FOR OFFICIAL USE ONLY

AIR PUBLICATION 1713

June, 1939

R.A.F.V.R. SIGNAL MANUAL

SIGNALLING PROCEDURE

Issued for the information and guidance of all concerned.

By Command of the Air Council,

AIR MINISTRY

INTRODUCTION

1. The instructions contained in R.A.F.V.R. Signal Manual, Signalling Procedure, govern the procedures to be employed by the R.A.F. Signal Service for all methods of communication.

2. The procedure laid down herein is to be adhered to strictly and no departure therefrom is permitted without Air Ministry Authority.

3. The W/T procedure is based on a common agreement between the Admiralty and Air Ministry, and is to be employed by R.A.F. W/T stations when communication is being carried out between—

(*a*) R.A.F. W/T stations.

(*b*) R.A.F. and Royal Navy W/T stations.

4. The instructions for V/S procedure are to be found in Chapter 35.

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CHAPTER 1

DEFINITIONS

1. **ABBREVIATED METHOD.**—A special method for controlling and answering.

2. **ABBREVIATED TITLE.**—The authorised abbreviation of an authority which may be used in the address or subject matter of a message. A list of these abbreviations will be found in R.A.F. Pocket Book, Appendix II.

3. **ACKNOWLEDGMENT.**—A message from an addressee informing the originator of a message that it is understood.

4. **ADDRESS.**—

(i) **ADDRESS TO.**—An indication of the authorities to whom the message is addressed and repeated.

(ii) **ADDRESS FROM.**—An indication of the authority from whom the message originates.

(iii) **THE ADDRESS.**—The address consists of the Address to and the Address from.

(iv) **TELEGRAPHIC ADDRESS.**—The Address inserted in the "To" space of the message form to indicate to the post office or telegraph company the address at which the message is to be delivered.

5. **ADDRESSED.**—As opposed to "Repeated," denotes that the authority indicated is required to take all necessary action to carry out the purport of the message.

6. **ADDRESSEES.**—The authorities to whom a message is to be delivered, i.e., those to whom the message is addressed and those to whom it is repeated.

7. **ANSWER** (as opposed to "Reply") refers to procedure signal made by a receiving station on receiving a call or message.

8. **BATCH WORKING.**—When there are a number of messages to be signalled in one direction, several of these messages may be sent by arrangement with the receiving station, without interrupting the transmission to obtain answers.

9. **BROADCAST METHOD.**—The method of transmitting a message without obtaining an answer.

10. **CALL SIGN.**—A wireless call sign is a special form of distinguishing signals allotted to stations and certain authorities.

11. **CLEARED.**—A message is said to be cleared when the responsibility for transmitting or delivering it ceases.

12. **CODE.**—A non-secret means of communication, with the exception of certain naval codes which are marked confidential, and which are to be treated as confidential by the other services.

13. **CODE MESSAGE.**—A message, the text of which consists entirely of code groups, with the exception of call signs, procedure signals, and reference numbers.

The distinction between code and cypher does not lie in the composition of the groups ; either may employ figure or letter groups.

14. **CONTROL STATION.**—The station which controls the working of a group of W/T stations.

15. **CYPHER.**—A secret means of communication.

16. **CYPHER MESSAGE.**—A message, the text of which consists entirely of cypher groups.

The distinction between code and cypher does not lie in the composition of the groups ; either may employ figure or letter groups.

17. **D/F STATION.**—See " Wireless Station " (Article 66).

18. **DIRECT METHOD.**—The method of transmitting a message to one or more stations which are required to answer.

19. **DUPLEX WORKING.**—When two W/T stations transmit simultaneously, each on its own wave frequency, and each receives the other's signals.

20. **" F " METHOD.**—The method of transmitting a message to one or more stations without requiring them to answer direct.

21. **FULL PROCEDURE.**—The procedure usually employed for W/T communication. It is the basis of all other forms of W/T procedure.

22. **GROUPS.**—Any number and combination of letters, figures or symbols signalled consecutively so as to form one entity is termed a group.

23. **GUARD STATION.**—A W/T station which is detailed to carry out W/T duties on behalf of another W/T station.

24. **" I " METHOD.**—The method of transmitting a message to a station for the sole purpose of its reception by other stations.

25. **" IN COMPANY WITH."**—This term signifies :—Aircraft or vehicles actually present with the leader.

In Navy messages :—

(a) In harbour .. " At (or exercising in the vicinity of) the same base as."

(b) At sea .. " Operating with or under the orders of."

26. **IN W/T COMPANY.**—

(a) Aircraft in company with the leader of the formation or armoured cars in company with the leader of the half-section or larger tactical unit, are considered to be W/T company.

(b) (Navy).—Ships in company with the Admiral are considered to be in W/T company unless otherwise ordered.

27. **LINKING STATION.**—A station through which a message is passed in the course of its transmission from one station to another.

28. **LISTENING IN.**—The process by which an operator hears signals emanating from his own aerial.

29. **LISTENING OUT.**—The process by which an operator, while he is not engaged in transmitting, hears signals emanating from an aerial other than his own.

30. **LISTENING THROUGH.**—The process by which an operator, while transmitting, hears (during the spaces of his own transmission) signals emanating from an aerial other than his own.

31. **MESSAGE.**—

(i) Message.—Any communication sent in recognised official form by any signal system, by L/T, or as a postagram.

(ii) " K " Messages.—General messages transmitted by the Air Ministry W/T station, by broadcast procedure, at routine times. They are distinguished by an originator's number preceded by the letter " K," thus " K76."

(iii) Multiple-Address Message.—A message addressed or repeated to more than one authority, irrespective of the method of transmission employed.

(iv) Single-Address Message.—A message addressed to a single authority, irrespective of the method of transmission employed.

(v) " IN " Message.—A message received in a station. An " In " message may also be a " Through " message.

(vi) " OUT " Message.—A message transmitted from a station. An " Out " message may also be a " Through " message.

(vii) " THROUGH " Message.—A message which has been received by a linking station for re-transmission. A " Through " message is both an " In " and an " Out " message.

(viii) " L/T " Message.—A message communicated by cable, inland telegraph, or telephone.

(ix) " V/S " Message.—A message communicated by sight or sound.

(x) " W/T " Message.—A message communicated by electro-magnetic waves, or by sound waves through water, Messages sent by W/T, R/T or sound telegraphy are all considered as W/T messages.

32. **OFFICE OF ORIGIN.**—The signal office or station at which the message was orginally handed in for transmission.

33. **OPERATING SIGNAL.**—A special form of signal designed to expedite communication.

34. **ORIGINATOR.**—The authority from whom a message is sent.

35. **ORIGINATOR'S NUMBER.**—A number used in a message to enable the originator or addressee to refer to such message and in naval working to enable the addressee to ascertain by means of the numerical sequence whether all messages from the originator have been received.

36. **PARAPHRASE.**—The expression of the sense of a message, memorandum, etc., in other words.

37. **PHONOGRAM** (abbreviation "P/N").—A message in official form passed by telephone.

38. **PLAIN LANGUAGE** (abbreviation "P/L").—The method of expressing messages in any recognised language, whereby the real meaning is intelligible without the assistance of a decode (or decypher).

39. **PLAIN LANGUAGE MESSAGE.**—A message, the subject matter of which contains **ANY WORD** in plain language. A message, the subject matter of which is a combination of code and plain language, is considered to be a plain language message.

40. **POSTAGRAM** (abbreviation "P/G").—A message in official form sent by post.

41. **PROCEDURE.**—The rules drawn up for the conduct of signalling.

42. **PROCEDURE MESSAGE.**—A message, the subject matter of which consists of one or more procedure and/or operating signals, together with any words or groups governed by or amplifying such signals.

43. **PROCEDURE SIGNALS.**—A signal designed to expedite the conduct of signalling.

44. **RADIO TELEPHONY** (abbreviation "R/T").—The method of passing speech by means of electro-magnetic waves, which can only be rendered perceptible by electrical devices.

45. **READER.**—The operator who is responsible for the reception of the message.

46. RECEIVING STATION.—The station by which the message is actually being received.

47. REMOTE CONTROL.—Signifies that the W/T operator in the signal office is enabled to key a transmitter, situated at a distance, by land line connection or other means. The system can also be extended to embody switching and/or wave frequency changing devices.

48. REMOTE RECEPTION.—Signifies that the receiving apparatus is situated at a distance, and the received signals are made audible to the W/T operator in the signal office by land line connection or other means.

49. REPEATED. — Denotes that the message besides being " addressed " to certain authorities is also sent for information to the authorities indicated.

50. REPLY (as opposed to " Answer ").—A message originating out of, referring to, or replying to a previous message.

51. SENDER.—The operator who is responsible for transmitting the message.

52. SERIAL NUMBER (Navy term. Cabinet number).—A number given to every message for internal signal office use only.

53. SERIES NUMBER.—A number inserted in the call of a message by the signal staff of a station in order to identify a series of messages between that station and another station or group of stations. The numerical sequence of these numbers also serves to show whether all messages of the series have been received.

54. SIGNAL OFFICE.—A centre at which messages are dealt with by the signal personnel.

55. SONIC TELEGRAPHY (abbreviation " S/T ").—The method of passing messages through the water by means of sound waves.

56. SOUND SIGNALLING (abbreviation " S/S ").—The method of passing messages by means of syren, foghorn or whistle.

57. SUBJECT MATTER.—The subject matter of a message consists of the words or groups appearing in the subject matter component of the message.

58. TEXT.—The text of a message consists of the words or groups appearing in the text portion of the message.

59. TIME OF DESPATCH (abbreviation "T.O.D.").—The time at which the receiving station completes the reception of the message. Thus, in a multiple address message there may be more than one time of despatch. For "Broadcast" messages or messages transmitted by the "F" method, the time of despatch is the time at which the transmitting station completes the transmission of the message.

60. TIME OF HANDING IN (abbreviation "T.H.I.").—The time at which a message is received at the signal office for transmission.

61. TIME OF ORIGIN (abbreviation "T. of O.") is the time at which a message is authorised, except in D/F and Enemy Reports (Naval Co-operation), when, in the absence of a definite statement to the contrary, it is the time at which the occurrence forming the subject of the report was actually observed.

62. TIME OF RECEIPT (abbreviation "T.O.R.") is the time at which the receiving station completes the reception of the message.

63. TRANSMITTING STATION.—The station by which a message is actually being sent.

64. UP AND DOWN WORKING.—The alternate transmission and reception of messages by two stations in direct communication, only one message being made at each transmission.

65. VISUAL SIGNALLING (abbreviation "V/S").—The method of signalling which is capable of being observed by eye, also messages transmitted by syren, foghorn or whistle.

66. WIRELESS STATION.—A station equipped with W/T apparatus for reception and/or transmission. A wireless station may be erected ashore or in a ship or aircraft.

(i) Wireless stations are classified under the following heads :—

(a) FIXED STATION.—A station not capable of moving which communicates with one or more stations similarly established.

(b) LAND STATION.—A station not capable of moving which performs a mobile service.

(c) COAST STATION.—A land station performing a service with ship stations. It may be a fixed station assigned also for communication with ship stations ; it is then considered as a coast station only during the period of its service with ship stations.

(d) AERONAUTICAL STATION.—A land station performing a service with aircraft stations. It may be a fixed station assigned also for communication with aircraft stations ; it is then considered as an aeronautical station only during the period of its service with aeronautical stations.

(e) MOBILE STATION.—A station capable of moving which ordinarily does move.

(f) STATION ON BOARD.—A station placed on board a ship not permanently moored or on board an aircraft.

(g) SHIP STATION.—A station placed on board a ship not permanently moored.

(h) AIRCRAFT STATION.—A station placed on board any aircraft.

(i) RADIOBEACON STATION.—A special station of which the emissions are intended to enable a ship or aircraft station to determine its bearing or a direction in relation to the radiobeacon station, and, if practicable, also the distance which separates it from the latter.

(j) DIRECTION FINDING STATION (abbreviation " D/F Station ").—A station provided with special apparatus intended to determine the direction of emissions of other stations.

(k) MULTIPLE STATION.—Fixed stations at which there are two or more transmitters capable of operating simultaneously on different services.

67. WIRELESS TELEGRAPHY (abbreviation " W/T ").—The method of passing Morse signals by means of electro-magnetic waves which can only be rendered perceptible by electrical devices.

CHAPTER 2

THE MORSE CODE

80. CONSTRUCTION OF MORSE CODE.—The Morse code is composed of two elements, the " dot " (or " short ") and the " dash " (or " long "), which are signalled either singly or in combination to represent the letters of the alphabet and figures.

81. SPACING RULES FOR LETTERS, WORDS, AND GROUPS.—(i) The dots and dashes, and spaces between them, should be made to bear the following ratio one to another as regards their duration :—

(a) A dot is taken as the unit.

(b) A dash is equal to three dots.

(c) The space between any two of the elements which form the same letter, figure, or symbol, is equal to one dot.

(d) The space between two letters, figures, or symbols, is equal to three dots.

(ii) Any number and combination of letters, figures, or symbols signalled thus consecutively so as to form one entity is termed a group. A group consisting of letters forming a word in plain language is termed a word.

(a) The space between two words is equal to five dots.

(b) The space between two groups of cypher or code, when a separative sign is not required, is equal to seven dots.

82. MORSE SYMBOLS.—The following tables show the symbols employed when the Morse code is used.

(ii) A bar over the letters expressing a sign denotes that the elements forming these letters are made as one Morse code symbol.

(iii) The term " barred " is used to denote any accent or modification over a letter. In describing a letter phonetically the term " barred " is used after the letter, e.g., " A barred " means an accented A, and is written " $\bar{a}$."

83. ALPHABET

Symbol.	*Meaning.*	*Symbol.*	*Meaning.*
• —	A	— •	N
• — • —	ā or "A barred"	— — • — —	n̄ or "N barred"
— • • •	B	— — —	O
— • • • —	b̄ or "B barred"	— — — •	ō or "O barred"
— • — •	C	• — — •	P
— • — • —	c̄ or "C barred"	• — — • —	¯ or "P barred"
— — — —	Ch	— — • —	Q
— • •	D	• — •	R
•	E	• • •	S
• • — • •	ē or "E barred"	—	T
• • — •	F	• • —	U
— — •	G	• • — —	u or "U barred"
• • • •	H	• • • —	V
• •	I	• — —	W
• — — —	J	— • • —	X
— • —	K	— • • — •	x̄ or "X barred"
• — • •	L	— • — —	Y
— —	M	— — • •	Z

84. NUMERALS

Symbol.	*Meaning.*	*Symbol.*	*Meaning.*
• — — — —	1	— • • • •	6
• • — — —	2	— — • • •	7
• • • — —	3	— — — • •	8
• • • • —	4	— — — — •	9
• • • • •	5	— — — — —	0

NOTE.—The figure "0" (nought) is to be signalled as "T" when occurring in the text of a figure cypher or code message. In all other cases, such as Time of Origin, Time of Receipt, Originator's Reference Number and Dates, Procedure Messages, etc., it is to be signalled in full.

85. PUNCTUATION SYMBOLS

Symbol.	*Sign.*	*Meaning.*
• — • — • —	AAA	Full Stop. .
— • — • — •	CN	Semicolon. ;
— • • • • —	DU	Hyphen.
• — • • —	EX	Fraction Separative Sign.
• • — • • •	FI	Decimal point.
• • • • • •	III	Comma. ,
• • — — • •	IMI	Note of Interrogation. ?
— • — — • —	KK	Parenthesis (before and after the words concerned).
— — • • — —	GW	Exclamation. !
— — — • • •	OS	Colon. :
• — • • — •	RR	Inverted Commas (before and after words concerned).
• • — — • —	UK	Underline or Block letters (before and after words concerned).
• — — — — •	WG	Apostrophe. '
— • • — •	XE	Oblique Stroke.

86. TWO- AND THREE-LETTER PROCEDURE SIGNALS

(See Chapter 10.)

Symbols.	*Sign.*	*Meaning.*
• — • —	AA	"All After" } Used in connection with
• — — • • •	AB	"All Before" } repetitions and corrections.
— — • • — •	GR	Group signal.
— • • — •	NR	Number signal.
— — — — • — •	TOR	Time of Receipt signal.
• — — • —	WA	"Word or Group After" } Used in connection with repetitions and corrections.
• — — — • • •	WB	"Word or Group Before" }

87. PROCEDURE SIGNS

(See Chapter 11.)

Symbol.	*Sign.*	*Meaning.*
• — • — • —	$\overline{\text{AAA}}$	"Full Stop" sign.
• — • — •	$\overline{\text{AR}}$	"Ending" sign.
— • • • —	$\overline{\text{BT}}$	"Long Break" sign.
— • • — • — •	$\overline{\text{DC}}$	"Difficult communication" sign.
• • • • — —	$\overline{\text{HM}}$	"Silence" sign.
• • • •	II	"Separative" sign.
• • • • • •	III	"Comma" sign.
• • — — • •	$\overline{\text{IMI}}$	"Repeat" sign.
• • — — — —	$\overline{\text{UO}}$	"Negative Silence" sign.
• • • — • —	$\overline{\text{VA}}$	"No message" sign.
• • • — •	$\overline{\text{VE}}$	"Commencing" sign.
5 second dash	5 secs.	"Executive" sign.
— • • — —	$\overline{\text{NW}}$	"Readiness" sign. (Used in H.S. procedure, see Chapter 38.)

88. MISCELLANEOUS SIGNS

(See Chapter 12.)

Symbol.	*Sign.*	*Meaning.*
— • • — • • — • • —	$\overline{\text{DDDT}}$	"Service work" sign.
• • • • • • • •	$\overline{\text{EEEEEEEE}}$	"Erase" sign.
• • — • • •	$\overline{\text{FI}}$	"Numeral" sign.
• • — • —	$\overline{\text{INT}}$	"Interrogative" sign.
— • — — —	$\overline{\text{NO}}$	"Negative" sign.
— — — •	$\overline{\text{OE}}$	"Preparative" sign.
• — — • • — — •	PAN	"Urgency Signal" for aircraft.
• • • — — — • • •	$\overline{\text{SOS}}$	"Distress" sign.
• • — — • —	$\overline{\text{UK}}$	"Block letter" sign.
— — —	TTT	"Safety" signal.
— • • — — • • — — • • —	XXX	"Urgency" signal.

89. SIGNS USED IN COMMERCIAL PROCEDURE

(Differing from or in addition to those in R.A.F. procedure.)

Symbol.	*Sign.*	*Meaning*
— — — — — — etc.	(Dashes for 1 Min.)	Automatic Alarm Signal.
• — • • •	$\overline{\text{AS}}$	Wait.
—• —• —	$\overline{\text{CT}}$	Commencing sign.
• • • — • —	$\overline{\text{VA}}$	End of Work sign.
• — • —	ä	
• — — • —	à	

90. ABBREVIATED NUMERALS

(See Article 485.)

Symbol.	*Meaning.*	*Symbol.*	*Meaning.*
• —	1	— • • • •	6
• • —	2	— • • •	7
• • • —	3	— • •	8
• • • • —	4	— •	9
• • • • •	5	—	0

CHAPTER 3

COMPONENT PARTS OF A MESSAGE

TABLE SHOWING FORM OF THE

1.	2.	3. Name.	4. Contents.	5. Code W/T Message.
The Call.		Call.	Commencing Sign. Call Signs of Transmitting and Receiving Stations. Series Numbers.	Call Signs NR.....
The Body.	The Preface.	Originator's Instructions.	For Exercise. Degree of priority. NOTWT. NODECO. PERSONAL	Procedure letter. Procedure letter. } Self-evident words uncoded.
		Delivery Instructions.	Instructions to "Repeat Back." Instructions "Not to be answered." Route Instructions.	Procedure letter. Procedure letter. Procedure Signals and Call Signs.
		Number of Words or Groups.	Group Sign.....	GR....uncoded.
	The Text.	Address.	Addressed to..... Repeated to..... From ..... Instructions to Acknowledge.	Procedure Signals and Call Signs.*
		Subject Matter.	Subject Matter.	Code Groups.
		Time of Origin.	Time Message originated.	4 figures uncoded.
		Ending.	Time of receipt. Final Instructions Ending Sign.	—

* Address may also be

VARIOUS PARTS OF A MESSAGE

6.	7.	8.
Plain Language W/T Message.	Inland Telegrams. Code.	P/L.
Call Signs NR.....	Telegraphic Address.	Telegraphic Address.
Procedure letter.	P/L.	P/L.
Procedure letter.	P/L.	P/L.
—	Self-evident words uncoded.	Self-evident word.
Procedure letter.	—	—
Procedure letter.	—	—
Procedure Signals and Call Signs.	Plain language.	Plain language.
GR.....	GR....uncoded.	GR.....
Procedure Signals and Call Signs.*	P/L.	P/L.
Plain Language.	Code Groups.	P/L.
4 figures.	4 figures uncoded.	4 figures.

wholly or partly in P/L.

COMPONENT PARTS OF A MESSAGE

96. THE CALL and the BODY.—A W/T message is divided into two main parts :—The Call and the Body.

97. THE CALL : COMPONENT 1. " THE COMMENCING SIGN."—The commencing sign " $\overline{\text{VE}}$ " is to be used at the beginning of every transmission, except when other special procedures are employed.

98. " CALL SIGNS AND SERIES NUMBERS."—(i) In a W/T message made by full procedure the call consists of the commencing sign, the call sign-s of the receiving station-s, the procedure letter " V " (from), the call sign of the transmitting station followed by the series number of the transmitting station. In a multiple call the call signs of the receiving stations are arranged in alphabetical order.

Instructions as to the use of multiple and collective call signs and as to the number of times the call sign-s of the receiving station-s should be made, are given in Chapters 17 and 18.

In a L/T message the telegraphic address of the receiving station will be employed in this component.

(ii) The series number of the transmitting station is a number employed to indicate the sequence of messages passing between a W/T station and each one of the W/T stations with which it is in direct communication in the course of a day, and to enable any particular receiving station to ascertain whether all messages of that series have been received.

The series number is always preceded by the procedure signal " NR ", and may consist of figures or figures preceded by a letter.

The series number must follow immediately after the call sign of the transmitting station.

(iii) In cases where messages are transmitted by a W/T station to two or more receiving stations simultaneously, separate series numbers are employed for each receiving station, the series number will follow immediately after the call sign of the transmitting station in the sequence of the call signs of the receiving stations to which they apply. The series numbers concern only the stations actually sending and receiving a message and will never be re-transmitted by a linking station. Special orders regarding the re-transmission of series numbers by W/T guards are contained in Article 197, para. (iv).

(iv) Series numbers will be employed by R.A.F. W/T stations on all messages passing between them and other W/T stations of the Royal Air Force, Navy or Army, except in the following cases :—

(*a*) Distress messages.
(*b*) D/F reports.
(*c*) Procedure messages.
(*d*) Messages referring to repetitions and corrections of previous messages.
(*e*) Messages dealing with the conduct of a W/T exercise made during such an exercise.
(*f*) Aircraft safety position reports.

(v) Series numbers will commence at every W/T station at 0001 hours daily, except in the case of certain series numbers used in the broadcast method for special classes of messages ; these series start at 1 and continue to 999, and consist of a letter followed by a numeral.

(vi) It is the responsibility of the receiving station to ascertain that the series numbers on received messages are consecutive.

(vii) In the case of G.R. aircraft on reconnaissance duties, Series Numbers are only to be used with Enemy Reports.

99. THE BODY.—The Body is divided into the " Preface " and the " Text." Components 2 to 4 are included in the Preface of a message. Components 5 to 7 are included in the Text of a message.

100. THE PREFACE.—The Preface will contain all the instruction for handling the message, and is the portion of the message affecting the Signal Staff. It will be changed as necessary during the progress of the message via signal links.

101. COMPONENT 2. ORIGINATOR'S INSTRUCTIONS.—(i) These are instructions from the originator of the message, viz.:—

(*a*) The procedure signal " X " (for exercise).
(*b*) Degree of Priority. The degree of priority, if any, which the originator may assign to the message is indicated by the procedure letter " D ", " P ", " O ", " O-A ", or " O-U." The letter " S " (Signal Service Message), when employed, is inserted in this component, and may be preceded by the procedure letters " D " or " P ", if it is desired to give the message priority.
(*c*) The special instruction " NOTWT " meaning that the message is not to be transmitted by W/T or R/T over any part of its route, nor may its subject matter be referred to in any W/T or R/T message.
(*d*) The special instruction " SECRET—NOTWT " meaning that the message is not to be transmitted by any method except R.A.F. teleprinter and that the contents of the message are to be treated as secret.

(*e*) **The special instruction " NODECO ", meaning " Not to be decoded except by a commissioned officer." (This instruction is not used in Naval Signalling.)**

(*f*) **The special instruction " PERSONAL ", meaning that the message is to be distributed only to the addressee-s personally.**

(ii) In cases of messages being passed via linking stations, the originator's instruction contained in component 2 are to be re-transmitted throughout all stages of its route.

102. COMPONENT 3. DELIVERY INSTRUCTIONS.—(i) The signal staff of the transmitting station must express the Delivery Instructions so that no ambiguity is possible.

(ii) Plain language cannot be used in the Delivery Instructions.

103. AUTOMATIC RESPONSIBILITY.—(i) Any station to whom a message is passed is automatically responsible, without the inclusion of delivery instructions, for all authorities borne in that station who may be included in the address.

(ii) Certain fixed W/T stations are automatically responsible for the disposal of messages received there, addressed or repeated to the authorities at their headquarters, and also for other authorities in the same locality.

Air Ministry W/T station is automatically responsible for the disposal of messages received there, addressed or repeated to the Air Ministry, and individual authorities and departments of the Air Ministry.

(iii) *Examples :—*

(*a*) A P/L message addressed to Air Ministry (P2D) from A.O.C., Mediterranean (C3T), being passed from Malta (GFZ) to Air Ministry W/T station (GFJ).

$\overline{VE}$ GFJ. v GFZ NR6 – GR35 – Z – P2D v C3T, etc.

(*b*) A P/L message addressed to Coastal Area Command Headquarters (K2G) from Leuchars (K6W) being passed to Lee-on-the-Solent W/T station (D4B).

$\overline{VE}$ D4B. D4B v K6W NR12 – GR21 – Z – K2G v K6W, etc.

(iv) Automatic responsibility must not be confused with "responsibility" covered by procedure signal " L."

104. GENERAL.—Instructions to the receiving stations as regards repeating back or not answering are expressed by procedure letters "G" (repeat back) and "F" (not to be answered) preceded when necessary by the call signs of the stations concerned.

(ii) Instructions regarding the route of the message are expressed by—

The procedure signal "M" (pass via) followed by the call signs of the linking stations,

the procedure signal "T" (pass to) followed, when necessary, by the call signs of the stations to which the message is required to be re-transmitted,

the procedure signal "L" (pass to those of the addressees for whom you are responsible),

and certain operating signals, together with any call signs, wave frequencies, etc., amplifying them, giving instructions for the re-transmission of the message.

105. ROUTE INSTRUCTIONS.—A route is a consecutive series of signal links through which a message is ordered to be passed to some or all of the addressees. The final signal link is the signal link which actually passes the message to an addressee (or to a W/T station automatically responsible for an addressee).

(ii) A signal link may also be an addressee (or automatically responsible for an addressee), in which case the fact that the message passes through such signal link ensures its reception by such addressee without the inclusion of further instructions.

(iii) When more than one final signal link is required, two or more complete routes must be included in the Delivery Instructions. Each route must be completely defined from the receiving station concerned up to and including the instructions to the final signal link in that route.

The instructions for each route are to commence with the call sign of the appropriate receiving station (paragraph v, example (*a*)), except when there is only one receiving station, when its call sign is omitted before the first route only (paragraph v, example (*d*)).

(iv) The sequence of instructions in each route is as follows (the examples assume a message with only one route) :—

(*a*) Instructions to the receiving stations with regard to repeating back or not answering :—

Example :—

$\overline{\text{VE}}$ GFX v GFJ NR1 – **G** – etc.

(*b*) **Instructions to the receiving stations as to the route by which the message is to be passed. The order of the call signs of the signal links indicates the sequence in which they are to be employed in passing the message.**

Example :—

$\overline{VE}$ GFX v GFJ NR1 – G – **M – GFV GFW** etc.

(*c*) **The procedure letters " G " and " F " are only intended to convey instructions to the receiving stations and are NOT to be used to convey instructions to further links in the transmission.**

(v) *Further examples :—*

(*a*) **A message with more than one route passed through two receiving stations.**

$\overline{VE}$ GFV GFX v GFJ NR3 NR2 – GFV – T – GFW – GFX – G – T – GEO etc.

(*b*) **A message passed to two receiving stations, one of these being an addressee.**

$\overline{VE}$ GFV GFX v GFJ NR4 NR3 – GFV – T – GFW – GR45 – Z – GFW – W – GFX v GFJ etc.

(*c*) **A message in which one of the signal links is automatically responsible for an addressee.**

$\overline{VE}$ GFX v GFJ NR4 – M – GFV GFW – T – G2W – GR32 – Z – K3Y G2W v J2P etc.

(" GFV " is assumed to be automatically responsible for " K3Y.")

(*d*) **A message with more than one route passed to one receiving station.**

$\overline{VE}$ GFX v GFJ NR5 – M – GFV – T – GFW – GFX – M – GFQ – T – GEO – GR3O – Z – GEO GFW v GFJ etc.

(*e*) **Instructions to signal links as regards the re-transmission of a message may also be expressed by operating signal, which follow the call sign of the signal link concerned.**

$\overline{VE}$ GFX v GFJ NR6 – M – GEO – X419 – S4T – X212 etc.

(X419 is assumed to mean " Pass this message to —— by ——).

(X212 is assumed to mean " V/S ").

(*f*) **When a signal link is instructed to pass a message to all the addressees, the call signs of the addressees are to be omitted after the procedure signal " T."**

$\overline{VE}$ GFX v GFJ NR7 – T – GR2O – Z – GFV GFW v GFJ etc.

106. USE OF PROCEDURE SIGNAL " L."—When the final signal link or links in any route are known to be responsible for all the addressees in that route, the procedure signal " L " may be employed.

Example :—

$\overline{VE}$ D4B v J2P NR7 – L – GR3O – Z – S9L v J2P etc.

(D4B is known to be responsible for a portion of the stations included in the collective call sign S9L.)

See also Article 182.

107. RULES FOR EXPRESSING DELIVERY INSTRUCTIONS WHEN THE ADDRESS CANNOT BE EXPRESSED COMPLETELY IN CALL SIGNS.

(It is desirable that the instructions for expressing the Address given in Chapter 16 should first be studied.)

(i) WHEN SOME OF THE ADDRESSEES HAVE CALL SIGNS.—When a final signal link is to be made responsible (example (*a*) below) or is known to be responsible (example (*b*) below) for passing the message to all the addressees, the procedure signal " T " or " L " respectively are to be employed.

Examples :—

(*a*) $\overline{VE}$ Y8C v U4K NR4 – T – GR31 – Z – KD8 $\overline{UK}$ SS0 $\overline{UK}$ v J4P etc.

(*b*) $\overline{VE}$ Y8C v U4K NR5 – M – J6Q – L – GR19 – Z – V8H $\overline{UK}$ SS0 $\overline{UK}$ v J4P etc.

(ii) In other cases where one or more of the addressees concerned in a particular route have no call signs the instructions to the first signal link of that route are normally expressed by operating signal. Instructions to the same link in another route are not necessarily affected.

Example :—

$\overline{VE}$ Y8C v U4K NR6 – M – J6Q – T – V8H – Y8C – M – G7A – X013* – GR29 – Z – S4T V8H $\overline{UK}$ SS0 $\overline{UK}$ v J4P etc.

