

# WRC



**FIA WORLD RALLY**  
CHAMPIONSHIP

## **SAS Fitting Kit Manual – RALLY CAR**

## Welcome

This manual is provided as a guide for the installation of the WRC Tracking System Kit, for competition vehicles only. Care should be taken when considering the location of components with regard to electrical cabling and fire suppression systems already installed in the vehicle. Please check always that the components of your kit are as requested.

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## 1. Tracking Unit Kit Components & Steps

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The WRC Tracking System Kit includes:

- WRC Tracking Installation and Fitting Kit Instruction Sheet;
- 3-in-1 antenna with leads;
- Internal radio antenna with lead;
- 6 – 24v wiring loom with plug;
- Mount, to be bolted to tunnel;
- Adjustable mount connector/knuckle.



(Contents may differ slightly to image shown)

WRC tracking system fitment steps:

1. Mount WRC tracker;
2. Fit external & internal antennas, running leads to the WRC tracker;
3. Fit wiring loom, ensuring that a solid 9 to 28 volts is supplied;
4. Connect all antenna connections, make sure they are tight using an 8mm spanner;
5. Apply power.

## 2. Power Supply

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WRC tracking system requires a reliable power supply from 9 to 28 volts DC. We recommend a 5 amp (Max) blade type or similar quality fuse is used at the battery supply end of the WRC tracking system power lead.

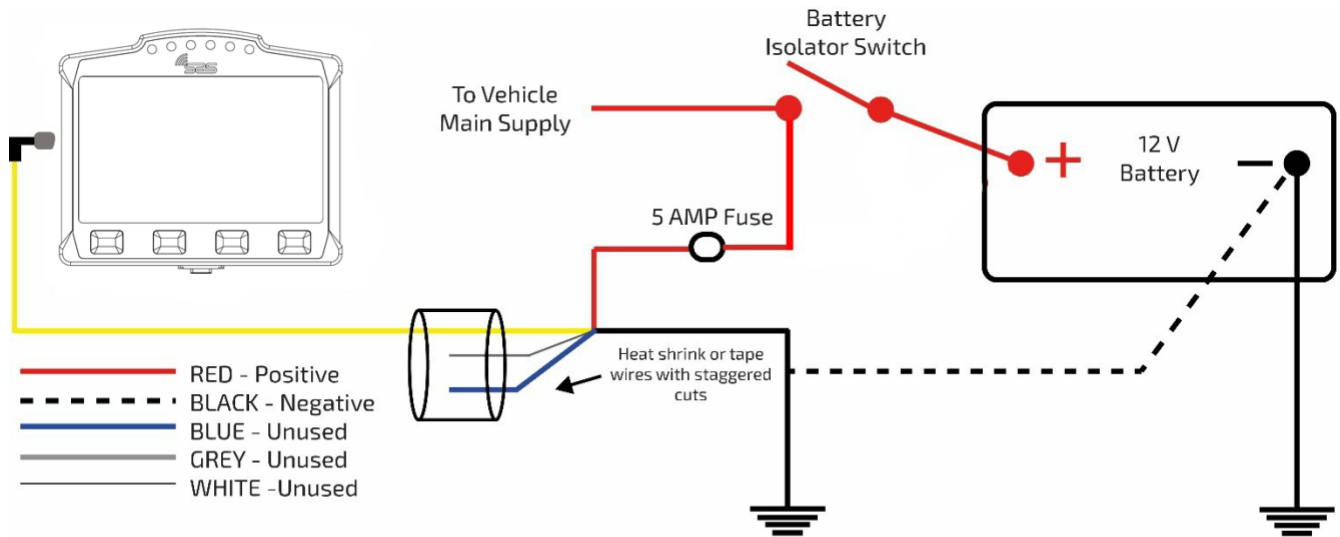
Zero volts or battery negative can be picked up at any suitable earthing point providing the isolation switch does not switch the negative side of the battery.

The WRC tracking system unit has an internal battery that is kept charged via the car's power supply. It acts as a reserve supply to power the unit in the case of an accident where a car's power supply is interrupted (e.g. car battery smashed or dislodged).

**Note: The tracking device should only be powered once it is placed in its final position in the vehicle; this ensures accelerometers are calibrated correctly.**

### 3. Connection Diagram

The 6-24v wiring loom, includes five wires. The white blue and grey wires must be stagger cut and heat shrunk or taped back so they cannot short to ground or to each other. Red and black are used as follows:

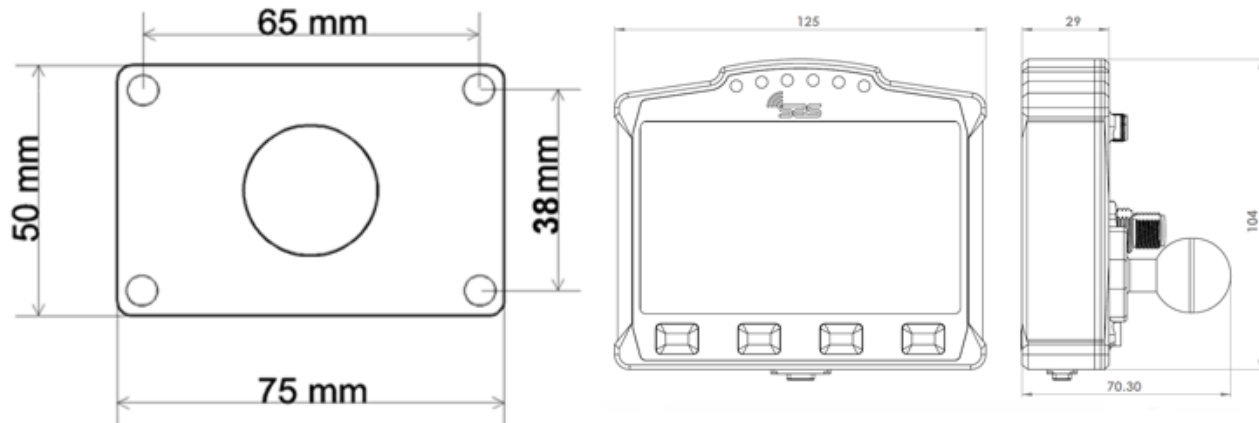


RALLYSAFE 12V WIRING DIAGRAM

During installation, the wiring loom should be routed away from the engine compartment, Ignition or Alternator wiring.

