

Radios on Motor Sport Events



ADMINISTRATION, APPLICATION & OPERATIONAL GUIDE FOR FM FREQUENCIES

Issued: April 2003
Revised: October 2003
April 2015
July 2018/November 2019
March 2021
June 2024
December 2024

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A ADMINISTRATION

A1 The Use of Radios On Motor Sport Events

1.1 Introduction

'Listen - No Hands'

Years of education and practice in the use of the English language have left many of us with the capacity to be easily misunderstood, our questions unanswered and our aspirations frustrated.

In normal conversation we have, in addition to the voice, added valuable communication devices, usually restricted to the use of the hands or an expression of the face.

However, these additional devices are not available to us when we use radios, and it is paramount that when we use this form of communication in potentially serious situations that we get the messages out clearly and understood the first time. No misunderstandings, no possibility of allowing urgent serious messages to be considered as a 'joke' or 'con'.

It follows that the use of radios has to be disciplined, orderly and precise, and these notes are meant to help all Organisers and Operators to get the best out of their facilities.

1.2 Terms of Reference

This document mainly deals with the use of radios operating on the Motorsport UK Association Limited Safety and Medical Frequencies for Rallies and Cross Country events, but the same operating rules are valid on other safety frequencies.

1.3 Glossary

As part of the Rally Futures initiative, the Stage Rally Safety Requirements (SRSRs) as of 1st July 2018 clarifies certain terms and are as follows:

Radio Car Crew: Ideally will be staffed by at least two people, comprising a Radio Operator and a Radio Marshal.

Radio Operator: This is the person responsible for the monitoring and operation of the Event Safety Radio Network for their location and the surroundings.

Radio Marshal: This is the person that will support the Radio Operator but MAY be expected to deploy from the Radio Car as a Marshal for that location as and when required to do so.

Mandatory Radio Points: These are the radio cars that are required for the event to comply with Motorsport UK regulations and are marked in the competitors Roadbook.

Main Spectator Area Radio Points: These are radio cars that are positioned to monitor spectator locations and do not require to see competitor numbers

Supplementary Radio Points: These are additional radio cars that are required by the event but will not be shown in the competitor's road book

Full definition can be found in the latest version of the SRSRs on the Motorsport UK Website

1.4 General Information

A list of registered call signs and addresses of existing licenced operators of Motorsport UK Association Limited Safety & Medical Frequencies is available through your [Motorsport UK Coordinators & Advisors](#).

A2 Motorsport UK Association Ltd Safety & Medical Frequency.

2.1 Ofcom and Motorsport UK Association Ltd

Ofcom have licenced, to Motorsport UK Association Ltd, Safety and Medical frequencies for its motoring events. These frequencies are EXCLUSIVE to Motorsport UK and will be regulated by the appointed Motorsport UK Radio Coordinators. Do not jeopardize or encourage others to jeopardize this valuable asset for our sport.

2.2 Ofcom Governance

The Ofcom licence requires compliance with the following:

- (a) That the equipment to be used meets the RA's specifications.
- (b) That for any new application for use of the frequencies the equipment must comply with RA specification MPT 1326 or ETS 300 086 at the time of first purchase. (Equipment specified to MPT 1301 and later updated to MPT 1326 will not be acceptable).
- (c) That each radio set registered on the licence cannot be exchanged with replacement equipment without prior consultation with the Motorsport UK.
- (d) That output is limited to 10 watts effective radiated power (ERP) maximum.
- (e) That aerials have maximum height of 9 metres.
- (f) That the equipment and users be registered and authorised annually with Motorsport UK (Applications available from Motor Sports UK House)
- (g) That the licenced use of the frequencies be notified by the event organisers to the [Motorsport UK Coordinators & Advisors](#) and Motorsport UK (e-mail: Rally@motorsportuk.org) in whose area the event is to be run, at least 14 days in advance of the event.

2.3 Motorsport UK Association Ltd

The use of the Safety & Medical Frequencies by its operators is further governed by Motorsport UK as follows:

- (a) It meets the additional equipment specification as required by Motorsport UK Association Ltd (refer to [Appendix i](#))
- (b) It must not be used for any purpose other than connected with Motorsport UK Motor Sport events, except for the genuine checking of equipment or recognised training events.
- (c) It must not be used by Competitors, and the frequencies must not be installed in sets used by Competitors or their Agents.
- (d) The sets will only be authorised by Motorsport UK for Recognised Clubs, Rescue Units and other approved Operators or Services. The issue of approval by the Motorsport UK confers responsibility for the legality of the equipment and the behaviour of the user of the sets to the holder of the authorisation.
- (e) The Club, Organisation or individual applying for registration and authorisation of equipment accepts liability for any contravention of Ofcom regulations in connection with the use of these radios.
- (f) The authorised user must ensure that radio sets are regularly serviced by a competent radio engineer, **typically your supplier/programmer**, who will ensure that the equipment operates within current Ofcom legislation. (This is a condition of the licence).

How frequently this is done will depend upon the frequency of use of the radio and the operational and storage environments. We suggest that for most users at least every 5 years is recommended. Upon servicing the radio engineer should issue the radio with a Certificate of Conformity, a copy to be lodged with Motorsport UK.

However, an often overlooked aspect is that of the ancillary components which are more likely to suffer wear and tear in use. The microphone and its lead, the antenna cable and the antenna itself. These should be inspected on every occasion of use by

the user and repaired as required. Temporary installations potentially suffer greater wear and tear and antenna cables, whilst leaving the antenna in situ between events will reduce performance through accumulated dirt and oxidation. At the very least keep it clean.