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* X013 is assumed to mean " Pass to 1st and 3rd addressees."

(iii) Another method, which is sometimes possible, is to complete the route up to a station known to be automatically responsible for these addressees.

Example :—

VE Y8C v U4K NR7 – T – G7A – Y8C – M – J6Q – T – S4T – GR24 – Z – S4T V8H UK SS0 UK v J4P etc.

(G7A is assumed to be automatically responsible for V8H and "SS0.")

(iv) WHEN NONE OF THE ADDRESSEES HAVE CALL SIGNS.—When no call signs are employed in the address, the instructions to a final link regarding re-transmission to an addressee may be expressed by operating signal or by the procedure signals "T" or "L" or by completing the route of the message up to the station, which is automatically responsible for that addressee, where this is applicable.

Examples :—

VE GFV v GFW NR7 – T – GFX – X00* – GR35 – Under Secretary of State, Port Said, from Secretary Air Ministry, etc.

VE ZLF v GFJ NR9 – T – GR45 – Premier from Deputy, etc.

VE GEO v GFJ NR4 – T – VJR – GR60 – Airboard from Austair, etc.

Note.—VJR is automatically responsible for Airboard.

X00* is assumed to mean "Pass to all addressees."

108. USE OF OPERATING SIGNALS IN PLACE OF THE LETTER "T."—The operating signals (e.g., "Pass to addressees") may be employed at any time in place of the letter "T" and call signs, when the use of the operating signal(s) will simplify or abbreviate the procedure.

109. COMPONENT 4. NUMBER OF WORDS OR GROUPS IN THE MESSAGE.—(i) The number of words or groups in the message (see Chapter 13) is indicated by figures preceded by the procedure signal "GR".

(ii) The use of this component is obligatory in all R.A.F. messages and all inter-service messages, with the following exceptions :—

(*a*) **Distress messages.**
(*b*) **Enemy reports.**
(*c*) **D/F reports.**
(*d*) **Procedure messages.**
(*e*) **Messages made during a W/T exercise, dealing with the conduct of the exercise.**
(*f*) **Messages giving corrections to previous messages or giving repetitions.**

110. THE TEXT.—The address is dealt with by the signal staff, call signs and procedure signals being used.

111. COMPONENT 5. THE ADDRESS.—(i) This component consists of :—

(*a*) **Addressed to**.....

Repeated to .....

From .....

(*b*) The instructions to acknowledge.

(ii) This component is expressed by call signs and procedure signals, and the following rules apply :—

(*a*) The Address.

In W/T messages this portion of component 5 may be omitted provided that it is indicated in the call.

In single address L/T messages, sent direct to the addressee, this portion of component 5 need only consist of " from ..... " (originator).

In multiple address messages, the call signs of the addressees are arranged in alphabetical order.

The address, and the order in which the addressees appear in this portion of component 5 must remain unchanged through whatever W/T route the message subsequently passed or repeated.

When the whole address can be indicated by call signs, it is always preceded by the procedure letter " Z " (addressed) followed by the call sign-s of the addressee-s, to whom the message is addressed.

The procedure letter " W " (repeated) followed by the call sign-s of the addressee-s to whom the message is repeated to for information, may follow.

The procedure letter " V " (from) followed by the call sign of the originator concludes the address.

(*b*) The instructions for the use of an address, which cannot all be expressed in call signs, are found in Chapter 16.

(*c*) The instructions to acknowledge. (See Articles 207 and 292.)

112. THE LONG BREAK SIGN " $\overline{\text{BT}}$ " OR FULL-STOP SIGN $\overline{\text{AAA}}$ is to be used to separate the address from the subject matter.

113. COMPONENT 6. THE SUBJECT MATTER.—The subject matter of a message may consist of—

(*a*) Groups of cypher or code.

(*b*) Plain language.

(*c*) A combination of non-confidential code and plain language.

(*d*) Procedure and/or operating signals together with any groups governed by or amplifying such signals.

114. THE LONG BREAK SIGN "$\overline{\text{BT}}$" is used to separate the subject matter from the time of origin.

115. COMPONENT 7. THE TIME OF ORIGIN (Abbreviation "T. of O.").—(i) The time of origin is appended to the message by the originator, and indicates the time at which he authorised the message.

(ii) The time of origin is indicated by four figures. For counting purposes it is regarded as the last group of the message.

(iii) The time of origin may be followed by a date (from which it should be separated by the oblique stroke) in cases where there may be any doubt during transmission or re-transmission as to the date of origin. Whenever the delivery of a message is not completed on the same day as that on which the message was originated, the signal staff holding the message at midnight on the day of origin will add the date to the time of origin. The date may similarly be added when referring to the identity of a back message by a time of origin, e.g., 1425/17/5.

(iv) The time of origin may be followed by a letter indicating the ZONE time employed, e.g., 1530B.

(v) A time of origin will follow the subject matter of every message except in the following cases :—

(*a*) In repetitions and corrections of parts of messages.

(*b*) In messages which are to be followed by the executive signal.

(*c*) Messages containing the silence or negative silence sign.

(*d*) After the executive signal.

(*e*) Procedure messages. (See Article 148 (vi) Example (c).)

(vi) The time of origin of a message is in no circumstances to be altered in the course of its transmission, but is to remain unchanged throughout its route, unless the message has to be paraphrased.

(vii) The signal staff is responsible that no two messages to the same addressee bear the same time of origin. In the case of two or more messages, bearing the same time of origin, being handed in for transmission to the same addressee, the signal staff is to alter the last figure of the time of origin of one or more of the messages. The originator is to be informed of the alteration.

Example :—

"Three messages, addressed to the same addressee, are handed in for transmission, bearing the time of origin 1500."

The signal staff is to amend the times of origin to read 1500, 1501 and 1502.

Under no circumstances is the signal staff to alter the time of origin for any other purpose.

116. COMPONENT 8. THE ENDING :—THE TIME OF RECEIPT (Abbreviation " T. of R ").—(i) The time of receipt is denoted by the procedure signal " TOR " followed by four figures which may be followed by a date, as in the case of the time of origin. It is NOT counted as a group.

(ii) The time of receipt is employed by a transmitting station to indicate to a receiving station the time at which the transmitting station received the message from another station, and will only be employed when the difference between it and the time of despatch at the linking station exceeds 30 minutes.

(iii) No message will be signalled with more than one time of receipt at any stage of its route. If, therefore, a signal link receives a " Through " message bearing a time of receipt and, under the orders in paragraph (ii), wishes to append its own time of receipt when re-transmitting the message, it will delete the time of receipt received with the message and substitute its own.

(iv) A time of receipt is obligatory when a station is passing-in " Intercepted Messages " (see Article 330).

(v) A time of receipt is obligatory when a station is passing in messages to another station for which it has been acting as W/T guard, except that no time of receipt is appended to messages bearing the indication of priority " P ", " O ", " O–A " or " O–U."

(vi) See Article 227.

117. THE FINAL INSTRUCTIONS.—The transmitting station may transmit in this component, before sending the ending sign.

(*a*) Procedure or operating signals giving instructions to the receiving station-s in connection with the answering of the message or in connection with further messages to follow, e.g., procedure signals " B ", " $\overline{E}$ ", " Q ", " K " and " $\overline{DC}$." Where applicable the stations concerned may be denoted by their call signs.

(*b*) Operating signals referring to technical details in connection with the communication, such as strength of signals, wave frequency, note, interference, etc., which may also be added here if desired in preference to transmitting them as a separate message. If such operating signals are added, however, the receiving station must not delay its answer in order to ascertain their signification.

(*c*) Any corrections which may have come to hand or any errors which have been noticed during the transmission of the message.

118. THE ENDING SIGN.—(i) The ending sign " $\overline{AR}$ " is to terminate every transmission, except in certain cases where other special procedures are employed.

(ii) The receiving station, if required to answer, must await the transmission of the ending sign before answering.

(iii) See Article 233.

1.	2.	3.	4.	5.
		No. of the Component.	Name of the Component.	Code Message.
The Call.		1	Commencing sign.	$\overline{\text{VE}}$
			Call Signs and Series Number.	GFWvGFJ NR4–
The Body	The Preface.	2	Originator's Instructions.	D–
		3	Delivery Instructions.	
		4	Number of Groups or Words.	GR30–
	The Text.	5	Address	Z–G2WvQ6A– Y.
			Long Break Sign or Full-Stop Sign.	=
		6	Subject Matter	21–14/3– DOTER etc.
			Long Break Sign	=
		7	Time of Origin	1100–
		8	Time of Receipt	
			Final Instructions	B2
			Ending Sign	+

PARTS OF A MESSAGE

6.	7.	8.	9.	10.
P/L Message.	P/L Message.	P/L Message.	P/L Message.	Procedure Message.
VE	VE	VE	VE	VE
H2K.K6W .vD4B NR2 NR6–	GFYvGFJ NR8–	B3NvH8Y–	G8Q.Y8C vU4K NR6 NR4–	K6WvD4B
	D–	X–D–		
K6W–T– O3R–	T–		Y8C–X013†–	
GR25–	GR60–	GR20	GR35–	
Z–H2K. K6W– W–O3Rv K2G	Z–X3TvJ2P –M4G–Y		Z–KD8.G8Q. UK S.S.O. UKvJ4P	
AAA	AAA	AAA	AAA	
M26—16/4. Following Airmen, etc.	S21–21/5. W/T Exercise ordered for, etc.	Carry out, etc.	A10–20/5. Orders despatched, etc.	B NR7–
=	=	=	=	
1130–	1200	1215–	1300	
H2K–B		Q		X273*
+	+	+	+	+

† X013 is assumed to mean " Pass to 1st and 3rd Addresses."

* X273 is assumed to mean " Increase Strength of Signals."

CHAPTER 4

SEPARATIVE SIGN (alternative title, "BREAK")

Letters II made separately (. . . .)

129. USE OF THE SEPARATIVE SIGN.—(i) The Separative sign is used in general to emphasise the space in a W/T message between independent groups, other than words in P/L, in order to avoid the possibility of mistakes in reception due to letters or figures of adjacent groups being written together so as to form one group.

(ii) The Separative sign has no other signification, is not counted as a group, and is not normally required to be written, but when necessary it may be represented by a short dash, thus :—

T – GR20 – Z – K6W – W – O3R v K2G.

(iii) In this manual the separative sign is shown as a short dash.

130. The Separative sign is inserted, throughout a W/T message, between groups having distinct significations, **EXCEPT** in the following cases :—

(i) In the call.

(ii) Between call signs in the address.

(iii) Between call signs governed by the same procedure signal or operating signal.

(iv) Before or after "$\overline{\text{VE}}$", "V", "$\overline{\text{AAA}}$", "$\overline{\text{BT}}$" and "$\overline{\text{AR}}$".

(v) Before or after "$\overline{\text{IMI}}$" when making a message through twice.

Example :—

$\overline{\text{VE}}$ D4B Y3G v J2P NR6 NR8 – P – L – GR5 – Z –

R7B v J2P – Y = 20 – 25 $\overline{\text{XE5}}$ – HAVEO

DECCO = 1010 $\overline{\text{IMI}}$ D4B. Y3G v J2P NR6 NR8 – P – L – GR5 – Z –

R7B v J2P – Y = 20 – 25 $\overline{\text{XE}}$5 – HAVEO DECCO = 1010 +

(vi) Before or after any word spelt in P/L.

(vii) Before or after any punctuation symbol, or the "$\overline{\text{UK}}$" sign in the subject matter.

Example :—

$\overline{\text{VE}}$ D4B v K6W NR3 – GR18 – Z – D4B v O3R $\overline{\text{AAA}}$

Q21 – 18$\overline{\text{XE}}$5 Following stores required

Despatch by fast goods train III Section 3A$\overline{\text{XE}}$ 423 – 10

$\overline{\text{AAA}}$ 10A $\overline{\text{XE}}$ 7428 – 2 = 1020 +

(viii) Before the subject matter of a procedure message when the subject matter follows immediately after the call.

Examples :—

(*a*) $\overline{\text{VE}}$ K6W K6W v D4B. X241 X265 +

(*b*) $\overline{\text{VE}}$ K6W v D4B R +

(*c*) $\overline{\text{VE}}$ K6W K6W v D4B B NR7 – X259 +

(ix) In an identity :—

Examples :—

(*a*) $\overline{\text{VE}}$ D4B v K6W R 1045 O3R v D4B +

(*b*) .....B.1040 v K2G .....

(x) In a part identity. BUT the Separative sign is used between part identities and between an identity and a part identity.

Examples :—

(*a*) .....1045 O3R v K2G - AB1 .....

(*b*) ..... 4 - 7 to 12 – AA19 .....

(xi) Between the identity or part identity of a message and the procedure signal governing such identity or part identity.

Examples :—

(*a*) .....C WA 2098.....

(*b*) .....A 1030 K6W v D4B.....

(*c*) .....$\overline{\text{IMI}}$ 1030 K6W v D4B – WA Report – log to headquarters – AA when.....

(xii)* In the subject matter of a code message except when the groups are not uniform in construction.

(xiii)* In the subject matter of a procedure message between groups of a uniform construction. (See example viii (a).)

131. The Separative sign is used between letters or between figures in P/L messages where a mistake in reception might occur if they were not separated. It is only used in the subject matter of code messages when the formation of groups is not uniform.

Examples :—

(*a*) .....Your Q21 – 19 $\overline{\text{XE}}$5 – 20 cases .....

(*b*) .....Reference P – M – G .....

(*c*) .....Section 10A $\overline{\text{XE}}$ 212 – 2.....

(*d*) .....AX2B7Q – RAQURPTQ – PR6.....

* In these cases separative signs may be ordered to be inserted if reception would be facilitated thereby.

132. The Separative sign, repeated as necessary, precedes the executive sign when it is desired temporarily to delay the transmission of the executive sign, such as when making a timing signal for correcting clocks (Article 244). The Separative sign always follows the erase sign, except in P/L messages and when the erase sign is followed by the ending sign (AR).

133. Further examples of the use of the Separative sign :—

(*a*) VE K6W v D4B NR4 – D – G – T – GR6 – Z – K6W – W – O3R v K2G = 20 – 18 XE5 – HOBOH DECOH FIFIT = 1100 +

(*b*) VE G8Q Y8C v U4K NR6 NR4 – Y8C – X013 – GR35 – Z – ZD8 G8Q UK SSO UK v J4P AAA A10 – 20 XE5 Orders despatched, etc. = 1300 – G8Q – B +

(*c*) VE K6W. L9O O3R v D4B NR5 NR7 NR6 – GR25 – L9O. O3R – Y AAA S21 – 18 XE5 Following W/T Organization, etc. = 1310 +

(*d*) VE K6W v D4B C 1030 K6W v K2G – AA4 etc.....
(" 1030 K6W v K2G " is an identity and " AA4 " is a part identity, all governed by the procedure signal " C " and separated from each other by the separative sign.)

(*e*) VE K6W v D4B – 2 – KOFIT – 7 – HUPIC +

CHAPTER 5

SCALE OF NOTATION FOR STRENGTH OF SIGNALS OR INTERFERENCE

138. For use with procedure signals "K", "R", or "X", and as a separate group with certain operating signals.

1	**Just audible.**
2	**Very faint, unreadable.**
3	**Just readable.**
4	**Faint.**
5	**Rather faint.**
6	**Fair.**
7	**Good.**
8	**Strong.**
9	**Very strong.**

CHAPTER 6

PROCEDURE AND OPERATING SIGNALS

140. PROCEDURE SIGNALS.—A procedure signal is designed to expedite the conduct of signalling. It consists of the following types :—

(*a*) Single letters (R, B, K, J, $\overline{N}$, etc.)

(*b*) Two or three letters (WA, GR, NR, TOR, etc.)

(*c*) Signs ($\overline{IMI}$, $\overline{BT}$, $\overline{AR}$, $\overline{HM}$, etc.)

(*d*) The " Executive Sign."

141. OPERATING SIGNALS.—Operating signals (used by all three Services) consist of signals designed, similarly to procedure signals, to expedite the conduct of signalling. In addition these signals provide a rapid means of transmitting messages dealing with technical and other requirements in wireless communication. An operating signal is distinguished by the letter " X " followed by two or more numerals. It may be followed by separate groups expressing a time, wave frequency, call sign, etc.

142. EMPLOYMENT OF PROCEDURE SIGNALS.—(i) These signals may be employed as follows :—

(*a*) In the appropriate component part of the message. Each procedure signal so used forms a separate group, except the procedure signals " GR " and " NR." Either of these signals, together with the numerals necessary to complete its meaning, is signalled as one group.

(*b*) In requesting repetitions and transmitting corrections. (See Article 165 and Chapters 21 and 22.)

(*c*) To form the subject matter of a message by themselves, in which case the message is termed a **PROCEDURE MESSAGE.** Thus, an answer to a message is a procedure message in its most simple form.

143. EMPLOYMENT OF OPERATING SIGNALS.—Certain operating signals may be employed as in Article 142, para (i) (*a*). The majority are employed to form the subject matter of a procedure message as in Article 142, para. (i) (*c*).

(ii) Operating signals are not employed in the text of a message, except by stations passing-in intercepted messages for the purpose of indicating groups that have been missed. (See Article 330, para. (iv).)

CHAPTER 7

PROCEDURE MESSAGES

148. COMPOSITION.—A procedure message may contain, if required, any of the component parts used in other messages.

(ii) The time of origin is usually omitted (but see example (v) (*c*) below) : a procedure message can thus, with few exceptions, be identified by its time of receipt only.

(iii) The subject matter of a procedure message, other than a repetition or correction, is not separated from the address in any way.

(iv) Repetitions and corrections are classed as procedure messages, but certain special instructions apply to them. These are fully dealt with in Chapters 21 and 22.

(v) Examples of procedure messages :—

(*a*) $\overline{\text{VE}}$ K6W v D4B – T – Z – O3R v K3G B1020 +

(*b*) $\overline{\text{VE}}$ D4B v K6W – Z – D4B v O3R J1000 – 6 to 15 +

(*b*) $\overline{\text{VE}}$ D4B v K6W Y1201 = 1330 +

(*Note.*—A time of origin has been inserted to show when the acknowledgment was authorised.)

CHAPTER 8

THE IDENTITY OF A MESSAGE

151. MEANS OF IDENTIFYING A MESSAGE.—(i) When it is necessary to refer to a message, it is identified by quoting one of the following :—

(*a*) The series number.

(*b*) The time of origin.

(*c*) The time of receipt (only used when (*a*) or (*b*) are not available, and not to be used for referring to messages made by manœuvring procedure).

(*d*) When a message can be identified in more than one way, it is permissible for a signal link to substitute an alternative identity if this will facilitate the tracing of the message by receiving stations.

(ii) (*a*) and (*c*) above may be amplified by the addition of the whole or part of the call and the degree of priority (if any) ; (*b*) above may be amplified by the addition of the whole or part of the address (in a code or P/L message) and the degree of priority (if any).

(iii) As a general rule the time of origin method will be employed for identifying previous messages. The series number method should, however, be used by stations carrying out batch working and between stations in direct communication.

(iv) If the call signs of the receiving stations or addressees are included in the identity of the whole or part of a message, they must all be included, i.e.,

1030 GFV GFY – W – GFW v GFJ.
or 1030 v GFJ.

152. MEANS OF IDENTIFYING A PART OF A MESSAGE.—When it is necessary to refer to a part of a message, the part required is identified in one of the following ways :—

(*a*) By quoting the number of the groups required if the text of the message is in code or cypher.

(*b*) **By quoting the number of the groups, or the actual groups, or the words on either side of the part required, separated by the word " TO ".**

(*c*) **By using the procedure signals " AA ", " AB ", " WA ", or " WB ", together with the number of the group, or the group, or the word necessary to complete their meaning.**

(ii) In cases where ambiguity may arise owing to the word or group quoted appearing more than once in the message, the next word or group should be added to the part identity.

(iii) (*a*) **The call and preface is always identified as a whole, the procedure signal " AB1 " or " AB ", followed by the first group of the text, being used for this purpose. (See Article 221.)**

(*b*) **Except when correcting the number of words or groups in a P/L or code message (see Chapter 14), the call, preface and address is always identified as a whole, the procedure signal " AB1 " or " AB ", followed by the first word or group of the subject matter, being used for this purpose. (See Article 221.)**

(*c*) **See examples in Article 332, para. (iv)** (*b*) **and para. (v)** (*b*).

153. EXAMPLES OF IDENTIFYING A MESSAGE OR A PART OF A MESSAGE.—

Examples :—

(i) $\overline{\text{VE}}$ GFW v GFA NR6 – GR6 = 4172 6071 8196 1047 4172 = 1030 +

The above message may be identified as :—

(*a*) By GFA or GFW as :—
NR6
or 1030

(*b*) By any other station as :—
1030 GFW v GFA
or 1030 v GFA

(*c*) **Had this message borne a degree of priority, they could have been added, thus :—**
1030 GFW v GFA – D.

(ii) $\overline{\text{VE}}$ GFW v GFA NR7 – T – GR5 – Z – G2W v R9T = FOSOL BITIT SUPUP RITUL = 1045 +

The above message was transmitted at 1100 by GFA and may be identified as :—

(*a*) NR7

(*b*) 1045
or 1045/10/4
or 1045 G2W v R9T
or 1045 v R9T
or 1045/10/4 G2W v R9T
or 1045/10/4 v R9T.

(*c*) **Should the series number and time of origin have been missed the message may be identified as :—**
TOR 1100 v GFA
or TOR 1100 GFW v GFA.

(iii) **In the message shown in** (ii) **the second group could be identified as :—**

(*a*) 2.
(*b*) WA. FOSOL.
(*c*) WB. SUPUP.

(iv) **In the message shown in** (ii) **the second, third, and fourth groups could be identified as :—**

(*a*) 2 to 4.
(*b*) FOSOL to 1045 (*i.e.*, first to fifth group).

NOTE.—Example (*b*) **is permissible, but should not be resorted to normally.**

(v) **In the message shown in** (ii) **the part of the message after the group " BITIT " could be identified as :—**

(*a*) AA 2.
(*b*) AA. BITIT.

154. EXAMPLES OF IDENTIFYING A MESSAGE AND A PART OF A MESSAGE.—(i) When it is desired to identify a part of any particular message, a combination of the procedure shown in Article 153 (i) and (ii) and (iii) to (v) is to be employed.

Examples :—

(*a*) NR7 – AB1.
(*b*) 1045 – 4 to 6.
(*c*) 1045 G2W v R9T – WA FOSOL.
(*d*) 1045/10/4 – AA 4.
(*e*) 1045/10/4 v R9T – 1 – 3 to 5.

(ii) GFA has transmitted the following cypher message to GFW :—

$\overline{\text{VE}}$ GFW v GFA NR8 – GR6 = 2184 9031 7102 4361
2184 = 1100 +

The identification of the message, by GFA and GFW, and the part denoted is done as follows :—

(*a*) All or any portion of the call and preface
NR8 – AB1
or NR8 – AB 2184

(*b*) All after the second group
NR8 – AA2
or NR8 – AA 9031

(*c*) All before the third group
NR8 – AB3
or NR8 – AB 7102

(*d*) All between the 1st and 4th groups
NR8 – 2 – 3
or NR8 – 1 to 4
or NR8 – 2184 to 4361

(*e*) The group " 9031 "
NR8 – 2
or NR8 – WA1
or NR8 – WB3
or NR8 – WA2184
or NR8 – WB7102

(*f*) Group 1 and Groups 3 to 5
NR8 – 1 – 3 to 5
or NR8 – 1 – 9031 to 2184

(*g*) In each of the above cases the message can also be identified by the time of origin.

(iii) GFA transmitted the following P/L message to GFW at 1120 :—

$\overline{\text{VE}}$ GFW v GFA NR9 – GR13 $\overline{\text{AAA}}$
Signal copy of W/T log of 20 Apl. period 2000 to 2130 = 1115 +

The identification of the message, by GFA and GFW, and the part denoted can be done as follows :—

(*a*) All or any portion of the call, preface and address
NR9 – AB1
or NR9 – AB Signal

(*b*) All after the word " log "
NR9 – AA Log

(*c*) All before the word " Copy "
NR9 – AB Copy

(*d*) All between the words " Copy " and " Period "
NR9 – Copy to period

(*e*) The word " W/T "
NR9 – Copy of to Log
or NR9 – WA Copy of
or NR9 – WB log

(*f*) The word "Signal" and the words between "copy of" and "period"

NR9 – WB Copy – Copy of to period

or NR9 – WA AAA – Copy of to period

(*g*) The time of origin

NR9 – WA 2130

or NR9 – AA 2130

Note.—If there is any doubt about identifying a word, two words may be given.

(*h*) In each of the above cases, the message can also be identified by the time of origin.

(iv) The messages shown in (ii) and (iii) above can also be identified as follows :—

(*a*) Message in (ii)

1100 v GFA – AA2

1100 GFW v GFA – WA 2184

(*b*) Message in (iii)

1115 v GFA – AB Copy

TOR 1120 v GFA – WA 2130

TOR 1120 GFW v GFA – AA 2130

155. MEANS OF IDENTIFYING A SERIES OF MESSAGES.—(i) When it is necessary to refer to a consecutive series of message (e.g., in batch-working) they are identified by quoting the first and last series numbers, separated by the word "TO."

(ii) Example of identifying messages bearing series numbers 10, 11, 12, and 13 :—

NR10 to NR13

(See also Chapter 23. Batch working.)

156. IDENTIFYING A MESSAGE IN CONJUNCTION WITH THE "G" SIGN.—(See Article 276.)

CHAPTER 9

SINGLE LETTER PROCEDURE SIGNALS

"A"

160. THE LETTER "A" USED IN THE SUBJECT MATTER OF A PROCEDURE MESSAGE signifies "Verify, check from the decode and repeat," when referring to code and cypher messages, or "Verify and repeat" when referring to P/L messages.

(ii) The letter "A" includes the action required under "J," but further entails reference back to the originator of the message himself, in order that he may verify and confirm the message as originally written.

(iii) It is to be employed for this purpose, as laid down in Chapter 22.

(iv) **USED IN CONJUNCTION WITH THE LETTER "O" IN THE ORIGINATOR'S INSTRUCTIONS OR IN A PRELIMINARY CALL,** signifies "Emergency—Air Attack." (See Article 188.)

"B"

161. THE LETTER "B" USED IN THE SUBJECT MATTER OF A PROCEDURE MESSAGE signifies "Has message..... been received." The identity of the message, however expressed, is immediately preceded by the letter "B".

(ii) *Examples :—*

(*a*) **D4B wishes to know whether K2W has received message NR15.**

D4B makes—

$\overline{VE}$ K2W v D4B B NR15 +

K2W answers—

* $\overline{VE}$ D4B v K2W R +

Or, if able to reply at once, makes—

$\overline{VE}$ D4B v K2W R (or $\overline{N}$) NR15 +

D4B answers—

$\overline{VE}$ K2W v D4B R +

---

* It is particularly to be noted that this answer refers only to the receipt of the procedure message, and has no bearing on the information asked for in that procedure message.

(*b*) **D4B wishes to know whether K2W has received message 1030 K2W v K2G.**

D4B makes :—

$\overline{\text{VE}}$ K2W v D4B B1030 K2W v K2G +

K2W answers :—

$\overline{\text{VE}}$ D4B v K2W R +

or, if able to reply at once, makes :—

$\overline{\text{VE}}$ D4B v K2W R (or $\overline{\text{N}}$) 1030 K2W v K2G +

D4B answers :—

$\overline{\text{VE}}$ K2W v D4B R +

(*c*) **D4B wishes to know whether K2W has received message 1300 D4B K2W v L9O transmitted by L9O to D4B to pass to K2W.**

D4B makes :—

$\overline{\text{VE}}$ K2W v D4B B1300 D4B K2W v L9O +

K2W answers :—

$\overline{\text{VE}}$ D4B v K2W R +

or, if able to reply at once, makes :—

$\overline{\text{VE}}$ D4B v K2W R (or $\overline{\text{N}}$) 1300 D4B K2W v L9O +

D4B answers :—

$\overline{\text{VE}}$ K2W v D4B R +

(*d*) **Should a message bear a degree of priority, this may be added:—**

Example :—

D4B wishes to know whether K2W has received " Important message 1200 K2W v K2G "

D4B makes :—

$\overline{\text{VE}}$ K2W v D4B B1200 K2W v K2G - D +

K2W answers as usual.

(*e*) **In each of the above examples if K2W has made "$\overline{\text{N}}$" and if it is desired to pass the message to K2W, and D4B is able to do so at once, D4B transmits the message instead of answering.**

(*f*) **D4B wishes to know whether K2W has received the following messages: NR15 K2W v D4B. 1040 K2W v K2G. NRK641 S9L v GFA. 1035 O3R v K2G.**

D4B makes :—

$\overline{VE}$ K2W v D4B BNR15 – B1040 v K2G – B NR K641 v GFA – B1035 O3R v K2G +

K2W answers :—

$\overline{VE}$ D4B v K2W R +

or, if able to reply at once, makes :—

$\overline{VE}$ D4B v K2W R (or $\overline{N}$) NR15 – R (or $\overline{N}$) 1040 v K2G – R (or $\overline{N}$) NR K641 v GFA – R (or $\overline{N}$) O3R v K2G +

D4B answers :—

$\overline{VE}$ K2W v D4B R +

D4B may then give K2W each message in turn, to which K2W has given "$\overline{N}$," waiting for "R" from K2W before proceeding with the next message.

(*g*) **D4B having transmitted message NR17 to K2W and having received no answer makes :—**

$\overline{VE}$ K2W v D4B $\overline{N}$ – B NR17 +

(iii) **The letter "B" may also be replied to by the operating signal denoting "Message—was incompletely received" and by "$\overline{IMI}$." (See Article 333, para. (iv) (*c*).)**

162. THE USE OF LETTER "B" WHEN TRANSMITTING A MESSAGE IN PORTIONS.—The letter "B" followed by a number indicating the number of groups or words already transmitted is used at the end of each portion (except the last) to signify "This concludes the portion just transmitted (up to and including word or group No. . . . .)."

(ii) *Examples :—*

(*a*) **C2W has a long cypher message for X4A. C2W transmits the message in suitable portions. (See Chapter 24.)**

C2W makes :—

$\overline{VE}$ X4A v C2W NR3 – GR63 = 2716 (remainder of first 40 groups) – B40 +

X4A having received the first 40 groups makes :—

$\overline{VE}$ C2W v X4A K +

Should X4A require any repetitions, these are asked for and given before " K " is made.

C2W then transmits the remainder of the message :—

$\overline{VE}$ X4A v C2W – (remainder of the subject matter) = 0915 +

X4A having received the message makes :—

$\overline{VE}$ C2W v X4A R +

(*b*) **C2W has a long P/L message for X4A. C2W transmits the message in suitable portions. (See Chapter 24.)**

C2W makes :—

$\overline{VE}$ X4A v C2W NR4 – GR145 $\overline{AAA}$ Q16 – 16/5 (First portion of the subject matter) – B50 —

X4A having received this first portion makes :—

$\overline{VE}$ C2W v X4A K +

Should X4A require any repetitions, these are asked for and given before " K " is made.

C2W then transmits the second portion :—

$\overline{VE}$ X4A v C2W – (second portion of subject matter) – B100 +

X4A having received this second portion makes :—

$\overline{VE}$ C2W v X4A K +

C2W then completes the message :—

$\overline{VE}$ X4A v C2W – (last portion of subject matter) – 1015 +

X4A having received this last portion makes :—

$\overline{VE}$ C2W v X4A R +

(iii) (*a*) **When messages are transmitted in portions, the receiving station must be certain of the correct reception of each portion, before giving " K " for the next portion.**

(*b*) **Receiving stations must count the number of words or groups in each portion to ascertain that it agrees with the figure given by the transmitting station after the letter " B."**

(*c*) **For this purpose, in examples (*a*) and (*b*) above, the receiving station would be permitted to answer with the procedure letter " H," to indicate that the number of words or groups is being counted, or by the method shown in Chapter 14, if the number of words or groups is in doubt.**

(iv) *Example :—*

C2W has made the first portion of a long cypher message to X4A. X4A requires a repetition of the 6th group.

