The RAYNET Manual

Volume One

Operations

Second Edition

This document is produced by the RAYNET National Emergency Planning Team for the use of ALL RAYNET Groups.

Record of Amendments

RAYNET Manual – Amendments and Insertions Record

The footer information on each page (subsequent to the original issue) shows the latest version number of the page in the form – Ver: n.nn. The table below shows only pages that have been amended subsequent to the first issue of the Second Edition of the Manual.

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Preface

This Manual

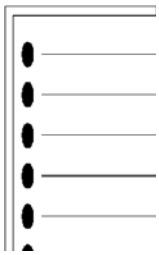
The electronic version of this Manual is designed for duplex (double-sided) printing with the title page and section separators blank on their reverse. Single-sided printing of the Manual is NOT recommended as it comprises more than 70 sides. In its *pdf* format the Manual should print in its entirety properly formatted. For printers without automatic duplex functionality always print odd pages first to avoid collation errors. Do NOT remove any pages prior to printing on the reverse sides.

In Adobe® Acrobat® Reader the Manual contents can be revealed by clicking the *Bookmarks* tab (to the left of the screen). Clicking a bookmark will take the reader directly to the selected page.

Care should be taken to ensure that the contents of this RAYNET Manual in its hardcopy format are kept up to date by regular insertion of revised sheets as they are issued. If you are in doubt regarding the currency of any contents, please check the *Record of Amendments* at the start of the document and compare it with the current on-line record. Alternatively you can write to "The Radio Amateurs' Emergency Network, Hunters Moon, Station Road, Newton-le-Willows, BEDALE, DL8 1SX" for a current amendments list. The current edition of the manual, amendment information and supporting documents may be downloaded from the RAYNET web site at www.raynet-uk.net.

Any correspondence concerning this Manual should be addressed to the Chairman of The Radio Amateurs' Emergency Network. The Committee of Management welcomes contributions to the Manual, but reserves the right to edit or use the material provided in the best interests of the Network. We also appreciate attention being drawn to any errors that the Manual may contain.

This Manual has been issued by the Committee of Management of The Radio Amateurs' Emergency Network.



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To be attached locally:

Annex A:

Appendix 1 – Group Callout List (and escalation data)
Appendix 2 – Contact Information for Surrounding Areas
Appendix 3 – County Callout List (and escalation data). (County Controller).

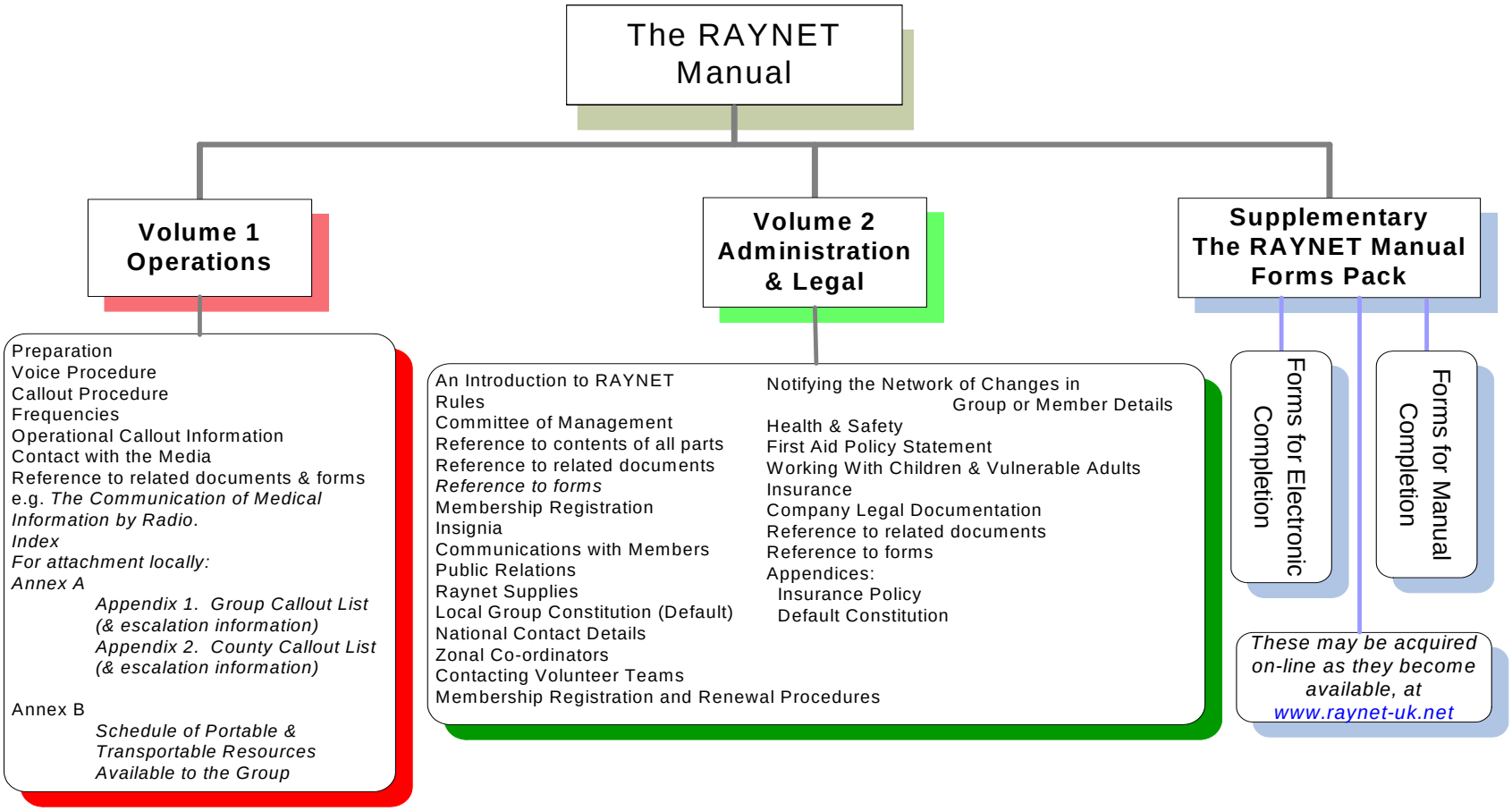
Annex B:

Schedule of Resources Available to Group

Volume One Section One

Structure of This Manual

1.1 The Manual Structure



Volume One Section Two

Preparation

2.1 Preparation

Organisation

Groups may be involved in the routine training of their own members or supporting a User Service in an event or exercise which is arranged some time ahead of the event. Sometimes, this pre-planning period can be very short, especially where the event organisers only realise their need for support very late on in their planning sequence.

Groups will need to consider carefully their work-load and the availability and willingness of members to support a particular event before committing themselves to accepting any duty.

It is all too easy for members' enthusiasm and desire to serve to lead the Group into accepting duties which later prove difficult to cover, and may result in a less than professional standard of service.

Groups should also always be aware of the work load of adjacent Groups within the Zone or County. For particularly onerous duties other Groups can often assist with additional manning subject to their own commitments.

The activities of other Groups always need to be taken into account when deciding on the operational frequencies to be used for a duty.

The National Diary Files maintained by the Network on the website are a useful guide as to the level of activity in an area, and give an indication as to whom it may be advisable to contact before finalising your plans. All groups are strongly encouraged to ensure that any planned events are listed in the national diary and that the fqys they intend to use are shown to assist in de-confliction to other groups.

Planning an Operation

Where activities are being undertaken as part of the routine training of the members, it is important that the operating procedures adopted by the Group are rehearsed at every opportunity. Members of the Group should also be adequately briefed as to the time of the activity, the rendezvous or assembly point, the equipment needed, frequencies to be used and the likely duration of the event.

The need for any protective clothing or food to be carried should be considered and advised to members. Clothing appropriate to the duty should be worn but as a minimum, they must look smart and professional. Members must always carry their identification cards with them whilst on duty.

Where the activity is part of a pre-planned event, then in addition to these routines, members will need to be prepared with details of their points of duty, arrangements for feeding, and accommodation arrangements where overnight duty is involved.

Particular attention must always be paid to the health and safety aspects of any operation, and members are reminded of the recommendations contained in the Health

and Safety guidelines and also the need to use reflective jackets or tabards where high visibility is needed.

