

Rally – ONI system

Rally crew instructions – July 2022

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Equipment – ONI system Rally unit



Positioning of equipment in car

- Rally unit (A on diagram) – On roll bar to right of co-driver. Out of reach of co-drivers knee (so that does not bump into it). Not resting on dashboard (vibrations). Should be clearly visible to driver / co-driver.
- SOS panel (D on diagram) – Between driver and co-driver. Must be in reach of both.



Positioning of antenna (on roof)

- There are two types of antenna – screw in and magnetic.
- Antenna must be placed in clear view of the sky.
- FIA races from 2023 – antenna cables must run through a hole in the roof.
- GPS and GSM connectors are fixed to the rally unit.
- Cables should be taped to roll cage (not swing loosely).



Display settings

- Left button – Language selection. Press for around 2 seconds to change language. Progressively changes from Czech to English to German.



- Middle button – Day/night mode. Press for around 2 minutes to change mode. Progressively changes from day mode to night1 to night2.



Further display settings

- It is also possible to rotate the display by 180° by simultaneously pressing down the „language“ and „brightness“ buttons for around 5 seconds or to switch off the unit by keeping these buttons pressed for a further 5 seconds. We do not though recommend doing either of these actions.



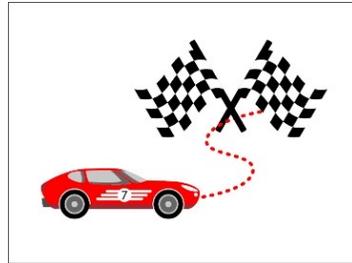
- Note – During the evening Rally Control switches off rally unit displays remotely and switches them back on during the following morning.
- There is also a „ pairing“ button at the right of the rally unit but this should only be pressed/used by experienced installation/rally staff.

Information shown on rally unit display

- Status of unit – in liaison or Special Stage.
- Start (when vehicle is at start of Special Stage).
- Distance covered (when on Special Stage).
- Accident – 1st car: Are you OK? Following cars: Distance to accident.
- Stop on Special Stage – 1st car: Are you OK? Are you an obstacle? Following cars: Distance to stopped car.
- SOS – 1st car: The unit announced SOS. Following cars: Distance to SOS car.
- Red flag – In all cars sent red flags by Rally Control.
- Text messages from Rally Control.

Generally shown on rally unit display

- Whenever the car is not in Special Stage mode (i.e. is in Liaison mode) the following will be shown on the unit display:



- When the car arrives at the SS start, it will show start + SS number. When the car is on a Special Stage the SS number + distance covered will be shown:



Accident - display – car involved in accident

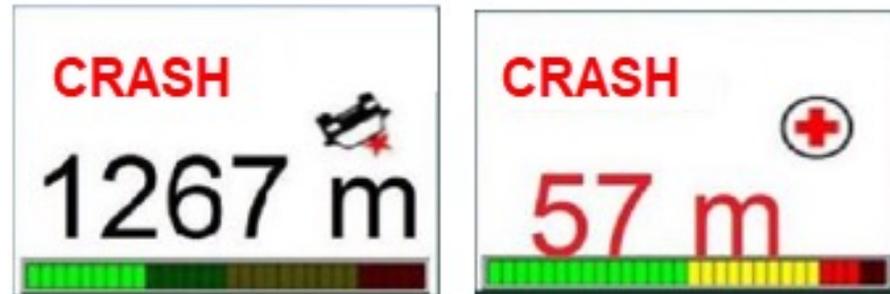
- The car involved in the accident will see the following on the unit:



- Situation 1 - the crew are safe, are not injured, do not need medical help and are not an obstacle on the SS route – Press OK on the SOS panel.
- Situation 2 – the crew are injured and need help – Do not press OK. Flick the SOS switch upwards to raise a SOS alarm.
- Situation 3 – the crew are OK but their vehicle is an obstacle on the SS route – Do not press OK.

Accident - display – cars approaching the accident

- Cars approaching the scene of an accident will see an accident alarm + distance to scene:



- The approaching car will also hear a siren. Press OK once to silence this.
- The first car at the scene should check the state of the crashed crew. If they see that the crew are injured (need further help) they should also send an SOS alarm. Otherwise they should press OK (they will also have an alarm in their car as they have made an unplanned stop).
- Further approaching cars that see that a car has stopped at an accident should continue if possible – they will need to relay the accident alarm if this has happened in an area with poor/no GSM signal.