X4A makes :—

$\overline{VE}$ C2W v X4A $\overline{IMI}$ 6 +

C2W makes :—

$\overline{VE}$ X4A v C2W – 6 – 7162 – B +

X4A makes :—

$\overline{VE}$ C2W v X4A K +

C2W then proceeds with the transmission of the next portion.

(v) **An example of the use of the letter "B," when making in portions a message to be repeated back, is shown in Article 175, para. (viii).**

163. THE LETTER "B" USED IN THE FINAL INSTRUCTIONS signifies "Have a further message, or number of messages indicated, for you or for the stations whose call signs are indicated."

(ii) *Examples :—*

(*a*) **D4B transmits a message to K6W and wishes to tell K6W that there is a further message for that station.**

D4B makes :—

$\overline{VE}$ K6W v D4B NR2 – GR2 = KAPOC = 1030 – B +

K6W having received the message NR2 and being ready to receive the further message, makes :—

$\overline{VE}$ D4B v K6W R – K +

(*b*) **D4B has a message for a section (collective call sign W8P) and a further message for two stations, H2K and K6W, of that section.**

D4B makes :—

$\overline{VE}$ W8P v D4B NR1 NR3 NR2 NR1 NR3 NR1 – GR2 = KOPAC = 1035 – H2K K6W – B +

The stations of the section addressed answer :—

$\overline{VE}$ D4B v H2K R – K +

$\overline{VE}$ D4B v H8Y R +

$\overline{VE}$ D4B v J3P R +

$\overline{VE}$ D4B v K6O R +

$\overline{VE}$ D4B v K6W R – K +

$\overline{VE}$ D4B v L9O R +

(iii) **The letter " B " is not used in the final instructions of a message containing " G " in the delivery instructions to the receiving station.**

In this case, the transmitting station waits until the receiving station has repeated back correctly before making " B."

Example (d) :—

D4B has two messages for transmission to K6W, the first of which is to be repeated back : D4B does not send " B " in the final instructions of the first message, but after AB has repeated back correctly makes :—

$\overline{VE}$ K6W v D4B C – B +

K6W, if ready to take the message, makes :—

$\overline{VE}$ D4B v K6W K +

D4B then proceeds with the transmission of the second message.

(iv) **The letter " B " is used in the final instructions by a receiving station, which has just completed the reception of a message, and wishes to inform the transmitting station that a message is awaiting transmission.**

Example (e) :—

D4B has transmitted a message to K6W, who wishes to answer the message and also to inform D4B that a message awaits transmission to D4B.

K6W makes :—

$\overline{VE}$ D4B v K6W R – B +

D4B, if ready to receive the message, makes :—

$\overline{VE}$ K6W v D4B K +

K6W then proceeds with the transmission of his message.

" C "

164. THE LETTER " C " USED AS THE SUBJECT MATTER OF A PROCEDURE MESSAGE signifies " You are correct." It is not answered.

(ii) *Example :—*

K6W, having repeated back correctly, using full procedure, a message from D4B which contained " G " (repeat back) in the delivery instructions.

D4B makes :—

$\overline{\text{VE}}$ K6W v D4B C +

K6W does not answer.

165. THE LETTER " C " IN THE FINAL INSTRUCTIONS.—The letter " C," usually accompanied by an identity of a part of a message, is used in the final instructions (or at the end of a portion, when transmitting a message in portions) by a transmitting station, which has discovered an error during the actual transmission of that message.

When used for this purpose, the signification is " Following is the correct version of..... "

(ii) *Examples :—*

(*a*) **D4B is transmitting the following cypher message to K6W :—**

$\overline{\text{VE}}$ K6W v D4B NR1 – GR5 = 4172 7136 3186 9012 = 1230 +

While D4B is transmitting the group " 9012 " it is found that the second group " 7136 " should read " 7126."

D4B makes :—

$\overline{\text{VE}}$ K6W v D4B NR1 – GR5 = 4172 7136 3186 9012 = 1230 – C2 – 7126 +

K6W answers :—

$\overline{\text{VE}}$ D4B v K6W R +

(*b*) **D4B is transmitting the following cypher message to K6W :—**

$\overline{\text{VE}}$ K6W v D4B NR2 – GR5 = 1706 8931 7314 3147 = 1245 +

While D4B is transmitting the third group, it is found that in writing out the message a group has been omitted between the first and second groups.

D4B makes :—

$\overline{\text{VE}}$ K6W v D4B NR2 – GR5 = 1706 8931 7314 3147 = 1245 – C AB1 – K6W v D4B NR2 – GR6 – C2 – 2198 – 3 – 8931 +

K6W answers :—

$\overline{\text{VE}}$ D4B v K6W R +

(*c*) **D4B is transmitting the following code message to K6W :—**

$\overline{VE}$ K6W v D4B NR3 – D – T – GR3 – Z – O3R v D4B = S72 – AOFIT = 1250 +

While D4B is transmitting the subject matter it is desired to correct the address to read " Z – K6W O3R v D4B."

D4B makes :—

$\overline{VE}$ K6W v D4B NR3 – D – T – GR3 – Z – O3R v D4B = S72 – AOFIT = 1250 – C ABI – K6W v D4B NR3 – D – T – GR3 – Z –K6W. O3R v D4B +

K6W answers :—

$\overline{VE}$ D4B v K6W R +

(*d*) **D4B is transmitting the following cypher message to K6W :—**

$\overline{VE}$ K6W v D4B NR5 – G – GR5 2189 4163 6148 7130 = 1310 +

While D4B is transmitting the third group it is found that the first group should read " 2199."

D4B makes :—

$\overline{VE}$ K6W v D4B NR5 – G – GR5 = 2189 – 4163 – 6148 7130 = 1310 – C1 – 2199 +

K6W repeats back :—

$\overline{VE}$ D4B v K6W – K6W v D4B NR5 – G – GR5 = 2199 4163 6148 7130 = 1310 +

D4B answers :—

$\overline{VE}$ K6W v D4B C +

(*e*) **D4B is transmitting the following P/L message to K6W :—**

$\overline{VE}$ K6W v D4B NR6 – GR13 $\overline{AAA}$ A29 – 17/9 Line three should read " to two too many in all "= 1320 +

D4B, while transmitting the subject matter, notices that he has omitted the word " two."

D4B makes :—

$\overline{VE}$ K6W v D4B NR6 – GR13 $\overline{AAA}$ A29 – 17/9 Line three should read $\overline{RR}$ to too many in all $\overline{RR}$ = 1320 – C – read $\overline{RR}$ to two too many +

K6W answers as usual.

166. THE LETTER " C " USED WITH THE IDENTITY (and, if necessary, part identity) **OF A MESSAGE**, signifies " Correct version of message . . . . . is . . . . . "

The instructions for the use of " C " in this respect are given in Chapter 22.

167. (i) Use of the letter " C " in the " Initial Check Method." (See Article 277.)

(ii) Use of the letter " C " in reply to " $\overline{\text{INT}}$ GR." (See Article 275.)

(iii) The letter " C " is NOT used for correcting mistakes when repeating back a message. (See Article 175, para. (ix).)

168. THE LETTER " C " IS USED IN REPLY TO THE LETTERS "A" (verify, check from the decode, and repeat) **AND** " J " (check from the decode and repeat). (See Chapter 22.)

" D "

169. THE LETTER " D " USED IN THE ORIGINATOR'S INSTRUCTIONS of a message signifies " IMPORTANT."

(ii) The use of the letter "D" in the originator's instructions of a message gives that message precedence over others which have no degree of priority.

(iii) Instructions regarding the classes of messages which will be graded as " IMPORTANT," and regarding the authority required to originate " IMPORTANT " messages, are given in R.A.F. Signal Manual, Part 1.

170. THE LETTER " D " USED IN A PRELIMINARY CALL.—The letter " D " may be used in a preliminary call to indicate that the station calling has an important message to transmit.

(ii) *Examples :—*

(*a*) **K6W** wishes to make a preliminary call to **D4B** and to inform **D4B** that an important message awaits transmission.

K6W makes :—

$\overline{\text{VE}}$ D4B D4B v K6W D +

(*b*) If the controlling station has ordered **K6W** to wait, **K6W** may use the following special preliminary call :—

$\overline{\text{VE}}$ D D D v K6W +

(See Article 299.)

"$\overline{E}$"

171. THE LETTER "$\overline{E}$" IS USED ONLY IN THE FINAL INSTRUCTIONS and signifies "Am about to transmit a further message without waiting for an answer to this message."

(ii) When batch working is employed, the letter "$\overline{E}$" is made in the final instructions of each message, except the last message in each batch. (See Chapter 23.)

(iii) The letter "$\overline{E}$" must not be used with "DC" method. (See Chapter 25.)

(iv) See Article 346.

"F"

172. THE LETTER "F" USED IN THE DELIVERY INSTRUCTIONS SIGNIFIES "NOT TO BE ANSWERED."—The letter "F" is only to be used to convey instructions to the receiving station-s and is NOT to be used to convey instructions for further linking stations in the transmission.

(ii) Messages transmitted by full procedure with "F" in the delivery instructions are always made twice through, except P/L messages concerning the conduct of W/T exercises, which may be made once. The receiving stations do not answer and may only request repetitions, checks or verifications with the Commanding Officer's authority.

(iii) *Examples :—*

(*a*) **D4B has a message for W9G. W9G is not to answer.**

D4B makes :—

$\overline{VE}$ W9G W9G v D4B NR1 – F – GR10 = (Text) = 1030

$\overline{IMI}$ W9G W9G v D4B NR1 – F – GR10 = (Text) = 1030 +

(*b*) **D4B has a message for C6Z and D7A. D7A is not to answer.**

D4B makes :—

$\overline{VE}$ C6Z C6Z D7A D7A v D4B NR2 NR3 – D7A – F – GR10 = (Text) = 1035 $\overline{IMI}$ C6Z C6Z D7A D7A v D4B NR2 NR3 – D7A – F – GR10 = (Text) = 1035 +

C6Z answers :—

$\overline{VE}$ D4B v C6Z R +

(*c*) **D4B has a procedure message for a squadron B3N (collective call sign), T8H and V4R, two aircraft of the squadron, are not to answer.**

D4B makes :—

VE B3N B3N v D4B – T8H V4R – F – X530
IMI B3N B3N v D4B – T8H V4R – F – X530 +

The aircraft of the squadron (except T8H and V4R) answer in alphabetical order of their call signs :—

VE D4B v W2X* R +

VE D4B v R4M R +

VE D4B v S9U R +

VE D4B v U8Z R +

(*d*) **D4B has a message for W2X, which has to be made in portions. W2X is not to answer.**

D4B makes :—

VE W2X W2X v D4B NR6 – F – GR80 = (first portion of the text) IMI W2X W2X v D4B NR6 – F – GR80 = (first portion of the text) – B +

D4B waits a short pause and then continues with the next portion :—

VE W2X W2X v D4B – (last portion of the text) = 1330

IMI W2X W2X v D4B – (last portion of the text) = 1330 +

(iv) The letter " F " may be used in a preliminary call before a message transmitted by the Broadcast method.

The receiving stations do not answer such a call, which is transmitted to attract their attention.

Example :—

VE O3R O3R v D4B – F IMI O3R O3R v D4B – F +

(v) For further examples see Article 316, para. (iii) and Article 365.

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* Squadron Commander.

173. USE OF THE LETTERS " A " AND " J " WITH " F."—Before requesting a verification on a check of the coding of a message transmitted by " F " method, the authority of the Commanding Officer must be obtained.

(ii) *Example :—*

U4K has transmitted a message, time of origin 0930, to J4A by the " F " method.

J4A decodes the message and finds that the subject matter does not make sense. Having obtained the Commanding Officer's authority,

J4A makes :—

$\overline{\text{VE}}$ U4K U4K v J4A, J0930 +

U4K answers as usual, and having checked the coding of the message, transmits the correction as shown in Chapter 22.

174. THE USE OF THE LETTER " F " WITH " DC " METHOD IS SHOWN IN ARTICLE 358.

" G "

175. THE LETTER " G " USED IN THE DELIVERY INSTRUCTIONS SIGNIFIES " REPEAT BACK."

(ii) The letter " G " is only used to convey instructions to the receiving stations and is NOT to be used to convey instructions to further linking stations in the transmission.

(iii) When repeating back, the message is only made once, even though the original message was made twice through, unless " DC " method is being used.

(iv) Similarly, when correcting repetitions of a message, the corrections are only made once, unless " DC " method is being used.

(v) The station repeating back makes the call, followed by the original message exactly as transmitted (except as in para. (iii) above), with the commencing sign omitted.

The message being repeated back is preceded by the separative sign, and the call signs of the receiving stations are only made once.

(vi) *Example :—*

D4B has a message for K6W. K6W is to repeat back.

D4B makes :—

VE K6W K6W v D4B NR5 – G – GR25 = (Text) = 0930 +

K6W repeats back, thus :—

VE D4B v K6W – K6W v D4B NR5 – G – GR25 = (Text) = 0930 +

If message has been repeated back correctly D4B makes :—

VE K6W v D4B C +

(vii) When certain receiving stations are to answer a message and others are directed to repeat back, stations will answer or repeat back according to the alphabetical order of their call signs (Article 282).

The transmitting station will not give " C " until all stations have answered or repeated back. (See also para. (x) below.)

Examples :—

(*a*) **D4B has a message for K6W and L9O. L9O is to repeat back.**

D4B makes :—

VE K6W K6W L9O L9O v D4B NR7 NR2 – L9O – G – GR30 = (Text) = 1000 +

K6W answers :—

VE D4B v K6W R +

L9O repeats back thus :—

VE D4B v L9O – K6W L9O v D4B NR7 NR2 – L9O – G – GR30 = (Text) = 1000 +

If message has been repeated back correctly, D4B makes :—

VE L9O v D4B C +

(*b*) **D4B has a message for a Section W8P (collective call sign) K6O, one station of the section, is to repeat back.**

D4B makes :—

VE W8P W8P v D4B NR1 NR1 NR3 NR2 NR8 NR3 – K6O – G – GR27 = (Text) = 1010 +

The stations of the section answer (except K6O, who repeats back) in alphabetical order of call signs.

$\overline{VE}$ D4B v H2K R +

$\overline{VE}$ D4B v H8Y R +

$\overline{VE}$ D4B v J3P R +

$\overline{VE}$ D4B v K6O – W8P v D4B NR1 NR1 NR3 NR2 NR8 NR3 – K6O – G – GR27 = (Text) = 1010 +

$\overline{VE}$ D4B v K6W R +

$\overline{VE}$ D4B v L9O R +

If message has been repeated back correctly, D4B makes :—

$\overline{VE}$ K6O v D4B C +

(viii) When messages which have been sent in portions (see Article 162) contain the letter " G " in the delivery instructions, each portion is to be repeated back correctly before proceeding to the next portion.

Example :—

(*a*) **D4B has a message for K6W which has to be made in portions. K6W is to repeat back.**

D4B makes :—

$\overline{VE}$ K6W K6W v D4B NR9 – G – GR60 = (first portion of the text) – B30 +

K6W repeats back :—

$\overline{VE}$ D4B v K6W – K6W v D4B NR9 – G – GR60 = (first portion of the text) – K +

If the first portion of the message has been repeated back correctly, D4B continues with the next portion :—

$\overline{VE}$ K6W v D4B – (last portion of the text) = 1030 +

K6W repeats back :—

$\overline{VE}$ D4B v K6W – (last portion of the text) = 1030 +

If the last portion has been repeated back correctly, D4B makes :—

$\overline{VE}$ K6W v D4B C +

(ix) The procedure letter " C " is not used for correcting mistakes, when repeating back a message, and the receiving station repeats back the correction, although the letter " G " is not inserted after the new call.

Examples :—

(*a*) **D4B has an immediate message for K6W. K6W is to repeat back. K6W repeats back incorrectly.**

D4B makes :—

VE K6W K6W v D4B NR10 – P – G – GR6 = 1072 7021 8463 9081 4306 = 1040 +

K6W repeats back making mistakes in the call and preface :—

VE D4B v K6W – K6W v D4B NR11 – G – GR6 = 1072 7021 8463 9081 4306 = 1040 +

D4B corrects the mistake :—

VE K6W v D4B – AB1 – K6W v D4B NR10 – P – G – GR6 +

K6W repeats back :—

VE D4B v K6W – AB1 – K6W v D4B NR10 – P – G – GR6 +

K6W having now repeated back the whole message correctly, D4B makes :—

VE K6W v D4B C +

(*b*) **D4B has a P/L message for K6W which he decides to make in portions. K6W is to repeat back. K6W repeats back the first portion incorrectly.**

D4B makes :—

VE K6W K6W v D4B NR11 – G – GR120 – Z – K6W v K2G AAA A18 – 9/7 Your A42 – 30/6 following information required before supplies can be, etc. . . . – B60 +

K6W repeats back incorrectly after the word "supplies" :—

VE D4B v K6W – K6W v D4B NR11 – G – GR120 – Z – K6W v K2G AAA A18 – 9/7 Your A42 – 30/6 following information required before supplies, etc. . . . (repeated back incorrectly) – K +

D4B corrects the mistake :—

VE K6W v D4B – AA supplies – can be, etc. . . . – B60 +

K6W repeats back correctly :—

VE D4B v K6W – AA supplies – can be, etc. . . . –K +

D4B then proceeds with the next portion as shown in example (viii) (*a*).

(x) When more than one receiving station has to repeat back a message the transmitting station is to be guided by the circumstances in deciding whether to correct mistakes in repetition immediately after a station has repeated back incorrectly or to wait until all stations have repeated back.

Example :—

D4B has a message for a Section W8P (collective call sign). All stations of the section are to repeat back. Some stations repeat back incorrectly.

D4B makes :—

VE W8P W8P v D4B NR2 NR2 NR4 NR3 NR12 NR4 – G – GR5 = 2106 7132 8417 9136 = 1045 +

The stations of the section repeat back in alphabetical order :—

VE D4B v H2K – W8P v D4B NR2 NR2 NR4 NR3 NR12 NR4 – G – GR5 = 2196 7132 8417 9136 = 1045 +

VE D4B v H8Y – W8P v D4B NR2 NR2 NR4 NR3 NR12 NR4 – G – GR5 = 2106 7132 8417 9136 = 1045 +

VE D4B v J3P – W8P v D4B NR2 NR2 NR4 NR3 NR12 NR4 – G – GR5 = 2106 7132 8427 9136 = 1045 +

VE D4B v K6O – W8P v D4B NR2 NR2 NR4 NR3 NR12 NR4 – G – GR5 = 2106 7132 8417 9136 = 1045 +

VE D4B v K6W – W8P v D4B – ditto –

VE D4B v L9O – W8P v D4B – ditto –

D4B corrects the two mistakes :—

VE H2K J3P v D4B – I – 2106 – 3 – 8417 +

H2K repeats back :—

VE D4B v H2K – I – 2106 – 3 – 8417 +

J3P repeats back :—

$\overline{VE}$ D4B v J3P – I – 2106 – 3 – 8417 +

All stations having now repeated back correctly, D4B makes :—

$\overline{VE}$ W8P v D4B C +

(xi) D4B has a message for K6W. K6W is to repeat back. K6W having missed or being uncertain of the reception of certain portions of the message has to ask for a repetition of those portions before repeating back.

D4B makes :—

$\overline{VE}$ K6W K6W v D4B NR13 – G – GR4 = 1036 7128 9090 = 1100 +

K6W having missed the second group makes :—

$\overline{VE}$ D4B v K6W $\overline{IMI}$ 2 +

D4B makes :—

$\overline{VE}$ K6W v D4B – 2 – 7128 +

K6W repeats back the message :—

$\overline{VE}$ D4B v K6W – K6W v D4B NR13 – G – GR4 = 1036 7128 9090 = 1100 +

D4B makes :—

$\overline{VE}$ K6W v D4B C +

176. THE LETTER " G " USED IN THE SUBJECT MATTER OF A PROCEDURE MESSAGE, and followed by the identity of a message, signifies " Repeat back message indicated."

(ii) *Examples :—*

(*a*) **D4B having made to K6W :—**

$\overline{VE}$ K6W K6W v D4B NR14 – GR6 = 3601 2901 9167 8041 7063 = 1120 +

Subsequently wishes K6W to repeat back the message.

D4B makes :—

$\overline{VE}$ K6W v D4B G NR14 +

or $\overline{VE}$ K6W v D4B G 1120 +

K6W, if not in a position to repeat back immediately, makes :—

$\overline{VE}$ D4B v K6W R +

When ready to repeat back, K6W makes :—

$\overline{VE}$ D4B D4B v K6W – K6W v D4B NR14 – GR6 = 3601 2901 9167 8041 7063 = 1120 +

D4B makes :—

$\overline{VE}$ K6W v D4B C +

(*b*) **D4B wishes another station, K6O, who is keeping watch on the same frequency as K6W and who should have read the message in example (*a*) to " Repeat back."**

D4B makes :—

$\overline{VE}$ K6O K6O v D4B G1120 K6W v D4B +

K6O, if not in a position to repeat back immediately makes :—

$\overline{VE}$ D4B v K6O R +

When ready to repeat back, K6O makes :—

$\overline{VE}$ D4B D4B v K6O – K6W v D4B NR14 – GR4 = 3601 2901 9167 8041 7063 = 1120 +

D4B makes :—

$\overline{VE}$ K6O v D4B C +

177. THE LETTER " G " USED IN THE SUBJECT MATTER OF A PROCEDURE MESSAGE, and followed by the identity and part identity of a message, signifies " Repeat back portion of message indicated."

(ii) *Example :*—

D4B has transmitted the following P/L message to U8Z, bearing series number 2: " After re-fuelling rejoin Squadron at Lerwick III Report ETA as soon as possible = 1130 +."

U8Z has given R, but D4B wishes U8Z to repeat back the word Lerwick.

D4B makes :—

$\overline{VE}$ U8Z v D4B GNR2 – at to report +

U8Z repeats back :—

$\overline{VE}$ D4B v U8Z – at Lerwick III report +

D4B makes :—

$\overline{VE}$ U8Z v D4B C +

178. USE OF THE LETTER " S " WITH THE LETTER " G."—(See Article 197, para. (viii).)

"H"

179. THE LETTER "H" USED IN THE SUBJECT MATTER OF A PROCEDURE MESSAGE by a station that has just received a message, signifies "Am counting the words or groups in the message just transmitted by you."

(ii) It is used by the receiving station that has received the whole or a complete portion of a message, but requires time before making "R" to check the number of words or groups indicated against the number actually received.

(iii) The receiving station, if uncertain of the correct reception of any word or group in a message, does not make "H," but at once requests a repetition of the doubtful words or groups, using the procedure signal IMI. (See Chapter 21.)

(iv) *Example :—*

GFJ has transmitted the following message to GFY.

VE GFY GFY v GFJ NR15 – GR240 = (Text) = 1300 +

GFY has read the complete message, but requires time to check the number of groups indicated (240) against the number of groups read.

GFY at once makes :—

VE GFJ v GFY H +

When GFY has counted the groups and found that the number received agrees with the number indicated,

GFY makes :—

VE GFJ v GFY R +

If, in the meanwhile, GFJ has proceeded with other work, so that some time has elapsed before GFY is able to make "R," GFY should identify the message when answering thus :—

VE GFJ GFJ v GFY R NR15 +

GFJ answers :—

VE GFY v GFJ R +

(v) If, after making "H," as shown in para. (iv), and counting the groups, GFY finds that the numbers do not agree, GFY follows the procedure used when the number of words or groups is in dispute. (See Chapter 14.)

(vi) The correct use of the letter "H," as above, prevents departure from the rule that in "normal up and down" working the receiving station transmits an answer to, or requests a repetition of, a message immediately the transmitting station makes the ending sign.

(vii) With messages made in portions, the letter "H" may be used in the same manner as shown above as each portion is received.

(viii) *Example :—*

D4B has transmitted the following portion of a P/L message to K6W.

$\overline{VE}$ K6W K6W v D4B NR15 – GR120 $\overline{AAA}$ (first portion of P/L subject matter) – B60 +

K6W has read the complete portion, but requires time to check the number of words indicated (60) against the number read.

K6W at once makes :—

$\overline{VE}$ D4B v K6W H +

When K6W has counted the words and found that the number agrees with the number indicated,

K6W makes :—

$\overline{VE}$ D4B v K6W K +

D4B then makes the last portion of the message :—

$\overline{VE}$ K6W v D4B – (last portion of P/L subject matter) = 1400 +

K6W has read the complete message, but requires time to check that the number of words received in the whole message agrees with the number indicated (120).

K6W at once makes :—

$\overline{VE}$ D4B v K6W H +

When K6W has counted the words in the whole message and found that the number received agrees with the number indicated,

K6W makes :—

$\overline{VE}$ D4B v K6W R +

"J"

180. THE LETTER "J" USED IN THE SUBJECT MATTER OF A PROCEDURE MESSAGE signifies "Check from the decode and repeat."

(ii) It is employed as shown in Chapter 22.

"K"

181. THE LETTER "K" USED IN THE SUBJECT MATTER OF A PROCEDURE MESSAGE, signifies "Go on."

(ii) The letter "K," when used in answering calls, is always followed by a number, so as to form one group, indicating the strength of signals.

A number may also be added to "K" on other occasions, when the receiving station wishes to inform the transmitting station that signals have changed from their original strength.

(iii) *Examples :—*

(*a*) **GFJ makes a preliminary call to GFY.**

$\overline{VE}$ GFY GFY v GFJ +

GFY answers :—

$\overline{VE}$ GFJ v GFY K6 +

(or whatever the strength of GFJ'S signals is to GFY, *See* Chapter 5).

GFJ then proceeds with his message.

Should GFY make "K4" or "K9," GFJ should use discretion as to increasing or reducing power, before proceeding with the message, according to whether the "I" or direct method is being used, and according to the degree of interference, etc.

(*b*) **GFJ has two messages for GFY. GFY has made "K7" to GFJ.**

GFJ makes the first message thus :—

$\overline{VE}$ GFY v GFJ NR20 – GR6 = 2108 9176
2130 1001 2108 = 1208 – B +

If ready to receive the next message, GFY makes :—

$\overline{VE}$ GFJ v GFY R – K5 +

indicating that GFJ's signals have decreased in strength.

(iv) The letter "K," used in the subject matter of a procedure message preceded by the interrogative sign "$\overline{INT}$," signifies "May I go on." Examples are shown in Articles 191 and 252.

(v) For the procedure for the use of "K" with messages made in portions, see Articles 162 and 175, paras. (viii) and (ix).

"L"

182. THE LETTER "L" USED IN THE DELIVERY INSTRUCTIONS, signifies "Pass this message to those of the addressees for whom you are responsible."

(ii) See Articles 103 to 108 (Delivery Instructions).

(iii) When more than one linking station is indicated, the letter " L " conveys instructions to ALL the linking stations to re-transmit the message to the addressees for whom they are responsible, unless otherwise indicated.

(iv) The letter " L " is used principally by the main control stations for disposing of multiple address or general messages via control stations of sections, and effects a considerable saving over the procedure required with the letter " T " under such circumstances.

(v) *Examples :—*

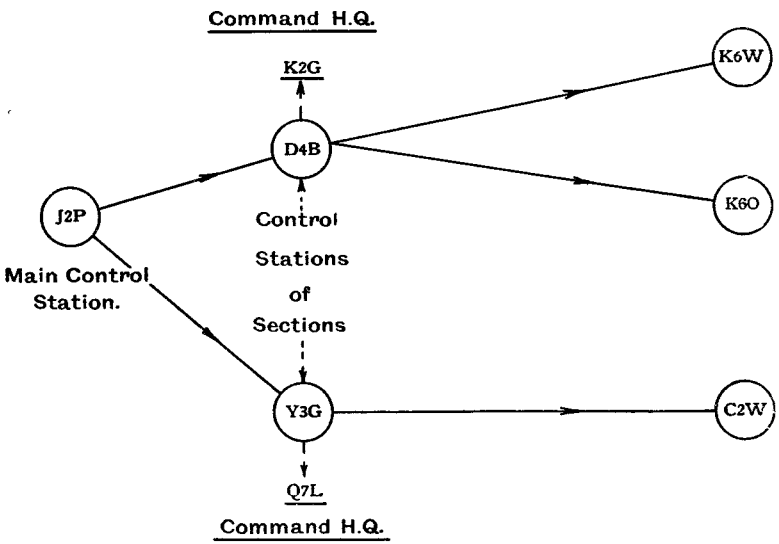
(a) **J2P has a P/L message to pass to D4B and Y3G for C2W, K6O, K6W, K2G, and Q7L.**

D4B is responsible for K6O and K6W (two stations in D4B's section).

D4B is automatically responsible for K2G.

Y3G is responsible for C2W (a station in Y3G's section).

Y3G is automatically responsible for Q7L.



It is assumed that J2P, D4B, and Y3G are on the same frequency.

J2P makes :—

VE D4B D4B Y3G Y3G v J2P NR4 NR6 – L – GR35 – Z – C2W K6O K6W – W – K2G Q7L v J2P – Y AAA (subject matter) = 1415 +

D4B answers :—

VE J2P v D4B R +

Y3G answers :—

VE J2P v Y3G R +

D4B re-transmits the message to K6O and K6W thus :—

VE K6O K6O K6W K6W v D4B NR16 NR3 – GR35 – Z – C2W K6O K6W – W – K2G Q7L v J2P – Y AAA (subject matter) = 1415 +

K6O answers :—

VE D4B v K6O R +

K6W answers :—

VE D4B v K6W R +

Y3G re-transmits the message to C2W thus :—

VE C2W C2W v Y3G NR6 – GR35 – Z – C2W K6O K6W – W – K2G Q7L v J2P – Y AAA (subject matter) = 1415 +

C2W answers :—

VE Y3G v C2W R +

(*b*) **GFJ has a general P/L message from J2P to all stations W7K (multiple collective call sign).**

GFJ transmits the message to all commands thus :—

VE GEO GFQ CFV CFW CFX GFZ v GFJ NR10 NR6 NR4 NR7 NR8 NR16 – L – GR55 – Z – W7K v J2P AAA (subject matter) = 1500 +

Stations answer, thus :—

VE GFJ v GEO R +
VE GFJ v GFQ R +
VE GFJ v GFV R +
VE GFJ v GFW R +
VE GFJ v GFX R +
VE GFJ v GFZ R +

The stations addressed re-transmit the message to those stations for which they are responsible in the same manner as shown in example (*a*).

(*c*) **GFJ wishes to pass a P/L message from J2P, via GFX to GFV and GFW for M8G and Q3D.**
GFV is responsible for M8G.
GFW is responsible for Q3D.

GFJ makes :—

VE GFX v GFJ NR9 – T – GFV, GFW – L – GR30 – Z – M8G. Q3D v J2P AAA (subject matter) = 1600 +

GFX answers :—

VE GFJ v GFX R +

GFX re-transmits the message to GFV and GFW, thus :—

VE GFV GFW v GFX NR6 NR4 – L – GR30 – Z – M8G. Q3D v J2P AAA (subject matter) = 1600 +

GFV and GFW answer :—

VE GFX v GFV R +

VE GFX v GFW R +

GFX and GFW re-transmit the message as shown in example (*a*).