Where operations are undertaken on or near major roads the use of BS approved double striped reflective wear is required.

Controllers should always have in mind the skills of individual members when planning their allocation to duty. Where physical demands are likely to be placed upon members of the team, their physical fitness and capabilities should always be taken into account. Controllers should consider the role of the younger members, and the restrictions on Foundation and Intermediate Licence holders in the Group.

If members are expected to be supplying any equipment for general use such as talk-though units or masts and antenna this should be clearly indicated in the briefing.

Members should be advised of any emergency contact details so that their families can contact them in the event of domestic problems.

2.2 Before an Operation

Before reporting for duty, members should prepare by allowing adequate time for assembling items for use, charging batteries (remembering that batteries may take some time to charge), putting together supplies, food and clothing etc. They should ensure that they can provide adequate equipment on the frequencies specified for their duty. Where battery powered equipment is used, the batteries carried should be adequate for the length of duty.

Where mobile equipment is to be installed in User Service vehicles, the proper arrangements must be made for connecting to antennas and vehicle power supply.

The adoption of RAYNET standard power connectors is recommended for all members. Details of these may be found on the RAYNET web site, www.raynet-uk.net and then clicking the link to *Specialist Teams*, then *Technical*.

Members should ensure that they have access to the appropriate equipment for an operation (see section 2.6 for guidance). Members should advise their family where they are going, when they expect to return, and what emergency arrangements there are for contact whilst they are away from home.

2.3 During the Operation

Members should arrive in plenty of time for their duty, allowing additional time for journeys in unfamiliar territory or inclement weather, and for locating duty points not previously assessed.

Contact should be made with other organisations at the point of duty, paying particular attention to explaining your role and communications capability. Each duty presents an opportunity to spread the word about the communication volunteers' role, and of enhancing RAYNET's reputation.

The procedures detailed in the briefing notes should be followed, particularly regarding checking into the net, and passing the traffic which is required for your point of duty. Members must not leave their post without contacting the net controller.
In particular, members should always remember to observe normal standards of courtesy related to the use of frequencies, and to observe the requirements of the relevant radio licence at all times, especially with regard to station identification at appropriate intervals. Control operators must keep a detailed log of the operation for any future enquiry.

In general, where User Services are on duty, members should not be involved in generating traffic, but only passing it. In practice, members may find themselves in a situation which requires the generation of message content. If this is the case, careful thought should be given to the content of the message before transmitting, and the consequences of misleading or inaccurate content.

Where members are requested to use radios on commercial frequencies operated by other organisations, protocols and procedures relating to that organisation must be observed.

Any message handled should be clear, precise and should be concisely written to minimise the use of air time. Use of the message procedures detailed elsewhere in this volume will help get the message through.

Operators should be careful not to fall into the trap of long descriptive transmissions unless they are required to make them, and should always be aware that the transmission is almost certainly being monitored by others who will judge RAYNET's relevance to the hobby by what they hear.

When operating in conjunction with medical services it is essential that members do not transmit details of an injury or treatment accompanied by data which would permit identification of the casualty by a casual listener. The only exception to this is if specifically instructed to do so by the User Service.

2.4 Closing a Station Down

Except in exceptional circumstances, operators must not close down a station without first seeking permission to do so from the net controller.

If operators are told by User Service personnel that they are no longer required, they must advise net control and await instructions to stand down or to re-deploy.

When a station is closed ensure that all equipment is properly dismantled and taken away upon departure, together with any rubbish. Proper arrangements should be made for the return of any loaned equipment.

2.5 Visiting Control

The control location should only be visited with permission of net control; remember that the operators at that location are still working, and need a quiet working environment to continue their duty.

On large operations, separate arrangements are usually made for rest and refreshment areas, so that members can unwind without disturbing others. Such provision will also be most useful for the essential debriefing which should follow every operation, however small and routine.

2.6 Questions That a Briefing Should Address

Situation

- Is it an internal exercise, a non-disaster User Service event or a live emergency?
- What is the nature of the incident and where is it?
- What are the effects of the incident?
- What is the RAYNET involvement and what are we trying to achieve?
- Does the operation have an official name?

Mission

- Who is the main user service?
- What are their objectives?

Execution

- What other User Services have been deployed and what are their objectives?
- How do I assist the user services in achieving their objectives?
- Am I trained / suitable to meet the task I have been given?
- What date and time does my duty start?
- What do you want me to do and where?
- What equipment do I need to bring?
- Is it mobile or portable operation?

Factors Affecting the Operation

- Which roads can I use? Are there any that I cannot? Is the access private?
- What parking facilities are available?
- To whom should I report on site?
- What other RAYNET teams are involved?
- What call-signs are being used?
- What User Services are deployed?
- Where is the HQ in charge of the incident or event?
- Is it a pre-planned event?
- Are there any start and/or finish times?
- Are there any hazards (physical or operational) to avoid?
- When will it be dark?
- What is the weather forecast?
- Is any special clothing required?

Command and Signals

- What is the primary frequency and mode to be used?
- What are the alternative frequencies and modes?
- Which is the control station?
- Which is the stand-by control station?
- What is the net structure (often clearer when shown as a table or diagram)
- When is the net due to open?
- Will the net be supporting dialogue between User Service personnel?
- Are there any other methods of communication available?
- What are the telephone numbers of nearby phones?
- Will tactical call-signs be in use?
- From whom and where can assistance be obtained if needed?

Logistics

- Do I have to provide my own food and refreshment?
- Can I get refreshments on site?
- Are there any toilet facilities?
- Where can I get fuel if I need it?
- Are there any special security arrangements? Do I need a special pass or ID?
- How long will I need to be on duty?
- Might I be needed again if the event is extended?
- When and where is the debrief?

Administration

- Who is providing the following, and where are they located:
- The attendance logs
- Certificate of Insurance
- Accident Book
- Talk-through permit
- Risk assessments
- Log sheets
- Message forms
- Organiser and/or User Service written documentation or briefing notes

Debriefing

Arrangements should be made for a hot debrief as soon as practicable after the closure of the event, if possible, with the user service. The group should then hold a fuller debrief in slower time so as to learn from the incident. Any lessons learnt should be shared with the other RAYNET groups.

2.7 Suggested list of Equipment for Operations in the Field

Basic Essentials

BASIC ESSENTIALS LIST

Bag/satchel		Check fuel in car	
RAYNET ID card		Check spare tyre	
Watch		Leave note for family	
Notebook		Food/drink supplies	
Message forms		Portable antenna & feeder	
Pens/pencils		Lightweight mast	
Sharpener/penknife		Sun block	
Money and/or phone card		Essential medication	
Keys			
Torch			
Compass			
Whistle			
OS map of local area			
Street maps			
Rig – portable or mobile			
Spare batteries			
Spare connectors			
Spare fuses			
Antenna			
Hi-Vis jacket or tabard			
Extra warm clothing			
Change of trousers			
Waterproofs			
Waterproof footwear			
Mobile phone and charger			
Hat and gloves			

Small Pack List

SMALL PACK LIST

Rucksack		Glowsticks	
Waterproof torch and spare leak-proof batteries		Small camping chair	
Waterproof outer clothing			
Gloves and hat			
Polythene survival bag			
Space blanket			
Spare warm clothing			
Spare wool pullover			
Small water bottle (filled)			
Penknife			
Thin rope			
Whistle			
Compass			
OS maps for a wider area			
Clipboard			
Pens/pencils			
Bin liner			
Quick emergency food (sweets or dextrose tablets)			
Paper tissues			
Lantern			
Personal first aid kit (plasters, bandage, clean handkerchief, safety pins, relevant medication)			

Survival Pack

SURVIVAL PACK LIST

Large rucksack		Water bottle and water	
Waterproof outer clothing		Mug	
Waterproof torch and leak-proof batteries		Cooker and fuel	
Hiking boots or stout footwear		Multi-pot canteen	
Gloves, hat & scarf		Washing kit	
Polythene survival bag		Paper tissues	
Small tent		Toilet paper	
Survival blanket		Lantern	
Spare warm clothing		Safety helmet and light bracket	
Change of clothing		Head light and spare batteries	
Mobile phone and charger		Extra money (including card for phone)	
Lantern		Battery charger lead	
Penknife		Spare fuses for all equipment	
Rope		Spare aerial	
Whistle		Mobile phone and charger	
Compass		GPS if available	
OS maps or larger scale maps			
Clipboard			
Pens/pencils			
Waterproof and windproof matches			
Bin liners			
Personal first aid kit			
Quick energy food			
Food for main meals			

Volume One Section Three

Message Procedures

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3.4 Example of a Raynet Message Form

3.1 Voice Procedure

3.1.1. SUMMARY

This document specifies a Voice Procedure recommended for RAYNET use.