- (g) Each authorised operator must ensure that the radios registered with the Motorsport UK operate under the stated call sign. The only exception to this being when a change is sanctioned by an event's Licenced Radio Controller in order to use protected call signs for event purposes, (see [Appendix v](#)) further they may not authorise the use of a call sign which implies a status not held (e.g. RESCUE, RECOVERY, MOMO. These are reserved for Motorsport UK licenced and approved units).

- (h) Motorsport UK have registered approved [Motorsport UK Coordinators & Advisors](#) for given regions who can assist in giving advice to Event Organisers and users and who will act on behalf of Motorsport UK in the enforcement of these regulations.

The Coordinators have a responsibility for dealing with any problems that arise over the use and/or misuse of the Frequencies in their area.

They possess a list of competent Licenced Radio Controllers and will be able to assist Event Organisers in sourcing the appropriate personnel.
- (i) Motorsport UK will co-ordinate a list of authorised call signs and order amendments where necessary. Call signs including 'Rescue', 'Recovery', 'Momo' or similar are reserved for Motorsport UK Licenced safety units.

No primary call-signs using the phonetic alphabet will be permitted.
- (j) The authorised operator through the event Licenced Radio Controller must ensure that the event Organiser, for whom he is operating, has notified the appropriate Motorsport UK approved [Motorsport UK Coordinators & Advisors](#) and Motorsport UK (e-mail: Rally@motorsportuk.org) for the areas in which the event is operating 14 days in advance of the event.
- (k) The authorised operator will report any contravention of these requirements or any unauthorised usage of the frequencies to the Motorsport UK Association Ltd.
- (l) Motorsport UK authorises the use of the frequencies to Clubs, Organisations and others recognised by them, for events covered by Motorsport UK Permit, provided that:
 - (i) Only authorised operators and sets are involved.
 - (ii) The regulations outlined above are complied with.

A3 Radio Operator Training

3.1 Radio Training Sessions

Radio training sessions are essential to understanding the purpose of the Safety and Medical Frequencies and the impact it has on the overall safety of an event.

Training sessions can be organised in various parts of the country. You should contact the approved Motorsport UK Radio Coordinator if you wish to promote or take part in such sessions. Even if you or your club operators are fairly active in events, it is recommended that you/they attend such training sessions. Not only will it provide an opportunity to check up on procedures, and ask questions, but your/their contribution can be valuable to others less experienced.

Your club could also organise its own training sessions. It is not necessary that the club has its own radio's, these can often be borrowed for the session.

It is recommended that you contact your Motorsport UK Radio Coordinator who will be able to advise you on the best course of action.

Such training will often cover topics in addition to procedure, e.g. choice and care of equipment, first maintenance, and is a good way to introduce all club members to the use of a radio set.

Consideration should also be given by clubs to instigate an operator qualification scheme. Only persons who have attended a formal Training Session should be authorised to operate the clubs radio equipment. This authorisation could be annually renewable dependent upon subsequent attendance at formal Training Sessions.

Training need not be limited to sanitised sessions. Consider 'on event' training. Placing a novice in tandem with an experienced operator or radio crew will provide a real time experience of non-artificial incidents and the accompanying responsibilities.

A4 Motorsport UK Roles and Responsibilities.

4.1 Motorsport UK Approved Radio Coordinators

- (a) In accordance with Motorsport UK regulations detailed previously, Motorsport UK has licenced the people detailed in Appendix 5(c) of the current Motorsport UK Yearbook as Approved Radio Coordinators in the areas specified.
- (b) Authorised Radio Operators are recommended to discuss operational procedures and any administrative matters in addition to seeking advice on Training matters with them.

4.2 Motorsport UK Licenced Radio Controller

- (a) The Radio Controller is responsible for managing the on event radio safety network and discipline of the Radio Operators.
- (b) There should be one Radio Controller per frequency on any event i.e. if there is a safety frequency and a management frequency then there should be two controllers.
- (c) Radio Controllers on event are responsible for maintaining a log of occurrences that happen during the event, so that these can be referred to post event.
- (d) Radio Controller has the same responsibilities as the Authorised Radio Operator.

4.3 Authorised Radio Operator

- (a) The named authorised operator is responsible for the following:
 - (i) Accepting liability for any contravention of Ofcom Regulations in connection with the use of the radio equipment as authorised. (Refer to [Ofcom Governance](#)).
 - (ii) Accepting responsibility for the legality of the equipment, as authorised and the behaviour of the operator(s) of that equipment. (Refer to Motorsport UK Association Ltd [Governance](#)).
 - (iii) Ensuring that each operator of the registered call sign has a copy of the authorisation for use for that call sign.
 - (iv) Ensuring that regulatory information available through Motorsport UK (such as this Operational Guide) in addition to Safety & Medical Frequencies bulletins, periodically issued by Motorsport UK, are made available to the operators within the authorised group.
 - (v) Advising Motorsport UK of any administrative changes to their authorisation to use i.e.
 - change of contact name
 - change of address, telephone number etc
 - any changes whatsoever to the radios authorised/licensed

B APPLICATION

B1 Organisers' Choices

1.1 Equipment

Although Motorsport UK regulations do not currently require their use on all events; radios are considered to be an invaluable aid to Organisers. The current regulations on the choice of radio equipment and frequencies are as follows:

- (a) That it operates on the Motorsport UK Association Limited own Safety and Medical Frequencies.
- (b) That it operates on other properly licenced private frequencies, only when it is certain that the planned frequency is secure. Hire, demonstration and amateur radio frequencies MUST NOT be used for safety purposes and if used for administrative purposes Organisers must remember that any other licenced operator, including Competitors, may have every right to use that Frequency.
- (c) An ABSOLUTE rejection of any equipment operating on any legal or illegal 'open channel' or 'CB' radio for any purpose connected with the safety or administration of the event.
- (d) That, whichever choice is taken, the equipment used conforms to the latest Ofcom regulations.

