

AVL Tracking System TR-606B



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1. Introduction

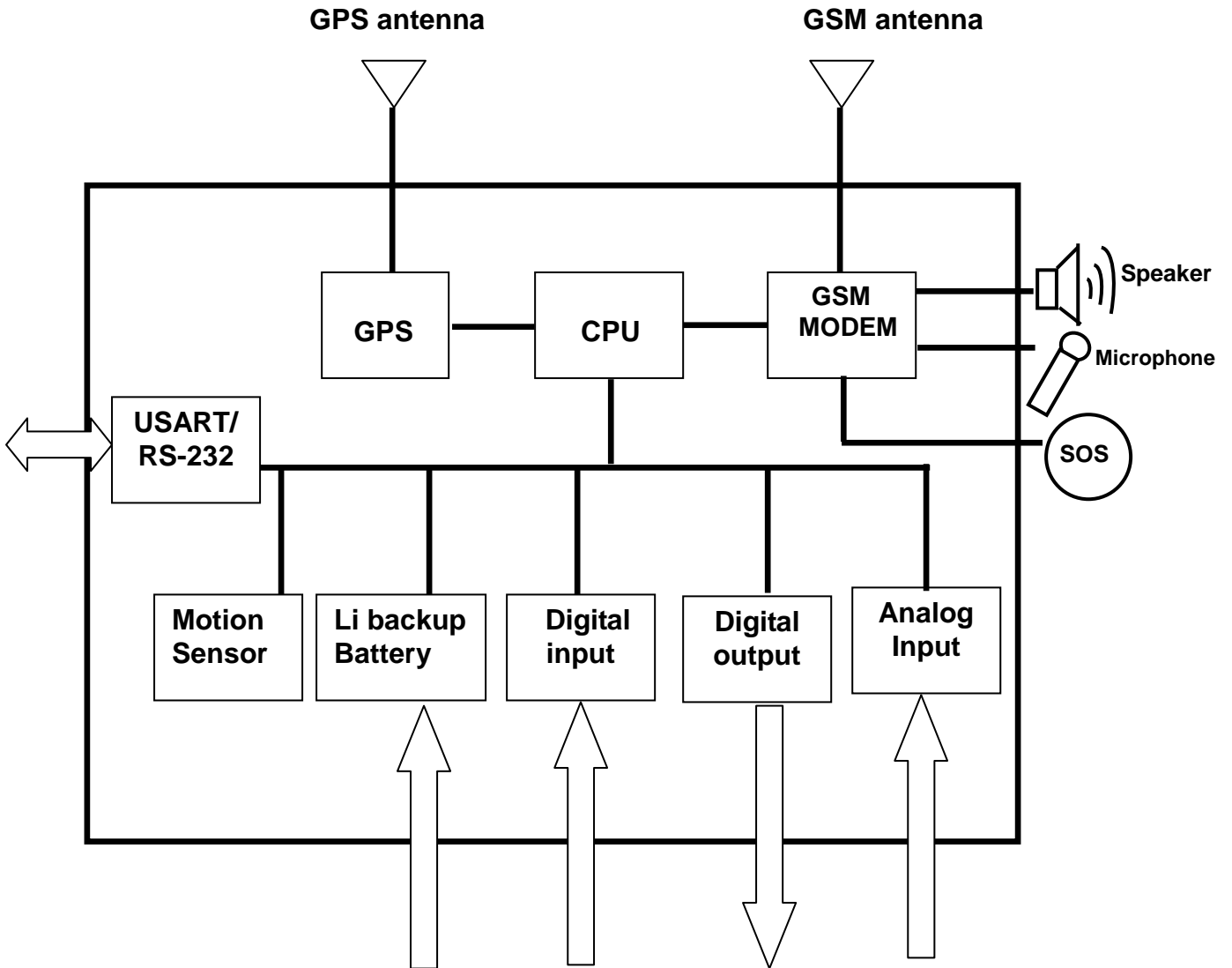
1.1 Introduction

The TR-606B is a multi-functional and economically feasible communication platform for mobile positioning applications. It integrates highly sensitive GPS module, dual-band UMTS/HSDPA and quad-band GSM communication module with a powerful microcontroller that fits into a compact enclosure. The TR-606B has a solid and rigid housing, for simple installation. It provides real-time GPS positions anytime and anywhere with an open view to the sky, and offers precise positioning, and reports vehicle status to the server with necessary information shown on the map. Benefits such as enhanced fleet management, improved vehicle safety, emergency response, are all accomplished through the implementation of the TR-606B system.