The Procedure has been designed to optimise the rapid and unambiguous transmission and receipt of voice messages, to be understood equally by RAYNET and the User Services. For this reason it includes appropriate extracts of well proven standard words, phrases and procedures currently used by several services including aviation, the police, the military and good Amateur practice.

3.1.2 INTRODUCTION

Most RAYNET Groups have existed for many years and have developed their own Group voice procedures, some formal, some fairly informal which nevertheless serve them well under routine circumstances.

However, there are times when it is important the User Services should be able to overhear and immediately understand RAYNET messages without interpretation, and times when several Groups might need to work together. Examples are:

Actual emergencies for which RAYNET has been called out;
Major events, such as wide area sports activities.

Under these circumstances **EVERYBODY NEEDS TO SPEAK THE SAME LANGUAGE**.

3.1.3 THE PROCEDURE

The recommended Procedure assumes as a starting point that each operator has acquired the Voice Procedure skills expected after a few weeks of Amateur radio experience.

3.1.3.1 PHONETIC ALPHABET AND NUMBERS

The standard NATO alphabet, in use throughout the world, should be used to the exclusion of any other. It is shown below, together with the pronunciation of numbers:

ALPHA	HOTEL	OSCAR	UNIFORM	*WUN*	*SIX*
BRAVO	INDIA	PAPA	VICTOR	*TOO*	*SEV-EN*
CHARLIE	JULIET	QUEBEC	WHISKY	*THUH-REE*	*EIGHT*
DELTA	KILO	ROMEO	XRAY	*FO-WER*	*NINER*
ECHO	LIMA	SIERRA	YANKEE	*FIFE*	*ZERO*
FOXTROT	MIKE	TANGO	ZULU		
GOLF	NOVEMBER				

3.1.3.2 PROCEDURAL WORDS (PROWORDS) AND PHRASES

The following Prowords and Phrases have been well established by other Services and should be adopted for RAYNET use.

PROWORD/PHRASE	MEANING	COMMENT
ACKNOWLEDGE	Let me know that you have received and understood this message	
AFFIRM	Yes (used in aviation).	Recommended for use by RAYNET. Do NOT use "ROGER".
ALL AFTER/BEFORE	Indicates part of a message	e.g. "Say again all after …"
APROVED	Permission is granted for the proposed action.	Do NOT use "ROGER".
BREAK	Indicates the separation between messages.	Often used to interrupt a message to call another station.
CANCEL	Annul the previously transmitted instruction.	
CLOSE DOWN	Cease operation of the radio station.	
CONFIRM	Have I correctly received the following …?	Answer:- "CORRECT" or "AFFIRM"
	Or; Did you correctly receive this message ?	
CORRECT	That is correct	Do NOT use "ROGER"
CORRECTION	An error has been made in MY transmission. The correct version is…	Do NOT use for a mistake made by the station transmitting to you (See "MISTAKE").
DECIMAL	Decimal Point.	Pronounced DES-SEE-MAL
DIRECT CONTACT	Contact outstation to outstation.	Without a repeater.
DISREGARD	Consider that transmission as not sent.	
EMERGENCY	I have a message of life and death urgency.	Use ONLY for life and death urgency. Military may use "FLASH"
I SAY AGAIN	I repeat for clarity or emphasis	
IMMEDIATE	I have a message of life and death urgency.	Use ONLY for life and death urgency. Military may use "FLASH"
MESSAGE	I have a message for you.	
MESSAGE ENDS	The entire text of the formal message has now been sent.	It might be followed by a brief admin message.
MISTAKE	There is an error in YOUR transmission.	e.g. "You have read back my transmission wrongly". Do NOT use "CORRECTION".
NEGATIVE	No; or incorrect; or Permission not granted.	
OVER	My transmission is ended and I expect a response from you.	

PROWORD/PHRASE	MEANING	COMMENT
OUT	This exchange of transmissions is ended and no response expected.	To be used only by CONTROL to indicate the channel is clear for further traffic from outstations. "OVER and OUT" is meaningless !
PASS YOUR MESSAGE	Proceed with your message	Preferred to the ambiguous "GO AHEAD".
PRIORITY	I need to interrupt with a PRIORITY message.	Say immediately a station stops transmitting.
RADIO CHECK	Report the readability of my transmission.	Respond with "Good"; "Readable with difficulty"; "Unworkable" or "Nothing Heard".
READ BACK	Repeat all, or the specified part, of this message back exactly as received.	
RELEVANT	I have a message relevant to the current exchange of transmissions.	Used to interrupt to give assistance. Do NOT use "BREAK".
REPORT	Pass requested information.	e.g. "Report your location".
REQUEST	I should like to know… or, I wish to obtain… or, I wish to take certain action.	e.g. "request close down for 10 minutes".
ROGER	I have received and understand your message.	"ROGER" should not be used for any other meaning.
ROGER SO FAR	Confirm that you have received the message so far.	Reply :- "So far"
SAY AGAIN	Repeat all, or the following part, of your transmission.	
SEND	Proceed with your message.	Abbreviated form of "PASS YOUR MESSAGE".
SITREP	Situation report.	
STAND BY	Wait and I will call you.	
TALK-THROUGH	Direct contact outstation to outstation via a repeater.	
WAIT	Do not transmit until I call you.	
WAIT ONE	Do not transmit; I will call you in about one minute.	
WILCO	I will comply with your request/instruction.	
YES-YES	Yes	Used by Police instead of the preferred "AFFIRM".

3.1.3.3 CALLSIGNS/IDENTS

The use of TACTICAL IDENTS for the duration of ALL exercises or actual emergencies is **STRONGLY RECOMMENDED**.

A tactical ident is a callsign, which identifies the User Service unit (or perhaps its location) for which a RAYNET station is providing communication at the time, rather than the identity of the RAYNET operator. A tactical ident will not change if there is a change of operator.

Some typical RAYNET tactical idents collocated with User Services in a major exercise might be, for example:

USER SERVICE	RAYNET STATION WITH USER SERVICE: **CONTROL POINT**	RAYNET STATION WITH USER SERVICE: **OUTSTATIONS**
Red Cross	Romeo Control	Romeo One; Romeo Two; Juliet One; Juliet Two;...
St John	Juliet Control	Papa One; Papa Two;...
Police	Papa Control	Foxtrot One; Foxtrot Two;..
Fire	Foxtrot Control	Charlie Alpha One;.... Mike Alpha One;....
County Ambulance	Charlie Alpha Control	
Military Ambulance	Mike Alpha Control	

There are no firm rules about the selection of tactical idents but the Senior Controller of a major exercise or actual emergency should ensure they logically identify the User Service and its deployed units. Careful consideration should be given whether or not to duplicate a User Service's own callsign or ident, and the benefit or confusion that might result.

For a simple one-net exercise, for example a local cycle ride for which RAYNET might cover several checkpoints on behalf of a User Service, idents might be:

Control; Checkpoint One; Checkpoint Two; ....etc

Licence regulations stipulate that personal callsigns should be given at 15-minute intervals or less during an exchange of transmissions, including on a net. The net Controller could cover this in several ways, one being to request a Radio Check by all stations at appropriate intervals, replies to include both Tactical ident and Personal callsign; another method could be for each operator to include his personal callsign once at the beginning, or end, of an exchange of transmissions if he has not given it during the previous 15 minutes. Examples are given in paragraph 3.7.

Net Controllers must use their discretion to ensure that rigid adherence to this regulation is not allowed to jeopardise operations.

It is ESSENTIAL that net Controllers keep an accurate log of the personal callsign of each operator and his tactical ident, and that the times of operator change-over are logged.