1.2 Frequencies

(a) GENERAL

An Organiser has the choice of utilising the Motorsport UK Association Limited own frequencies or using other suitably licenced private frequencies on their event. Subject, of course, to the equipment meeting Ofcom specification and being properly licenced, and being sufficiently private to the organisers with no likelihood of its use by Competitors or other licenced operators.

Clubs who are invited on event to operate a Stage or other area should be aware of the frequencies used to control the event and make provision to communicate on those frequencies. To ensure the correct flow of information the controlling frequency must be regarded as the prime frequency and shall be clearly stated in the Safety Manual. Alternative non Motorsport UK Association Ltd frequencies in use should therefore handle messages of a secondary nature.

However, it should be borne in mind that all licenced Rally Safety Vehicles carry radios on the Motorsport UK Association Ltd frequencies as do many Doctors. It will be essential that you are in a position to communicate with them.

For information, Competitors are likely to use 172 and 167.2 MHz, any many frequencies around 169 MHz, therefore these frequencies should be avoided.

Whether using the Motorsport UK Association Limited frequencies or a private set, the disciplined use of radio is vital.

As an Organiser you should ensure that the sets are acquired from suitable Private Business Radio (PBR) Equipment dealers and set up by them. Also ensure that all the sets that you are to use are compatible, it is only a token gesture to safety if on two stages you have different frequencies and no method of linking their operation.

The Motorsport UK Association Limited frequency is FM ([Appendix i](#)).

It is important to ensure that when hiring equipment, the compatibility aspect is understood, 81.5750 FM cannot talk direct to 81.5750 AM.

(b) Open Channel and CB

Whether AM or FM this equipment must NOT be used for safety or administrative work, by the mere fact that it is 'open channel' it means that potentially serious messages can be overheard, it also has the capacity to be misused; false messages can be transmitted perhaps causing delays in running an event which may work to the advantages of certain Competitors or other mischievous persons.

It may be that an Organiser sees some general 'chatty' role for CB in a general sense, but do not trust messages in any administrative control situation. Some Organisers prohibit the use of CB by Competitors on stage rallies because of the danger of interference both on its own frequencies and to automatic timing devices.

(c) Planned Use

Whether using the Motorsport UK Association Limited Safety and Medical Frequencies or an alternative communication system, organisers are recommended to engage the services of an experienced Motorsport UK Radio Co-ordinator or a Motorsport UK Licenced Radio Controller at an early stage in the planning of an event. He/she will be able to advise on the suitability and compatibility of the radio equipment which is available.

It is only a token gesture to safety if, on two stages you have different frequencies and no way of linking them, similarly, beware of the incompatibility of AM and FM sets, even though they are on the same frequency - the Motorsport UK Association Ltd Safety and Medical Frequency is FM, and the vast majority of operators have FM and this is the mode that should be used.

(d) Staffing

It is the responsibility of the Event Safety Officer to ensure that each stage has at least the minimum radio safety coverage (refer to Motorsport UK Yearbook - Regulation R24.3.3 (b) as well as Motorsport UK's SRSRs). This role they will undertake in consultation with each Stage Commander and the Motorsport UK Radio Coordinator or Motorsport UK Licenced Radio Controller.

It should be remembered that the approved Motorsport UK Radio Coordinator will also be in a position to tell you which of the marshalling clubs have radios, how many, their call signs and their experience. They will be able to find the additional radio coverage where it is needed and most importantly find the experienced people you will need to operate your control(s).

(e) Maintenance and Testing

You are reminded that regular maintenance of licenced radio equipment is a requirement of retaining the Motorsport UK licence to use the Safety and Medical Frequencies.

It is advisable, therefore, to have a planned maintenance schedule for all radio equipment covered under your sub licence in order that each piece of equipment undergoes at least one service during each **five year** period.

Beware of equipment that is under used. Try to rotate the use of sets to avoid long dormant periods.

In use monitoring of the operational qualities of each radio will provide indications towards possible future problems.

Genuine testing of equipment is covered under the terms of the licence. Most sets will be 'bench tested' during normal maintenance, however field testing is also recommended but this should not be exploited.

C OPERATIONAL

C1 Operation

1.1 General

Many different types of equipment may be encountered, but all work in basically the same way. i.e. the sets under the licence operate in Simplex, which means that you cannot hear what anyone else is saying whilst you are transmitting. Make sure that you are familiar with the operation of the set, it is of little use to the event if you do not know how your set operates once you are on location. If you suspect your radio is not operating correctly, inspect ALL connections - power, fuses, microphones, aerials, volume control etc. If the set has power and you have not heard anything, do not assume that the transmit side is not functioning. In an emergency transmit your message several times - it may well be heard, at worst your ANI code will be received so control will know you are calling and suspect that you are experiencing difficulties. If there is a problem with the set, let the Radio Controller or Stage Commander know as soon as possible by any other means available to you.

ALL sets are expensive to buy and maintain - please treat them accordingly. Always use Mobile sets INSIDE the car, never outside, they can get wet or dusty and bring on complex technical problems. DO NOT use a loudspeaker outside the car, especially when spectators are present - the frequency and the messages are private to the Officials of the event.

1.2 Handhelds

Handheld units should only be used in flat, clear areas such as Camps, Airfields, etc. These units are usually low powered and, except over short distances are less efficient in Forests. The short range operation of these units make them ideal as a link between Radio Operators and the Radio Marshal who may be required to be separated due to incidents or vehicle location issues.