1.2 Features

- Dual-Band UMTS/HSDPA 850/1900 MHz WCDMA system
- Quad-band GSM/GPRS/EDGE 850/900/1800/1900 MHz system
- Build in high sensitivity GPS system
- Supports AT command via SMS/ TCP/UDP
- Remote control via SMS/GPRS command
- Real-time GPS position feedback and vehicle status monitoring
- Built-in in digital outputs (3), digital inputs (3), an ACC input, 1 analog input, and 1 serial port
- Power supply for Li-ion battery and lead-acid battery
- Supports multi geo-fence function
- OTA (Over the air) firmware upgrade
- Data buffer storage 3,000 points
- Interval report depends on customization
- Power low/lost detection alarm
- Motion sensor
- 3 LED indicators for GSM, GPS, power status

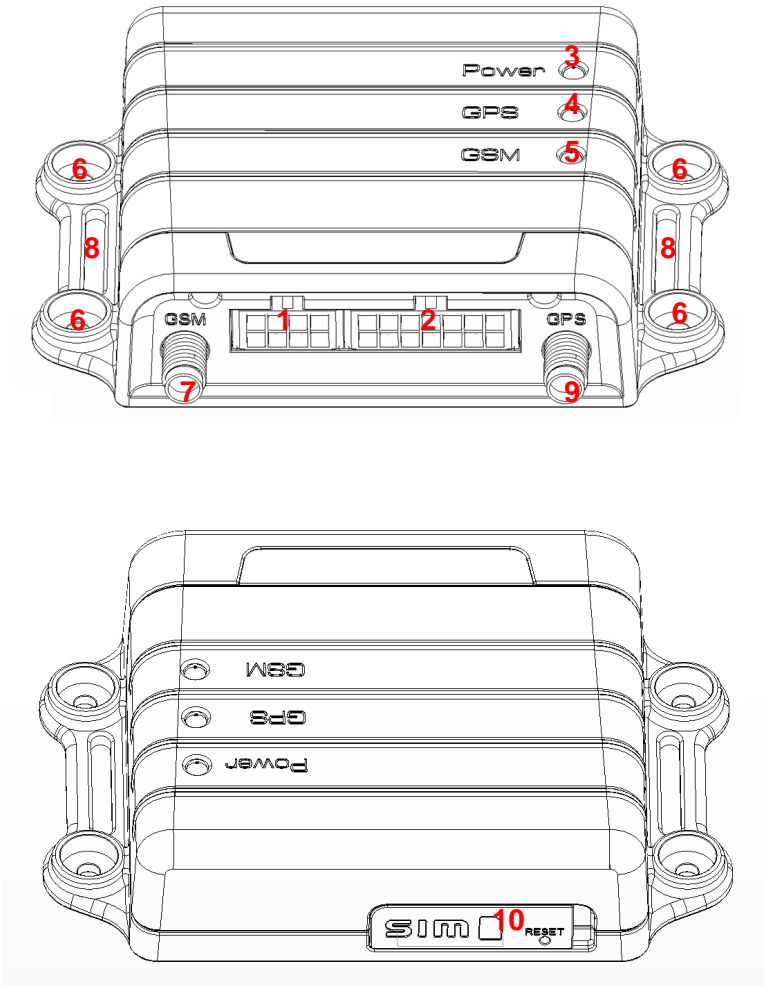
1.3 Hardware Architecture



1.4 Hardware specification

Item	Description	
Dimension	98 mm X 71 mm X 22 mm	
CPU	High performance line ARM-base 32-bit MCU	
GPS receiver	SiRF Star III high performance GPS chipset	
Temperature	Operation	-30°C ~ + 80°C
	Storage	-40°C ~ + 85°C
GPS Antenna	SMA Type connector. Active antenna (3.3~3.8V)	
GSM Antenna	SMA Type connector. Patch antenna	
Communication	UMTS/HSDPA 850/1900 MHz WCDMA Quad-Band GSM/GPRS/EDGE 850/900/1800/1900 MHz	
Protocol	Voice/SMS/GPRS (TCP/UDP)	
Built-in Memory	32 Mb	
GPS logging capacity	3000 points (Cell ID 1,400 points)	
Emergency Input	Negative trigger	1
Ignition (ACC) Input	Positive trigger	1
Digital Input Port	Negative trigger	2
	Positive trigger	1
Digital Output Port	Negative trigger	3 (300 mA)
Analog Input Port	Analog Input	1(0~28V)
Serial Port	115200 bps	
Backup battery	Internal 820 mAh Lion battery Support external Lead-acid battery (12V/24V)	
Sensor	Motion sensor	

