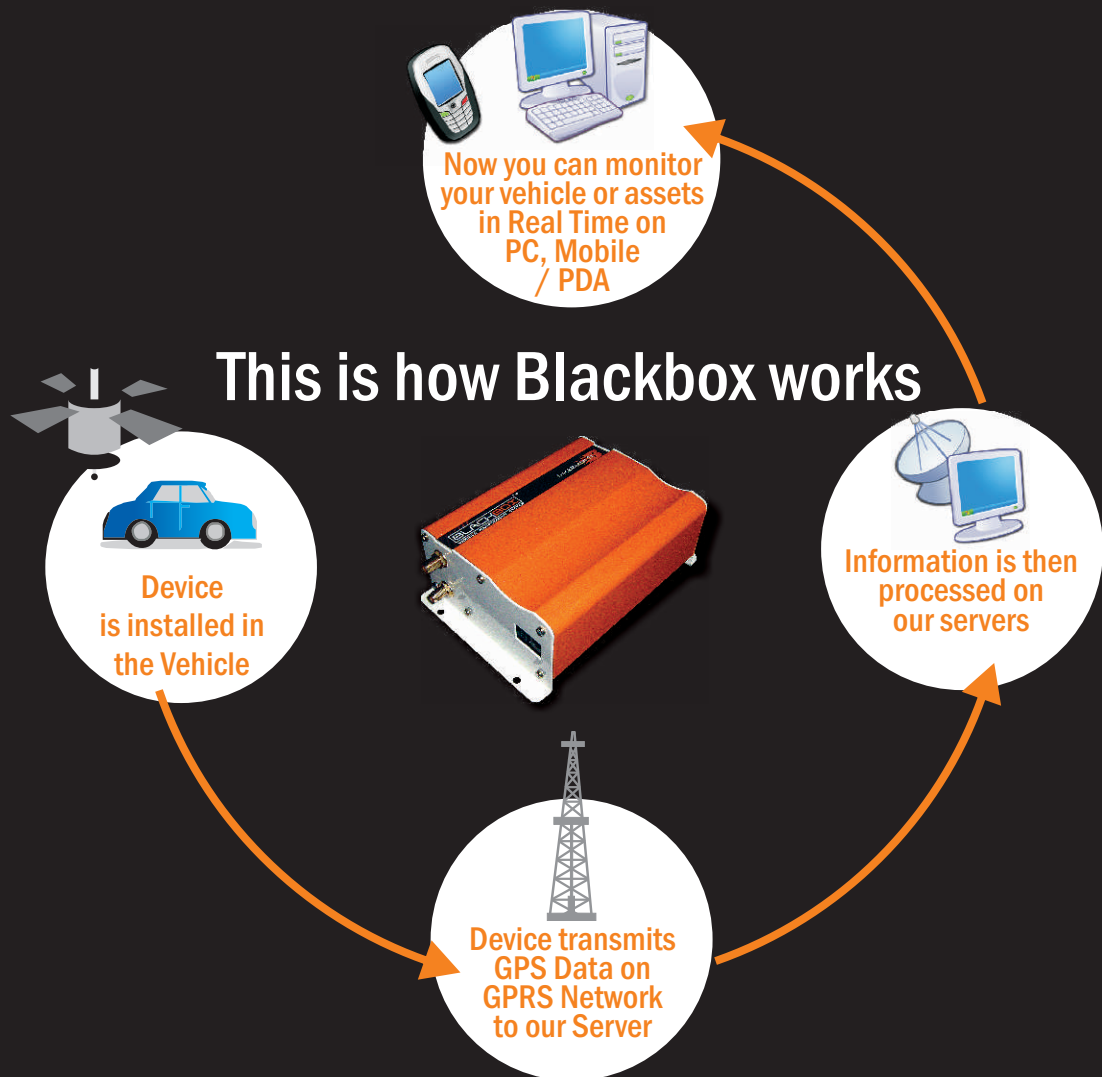## Thank you for showing interest in the Black Box - Vehicle Tracking System (VMS).

Blackbox is a device that was originally designed for aeroplane to keep record of its performance parameters. It works as a storehouse for all the information related to flight. We have thoughtfully adopted the same technology for monitoring your vehicles or assets on ground. Blackbox relays various types of information from the vehicle in Real Time with the help of GPS, GPRS technology to your computer screen or mobile phone.

This is how Blackbox works

Now you can monitor your vehicle or assets in Real Time on PC, Mobile / PDA

Device is installed in the Vehicle

Information is then processed on our servers

Device transmits GPS Data on GPRS Network to our Server

BLACKBOX
VEHICLE MANAGEMENT SYSTEM

Easy to use

Just point your browser to our website **www.tracklivehitecpoint.in** and fill in your User Name and Password to get access to any live or historical information about your vehicle alongwith various type of reports about its past and present performance.