1.3 Aerials

Do not trap cables with sharp edges. Magnetic mounts will not hold on fibreglass or aluminium. Check cables and plugs before every event. If using a magnetic mounted aerial, ensure it is placed in the centre of your vehicle roof. This gives the best ground plane effect for signal propagation.

1.4 Masts

If you are using a portable mast and aerial, make sure the combined erected height is not more than 9 metres. (refer to [Ofcom Governance](#))

Always erect the mast and aerial in a clear area, NOT under trees, power lines or adjacent to any structure which will cause interference.

Always use low loss coaxial cable where possible.

It is important to ensure that your mast and aerial are erected on a vertical axis. (A lean in any direction will compromise the efficiency of its operation).

1.5 Microphones

Correct use of the microphones is essential to get the best result from a transmitter. The operator should hold the microphone no more than three inches from the mouth and the message should be spoken across the face of it. Ensure that the microphone is not jammed in the 'ON' position.

IT IS IMPORTANT THAT YOU ARE AWARE OF THE LOCATION OF YOUR MICROPHONE AT ALL TIMES. A MISPLACED MICROPHONE CAN EASILY BECOME JAMMED 'ON'. A JAMMED MICROPHONE WILL DISRUPT THE TRANSMISSIONS FROM OTHER OPERATORS ON THE FREQUENCY AND CAN SERIOUSLY COMPROMISE THE SAFETY FUNCTION. DO NOT ALLOW THE TIME OUT FACILITY TO ENCOURAGE SLOPPINESS.

1.6 Control

Whether radio is being used for a compact single venue or a more complex multi-venue stage event, there are certain to be a sufficient number of radios active to make to provision of a control station a necessity.

By definition, a control will be located so that it has communications with the maximum number of stations in its area. Following the SRSRs the organisers will have their Clerk of the Course located with the Radio Controller at Rally Control. They may also have other decision makers such as the Event Safety Officer also based at control, since more information is normally available, as are communication facilities, at control than at any other single place in that area.

The function of control is to:

- (a) Maintain discipline and ensure clear airspace for stations to pass their messages.
- (b) Route messages quickly and accurately to their destination.
- (c) Monitoring and recording the status of the event by listening carefully to all messages.
- (d) Maintaining contact with senior officials in stages and other key locations.

1.7 Stages

The entire operation on the Safety and Medical Frequencies demands team-work amongst all its operators. This in turn demands a certain discipline.

The essence of good communication is - **CLARITY, BREVITY AND ORDER**.

The radio team on each stage, including Radio Operators, Doctors, Rescue, Ambulances and Recovery, are considered as being the Stage Safety Team. Each station should know the locations and call signs of the others, and should know before calling control for clearance, the wording of their message and to whom it is destined. One station in the unit should act as communications coordinator for the stage, ideally this would be the start radio located with the Stage Commander. This radio would log the arrival of the Stage Safety Team and report the status of same to the control when invited to do so.

It is also the responsibility of the stage communications coordinator to secure start/finish communications for the stage, using an intermediate station if necessary. It should not be assumed that control can provide this facility.

Each stage net needs to be established in good time before the running of the stage, in order to resolve any communication problems, since no movement is permitted once the stage is operational. It is recommended that the final stage radio check is scheduled, by control, to take place preferably one hour before the stage is due to become operational.

No messages or radio check should be initiated without clearance from either the main radio control or the sub control or link/relay for the stage.

Note that it is sometimes possible to gain communications by just moving the vehicle or aerial a few feet.

(Radio signals travel in waves. The point at which the wave contacts your aerial is critical with regard to signal reception).

Remember control will be able to hear most radios on an event, DO NOT transmit your message until your control has given you clearance to do so. Observe and operate within the controlled system of radio operation at all times. Failure to do so will cause delays and frustration to yourself and others and could have dire consequences.

Messages over long distances can be read that much more easily if spoken slowly and clearly. Remember that radio sets to the Motorsport UK Association Ltd specification are fitted with a thirty second 'TIME OUT'. Make your messages brief. If you have a long message to transmit, break it into small sections using the term 'ROGER SO FAR' or BREAK as punctuation.

The radio MUST be manned at all times. It is recognised that under certain extreme circumstances a radio may not be monitored. If you find yourself in this situation, upon returning to your radio, immediately check the selcall function. If you have been called by Control an alert will be displayed and you should call Control as soon as possible.

1.8 Staffing

DO NOT over staff a stage with radios, it is more helpful to have 12 radios covering three stages, than 8 radios on one stage and only four covering the remainder.

Mandatory Radio operators MUST NOT have any other job. Radio cars should ideally be staffed by at least two persons.

It may be that the radio vehicle may have to park away from the stage and be out of clear sight of the competitors. If this occurs then one of the team of two will be required to be remote from the vehicle, therefore an independent means of communication into the Safety and Medical Frequencies system will be required. It is in this role that Handheld radios will be useful.

Radio Operators should ideally be chosen for a clear speaking voice, and common sense

DO NOT FIT MOTORSPORT UK ASSOCIATION LTD SAFETY AND MEDICAL RADIO EQUIPMENT TO CARS CONTAINING CB SETS, ONE RADIO IS ENOUGH FOR ANYONE TO LISTEN TO, EVEN FOR THE MOST EXPERIENCED OPERATORS.

It is very important to note that it is not recommended to locate Controls in the same place if both Motorsport UK Association Ltd Frequencies are being used on the same event. Where 2 radios are operating in the same band, in our case Low Band, they cannot operate together, as a transmission on one Channel will de-sense the receiver on the other Channel making it unusable. Those of you that have operated with an A system radio alongside your 81 set will almost certainly have experienced this. A minimum of 500 metres would be suggested between 2 Controls.