"M"

183. The letter "M" used in the delivery instructions signifies "Pass via."

(ii) When more than one call sign follows the procedure letter "M," the message is to be passed through the linking stations in the sequence in which their call signs appear in the delivery instructions.

(iii) *Example :—*

GFJ has a P/L message from an authority J2P for V8H and wishes to pass it through GFX, GEO, and A8W in that order.

GFJ makes :—

VE GFX v GFJ NR20 – M – GEO A8W – T – GR15 – Z – V8H v J2P AAA (subject matter) = 0900 +

GFX answers :—

VE GFJ v GFX R +

GFX re-transmits the message, thus :—

VE GEO v GFX NR6 – M – A8W – T – GR15 – Z – V8H v J2P AAA (subject matter) = 0900 +

GEO answers :—

VE GFX v GEO R +

GEO re-transmits the message, thus :—

VE A8W v GEO NR2 – T – GR15 – Z – V8H v J2P AAA (subject matter) = 0900 +

A8W answers :—

VE GEO v A8W R +

A8W re-transmits the message, thus :—

VE V8H v A8W NR1 – GR15 – Z – V8H v J2P AAA (subject matter) = 0900 +

V8H answers :—

VE A8W v V8H R +

(iv) For further examples see Articles 103 to 108 (Delivery Instructions).

184. THE LETTER "M" FOLLOWED BY A TIME OF ORIGIN, AND USED AS THE FIRST GROUP OF THE SUBJECT MATTER OF "ENEMY REPORT" MESSAGES, refers to a previous message and signifies "With reference to my message bearing time of origin . . . ."

(ii) *Example :—*

Aircraft H6J has made an enemy report to D4B (time of origin 0930). H6J now wishes to make a further report, and to refer to the previous message.

H6J makes :—

VE D4B D4B v H6J NR2 – O – A = M0930 – *20196 – MRK21A52 = 0935 IMI D4B. D4B v H6J NR2 – O – A = M0930 – *20196 – MRK21A52 = 0935 +

D4B answers :—

VE H6J v D4B R +

(iii) In naval signalling the above method is used to refer to any message.

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* Imaginary enemy report group.

"$\overline{N}$"

185. THE LETTER "$\overline{N}$" USED IN THE SUBJECT MATTER OF A PROCEDURE MESSAGE signifies "Nothing received." When followed by the identity of a message signifies "Message . . . . has not been received."

(ii) *Example :—*

(*a*) **GFJ makes a preliminary call to GFX.**

$\overline{VE}$ GFX GFX v GFJ +

GFX answers :—

$\overline{VE}$ GFJ v GFX K7 +

GFJ fails to proceed with the message.

GFX makes :—

$\overline{VE}$ GFJ v GFX $\overline{N}$ - K7 +

(*b*) **GFJ transmits the following message to GFX.**

$\overline{VE}$ GFX v GFJ NR21 - GR4 = 2184 1062
7139 = 1030

GFX fails to answer.

GFJ makes :—

$\overline{VE}$ GFX v GFJ $\overline{N}$ +

or $\overline{VE}$ GFX v GFJ $\overline{N}$ - B NR21 +

(*c*) **GFX wishes to inform GFJ that message bearing Series Number 21 from GFJ has not been received.**

GFX makes :—

$\overline{VE}$ GFJ v GFX $\overline{N}$ NR21 +

GFJ answers :—

$\overline{VE}$ GFX v GFJ R +

(*d*) **GFW wishes to inform GFJ that message 1030 GED V GFJ has not been received.**

GFW makes :—

$\overline{VE}$ GFJ v GFW $\overline{N}$ 1030 GEO v GFJ +

GFJ answers :—

$\overline{VE}$ GFW v GFJ R +

(*e*) **K6W wishes to inform D4B that the following messages have not been received.**

NR15
NR K103 R7B v J2P
1030 K6O v D4B

K6W makes :—
$\overline{\text{VE}}$ D4B v K6W $\overline{\text{N}}$ NR15 – $\overline{\text{N}}$ NR K103 R7B v J2P – $\overline{\text{N}}$ 1030 K6O v D4B +

D4B answers :—
$\overline{\text{VE}}$ K63 v D4B R +

"O"

186. THE LETTER "O" USED IN THE ORIGINATOR'S INSTRUCTIONS signifies "Emergency." Its use is reserved to distinguish messages of the utmost importance concerning operations or the enemy. Instructions as to the application and the authority required for the use of this degree of priority are contained in R.A.F. Signal Manual, Part I.

(ii) *Examples :—*

(*a*) **GFW transmits an emergency message to GFJ, thus :—**
$\overline{\text{VE}}$ GFJ v GFW NR6 – O – GR6 = 4107 2109 9163 4763 4107 = 1400 +

GFJ answers :—
$\overline{\text{VE}}$ GFW v GFJ R +

(*b*) **Aircraft H6J transmits an emergency enemy report to D4B, thus :—**
$\overline{\text{VE}}$ D4B D4B v H6J NR2 – O = KKJMMD† – 225ZZ25 = 1500 $\overline{\text{IMI}}$ D4B. D4B v H6J NR2 – O = KKJMMD† – 225ZZ25 = 1500 +

D4B answers :—
$\overline{\text{VE}}$ H6J v D4B R +

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† Imaginary enemy report.

187. THE LETTER " O " USED IN A PRELIMINARY CALL, signifies, " Have an emergency message for transmission."

(ii) *Example :—*

GFW has an emergency message for GFJ.

GFW makes :—

$\overline{\text{VE}}$ GFJ GFJ v GFW O +

GFJ answers :—

$\overline{\text{VE}}$ GFW v GFJ K6 +

GFW then transmits the message as shown in Article 186. para. (ii). (See also Article 299.)

(iii) A special preliminary call may be employed in accordance with the instructions contained in Article 299, in which the degree of priority made three times is substituted for the call sign of the receiving station. This special preliminary call may be used only with the authority of the officer authorising the use of this degree of priority.

(iv) *Example :—*

Aircraft H6J has an enemy report bearing the degree of priority " Emergency," but is unable to transmit it owing to W/T congestion from friendly aircraft and stations transmitting less important reports. The W/T operator having obtained the authority detailed in (iii) above,

H6J makes :—

$\overline{\text{VE}}$ O O O v H6J +

The subsequent report is transmitted in the usual manner (See also Article 299, para. (iv).)

" O – U "
" O – A "

188. In addition to the use of " O " in the Originator's Instructions, the letter " O " may be followed by one of the letters " U " or " A " to form a degree of priority for use exclusively in certain classes of emergency

messages. These degrees of priority are given below in the order of their relative importance ; the instructions as to the authority required for their use are contained in R.A.F. Signal Manual, Part I.

Degree of Priority.	*Signification.*	*Occasion when employed.*
" O – U " ..	Most immediate ..	For messages of vital importance, and only to be used in times of strained relation or in war.
" O – A " ..	Emergency — Air attack.	For reports of imminent air attack by formations and to be employed for no other purpose.

(ii) The procedure for the use of these degrees of priority is exactly similar to that given above for the use of " O."

(iii) A station, having a message with either " O," " O – A," or " O – U " in the originator's instructions transmits the message notwithstanding that " Q " has been made.

(iv) (See also Article 299, para. (iv).)

" P "

189. THE LETTER " P " USED IN THE ORIGINATOR'S INSTRUCTIONS, signifies " Immediate." It is used to distinguish messages of extreme importance which do not, however, fall under the heading " Emergency." Instructions as to the application and the authority required for the use of this degree of priority are contained in R.A.F. Signal Manual, Part I.

(ii) *Examples :—*

(*a*) **GFW transmits an immediate message to GFJ, thus :—**

VE GFJ v GFW NR7 – P – GR4 = 1470 0912
7643 = 1500 +

GFJ answers :—

VE GFW v GFJ R +

(*b*) **Aircraft H6J transmits an immediate enemy report to D4B, thus :—**

$\overline{VE}$ D4B D4B v H6J NR3 – P – 420* – 180ZZ15 =
1600 $\overline{IMI}$ D4B D4B v H6J NR3 – P – 420* –
180ZZ15 = 1600 +

D4B answers :—

$\overline{VE}$ H6J v D4B R +

190. THE LETTER " P " USED IN A PRELIMINARY CALL signifies " Have an immediate message for transmission ".

(ii) *Example :—*

GFW has an immediate message for GFJ.

GFW makes :—

$\overline{VE}$ GFJ GFJ v GFW P +

GFJ answers :—

$\overline{VE}$ GFW v GFJ K6 +

GFW then transmits the message as shown in Article 190, para. (iii). (See also Article 299.)

(iii) A special preliminary call may be employed in accordance with the instructions contained in Article 299, in which the indication of priority made three times is substituted for the call sign of the receiving station. The call is assumed to be addressed to the control station, and is answered in the usual manner. For examples, see Articles 299, para. (iii), and 191, para. (v) (*c*).

" Q "

191. THE LETTER " Q " USED IN THE SUBJECT MATTER OF A PROCEDURE MESSAGE signifies " Wait."

(ii) Whenever the controlling station makes " Q " the stations addressed are not to answer nor to recommence signalling, except to answer the controlling station, until they are directed to " GO ON."

(iii) Should, however, any such station have a message with either " D " or " P " in the originator's instructions, that station makes the special preliminary call and then waits permission to proceed. A station

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* Imaginary enemy report.

having a message with either "O," "O – A," or "O – U" in the originator's instructions, transmits the message notwithstanding that "Q" has been made (see Article 299).

(iv) The controlling station, having made "Q" to a station or stations, makes "K" to them as soon as the state of communications permits.

(v) *Examples :—*

(*a*) **K6W calls up D4B. D4B is unable to attend to K6W at the moment.**

K6W makes :—

$\overline{\text{VE}}$ D4B D4B v K6W +

D4B, being unable to attend to K6W, makes :—

$\overline{\text{VE}}$ K6W v D4B Q +

K6W does not answer.

When ready to attend to K6W, D4B makes :—

$\overline{\text{VE}}$ K6W v D4B K6 +

NOTE.—D4B denotes the strength of signals, as the instruction to K6W to "Go on" is in effect the answer to K6W's preliminary call. (See Article 181.)

(*b*) **The controlling station D4B is in communication with K6W when K6O commences communication with O3R and causes interference.**

D4B makes :—

$\overline{\text{VE}}$ K6O K6O v D4B Q +

or $\overline{\text{VE}}$ K6O K6O O3R O3R v D4B Q +

Stations do not answer.

When ready to allow K6O and O3R to communicate, D4B makes :—

$\overline{\text{VE}}$ K6O v D4B K +

or $\overline{\text{VE}}$ K6O O3R v D4B K +

(*c*) **The controlling station D4B has told the Section W8P (collective call) to wait, thus :—**

$\overline{\text{VE}}$ W8P W8P v D4B Q +

K6W, a station included in that Section, has an immediate message for transmission.

K6W makes :—

$\overline{\text{VE}}$ P P P v K6W +

(See Article 299.)

If D4B does not wish K6W to transmit the message, D4B makes :—

$\overline{VE}$ K6W v D4B Q +

If D4B wishes K6W to transmit the message, D4B makes :—

$\overline{VE}$ K6W v D4B K +

K6W does not answer, but proceeds at once with the immediate message.

In the event of the immediate message being for another station of the Section other than the control station, the permission given to the transmitting station is to be taken as authorising the receiving station to answer the message or ask for repetitions. After the message has been transmitted and answered, both stations are again under the order to wait.

(*d*) **The controlling station D4B has told the section W8P (collective call) to wait.**

Later D4B decides that the state of communications is such that the order to wait is no longer necessary.

D4B makes :—

$\overline{VE}$ W8P W8P v D4B K +

Stations do not answer, but are at liberty to continue communications as requisite.

(*e*) **The controlling station D4B has told the section W8P (collective call) to wait, and appears to have overlooked the fact that the section has not since been given a "K."**

K6W has a message bearing no degree of priority to transmit, and after a reasonable interval has elapsed from the time "Q" was made to the section, and there being no apparent reason for the station still having to wait, K6W may make:—

$\overline{VE}$ D4B D4B v K6W $\overline{INT}$ K +

(See Article 252, para. (iv).)

If D4B has overlooked the fact that the section W8P has not given "K," D4B makes :—

$\overline{VE}$ W8P W8P v D4B K +

K6W then transmits the message.

If D4B has not overlooked the fact that the section W8P has been told to wait, and still requires these stations to wait, D4B makes :—

$\overline{VE}$ K6W v D4B Q +

(*f*) **The controlling station D4B having told the section W8P to wait, wishes one station of the section to transmit.**

D4B makes :—

$\overline{\text{VE}}$ K6W v D4B K +

K6W does not answer, but proceeds at once with any messages on hand.

(See example (*c*) above, authorising the receiving station to answer or ask for repetitions.)

(*g*) **In the event of a station, which has received no orders to "wait," calling with an "immediate" or "important" message a station which has been ordered to "wait" by its control station, the receiving station must obtain permission from its control station before answering the call. The receiving station will under these circumstances act as if it had on hand an "immediate" or "important" for transmission, and will ask permission in the form laid down in example (*c*) above.**

192. THE LETTER "Q" USED AT ANY POINT OF A MESSAGE BY A STATION WHICH IS IN THE ACT OF TRANSMISSION, signifies **"Am obliged to wait."**

(ii) **K6W transmitting to D4B makes :—**

$\overline{\text{VE}}$ D4B v K6W NR7 – GR25 = 4160 etc.
9061 218 – Q +

D4B does not answer.

IF THE PAUSE IS ONLY OF A VERY SHORT DURATION, K6W, when ready to continue, makes the number of the last group correctly transmitted, the group itself, and then continues with the message.

K6W makes :—

$\overline{\text{VE}}$ D4B v K6W – 15 – 9061 2184 etc. 1799 =
1010 +

D4B answers :—

$\overline{\text{VE}}$ K6W v D4B R +

IF SOME CONSIDERABLE TIME HAS ELAPSED between K6W breaking off communication and wanting to continue it again, it may be necessary to repeat the series number, in order that D4B can identify the message.

In the above case, under these circumstances, K6W makes :—

$\overline{VE}$ D4B v K6W NR 7 – 15 – 9061 2184 etc. 1799 1010 +

D4B answers :—

$\overline{VE}$ K6W v D4B R +

(iii) The same procedure may be adopted in the case of Plain Language Messages, but if the number of the word is not indicated, the last few words transmitted are repeated to indicate where the continuation of the message commences.

(iv) The letter " Q " used in this sense does not convey an order to the receiving station to wait.

193. THE LETTER " Q " USED IN THE FINAL INSTRUCTIONS directs all receiving stations, or those indicated, to wait. The stations so directed are not to answer until the transmitting station makes " K."

(ii) *Examples :—*

(a) **The controlling station D4B has a message for H2K, K6O, and L9O, and wishes them all to wait at the conclusion of the transmission.**

D4B makes :—

$\overline{VE}$ H2K K6O L9O v D4B NR7 NR2 NR6 – etc. = 1300 – Q +

When D4B wishes H2K, K6O, and L9O to answer, D4B makes :—

$\overline{VE}$ H2K K6O L9O v D4B K +

Stations answer as usual.

(b) **The controlling station D4B has a message for H2K, K6O, and L9O. D4B wishes H2K and K6O to answer, and wishes L9O to wait at the conclusion of the transmission**

D4B makes :—

$\overline{VE}$ H2K K6O L9O v D4B NR8 NR3 NR7 – etc. = 1400 – L9O – Q +

H2K and K6O answer thus :—

$\overline{VE}$ D4B v H2K R +

$\overline{VE}$ D4B v K6O R +

When D4B wishes L9O to answer, D4B makes :—

$\overline{\text{VE}}$ L9O v D4B K +

L9O answers :—

$\overline{\text{VE}}$ D4B v L9O R +

(iii) See also Articles 399 and 400 for use of " Q " in abbreviated method.

" R "

194. THE LETTER " R " USED IN THE SUBJECT MATTER OF A PROCEDURE MESSAGE signifies " Message received." When certain of the reception of the whole of a message (i.e., when no further repetitions are required and when it has been verified that the number of groups received is the same as that indicated by the G.R. signal), the receiving station must answer (if the procedure employed by the station transmitting the message requires an answer) by making " R."

(ii) The letter " R " used alone in the subject matter of a procedure message is never answered.

(iii) *Example :—*

D4B transmits a message to K6W.

$\overline{\text{VE}}$ K6W v D4B NR9 – GR45 = (Text) = 0900 +

K6W having received the message and having ascertained that the number of groups received is the same as that indicated by the " GR " signal, answers :—

$\overline{\text{VE}}$ D4B v K6W R +

195. THE LETTER " R " FOLLOWED BY THE IDENTITY OF A MESSAGE AND USED IN THE SUBJECT MATTER OF A PROCEDURE MESSAGE, " Message . . . . . received."

(ii) It is used thus, when it is necessary for a receiving station to identify to a transmitting station the particular message, which has been received, e.g., in batch working. (See Article 345.)

(iii) In all cases, except " batch working," a procedure message, consisting of the letter " R " and the identity of a message, is answered in the usual way.

(iv) *Example :—*

(*a*) **K6W wishes to inform D4B that message bearing Series Number 8 has been received.**

K6W makes :—

$\overline{VE}$ D4B v K6W R NR8 +

D4B answers :—

$\overline{VE}$ K6W v D4B R +

(*b*) **D4B wishes to inform RN that message 1030 to D4B from RN has been received.**

D4B makes :—

$\overline{VE}$ RN v D4B R 1030 +

RN answers :—

$\overline{VE}$ D4B v RN R +

(*c*) **K6W wishes to inform D4B that the following messages have been received :—**

NR6
NR K236 R7B v J2P
1030 K6W v K2G
1110 K6O v K2G

K6W makes :—

$\overline{VE}$ D4B v K6W R NR6 – R NR K236 R7B v J2P – R 1030 v K2G – R 1100 K6O v K2G +

D4B answers :—

$\overline{VE}$ K6W v D4B R +

(v) The letter " R " is used before the identities of a consecutive series of messages (see Article 155), thus :—

R NR10 to NR 13.

196. THE LETTER " R " FOLLOWED BY A NUMBER AND USED IN THE SUBJECT MATTER OF A PROCEDURE MESSAGE signifies " Your signals are of the strength indicated." (See Chapters 5 and 17.)

(ii) When the receiving station answers a preliminary call with " R," it directs the calling station to re-adjust the strength of signal, if possible, and re-transmit the preliminary call.

(iii) *Example :—*

D4B has transmitted a message to L9O without a preliminary call. L9O is unable to receive the message owing to the weakness of signals or on account of interference.

L9O may make :—

$\overline{VE}$ D4B v L9O $\overline{IMI}$ – R2 +

or $\overline{VE}$ D4B v L9O $\overline{IMI}$ – R4 – X +

D4B does not answer, but increases power if possible and then makes a preliminary call.

D4B does not re-transmit the message until he receives " K " from L9O.

" S "

197. THE LETTER " S " USED IN THE SUBJECT MATTER OF A PROCEDURE MESSAGE signifies "Am W/T guard on the frequency you are using for the station(s) you have called (or for . . . . . .).

(ii) The call sign following the letter " S " denotes the stations addressed for which the W/T guard is responsible. Call signs are only used thus, when the W/T guard answering is not responsible for ALL the stations called. (See Example (vii) (*c*) below.)

(iii) A transmitting station, whose preliminary call has been answered by a W/T guard using the letter " S " will, when transmitting its message, continue to address the station originally called and will allocate series numbers as if the messages were being received direct by that station (See Article 310.)

(iv) (*a*) A station which has answered with the letter " S " a message intended for a station for which it is guard will, when passing in the message, re-transmit the series number exactly as received from the transmitting station, in addition to adding a fresh series number of its own governing the re-transmission to the station for which it is guard.

(*b*) The W/T guard will have no complete check on the sequence of messages between the transmitting station and the station for which it is guard, and it is the duty of the last named station to point out to its W/T guard any break in the sequence of series numbers.

(v) The procedure described in paras. (iii) and (iv) above applies ONLY in cases where a station, definitely detailed as W/T guard for other stations, has answered with the letters " S " and " R," a message which

has been transmitted as if direct to the station(s) for which it is guard. On NO account will this procedure be employed by linking stations. (See Article 98, para. (iii).)

(vi) W/T guards in passing in messages received by them for stations for which they are guard will re-transmit the message in the following form.

The re-transmitted message consists of :—

(*a*) **A new call and the operating signal " Following message has been read."**

(*b*) **The message as read by the W/T guard, less the commencing sign and the ending sign. (But see example (vii) (*c*) below.)**

(*c*) **The time of receipt, any necessary final instructions, and the ending sign. (See Article 116, para. (v).)**

(vii) *Examples :—*

(*a*) **D4B calls K6O with a preliminary call before transmitting a message.**

D4B makes :—

$\overline{\text{VE}}$ K6O K6O v D4B +

K6W is W/T guard for K6O, and answers :—

$\overline{\text{VE}}$ D4B v K6W S – K6 +

D4B then transmits the message, addressing K6O as before and allotting the series number appropriate to K6O.

D4B makes :—

$\overline{\text{VE}}$ K6O v D4B NR2 – GR20 = (Text) = 1000 +

K6W answers :—

$\overline{\text{VE}}$ D4B v K6W S – R

K6W re-transmits the message to K6O.

K6W makes :—

$\overline{\text{VE}}$ K6O K6O v K6W NR7 K388† – K6O v D4B NR2 – GR20 = (Text) = 1000 – TOR1005 +

K6O answers :—

$\overline{\text{VE}}$ K6W v K6O R +

---

† X388 is assumed to read " Following message has been read."

(*b*) **D4B transmits a message to K6O without preliminary call.**

D4B makes :—

VE K6O K6O v D4B NR3 - GR30 = (Text) = 1020 +

K6W, the W/T guard for K6O, answers :—

VE D4B v K6W S - R +

K6W re-transmits the message to K6O as in example (*a*) above.

(*c*) **D4B transmits a P/L message to H2K, K6O, and L9O without a preliminary call.**

D4B makes :—

VE H2K H2K K6O K6O L9O L9O v D4B NR4 NR4 NR7 - GR36 AAA (subject matter) 1030 +

K6W is W/T guard for K6O +

Stations answer :—

VE D4B v H2K R +

VE D4B v K6W S - K6O - R +

VE D4B v L9O R +

K6W re-transmits the message to K6O retaining in the original call the series number appropriate to K6O.

K6W makes :—

VE K6O K6O v K6W NR8 X388† - H2K K6O L9O v D4B NR4 - GR36 AAA (subject matter) = 1030 - TOR 1034 +

K6O answers :—

VE K6W v K6O R +

(*d*) **D4B transmits a message to K6O. K6W, the W/T guard for K6O, requires a repetition of the second group.**

D4B makes :—

VE K6O K6O v D4B NR5 - GR15 = 2168 4107 etc. = 1110 +

K6W makes :—

VE D4B v K6W S - IMI 2 +

---

† X388 is assumed to read " Following message has been read."

D4B makes :—

$\overline{VE}$ K6O v D4B – 2 – 4107 +

(See para. (iii) above.)

K6W answers :—

$\overline{VE}$ D4B v K6W S – R +

K6W re-transmits the message to K6O as in example (*a*) above.

(viii) A W/T guard answering a message with " Repeat back " in the delivery instructions will repeat back the message.

Example :—

(*a*) **D4B transmits the following message to K6O without a preliminary call :—**

$\overline{VE}$ K6O K6O v D4B NR6 – G – GR20 = (Text) = 1130 +

K6W is W/T guard for K6O.

K6W repeats back, thus :—

$\overline{VE}$ D4B v K6W S – K6O v D4B NR6 – G – GR20 = (Text) = 1130 +

D4B answers :—

$\overline{VE}$ K6O v D4B C +

(*See para.* (iii) *above.*)

(ix) A station acting as W/T guard for two or more stations answers for all these stations in the position in the alphabetical sequence of call signs, occupied by the call sign of the first station for which it is answering (See Article 310.)

198. THE LETTER " S " USED IN THE ORIGINATOR'S INSTRUCTIONS signifies " Signal Service Message."

(ii) the letter " S " does not in itself confer any degree of priority on the message in which it appears. If it is required to give priority to the message, the letters " P " or " D " should be used in addition to the letter " S." When this is done the message is treated in all respects as an Immediate or Important message, and is transmitted with the double degree of priority " P – S " or " D – S." Attention is directed to R.A.F. Signal Manual, Part I, regarding the use of the degree of priority " Immediate."

(iii) The letter " S " will be used in the originator's instructions of all messages (other than procedure messages) which originate from the signal staff at a station, are addressed to the signal staff at another station, and deal only with the control, operation or maintenance of the signal communication system.

(iv) A signal service message must be authorised by—

(*a*) The Signal Officer of a unit, or

(*b*) The Signal Warrant Officer of a unit, where no Signal Officer is borne, or

(*c*) An officer of the Headquarters Staff of a unit, where no Signal Officer or Signal Warrant Officer is borne.

(v) *Example* :—

A control station D4B, wishing to make good certain defects, desires to detail a station H8Y to take over the duties of control station.

D4B makes :—

$\overline{\text{VE}}$ H8Y H8Y v D4B NR7 – D – S – GR12 $\overline{\text{AAA}}$ S21 – 20/7 Assume duties of control station for Section H forthwith = 0900 +

H8Y answers :—

$\overline{\text{VE}}$ D4B v H8Y R +

" T "

199. THE LETTER " T " USED IN THE DELIVERY INSTRUCTIONS, signifies " Pass to . . .".

(ii) The letter " T " used without any call sign indicates that the message is to be passed to all addressees.

(iii) The letter " T " followed by call signs indicates the stations to which the message is to be re-transmitted.

(iv) *Examples :—*

(*a*) **GFJ wishes to pass a P/L message through GFX to GEO. Message is addressed to GEO.**

GFJ makes :—

VE GFX v GFJ NR8 – T – GR30 – Z – GEO v GFJ, etc.

GFX answers :—

VE GFJ v GFX R +

GFX re-transmits the message, thus :—

VE GEO v GFX NR3 – GR30 – Z – GEO v GFJ, etc.

GEO answers :—

VE GFX v GEO R +

(v) For further examples see Articles 103 to 108 (Delivery Instructions).

"U"

200. THE LETTER "U" USED IN CONJUNCTION WITH THE LETTER "O" IN THE ORIGINATOR'S INSTRUCTIONS, OR IN A PRELIMINARY CALL, signifies "Most Immediate." (See Articles 188 and 299.)

201. THE LETTER "U" FOLLOWED BY A TIME OF ORIGIN AND USED AS THE FIRST GROUP OF THE SUBJECT MATTER OF "ENEMY REPORT" MESSAGES, refers to a previous message, and signifies "With reference to your message bearing time of origin . . . . . "

(ii) *Example :—*

H6J has made an enemy report to D4B (time of origin 0935). D4B wishes to transmit a message to H6J referring to H6J's previous message.

D4B makes :—

VE H6J H6J v D4B NR5 – P = U 0935 – *GAFO = 0950 IMI H6J H6J v D4B NR5 – P = U 0935 – *GAFO = 0950 +

H6J answers :—

VE D4B v H6J R +

---

* Imaginary enemy report group.

"V"

202. THE LETTER "V" USED IN THE CALL, THE ADDRESS (except high grade cypher messages), OR IN THE IDENTITY OF A MESSAGE, signifies "FROM."

(ii) The letter "V" is used :—

(*a*) In the call of a message between the call sign-s of the receiving station-s and the call sign of the transmitting station.

(*b*) In the address (except high grade cypher (concealed address) messages), between the call sign-s of the station-s to which the message is addressed and repeated and the call sign of the station or authority of origin ; it is also used when names or authorised abbreviated titles are used in conjunction with call signs. (See Article 292, para. (iv).)

(iii) *Examples :*—

(*a*) GFX v GFJ NR8 – T – GR30 – Z – GEO – W – GFW v GFJ, etc.

(*b*) GFX v GFJ B 0930 GFJ v GFV +

(*c*) Y8C v U4K NR5 – T – GR25 – Z – KD8 $\overline{\text{UK}}$ SSO $\overline{\text{UK}}$ v J4P, etc.

"W"

203. THE LETTER "W" USED IN THE ADDRESS signifies "Repeated to.....for information."

(ii) The letter "W" is employed in cases where the originator of a message wishes the message to be acted upon by certain authorities and to be repeated for information to certain other authorities.

(iii) The letter "W" is only used in conjunction with call signs and when names or authorised abbreviated titles are used in conjunction with call signs. It cannot be used when the address is expressed entirely in P/L. (See Article 292, para. (iii).)

(iv) *Examples :—*

(*a*) **D4B has a P/L message for K6O and K6W. The message is addressed to K6W and repeated for information to K6O.**

D4B makes :—

VE K6O K6W v D4B NR6 NR3 – GR25 – Z – K6W – W – K6O v D4B AAA (subject matter) = 1515 +

K6O and K6W answer as usual.

(*b*) **GFJ has a P/L message for GEO and GFW. Message is addressed to GEO and repeated for information to GFW, and is to be passed via GFX.**

GFJ makes :—

VE GFX v GFJ NR8 – T – GR30 – Z – GEO – W – GFW v GFJ AAA (subject matter) = 1545 +

GFX answers and re-transmits the message, thus :—

VE GEO GFW v GFX NR4 NR6 – GR30 – Z – GEO – W – GFW v GFJ AAA (subject matter) = 1545 +

GEO and GFW answer as usual.

(*c*) **D4B has a P/L message for all stations of a section (collective call W8P). The message is addressed to H2K, H8Y, J3P, K6O, and repeated for information to K6W and L9O.**

D4B makes :—

VE W8P. W8P V D4B NR3 NR2 NR7 NR7 NR4 NR5 – GR25 – Z – H2K H8Y J3P H6O – W – K6W L9O v D4B AAA (subject matter) = 1600 +

All stations of the section answer in alphabetical order as usual.

"X"

204. THE LETTER "X" USED IN THE SUBJECT MATTER OF A PROCEDURE MESSAGE, signifies "Am experiencing interference."

(ii) The letter "X," followed by a single figure so as to form one group, indicates that interference is due to atmospherics of the strength denoted. (See Chapter 5.)

(iii) If followed by a call sign, it indicates that the interference is emanating from the station denoted. The strength of the interference may be indicated as in para. (ii) above.

(iv) *Examples :—*

(*a*) **GFJ calls GFX. GFX is experiencing interference but wishes GFJ to transmit the message.**

GFJ makes :—

$\overline{\text{VE}}$ GFX GFX v GFJ +

GFX answers :—

$\overline{\text{VE}}$ GFJ v GFX K6 – X +

(The type and strength of the interference is not specified.)

If GFX wishes to indicate that the station GFQ is causing the interference,

GFX may make :—

$\overline{\text{VE}}$ GFJ v GFX K6 – X – GFQ +

(*b*) **GFJ has transmitted a message to GFX. GFX requires a repetition owing to interference from atmospherics, strength 8.**

GFX makes :—

$\overline{\text{VE}}$ GFJ v GFX $\overline{\text{IMI}}$ – X8 +

GFJ then proceeds as shown in Chapter 21.

(*c*) **GFJ calls GEO. GEO is experiencing interference and considers the interference too bad for reception.**

GFJ makes :—

$\overline{\text{VE}}$ GEO GEO v GFJ +

GEO answers :—

$\overline{\text{VE}}$ GFJ v GEO Q – X +

or $\overline{\text{VE}}$ GFJ v GEO Q – X8 – GFV + (if interference is strength 8 from GFV).

or $\overline{\text{VE}}$ GFJ v GEO Q – X8 – AA + (if interfering station is unknown, see Article 301).

