RAYNET

CW

PROCEDURE

INDEX

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.

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.	**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.

3.1 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
$\overline{AA}$	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.
$\overline{AR}$	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..
$\overline{AS}$	Standby, Wait	
B	More	Another message to follow
BK	Break; Break me	Interrupt transmission on CW
$\overline{BT}$	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"
$\overline{HH}$	Error in sending	Transmission should continue with last word correctly sent.
$\overline{IMI}$	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.
N	Negative; Incorrect; no more.	No more messages to follow.

ABBREVIATION/ PROWORD	MEANING	COMMENT
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?	

3.2 **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   **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.

3.4   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.	

4.   **<u>CONCLUSION</u>**

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 **<u>added</u>** 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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RAYNET NATIONAL EMERGENCY PLANNING TEAM 2009.

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SPACE FOR OPERATOR'S NOTES BELOW:

RAYNET MESSAGE FORM

NUMBER	PRECEDENCE * ROUTINE PRIORITY IMMEDIATE EMERGENCY	STATION OF ORIGIN	CHECK	PLACE OF ORIGIN	FILING TIME	FILING DATE

_____

_____

_____

_____

_____

Originator's name in BLOCK letters :

	FROM	DATE	TIME		TO	DATE	TIME
REC'D				SENT			

* delete where not applicable

Guidance notes for completing the RAYNET message form.

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

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

3. 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.

4. For time always use four figures on the 24 hours system e.g. 0830 hrs; 1530hrs.