1.9 Locations

Cars should be positioned as near as possible to the start and finish controls and mid points but remember:

- (a) Rally cars are noisy - use headphones if possible.
- (b) Rally cars may be unsuppressed and could seriously disrupt reception.
- (c) Rally cars often throw stones.
- (d) Radio aerials must be kept away from steep banks, power lines, high buildings, etc. VHF radio waves travel in straight lines and consequently it is often necessary to site stations on high ground.
- (e) Mandatory Radios are normally located at points which are defined in the current SRSRs.
- (f) Supplementary Radios and Spectator Area Radios are positioned at locations which the Event Safety Officer, Stage Commander and Motorsport UK Radio Coordinator considers merit special attention.
- (g) Your vehicle MUST be parked at a minimum of 30metres from the stage route. If this is not practical, please use common sense. You may be required to move by the Motorsport UK Safety Delegate or Motorsport UK Steward if they believe that the location that you have chosen is one of risk. Remember your own safety is essential to the operation of the Safety and Medical Communications system.

Motorsport UK Regulation R24.4.12 states: "All non-competing vehicles must be parked in an appropriate place at least 30m from a road used as a Special Stage, between a point before the Start control and a point 100m beyond the Finish stop control."

1.10 Officials

ALL OF YOU, WHO HAVE RADIOS, HAVE THEM BECAUSE YOU ARE OF GREAT IMPORTANCE TO THE RUNNING OF THE EVENT. ENSURE THAT YOUR SET IS MONITORED AT ALL TIMES SO THAT YOU CAN BE CONTACTED QUICKLY FOR YOUR ADVICE AND ASSISTANCE.

Of course, you will be in so much better a position to perform your job if you have been aware of the status of the event throughout. Monitoring of the network, not necessarily by yourself, but by a 'secretary' will give you much information which would otherwise be impossible for you to obtain.

If your set is to be left unattended at any time during the event, let control know where you will be, and how you can be contacted. Upon returning to your radio, immediately check the selcall function. If you have been called by Control an alert will be displayed and you should call Control as soon as possible.

1.11 Vehicle Tracking Systems

A radio system is a reactive medium and as such will benefit from additional aids such as are detailed below. Organisers may incorporate a system as follows:

- (a) Previous car number written on time cards.
- (b) Consecutively numbered tickets given to Safety Cars and competitors at each stage start.
- (c) Positive Tracking by an independent radio system or other means e.g. GPS/GSM/Satellite.

All these systems are of immense use, particularly in areas where a lot of stages are operating in close proximity. Start/finish operators should find out which system is being used and make sure that start/finish control crews pass on immediately any information regarding possible missing competitors.

All operators on the stage should, as far as is possible under the conditions, keep their own log of competitors passing their locations - it is useful to have a copy of the entry list with you to assist in identifying a vehicle. If a car is reported missing by one of the systems, you will be required to know whether or not that car has passed your location. This is basic stage safety procedure.

1.12 Control Procedure

The purpose of a Control is to allow for a structured and efficient interchange of information and instructions between all of the radios contained within an event's Safety and Medical Communications system and to interface with the event organisation.

The basic procedure for operating under a controlled radio system is set out below.

Stations wishing to pass messages must initiate a call to control for clearance by pressing the PTT button on the microphone, wait a second and then say the following where 'Mercury' is the call sign of the Controller and 'Neptune' is the call sign of the operator.

'Auto Mercury Control from Auto Neptune, Over'

The call is usual shorten by removing the word 'Auto' from the call sign this also ensures brevity to the call hence the call becomes.

'Mercury Control from Neptune, Over'

Control should respond either 'GO AHEAD' or 'WAIT'. Each individual station is given 'GO AHEAD' as soon as the frequency is clear. Advise control of your message and whom it is for, control can then relay the message. You may ask for direct communications with another station if the message is long and / or complex, control MUST give permission for such communications.

In cases where direct contact with control is not possible you may need to call to a station to act as a relay to control. That station should then call control with the information. While this happens control may ask all other Radio Operators to 'Wait Out'.

IT IS IMPORTANT THAT YOU LISTEN CAREFULLY AT ALL TIMES AND DO NOT TRANSMIT WHEN ANOTHER STATION IS ALREADY USING THE CHANNEL.

Control should use the phrase 'CONTROL TO STANDBY' or specifically invite calls, when it is ready to receive further callers.

If several stations call simultaneously, control should acknowledge those call signs identified, and ask for any more to repeat their call sign only, continuing in this fashion until there are no more replies. Control will then ask one of the callers to 'GO AHEAD' but this may not necessarily be the first call sign received.

Make your messages brief and indicate when it is complete. Use 'OUT' instead of 'OVER' at the end of your final transmission.

C2 Incident Handling

2.1 General

If an incident should occur, it is essential that it is dealt with quickly and efficiently with as little disruption to the event as is possible and to the benefit of all concerned.

To that end the Stage Safety Team must know the location of their Sector Marshal, and Stage Safety Officer, Rescue services etc. The Stage Commander will be located at the start of the stage. If the situation is such that the stage requires to be held then the instruction to hold the stage MUST be actioned by the Stage Commander. If they are not immediately available, then the Stage Safety Officer or Deputy Stage Commander (whoever is at the Stage Start) must take on the responsibility. It is imperative that these officials are very experienced, with a sound knowledge of the sport, and work together.

2.2 SUPeR System

In order to process an incident more effectively there exists a SUPeR word system.

The application of this system is explained below and is in use on a national basis.