At appropriate intervals net Controllers should broadcast their own (or RAYNET's) callsign, state their location, briefly explain the purpose of the RAYNET exercise, and politely ask for the frequency to be kept clear for the duration.

3.1.3.4 ESTABLISHING THE NET

The net Controller, or Senior Controller for a major event, will hold a briefing meeting during which RAYNET's objectives will be explained. Each RAYNET operator will be allocated a location and tactical ident. Net frequencies will be assigned.

After operators have been deployed to their locations, each will report his arrival and state of readiness to the net Controller using his personal callsign followed by his tactical ident. The net Controller will make the appropriate log entry. Radio Checks will be made and the net is ready for operation when all operators have established communication.

It might be important that outstations should be able to communicate directly with each other; if so, the net Controller will initiate the necessary Radio Checks at this stage.

It is essential for all stations to keep a listening watch so that they are aware of other activity on the net which may affect them as well as being able to provide a relay service if necessary.

3.1.3.5 MESSAGE PRECEDENCE

The great majority of messages will have ROUTINE precedence. ROUTINE messages do not need to have the precedence stated.

Definitions

ROUTINE	A message which has only the normal degree of urgency.
PRIORITY	A message which has more than the normal degree of urgency.
IMMEDIATE	A message which is extremely urgent – e.g. LIFE IS AT RISK.
EMERGENCY	A message which is extremely urgent – e.g. LIFE IS AT RISK. (Preferred International usage on HF).

Method of use

For PRIORITY and IMMEDIATE/EMERGENCY messages the precedence should be stated TWICE at the start of the transmission offering the message. See example in 3.6. If appropriate, Net Controllers should consider imposing a state or radio silence for all lower priority messages to avoid interruptions.

3.1.3.6 FORMAL MESSAGE PROCEDURES

RAYNET's aim is to pass messages with 100% accuracy and in a timely manner. For some scenarios User Services may require messages to be handled in a written format similar to a telegram. To ensure these messages are passed accurately and with sufficient information to allow them to be routed to their destination some discipline is required in formatting the message for transmission.

Communication is most efficient if a message reaches its destination written down exactly as it left the originator. So an originator should write down his message (telegram style) with an adequate address and normally an adequate signature. User Services and Local Authorities may have their own message forms for this purpose, but where such forms are not available the RAYNET standard form should be used and is reproduced at the end of this document.

Preamble

The station that originates the RAYNET message composes the preamble. The preamble contains the following information in the specified order.

NUMBER	The number is a serial number assigned to the message by the originating station. It may start at '1' for each event, month or year depending on the volume of messages generated.
PRECEDENCE	The precedence may be: IMMEDIATE OR EMERGENCY PRIORITY ROUTINE
STATION OF ORIGIN	This is the callsign or tactical ident of the station which first transmitted the radio message.
CHECK	The number of words in the main text i.e. Excluding the addressee and the signature. A word is simply a group of characters with a space either side as follows; Milton Keynes - Two Words 527B – One Word HQ – One Word J R Hartley – Three Words 0303 040 1080 – Three Words "X" or "X-ray" may be used internationally in place of a full stop and is counted in the check as is the word 'STOP' so that this piece of punctuation is not lost in transmission. If absolutely necessary other punctuation should be spoken in full (e.g. 'Comma') and included in the count.
PLACE OF ORIGIN	Place of origin is the place (city, town, village,) from where the originator sends his message.

FILING TIME Time in UTC when the message was originated.

FILING DATE Date when the message was originated in the format MMM-DD

Example of a formal message:

Papa Control from Alpha Control, Priority, Priority, over.	*Alpha Control from Papa Control, G3ABC, pass your message, over."*
Papa Control from Alpha Control, MESSAGE BEGINS Number two six, Priority, G9AAA, 28, Pooltown, 2215, Jan 14 * To Casualty Bureau * Please send us information about following persons stop walter smith harbour street 4 stop* adam brown and family water avenue 16 stop * eva black rain way 37 stop * From D Jones Red Cross MESSAGE ENDS, from Alpha Control, over.	
	Alpha Control from Papa Control ROGER, out.

* Consider checking that the receiving station has received all 'so far'. Not all operators can write quickly.

Pauses, or briefly stopping to listen, in order to allow the receiving operator time to write is a much better technique than sending words twice during long or complex messages. Very little is added to the message transmission time and it does permit obtaining corrections in mid-message rather than waiting until the end.

A log should be kept of all formal messages originated or relayed and should show the message number, Station of origin, the Station the message was sent from or to along with the date and time. This will allow tracing of messages later if required.

3.1.3.7 ABBREVIATED OPERATING PROCEDURES

The efficiency of a net can be measured by the accuracy and speed with which messages are passed and understood. As time progresses and the operators become more experienced it will be found that some procedural words and phrases can be omitted, thus increasing speed without losing accuracy or understanding. This ABBREVIATED PROCEDURE may involve the selective omission of CALLSIGNS/IDENTS, "OVER", "OUT", "ROGER", "WILCO". For example, in good conditions cessation of transmission can imply an intentional substitute for "OVER" or "OUT"; or the READ BACK of a received message can imply "ROGER" or "WILCO" and has the added advantage of confirming accuracy of receipt.

N.B. The ABBREVIATED PROCEDURE should be used ONLY by experienced operators under virtually perfect communication conditions. If conditions are difficult, either due to weak radio signals or acoustically noisy conditions locally, or some operators are not yet fully experienced, the Net Controller should adopt the FULL PROCEDURE.

A few examples of full and abbreviated procedures are given below:

FULL PROCEDURE	**ABBREVIATED PROCEDURE**
"Alpha 2 from Alpha Control, message, over."	"Alpha 2 from Control."
"Alpha Control from Alpha 2, G3ABC, pass your message, over."*	*"Alpha 2."*
"Alpha 2 from Alpha Control, request your ambulance moves now to First Aid Post 4, over."	"Alpha 2, request your ambulance moves now to First Aid Post 4."
"Alpha Control from Alpha 2, WILCO, out."	*"First Aid Post 4. Alpha 2."*
** (if not given within previous 15 mins)*	
oooooooooo	oooooooooo
"All stations from Alpha Control, Radio Check with Callsigns. To Alpha 1, over".	"All stations from Control, Radio Check with Callsigns. To Alpha 1, over".
*"Alpha Control from Alpha 1. Good.** G3ABC out".*	*"Alpha 1. Good.** G3ABC out".*
"Control to Alpha 2, over".	"To Alpha 2, over".
*"Alpha Control from Alpha 2. Readable with difficulty.** G3DEF out".*	*"Alpha 2. Readable with difficulty.** G3DEF out".*
oooooooooooooooo	*oooooooooooooooo*
"Alpha Control from Alpha 3, request DIRECT CONTACT with Alpha 4, over".	*"Control from Alpha 3, request DIRECT CONTACT with Alpha 4, over".*
"Alpha 3 from Alpha Control, DIRECT CONTACT with Alpha 4 is APPROVED, out".	"Alpha 3, APPROVED.
"Alpha 4 from Alpha 3, message, over".	
"Alpha 3 from Alpha 4, pass your message, over".	(If Alpha 4 heard both transmissions): **"Alpha 3, SEND. Alpha 4.**
"Alpha 4 from Alpha 3, how many paramedics at your site? Over".	*"How many paramedics at your site?*

"Alpha 3 from Alpha 4, seven paramedics, I say again, seven, over".
"Alpha 4 from Alpha 3, ROGER, out".

"Alpha Control OUT".

oooooooooo

"Alpha 2 from Alpha Control, report your location, over".
"PRIORITY PRIORITY. Alpha Control from Alpha 5, over".
"Alpha 2 WAIT. BREAK. Alpha 5 from Alpha Control send your message, over".
"Alpha Control from Alpha 5, ambulance required at First Aid Post 3, over".
"Alpha 5, ROGER. WAIT..... Alpha 5, Ambulance on way, over".
"Alpha 5 to Alpha Control, ROGER, out"
(Control then starts again with Alpha 2).

Alpha 3".
"Seven, I say again, seven. Alpha 4".

"ROGER. Alpha 3".

"Control OUT".

oooooooooo

"Alpha 2 from Control, report location."