SOS - display – car sending the SOS

- The car that has sent the SOS alarm will see the following on the unit:

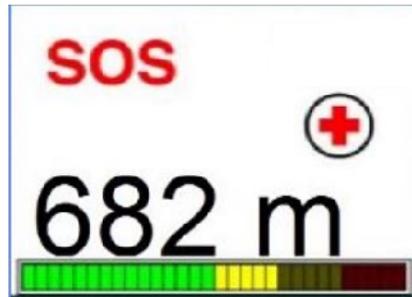


THE UNIT
ANNOUNCED
SOS

- Situation 1 – the situation has been resolved – Press OK on the SOS panel.
- Situation 2 – the problem remains – Do not press OK.

SOS - display – cars approaching the SOS

- Cars approaching the scene of a SOS will see an SOS alarm + distance to scene:



- The approaching car will also hear a siren. Press OK once to silence this.
- The first car at the SOS scene should check the state of the crew. If they see that the crew are injured (need further help) they should also send an SOS alarm. Otherwise they should press OK (they will also have an alarm in their car as they have made an unplanned stop).
- Further approaching cars that see that a car has stopped at a SOS scene should continue if possible – they will need to relay the SOS alarm if this has happened in an area with poor/no GSM signal.

Unplanned stop - display – car that has stopped

- The car that has made the unplanned stop will see the following on the unit:



- Situation 1 - the crew are safe, are not injured, do not need medical help and are not an obstacle on the SS route – Press OK on the SOS panel.
- Situation 2 – the crew are injured or have other problems and need help – Do not press OK. Flick the SOS button upwards to raise a SOS alarm.
- Situation 3 – the crew are OK but their vehicle is an obstacle on the SS route – Do not press OK.

Unplanned stop - display – cars approaching the stopped car

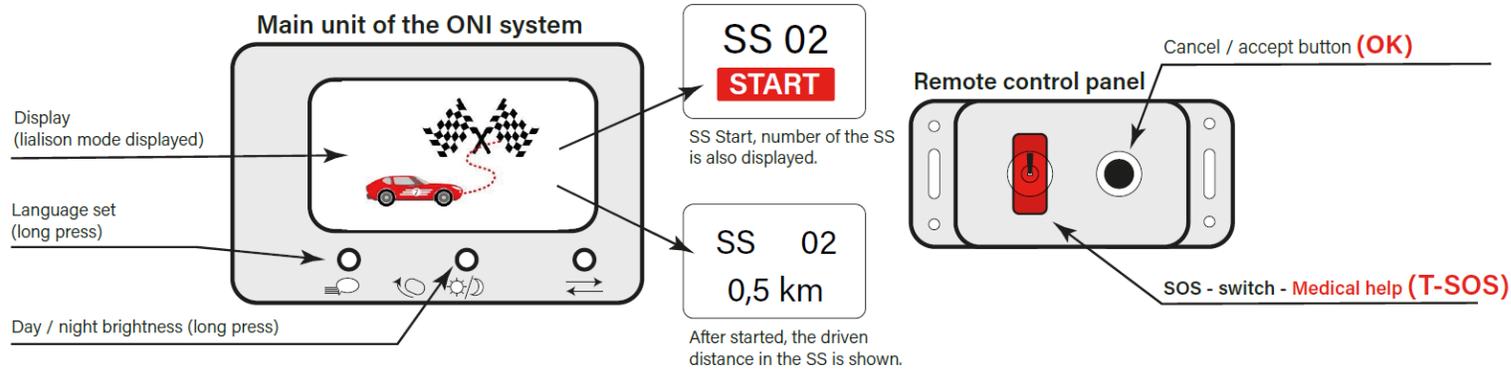
- When a Red Flag has been sent to a car it will see the following displayed:



RED FLAG

- The car will also hear a siren. Press OK once to silence this.
- The Red Flag will only stopped being displayed when Rally Control cancel this.
- When the crew receive a Red Flag alert they must press OK on the SOS panel to confirm receipt of this alert.

Instructions for the crew – using ONI system



Stopped, NOT blocking

Situation:

- Puncture change on SS
- Technical issue
- Retired
- Car slid into ditch...

What to do?

- Press the OK when the car has stopped
- If retired inform the Rally control
- If parked on the side of the road, please use the warning triangle!
- Use the paper green OK sign if the car is damaged and visible from the SS track.

Other crews see on the GPS:

- No information is displayed on the GPS unit to the approaching crews.

Stopped, BLOCKING

Situation:

- Completely blocked road
- Car stopped in a very dangerous place (tech. issue, repair...)

What to do?

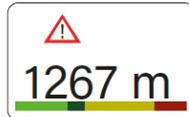
- Do NOT press OK after stopping
- Try to push the car away
- Call Rally control
- Unit is displaying, after 30 sec:

ARE YOU OK?

- Keep displayed. OK button should be pressed once the track is clear or you continue driving.