Should you be advised of, or witness an incident you may include one of the following words in your initial call to control:

- (a) **SAFETY** - messages concerning stage safety, e.g. car overdue, arrowing, spectator marshalling problems where a slight delay in action can be tolerated.
- (b) **URGENT** - situations requiring immediate action, e.g. car known to be in difficulty, suspected injuries, stopping further traffic entering the stage.
- (c) **PRIORITY** - CONFIRMED situations involving injury - Medical/Rescue services required.
- (d) **RELEVANT** - messages which have a bearing on the current 'on air' conversation i.e. submission of relevant information.

Use common sense - DO NOT overrate the urgency of your message unnecessarily.

Be sure to have as much information as is to hand before you make your call to control. This will prevent any unnecessary delays and assist in the speedy conclusion of the incident.

IT IS IMPORTANT TO PASS ON INFORMATION AS GIVEN - WITHOUT PERSONAL COMMENT OR EMBELLISHMENT.

If an alternative frequency to the Motorsport UK Association Limited Safety & Medical systems is in use, i.e. ATC, TA, Radio Amateurs etc., then ensure that there is a competent motor sport person stationed at each radio point, including the control, to ensure that the correct level of priority is instigated.

This is how a SUPeR call should be initiated.

'Mercury Control from Neptune, SAFETY, Over'

Control will then ask Neptune to 'Go Ahead' with their message and deal appropriately with it in conjunction with the correct on stage and/or off stage personnel.

Common sense will dictate who needs to take the decision and who will act on it.

Whilst dealing with the incident the Control will announce to the radio network that it is accepting SAFETY and above status messages only.

This means that any messages under SAFETY status must not be transmitted until the SAFETY status has been downgraded.

If the call should escalate or be superseded by an URGENT message, then control will increase the minimum status to URGENT. Similarly, should a PRIORITY call be received, that status then becomes the network minimum.

If a SAFETY, URGENT or PRIORITY call is made, it could be that on listening to the details of the incident, you have relevant information which will help.

In this instance you may use RELEVANT in order to pass your message i.e.

'Mercury Control from Neptune, RELEVANT, Over'

All other stations with no involvement should remain silent until told that the emergency is over, or until called.

As soon as the incident has been dealt with the Control will downgrade the level of restriction applied to the radio network.

The restriction will be reduced level by level until all calls are exhausted at which point normal transmission will be resumed.

For obvious reasons the SUPeR system MUST ONLY be used in situations which demand it and then only after due consideration has been given for the level to be applied.

If it becomes necessary to call 999 for County Ambulance etc. this will be undertaken as per the Event Safety Manual and it is recommended that arrangements are made to send a senior official with a radio to the meeting point.

([Appendix iii](#) and [Appendix iv](#) provide a useful step by step guide for operators dealing with incidents and emergencies).

C3 Radio Abbreviations & Key Words

Strict adherence to correct procedure is necessary to ensure accuracy and speed in passing messages, and to eliminate mistakes and repetition.

Use the phonetic alphabet and figures when it is necessary to spell out individual words and numbers.

3.1 NATO Phonetic Alphabet

ALPHA	GOLF	MIKE	SIERRA
BRAVO	HOTEL	NOVEMBER	TANGO
CHARLIE	INDIA	OSCAR	UNIFORM
DELTA	JULIET	PAPA	VICTOR
ECHO	KILO	QUEBEC	X-RAY
FOXTROT	LIMA	ROMEO	YANKEE
			ZULU

3.2 Figure Pronunciation

0 = Zero	5 = Fife
1 = Wun	6 = Six
2 = Two	7 = Sevenne
3 = Three	8 = Ate
4 = Fower	9 = Niner
10 = One Zero	
100 = One Hundred	
1000 = One Thousand	

3.3 Twenty-Four Hour Clock

Will always be used. i.e.

- 7.00am = 0700hrs - speak 'Zero Seven Hundred Hours'
- 11.30pm = 2330hrs - speak 'Twenty-three Thirty Hours'

3.4 Signal Strength

Should be stated in one of the five levels as follows:

1	Unreadable
2	Very noisy, barely readable
3	Noisy but readable
4	Good but slightly noisy
5	Loud and clear

3.5 Pro-Words

Here are a few key phrases which will assist in making good communication:

Key Phrase	Meaning
'ROGER'	I have received your message 'Acknowledged' (not to be used as an affirmative)
'OVER'	When a reply is expected
'OUT'	When a particular communication is complete
'OUT TO YOU'	End of my transmission to you, no reply expected and further calls to other stations to follow immediately
'WAIT'/'WAIT OUT'/'WAIT ONE'	Literally, wait, I will call you back
'SEND'/'GO AHEAD'	Instruction to calling station to proceed
'LISTENING OUT'/'TO STANDBY'/'STANDING BY'	Operational and awaiting calls
'AFFIRMATIVE'	Yes
'NEGATIVE'	No
'READ BACK'	Repeat all, or specified part, of this message
'RADIO CHECK'	Report how you receive my transmission
'SAY AGAIN'	Repeat, used with All Before or All After, etc.
'WILCO'	Message received, understood, and will be complied with
'WRONG'	What has been said is incorrect
'COMPLETE TO'	All cars up to and including number given have passed this station.
'SO FAR'	Have you received the message so far
'PRIORITY'	An urgent priority message, other station wait out.
'URGENT'/'SAFETY'	An urgent non-priority message other station wait out except 'priority' calls
'RELEVANT'	A message with pertinent information