BLACKBOX
VEHICLE MANAGEMENT SYSTEM

User Name   client

Password   *******

Login

Forgot your password

BLACKBOX
VEHICLE MANAGEMENT SYSTEM

Black Box – Operational Manual

Table of Contents

Parts & Accessories

Please read all instructions carefully before operation, to ensure your complete understanding and to obtain the best possible performance from the unit.

Parts & Accessories
On receipt of your Black Box -VMS, please check that all the following parts are received by you:-

1) Black Box-VMS   unit 1   (Orange Colour)
2) GPS Antenna   1   (Black)
3) GSM Antenna   1   (Stick Type - Black)
4) Reset Circuit   1   (White Colour)
5) Mounting Screws   4   (Black)
6) The Warranty Card

On receipt of your Black Box-VMS, please check all contents are complete and correct
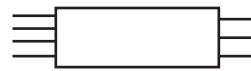

1. Black Box-VMS main unit
2. GPS Antenna
3. GSM Antenna
4. Reset Circuits
5. Mounting Screws

Preparations

Preparations

In order to install the Black Box -VMS unit properly, the following preparations should be carried out:

- Prepare one operational GSM Sim Card. Make sure that the Sim Card-

  — can operate without PIN protection.

  — place SIM in your mobile and check whether GPRS service is activated or not.

  — once GPRS service is activated, ask your local service provider for APN number.

- Insert the Sim card by sliding it into the sim slot, with the chip module facing the bottom side.

- To remove the Sim Card, push it in again & release.

Installations

Installations

The vehicle unit will operate mostly on 12V/24V systems

> ⚠️ **Note : Please note that installation methods may vary between vehicle models. For expert wiring and connecting please contact the professional or electronics workshop for installations support and maintenance**

- Before starting installations, disconnect the vehicle battery and observe other manufacturers safety instructions regarding alarms systems, airbags or anti-theft radio coding.

- Find suitable location to fit the Black Box unit in the vehicle.

- If you want to install the Vehicle Unit / Black Box in the passenger compartment, make sure that all antenna cables and wiring is protected from sharp edges and is routed in such a manner that it will not be pinched/cut.

- Mount the Black Box in such a way so that the LEDs must be visible while it is mounted.

- Fix / tighten all the four screws rigidly at the base of the unit to avoid any vibration later.

- Check the vehicle battery voltage before installation. It should not be less than 10V DC. Otherwise ask the owner/supplier to replace it for proper functioning of the Black Box.

- The GPS antenna should be positioned at a place where it will have 360° view of the sky. The ideal location is on top of the roof of the vehicle or inside windscreen. The aerial will not work if it is placed beneath metal or metallic glass coating.

- The GPS antenna cable must be covered in plastic / metal pipe end to end for its protection from deterioration for years.
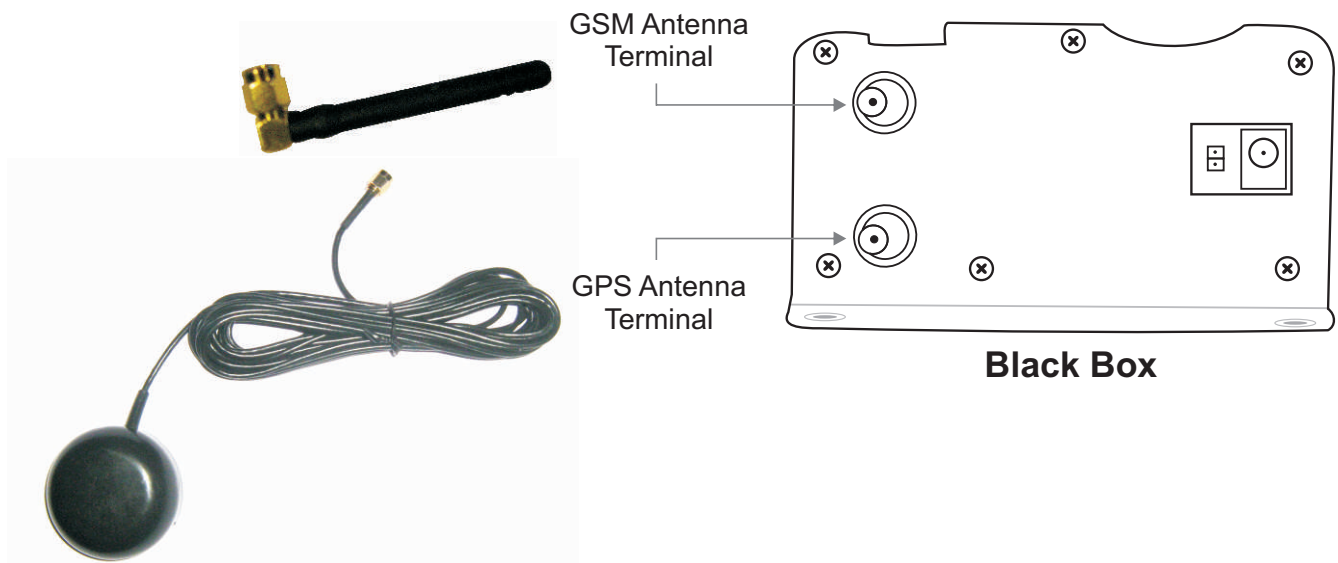
Black Box – Operational Manual

Installations

Connect antennae as per the diagram shown below.