When the interference has abated,

GEO makes :—

$\overline{\text{VE}}$ GFJ v GEO K7 +

GFJ then proceeds with the message.

(*d*) **D4B transmits a message to K6W without a preliminary call. K6W requires a repetition owing to interference.**

D4B makes :—

$\overline{\text{VE}}$ K6W K6W v D4B NR7 – GR20 = (Text) 0930 +

K6W may answer, thus :—

$\overline{\text{VE}}$ D4B v K6W $\overline{\text{IMI}}$ – X8 – L9O +

or $\overline{\text{VE}}$ D4B v K6W $\overline{\text{IMI}}$ – R6 – X7 +

or $\overline{\text{VE}}$ D4B v K6W $\overline{\text{IMI}}$ – X9 – $\overline{\text{DC}}$ +

D4B then repeats the message as requested.

205. THE LETTER " X " USED IN THE ORIGINATOR'S INSTRUCTIONS, signifies " This message is for exercise."

(ii) The letter " X " is to be used in all messages connected with the exercise during tactical and strategical exercises.

(iii) The letter " X " preceded by the separative sign, is to be inserted immediately after the call.

(iv) *Example :—*

H6J during a tactical exercise, wishes to transmit an " Enemy report " to D4B.

H6J makes :—

$\overline{VE}$ D4B. D4B v H6J NR4 – X – O = BOCQ = 1010 $\overline{IMI}$ D4B D4B v H6J NR4 – X – O = BOCQ = 1010 +

D4B answers :—

$\overline{VE}$ H6J v D4B R +

(v) The letter " X " is not to be used during communication or W/T exercises in the originator's instructions of messages transmitted in connection with the exercise, all such messages being understood as " for exercise."

Any service message to or from stations taking part in such exercises and transmitted on the frequency in use for the exercise are to contain the operating signal to denote, " Following is a service message," immediately after the call.

206. THE LETTER " X " FOLLOWED BY TWO OR MORE NUMERALS, MAKING ONE GROUP, indicates a group from the operating signals. (See Article 141.)

" Y "

207. THE LETTER " Y " USED IN THE ADDRESS OF A MESSAGE signifies " The message which follows is to be acknowledged as soon as W/T may be used, or V/S or L/T become available, and the message is understood." (This may be referred to, for brevity, as " Acknowledge," but must not be confused with " Acknowledge forthwith.")

(ii) The letter " Y " refers only to those authorities to whom the message is addressed and NOT to those to whom it is repeated for information.

(iii) See Article 292.

(iv) *Examples :—*

(*a*) **D4B wishes to transmit a P/L message to K6W. K6W is to acknowledge.**

D4B makes :—

VE K6W v D4B NR4 – GR25 – Y AAA (Subject matter) = 1020 +

K6W answers :—

VE D4B v K6W R +

When ready to acknowledge,

K6W makes :—

VE D4B v K6W Y1020* +

D4B answers :—

VE K6W v D4B R +

(*b*) **D4B wishes to transmit a P/L message to K6O and K6W.**

Message is addressed to K6O and repeated for information to K6W. K6O is to acknowledge.

D4B makes :—

VE K6O K6W v D4B NR2 NR5 – GR30 – Z – K6O – W – K6W v D4B – Y AAA (Subject matter) = 1030 +

K6O and K6W answer :—

VE D4B v K6O R +

VE D4B v K6W R +

When ready to acknowledge,

K6O makes :—

VE D4B v K6O Y1030* +

D4B answers :—

VE K6O v D4B R +

---

* The message may also be identified by the Originator's Reference Number, *e.g.*, " Y S21."

(*c*) **A squadron (S.O.'s call sign S4T) is proceeding by air to Base " A," calling at Base " B " (call sign GFZ). S4T is maintaining W/T silence en route.**

GFJ and GFZ are two fixed stations organised as an " I " method group.

GFJ has a code message for transmission addressed to S4T from an authority J2P. It is essential that the message is received by S4T before the squadron arrives at Base " B." S4T is to acknowledge the message as soon as is practicable, but must not break W/T silence.

GFJ transmits the message by " I " method to GFZ, and considers it desirable that GFZ should repeat back.

GFJ makes :—

$\overline{VE}$ GFZ v GFJ NR18 – G – GR4 – Z – S4T v J2P – Y = FAKO SEPQ HOTL = 0930 +

GFZ repeats back thus :—

$\overline{VE}$ GFJ v GFZ – GFZ v GFJ NR18 – G – GR4 – Z – S4T v J2P – Y = FAKO SEPQ HOTL = 0930 +

GFZ having repeated back correctly, GFJ makes :—

$\overline{VE}$ GFZ v GFJ C +

S4T having received and understood the message, will, on arrival at Base " B," acknowledge the message from the Base W/T station.

GFZ makes :—

$\overline{VE}$ GFJ v GFZ NR21 – Z – J2P v S4T Y0930 +

GFJ answers :—

$\overline{VE}$ GFZ v GFJ R +

Note.—If no W/T station is situated at base " B," S4T will pass the acknowledgment of the message to GFJ by L/T, *i.e.*, " The Addressee is *NOT* to use his own W/T."

(*d*) **If the message, shown in** (*c*) **above, had contained the instructions " Acknowledge forthwith " in the subject matter, S4T will, as soon as the message is understood, break W/T silence and acknowledge the message, either direct to GFJ or via GFZ, whichever station is the most convenient.**

(v) See also Article 292, para. (v).

208. USE OF THE LETTER "Y" PRECEDED BY CALL SIGN-S IN THE ADDRESS OF A MESSAGE.—If it is desired to indicate which of the addressees are to acknowledge a message, their call signs will be inserted before the letter "Y."

(ii) *Example :—*

D4B has an important P/L message addressed to H2K and W9G and repeated for information to H8Y. The message is to be passed direct to H2K and H8Y and via H8Y to W9G. W9G is to acknowledge.

D4B makes :—

$\overline{VE}$ H2K H8Y v D4B NR2 NR4 – D – H8Y – T – W9G – GR30 – Z – H2K W9G – W – H8Y v D4B – W9G – Y $\overline{AAA}$ (subject matter) = 1100 +

The remainder of the procedure is as usual.

209. THE LETTER "Y" FOLLOWED BY THE IDENTITY OF A MESSAGE AND USED IN THE SUBJECT MATTER OF A PROCEDURE MESSAGE, signifies "Message . . . is understood."

(ii) *Examples :—*

(*a*) **K6O wishes to acknowledge a P/L message 1030 from D4B.**

K6O makes :—

$\overline{VE}$ D4B v K6O Y1030 +

D4B answers :—

$\overline{VE}$ K6O v D4B R +

(*b*) **K6W wishes to acknowledge a P/L message from D4B bearing an originator's reference number S28.**

K6W makes :—

$\overline{VE}$ D4B v K6W Y S28 +

D4B answers :—

$\overline{VE}$ K6W v D4B R +

210. THE LETTER "Y," PRECEDED BY THE INTERROGATIVE SIGN, FOLLOWED BY THE IDENTITY OF A MESSAGE, AND USED IN THE SUBJECT MATTER OF A PROCEDURE MESSAGE, signifies **"Is message . . . understood."**

(ii) The letter "Y" with the interrogative sign may be used :—

(*a*) **To hasten an acknowledgment.**

(*b*) **To call for an acknowledgment of a previous message, from an authority who was not directed to acknowledge in the address of the original message.**

(iii) The letter "Y" with the interrogative sign is not to be used without the authority of the originator of the message for which an acknowledgment is required.

(iv) *Examples :—*

(*a*) **D4B has received orders from the originator of message (time of origin 1030) to K6W to hasten the acknowledgment of that message.**

D4B makes :—

$\overline{\text{VE}}$ K6W v D4B $\overline{\text{INT}}$ Y1030 +

K6W answers :—

$\overline{\text{VE}}$ D4B v K6W R +

(*b*) **D4B has transmitted a P/L message (time of origin 1100) to K6W. The originator of the message now wishes K6W to acknowledge that message.**

D4B makes :—

$\overline{\text{VE}}$ K6W v D4B $\overline{\text{INT}}$ Y1100 +

K6W answers :—

$\overline{\text{VE}}$ D4B v K6W R +

When ready to acknowledge,

K6W makes :—

$\overline{\text{VE}}$ D4B v K6W Y1100 +

D4B answers :—

$\overline{\text{VE}}$ K6W v D4B R +

211. MESSAGES WHICH ARE NOT UNDERSTOOD.—If a message is not understood, " J " or " A " meaning respectively, " Check from the decode and repeat " or " Verify, check from the decode and repeat," should be made. (See Chapter 22.)

" Z "

212. THE LETTER " Z " signifies " addressed."

(ii) The letter " Z " always precedes the address when it is expressed in call signs and when names or authorised abbreviated titles are used in conjunction with call signs.

(iii) The letter " Z " cannot be used when the address is expressed entirely in plain language. (See Article 292, para. (iii).)

(iv) *Examples :—*

(*a*) **D4B wishes to pass a P/L message to K6W. Message is addressed to K6W from K2G.**

D4B makes :—

$\overline{VE}$ K6W v D4B NR9 – GR30 – Z – K6W v K2G
$\overline{AAA}$ (subject matter) = 1400 +

K6W answers :—

$\overline{VE}$ D4B v K6W R +

(*b*) **D4B wishes to pass a P/L message through K6W to O3R. Message is addressed to O3R from K2G.**

D4B makes :—

$\overline{VE}$ K6W v D4B NR10 – T – GR30 – Z – O3R v K2G $\overline{AAA}$ (subject matter) = 1430 +

K6W answers :—

$\overline{VE}$ D4B v K6W R +

K6W re-transmits the message, thus :—

$\overline{VE}$ O3R v K6W NR2 – GR30 – Z – O3R v K2G
$\overline{AAA}$ (subject matter) = 1430 +

O3R answers :—

$\overline{VE}$ K6W v O3R R +

(*c*) **D4B wishes to pass a P/L message to K6W. Message is addressed to H2K. H8Y and K6W from K2G. The message has already been passed to H2K and H8Y.**

D4B makes :—

VE K6W v D4B NR11 – GR25 – Z – H2K. H8Y.
K6W v K2G AAA (subject matter) = 1500 +

K6W answers :—

VE D4B v K6W R +

(*d*) **J2P wishes to transmit an important P/L general message to a control station D4B. J2P instructs D4B to pass the message to the stations for which it is responsible. Message is addressed to R7B from J2P.**

J2P makes :—

VE D4B v J2P NR7 – D – L – GR45 – Z – R7B
v J2P AAA (subject matter) = 0915 +

D4B answers :—

VE J2P v D4BR +

D4B re-transmits the message in the usual way. (See Article 183.)

(vi) The instructions for the use of the letter "Z" when passing preliminary calls and answers through signal links are found in Article 309.

CHAPTER 10

TWO- AND THREE-LETTER PROCEDURE SIGNALS

" AA "

220. THE LETTERS " AA " MADE SEPARATELY signify " All After," and are used to identify a part of a message. (See Chapters 21 and 22.)

(ii) *Examples :—*

(*a*) " AA4 " means " All after the fourth group."

(*b*) " J1042 – AA0914 " means " Check from the decode and repeat all after the group 0914 in message 1042."

(*c*) " $\overline{\text{IMI}}$ 1530 v D4B – AA4 " means " Repeat all after the fourth group in message 1530 from D4B."

" AB "

221. THE LETTERS " AB " MADE SEPARATELY signify " All Before " and are used to identify a part of a message. (See Chapters 21 and 22.)

(ii) " AB1 " signifies " All before the first word or group," and is used when requesting repetitions, checks or verifications of the call, preface, and address of a P/L or code message. (See Article 152, para. (ii) (*b*).)

(iii) *Examples :—*

(*a*) " $\overline{\text{IMI}}$ AB Order " means " Repeat all before the word Order."

(*b*) " $\overline{\text{IMI}}$ AB 4172 " means " Repeat all before the group 4172."

(*c*) " J1030 – AB5 " means " Check from the decode and repeat all before the fifth group in message 1030 +."

"GR"

222. THE LETTERS "GR" MADE SEPARATELY AND FOLLOWED IMMEDIATELY BY A NUMBER SO AS TO FORM ONE GROUP, signify "The message contains the number of words or groups indicated." (See Chapter 13.)

(ii) This group is used as laid down in Article 109.

(iii) *Examples :—*

(*a*) **D4B has a message of 25 groups of high grade cypher for K6W.**

D4B makes :—

$\overline{\text{VE}}$ K6W v D4B NR6 – GR25 = 0986
(Remaining groups of cypher) = 0915 +

K6W answers as usual.

(*b*) **D4B has a message of 25 words of P/L for K6W from K2G.**

D4B makes :—

$\overline{\text{VE}}$ K6W v D4B NR7 – GR25 – Z – K6W v K2G
$\overline{\text{AAA}}$ (subject matter) = 1020 +

K6W answers as usual.

223. THE LETTERS "GR" IN CONJUNCTION WITH THE INTERROGATIVE SIGN ($\overline{\text{INT}}$) are used in the subject matter of a procedure message in cases where the number of words or groups in a transmitted message is in dispute or where a message has been transmitted without the "GR" signal. (See Chapter 14.)

"NR"

224. THE LETTERS "NR," MADE SEPARATELY AND FOLLOWED IMMEDIATELY BY A NUMBER OR A NUMBER PRECEDED BY A LETTER SO AS TO FORM ONE GROUP, signify "Series number of transmitting station." This group is used as laid down in Article 98, paras. (ii) to (vi).

(ii) *Examples :—*

(*a*) **D4B has a message for K6W. The message is the tenth from D4B to K6W on the day in question.**

D4B makes :—

$\overline{\text{VE}}$ K6W v D4B NR10 – GR30 etc. = 0910 +

K6W answers as usual.

(*b*) **D4B has a message for O3R and wishes to pass it via K6W. The message is the eleventh from D4B to K6W on that day.**

D4B makes :—

VE K6W v D4B NR11 – T – GR30 – Z – O3R v D4B AAA (subject matter) = 0920 +

K6W answers as usual.

K6W re-transmits the message to O3R. The message is the third from K6W to O3R on that day.

K6W makes :—

VE O3R v K6W NR3 – GR30 – Z – O3R v D4B etc. = 0920 +

O3R answers as usual.

(*c*) **D4b has a message for three stations, H2K, H8Y, and K6O. The message is the fourth from D4B to H2K, the eighth to H8Y, and the second to K6O on that day.**

D4B makes :—

VE H2K. H8Y. K6O v D4B NR4 NR8 NR2 – GR30 AAA (subject matter) = 0930 +

Stations answer in alphabetical order as usual.

(*d*) **A control station D4B has a message for a section of stations W8P (collective call sign) comprising six stations, H2K, H8Y, J3P, K6O, K6W, and L9O. The message is the fifth from D4B to H2K, the ninth to H8Y, the fifth to J3P the third to K6O, the twelfth to K6W, and the third to L9O.**

D4B makes :—

VE W8P W8P v D4B NR5 NR9 NR5 NR3 NR12 NR3 – GR30 = (Text) = 1000 +

Stations of the section answer in alphabetical order as usual.

(*e*) **A control station D4B has a P/L message for all stations of a section W8P (collective call sign) except the stations K6O and L9O. D4B does not allot a series number to the stations negatived in the call.**

D4B makes :—

VE W8P NO K6O L9O W8P NO K6O L90 v D4B NR6 NR10 NR6 NR13 – GR30 – etc.

Stations of the section, except K6O and L9O, answer in alphabetical order as usual.

(See Articles 283 and 284.)

"WA"

225. THE LETTERS "WA," MADE SEPARATELY, signify "Word or group after," and are used to identify a part of a message. (See Chapters 21 and 22.)

(ii) *Examples :—*

(*a*) "IMI WA order" means "Repeat the word after order."

(*b*) "J1050 v D4B – WA 2716" means "Check from the decode and repeat the group after 2716 in message 1050 from D4B."

"WB"

226. THE LETTERS "WB" MADE SEPARATELY, signify "Word or group before," and are used to identify a part of a message. (See Chapters 21 and 22.)

(ii) "WB1" signifies "The group before the first word or group," and is used when requesting repetitions or checks of the number of groups. (See Article 275, para (iii), and Article 276.)

(iii) *Examples :—*

(*a*) "IMI WB hasten" means "Repeat the word before hasten."

(*b*) "IMI WB 2906" means "Repeat the group before 2906"

"TOR"

227. THE LETTERS "TOR" MADE SEPARATELY AND FOLLOWED BY FOUR FIGURES SO AS TO FORM ONE GROUP, signify "Time of Receipt is . . . . . ".

(ii) This group is used as laid down in Article 116.

(iii) *Examples :—*

(*a*) **K6O has received a message for K6W from D4B. K6O is W/T guard for K6W. Message was received at 1040.**

K6O makes :—

VE K6W v K6O NR6 X388* – K6W v D4B NR9 etc. – 1030 – TOR1040 +

K6W answers as usual.

---

*X388 is assumed to mean "Following message has been read."

(*b*) **K6W has received a P/L message from D4B to pass to O3R. Message was received at 1120. K6W is unable to pass the message until 1200. (See Article 116, para. (ii).)**

K6W makes :—

VE O3R v K6W NR6 – GR30 – Z – O3R v D4B – etc. = 1115 – TOR 1120 +

O3R answers as usual.

228. THE LETTERS "TOR," FOLLOWED BY THE "TIME OF RECEIPT," MAY BE USED IN THE SUBJECT MATTER OF A PROCEDURE MESSAGE, to identify a message made by full procedure, which cannot be referred to in any other way. (See Chapter 8.)

(ii) *Example :—*

D4B has made the following procedure message to K6W at 1034 :—

VE K6W K6W v D4B X506 – 284 +

K6O, who is W/T guard for K6W, has answered for that station.

K6W, wishing to inform K6O that the above message has been received, makes :—

VE K6O K6O v K6W R TOR 1034 v D4B +

K6O answers as usual.

CHAPTER 11

PROCEDURE SIGNS

"AAA"—The "Full Stop" sign.

232. THE LETTERS "AAA" MADE AS ONE SIGN.—This sign is used to precede the subject matter of a plain language message. (See Article 112.) When so used it is not counted as a group.

(ii) The Full Stop sign is also used in the subject matter of plain language messages to indicate the punctuation mark "Full Stop." In this case it is counted as a group.

(iii) *Example :—*

VE K6W v D4B NR7 – GR15 – Z – K6W v K2G AAA Q 25 – 27/7 Your Q12 – 23/7 Stores despatched by fast goods train AAA report receipt = 0930 +

(iv) The Full Stop sign should not normally be used between initials representing authorised abbreviated titles (*e.g.*, AVM. PMO. SASO), but it should be inserted, in cases of uncommon titles or to avoid any possibility of confusion, or the titles may be written in full.

Example :—" A AAA I AAA D "

or

" Aeronautical Inspection Department."

"AR"—The "Ending" sign.

233. THE LETTERS "AR" MADE AS ONE SIGN.—This sign is made at the end of every transmission made by full procedure. (See Article 118.)

(ii) When it is necessary to write the Ending sign it should be written thus : +

Throughout this manual this sign is shown in this manner.

"BT"—The "Long Break" sign.

234. THE LETTERS "BT" MADE AS ONE SIGN.—In all messages transmitted by full procedure, this sign is used to separate the subject matter from the time of origin.

(ii) The Long Break sign is also used to precede the subject matter in all code messages.

(iii) The Long Break sign is not used in procedure messages. (See Chapter 7.)

(iv) When it is necessary to write the Long Break sign it should be written thus : =

Throughout this manual this sign is shown in this manner.

(v) *Examples :—*

(*a*) $\overline{\text{VE}}$ K6W v D4B NR6 – S – GR15 $\overline{\text{AAA}}$ (P/L subject matter) = 0945 +

(*b*) $\overline{\text{VE}}$ GFX v GFJNR12 – GR45 = 2416 etc. 7125 = 1010 +

(*c*) $\overline{\text{VE}}$ K6W v D4B NR7 – GR20 – Z – K6W v D4B – Y = 26 – 27/7 – BETIS etc. FOCUS = 1100 +

"DC"—The "Difficult Communication" sign.

235. THE LETTERS "DC," MADE AS ONE SIGN AND USED IN THE SUBJECT MATTER OF A PROCEDURE MESSAGE, OR IN THE FINAL INSTRUCTIONS, signify "Difficult communication method will be used, or is desired."

(ii) It is used by stations, to whom a call or message has been made to signify "Use 'DC' method."

(iii) It is used by a transmitting station before using the Broadcast, or "I" method, to signify "Am adopting 'DC' method."

(iv) The sign "$\overline{\text{DC}}$" is NOT used as a component of the actual message transmitted by "DC" method.

(v) *Examples :—*

(*a*) **GFJ has a message for GFW. GFW is experiencing difficulty in reception due to atmospherics and wishes GFJ to use "DC" method.**

GFJ makes :—

$\overline{\text{VE}}$ GFW GFW v GFJ +

GFW answers :—

$\overline{\text{VE}}$ GFJ v GFW K5 – X7 – $\overline{\text{DC}}$ +

GFJ then transmits the message, using "DC" method. (See Chapter 25.)

(*b*) **D4B has a message for W2X. W2X is not to answer. Conditions are difficult owing to atmospherics and D4B considers " DC " method desirable.**

D4B makes :—

$\overline{VE}$ W2X W2X v D4B – F – $\overline{DC}$ $\overline{IMI}$ W2X. W2X v D4B – F – DC +

D4B then transmits the message, using " DC " method. (See Chapter 25.)

(vi) Examples of Requesting Checks and Verifications and giving corrections by " DC " method are contained in Article 357.

" $\overline{HM}$ "—The " Silence " sign.

236. THE LETTERS " HM," MADE FIVE TIMES AS ONE SIGN, directs all stations addressed to keep W/T silence on all frequencies or on the frequency specified.

(ii) The Silence sign will be used by control stations ONLY.

(iii) The Silence sign is not answered.

(iv) During the time that silence is in force no station to which the silence order has been addressed is to transmit except to answer a call or message from the control station which ordered the silence. The control station may call any station required and that station will answer in the usual manner. As soon, however, as the particular message or communication is concluded, the station will again observe silence until a further call or message is received from the control station or until the " Negative Silence " sign is made.

(v) *Examples :—*

(*a*) **A control station D4B, requiring silence from two stations, H2K and H8Y, makes :—**

$\overline{VE}$ H2K H2K H8Y H8Y v D4B
$\overline{HM\ HM\ HM\ HM\ HM}$ +

(*b*) **A control station D4B, requiring silence from a section whose collective call sign is W8P, makes :—**

$\overline{VE}$ W8P W8P v D4B $\overline{HM\ HM\ HM\ HM\ HM}$ +

(*c*) **A control station D4B, requiring silence from a section whose collective call sign is W8P, on 3880 and 284 kilocycles, makes :—**

$\overline{VE}$ W8P W8P v D4B $\overline{HM\ HM\ HM\ HM\ HM}$ – 3880 – 284 +

"II"—The "Separative" sign

237. THE LETTERS "II" MADE SEPARATELY. (See Chapter 4.)

238. "III"—The "Comma" sign

The letters III made separately. This sign is used in the subject matter of a P/L message to indicate the punctuation mark "Comma." It is counted as a group.

"$\overline{\text{IMI}}$"—The "Repeat" sign

239. (i) THE LETTERS "IMI" MADE AS ONE SIGN.

(ii) The "Repeat" sign is used when making a message through twice. In this case the "Repeat" sign is made at the end of the first transmission of the message in the place of the "Ending" sign ("$\overline{\text{AR}}$"), and the "Commencing" sign ($\overline{\text{VE}}$) is omitted at the commencement of the repetition of the message.

(iii) *Examples :—*

(*a*) **D4B transmits an Immediate Enemy Report message to K6W. Message has therefore to be made through twice.**

D4B makes :—

$\overline{\text{VE}}$ K6W K6W v D4B NR7 – P – GR25 = 2908 etc. 1789 = 1030 $\overline{\text{IMI}}$ K6W K6W v D4B NR7 – P – GR25 = 2908 etc. 1789 = 1030 +

K6W answers :—

$\overline{\text{VE}}$ D4B v K6W R +

(*b*) **During a tactical exercise D4B has an Important message for aircraft W2X. W2X is not to answer. D4B inserts "F" in the delivery instructions, and the message has therefore to be made twice through.**

D4B makes :—

$\overline{\text{VE}}$ W2X W2X v D4B – X – D – F = GAPO RITQ = 1100

$\overline{\text{IMI}}$ W2X W2X v D4B – X – D – F = GAPO RITQ = 1100 +

240. THE " REPEAT " SIGN, USED ALONE OR IN CONJUNCTION WITH THE IDENTITY OF A MESSAGE OR OF PART OF A MESSAGE IN THE SUBJECT MATTER OF A PROCEDURE MESSAGE, requests a repetition of the message or part of the message referred to. **(See Chapter 21.)**

" $\overline{\text{UO}}$ "—The " Negative Silence " sign

241. (i) THE LETTERS " UO," MADE FIVE TIMES AS ONE SIGN, directs all stations addressed to cease keeping W/T silence on all frequencies or on the frequencies specified.

(ii) The Negative Silence sign is not answered, but stations addressed are at liberty to recommence signalling on all frequencies or on those specified.

(iii) *Examples :—*

(*a*) **A control station D4B having imposed silence on H2K and H8Y, wishes to cancel this order.**

D4B makes :—

$\overline{\text{VE}}$ H2K H2K H8Y H8Y v D4B
$\overline{\text{UO UO UO UO UO}}$ +

(*b*) **A control station D4B having imposed silence on a section whose collective call sign is W8P, wishes to cancel this order.**

D4B makes :—

$\overline{\text{VE}}$ W8P W8P v D4B $\overline{\text{UO UO UO UO UO}}$ +

(*c*) **A control station D4B having imposed silence on a section. whose collective call sign is W8P, on 3880 and 284 kilocycles, wishes to cancel this order for traffic on 3880 kilocycles.**

D4B makes :—

$\overline{\text{VE}}$ W8P W8P v D4B. $\overline{\text{UO UO UO UO UO}}$
3880 +

"$\overline{VA}$"—The "No Message" sign.

242. THE LETTERS "VA" MADE AS ONE SIGN

(ii) This sign, used in the subject matter as a procedure message, signifies "Have no message for transmission" or "Have no further message for transmission."

(iii) *Examples :—*

(*a*) **D4B, having made a preliminary call to K6W in order to establish communication, and having received "K," wishes to inform K6W that there is no message for K6W awaiting transmission.**

D4B makes :—
$\overline{VE}$ K6W K6W v D4B +

K6W answers :—
$\overline{VE}$ D4B v K6W K7 +

D4B makes :—
$\overline{VE}$ K6W v D4B $\overline{VA}$ +

K6W answers :—
$\overline{VE}$ D4B v K6W R +

(*b*) **D4B has made a preliminary call to K6O. A station K6W reads the preliminary call, and, mistaking the call for K6W, gives D4B a "K."**

D4B makes :—
$\overline{VE}$ K6O K6O v D4B +

K6W, mistaking the call, answers :—
$\overline{VE}$ D4B v K6W K5 +

D4B may make, either :—

(i) $\overline{VE}$ K6W v D4B $\overline{VA}$ +

K6W answers as usual.

D4B then calls K6O again, if K6O has not already answered.

Or

(ii) May make the call again to K6O, disregarding K6W, if K6O has not already answered.

(*c*) **GFJ and GFX are using " up and down " working : GFX has transmitted all the messages on hand and wishes to direct GFJ to continue with any further messages GFJ has not yet transmitted. GFJ has just transmitted a message to GFX.**

G.F.X. answers :—

$\overline{VE}$ GFJ v GFX R – $\overline{VA}$ – K +

GFJ then proceeds with the next and subsequent messages, using normal working.

(iv) See Article 366, para. (v) and (vi).

" $\overline{VE}$ "—The " Commencing " sign

243. THE LETTERS " VE " MADE AS ONE SIGN.

(ii) This sign is used at the commencement of every transmission made by full procedure.

" 5 Secs "—The " Executive " sign

244. A 5 SECOND DASH, written in this manual as shown above.

(ii) The general use of the Executive sign is to enable the controlling station to indicate when the purport of a signal or signals, which have been transmitted without a time of origin, is to be carried out.

(iii) When used for this purpose it is termed the " Executive Signal."

(iv) The purport of the signal is to be carried out simultaneously with the receipt of the Executive sign.

(v) When employing full procedure it is always preceded by the commencing sign " $\overline{VE}$ " and the call or part of the call, and followed by the Ending sign " $\overline{AR}$."

(vi) It is never answered unless stations are controlled to answer.

(vii) The Executive sign once transmitted cannot be cancelled.

(viii) If more than one unexecuted message is outstanding and it is desired to execute one of them, the message to be executed must be identified by inserting its subject matter before the Executive sign.

(ix) *Example :—*

VE B3N B3N v W2X – QOPX* – 5 *Secs.* +

Procedure for Correcting Clocks

(x) A special use of the Executive sign is in connection with the W/T operating signal, denoting " Timing signal will be transmitted now." The four numerals indicating the time will be followed by the Executive sign.

(xi) *Example :—*

A control station D4B wishes to make a timing signal for correcting clocks to a Section whose collective call sign is W8P.

D4B makes :—

VE W8P W8P v D4B – F – X320† IMI W8P W8P v D4B – F – X320† +

Alternatively D4B may omit the " F " and obtain answers in the usual manner.

When ready, D4B makes the timing signal and the Executive sign, thus :—

VE W8P. W8P v D4B – 0600 – – – – 5 *Secs.* +

This is not answered, but should a station require a further check that station should make the necessary operating signal.

(xii) The 5 second dash must terminate at the exact minute of the time indicated ; the separative sign should, therefore, be repeated as necessary until the correct moment for signalling the time has arrived.

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* Imaginary group.

† X320 is assumed to mean " Timing signal will be transmitted now."

CHAPTER 12

MISCELLANEOUS SIGNS

"$\overline{\text{DDDT}}$"—The "Service Work" sign

248. THE LETTERS "DDDT" MADE AS ONE SIGN.

(ii) The "Service Work" sign is used by H.M. ships, Royal Air Force auxiliaries and aircraft when calling a British coast station with a message for transmission to Naval or Air Force authorities.

(iii) Service aircraft who are not in possession of a commercial W/T call sign will use the general commercial call sign "Any British Royal Air Force Aircraft," viz., "GEZAA." (See Article 287.)

(iv) Instructions for the use of the "Service Work" sign are contained in Articles 514 and 516.

"EEEE," etc.—The "Erase" sign

249. A SUCCESSION OF "E's" MADE ABOUT TEN TIMES.—This sign is used to erase a word or group which has been transmitted incorrectly, or to cancel a message which is in process of being made.

(ii) Should a station, in the course of the transmission of a message, make a word or group incorrectly, the Erase sign will immediately be made.

The Erase sign will be followed by the separative sign (except in P/L messages) and the last group or word, or portion of the call, preface or address (P/L messages), which was correctly transmitted, after which the transmission of the message will be continued.

(iii) *Examples :—*

(*a*) **GFJ, while transmitting a cypher message to GFX, makes a mistake in a group.**

" GFJ makes the Erase sign, then the Separative sign, followed by the last group made correctly, and then continues the message."

GFJ makes :—
$\overline{VE}$ GFX v GFJ NR6 – GR30 = 7164 8210 913 (Erase sign) – 8210 9128 etc. = 1020 +

GFX answers :—
$\overline{VE}$ GFJ v GFX R +

(*b*) **GFJ, while transmitting a cypher message to GFX, makes a mistake in the first group.**

" GFJ makes the Erase sign, then the Separative sign, followed by ' $\overline{BT}$ ', and then makes the first group correctly, and continues with the message."