"PRIORITY PRIORITY. Control from Alpha 5".
"Alpha 2 WAIT. BREAK. Alpha 5 send".

"Ambulance required at First Aid Post 3. Alpha 5.

"Alpha 5, ROGER. WAIT..... Alpha 5, Ambulance on way".
"ROGER. Alpha 5".
(Control then starts again with Alpha 2).

** Readability Reports.
Some Groups might like the shorter "R5"; "R3"; "R1" instead of the preferred "Good"; "Readable with difficulty"; "Unreadable"; "Nothing Heard". That is all right, but note that "R5" (etc) might not be understood by some User Services.

3.1.4 CONCLUSION

Some Group Controllers and Net Controllers will, with justification, want local variations of the recommended Procedure and its examples above. There can be no objection to minor variations but it is STRONGLY ADVISED there should be NO DEVIATION from the PHONETIC ALPHABET; also, ALL THE RECOMMENDED LIST of PROWORDS and PHRASES SHOULD BE USED, but others may be **added** to suit local wishes provided their meaning would be obvious to other Groups.

If you do want to make variations take care not to lose sight of the principal aims of a Standard RAYNET Procedure, which are.....

.....to enable different Groups, perhaps from well separated Zones of the UK, to work together at short notice without further training, in a disaster scenario, and exchange messages quickly with complete accuracy and lack of ambiguity.

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SPACE FOR OPERATOR'S NOTES BELOW:

3.2 Data Procedure

3.2.1 SUMMARY

This document specifies a suite of Data Procedures recommended for RAYNET use.

The Procedure has been designed to optimise the rapid and unambiguous transmission and receipt of messages via data modes, to be understood equally by RAYNET and other Amateur Emergency Communications organisations. For this reason it includes appropriate extracts of well proven standard prosigns and procedures currently used by several services and organisations.

3.2.2. INTRODUCTION

The last presentation of a 'Data' procedure was in the RAYNET manual of 1986 with the publication of a RTTY procedure. Since that time data modes have moved on significantly with a great number of modes available, each suitable for a particular combination of speed, accuracy resilience. No matter what mode is in use however, it must be remembered that a message may pass through all modes between acceptance and delivery and the basic format of the message must remain unchanged. Data modes (just as with voice or CW) are only a 'wrapper' which we place around the User Services message for transmission via the Amateur Service, this wrapper will change depending upon conditions and requirements if the message is transferred from a voice to CW to data net on route to its destination.

Under routine circumstances the RAYNET Voice procedure will allow messages to be handled by relatively unskilled operators. However there may be times when the volume of messages exceeds that which can be carried by a voice network alone. Data modes in conjunction with the relevant sections of the UK amateur radio licence would allow unlicensed operators to key in the messages required to be passed at speeds which would exceed that allowed by voice modes. Some modes permit the sending of messages direct to e-mail, this is obviously a great advantage to the User Services but caution must always be exercised that data circuits do not get overloaded and that any messages passing in the User Service to Amateur Network direction are screened for compliance with licence conditions.

3.2.3. THE PROCEDURES

The recommended Procedures assume as a starting point that each operator is fully familiar with the Formal Message format described in the Voice Message procedure and the functions of the various parts of the message preamble.

> The Procedures are separated into sections reflecting groups of data modes with similar characteristics. This is necessary to distinguish between those modes (such as 'connected' AX25 packet) which will attempt to reassemble a message in the correct order from the received parts and those such as APRS ('unconnected' AX25 packet) where there is no guarantee that packets will be displayed in the correct order.

3.2.3.1 PROCEDURAL ABBREVIATIONS, PROSIGNS AND PROWORDS

The following Abbreviations, Prosigns and Prowords have been well established in the Amateur Service and should be adopted for RAYNET use.

ABBREVIATION/ PROWORD	MEANING	COMMENT
AA	All After	Indicates part of a message, used to get missing parts of message.
AB	All Before	Indicates part of a message, used to get missing parts of message.
AR	End of Message	End of formal text, this is followed by B if there is another message to copy of N if this is the only or last message..
AS	Standby, Wait	
B	More	Another message to follow
C	Correct; Yes	
CFM	Confirm	i.e. Confirm I am correct.
CK	Check	
DE	From; This is	Proceeds station identification.
EMERGENCY	I have a message of life and death urgency.	Use ONLY for life and death urgency. Military may use "FLASH"
IMMEDIATE	I have a message of life and death urgency.	Use ONLY for life and death urgency. Military may use "FLASH"
K	Go ahead; over; reply expected	Invitation to transmit.
N	Negative; Incorrect; no more.	No more messages to follow.
NNNN	End of Message	
NR	Message Number	Message follows.
PBL	Preamble	First Part of Message
SIG	Signed; Signature	Last Part of Message
TEL	Telephone Number	
TU	Thank You	
WA	Word After	Indicates part of a message, used to get missing parts of message.
WB	Word Before	Indicates part of a message, used to get missing parts of message.

ABBREVIATION/ PROWORD	MEANING	COMMENT
X	Full Stop	Used by ARRL to indicate Full Stop. This usage permits the use of this punctuation mark to be included in the word or check count.
ZCZC	Message follows	

3.2.3.2 MESSAGE PRECEDENCE

The great majority of messages will have ROUTINE precedence. ROUTINE messages do not need to have the precedence stated.

Definitions

ROUTINE	A message which has only the normal degree of urgency.
PRIORITY	A message which has more than the normal degree of urgency.
IMMEDIATE	A message which is extremely urgent – e.g. LIFE IS AT RISK.
EMERGENCY	A message which is extremely urgent – e.g. LIFE IS AT RISK. (Preferred usage on HF).

Method of use

For IMMEDIATE/EMERGENCY messages the precedence should be transmitted in full at the start of the transmission offering the message, all other precedences should be transmitted as single letter abbreviations , i.e. 'R'- Routine and 'P' – Priority. For example;
G9CCC de G9BBB, 1 EMERGENCY LONDON, 1R CHESTER K
This allows G9CCC as Net controller to recognise the presence of an emergency message for routing to London and one routine for Chester. The Net Controller can then prioritise and locate stations to take the messages accordingly.

3.2.3.3 ESTABLISHING THE NET

The net Controller, or Senior Controller for a major event, will hold a briefing meeting during which RAYNET's objectives will be explained. Each RAYNET operator will be allocated a location and the Net frequencies will be assigned.

After operators have been deployed to their locations, each will report his arrival and state of readiness to the net Controller using his personal callsign. The net Controller will make the appropriate log entry. Radio Checks will be made and the net is ready for operation when all operators have established communication.

Some data modes do not lend themselves to net operations, either due to frequency stability or addressing requirements, the time taken to establish a connection or the one to one nature of some error correction protocols. The Net Controller should determine which outstations should be able to communicate directly with each other and initiate the necessary Radio Checks at this stage. Once messages start to flow the net is likely to evolve into one with a number of point to point links separated in frequency and possibly time.

3.2.3.4 FORMAL MESSAGE PROCEDURES

a. RTTY/ PSK31

Messages should begin with the code ZCZC on a single line to denote that the following text is a formal message.
The preamble is sent as one line followed by the address on a separate line.
Extra Space should be used between parts of address, which again is transmitted as a single line.
Carriage Return/Line feeds should be used to separate text from address and signature
Add a CFM line under the signature consisting of all names, numerals and unusual words in the message in the order transmitted.
End the message with the code NNNN on a single line to mark the end of the formal message. Further messages may be sent in the same transmission encapsulated in the ZCZC/NNNN format but balance the need to send multiple messages against the risks of data corruption during transmission which may call for excessive repeats.
An example message would appear as;
ZCZC
<LF>
NR 137 R G9DDD 15 WOKING 1900 FEB 17
John Smythe 14 South Avenue Chester CH99 7AZ
Tel 0560 0010131
<LF>
Please pass information on resources required from Red Cross via RAYNET as soon as possible
<LF>
Bryan Dilflox
<LF>
CFM SMYTHE 0560 0010131 DILFLOX
<LF>
NNNN

b. PACKET/AMTOR/GTOR/PACTOR

Since these are all connected modes with an automatic connection between two stations messages can be transmitted between them in the same manner as RTTY to preserve the message formatting with the added security of error checking and correction using these modes.