3.6 Remember

Qualifier	Action
ALWAYS	Use the call sign of the station you are calling followed by your own when opening a transmission
ALWAYS	Say OVER at the end of each transmission
ALWAYS	Take your finger off the PTT (Press to Talk) button when you have finished speaking
ALWAYS	Be as brief as possible
ALWAYS	Make sure you get the message right. If necessary, write it down first
ALWAYS	Remember, safety is the first consideration, information is secondary
ALWAYS	Know where your microphone is, and make sure that the PTT cannot be accidentally operated
ALWAYS	Leave a short gap between each transmission so that a station with an urgent call can 'get in'
ALWAYS	If you feel unable to handle a situation pass the microphone to someone who is, if possible
NEVER	Call when someone is already talking - you will only cause interference
NEVER	Use bad language
NEVER	Use radios for 'chat' when stage of event is running.
NEVER	Add to, embellish and/or use unnecessary voice inflections to messages given to be relayed
NEVER	Panic. Keep calm

*******THINK OFF AIR*******

Appendix i

MOTORSPORT UK ASSOCIATION LTD SAFETY & MEDICAL FREQUENCIES EQUIPMENT SPECIFICATION

Applicable to all operators with the exception of Radio Coordinators and Motorsport UK Licenced Controllers

This specification has been devised to enable the equipment to meet the demands of the operational requirements and possible future expansion whilst ensuring that it conforms to all relevant licence and technical specifications as laid down by Ofcom. It should be read in conjunction with the MOTORSPORT UK SAFETY & MEDICAL FREQUENCIES OPERATIONAL GUIDE document.

1. All equipment must comply with MPT 1326, or ETS 300 086 at the time of first purchase. Equipment specified to MPT 1301 and later updated to MPT 1326 will not be acceptable.
2. Hand held equipment will not be acceptable as the primary radio.
3. Minimum recommended channel capacity of equipment is 4. Mobile radios that will require the programming of additional non Motorsport UK Association Ltd licensed frequencies for event administrative purposes, such as those of Rescue, and Recovery Units, and Senior Officials will obviously require a capacity greater than 4 channels.
4. Frequencies are: 81.5750 Mhz FM for Channels 1 & 2
 81.5375 Mhz FM for Channels 3 & 4
5. Power level will be maximum of 10 Watts ERP[†]
6. Channel spacing 12.5 Khz
7. CTCSS, both encode and decode, is mandatory, open channel working is not permitted[*]
8. Selcall [#]
 - a) Tone set to be used will be EEA.
 - b) Tone length 40ms.
 - c) The equipment must be capable of encoding and decoding any number of tones between 3 & 6.
 - d) Revertive selcall operation will be mandatory. (Answer back)
 - e) ANI will be mandatory at the end of each transmission.
 - f) The facility to display or input variable digits will not be permitted.
 - g) Upon decoding its own I.D., the equipment must emit an audible warning and provide visual indication of being called. The cancellation of the visual indication is to be a manual operation.
9. Transmission time out timer must be used and set at 30 seconds. This must give an audible warning to the operator but not necessarily the listener that transmission is about to be or has ceased.

Notes.	[†]	Ensure equipment is approved for use at this power level
	[*]	CTCSS tones will be notified with the authority to use the frequency
	[#]	Selcall & ANI details will be issued with the authority to use the frequency

Appendix ii

DRAFT LETTER - PRE EVENT NOTIFICATION

In order to comply with the Motorsport UK licensing requirements, Event Organisers are required to notify the Motorsport UK Radio Coordinator in whose areas the event is to run to confirm the authorised usage of the frequencies. A copy of the Pre-Event Notification must be sent to Motorsport UK.

The letter must be sent at least 14 days in advance of the usage and must contain the following basic information, produced here as a draft.

Motorsport UK requirements call for a copy of this letter to be sent to the Motorsport UK office along with other paperwork after the event.

To:
([Motorsport UK Coordinators & Advisors](#) - See Motorsport UK Yearbook Appendix 5(d) for contact Details)
cc Motorsport UK (Rally@motorsportuk.org)

Dear Sir/Madam,

Private Mobile Radio Licensing

As a Motorsport UK recognised Motor Club, we have received authorisation to use their licenced frequencies of 81.5750 MHz & 81.5375 MHz for the event detailed below.

Ofcom's requirements under PBR Licence 264333, as issued to Motorsport UK Association Ltd, will be respected.

1. Name of Event:
.....
2. Date of Event:
.....
3. Transmissions will commence at hrs on
(date)
and will close down at about hrs on (date)
4. The location of the Radio Control will be at
.....
5. Name of Radio Controller on the event
.....
6. The controller can be contacted before the event on (telephone):
.....
.....
and during the event on
.....
7. The call signs and the locations of transmissions to be used will be as follows:

CONTROL/BASE AUTO
OFFICIALS AUTO

STAGES AUTO

Continue on separate sheet if necessary

8. Name & address of applicant

.....

9. Name and address of Radio Controller (if different)

Appendix iii

ACTION IN CASE OF INCIDENT

In the event of an incident of a car reported missing:

DO NOT LEAVE YOUR RADIO UNMANNED

Start Radio Operators

1. Upon receipt of competitor number check that it did actually enter stage.
2. Inform Stage Commander and Stage Safety Officer of the situation.
3. Ask that subsequent competitors look for missing vehicle and report any findings to officials at the stop line.
4. Pass the competitor number(s) of the vehicles that have been asked to investigate to stage finish radio.

Finish Radio Operators

1. Upon receipt of competitor number check that it has not exited the stage.
2. Inform stop line officials of the situation.
3. Ensure that subsequent competitors arriving at the stop line are asked if they have seen the missing vehicle.
4. Update control and event officials with any relevant information received.

Control

1. Verify with start radio that missing competitor did enter the stage.
2. Verify with finish radio that missing competitor has not completed the stage.
3. Initiate a radio search through stage to ascertain last known location of missing competitor.
4. Once the general area is known where the missing competitor maybe, instigate a foot search (either through the radio admin or a nearby stage marshal) from both sides of the known area.
5. Update stage radios and event officials with relevant information.