⚠ Note : Please note that adhesive sun absorber screens may consist of metal. This can distract or block the GPS signal. In that case the GPS aerial should be mounted outside the vehicle.
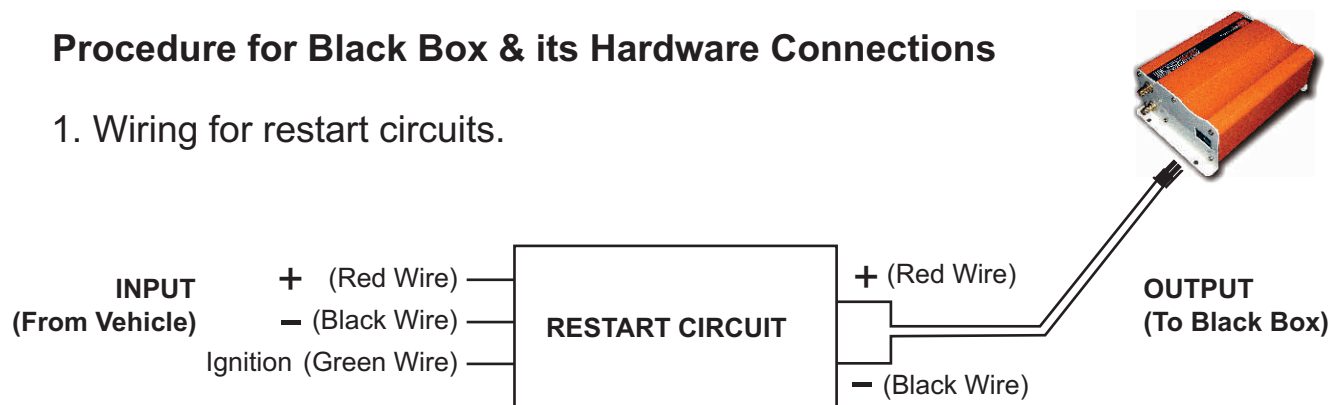
GSM Antenna Terminal

GPS Antenna Terminal

Black Box

Black Box – Operational Manual

Connecting the Black Box

Procedure for Black Box & its Hardware Connections

1. Wiring for restart circuits.

```
INPUT              + (Red Wire) ──┐              + (Red Wire)        OUTPUT
(From Vehicle)     – (Black Wire)─┤ RESTART CIRCUIT                (To Black Box)
         Ignition (Green Wire) ──┘              – (Black Wire)
```

A.   Input
1.   Black Wire - Attach to the -ve terminal of the battery
2.   Red Wire - Attach to the +ve terminal of the battery
3.   Green Wire - Attach to the self switch of vehicle at the initial stage. It will cut off as soon as the vehicle gets started.
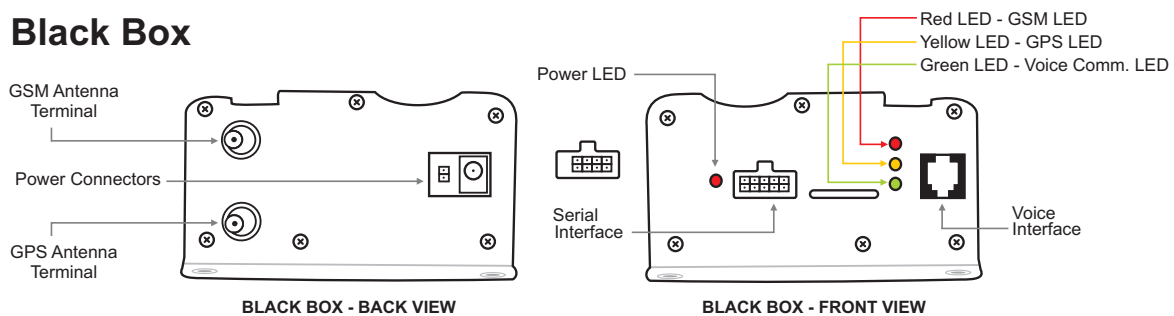
B.   Output
1.   Black Wire - Attach the -ve terminal of Black Box with Black wire at the output terminal of restart circuit.
2.   Red Wire - Attach the +ve terminal of Black Box with Red wire at the output terminal of restart circuit.

Black Box – Operational Manual

Connecting the Black Box

Black Box

GSM Antenna Terminal

Power Connectors

GPS Antenna Terminal

BLACK BOX - BACK VIEW

Power LED

Serial Interface

Red LED - GSM LED
Yellow LED - GPS LED
Green LED - Voice Comm. LED

Voice Interface

BLACK BOX - FRONT VIEW

A.   Front Plate

1.   When we give 12V to 24V DC supply at the input of the   Black Box the power LED at the left side of the Black Box will get   on & its status will remain constant.