More advanced groups however may find it better to use the bulletin board or mailbox facility of the Terminal Node Controller in conjunction with a pre-engineered network to allow the messages to be automatically routed and stored. There are a variety of means to achieve this with Winlink (http://www.winlink.org) and its RMS Packet derivative finding favour with some groups through the ability of these systems to interconnect with the public e-mail system. There are other ways of achieving this however in situations where an adhoc network is required and the public telecommunications service is still available, see APRSLINK below.

c. APRS

This text is adapted from the APRS Protocol Reference v1.0.1 APRS can be used to transport formal messages. This uses the existing APRS message format for backwards compatibility, by adding a 3-character NTS format identifier **N**x\ at the start of the APRS Message Text, as follows:

N#\number\precedence\originator\check\place\time\date
NA\address_line1\address_line2\address_line3\address_line4
NP\phone number
N1\line 1 of message text
N2\line 2 of message text
N3\line 3 of message text
N4\line 4 of message text
N5\line 5 of message text
N6\line 6 of message text
NS\Signature block
NR\Received from\date_time\sent_to\date_time

All of these fields are as described in the formal message procedure.

Each message line is addressed to the same station.

The **N#**, **NA** and **NR** lines are multiple fields combined for APRS transmission efficiency. The backslash separator is used so that conventional forward slashes may be embedded in messages. (The backslash does not exist in the RTTY or CW alphabets, so it therefore cannot appear in a formal message).
Each line may be up 67 characters long, including the 3-character format identifier. Lines in excess of 67 characters will be truncated.
There is a maximum of 6 lines of message text.
Note: The **N#**, **NA**, **NS** and **NR** fields are required. The others are optional.
Serialisation of each line is handled by the normal APRS Message ID **{**xxxxx.
An APRS application is not required to understand or generate these messages. The information can be read and understood in the normal message display.

d. APRSLINK

There are currently two APRS Servers based in the USA called WLNK-1 and WLNK-2 which monitor APRS packets relayed onto the internet. By the use of 'format identifiers' in a similar way to that described for APRS above it is possible to pass e-mail traffic to and from the internet via an unconnected packet network provided that the RF network does not become overloaded.

Detailed information on the system may be obtained from http://www.winlink.org/aprslink and a current command list is reproduced overleaf.

Available Commands	
H or ?	Return brief **H**elp. Help is also returned whenever APRSLink does not understand a command. Use "**?**" followed by a command letter for detailed help for that command. Example: "**?**L" for help with the List command.
L	Return a **L**ist of pending messages (a maximum of 5 are returned). The List command queries the Winlink email server and builds a list of up to 5 recent messages. Other commands operate on this list of messages.
R#	**R**ead message number # (# is one of the numbered messages returned via the List command). Example: "R2"
Y#	repl**Y** to message. Reply to message number # (# is one of the numbered messages returned via the List command). Example: "Y2"
W **W#** **/EX**	**W**rite multi-line message. These commands are issued using **multiple** APRS messages W <email "to" address or callsign> W1 [subject] W2 First line of message W3 Second line of message W4 Another message line /EX Example: W sam@iam.net W1 Green Eggs And Ham W2 I do not like Green Eggs and Ham W3 I do not like them W4 Sam, I am /EX Individual message lines can be submitted in any order and corrected prior to telling APRSLink to send the message. Please wait for an acknowledgement from

	APRSLink between each command especially if you don't have a real good path to your IGate. If desired, you can use the **P**layback command to see what you've composed prior to sending it.
/EX	Complete and send the composed message. You should receive a confirmation message.
P	**P**layback message. Play back message lines for the message being written ("W" command).
A **AL**	Create/update an alias for an email address. Example: A sam=sam@somelongdomainname.net The use "W sam" instead of "W sam@somelongdomainname.net" To delete an alias omit the part after the equal sign. "A sam=" will delete the sam alias To get a list of all your aliases send "AL"
F#	**F**orward message number # to address or callsign following F# (# is 1 to 5)(# is one of the numbered messages returned via the List command). Example: "F2 you@home.net"
K#	**K**ill (mark as deleted) message number # (# is one of the numbered messages returned via the List command). Example: "K3"
T	Return information about closest active Telpac gateway. This command also causes a new APRS object for the Telpac station to be sent out to the APRS-IS (to see this on RF a local IGate would need to be configured to gate this type of object back to RF - contact your IGate sysop to get this set up) .
M	Return information about closest active PMBO/RMS
I	Return **I**nformation about APRSLink

3.2.4.4. CONCLUSION

Some Group Controllers and Net Controllers will, with justification, want local variations of the recommended Procedure and its examples above. There can be no objection to minor variations but it is STRONGLY ADVISED there should be NO DEVIATION from the PHONETIC ALPHABET; also, ALL THE RECOMMENDED LIST of PROWORDS and PHRASES SHOULD BE USED, but others may be **added** to suit local wishes provided their meaning would be obvious to other Groups.

If you do want to make variations take care not to lose sight of the principal aims of a Standard RAYNET Procedure, which are.....

.....to enable different Groups, perhaps from well separated Zones of the UK, to work together at short notice without further training, in a disaster scenario, and exchange messages quickly with complete accuracy and lack of ambiguity.

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SPACE FOR OPERATOR'S NOTES BELOW:

3.3 CW Procedures

3.3.1 SUMMARY

This document specifies a CW (or more correctly Morse Code) Procedure recommended for RAYNET use.

The Procedure has been designed to optimise the rapid and unambiguous transmission and receipt of messages via CW, to be understood equally by RAYNET and other Amateur Emergency Communications organisations. For this reason it includes appropriate extracts of well proven standard prosigns and procedures currently used by several services and organisations.

3.3.2. INTRODUCTION

A CW procedure has not been part of the RAYNET manual in modern times and in many eyes CW is seen as outmoded and replaced by data modes. However CW does have a place in message handling on HF and where stations must operate with limited power resources and at times adverse conditions.

CW and data modes have a number of advantages for formal message passing which should be borne in mind;

- A properly conducted CW net with skilled operators will typically clear two to three times more messages per given time period than a similar radiotelephone net.
- Lower transmitter power is required on CW circuits for the same level of readability (QRK).
- Less bandwidth is required for CW transmissions, therefore permitting a larger number of stations to exchange traffic off-frequency with little or no interference from other operations.
- Mobile, portable, or stations with modest antennas and low power levels can reliably communicate on CW nets when conditions will not support SSB communications.

No matter what mode is in use however, it must be remembered that a message may pass through all modes between acceptance and delivery and the basic format of the message must remain unchanged. This CW procedure (just as with voice or Data) is only a 'wrapper' which we place around the User Service's message to allow accurate transmission via the Amateur Service, this wrapper will change depending upon conditions and requirements if the message is transferred from a voice to CW to data net on route to its destination.

3.3.3. THE PROCEDURE

The recommended Procedure assumes as a starting point that each operator is fully familiar with the Formal Message format described in the Voice Message procedure and

the functions of the various parts of the message preamble.

3.3.3.1 PROCEDURAL ABBREVIATIONS, PROSIGNS AND PROWORDS

The following Abbreviations, Prosigns and Prowords have been well established in the Amateur Service and should be adopted for RAYNET use.

ABBREVIATION/ PROWORD	MEANING	COMMENT
$\overline{\text{AA}}$	Separation between parts of address or signature.	Sent as a single character.
AA	All After	Indicates part of a message, used to get missing parts of message.
AB	All Before	Indicates part of a message, used to get missing parts of message.
$\overline{\text{AR}}$	End of Message	End of formal text, this is followed by B if there is another message to copy of N if this is the only or last message..
$\overline{\text{AS}}$	Standby, Wait	
B	More	Another message to follow
BK	Break; Break me	Interrupt transmission on CW
$\overline{\text{BT}}$	Separates Address from Text and Text from Signature	
C	Correct; Yes	
CFM	Confirm	i.e. Confirm I am correct.
CK	Check	
DE	From; This is	Precedes station identification.
EMERGENCY	I have a message of life and death urgency.	Use ONLY for life and death urgency and should always be transmitted in full. Military may use "FLASH"
$\overline{\text{HH}}$	Error in sending	Transmission should continue with last word correctly sent.
$\overline{\text{IMI}}$	Following a Q code indicates a Question Mark.	
IMMEDIATE	I have a message of life and death urgency.	Use ONLY for life and death urgency and should always be transmitted in full. Military may use "FLASH"
K	Go ahead; over; reply expected	Invitation to transmit.
KN	Go ahead; over; reply expected from named station.	Specific invitation to transmit.