1.5 Appearance



1	Peripheral interface port
2	I/O port
3	Power Status LED
4	GPS LED
5	GSM LED
6	For fixing device with screws
7	GSM antenna connector
8	For fixing device with belt
9	GPS antenna connector
10	SIM card holder

1.6 LED indicator

Power Status LED (Red)

LED	Permanently On
State	Main power on, device on

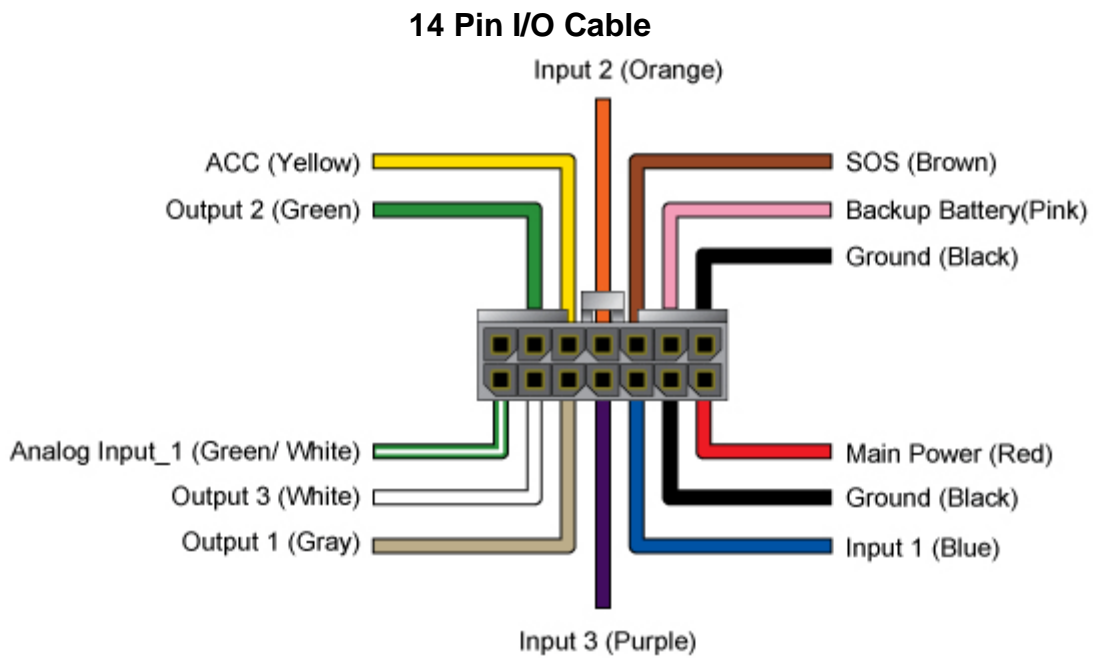
GPS LED (Yellow)

LED	Permanently off	Fast blinking (Once every 1 second)	Slow blinking (Once every 3 seconds)
State	GPS off	GPS not fix	GPS fix

GSM LED (Green)

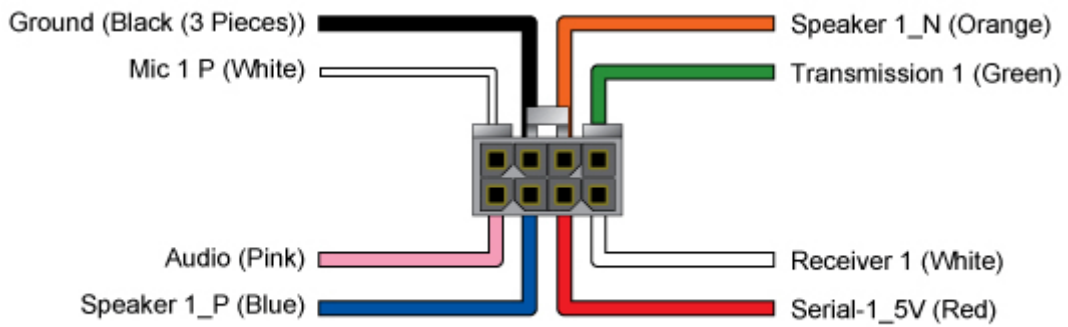
LED	Permanently off	Fast blinking (Once every 1 second)	Slow blinking (Once every 3 seconds)
State	GSM off	<ol style="list-style-type: none"> 1. TR-606B is searching GSM network 2. SIM card is registering to GSM network 	TR-606B is registered full service