2.   There are three LEDs on the right side of the Black Box upper LED is Red LED it will get on & start blinking at few seconds

3.   LED below the Red LED is GPS LED & its colour is yellow it will blink after few seconds.

4.   The lower LED is green LED & it will activate when voice call is received.

B.   Back Plate

1.   There are two terminals at the back plate of the Black Box. Upper one is for GSM Antenna & lower one is for GPS Antenna.

STICK ANTENNA GSM ANTENNA

ROUND ANTENNA HAVING 5 MTS GPS ANTENNA

Ignition on/off & Air Condition on/off wires

A.   Brown wire - This wire is called ignition on/off status wire. Attach this wire to the +ve input of 12V to 24V DC supply of the ignition switch.

B.   Grey wire - This wire is called Air Condition on/off status wire. Attach this wire to the +ve input of 12V DC supply of the ir condition on/off switch.

Black Box – Operational Manual
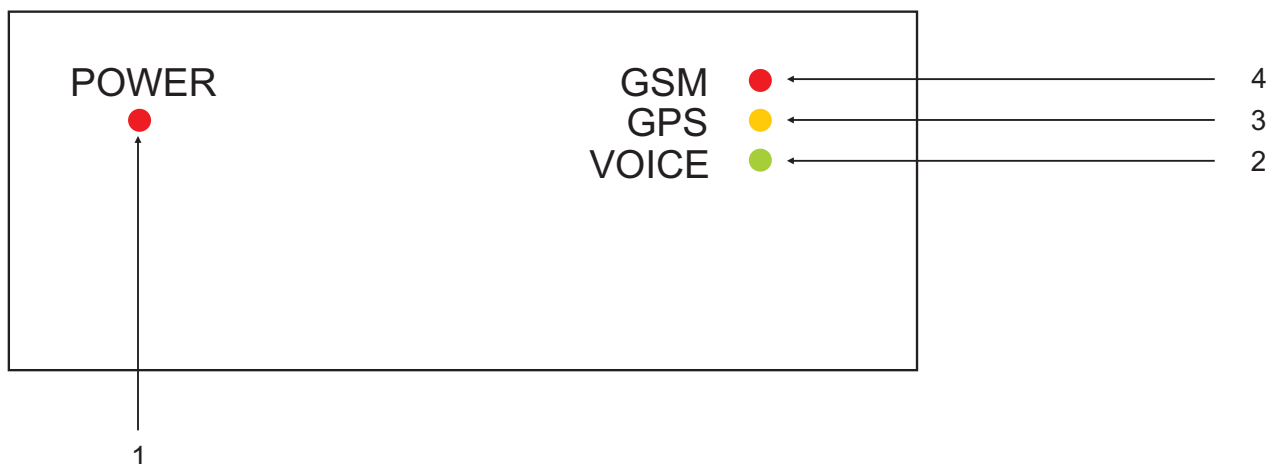
Connecting the Black Box

Connecting the Vehicle Unit

Do not connect the battery to the Black Box before you have completed all electrical wiring and connections to the device.

⚠️ **Note : Finish all wiring and connections to the correct vehicle output and input before you apply the connectors to the Black Box.**

Vehicle Unit - LED Indicators

POWER 🔴

GSM 🔴 ← 4
GPS 🟡 ← 3
VOICE 🟢 ← 2

1

1) **Power LED (Red)**
   – If LED remains on permanently   : Device is powered on

2) **Ring LED (Green)**
   – If LED flashes   : Ring/Dial-up in progress
   – If LED is Off   : No dial-up connection in progress

3) **GPS/GPRS LED (Amber)**
   – If LED flashes   : Device has acquired valid GPS signal
   – If LED is Off   : GPS signal is either not available or the system is in process of acquiring the GPS signal.

Connecting the Black Box

4) GSM LED (Red)
   – If LED stays on constantly : Device is still registering to GSM , no Sim Card inserted or no network available

   – If LED while blinking holds on for more than 3-5 seconds : Either GPRS service is not available or GPRS is not activated on SIM

Getting Started with Tracking

Getting Started

After plugging the main connector into the Black Box the device will power up and automatically attempt to register to GSM network. Provided that your vehicle & the Black Box GPS antenna is positioned in an area with clear un-obstrcted view of the sky, the device will then start scanning for GPS satellite to obtain its first GPS lock. This first fix can take several minutes. To use

> ⚠️ **Important Note : Once your device has been initialized all following commands sent through the Control Base have ti use the same GSM numbers (control centre number). To switch to a different Control Centre number at a later time, you will need to send an initialization command with modified centre number using the .original GSM member at the Control Base.**

the communication & vehicle security facilities of the device, some mandatory setup parameters need to be configured from the Control Base Software or Tracking website before it is able to operate properly.

Black Box - Product Features

BLACK BOX PRODUCT INFORMATION

Black Box application converts GPS data into user friendly maps and reports, accessible via internet. No software is required. Simply log-in using any PC with internet explorer & instantly access your data.