ABBREVIATION/ PROWORD	MEANING	COMMENT
N	Negative; Incorrect; no more.	No more messages to follow.
NR	Message Number	Message follows.
TEL	Telephone Number	
TU	Thank You	
WA	Word After	Indicates part of a message, used to get missing parts of message.
WB	Word Before	Indicates part of a message, used to get missing parts of message.
X	Full Stop	Used by ARRL to indicate Full Stop. This usage permits the use of this punctuation mark to be included in the word or check count. UK may use 'STOP'.

All 'Q' codes when followed by a question mark (e.g. QRQ?) indicates a question. A Q code used as a response without a question mark shall indicate an affirmative answer, a 'Q' code followed by 'N' (e.g. QRQ N) indicated a negative response.

QRQ ?	Shall I send Faster	
QRS ?	Shall I send Slower	
QRV ?	Are You ready	Used to initiate a message exchange.
QSK ?	Can you work 'break-in'	QSK indicates that the sending station has full break-in so his sending can be interrupted for corrections.
QTC ?	How many messages have you to send?	

3.3.3.2. MESSAGE PRECEDENCE

The great majority of messages will have ROUTINE precedence.

Definitions

ROUTINE A message which has only the normal degree of urgency.

PRIORITY A message which has more than the normal degree of urgency.

IMMEDIATE A message which is extremely urgent – e.g. LIFE IS AT RISK.

EMERGENCY A message which is extremely urgent – e.g. LIFE IS AT RISK.

(IARU Preferred usage on HF).

Method of use

For IMMEDIATE/EMERGENCY messages the precedence should be transmitted in full at the start of the transmission offering the message, all other precedences should be transmitted as single letter abbreviations , i.e. 'R'- Routine and 'P' – Priority. For example;
G9CCC de G9BBB, QTC 1 EMERGENCY LONDON, 1R CHESTER KN
This allows G9CCC as Net controller to recognise the presence of an emergency message for routing to London and one routine for Chester. The Net Controller can then prioritise and locate stations to take the messages accordingly.

3.3.3.3 ESTABLISHING THE NET

The net Controller, or Controller in charge of a major event, will hold a briefing meeting during which RAYNET's objectives will be explained. Each RAYNET operator will be allocated a location and the Net frequencies will be assigned.

After operators have been deployed to their locations, each will report his arrival and state of readiness to the net Controller using his personal callsign. The net Controller will make the appropriate log entry. Radio Checks will be made and the net is ready for operation when all operators have established communication.

It might be important that outstations should be able to communicate directly with each other; if so, the net Controller will initiate the necessary Radio Checks at this stage. If the volume of messages is great then stations with traffic for each other will be directed to another frequency some multiple of 5kHz up or down from the main frequency to pass their messages. This may be achieved by the Net Control Station sending 'QSY U 5' or QSY D 5' to send stations up or down in frequency as appropriate. The Receiving station should be the one to initiate the call on a clear frequency as close to the designated one as possible since they are the ones who need to be able to hear. Once the message exchange is complete, the stations should return to the main net frequency for further instructions or messages.

3.3.3.4 EXAMPLE OF PROCEDURE

Sender	Receiver
	G9AAA de G9BBB QRV K
G9BBB de G9AAA QSK NR 137 R G9DDD WOKING 1900 FEB 17	
QSK indicates that the sending station has full break-in so his sending can be interrupted for corrections.	
John Smythe AA	
14 South Avenue AA	
Chester CH99 7AZ AA	
Tel 0560 0010131	
	'dit dit'
G9BBB taps his key to break G9AAA for a query	
	CFM 0560
0560	
G9AAA sends it again since 'BBB has received it correctly. If he had it incorrectly then G9AAA would send 'N' (for Negative) and the correct number, probably repeating it.	
	K
OK, continue with the message	
Please pass information on resources required from Red Cross via RAYNET as soon as possible X BT	
	'dit dit'
G9BBB breaks into G9AAA again and sends 'WA via' meaning 'Word After via'; G9AAA responds with 'RAYNET'.	
	K
OK, continue.	
Bryan Dilflox AR N	
	QSL NR 137 G9AAA de G9BBB
73 G9BBB de G9AAA	
Since there are no further messages to be exchanged between these stations they would both return to their assigned nets for further messages.	

3.3.4. CONCLUSION

Some Group Controllers and Net Controllers will, with justification, want local variations of the recommended Procedure and its examples above. There can be no objection to minor variations but it is STRONGLY ADVISED there should be NO DEVIATION from the RECOMMENDED LIST of PROWORDS and PHRASES, but others may be **added** to suit local wishes provided their meaning would be obvious to other Groups.

If you do want to make variations take care not to lose sight of the principal aims of a Standard RAYNET Procedure, which are.....

.....to enable different Groups, perhaps from well separated Zones of the UK, to work together at short notice without further training, in a disaster scenario, and exchange messages quickly with complete accuracy and lack of ambiguity.

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SPACE FOR OPERATOR'S NOTES BELOW:

3.4 EXAMPLE OF RAYNET MESSAGE FORM

NUMBER	PRECEDENCE * ROUTINE PRIORITY IMMEDIATE EMERGENCY	STATION OF ORIGIN	CHECK**	PLACE OF ORIGIN	FILING TIME HH:MM	FILING DATE MMM-DD

TO:

FROM: (name /role in BLOCK letters) :

REC'D	FROM	DATE (MMM-DD)	TIME (HH:MM)	SENT	TO	DATE (MMM-DD)	TIME (HH:MM)

* Delete where appropriate

Guidance notes for completing the RAYNET message form.

Use BLOCK CAPITALS for addresses. If your writing is anything less than good, it is best to use block capitals throughout.

Write full stops as STOP or X to avoid their getting lost in the text.

Figure 0, spoken zero is written as Ø. Write fractions, mathematical and other signs in words e.g. 2.5 as two point five, ⅞ as seven eights. Or for time, always use four figures on the 24 hours system e.g. 0830 hrs; 1530hrs.

Volume One Section Four

Callout Procedures

4.1 Callout Procedures

Preparation

The effectiveness of RAYNET's response to any emergency situation will depend upon the speedy and efficient contacting and mobilising of its members. All Groups are therefore recommended to think seriously about the way in which their membership can be mobilised, either by their user services, or by any member of the Group on identifying a real or potential need for the Group's services. Whichever particular type of arrangement is made, there are a number of basic considerations:

a) The members must understand what response is required of them, e.g. monitor a specified frequency, proceed to an RV point, etc
b) The callout message should indicate the degree of priority involved, i.e. real or exercise, live or stand-by, immediate or preliminary, etc
c) They must have an opportunity to accept the call, or to indicate that they are unable to respond
d) There must be a system for advising the operational Controller how many members have been contacted and how many are available for duty, or may be available later, and when
e) The call-out plan must include arrangements for keeping personnel at other Group, County and Zone levels advised as to the progress of the situation
f) The possibility that the telephone system is, or might become, unserviceable.
g) The possibility that mains power might fail.

4.2 Types of Callout

There are a number of different types of call-out arrangement that can be instituted. Small Groups in local areas often just publish a list of members and their telephone numbers. In the event of need, the initiating member or user merely works down the list provided until contact is made, and then that person picks up the task for further contact. Larger Groups may publish a list which advises members of who they contact as their first step, and a list of actions to follow for different classes of call. For example, a RED call may involve immediately proceeding to a predetermined RV, whilst monitoring a given frequency, whilst a GREEN call may involve monitoring the local repeater at hourly intervals, or listening on the Group Frequency for a weather warning.

4.3 Operational Callout Information

Callout information should be kept up to date at all times. It is strongly recommended that Controllers and their deputies should have the Group members' telephone numbers readily available. This document is structured so that local callout information can be appended to this part of the Manual. Controllers may also consider setting up a talk-in channel to assist non-local members when finding control (or other locations) and establish a phone (mobile or fixed – if available and operational) contact at the control station.