1.7 Cable description



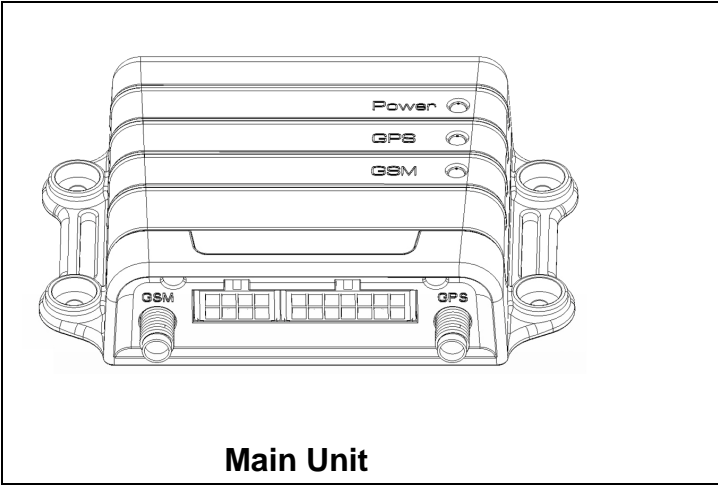
Wire Color	Description
Green/ White	Analog Input_1
White	Digital Output 3 (Negative Trigger)
Gray	Digital Output 1 (Negative Trigger)
Purple	Digital Input 3 (Positive Trigger)
Blue	Digital Input 1 (Negative Trigger)
Black	Ground
Red	Main Power
X	
Green	Digital Output 2 (Negative Trigger)
Yellow	ACC (Positive Trigger)
Orange	Digital Input 2 (Negative Trigger)
Brown	SOS (Negative Trigger)
Pink	12V/24V Backup Battery
Black	Ground

8 Pin Cable

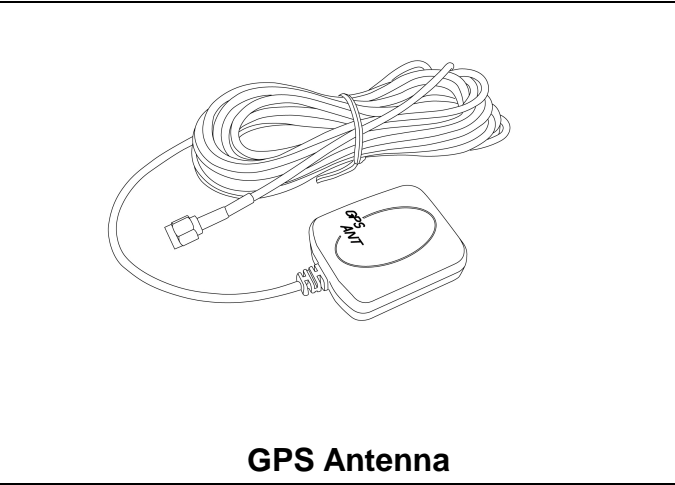


Wire Color	Description
Pink	Audio_5V
Blue	Speaker 1(Positive)
Red	Serial-1_5V
White	Receiver 1
White	Microphone 1 P
Black (3 Pieces)	Ground
Orange	Speaker 1(Negative)
Green	Transmission 1

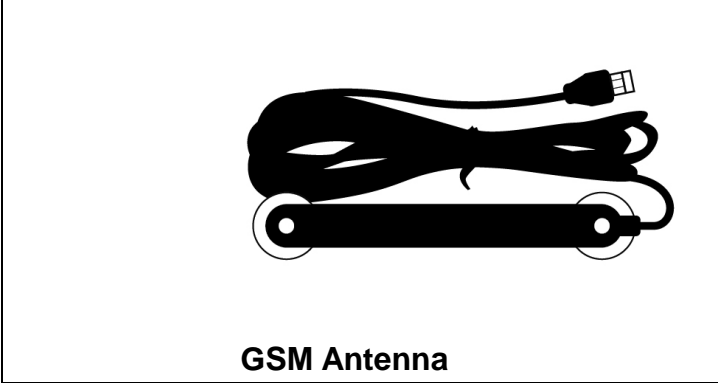
1.8 Accessories



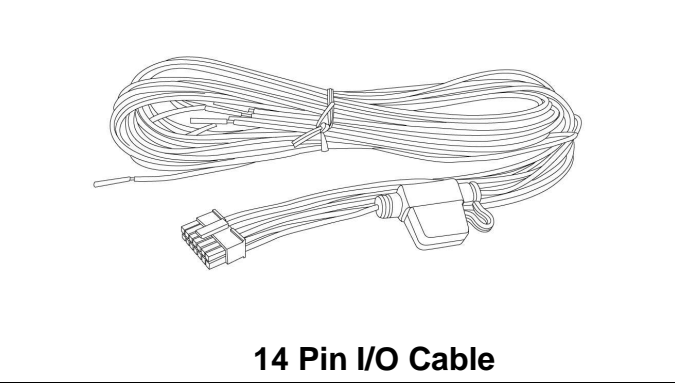
Main Unit



GPS Antenna



GSM Antenna



14 Pin I/O Cable

2 Operation

For first time users, please follow the steps below to complete the pre-installation.