300 mm of Power Supply Wiring Loom is required to be available for connection to the WRC Tracker Unit at the mounted position.

## 4. Tracking Unit Dimensions



## 5. Tracking Unit Mounting

The preferred location and mounting for the WRC tracking system unit is a RAM style 50mm x 75mm flat base with ball, bolted through the tunnel with four **M6** Bolts.

It should be in a central, protected location on the central tunnel in front of the seats and both easily visible and accessible by both the driver and co-driver/nav.

Care should be taken when considering the location of the Mounting Point with regard to electrical cabling and fire suppression systems installed in the vehicle.

Photographs of mounting and positioning can be seen in Fig.1 and Fig.2 respectively.

Alternatively, the WRC tracking system unit can be mounted in a central protected location on the vehicle dashboard that is easily visible and accessible by both the driver and co-driver.

Mounting is a Ram style 50mm x 75mm flat base with ball, bolted with four **M6** bolts through the dashboard and a compulsory 3mm backing plate measuring no less than 145mm x 120mm



Figure 1. 25mm rubber ball securely attached to the tunnel



Figure 2. The WRC tracking unit mounted onto the 25mm rubber ball mount and connected through the RallySafe connector

## 6. Antenna Installation

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All leads on both external and internal antennas must run on the inside of all roll cage bars. This is to stop cable crushing on impact.

Antenna must not be mounted within 200 mm of any high frequency antenna's or cabling

The preferred route is to go down from the antenna, underneath the closest part of the roll cage (roof cross or main hoop), follow that along to the roof hoop, then go down the inside A pillar to the unit. Please allow 200mm clearance of high frequency antenna or cabling

Any excess cable must be run so that the cable is not bent any tighter than a 100mm radius. We recommend running it across the underside of the dash and back (do not coil in tight loops).

Cables must be tied neatly along the whole installation all the way to the unit so they can't be accidentally caught or dislodged.

All this will be checked at scrutineering and you may be required to fix it before your car can pass.

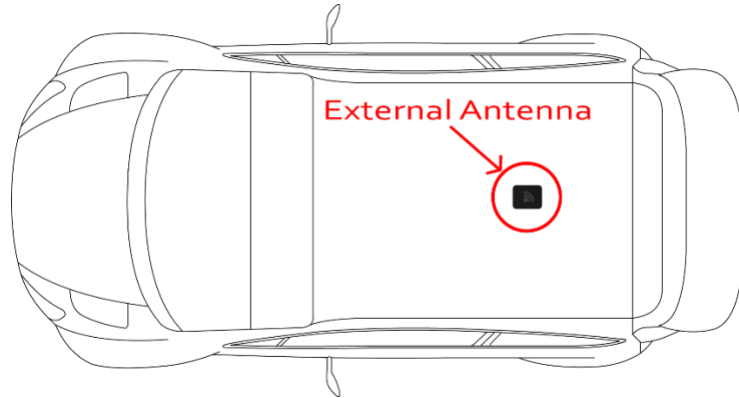
**Note: All antenna connections need to be firmly tightened with an 8mm spanner.**

### 6.1. External Antenna

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The antenna is mounted through a 12mm hole in a central location on the ROOF of the vehicle, rear of the main roll bar hoop, allowing the cabling to pass through the roof and follow the cage bars back to the unit location. The antenna is a fully watertight unit, which seals against the roof surface.





Antenna leads are connected as follows (There may be variations with the type and number of leads).

1. The 2 UHF leads, colour-coded **Blue**, is connected to the terminal labelled "WiFi" on the WRC unit (Right Hand Thread). Terminals are located of the rear of the unit and/or colour-coded Blue.
2. The Satellite Communication antenna lead is connected to the center or rear terminal labelled "IRI" (Left Hand Thread). It may also be colour-coded **Yellow** (this may be not marked on the 2-in-1 antenna).
3. The GPS antenna lead labelled "GPS", is connected to the terminal labelled "GPS" on the WRC unit (Right Hand Thread). Terminals may be on the side or rear of the unit and/or colour-coded **Green**.
4. GSM, has a small stick antenna supplied with the WRC unit, and is connected to corresponding terminal labelled "GSM" on the WRC unit (Left Hand Thread). The terminal is located on the rear of the unit and/or colour-coded **Red**.



## 6.2. Internal Antenna

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The Internal Antenna should be placed on the inside of the ROOF in a clear uncluttered area, with a 200mm radius clear of any bar work or solid metal object. The internal antenna has a magnetic base with double-sided tape for adhesion. The cable is then run to the WRC unit. Please keep cable on the inner side of the roll cage pipework so as not to be crushed in the event of an accident.



**Figure 3.** *The internal antenna must be at least 200mm away from any roll cage components*

## 7. Contact Us

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For assistance, please contact the RallySafe Support Team by emailing: [support@rallysafe.com.au](mailto:support@rallysafe.com.au)

### **\*\*Product Disclaimer\*\***

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