GFJ makes :—
$\overline{VE}$ GFX v GFJ NR6 – GR30 = 717 (Erase sign) – = 7164 8210 etc. = 1020 +

GFX answers :—
$\overline{VE}$ GFJ v GFX R +

(*c*) **GFJ, while transmitting a code message to GFX, makes mistakes in the Call and Preface.**

" GFJ makes the Erase sign, then the Separative sign, then the last group which precedes the portion in which the mistake has occurred, and then continues."

GFJ makes :—
$\overline{VE}$ GFX v GFJ NR7 (Erase sign) – GFX v GFJ NR6 – GR4 (Erase sign) – NR6 – GR30 = (Text) = 1020 +

GFX answers :—
$\overline{VE}$ GFJ v GFX R +

(*d*) **GFJ, while transmitting a P/L message to GFX, makes a mistake in a word.**

" GFJ makes the Erase sign, followed by the last word made correctly and continues with the message."

GFJ makes :—

$\overline{VE}$ GFX v GFJ NR8 – GR43 – Z – T7G v J2P $\overline{AAA}$ A41 – 30/7 $\overline{AAA}$ Your A16 – 29/7 Not apro (Erase sign) Not approved, etc. = 1215 +

GFX answers :—

$\overline{VE}$ GFJ v GFX R +

(iv) This method of cancelling a message is only to be employed when the transmitting station has not reached the transmission of the time of origin.

Example :—

GFJ, while transmitting a message, receives instructions from the originator to cancel the message before the transmission is complete. GFJ makes the Erase sign, followed by the Ending sign.

GFJ makes :—

$\overline{VE}$ GFX v GFJ NR7 – GR27 = 1709 7216 8901 (Erase sign) +

GFX does not answer.

(v) If the time of origin has been transmitted, the message must be completed and can only be cancelled by a fresh message, e.g., " Cancel my 1030."

" $\overline{EX}$ "—The " Fraction Separative " sign.

250. THE LETTERS " EX " MADE AS ONE SIGN.

(ii) This sign is used to separate a whole number from a fraction.

(iii) This sign is not written down and is not counted as a group.

(iv) *Examples :—*

(*a*) **$12\frac{1}{2}$ would be transmitted :—**

12 $\overline{EX}$ 1 $\overline{XE}$ 2

(*b*) **$6\frac{7}{16}$ would be transmitted :—**

6 $\overline{EX}$ 7 $\overline{XE}$ 16

"$\overline{\text{FI}}$"—The "Numeral" sign.

251. THE LETTERS "FI" MADE AS ONE SIGN.

(ii) The Numeral sign is used between numerals to represent a decimal point. It is not counted as a group.

(iii) *Examples :—*

(*a*) **K6W wishes to make the following P/L message to D4B, "Percentage of sick 15·5".**

K6W makes :—

$\overline{\text{VE}}$ D4B v K6W NR6 – GR7 $\overline{\text{AAA}}$ M18 – 31/7
Percentage of sick 15 $\overline{\text{FI}}$ 5 = 1030 +

D4B answers :—

$\overline{\text{VE}}$ K6W v D4B R +

(*b*) **A control station D4B wishes to order a station K6W to set watch on 268·5 kilo-cycles.**

D4B makes :—

$\overline{\text{VE}}$ K6W K6W v D4B X506* – 268 $\overline{\text{FI}}$ 5 +

K6W answers :—

$\overline{\text{VE}}$ D4B v K6W R +

"$\overline{\text{INT}}$"—The "Interrogative" sign.

252. THE LETTERS "INT" MADE AS ONE SIGN.

(ii) The Interrogative sign is used in procedure messages in conjunction with :—

(*a*) **The Procedure signal "K," when asking for permission to transmit. (See para. (iv) below and Article 191, para. (v) (*e*) and Article 399.)**

(*b*) **The Procedure signal "GR," when asking for the number of groups in a message, when this has been omitted, or when the number of groups is in dispute. (See Chapter 14.)**

(*c*) **The Procedure signal "Y," when asking whether a message is understood. (See Article 210.)**

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* X506 is assumed to read "Set watch (on —— kc/s)."

(iii) The Interrogative sign is not regarded as a Procedure signal. It is not used with operating signals nor with Procedure signals other than the above.

(iv) **K6W** has been told to wait by a control station **D4B**, and considers that permission to transmit " **K** " has been overlooked.

(*a*) **K6W** has a message to transmit not containing any degree of priority.

K6W makes :—
$\overline{\text{VE}}$ D4B D4B v K6W $\overline{\text{INT}}$ K +

(*b*) **K6W** has an immediate or an important message to transmit.

K6W makes :—
$\overline{\text{VE}}$ P P P* v K6W +

K6W waits to transmit his message until he receives " **K** " from **D4B**.

Should, however, a message contain the degree of priority " **O**," " **O–A** " or " **O–U** " in the originator's instructions, it is transmitted, notwithstanding that " **Q** " has been made. (See Article 191, para. (iii), and Article 299.)

" $\overline{\text{NO}}$ "—The " Negative " sign

253. THE LETTERS " NO " MADE AS ONE SIGN.

(ii) The Negative sign is used in conjunction with a collective or a multiple collective sign in the call, or in the address (except concealed address messages), to negative a particular station or section included in that call sign. (See Articles 283 and 284.)

(iii) To cancel a message made by full procedure, see Article 249 para. (v).

" $\overline{\text{OE}}$ "—The " Preparative " sign

254. THE LETTERS " OE " MADE AS ONE SIGN.

(ii) This sign used in certain artillery observation messages, signifies " Preparative " or " Stand-by."

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* Or " D " if an important message.

" PAN "—The " International Urgency Signal " for aircraft

255. THE GROUP " PAN " SENT THREE TIMES BEFORE A CALL WITH THE LETTERS AND GROUPS WELL SEPARATED, signifies that an aircraft wishes to give notice of damage which compels the aircraft to land (or alight in the sea), but that it has no need of " immediate assistance."

(ii) A message preceded by the " Urgency " signal has priority over all communications except those of distress (see Articles 477 and 536), and all stations which hear it must avoid interference with the " Urgent " message.

(iii) Stations which hear the " Urgency " signal must listen out for a period of three minutes. If at the expiration of this period no urgent message has been heard, stations may resume their normal service.

(iv) The " International Urgency Signal " for aircraft is only to be used by service aircraft when communicating with commercial W/T stations, and is to be employed as shown in Article 537. Service aircraft not in possession of commercial W/T call signs will use the general commercial call sign " Any British Royal Air Force Aircraft," viz., " GEZAA." (See Article 287.)

" $\overline{\text{SOS}}$ "—The " International Distress " signal

256. THE LETTERS " SOS " MADE AS ONE SIGN.—It is used to indicate that a station is threatened by grave and imminent danger and requests immediate assistance. It is not to be used for any other purpose.

(ii) Action to be taken by Royal Air Force W/T stations in the event of a distress call or message being received from a commercial W/T station is shown in Article 519.

(iii) International distress procedure. (See Articles 518 to 534.)

(iv) The use of the International Distress signal by service aircraft is shown in Chapter 33.

(v) The equivalent R/T distress signal is the spoken word " MAYDAY."

" TTT "—The " International Safety " signal

257. THE GROUP " TTT," SENT THREE TIMES, WITH THE LETTERS AND GROUPS WELL SEPARATED, FOLLOWED BY THE WORD " DE," SENT ONCE, AND THE CALL SIGN OF THE TRANSMITTING STATION, SENT THREE TIMES.

(ii) The safety signal signifies that the W/T station making the signal is about to transmit urgent information regarding the safety of navigation or meteorological warnings.

(iii) The signal is used by any W/T station which has in hand an immediate or important message containing urgent information regarding air navigation (such as reports of squalls, sand storms, aerodrome obstructions) which it is desirous to transmit without delay.

(iv) On receipt of the safety signal, all W/T stations will cease transmitting on the frequency involved until the message containing the information has been transmitted.

(v) The message containing the information will be transmitted one minute after commencing the safety signal, and will be made in accordance with the orders applicable to the degree of priority contained in it.

(vi) The safety signal is used by commercial W/T stations. (See Article 535.)

(vii) The safety signal is NOT used by naval or army W/T stations except those handling commercial traffic.

(viii) *Example :—*

A land W/T station (GHC) on the Cairo-Baghdad air route has a report of a sand storm to transmit to another land W/T station (GEW) and to aircraft (GOT) on the route.

GHC makes :—

TTT TTT TTT de GHC GHC GHC

All W/T stations keeping watch on the frequency employed by GHC cease transmitting.

One minute later, GHC makes :—

$\overline{\text{VE}}$ GEW GEW GOT GOT v GHC NR3 NR2 – P – GR7 $\overline{\text{AAA}}$ O16 – 31/7 Sand storm at Rutbah = 0515+

GEW and GOT answer :—

$\overline{\text{VE}}$ GHC v GEW R +

$\overline{\text{VE}}$ GHC v GOT R +

All W/T stations are then at liberty to recommence signalling.

(ix) In R/T, the French word SÉCURITÉ repeated three times is used as the Safety Signal.

"$\overline{\text{UK}}$"—The "Underline or Block Letter" sign

258. THE LETTERS "UK" MADE AS ONE SIGN.

(ii) The Underline or Block Letter sign is used before and after a code group or a series of code groups occurring in the subject matter of a P/L message. The "$\overline{\text{UK}}$" sign is not counted as a group.

(iii) The "$\overline{\text{UK}}$" sign is also used before and after any words which the originator of a P/L message may write in block letters or may underline.

(iv) The "$\overline{\text{UK}}$" sign is not to be used before reference numbers appearing in a P/L message.

(v) *Example :—*

$\overline{\text{VE}}$ D4B v K6W NR6 – GR14 – Z – K2G v K6W
$\overline{\text{AAA}}$ Q21 – 31/7 My Q19 – 27/7 Send stores to
$\overline{\text{UK}}$ KZAGD $\overline{\text{UK}}$ as soon as possible = 0931 +

(vi) For use in the address of a message. (See Article 292, para. (iv) (*b*).)

"$\overline{\text{XE}}$"—The "Oblique Stroke" sign

259. THE LETTERS "XE" MADE AS ONE SIGN.

(ii) This sign is used to represent an oblique stroke.

(iii) It is not counted as a group.

(iv) *Examples :—*

(*a*) ½ is transmitted 1$\overline{\text{XE}}$2

(*b*) 7/16 is transmitted 7$\overline{\text{XE}}$16

(*c*) Q19 – 27/7 is transmitted. Q19 – 27$\overline{\text{XE}}$7

"XXX"—The "International Urgency" signal

260. THE GROUP "XXX" SENT THREE TIMES BEFORE A CALL WITH THE LETTERS AND GROUPS WELL SEPARATED, signifies that the transmitting station has a very urgent message to transmit concerning the safety of a ship or aircraft, or of some person on board or within sight.

(ii) A message preceded by the "Urgency" signal has priority over all communications except those of distress (see Articles 477 and 536), and all stations which hear it must avoid interference with the "Urgent" message.

(iii) Stations which hear the "Urgency" signal must listen out for a period of three minutes. If, at the expiration of this period, no urgent message has been heard, stations may resume their normal service.

(iv) The "International Urgency" signal is only to be used by service aircraft when communicating with commercial W/T stations, and is to be employed as shown in Article 536. Service aircraft not in possession of a Commercial W/T call sign will use the general commercial call sign, "Any British Royal Air Force Aircraft," viz., "GEZAA." (See Article 287.)

"$\overline{\text{KK}}$" "$\overline{\text{RR}}$"

261. THE LETTERS "KK" MADE AS ONE SIGN.
THE LETTERS "RR" MADE AS ONE SIGN.

(ii) These signs, representing "brackets" and "inverted commas" respectively, are made, when necessary, in the subject matter of a P/L message. When so used they are made before and after the words concerned.

(iii) Each pair of "brackets" or "inverted commas" are counted as one group.

(C38697)

CHAPTER 13

COUNTING THE NUMBER OF WORDS OR GROUPS IN A MESSAGE

264. (i) In counting the number of words or groups in a message the following rules apply :—

Code or P/L messages. The groups or words of the subject matter and the time of origin are counted, e.g., "Only groups or words which follow the long break or full-stop sign (see Article 112), and the time of origin are to be counted."

(ii) The time of receipt is NOT to be counted.

265. (i) The following combinations will be counted as one group irrespective of the number of characters employed :—

(ii) Any combination of letters which represent a word in plain language.

(iii) Any combination of letters and figures which constitute a group in code or P/L messages or in a time of origin.

(iv) Any combination of letters, figures, words and symbols which represent :—

(*a*) Abbreviations of ranks and appointments.
(*b*) „ units.
(*c*) „ squadrons.
(*d*) „ flights.
(*e*) „ aircraft.
(*f*) „ books and publications.
(*g*) Reference numbers.
(*h*) Dates signalled completely in figures (e.g., 16/3/35).

266. In messages containing reference to paragraphs and sub-paragraphs of books and publications, the abbreviation of the book or publication only is to be counted as one word. The words, figures and symbols referring to the paragraph and sub-paragraph are to be counted separately.

(i) The full stop or comma sign appearing in the subject matter of a P/L message is counted as one group. The full stop sign used to precede the subject matter of a plain language message is NOT to be counted.

(ii) Each pair of inverted commas and pair of bracket signs are counted as one group.

(iii) Punctuation symbols other than those mentioned in (i) and (ii) are not counted.

(iv) The hyphen sign is signalled as part of the word preceding it. Hyphened words are counted separately.

267. In messages in which the subject matter is partly in plain language and partly in code, the separative sign will be transmitted between consecutive code groups.

268. In P/L messages containing successive groups of letters or figures not forming P/L words, the separative sign will be transmitted between such groups to prevent their being read or counted as one group.

269. *Examples :—*

	Abbreviation transmitted as	*Counted as*
Air Officer Commanding	AOC	1
Air Vice Marshal	AVM	1
Air Commodore	A/Cdr	1
Director of Training	DofT	1
Director of Works and Buildings ..	DWB	1
Senior Air Staff Officer	SASO	1
Deputy Principal Medical Officer ..	DPMO	1
Flight Lieutenant	F/L	1
Flight Sergeant	F/Sgt	1
Acting Corporal	A/Cpl	1
Leading Aircraftman	LAC	1
Aircraftman, 2nd Class	AC2	1
School of Naval Co-operation ..	SofNC	1
Electrical and Wireless School ..	E&WS	1
No. 4 Flying Training School ..	4FTS	1
No. 100 (Torpedo Bomber) Squadron	100TB Sqn	1
No. 403 (Fleet Fighter) Flight ..	403FF Flt.	1
King's Regulations and Air Council Instructions	KR&ACI	1
Air Publication No. 830	AP830	1
Air Ministry Order N.24/1934 ..	AMON24/34	1
J8462 (Aircraft Number)	J8462	1
Q15 (Reference Number)	Q15	1
2468/AVN/Two (Reference Number)	2468/AVN/Two	1
Section 10A.Ref. No. 7432	10A/7432	1
17th MARCH 1935	17 MAR 1935	3

270. *Examples of messages :—*

	Message.	*No. of Groups.*
(i)	VE GFX v GFA NR2 – GR9 = 2106 7109 8432 9108 7132 4106 7098 2106 = 1000 +	9
(ii)	VE K6W v D4B NR6 – GR7 – Z – K6W v K2G – Y = 21 – 9 XE 10 – FOTER SIMOL HUZAR GEXOT = 1030 +	7
(iii)	VE K6W v D4B NR7 – GR12 – Z – K6W v K2G AAA Q12 – 10 XE 10 iii Your Q7 – 15 XE 9 – 26 cases despatched 17 MAR = 1032 +	12
(iv)	VE K6W v D4B NR8 – GR16 AAA S21 – 11XE 10 Attention is drawn to CCO1XE34 para 6 KK b KK III Report action taken = 1145 +	16
(v)	VE K6W v O3R NR2 – GR17 AAA Q7 – 12 XE 10 Following items urgently required III Sections 3A XE 423 – 10 AAA 10A XE 7428 – 2 AAA 14 XE 2496 – 1 = 1150 +	17
(vi)	VE O3R v K6W NR5 – GR28 AAA M12 20 XE 10 Instruct following airmen to report CME 1000 – 19 APR III 342861 F XE Sgt JONES – A AAA 528091 AXESgtXEP SMITH – W AAA 501842 Sgt DU Pilot BROWN – F = 1410 +	28

271. The above rules differ from those employed internationally by telegraph administrations for counting the number of words of messages that are to be paid for. Where service stations accept paid work, the counting of such words will be governed by the special instructions provided. (See Post Office Guide and G.P.O. Handbook.)

CHAPTER 14

CORRECTING THE NUMBER OF WORDS OR GROUPS IN A MESSAGE

275. USE OF "$\overline{\text{INT}}$ GR."—(i) The interrogative sign "$\overline{\text{INT}}$" is used in conjunction with the procedure signal "GR" in the following cases, when the number of words or groups is in question between the receiving and transmitting stations :—

(*a*) To verify the number of words or groups in a message from which the number of words or groups has been omitted.

(*b*) To indicate to the transmitting station that the number of words or groups received by the receiving station does not agree with that indicated. This may be due to the fact that either—

The message is counted incorrectly by the transmitting station ; or

The message is counted correctly but transmitted incorrectly ; or

The message is received or counted incorrectly by the receiving station.

(ii) The letter "C" is always used in reply to "$\overline{\text{INT}}$ GR."

(iii) *Examples :—*

(*a*) A station (G4D) transmits a code message of 30 groups to a station (F7K), but omits to signal the number of groups.

F7K makes :—
$\overline{\text{VE}}$ G4D v F7K $\overline{\text{INT}}$ GR +

G4D makes :—
$\overline{\text{VE}}$ F7K v G4D C WB1 – GR30 +

F7K answers as usual.

(*b*) **A station (G4D) transmits a P/L message of eight groups to a station (F7K), but the groups are incorrectly counted.**

G4D makes :—

VE F7K F7K v G4D NR8 – GR7 – Z – F7K v H6M AAA Your A16 – 12 XE 3 Send lorries as arranged = 0930 +

F7K makes :—

VE G4D v F7K INT GR8 +

G4D corrects his mistake at once, thus :—

VE F7K v G4D C WB Z – GR8 +

F7K answers as usual.

(If the message did not contain an address, G4D would make :—

VE F7K v G4D C WB1 – GR8 +)

If, however, the message is a long one which G4D is unable to recount with delay

G4D will answer—

VE F7K v G4D R +

and will furnish the correction as soon as possible.

276. USE OF "GR" SIGN WITH THE IDENTITY OF A MESSAGE.—(i) Should it be necessary to identify the message, when verifying or correcting the number of groups in a message already transmitted, this is done as follows :—

(*a*) VE G4D v F7K NR16 – INT GR 20 +
(*b*) VE FF3 v G4D 1030 – INT GR 30 +

(ii) The replies are made as follows :—

(*a*) VE F7K v G4D C NR16 – WB1 – GR20 +
(*b*) VE G4D v FF3 C 1030 – WB1 – GR30 +

(iii) If the messages in question are P/L messages the replies are made as shown in Article 275 para. (iii) (*b*).

277. INITIAL CHECK METHOD.—(i) When the number of words or groups in any message is in dispute, and the transmitting station considers that the number of groups has been correctly indicated, the initial check method will be employed by the transmitting station, who transmits the initial letter or figure of each P/L word, code, or cypher group, and combination of letters, figures, and symbols, which has been counted as a group in the original counting of the message.

(ii) The receiving station, by comparing the initial check message with the original received version, is able to identify that portion of the message which differs from the original.

(iii) The transmitting station commences the initial check message with the procedure letter " C " and the identity of the message in respect of which the initial check is being made, followed by the number of groups in the message.

(iv) *Examples :—*

(*a*) **G4D transmits a message of 60 groups to F7K and omits one line during transmission :—**

$\overline{VE}$ F7K F7K v G4D NR15 – GR60 $\overline{AAA}$ Q21 – 22$\overline{XE}$3 Your Q47 – 15$\overline{XE}$3 Send following by quickest possible route Section 18B $\overline{XE}$ 125 – 22 $\overline{AAA}$ 30A $\overline{XE}$ 1077 – 200 fathoms ..... (etc.) ..... = 2316 +

F7K makes :—

$\overline{VE}$ G4D v F7K H +

F7K having counted the number of words in the message, and making the number only 55, makes :—

$\overline{VE}$ G4D v F7K $\overline{INT}$ GR 55 +

G4D answers :—

$\overline{VE}$ F7K v G4D R +

G4D having verified the counting, proceeds with the initial check, and makes :—

$\overline{VE}$ F7K v G4D C NR15 – GR60 Q 2 Y Q 1 S F B Q P R S 1 2 $\overline{AAA}$ 3 2 F..... (etc.).....2 +

F7K is thus able to ascertain what groups G4D omitted in the original transmission, and then proceeds to ask for a repetition as laid down in Chapter 21.

(*b*) **G4D transmits a message of ten groups to F7K, who miscounts the received version.**

VE F7K F7K v G4D NR17 – GR10 AAA Your Q60 – 16XE3 Return RR V – frames RR to depôt = 1015 +

F7K omits to count the inverted comma sign, makes :—

VE G4D v F7K INT GR9 +

G4D having verified the counting, makes :—

VE F7K v G4D C NR17—GR10 Y Q 1 R RR V F T D 1 +

F7K sees his mistake, makes :—

VE G4D v F7K R +

278. COUNTING THE GROUPS IN "LONG" MESSAGES MADE IN PORTIONS.—**In the case of "long" messages sent in two or more portions, each portion is checked by the receiving station before proceeding with the next portion. (See Article 162, para. (iii), and Chapter 24.)**

CHAPTER 15

CALL SIGNS

282. THE ORDER OF CALL SIGNS.—In the call, or in the address of multiple address P/L messages, and for stations answering multiple and collective calls, the alphabetical order of call signs is used.

Alphabetical order is as follows :—

(*a*) **One-letter one-figure series, D2, S1, etc., in alphabetical order.**
(*b*) **Two-letter series, AB to ZZ, in alphabetical order.**
(*c*) **Letter, letter, figure series, AA2, AA3, etc., to ZZ9.**
(*d*) **Letter, figure, letter series, A2A, A2B, etc., to Z9Z.**
(*e*) **Figure, letter, letter series, 2AA, 2AB, etc., to 9ZZ.**
(*f*) **Three-letter series, AAB to ZZZ, in alphabetical order.**
(*g*) **Three-letter and figure series, AAB2 to ZZZ9, in alphabetical order.**
(*h*) **Four-letter series, AAAA to ZZZZ, in alphabetical order.**
(*i*) **Five-letter series, AAAAA to ZZZZZ, in alphabetical order.**

(ii) **" Barred " letters, if used, follow plain letters. Thus :—**
" $\bar{A}$ " follows " A " but precedes " B."

(iii) **Example of a multiple preliminary call :—**
$\overline{VE}$ AZ AZ $\bar{A}C$ $\bar{A}C$ JP JP CH3 CH3 CR9 CR9 K6O K6O K6W K6W 3ZK 3ZK 4AW 4AW $B\bar{A}F$ $B\bar{A}F$ GFQ GFQ v QB9 +

The stations called answer in the same order.

(iv) An exception to the above rule is that when a collective call sign addresses an aircraft formation the Officer Commanding the formation will always answer first. (See also Article 285.)

(v) See also Article 292, para. (iv) (*b*), for the order of call signs, when the address of a P/L message is expressed partly by call sign and partly by names and authorised abbreviated titles.

(vi) The rules for W/T guards answering messages are given in Article 310.

283. USE OF THE "NEGATIVE" SIGN IN THE CALL, WITH COLLECTIVE CALL SIGNS.—**The negative sign is used in the call in conjunction with a collective or a multiple collective call sign when it is desired to negative a particular station or section included in that call sign, and to indicate that that particular station or section is not required to answer.**

(ii) The Negative sign, followed by the call signs of the stations to which it applies, is made immediately after the collective call signs of the section to which the stations belong.

(iii) *Examples :—*

(*a*) **D4B has a message for all stations of a section except the two stations J3P and K6O.**

The message does not concern J3P and K6O, and these stations are not required to answer.

W8P is the collective call sign of the section.

D4B makes :—

$\overline{VE}$ W8P $\overline{NO}$ J3P K6O W8P $\overline{NO}$ J3P K6O v D4B NR4 NR6 NR7 NR5 – GR32 $\overline{AAA}$ (subject matter) = 1010 +

All stations of the section answer in the usual manner, except J3P and K6O, who do not answer.

$\overline{VE}$ D4B v H2K R +
$\overline{VE}$ D4B v H8Y R +
$\overline{VE}$ D4B v K6W R +
$\overline{VE}$ D4B v L9O R +

(*b*) **J2P has a P/L message for all stations of a section except the two stations J3P and K6O. The message does not concern J3P and K6O, and these stations are not required to answer.**

W8P is the collective call sign of the section.

J2P wishes to pass the message through D4B to W8P.

J2P makes :—

$\overline{VE}$ D4B v J2P NR21 – T – GR28 – Z – W8P $\overline{NO}$ J3P K6O v J2P $\overline{AAA}$ (subject matter) = 1020 +

D4B answers :—

$\overline{VE}$ J2P v D4B R +

D4B re-transmits the message thus :—

VE W8P NO J3P K6O W6P NO J3P K6O v D4B NR5 NR7 NR8 NR6 – GR28 – Z – W8P NO J3P K6O v J2P AAA (subject matter) = 1030 +

All stations of the section answer in the usual manner, except J3P and K6O, who do not answer.

284. THE "NEGATIVE" SIGN IS USED IN THE ADDRESS OF MESSAGES IN CONJUNCTION WITH A COLLECTIVE OR A MULTIPLE COLLECTIVE CALL SIGN, when it is desired to negative a particular station or section included in that call sign, but to obtain answers from all stations or sections included in that call sign.

(ii) *Examples :—*

(*a*) **D4B has a P/L message for all stations of a section except the two stations J3P and K6O.**

The message does not concern J3P and K6O, but D4B wishes J3P and K6O to answer.

W8P is the collective call sign of the section.

D4B makes :—

VE W8P W8P v D4B NR6 NR8 NR2 NR3 NR9 NR7 – GR40 – Z – W8P NO J3P K6O v D4B AAA (subject matter) = 1200 +

All stations of the section answer in the usual manner.

(*b*) **J2P has a P/L message for all stations of a section except the two stations J3P and K6O.**

The message does not concern J3P and K6O, but J2P wishes J3P and K6O to answer.

W8P is the collective call sign of the section.

J2P wishes to pass the message through D4B to W8P.

J2P makes :—

D4B v J2P NR22 – T – W8P – GR30 – Z – W8P NO J3P K6O v J2P AAA (subject matter) = 1100 +

D4B answers as usual and re-transmits the message thus :—

$\overline{VE}$ W8P W8P v D4B NR7 NR9 NR3 NR4 NR10 NR8 – GR30 – Z – W8P $\overline{NO}$ J3P K6O v J2P $\overline{AAA}$ (subject matter) = 1100 +

All stations of the section answer in the usual manner.

285. ORDER OF CALL SIGNS WITH " NEGATIVE " SIGN.—For the purpose of the order of call signs, the collective (or multiple collective) call sign, the Negative sign and call signs of the stations governed by the Negative sign are considered as forming one call sign, and they will follow after any other call signs in that part of the call or address.

Example :—

U8J W8P D3T $\overline{NO}$ P3A – W – Q7L v J2P

286. " AA "—THE " UNKNOWN STATION " CALL SIGN.—A station which clearly hears its own call sign in a call, but is unable to distinguish the call sign of the transmitting station, should use the call sign " AA " when answering.

(ii) Should any doubt exist as to the call sign(s) of the station(s) addressed, the station should on no account answer. (See Article 582.)

(iii) *Example :*—**A station M9C makes a preliminary call to a single station H8Y. Owing to interference or some other cause, H8Y misses the call sign M9C +.**

M9C makes :—

$\overline{VE}$ H8Y H8Y v M9C +

H8Y, having missed M9C's call sign, answers :—

$\overline{VE}$ AA v H8Y K6 +,

or $\overline{VE}$ AA v H8Y $\overline{IMI}$ – R3 +

In the former case, M9C proceeds with the message.

In the latter case, M9C makes a further preliminary call.

(iv) Should the controlling station wish to order a station whose call sign has not been distinguished to wait, he may employ the call sign " AA " thus :—

$\overline{VE}$ AA v D4B Q +

287. "GEZAA"—THE GENERAL COMMERCIAL W/T CALL SIGN for "Any British Royal Air Force Aircraft."—Service aircraft which have necessity to communicate with commercial W/T stations and which are themselves not in possession of a commercial W/T call sign will use the call sign "GEZAA."

Example :—

$\overline{\text{CT}}$ $\overline{\text{DDDT}}$* GLD GLD GLD de GEZAA GEZAA GEZAA

288. COMMERCIAL CALL SIGNS.—(i) Flying-boats are allotted an individual Service call sign, also an individual commercial call sign, which are to be used in their respective capacities. The latter is also to be used when communicating with merchant shipping.

(ii) Service aircraft on extended flights necessitating communicating with commercial or foreign W/T stations, or calling at foreign ports or aerodromes, are to use commercial call signs throughout the flight. The Service call signs are only to be used when specific instructions are given before the commencement of the flight.

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* See Article 248.

CHAPTER 16

THE ADDRESS

292. THE ADDRESS IN W/T MESSAGES.—The address (consisting of, To.....Repeated for information to.....from.....), the instructions to acknowledge) is to form the commencement of the text and is indicated in one of the following ways :—

(ii) When call signs are employed for **ALL** the addressees and the originator, the address is expressed as described in Article 111, para. (iii). The address may be omitted provided that it is indicated in the call.

(iii) When **NONE** of the addressees and the originator possess call signs, the whole address must be expressed in P/L or non-confidential code, in the following form :—" ..... (repeated.....) from..... " (See Article 293, para. (iii), Examples (*a*) and (*b*).)

(iv) (*a*) When call signs are available for **SOME** only of the addressees or the originator, they may be employed, and the names or authorised abbreviated titles of the authorities without call signs are to be expressed in P/L or non-confidential code.

(*b*) The call signs in each portion of the address are to be grouped together, and are to precede the names and authorised abbreviated titles, which are preceded and followed by the block letter sign " UK."

(*c*) The procedure signals " Z," " W " and " V " are employed as in (ii) above.

(v) (*a*) The instructions to acknowledge is indicated by the procedure signal " Y," preceded, if necessary, by any call sign governing it.

(*b*) If the importance of the message makes it essential for the originator to receive an immediate acknowledgment and the addressee is maintaining W/T silence, the originator will insert the words " Acknowledge forthwith " at the end of the subject matter, being governed by the instructions contained in Article 377.

The addressee will as soon as the message is understood, break W/T silence and acknowledge the message.

(*c*) **In cases of code messages, the instruction " Acknowledge forthwith " will be in the same code as the remainder of the subject matter.**

(*d*) **The letter " Y " will be employed in the address in addition to the instructions " Acknowledge forthwith " in the subject matter.**

(*e*) **See Article 207.**

293. RULES FOR THE ADDRESS IN W/T MESSAGES WHEN IT CANNOT ALL BE EXPRESSED IN CALL SIGNS.—(i) When call signs are available for SOME only of the addressees.