The Black Box provides the most user friendly information in the fastest & most cost effective method available.

Black Box customer experience dramatic operational improvements which include increase in productivity, customer services and vehicle safety. Additionally they see significant decrease in fuel costs & maintenance costs.

The unit installed with vehicle will give the following information using GPS/GPRS technology:

- Live Location : Live Location of the vehicle
- Speed : Live speed of the vehicle
- Distance : Distance traveled by the vehicle
- Stoppages : Stoppage en-rote and its duration
- Air Conditioning : On/Off status of the air conditioner
- Ignition : On/Off status of the ignition of the vehicle & many other features...

>> Live Location
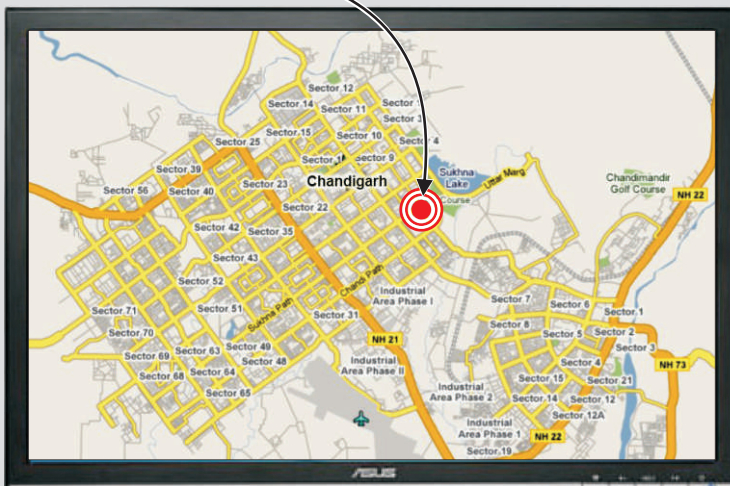
Location Tracking

It gives Real Time location of your vehicle any time, any where on your desktop whenever you require, at the touch of a button.

Black Box - Product Features

>> Live Speed

Speed Tracking

You can keep check on your vehicle's speed throughout its journey, thereby reducing the chances of accident. You can even know how many times your driver has crossed the speed limit.

>> Distance Traveled
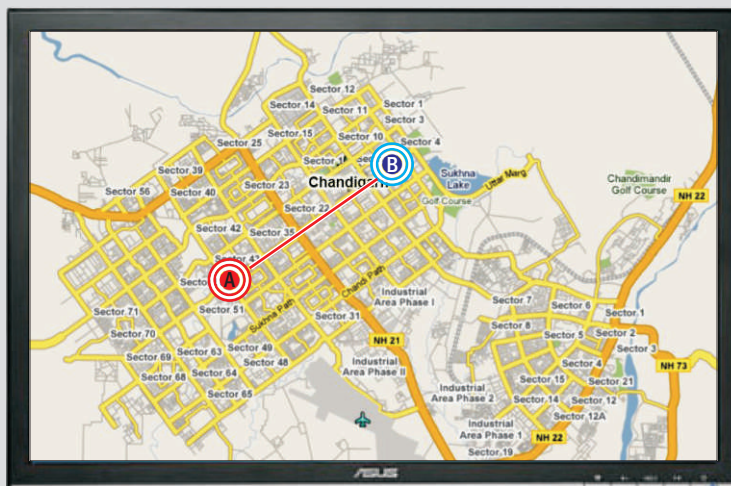
Distance Travelled

It records the distance traveled by any vehicle within a specific time period or journey en route.