Mid-Point Radio Operators

1. Upon hearing that a competitor is missing, check your paperwork to establish if the competitor in question has passed your location or not. Be ready to answer control when called.
2. If you are asked to carry out a foot search, deploy the Radio Marshal from your location and stress that it is vital they remain with the subject vehicle if located. Where there are injuries the 'RED SOS board' must be displayed to the next competitor and the procedure as initiated in line with Motorsport UK General Regulation R25.4. In cases where there are no injuries they must ensure that the 'Black OK Board' is displayed a prominent position and report back to a radio immediately.

General

REMEMBER THE STAGE IS STILL LIVE WITH COMPETING TRAFFIC

Appendix iv

ACTIONS WHEN A STAGE IS ON HOLD

In the event of a request being received to temporarily suspend the stage

DO NOT LEAVE YOUR RADIO UNMANNED

Control

1. Advise Stage Commander with the reason for the request and the name of the person making the request and whether the RED Flags are required to be deployed and to which Mandatory Radio Point they are to be shown to.
2. If the stage is held request total number of competitors into stage from stage start radio and the numbers of the last three vehicles to enter and time of last vehicle.
3. Pass these details to finish radio and ask them to inform you when the last vehicle has completed the stage together with total number of vehicles to complete.
4. Keep a close check on any competing vehicles that have been reported as stationary in stage in case they restart.
5. On advice from the Stage Commander, alert Stage Safety Team of the situation and advise them to go to a ready status.
6. Check that you have the 999 information relevant to the incident to hand.
7. Maintain timed log of all actions taken during the processing of the incident.
8. Upon completion of incident make sure all stage personnel are aware and check viability of stage with all stage radios prior to a restart.

Start Radio Operators

1. Maintain contact with Stage Commander and update with information gained by monitoring your radio.
2. Update control with all actions taken by the Stage Commander or the Stage Safety Officer relating to the stage stoppage.
3. Complete your stage admin be ready to supply control with details as Point 2 (Control above).
4. Maintain timed log of all actions taken during the processing of the incident.
5. Upon completion of the incident be prepared for a stage restart and to supply control with restart vehicle details.

Finish Radio Operators

1. If you are the point of contact which has requested a stage hold, ensure that you have clear, concise and accurate information regarding the details of the request and the person making the request.
2. Maintain contact with Stop Line Officials and update with relevant information.
3. Complete your stage admin be ready to supply control with details as Point 2 (Control above) together with any information you may have regarding vehicles stopped in stage.
4. Update control with any relevant information received.
5. Maintain timed log of all actions taken during the processing of the incident.
6. Upon completion of the incident be prepared for a stage restart and to receive information regarding restart vehicle.

Mid-Point Radio Operators

1. If you are the point of contact which has requested a stage hold, ensure that you have clear, concise and accurate information regarding the details of the request and the person making the request.
2. Assist control in any way possible to process the incident effectively and efficiently.
3. Maintain timed log of all actions taken during the processing of the incident.
4. If you are not directly involved, monitor the transmissions as you may have relevant information which would be useful.
5. Carry out a check sheet audit to verify which competitors you have had past your location.
6. Once the stage is held, advise control immediately of any unauthorised movement on stage. (This includes competitors who had previously stopped on stage but have now restarted).

Appendix iv cont'd/.....➔

Appendix iv continued....

Mandatory Radio Operators

1. Maybe required to advise the Radio Marshal at their location to display the RED Flag to all competitors.

Supplementary Radio Operators

1. Maybe required to deploy from the vehicle to help deal with the incident along with the Radio Marshal.

Appendix v

RESTRICTIONS ON THE USE OF CALL SIGNS

1. The following call signs are allocated permanently and may not be used except by their authorised operators.
 - Auto 'RACK'
 - Auto 'RACK' 1 – 4 (*Motorsport UK Approved personnel*)
 - Auto 'RACK' 5 – 20 (*Approved Motorsport UK Radio Coordinators**)
** Coordinators are not permitted to use this call sign when they are running a control on an event*
 - Auto 'MOMO' (*Doctors or Paramedics specifically licenced by Motorsport UK*)
 - Auto 'RESCUE' (*Motorsport UK Licensed Rescue, and Ambulance units*)
 - Auto 'RECOVERY' (*Motorsport UK Licensed Recovery Vehicles*)
 - Auto 'MEDIC' (*Doctors appointed by event organisers*)

2. The following call sign **must not be used** under any circumstances:
 - Auto 'SAFETY'

3. The following call signs are not to be used by personnel who have duties relating to individual stage:
 - Auto 'CONTROL' (*Authorised to currently Licenced Motorsport UK Radio Controller only*)
 - Auto 'COMM'
 - Auto 'ARC'
 - Auto 'PILOT'
 - Auto 'COURSE'
 - Auto 'SECTOR'
 - Auto 'LINK'/RELAY'
 - Auto 'SPEC'

4. Wherever possible the word '**CONTROL**' should only be included once in the call signs for an event. Other stage/regional/areas/controls should use '**LINK**' or '**RELAY**'.

5. The call sign 'BASE' should not be used except where its location is permanent.

6. No primary call sign shall be authorised which is:
 - a. From the phonetic alphabet (see [NATO Phonetic Alphabet](#))
 - b. From the figure pronunciation (see [Figure Pronunciation](#))
 - c. Misleading or can be misunderstood (e.g. car, marshal)
 - d. A double call sign (e.g. Viking Juliet).

7. Primary call signs authorised to individual clubs or organisations shall be restricted (as above) to a single word.

Please note for brevity reasons the 'Auto' will generally be drop from the transmitted message