Examples :—

(*a*) **A station (U4K) has a P/L message for transmission to a station (Y8C). The message is addressed to Y8C and the " S.S.O. Basrah " (no call sign) from an authority (R2A).**

The message is transmitted thus :—

VE Y8C Y8C v U4K NR6 – T – GR15 – Z – Y8C UK SSO Basrah UK v R2A AAA (subject matter) = 0900 +

(*b*) **A station (U4K) has a P/L message for transmission to a station (Y8C). The message is addressed to the " S.S.O. Basrah " (no call sign) and repeated for information to Y8C from an authority (R2A).**

The message is transmitted thus :—

VE Y8C Y8C v U4K NR7 – T – GR18 – Z – UK SSO Basrah UK – W – Y8C v R2A AAA (subject matter) = 0915 +

(*c*) **A station (U4K) has a P/L message for transmission to a station (Y8C). The message is addressed to Y8C and repeated for information to the " S.S.O. Basrah " (no call sign) from an authority (R2A).**

The message is transmitted thus :—

VE Y8C Y8C v U4K NR8 – T – GR22 – Z – Y8C – W – UK SSO Basrah UK v R2A AAA (subject matter) = 1000 +

(*d*) **A R.A.F. station (D4B) has a code message for transmission to H.M. ship (HN). The message is addressed to the Fleet Aviation Officer (no call sign) from an authority (K2G).**

The message is transmitted thus :—

$\overline{VE}$ HN HN v D4B NR3 – GR30 – Z – $\overline{UK}$ FAVO $\overline{UK}$ v K2G = (subject matter) = 1000 +

(ii) When messages are originated by authorities NOT allotted call signs.

Examples :—

(*a*) **A station (Y8C) has a P/L message for transmission to a station (U4K). The message is addressed to an authority (R2A) from the " S.S.O. Basrah " (no call sign).**

The message is transmitted thus :—

$\overline{VE}$ U4K U4K v Y8C NR12 – GR21 – Z – R2A v $\overline{UK}$ SSO Basrah $\overline{UK}$ $\overline{AAA}$ (subject matter) = 1200 +

(*b*) **H.M. ship (HN) has a code message for transmission to a R.A.F. station (D4B). The message is addressed to an authority (K2G) from the Fleet Aviation Officer (no call sign).**

The message is transmitted thus :—

$\overline{VE}$ D4B D4B v HN – GR15 – Z – K2G v $\overline{UK}$ FAVO $\overline{UK}$ = (subject matter) = 1100 +

NOTE.—In (i) and (ii) above :—U4K is assumed to be automatically responsible for R2A. D4B is assumed to be automatically responsible for K2G.

(iii) When NONE of the addressees and the originator possess call signs.

Examples :—

(*a*) **A fixed station (GFJ) has a P/L message for a fixed station (VJR). The message is addressed to " Airboard " (no call sign) from "Austair " (no call sign).**

The message is transmitted thus :—

VE VJR v GFJ NR6 – GR35 – Airboard from Austair AAA (subject matter) = 0900 +

NOTE.—VJR is automatically responsible for "Airboard."

(*b*) **A fixed station (GFX) has a P/L message for a fixed station (GFJ). The message is addressed to the Director of Civil Aviation (no call sign), repeated to the Secretary, Air Ministry (no call sign) from the Under Secretary of State (no call sign).**

The message is transmitted thus :—

VE GFJ v GFX NR25 – GR43 – DCA repeated Sect. A.M. from U.S. of S. AAA (subject matter) = 1200 +

CHAPTER 17

THE PRELIMINARY CALL AND ANSWER

297. THE USE OF THE PRELIMINARY CALL is to establish communication between two stations. There may or may not be a message to follow.

(ii) The preliminary call is always used by fixed and land stations before commencing an " I " method routine.

(iii) The preliminary call is usually used—

(*a*) Between fixed stations.

(*b*) Before transmitting long messages.

(*c*) Between stations when signals are likely to be weak.

(*d*) Between stations when signalling conditions are unfavourable, due to interference or atmospherics.

(*e*) Between stations which have not recently been in wireless communication.

(iv) The preliminary call is usually omitted—

(*a*) Between stations in the same section, on point-to-point service.

(*b*) Between aircraft in W/T company.

(*c*) Between stations which communicate regularly at short or medium ranges.

(*d*) Between stations which have recently been in good communication.

(*e*) In messages with the degree of priority " P ", " O ", " O–A " or " O–U " in the originator's instructions.

298. THE PRELIMINARY CALL consists of the call sign of the receiving station made twice, the letter " v " (from), and the call sign of the transmitting station.

Example :—

GFJ makes a preliminary call to GFX, thus :—

$\overline{\text{VE}}$ GFX GFX v GFJ +

299. PRELIMINARY CALL WITH A MESSAGE BEARING A DEGREE OF PRIORITY.—When a preliminary call is made before transmitting a message bearing a degree of priority in the originator's instruction, the degree of priority follows the call sign of the transmitting station. In this case the preliminary call becomes a procedure message. (See Article 303, para. (ii).)

(ii) If a station, to whom "Q" HAS BEEN MADE BY THE CONTROLLING STATION, has a message for transmission bearing the degree of priority "D" or "P", a special form of preliminary call may be employed, in which the degree of priority, made three times, is substituted for the call signs of the receiving station. The call is assumed to be addressed to the controlling stations, and is answered in the usual manner.

(iii) *Example* :—

A station K6W has been given "Q" by the controlling station and has an immediate message for transmission.

K6W makes :—

$\overline{\text{VE}}$ PPP v K6W +

The controlling station will then decide whether to make "K" or another "Q" to K6W. (See Article 191, para. (iii) and para. (v) (*c*).)

(iv) If a station has an enemy report for transmission, bearing the degree of priority "O" or "O–A" and is unable to do so owing to W/T congestion from friendly stations transmitting reports of less important forces, a preliminary call may be made in the form shown in para. (ii) above, and repeated until interference from friendly stations has abated.

Stations hearing this call are at once to cease transmitting on the frequency used until the station making it has transmitted his message.

This special preliminary call should be used as sparingly as possible, and only with the authority of the officer authorising the use of this degree of priority, for reports which are obviously of vital importance.

This preliminary call is NOT answered, unless the controlling station makes "Q."

The subsequent enemy report is transmitted in the usual manner.

(v) *Example :—*

An aircraft M9C sights an attacking enemy aircraft formation and is unable to transmit a report, owing to W/T congestion caused by other aircraft transmitting " P " and " O " messages. The W/T operator having obtained the authority detailed in (iv) above.

M9C makes :—

$\overline{VE}$ O–A O–A O–A v M9C +

repeated as necessary until interference from friendly stations has abated.

M9C then makes :—

$\overline{VE}$ D4B D4B v M9C – O–A = 20196 – 245CKUM18 = 0930 $\overline{IMI}$ D4B D4B v M9C – O – A = 20196 – 245CKUM18 = 0930 +

The message is answered in the usual manner.

300. THE ANSWER TO THE PRELIMINARY CALL consists of the call sign of the calling station made once only, the letter " v " (from), and the call sign of the station called, followed by the procedure signals " K," " Q " or " R," together with any other procedure and/or operating signals and call signs necessary for the guidance of the calling station.

301. USE OF THE UNKNOWN STATION CALL SIGN.—Should a receiving station be unable to distinguish the call sign of the transmitting station, the " Unknown station " call sign is used, when answering. (See Articles 286 and 582.)

Examples of an answer to a preliminary call :—

(*a*) $\overline{VE}$ GFJ v GFX K5 +

(*b*) $\overline{VE}$ AA v M9C R3 +

(*c*) $\overline{VE}$ GFX v GFJ Q – X9 – GFV +

(*d*) $\overline{VE}$ GFX v GFJ K6 – X – GFV +

302. IT IS IMPOSSIBLE TO OVER-ESTIMATE THE VALUE OF AN IMMEDIATE ANSWER.

303. THE FOLLOWING EXAMPLES SHOW THE USE OF THE PRELIMINARY CALL AND ANSWER.—(i) A station GFX makes a preliminary call to a station GFJ.

GFX makes :—

$\overline{\text{VE}}$ GFJ GFJ v GFX +

(*a*) **GFJ is ready to attend to GFX. Signals from GFX are sufficiently strong (say, strength 5).**

GFJ makes :—

$\overline{\text{VE}}$ GFX v GFJ K5 +

GFX then proceeds with the message, or indicates that there is no message to follow. (See Article 242.)

(*b*) **GFJ is not ready to attend to GFX.**

GFJ makes :—

$\overline{\text{VE}}$ GFX v GFJ Q +

When ready to attend to GFX, GFJ makes :—

$\overline{\text{VE}}$ GFX v GFJ K5 +

GFX then proceeds with the message.

(*c*) **Signals from GFX are not sufficiently strong.**

GFJ makes :—

$\overline{\text{VE}}$ GFX v GFJ R3 +

GFX increases power, if possible, and makes a further preliminary call.

$\overline{\text{VE}}$ GFJ GFJ v GFX +

Signals now being sufficiently strong.

GFJ makes :—

$\overline{\text{VE}}$ GFX v GFJ K6 +

GFX then proceeds with the message.

(*d*) **Signals from GFX are sufficiently strong but GFJ wishes to inform GFX that interference is being experienced from a station GFV.**

GFJ makes :—

$\overline{\text{VE}}$ GFX v GFJ K7 – X – GFV +

(*e*) **Signals from GFX are not sufficiently strong for reading through interference from atmospherics.**

GFJ makes :—

$\overline{VE}$ GFX v GFJ R6 – X7 +

GFX increases power, if possible, and makes a further preliminary call.

$\overline{VE}$ GFJ v GFX +

Signals now being sufficiently strong to read through atmospherics.

GFJ makes :—

$\overline{VE}$ GFX v GFJ K8 +

GFX then proceeds with the message.

(*f*) **Signals from GFX are sufficiently strong for reading through atmospherics if "DC" method is used. (See Chapter 25.)**

GFJ makes :—

$\overline{VE}$ GFX v GFJ K9 – X9 – $\overline{DC}$ +

GFX then proceeds with the message using "DC" method.

(*g*) **Signals from GFX are not sufficiently strong for reading through interference strength 9 from GFV.**

GFJ makes :—

$\overline{VE}$ GFX v GFJ Q – X9 – GFV +

When interference has ceased,

GFJ makes :—

$\overline{VE}$ GFX v GFJ K6 +

GFX then proceeds with the message.

(ii) A station GFX has a message, with "P" in the degree of priority, for GFJ.

GFX makes :—

$\overline{VE}$ GFJ GFJ v GFX P +

GFJ answers :—

$\overline{VE}$ GFX v GFJ K7 +

GFX then proceeds with the "Immediate" message.

304. MULTIPLE PRELIMINARY CALL.—A Multiple Preliminary call consists of a preliminary call to two or more stations, each addressed by its individual call sign.

(ii) The call signs of the receiving stations are made twice, the call signs being arranged in alphabetical order, as laid down in Article 282.

(iii) The Stations will immediately answer in alphabetical order of call signs.

(iv) *Examples :—*

A station D4B makes a preliminary call to three stations K6O, K6W, L9O.

D4B makes :—

$\overline{VE}$ K6O K6O K6W K6W L9O L9O v D4B +

(*a*) **All stations are ready to attend to D4B. Signals from D4B are sufficiently strong. Stations answer in alphabetical order of call signs.**

$\overline{VE}$ D4B v K6O K7 +
$\overline{VE}$ D4B v K6W K7 +
$\overline{VE}$ D4B v L9O K8 +

D4B then proceeds with the message.

(*b*) **One station is not ready to attend to D4B.**

$\overline{VE}$ D4B v K6O K7 +
$\overline{VE}$ D4B v K6W K7 +
$\overline{VE}$ D4B v L9O Q – X +

D4B may give K6O and K6W a "Q" and wait till L9O is ready, or may transmit the message to K6O and K6W, and when L9O has made "K" transmit the message to L9O.

(*c*) **Signals from D4B are not sufficiently strong to L9O.**

$\overline{VE}$ D4B v K6O K6 +
$\overline{VE}$ D4B v K6W K6 +
$\overline{VE}$ D4B v L9O R3 +

D4B increases power, if possible, and makes a further preliminary call to L9O, thus :—

$\overline{VE}$ L9O L9O v D4B +

Signals now being sufficiently strong,

L9O makes :—

$\overline{VE}$ D4B v L9O K6 +

D4B then proceeds to transmit the message to all three stations.

305. COLLECTIVE PRELIMINARY CALL.—A collective preliminary call consists of a preliminary call addressed to a single group of stations, addressed by one collective call sign.

(ii) The collective call sign is made twice.

(iii) The stations addressed by the single collective call sign answer immediately in the alphabetical order of their individual call signs, except that, if the collective call sign addresses an aircraft formation, the Officer Commanding the formation will answer first. (See Article 282, para. (iv).)

(iv) *Examples :—*

(*a*) **A station D4B makes a preliminary call to a section (collective call sign W8P).**

D4B makes :—

$\overline{\text{VE}}$ W8P W8P v D4B +.

All stations of the section answer in alphabetical order of their call signs.

$\overline{\text{VE}}$ D4B v H2K K8 +
$\overline{\text{VE}}$ D4B v H8Y K9 +
$\overline{\text{VE}}$ D4B v J3P K9 +
$\overline{\text{VE}}$ D4B v K6O K7 +
$\overline{\text{VE}}$ D4B v K6W K7 +
$\overline{\text{VE}}$ D4B v L9O K6 +

(*b*) **A station D4B wishes to make a preliminary call to all stations of a section (collective call sign W8P) except the two stations J3P and K6O. (See Article 283.)**

D4B makes :—

$\overline{\text{VE}}$ W8P $\overline{\text{NO}}$ J3P K6O W8P $\overline{\text{NO}}$ J3P K6O v D4B +

All stations of the section answer in alphabetical order of their call signs, except J3P and K6O who do not answer.

$\overline{\text{VE}}$ D4B v H2K K8 +
$\overline{\text{VE}}$ D4B v H8Y K9 +
$\overline{\text{VE}}$ D4B v K6W K7 +
$\overline{\text{VE}}$ D4B v L9O K6 +

306. MULTIPLE COLLECTIVE PRELIMINARY CALL.—A multiple collective preliminary call consists of a preliminary call addressed to :—

(*a*) **Two or more groups of stations, addressed by their collective call signs.**

Or

(*b*) **One or more groups of stations, addressed by their collective call sign-s, and one or more stations addressed by their individual call sign-s.**

Or

(*c*) **One or more collective call signs, one or more of which addresses two or more groups of stations.**

(ii) All call signs of the receiving stations are made twice.

(iii) Examples of multiple collective preliminary calls. B3N and W8P are collective call signs. D4B, H8Y, and L9O are individual call signs.

(*a*) $\overline{\text{VE}}$ B3N B3N W8P W8P v D4B +

(*b*) $\overline{\text{VE}}$ B3N B3N H8Y H8Y v D4B +

(*c*) $\overline{\text{VE}}$ B3N B3N H8Y H8Y L9O L9O v D4B +

Z3D is the multiple collective call sign for three aircraft squadrons, each of which has its own collective call sign.

(*d*) Z3D Z3D v D4B +

(iv) Stations addressed by a multiple collective preliminary call are NOT to answer immediately, but are to wait until the transmitting station makes "K."

(v) The transmitting station will call each group of stations by its collective call sign and each separate station by its individual call sign in turn and control them to answer.

(iv) *Examples :—*

(*a*) **A station D4B makes a preliminary call to an aircraft squadron (collective call sign B3N) and an aircraft (X6Q) not included in that squadron.**

D4B makes :—

$\overline{\text{VE}}$ B3N B3N X6Q v X6Q D4B +

D4B then makes " K " to the stations addressed in the order in which he wishes them to answer. Assuming D4B wishes the aircraft of the squadron addressed by the collective call sign B3N to answer first, D4B makes :—

$\overline{\text{VE}}$ B3N v D4B K +

The aircraft so addressed answer in the alphabetical order of their call signs, the Squadron Commander answering first.

$\overline{\text{VE}}$ D4B v W2X. K7 + (Squadron Commander)

$\overline{\text{VE}}$ D4B v R4M. K6 +

$\overline{\text{VE}}$ D4B v S9U. K7 +

$\overline{\text{VE}}$ D4B v T8H. K7 +

$\overline{\text{VE}}$ D4B v U8Z. K6 +

$\overline{\text{VE}}$ D4B v V4R. K7 +

D4B then makes :—

$\overline{\text{VE}}$ X6Q v D4B K +

X6Q answers :—

$\overline{\text{VE}}$ D4B v X6Q K7 +

D4B then proceeds with the message.

(*b*) **Z3D is the multiple collective call sign for three aircraft squadrons, whose individual collective call signs are B3N, P9B and T3K.**

D4B makes a preliminary call to these squadrons, thus :—

$\overline{\text{VE}}$ Z3D Z3D v D4B +

Aircraft do not answer.

D4B calls each squadron individually, in any order he wishes, and gives it " K."

Aircraft in the squadron addressed answer in the alphabetical order of their call signs, the Squadron Commander answering first.

307. SUMMARY OF RULES FOR ANSWERING PRELIMINARY CALLS.

Type of Preliminary Call.	*Action by Stations Called.*
(*a*) Preliminary Call to a single station.	Answers at once.
(*b*) Multiple Preliminary Call ..	Answer at once in alphabetical order.
(*c*) Collective Preliminary Call ..	Answer at once in alphabetical order of individual call signs. In the case of aircraft formations the Officer Commanding the formation answers first.
(*d*) Multiple Collective Preliminary Call.	Stations do NOT answer until given "K" by the transmitting station, who gives "K" to each collective call sign or individual station in any order he wishes.

308. FAILURE TO ANSWER A CALL.—(i) In order to avoid interference with other communications the following rules are to be observed by stations, other than control stations, regarding the repetitions of calls, in cases where the station addressed fails to answer :—

(*a*) If the station addressed fails to answer, the call may be repeated after a pause of 10 seconds.

(*b*) If the station addressed still fails to answer, the call will be repeated after a pause of one minute.

(*c*) If the receiving station fails to answer this further call, the call may be repeated at intervals of not less than five minutes.

(ii) The interval between the calls in (i) (*c*) may be decreased by stations communicating with aircraft if there is reason to believe that the aircraft operator may have been engaged temporarily on other duties. In no case, however, will the interval exceed that indicated in (i) (*b*).

(iii) If a station to which a message has been transmitted fails to answer within 10 seconds of the completion of transmission, the transmitting station may make a call, followed by the procedure letters "$\overline{\text{N}}$" (N barred) "Nothing received" or "B" "Has message ..... been received." (See Articles 185 and 161.)

(iv) In the event of the receiving station still failing to answer, the call may be repeated as laid down in (i) (*a*) (*b*) and (*c*).

(v) In the case of multiple, collective or multiple collective calls, if a station, whose turn it is to answer, fails to do so in ten seconds, the next station in the proper sequence will answer.

(vi) In the case of a collective or multiple call, any stations, which fail to answer in their proper turn, will wait until all stations have answered.

(vii) In the case of a multiple collective call, any station whose group is controlled to answer and which fails to answer before "K" is given to the next group of stations, must await a further call from the transmitting station before attempting to answer.

(viii) The time intervals given above should be greatly reduced when any abbreviated procedure is used.

309. PRELIMINARY CALLS AND ANSWERS THROUGH SIGNAL LINKS.—When unable to obtain an answer to preliminary calls, a transmitting station may direct any other station which is likely to be able better to attract the attention of the receiving station, to pass on the preliminary call.

(ii) When a preliminary call is thus passed through a signal link, it is preceded by the letter "Z" in the same way as an address in a P/L message.

(iii) *Example :—*

D4B having called K6O several times without obtaining an answer, decides to instruct K6W to pass on the call.

D4B makes :—

$\overline{VE}$ K6W K6W v D4B – T – Z – K6O v D4B +

K6W answers :—

$\overline{VE}$ D4B v K6W R +

K6W re-transmits the preliminary call, thus :—

$\overline{VE}$ K6O K6O v K6W – Z – K6O v D4B +

K6O hearing K6W, answers :—

$\overline{VE}$ K6W v K6O R +

and then makes :—

$\overline{VE}$ D4B v K6O $\overline{IMI}$ +

D4B may then call K6O again, and, on obtaining "K" proceeds with the message. If K6O is still unable to hear D4B, D4B should pass the message through K6W or other suitable link.

(iv) Similarly, when a preliminary call has been made and answered, and the calling station fails to hear the answer, the station called may direct any other suitable station to pass on the answer.

(v) *Example :—*

A station D4B makes a preliminary call to a signal station K6O.

D4B makes :—

$\overline{VE}$ K6O K6O v D4B +

K6O answers :—

$\overline{VE}$ D4B v K6O K6 +

D4B does not hear K6O and calls again.

$\overline{VE}$ K6O K6O v D4B +

K6O answers :—

$\overline{VE}$ D4B v K6O K6 +

D4B does not proceed with the message.

K6O makes :—

$\overline{VE}$ D4B v K6O $\overline{N}$ - K6 +

If D4B again fails to hear K6O, K6O may pass the answer through a suitable link K6W.

K6O makes :—

$\overline{VE}$ K6W K6W v K6O – T – Z – D4B v K6O K6 +

K6W answers :—

$\overline{VE}$ K6O v K6W R +

K6W re-transmits the answer, thus :—

$\overline{VE}$ D4B D4B v K6W – Z – D4B v K6O K6 +

D4B answers as usual and then transmits the message direct to K6O.

310. W/T GUARDS ANSWERING MESSAGES.—A station acting as W/T guard for another station answers in the alphabetical order of the call sign of the station for which it is W/T guard. (See Article 282.)

(ii) A station acting as W/T guard for two or more stations answers for all these stations in the position in the alphabetical sequence of call signs, occupied by the call sign of the first station for which it is answering.

(iii) *Examples :—*

(*a*) **D4B makes a preliminary call to K2K K6O and L9O. K6W is W/T guard for K6O. (See Article 197.)**

D4B makes :—

$\overline{\text{VE}}$ H2K H2K K6O K6O L9O L9O v D4B +

Stations answer :—

$\overline{\text{VE}}$ D4B v H2K K7 +

$\overline{\text{VE}}$ D4B v K6W S – K6O – K6 +

$\overline{\text{VE}}$ D4B v L9O K7 +

D4B then proceeds with the message.

(*b*) **D4B makes a preliminary call to H2K K6O K6W and L9O. H8Y is W/T guard for K6O and L9O.**

D4B makes :—

$\overline{\text{VE}}$ H2K H2K K6O K6O K6W K6W L9O L9O v D4B +

Stations answer :—

$\overline{\text{VE}}$ D4B v H2K K7 +

$\overline{\text{VE}}$ D4B v H8Y S – K6O L9O – K8 +

$\overline{\text{VE}}$ D4B v K6W K7 +

D4B then proceeds with the message.

CHAPTER 18

TRANSMITTING A MESSAGE BY FULL PROCEDURE

314. A message is transmitted in the form and order of its component parts as shown in Chapter 3.

315. NUMBER OF TIMES TO TRANSMIT CALL SIGNS.—When a preliminary call has not been made the call signs of the receiving stations are made **TWICE** in succession. The call sign of the transmitting station, and the call sign in the Delivery Instructions and Final Instructions are made **ONCE** only. The call signs in the address of P/L messages are made **ONCE** only.

(ii) In the case of a multiple station where call signs are allotted for different frequencies, the station, when transmitting simultaneously more than one frequency, must indicate all the call signs allotted to the frequencies being used.

If the frequencies should have different three-letter combinations they must all be transmitted.

Where the frequencies have the same three-letter combination, but are distinguished one from another by a figure, the figure or figures only need be transmitted after the first transmission of the three letters separated from the latter by the oblique stroke sign.

Example :—

$\overline{\text{VE}}$ GFX v GFJ GFN2 etc.
$\overline{\text{VE}}$ S9L S9L v GFA/2/3 etc.

(iii) After a preliminary call and answer, the call signs of the receiving stations are normally made **ONCE** only, but may be made twice when communication is difficult.

(iv) In this manual certain examples of full procedure show the call sign of the receiving stations made once only. In these examples it is to be assumed that a preliminary call has been made and answered.

316. A MESSAGE IS MADE THROUGH TWICE :—

(*a*) **If it is an enemy report.**

(*b*) **If it is made by the Broadcast method.**

(*c*) **If it contains "F" in the delivery instructions, except that P/L messages referring to the conduct of W/T exercises may be made once only, if desired.**

(ii) Messages which would normally be made twice through will not, when "DC" method is employed, be repeated through again in their entirety. (See Article 358.)

(iii) *Examples :—*

(*a*) VE K6W K6W v D4B NR2 – O – A – GR3 = 121720 – 075KCUM26 = 2110 IMI K6W K6W v D4B NR2 – O – A – GR3 = 121720 – 075KCUM26 = 2110 +

(*b*) VE S9L S9L v GFA/2/3 NR K102 – GR20 – Z – R7B W7K v J2P AAA (subject matter) = 1700 IMI S9L S9L v GFA/2/3 NR K102 – GR20 – Z – R7B W7K v J2P AAA (subject matter) = 1700 – VA +

(*c*) VE B3N B3N v D4B – F – GR6 AAA Exercise postponed for one hour = 0700 IMI
B3N B3N v D4B – F – GR6 AAA Exercise postponed for one hour = 0700 +

(*d*) VE K6W K6W v D4B – F AAA Answer more promptly you are delaying exercise = 1010 +

317. MULTIPLE ADDRESS MESSAGES.—The instructions for the use of component 3 (delivery instructions) in multiple address messages are found in Articles 102 to 108.

318. THE FOLLOWING EXAMPLES ILLUSTRATE VARIOUS FORMS OF MULTIPLE ADDRESS MESSAGES BEING TRANSMITTED BY FULL PROCEDURE.

(ii) Message passed direct from originator to addressees.

P/L Message.

VE K6O O3R v K6W NR1 NR 4 –
GR25 –
AAA
(Subject matter)
=
1030
+

(iii) Message addressed to two authorities passed direct to the station automatically responsible for them.

P/L Message.

VE GFV GFZ v GFJ NR2 NR1 –
GR27 –
Z – C3T K3Y v Q6A
AAA
(Subject matter)
=
1045
+

(iv) Message passed direct from originator to addressees, the message being passed to one addressee for information.

P/L Message.

VE K6O O3R v K6W NR2 NR5 –
GR25 –
Z – K6O – W – O3R v K6W
AAA
(Subject matter)
=
1100
+

160

(v) An Important message passed to one signal link for several addresses.

(*a*) *P/L Message.*

VE GFX v GFJ NR2 –
D –
T –
GR30 –
Z – B9P C6P v T3G
AAA
(Subject matter)
=
1130
+

The message is passed on by GFX thus :—

(*b*) *P/L Message.*

VE GEO GFQ v GFX NR3 NR2 –
D –
GR30 –
Z – B9P C6P v T3G
AAA
(Subject matter)
=
1130
+

NOTE.—It is assumed that GEO and GFQ are automatically responsible for C6P and B9P respectively.

(vi) Message passed by two or more routes to the several addressees.

(*a*) *P/L Message.*

VE GFV GFX v GFJ NR3 NR3
GFV – T – GFW –
GFX – T – GEO –
GR30 –
Z – C6P G2W v Q6A
AAA
(Subject matter)
=
1200
+

The message is passed on by GFV and GFX thus :—

(b) P/L Message.

VE GFW v GFV NR 4 –
GR30 –
Z – C6P G2W v Q6A
AAA
(Subject matter)
=
1200
+

VE GEO v GFX NR5 –
GR30 –
Z – C6P G2W v Q6A
AAA
(Subject matter)
=
1200
+

NOTE.—It is assumed that GFW and GEO are automatically responsible for G2W and C6P respectively.

319. The instructions for the address of a P/L message in which any of the addressees or the originator has no call sign are given in Article 293.

320. INCORRECT RE-TRANSMISSION BY W/T LINK.—An operating signal is used to indicate to a W/T link that a message has been incorrectly re-transmitted.

(ii) *Example* :—

The following message has been transmitted by GFJ to GFX :—

VE GFX v GFJ NR6 – GR32 = 1061 7128 4193 4186 4107 etc. 1728 1061 = 1043 +

GFJ hears GFX re-transmitting the message incorrectly.

GFX has made mistakes in the second and fifth groups.

GFJ corrects GFX as follows :—

VE GFX GFX v GFJ X414* - 2 – 7128 – 5 – 4107 +

GFX answers as usual and corrects his re-transmission as shown in Chapter 22.

(iii) If it had been necessary for GFJ to identify the message as well as the groups in the message, GFJ would have made :—

VE GFX GFX v GFJ X414* – 1043 – 2 – 7128 – 5 – 4107 +

321. OBTAINING REPETITIONS OF WORDS OR GROUPS NOT COMPLETELY RECEIVED DURING THE TRANSMISSION OF A MESSAGE BY FULL PROCEDURE.—In cases where, during the transmission of a message, a word or group is not completely received by the receiving station, the following " listening through method " may be employed :—

(*a*) **Immediately a word or group is not completely received the receiving station will transmit a long dash.**

(*b*) **The transmitting station on hearing the long dash will cease transmitting.**

(*c*) **The receiving station will then make the last word or group completely received.**

(*d*) **The transmitting station will then resume the transmission of the message from the word or group indicated.**

---

* X414 is assumed to mean " Message which you (or —) have (has) just forwarded (or message —) was incorrectly transmitted ; correct version is — ".

(ii) *Example* :—

The following message is being transmitted by GFJ to GFX :—

$\overline{VE}$ GFX v GFJ NR3 – GR28 = 2198 7162 4106 etc.

GFX, not having received the whole of the third group, makes a long dash : ————

GFJ ceases transmitting, and GFX makes the last group completely received, thus :—
– 7162.

GFJ then resumes the transmission of the message thus :—

7162 4106 etc. 1604 2198 = 1200 +

GFX answers :—

$\overline{VE}$ GFJ v GFX R +

(iii) The above method is only to be used when the message is being transmitted to a single station and both the transmitting and receiving stations are capable of listening through.

It is NOT to be used when the message is being transmitted to two or more stations under a collective or multiple call sign ; repetitions are to be obtained as shown in Chapter 21.

CHAPTER 19

ANSWERING A MESSAGE BY FULL PROCEDURE

324. The procedure for answering a message is exactly as laid down in Chapter 17.

325. The answer to a message consists of the call sign of the station which has transmitted the message made once only, the letter "v" (from) and the call sign of the station which has received the message followed by the procedure signal "R," "H," IMI or "Q," together with any other procedure and/or operating signals or call sign necessary for the guidance of the station which has transmitted the message.

326. IT IS IMPOSSIBLE TO OVER-ESTIMATE THE VALUE OF AN IMMEDIATE ANSWER.

CHAPTER 20

INTERCEPTED MESSAGES

330. Stations which have been ordered to listen-out and pass-in all messages read on certain frequencies and stations which have intercepted messages and who wish to pass-in such messages for information to their control stations, are to re-transmit the message in accordance with the following procedure :—

(ii) The re-transmitted message is to consist of—

(*a*) **A new call.**

(*b*) **Delivery instructions (if any).**

(*c*) **Operating signal denoting "Following message has been read."**

(*d*) **The intercepted message less the commencing sign and ending sign.**

(*e*) **The time of receipt, any necessary final instructions and the ending sign.**

(iii) *Examples :—*

(*a*) **K6W intercepted the following message at 1042 and wishes to pass-in the intercepted message to the control station D4B:—**

$\overline{\text{VE}}$ K4Z v W2U NR6 – GR20 = 1076 etc. 2109 = 1035 +

K6W makes :—

$\overline{\text{VE}}$ D4B v K6W NR2 X388* – K4Z v W2U NR6 – GR20 = 1076 etc. 2109 = 1035 – TOR 1042 +

D4B answers :—

$\overline{\text{VE}}$ K6W v D4B R +

---

* X388 is assumed to read "Following message has been read."