2.1 Install the SIM card



With the copper contacts face-up, align the notch on the SIM card with the notch on the SIM slot and insert the SIM card. If SIM is inserted correctly, you will not be able to see the copper contacts after inserting the card. To eject SIM card, simply, use your finger nail and apply slight pressure.

Note: Make sure to disable the SIM PIN entry function on the SIM card before inserting your SIM card

Note: Before installing or taking out the SIM card, please power off the TR-606.

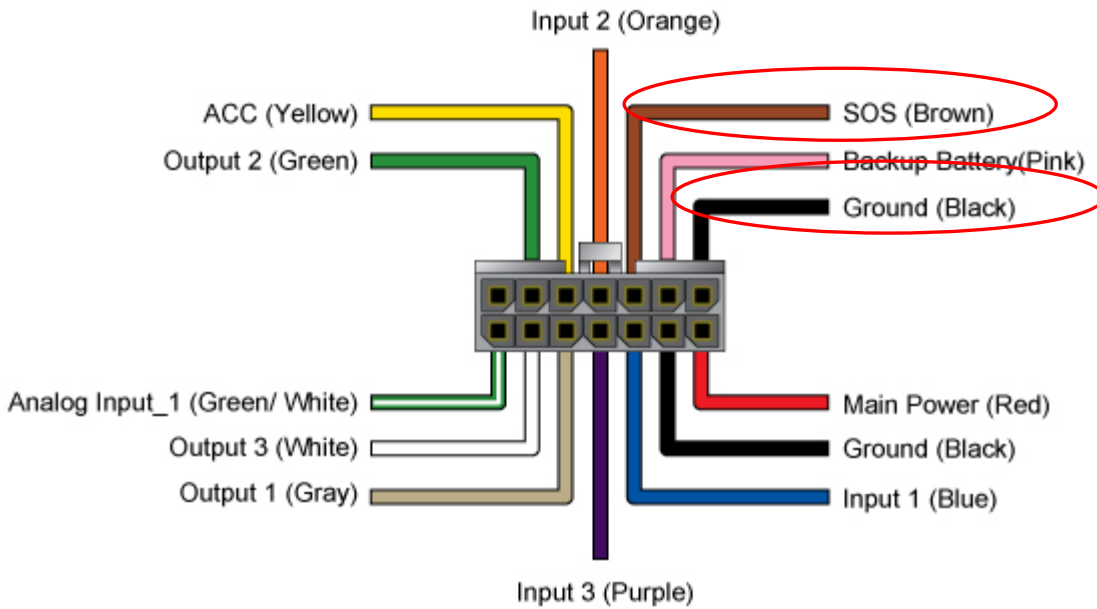
2.2 Install the GPS and GSM antenna



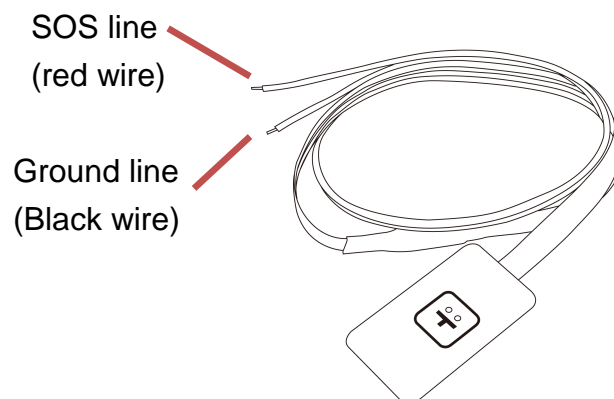
Install the GSM antenna to the GSM antenna port on the left side of the back of the device and install the GPS antenna to the GPS antenna port on the right side of the back of the device making sure both antennas tightly screwed in place. Please refer to the photo above.

2.3 Installing the Emergency button

There is a line of the 14 pin IO cable for connecting push button for emergency help.



One end of the button must be connected to the SOS line and the other end must be connected to the ground line.



Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

IMPORTANT NOTE:

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.