reset.

IMEI Checking

Command: imei+password

Reply: The 15-digit IMEI number will be returned.

Terminal (local) Time Setting

Command: time+space+zone+password+space+time

Reply: time ok

GPRS Setting

User must send SMS via cell phone to set up APN, IP and port before starting tracking by GPRS

Setting Up APN

Command: APN+password + Space + your local APN

Reply: apn ok

Note: APN standards for Access Point Name differs from country to country. For more information about your local APN, please inquire with your local GPRS network operator.

GPRS User Name and Password Setup

Info: In most countries, the user name and password involving GPRS login are not compulsory; therefore, this entry can be skipped. For those countries requiring user name and password, please configure as follows:

Command: up+password+space+user+space+password

Reply: user, password ok!

Note: 123456 is the default **RTITraq** password, jones is the user name for GPRS login, 666666 is the password for GPRS login.

IP and Port Setup

Command: adminip+password+space+ipaddress+space+portnumber

Reply: adminip OK

Modes: Switch between SMS and GPRS

Command: gprs+password

Reply: gprs ok!

Note: The default mode is SMS

Precautions

Please follow these instructions to ensure reliable RTITraq operation:

1. Keep the unit dry. Any liquid, i.e. rain, moisture, etc. may destroy or damage the internal circuitry.
2. Don't use or store the unit in dusty places.
3. Don't put the unit in overheated or overcooled places.
4. Handle carefully. Don't vibrate or shake the device violently.
5. Clean the unit with a piece of dry cloth. Don't clean with chemicals or detergents.
5. Do not paint the unit—doing so may contaminate the product.
7. Do not disassemble nor refit the unit.
8. Please read the user manual carefully before installation and operation. Become familiar with required voltages and proper operating conditions.

Symptoms & Solutions

Symptom	Solution
Startup Fail	Please check the power wiring.
Call Fail	Check that the GSM antenna connected. Check whether the SIM card is in place. Check power supply voltage.
Hang up Fail	In existence of an authorized number, an unauthorized number dials up the unit. Please initialize the unit and re-set up the authorized numbers.
Monitor Fail	Check if the authorized number is setup
Location Report has all zeroes.	Confirm the position and connection of the external GPS antenna.