Other crews see:

- The Unit in the approaching car is displaying, with one beep:



Accident

Situation:

- Accident automatically recorded by ONI unit:



What to do?

- Medical help needed: Use T-SOS switch, see next point
- Crew and SS track OK: Press OK
- Track blocked: Do NOT press OK

Other crews see:

- The Unit in the approaching car is displaying, with constant beep



- Should the crashed crew press the OK, warning disappears.

SOS - Medical help

Situation:

- Accident - ambulance needed
- Calling help for other crew after arriving to crash scene
- Calling help for spectators...

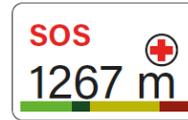
What to do?

- Use the T-SOS Switch
- Call Rally control if possible
- Unit will display:



Other crews see:

- The Unit in the approaching car is displaying, with constant beep



Red flag

Situation:

- Red flag issued by the Rally controls. Unit displays, together with continuous beeping signal:

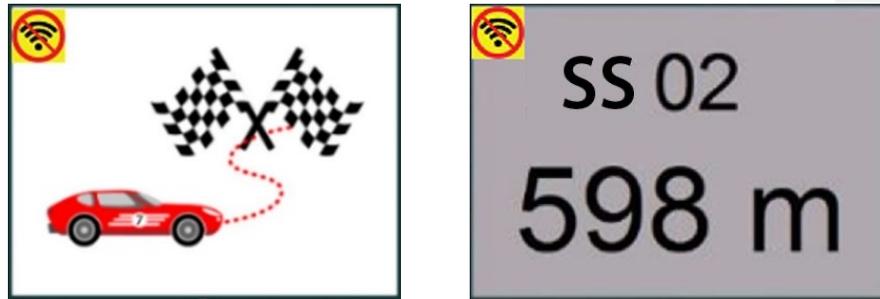


What to do?

- You are obliged to accept the flag by pressing OK, that mutes the sound alarm as well.
- Driver is obliged to decrease the speed immediately and safely continue in direction to the SS finish and/or following Marshals instructions should the road be blocked.
- Notional time is given

Communication break-down between unit and SOS panel

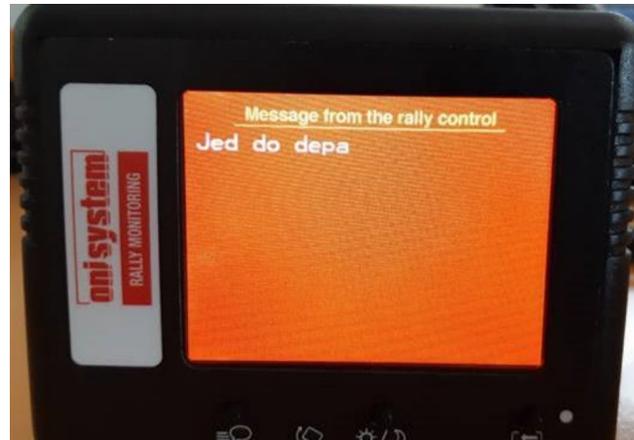
- If for any reason communication between the rally unit and the SOS panel breaks down, an 📶 icon is shown in the top left corner of the display as follows:



- Any alarms during this situation will sound audibly.
- The crew will not be able to confirm (OK) messages during this situation.
- This will not have any influence on the sending of accident or obstacle on the route incidents.

Messages from Rally Control - display

- A new feature to the system is the option for Rally Control to send short text messages to chosen cars (up to 100 symbols). This may look as follows:



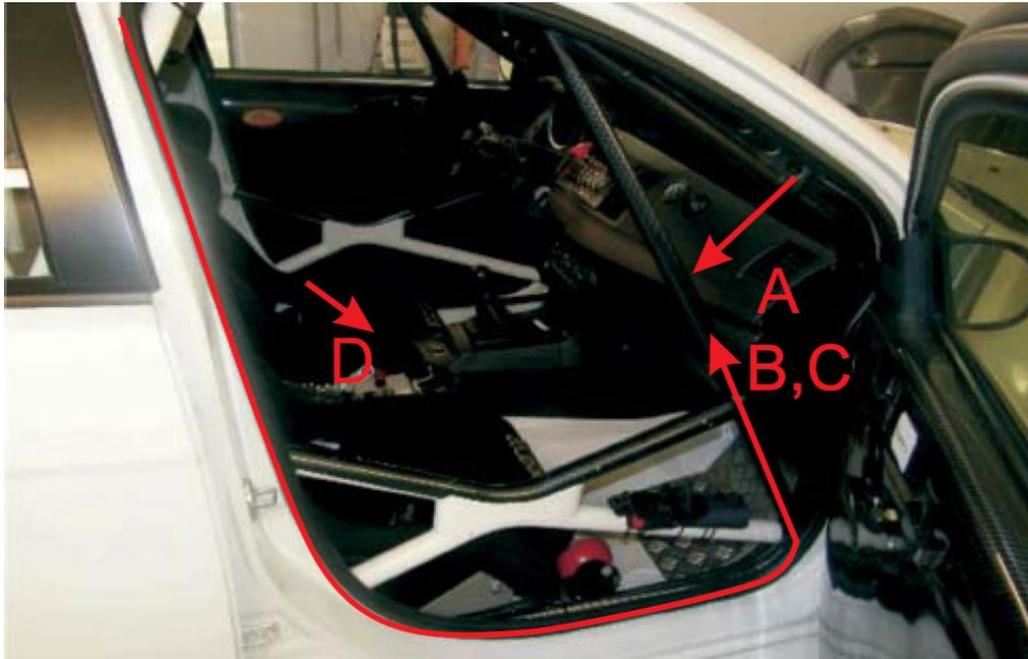
- The car will also hear a siren. Press OK once to silence this.
- Once the crew has read the message they should press OK for a second time. This is taken as confirmation that the message has been read.