Black Box – Operational Manual

Black Box - Product Features

>> Stoppages

Stoppages

You can have details about all the stoppages of your vehicle during a journey. In addition to that Alerts could be generated for stoppages beyond specified limits.
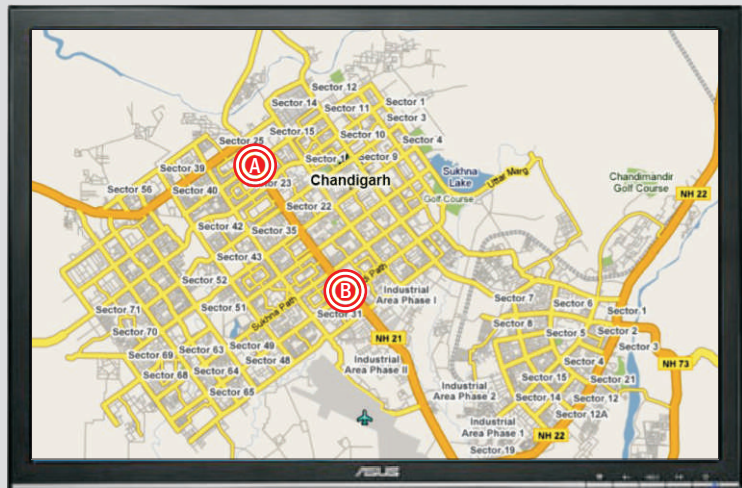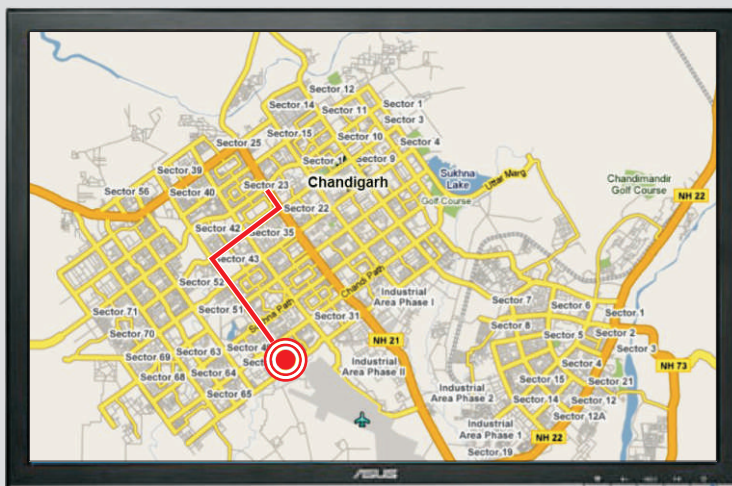
>> Route Mapping

Route Mapping

You can define the route of your vehicle (journey), helping you manage time & cutting down on fuel cost.
Alert could be generated for any deviation of the vehicle from the specified route.

Black Box – Operational Manual

Black Box - Product Features

>> Geofencing
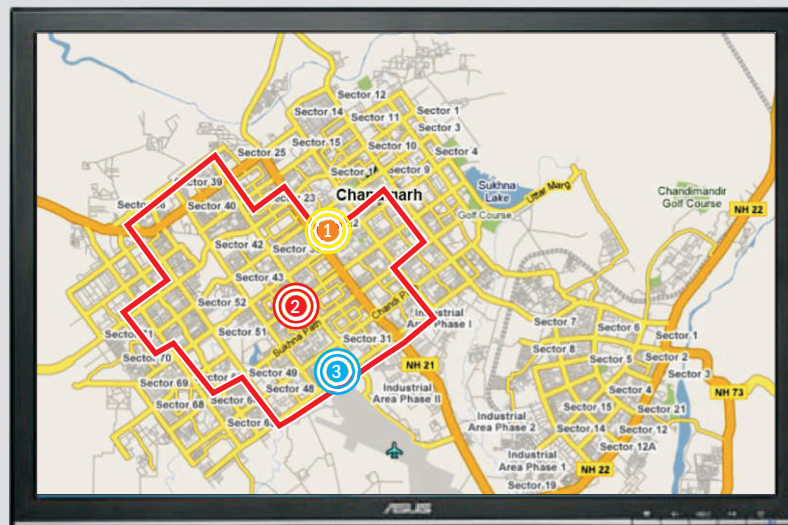
Geofencing

If the Black Box unit is configured with a set of
restricted Geographical Areas (Geo-Fences),
alarm would be generated if vehicle
crosses or moves outside this virtual fence.

Black Box – Operational Manual

Alerts

**Vehicle No. .....
on GT Road,
Near Ambala**

**GPS Alarm :
Over Speed**

MONITORING ACTIVITIES

Over speed Alarms

If the Black Box -VMS has been configured with a maximum speed limit, the following activities will be triggered when the vehicle speed exceeds the limit :

- The Black Box will send an alarm message & GPS co-ordinates to the Control Base. The control base software will find the street name and closest intersection from the map server & send these details through SMS short messages to the defined contact number, with the text

Over Stoppage Alarms

If the Black Box VMS has been configured with a maximum stoppage limit, the following activities will be triggered when vehicle stoppage exceeds the prescribed limit.

The Black Box will generate message to the defined number

**Vehicle No. ....
2.1 Km NW
Zirakpur**

**GPS Alarm :
Over Stoppages**

**Vehicle No. ....
1.6 Km NW
Derabassi**

**GPS Alarm :
Route Deviation**

Route Deviation

If the Black Box VMS has been configured with a defined route, the Black Box would generate a SMS to prescribed number if the vehicle moves away from the defined route.

14

Alerts

Geo Fencing

If the Black Box unit has been configured with a set of restricted Geographical Areas (Geo-Fences), the following activities will be triggered when a Geo Fence Violation occurs.
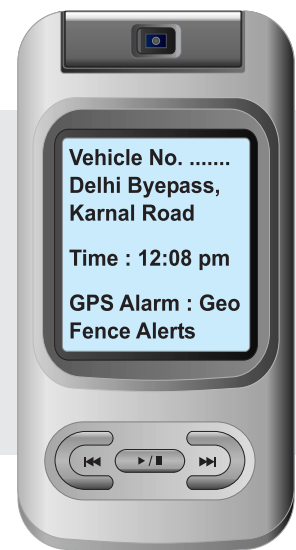
The Black Box will send a Alarm message to authorized contact person, with the text

Vehicle No. ....
Delhi Byepass, Karnal Road

Time : 12:08 pm

GPS Alarm : Geo Fence Alerts

Do's & Don'ts

Do's & Don'ts

1) Electrical Connections   2) Installation   3) Care & Maintenance

1) Electrical Connections

Keep these in mind, else there could be danger of failure of Black Box or fire.