4.4 The Operational Structure

The basic operational unit of RAYNET is, of course, the Group. The highest operational unit is the County (or Area in Scotland). A Group Controller who requires additional resources should contact their County/Area Controller, although at their discretion they may contact adjacent Groups first. When they contact the County/Area Controller they should state which other Groups they have already contacted.

The County/Area Controller may ask the Zonal Co-ordinator to contact other Groups if there is a major incident. If there is difficulty in escalating the callout a call should be made to the national emergency number - 0141 621 2121.

4.5 The Callout List

The Callout List should, in addition to listing contacts and their telephone numbers, show the County/Area Controller's number and the normal Group frequencies.

The Callout List and any related information should be appended locally as ***Annex A***, comprising:

- Appendix 1 – Group Callout List (and escalation data)
- Appendix 2 – Contact Information for Surrounding Areas
- Appendix 3 – County/Area Callout List (and escalation data). (County/Area Controller only).

4.6 Schedule of Available Resources

A list of Group resources and personal resources available to the Group, together with who holds them (or where they are stored), should be appended locally as *Annex B*.

When developed an Excel spreadsheet template for this will be available in the on-line Forms Pack.

Listening Watch

Following bad weather warnings, or during periods when major national or international emergencies are in progress, Groups may well set up routines for monitoring given frequencies at special times. This may be necessary when telephone systems are inoperable. During major widespread emergencies, Groups should be prepared to monitor appropriate HF frequencies (as defined in *Section 5* of this Manual) on the hour for five minutes to check for calls for assistance from other Groups.

Member Availability

It is important that when members are away on leave or out of the area for long periods or are otherwise not available, they advise their Group Controller of their non-availability for call-out during that period. This will prevent time being lost in abortive attempts to contact the member concerned.

4.7 National Contact Details

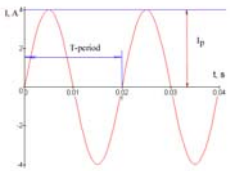
The name and call-sign of your Zone representative are available on the RAYNET website.

In the event of an Emergency, when contact with your ZC cannot be easily established, try to contact the Zonal Co-ordinator from an adjoining Zone for assistance.

If all else fails, or in the event of need for immediate assistance or advice, call the National Emergency Number on:

0141 621 2121

This telephone number is always manned, and will be answered by the duty member of the Committee of Management.



Volume One Section Five

Frequencies

5.1 Frequencies

Emergency Communications

The following frequencies may be used by RAYNET nationally:

80m	3.663MHz	LSB	UK national weekly news net 08:30 local time every Sunday. National coordination during emergencies.
	3.760MHz	LSB	IARU Region 1 Emergency Centre of Activity
40m	7.110MHz	LSB	IARU Region 1 Emergency Centre of Activity
20m	14.300MHz	USB	IARU International Emergency Centre of Activity
17m	18.160MHz	USB	IARU International Emergency Centre of Activity
15m	21.360MHz	USB	IARU International Emergency Centre of Activity
6m	51.210MHz	NBFM	
	51.950- 51.990MHz	NBFM	
4m	70.350MHz	NBFM	12.5KHz channel standard
	70.375MHz	NBFM	12.5KHz channel standard
	70.400MHz	NBFM	12.5KHz channel standard
2m	144.260MHz	USB	
	144.625MHz	NBFM	12.5KHz channel standard
	144.650MHz	NBFM	12.5KHz channel standard
	144.675MHz	NBFM	12.5KHz channel standard
	144.775MHz	NBFM	12.5KHz channel standard
	144.800MHz	Data	APRS only
	144.200MHz	NBFM	12.5KHz channel standard
	144.225MHz	NBFM	12.5KHz channel standard
70cm	433.700MHz	NBFM	25KHz channel standard
	433.725MHz	NBFM	25KHz channel standard
	433.750MHz	NBFM	25KHz channel standard
	433.775MHz	NBFM	25KHz channel standard
	432.775MHz/ 434.375MHz	NBFM	Voice Talk-through. Base Tx on 432.775MHz, mobiles Tx on 434.375MHz (standard +1.6MHz repeater shift).
	438.400MHz / 430.800MHz	NBFM	Voice Talk-through. Base Tx on 438.4MHz, mobiles Tx on 430.8MHz (-7.6MHz repeater shift).[1]

[1] This has been chosen so that usage is compatible with most modern radios which have a 7.6MHz wide negative shift available as standard).

5.2 Sharing Frequencies with Other Amateurs and Primary Users

Please remember that RAYNET does not have exclusive use of any frequency within the amateur bands.

Individual amateurs operating on the same frequency may disrupt RAYNET communications either inadvertently or deliberately. In the case of inadvertent interference, a polite approach often produces the required outcome, but if inappropriately handled the other Amateur's attitude to your operation may harden.

Remember, it is also possible that some frequencies may be occupied by primary users. In the event of such a frequency clash, RAYNET must change channel immediately which must be coordinated by the controller.

Further, some frequencies in the 70cm band (particularly around 433MHz) are used by low power devices such as car lock remotes which may interfere with RAYNET operations if choosing a frequency in this band.

5.3 Operational Frequencies.

A list of operational frequencies in use will be made available for the incident / event. If possible and practicable, the operational frequencies in use should not be broadcast over the air, unless absolutely necessary

Volume One Section Six

Public Relations

6.1 Public Relations

Whilst most of the Amateur population approves of RAYNET, a minority appears to be opposed to it.

Most RAYNET operations will attract many listeners, some of whom will be anxious to criticise and to deride our efforts to serve. Some amateurs' seeing Groups on duty at public events will also look critically at all aspects of our operations. Members should always be aware of this, and should present a professional appearance and attitude to their duty at all times.

Dress should always be seen to be smart, and where a Group has standardised upon a particular style all members should observe this wherever possible.

Equipment must be properly installed and set up.

Please ensure that the installations in your vehicle are not excessive, as nothing looks worse to the average amateur than a car festooned with stickers and antennas

Ensure that your on-air procedures are slick, avoiding unnecessary chatter, and take care to observe the requirements of the amateur licence.

Do not drink alcohol whilst on duty.

Answer any questions from the public about RAYNET in a very positive way.

Approaches from Potential New Members

Any approaches by potential members should be thoughtfully dealt with. Tell them about RAYNET's aims and activities, make a note of their name and contact details and pass these on to your Controller or Group Registrations Officer. Tell them who your Group Controller is, and their contact details. Advise them of the Network's website at www.raynet-uk.net

Contact with the Media

Members should never communicate with the media about RAYNET's activities no matter how great the temptation. At non-emergency exercises or events, direct any media enquiries to your Group or County/Area Controller.

When involved in live incidents it is important that all media enquiries are ALWAYS directed to the Press Officer of the lead User Service involved. (This will usually be the police).

Exercises

If you are involved with any organisations which you feel might benefit from RAYNET's assistance, pass the details on to your Group Controller.

If you are involved with a duty for any other Group, please let your Controller know as soon as you can. Please also let them know if you are leaving your Group's area for any length of time.

Volume One Section Seven

Related Documents & Forms

7.1 Related Documents & Forms

Other RAYNET Documents

The following RAYNET documents relating to our operations are available from the RAYNET web site.

- *Guidance Notes for Emergency Plans*
- *Capability Document*

RAYNET Form Templates

Volume Three of this Manual contains a number of forms and templates that can be used as aids to operations and to the completion of appendices to this Manual.

Volume One Section Eight

Index

8.1 Index to pages

Appendices

Local Information

Inserting Local Information in the Published Version of the Manual

It is expected that Groups will almost certainly produce their own documents for inclusion in this manual and some suggested appendices are listed below.

Of course, appendices do not have to be limited to those listed and should be drafted to support local requirements..

Annex A

Contact Information

Appendix 1 – Group Callout List (and escalation data)

Appendix 2 – Contact Information for Surrounding Areas

Appendix 3 – County/Area Callout List. (County/Area Controller).

Appendix One to Annex A

Group Callout List

Appendix Two to Annex A

Callout Information for Surrounding Areas

Appendix Three to Annex A

County/Area Callout Information

Annex B

Schedule of Resources