Reconnaissance units

- Help to ensure that drivers comply with regulations during reconnaissance.
- No manipulation needed as devices are active.
- Just place inside car - wherever possible without major obstructions to view to sky.
- NCL 21 units have magnets - can also be fixed to metal surfaces.
- Cannot be switched off manually (no on/off button).
- Don't forget to return units after reconnaissance!



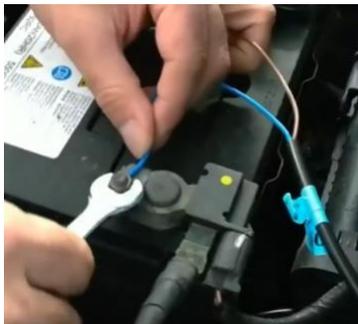
Positioning of ONI system equipment in a rally vehicle



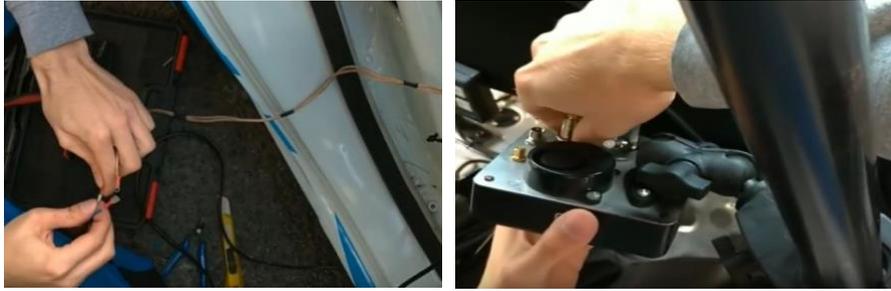
- A – Positioning of rally unit
- B – Connectors (at end of magnetic antenna cables)
- C – Connector (at end of power cable)
- D – Positioning of SOS panel

Preparation:

1. Connect the rally unit power cable wires to the vehicle battery disconnecter, either to the connectors or to the terminal block. Always observe the correct polarity of the wires (brown wire to the + pole and blue wire to the – pole). The power cable wires must not be connected directly to the vehicle battery!



Lead through the dashboard onto the safety cage frame at the side of the co-driver (**to point B - shown on positioning picture at start of document**) so that it can be connected to the rally unit positioned at **point A**. It is also possible to connect the wires of the power cable to a power source or live feed inside the vehicle cock-pit (we do not though recommend connection to intercoms).



2. Place the magnetic antenna on the roof. Lead the cables from the magnetic antenna through to the safety cage frame at the side of the co-driver (**to point C - shown on positioning picture at start of document**) leaving around 25cm reserve for connecting these cables to the rally monitoring unit **at point A** (so that the cables are not bent or deformed). Fix the cables to the frame (but not too firmly so that dismantling after the rally is easier).

3. The SOS panel must be fixed and positioned so that both members of the crew can easily reach this (in the area between the front car seats or at the side of the driver or co-driver seat). The panel is fixed by means of Velcro or by using plastic fixing strips. Inform the crew where the SOS panel is positioned.

4. The rally unit, holder and SOS panel should be installed in the period before the technical control check. Instructions for using the rally unit and SOS panel will be handed over during the installation of the rally unit (before the technical control check).

4. Once vehicles have completed the rally, they must return all monitoring equipment to the staff administrating the monitoring of the rally. If a vehicle does not complete the rally, all monitoring equipment must be returned to the rally monitoring staff as quickly as possible (and before the end of the rally).