- Check the power supply requirements in specification on page....
- Only connect the Black Box to the Battery of the Vehicle. Failing to do so might render your Black Box inoperable and will void your warranty.
- Do not connect the Black Box to the Battery of the vehicle until all the other loads/wires, antennas GPS/GSM are connected.
- Avoid twisting or pinching wire/antennas
- Do not disconnect the Black Box from the Battery by pulling the wires.
- Never open the Black Box yourself. You could risk electric electric short-circuit or damage the Black Box and avoid your warranty.

2) Installation

- Black BOX should be placed horizontally on a stable surface & tightened to avoid any subsequent vibrations. Black Box should be placed away from source of heat like radiators, etc.
- Do not install the Black Box in an air tight place.
- Keep it away from equipment producing high magnetic field or electrical fields (motors etc.)
- Do not place any object on top of the Black Box.

3) Care & Maintenance:

- Do not place any inflammable objects such as candles cigarettes oils & lubricants on the Black Box or near the connections.
- If you see smoke coming from the Black Box unplug the Black Box immediately & call the Hi-Tecpoint help line.
- Do not push any object into the slots, input sockets or the opening of the Black Box.

  ⚠ **NOTE : IDEAL WEATHER CONDITIONS - Black Box is designed for use in a dry place, do not expose it to any liquid or moisture.**

- Always observe Black Box before ignition and switch off on routine basis.
- Do not use Black Box for any other purpose except for the Vehicle Tracking/ Management.

Technical Specifications

Technical Specifications

Size (L/W/H) : 250mm x 230mm x 70mm

Power Supply : DC 12V - DC 24V

Current Consumption : 140 mA - 520 mA

Battery Backup : Upto 10 hrs.** with 12V/7AH Battery

Network : GSM900/1800 MHz/GPRS

Operating Temperature : -10°C to +55°C

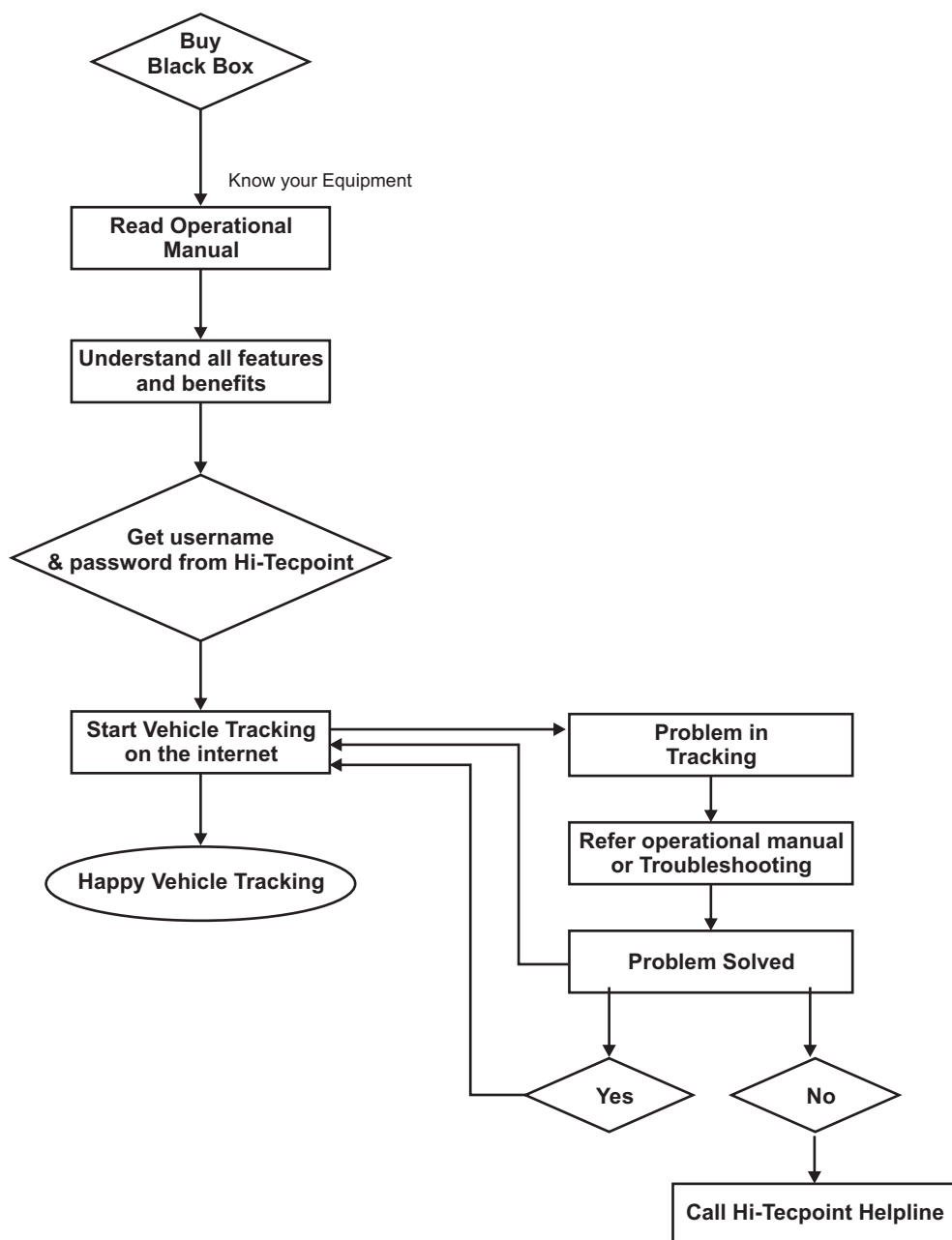**Humidity :** 90% max non-condensing **Battery Backup available with Model No. TM-33 & TM-44

● In all above models, Over-speed alerts, Route deviation alters, Over stoppage alerts & many more alerts can be generated on mobile.
● Features can be customised to the specific requirement of the user.

Black Box – Operational Manual

Bird's eye-view

Bird's eye-view for getting started

```
                    ┌─────────────┐
                    │     Buy     │
                    │  Black Box  │
                    └─────────────┘
                           │  Know your Equipment
                           ▼
                 ┌────────────────────┐
                 │  Read Operational  │
                 │       Manual       │
                 └────────────────────┘
                           │
                           ▼
                 ┌────────────────────────┐
                 │ Understand all features│
                 │     and benefits       │
                 └────────────────────────┘
                           │
                           ▼
               ┌──────────────────────────┐
               │      Get username        │
               │ & password from Hi-Tecpoint│
               └──────────────────────────┘
                           │
                           ▼
        ┌──────────────────────┐        ┌──────────────────┐
        │ Start Vehicle Tracking│◄──────►│    Problem in    │
        │    on the internet    │        │     Tracking     │
        └──────────────────────┘        └──────────────────┘
                  │                                │
                  ▼                                ▼
        ┌──────────────────────┐       ┌────────────────────────┐
        │ Happy Vehicle Tracking│       │ Refer operational manual│
        └──────────────────────┘       │    or Troubleshooting  │
                                        └────────────────────────┘
                                                   │
                                                   ▼
                                        ┌──────────────────┐
                                        │  Problem Solved  │
                                        └──────────────────┘
                                           │            │
                                           ▼            ▼
                                        ┌─────┐      ┌─────┐
                                        │ Yes │      │  No │
                                        └─────┘      └─────┘
                                                        │
                                                        ▼
                                        ┌──────────────────────────┐
                                        │ Call Hi-Tecpoint Helpline │
                                        └──────────────────────────┘
```

Black Box – Operational Manual

Contact Us

For further details contact :-

HI TECPOINT
Technologies (P) Ltd.

SCO 96 - 97, Sector 34 A (Behind Piccadily Cinema)
Chandigarh (UT) INDIA

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For Sales	:	sales@hitecpoint.in
For Support	:	support@hitecpoint.in
Website	:	www.hitecpoint.in

Maximise

Profits

Growth in Business
Safety of Journey
Peace of Mind
Growing Profits
Higher Efficiency
Enhanced Productivity
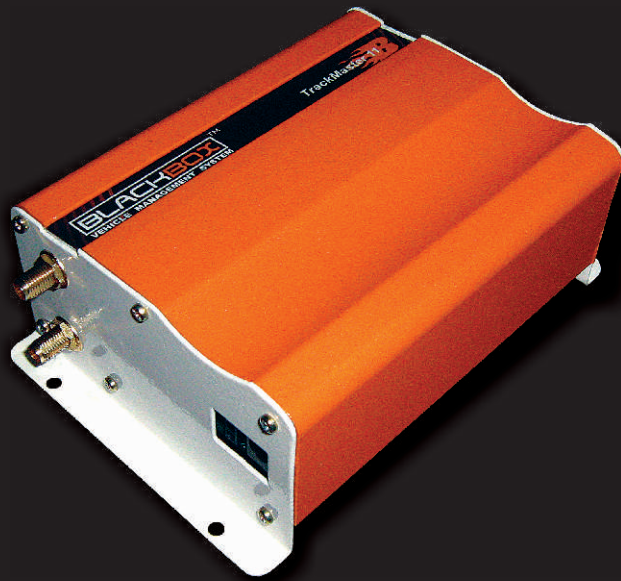
One **DEVICE.** Multiple **BENEFITS.**

BLACKBOX™
VEHICLE MANAGEMENT SYSTEM