(*b*) **K6O has intercepted a message from W2U to K4Z and wishes to pass-in the intercepted message to the control station D4B via a signal link K6W.**

K6O makes :—

$\overline{VE}$ K6W v K6O NR6 – T – Z – D4B v K6O X388* – K4Z v W2U NR7 – GR18 = 2198 etc. 1993 = 1040 – TOR 1047 +

K6W answers as usual and re-transmits the message, thus :—

$\overline{VE}$ D4B v K6W NR3 – Z – D4B v K6O X388* – K4Z v W2U NR7 – GR18 = 2198 etc. 1993 = 1040 – TOR 1047 +

D4B answers :—

$\overline{VE}$ K6W v D4B R +

It should be noted that the time of receipt, indicating the time that the message was read by K6O, is re-transmitted by K6W.

(iv) Example of passing in a message incompletely received :—

K6W intercepted the following message at 1100 :—

$\overline{VE}$ K4Z v W2U (groups missed) = 9147 8160 9108 (groups missed) 4106 = 1055 +

K6W passes the message to the control station D4B, thus :—

$\overline{VE}$ D4B v K6W NR4 X390† – K4Z v W2U – X390† = 9147 8160 9108 – X390† – 4106 = 1055 – TOR 1100 +

D4B answers :—

$\overline{VE}$ K6W v D4B R +

---

* X388 is assumed to read " Following message has been read."

† X390 is assumed to mean " Following message (or message ——) was incompletely received. (Portions missed are indicated by the position of this operating signal in the message.)

CHAPTER 21

REQUEST FOR A REPETITION—THE USE OF "IMI"

332. This article shows the method of obtaining a repetition of a message, or a part or parts of a message, prior to having signified that the message has been received.

(ii) When giving repetitions, the part of the message required is only made once, notwithstanding that the original message may have been made twice, unless difficult communication method is being used. (See Article 356.)

(iii) The only exception to the above is when the entire message is asked for, when the repetition will be made exactly as the original transmission.

(iv) *Examples :* **CODE MESSAGES.**

Station transmitting original message.

GFJ transmits the following message to GFX :—

VE GFX v GFJ NR3 - T - Z - T7G v J2P
GR9 = CRQF KCOP HFUN DROZ QLMA
KFXG LTRN HKAR = 1030 +

GFJ repeats the message as originally transmitted :—

VE GFX v GFJ NR3 - T - Z - T7G v J2P
GR9 = CRQF KCOP HFUN DROZ QLMA
KFXG LTRN HKAR = 1030 +

Station requesting repetition.

GFX requires a repetition of :—

(*a*) **All the message.**

GFX answers :—

VE GFJ v GFX IMI +

GFX answers :—

VE GFJ v GFX R +

Note.—Should GFX wish, the reason for requesting the repetition may be indicated thus :—

VE GFJ v GFX IMI - X + (interference)

Station transmitting original message.

Station requesting repetition.

(*b*) **All or any portion of the Call and Preface.* †**

GFJ makes :—

$\overline{\text{VE}}$ GFX v GFJ – AB1 - GFX v GFJ NR3 – T – Z – T7G v J2P – GR9 +, or

$\overline{\text{VE}}$ GFX v GFJ – AB CRQF – GFX v GFJ NR3 – T – Z – T7G v J2P – GR9 +

GFX answers :—

$\overline{\text{VE}}$ GFJ v GFX $\overline{\text{IMI}}$ AB1 +, or

$\overline{\text{VE}}$ GFJ v GFX $\overline{\text{IMI}}$ AB CRQF +

GFX answers :—

$\overline{\text{VE}}$ GFJ v GFX R +

(*c*) **All after the 5th group.**

GFJ makes :—

$\overline{\text{VE}}$ GFX v GFJ – AA5 – KFXG LTRN HKAR = 1030 +, or

$\overline{\text{VE}}$ GFX v GFJ – AAQLMA KFXG LTRN HKAR = 1030 +

GFX answers :—

$\overline{\text{VE}}$ GFJ v GFX $\overline{\text{IMI}}$ AA5 +, or

$\overline{\text{VE}}$ GFJ v GFX $\overline{\text{IMI}}$ AAQLMA +

GFX answers :—

$\overline{\text{VE}}$ GFJ v GFX R +

* For the procedure when the " Number of Groups " only is required, *see* Article 275.

† *See also* Article 175.

Station transmitting original message.

Station requesting repetition.

(*d*) **Group number 6.**

GFX answers :—

$\overline{\text{VE}}$ GFJ v GFX $\overline{\text{IMI}}$ 6 +, or

$\overline{\text{VE}}$ GFJ v GFX $\overline{\text{IMI}}$ WA QLMA +, or

$\overline{\text{VE}}$ GFJ v GFX $\overline{\text{IMI}}$ WB LTRN +

GFJ makes :—

$\overline{\text{VE}}$ GFX v GFJ – 6 – KFXG +, or

$\overline{\text{VE}}$ GFX v GFJ – WAQLMA – KFXG +, or

$\overline{\text{VE}}$ GFX v GFJ – WBLTRN – KFXG +

GFX answers :—

$\overline{\text{VE}}$ GFJ v GFX R +

Station transmitting original message.

GFJ makes :—

$\overline{VE}$ GFX v GFJ – 4 to 7 – DROZ QLMA KFXG LTRN +, or

$\overline{VE}$ GFX v GFJ – HFUN DROZ QLMA KFXG LTRN HKAR +

(Note that the 3rd and 8th groups are repeated in the repetition of the part of the message asked for.)

GFJ makes :—

$\overline{VE}$ GFX v GFJ – 2 – KCOP – 5 to 7 – QLMA KFXG LTRN – 9 – 1030 +

Station requesting repetition.

(*e*) **Groups 4 to 7.**

GFX answers :—

$\overline{VE}$ GFJ v GFX $\overline{IMI}$ 4 to 7 +, or

$\overline{VE}$ GFJ v GFX $\overline{IMI}$ HFUN HKAR to 9104 +

GFX answers :—

$\overline{VE}$ GFJ v GFX R +

(*f*) **Group 2, groups 5 to 7 and time of origin.**

GFX answers :—

$\overline{VE}$ GFJ v GFX $\overline{IMI}$ 2 – 5 to 7 – 9 +

GFX answers :—

$\overline{VE}$ GFJ v GFX R +

(v) *Examples :* **P/L MESSAGES.**

Station transmitting original message.

GFJ transmits the following message to GFX :—

VE GFX v GFJ NR4 – T – GR18 – Z – G4R v J2P
AAA Q33 – 17/9 Your Q16 – 15/9 Unserviceable items are to be disposed locally III Replacements are being despatched = 1205 +

Station requesting repetition.

GFX requires a repetition of :—

(*a*) **All the message.**

GFX answers :—

VE GFJ v GFX IMI +

GFJ repeats the message as originally transmitted :—

VE GFX v GFJ NR4 – T – GR18 – Z – G4R v J2P
AAA Q33 – 17/9 Your Q16 – 15/9 Unserviceable items are to be disposed locally III Replacements are being despatched = 1205 +

GFX answers :—

VE GFJ v GFX R +

Station transmitting original message.

Station requesting repetition.

(*b*) **All or any portion of the Call, Preface, and Address.***

GFJ makes :—

$\overline{VE}$ GFX v GFJ – AB1 – GFX v GFJ NR4 – T – GR18 – Z – G4R v J2P +, or

$\overline{VE}$ GFX v GFJ – AB Q33 – GFX v GFJ NR4 – T – GR18 – Z – G4R v J2P +

GFX answers :—

$\overline{VE}$ GFJ v GFX $\overline{IMI}$ AB1 +, or

$\overline{VE}$ GFJ v GFX $\overline{IMI}$ AB Q33 +

GFX answers :—

$\overline{VE}$ GFJ v GFX R +

(*c*) **All after the word "replacements."**

GFJ makes :—

$\overline{VE}$ GFX v GFJ – AA replacements – are being despatched = 1205 +

GFX answers :—

$\overline{VE}$ GFJ v GFX $\overline{IMI}$ AA replacements +

GFX answers :—

$\overline{VE}$ GFJ v GFX R +

* For the procedure when the "Number of Words" only is required, *see* Article 275.

Station transmitting original message.

GFJ makes :—

$\overline{\text{VE}}$ GFX v GFJ – WA unserviceable – items +, or

$\overline{\text{VE}}$ GFX v GFJ – WB are to – items +

Station requesting repetition.

(*d*) **The word "items."**

GFX answers :—

$\overline{\text{VE}}$ GFJ v GFX $\overline{\text{IMI}}$ WA unserviceable +, or

$\overline{\text{VE}}$ GFJ v GFX $\overline{\text{IMI}}$ WB are to +

(Note.—It will be noted that the identity quoted is "Are to". If only "are" had been quoted the request might be read as meaning "Word before are being".)

GFX answers :—

$\overline{\text{VE}}$ GFJ v GFX R +

Station transmitting original message.

GFJ makes :—

$\overline{\text{VE}}$ GFX v GFJ – disposed locally III replacements are being +

(Note the words " disposed " and " being " are repeated in the repetition of the part of the message asked for.)

GFJ makes :—

$\overline{\text{VE}}$ GFX v GFJ – WA 15/9 – unserviceable – locally III replacements are being – WA despatched – 1205 +

Station requesting repetition.

(*e*) **From " disposed " to " being ".**

GFX answers :—

$\overline{\text{VE}}$ GFJ v GFX $\overline{\text{IMI}}$ disposed to being +

GFX answers :—

$\overline{\text{VE}}$ GFJ v GFX R +

(*f*) **Word after " 15/9 ", from " locally " to " being " and the " time of origin ".**

GFX answers :—

$\overline{\text{VE}}$ GFJ v GFX $\overline{\text{IMI}}$ WA 15/9 – locally to being – WA despatched +

GFX answers :—

$\overline{\text{VE}}$ GFJ v GFX R +

333. USE OF IMI WITH THE IDENTITY OF A MESSAGE.—(i) This article shows the method of obtaining a repetition of a message or a part or parts of a message for which an "R" has been given.

(ii) Once a receiving station has given an "R" repetitions may only be requested on the authority of the Signal or other responsible Officer. Such requests are to be limited to occasions when a message is found to be corrupt and the corruption is probably due to errors in transmission or reception during its route, rather than to errors in the original drafting, coding, or cyphering. This method is also to be used when obtaining, from some suitable station, repetitions of incompletely intercepted messages, which concern the station.

(iii) When giving repetitions, the message or part of the message required is only made once, notwithstanding that the original message may have been made twice, unless "D.C." method is being used. (See Article 356.)

(iv) When requesting a repetition of a part or parts of a message, the identity of the message itself must be given both in the request and in the repetition.

(iv) *Examples :—*

(*a*) **GFQ has made "R" for a cypher message to a signal link GFX. GFQ then finds that certain portions of the message will not decypher. In order to save time, the Signal Officer decides to check the accuracy of the reception of the message before asking for a check from the Originator.**

GFQ therefore requests a repetition of those portions from GFX.

GFX used Series No. 9 when transmitting the message to GFQ.

GFQ makes :—

$\overline{VE}$ GFX v GFQ $\overline{IMI}$ NR9 – 4 to 7 – 12 to 15 +

If unable to reply immediately, GFX answers :—

$\overline{VE}$ GFQ v GFX R +

When ready to give the repetition as requested, GFX makes :—

$\overline{VE}$ GFQ GFQ v GFX – NR9 – 4 to 7 - 9106 - 7124 – 6709 – 9076 – 12 to 15 – 3017 – 0930 – 4076 – 9028 +

GFQ answers :—

$\overline{VE}$ GFX v GFQ R +

(*b*) **GFX transmits the following P/L message to GFQ.**

$\overline{\text{VE}}$ GFQ v GFX NR10 – GR11 – Z – GFQ v GFJ $\overline{\text{AAA}}$ S33 – 17/9 W/T test is postponed until 0330 10 Oct = 1800 +

If unable to reply immediately, GFX answers :—

$\overline{\text{VE}}$ GFQ v GFX R +

When ready to give the repetition as requested, GFX makes :—

$\overline{\text{VE}}$ GFQ GFQ v GFX – NR10 – AA until – 0330 10 Oct. = 1800 +, or

$\overline{\text{VE}}$ GFQ GFQ v GFX – 1800 GFQ v GFJ – AA until – 0330 10 Oct. = 1800 +

GFQ answers :—

$\overline{\text{VE}}$ GFX v GFQ R +

Later, doubt arises as to the accuracy of certain portions of the message.

In order to save time, the Signal Officer decides to check the accuracy of the reception of the message before asking for a verification from the originator. GFQ therefore requests a repetition of those portions from GFX.

GFQ makes :—

$\overline{\text{VE}}$ GFX v GFQ $\overline{\text{IMI}}$ NR10 – AA until +, or

$\overline{\text{VE}}$ GFX v GFQ $\overline{\text{IMI}}$ 1800 GFQ v GFJ – AA until +

GFQ answers :—

$\overline{\text{VE}}$ GFX v GFQ R +

(*c*) **GFJ has passed a message (1042) addressed to GFW, via GFX.**

GFX, wishing to know whether GFW has received the message direct from GFJ, makes :—

$\overline{\text{VE}}$ GFW v GFX B1042 GFW v GFJ +

GFW, having received all the message except the 4th and 5th groups, makes :—

$\overline{\text{VE}}$ GFX v GFW $\overline{\text{IMI}}$ 1042 GFW v GFJ – 4 – 5 +

GFX replies :—

$\overline{\text{VE}}$ GFW v GFX – 1042 GFW v GFJ – 4 – KOPIT – 5 – SOPUP +

GFW answers in the usual way.

334. USE OF $\overline{\text{IMI}}$ IN BATCH WORKING. (See Article 345, Example (i).)

CHAPTER 22

VERIFICATIONS, CHECKS AND CORRECTIONS

336. USE OF PROCEDURE SIGNALS "A" and "J."—(i) The letter "A" is used when requesting a "verification, check from the decode, and repetition" of the whole or part of any message. The use of letter "A" entails the message being referred back to the originator to confirm the actual drafting of the message, in addition to a check of the coding or cyphering.

(ii) The letter "J" is used when requesting a "check from the decode, and repetition" of the whole or part of a message. The use of letter "J" entails the message being referred back to the coding or cyphering staff.

(iii) The letter "J" cannot be used with reference to the subject matter of a P/L message.

(iv) Requests for a "verification" or "check" must be addressed to the originator, except—

(*a*) When only the preface or call are in question the request may be addressed to a signal link, if desired (e.g., if it is considered that a signal link has made a mistake in routeing, etc.).

(*b*) When a code message is passed by "I" method and the receiving station acting in accordance with Article 375, requires a "verification" or "check," the request may take the form of a procedure message addressed to the transmitting station. The latter is responsible for forwarding this procedure message to the originator. (See Article 337, example (iii).)

(v) A request for a "verification" or "check" of a code message in war usually takes the form of a code message itself—

e.g., "Air Ministry from A.O.C.M.E. Verify 1322 groups seven to eleven = 1508."

(vi) The letter "C" is always used in replying to the letters "A" or "J," whether the version as previously transmitted was correct or otherwise.

(vii) When using the letters "A" or "J" the identity of the message must be given, as well as the part identity. (See Chapter 8.)

(viii) The procedure for the use of "A" and "J" is identical. (See also Article 357 for use of "A" and "J" with "D.C." method.)

337. EXAMPLES OF THE USE OF "A" AND "J."

(i) The following message is received by L9O :—

VE L9O v K6W NR7 – GR20 AAA Q19 – 27/9 iii Your Q12 – 26/9 items not available at this unit suggest you apply direct to stores depot = 0930 +

L9O requires verification as follows, and makes :—

(*a*) **The whole message.**

VE K6W v L9O A0930 +

(*b*) **The whole, or any part, of the call, preface and address :—**

VE K6W v L9O A0930 – AB1 +

(*c*) **The words "not" and "suggest you apply"**

VE K6W v L9O A0930 – WA items – Units to direct +

Note.—The Series Number may also be used to identify the message e.g., "ANR7."

(ii) The following message is received by O3R through a signal link :—

VE O3R v K6W NR3 – D – GR10 – Z – O3R v K2G = 14 – 27/9 – KOFUS GITUP PITEM LOGIC HUTED FUSEY RATAP = 1030 +

Subsequently O3R requires checks of the coding of certain portions of the message, as follows, and makes :—

(*a*) **The whole message.**

VE K6W v O3R – T – Z – K2G v O3R J1030 +

(*b*) **The second and fifth group.**

VE K6W v O3R – T – Z – K2G v O3R K1030 – 2 – 5 +

(In each case K6W answers as usual and re-transmits the procedure message to K2G.)

(iii) GFV and GFX are working an "I" method group.

GFV makes :—

VE GFX v GFV NR12 – GR16 = 2184 etc. = 1428 +

Subsequently GFX decyphers the message and finds certain groups corrupt.

GFX makes :—

VE GFV v GFX J NR12 – 10 to 14 +

(This procedure message should be sent on the same frequency as the original message, as addresses of the original message will then intercept it and so be saved the necessity of themselves initiating a request for a check.)

GFV passes the request for the check back to the station from which the original message was received, changing the identity as necessary.

(iv) PEACE.—The following cypher message has been received by D4B :—

$\overline{\text{VE}}$ D4B v K6W NR9 – GR42 = 2417 9063 etc.
2417 = 2117 +

Subsequently D4B requires a verification of the whole message, and makes :—

$\overline{\text{VE}}$ K6W v D4B A2117 +

or $\overline{\text{VE}}$ K6W v D4B ANR9 +

338. USE OF PROCEDURE SIGNAL "C."—(i) The letter "C" used in connection with corrections to messages previously transmitted is followed by an identity, and, if necessary, a part identity. It signifies "Correct version of message . . . . . is . . . . . ."

Examples :—

(*a*) $\overline{\text{VE}}$ K6W v D4B C NR6 – K6W v D4B NR6 – GR9 = 4172 2806 8136 7422 9187 2429 8496 4172 = 1500 +

(*b*) $\overline{\text{VE}}$ K6W v D4B C1519 v D4B – WA items – not +

(ii) A correction is transmitted as a result of—

(*a*) The originator discovering an error in the drafting, coding or cyphering of the message.

(*b*) The station of origin, or a signal link, discovering an error made in transmission. (See Article 165 for correction of errors discovered while the message is still in the course of transmission.)

(*c*) A request for a verification or check.

(iii) *Examples :—*

(*a*) **D4B has transmitted the following message to K6W :—**

$\overline{\text{VE}}$ K6W v D4B NR6 – GR9 = 4172 2806 8136 7422 9187 2429 8496 4172 = 1500 +

Subsequently D4B discovers that the sixth group was wrongly cyphered.

D4B makes :—

$\overline{\text{VE}}$ K6W v D4B C NR6 – 6 – 2529 +

(*b*) **K6W, a signal link, transmits the following message :—**

VE K6O O3R v K6W NR3 NR7 – GR28 – Z – K6O K6W – W – O3R v K2G AAA A14 – 19/7 The following airmen – etc. – = 1630 +

Subsequent K6W discovers that the message was "Important."

K6W makes :—

VE K6O O3R v K6W C NR3 NR7 – AB1 – K6O O3R v K6W NR3 NR7 – D – GR28 – Z – K6O K6W – W – O3R v K2G +

or VE K6O O3R v K6W C1630 v K2G – AB1 etc.

(*c*) **K6W has transmitted the following message to D4B :—**

VE D4B v K6W NR8 – GR10 AAA P14 – 19/8 AAA Your P7 – 18/8 F/L Smith detailed = 1700 +

D4B asks for a verification of the word after "F/L."

K6W makes :—

VE D4B v K6W C1700 – WA F/L – Smithers +

or VE D4B v K6W C NR8 – WA F/L – Smithers +

(iv) When a "verification" or "check" is requested and no error is discovered, the message, or part of the message, in doubt is passed as originally transmitted, in the form of a correction to the station making the request.

Example :—

D4B has transmitted the following message to K6W :—

VE K6W v D4B NR9 – GR17 AAA S14 – 19/9 On completion of test forward copy of signal log to this headquarters by post = 1500 +

Subsequently K6W asks for a verification of the words between "forward" and "to," and the word after "by".

D4B discovers no error, and makes :—

VE K6W v D4B C 1500 – forward copy of signal log to – WA by – post +

or VE K6W v D4B C NR9 – forward copy of, etc.

(v) Corrections need NOT bear an address.

(vi) Delivery instructions with corrections to messages.

(*a*) **When a correction is passed over the same route as the original message delivery instructions need not be included ; each signal link is responsible for forwarding the correction to the same station to which it passed the original message.**

The message being corrected must be sufficiently identified for it to be easily traced in the files of signal links ; if some time elapses between the transmission of the original message and the correction, time may be saved by including delivery instructions with the correction.

(*b*) **When the route of a correction differs from the route of the original message full delivery instructions must be included.**

(*c*) **When a correction is made to the call and preface, and address in P/L messages, delivery instructions are not also inserted before the "C."**

(vii) *Examples :—*

(*a*) **D4B has a P/L message for O3R to be passed via a signal link K6W.**

D4B makes :—

VE K6W v D4B NR4 – T – GR20 – Z – O3R v D4B AAA (subject matter) = 1300 +

K6W answers :—

VE D4B v K6W R +

K6W re-transmits the message thus :—

VE O3R v K6W NR6 – GR20 – Z – O3R v D4B AAA (subject matter) = 1300 +

O3R answers :—

VE K6W v O3R R +

Later D4B finds that corrections are necessary to the whole message. The correction being passed over the same route.

D4B makes :—

VE K6W v D4B C NR4 – K6W v D4B NR4 – T – GR21 – Z – O3R v D4B AAA (subject matter) – 1300 +

K6W answers :—

VE D4B v K6W R +

K6W re-transmits the correction thus :—

VE O3R v K6W CNR6 - O3R v K6W NR6 - GR21 - Z - O3R v D4B AAA (subject matter) = 1300 +

O3R answers :—

VE K6W v O3R R +

(*b*) **The same correction as in (*a*) but passed direct to the addressee.**

D4B makes :—

VE O3R v D4B C1300 - O3R v D4B AAA (subject matter) = 1300 +

O3R answers as usual.

(*c*) **The same correction as in (*a*) but routed differently from the original message.**

D4B makes :—

VE K6O v D4B - T - O3R - C1300 v D4B - O3R v D4B AAA (subject matter) 1300 +

K6O answers as usual and re-transmits the message, thus :—

VE O3R v K6O C1300 v D4B - O3R v D4B (subject matter) 1300 +

O3R answers as usual.

(*d*) **A correction to the address.**

D4B makes :—

VE K6W v D4B C NR4 - AB1 - K6W v D4B NR4 - T - GR20 - Z - K6O O3R v D4B +

K6W answers as usual and passes the correction to O3R, thus :—

VE O3R v K6W C NR6 - AB1 - O3R v K6W NR6 - GR20 - Z - K6O O3R v D4B +

O3R answers as usual.

K6W is responsible that the message is passed to the new addressee, K6O, and makes :—

VE K6O v K6W NR3 - GR20 - Z - K6O O3R v D4B AAA (subject matter) = 1300 +

K6O answers as usual.

(*e*) **A correction to the delivery instructions. D4B has transmitted the following message to K6W :—**

VE K6W v D4B NR7 – M – O3R – T – S4T – GR31 – Z – S4T v D4B AAA (subject matter) 1500 +

D4B, correcting the delivery instructions, makes :—

VE K6W v D4B C NR7 – AB1 – K6W v D4B NR7 – M – K6O – T – S4T – GR31 – Z – S4T v DVB +

K6W answers as usual, and directs O3R by a procedure message to "Take no further action as to forwarding message . . . . . " K6W then passes the message to K6O for S4T.

Alternatively (and usually a better way), D4B may direct K6W by procedure message to "Pass message . . . . . via . . . . . to . . . . . "

NOTE.—In examples (*d*) and (*e*) the messages may also be identified, thus :—

VE K6W v D4B C 1300 O3R v D4B – AB1 etc.

VE K6W v D4B C 1500 S4T v D4B – AB1 etc.

(viii) Originator's instructions may be given to corrections, e.g., it may be desirable to make a correction to an "Immediate" message also "Immediate."

Examples :—

VE K6W v D4B – P – C1500 – WA SUDA – BAY +

VE GFX v GFJ – P – C NR6 – 2 – 2119 +

(ix) USE OF SEPARATIVE SIGN WITH "C."—The foregoing examples show clearly when it is necessary to insert a separative sign before the "C" to avoid confusion.

CHAPTER 23

BATCH-WORKING

340. Batch-working is especially suitable for stations carrying out routine transmissions with other stations when receiving conditions are good, and when a large number of short messages are awaiting transmission. It may, however, be used at any time, if this is desirable.

341. Batch-working may be employed as follows :—

(*a*) Between stations carrying out routine transmissions. The decision as to whether batch-working is to be employed rests with the receiving station.

(*b*) Between a control station and a station under its control or vice versa. The consent of the receiving station must be obtained before batch-working is employed. The control station, however, retains the final decision in the matter and in this must be guided by the general state of W/T traffic in the section of stations which it is controlling.

(*c*) Between two stations of a section. The consent of the receiving station and the permission of the control station of the section must be obtained before batch-working is employed. Control stations will only grant this permission in cases where there is no danger of batch-working by the two stations in question delaying the traffic of the whole section.

342. Each batch of messages must be regulated so as not to exceed the following limits :—

(*a*) 15 minutes in the case of routine transmissions.

(*b*) 10 minutes in all other cases.

(ii) The procedure signal " $\bar{e}$ " is used in the final instructions of each message, except the last of each batch, and a pause of a few seconds is made between each message. (See Article 171.) Every message must be complete with its full call.

343. Batch-working is not to be employed with messages to be repeated back or containing the degree of priority " O," " O–A," " O–U " or " P " in the originator's instructions, nor when using " DC " method.

344. When answering, the station first gives " R " for each message received, and then asks for any repetitions required.

345. *Examples :—*

(i) GFJ and GFX are two fixed stations. GFJ has 10 messages for GFX awaiting transmission. GFJ wishes to use batch-working.

GFJ makes :—

VE GFX GFX v GFJ X257* – 10 +

GFX considers batch-working feasible, answers :—

VE GFJ v GFX R – X448† – 5 – K8 +

GFJ then makes :—

VE GFX v GFJ NR20 – GR6 = 2106 7124 8172 9168 2906 = 1800 – e +
(Pause of a few seconds.)

VE GFX v GFJ NR21 – GR6 – Z – T7G v J2P = 14 – 19/9 – ROTEN BICUP DUSIY = 1805 – ē +
(Pause of a few seconds.)

VE GFX v GFJ NR22 – GR8 – Z – T7G v J2P AAA Q17 – 19/9 Your Q29 – 3/9 Stores despatched = 1808 – ē +
(Pause of a few seconds.)

VE GFX v GFJ NR23 – GR6 – Z – T7G v J2P = 15 – 19/9 – HOLEM DIXIY JOSOY = 1810 – ē +
(Pause of a few seconds.)

VE GFX v GFJ NR24 – GR10 – Z – T7G v J2P AAA Q18 – 19/9 Report date despatch of half yearly demands = 1815 – B +

GFX has received NR21 to 23, but requires a repetition of a group in NR20 and a portion of NR24.

GFX makes :—

VE GFJ v GFX R NR21 to NR23 – IMI NR20 – 2 – IMI NR24 – despatch to demands +
(See Article 155.)

GFJ makes :—

VE GFX v GFJ – NR20 – 2 – 7124 – NR24 – despatch of half yearly demands – B +

GFX answers :—

VE GFJ v GFX R NR20 – RNR24 – K +

GFJ answers and then continues with the next batch of messages.

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* X257 is assumed to mean " Have something to communicate (or have message, or number of messages denoted, for . . .) (at . . .)."

† X448 is assumed to mean " Transmit messages in batches of . . . messages at a time."

(ii) GFJ and GFX are two fixed stations. GFJ is the controlling station. GFJ has 6 messages for GFX awaiting transmission. GFX has 11 messages for GFJ awaiting transmission. GFJ wishes to use batch-working.

GFJ makes :—

$\overline{\text{VE}}$ GFX GFX v GFJ X257* – 6 +

GFX considers batch-working feasible and wishes also to use batch-working to GFJ.

GFX answers :—

$\overline{\text{VE}}$ GFJ v GFX R – X448† – 3 – K8 – X257* – 11 +

GFJ considers batch-working feasible and makes :—

$\overline{\text{VE}}$ GFX v GFJ R – X448† – 4 +

GFX answers :—

$\overline{\text{VE}}$ GFJ v GFX R +

GFJ then transmits the first batch of 3 messages.

When GFX has given " R " for these, GFX transmits the first batch of 4 messages.

When GFJ has given " R " for these, GFJ transmits the second batch of 3 messages.

When GFX has given " R " for these, GFX transmits the second batch of 4 messages.

GFJ, having received these, gives " R " for them.

GFX then transmits the third batch of 3 messages.

GFJ, having received these, gives " R " for them.

(iii) D4B and K6W are two stations of a section. D4B is the controlling station. D4B has 7 messages for K6W awaiting transmission. D4B wishes to use batch-working.

D4B makes :—

$\overline{\text{VE}}$ K6W K6W v D4B X257* – 7 +

K6W considers that batch-working is undesirable owing to interference, and answers :—

$\overline{\text{VE}}$ D4B v K6W R – X – X450‡ +

Normal " up and down " working is then employed, an answer being obtained after the transmission of each message.

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* X257 is assumed to mean " Have something to communicate (or have message, or number of messages denoted, for . . .) (at . . .)."

† X448 is assumed to mean " Transmit messages in batches of . . . messages at a time."

‡ X450 is assumed to mean " Transmit messages by ' up and down ' working."

(iv) K6W and L9O are two stations of a section, the controlling station of the section being D4B. K6W has 6 messages for L9O awaiting transmission. K6W wishes to use batch-working.

K6W makes :—

$\overline{VE}$ L9O L9O v K6W X257* – 6 +

L9O considers batch-working feasible, and answers :—

$\overline{VE}$ K6W v L9O R – X448† – 3 +

K6W answers :—

$\overline{VE}$ L9O v K6W R +

K6W then requests permission from D4B to use batch-working.

K6W makes :—

$\overline{VE}$ D4B D4B v K6W X112‡ – X448† – 3 +

D4B, if approving, makes :—

$\overline{VE}$ K6W v D4B R – X100§ +

K6W answers in the usual manner, and then transmits the messages to L9O in batches of 3 messages, as shown in Example (i).

If D4B did not approve K6W's request, D4B would reply with the W/T operating signal signifying " Negative " and K6W would then clear the 6 messages to L9O by normal " up and down " working.

346. USE OF BATCH-WORKING BY ANY STATION.—Batch-working may also be employed, provided that receiving conditions are good, when a station, whilst actually transmitting a message, has a further message (or messages) handed in for transmission to the same receiving station.

(ii) The provisions of Article 342 also apply to this form of batch-working.

(iii) In this case no previous warning can be given, by means of operating signals, that batch-working is about to be used.

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* X257 is assumed to mean " Have something to communicate (or have message, or number of messages denoted, for . . .) (at . . .)."

† X448 is assumed to mean " Transmit messages in batches of . . . messages at a time."

‡ X112 is assumed to mean " Interrogative."

§ X100 is assumed to mean " Affirmative. Yes."

(iv) *Example :—*

D4B, while transmitting a message, Series Number 4 to K6W, has another message handed in, also for K6W. D4B decides to make the second message without waiting for an answer to the first.

D4B makes :—

$\overline{\text{VE}}$ K6W K6W v D4B NR4 – GR20 = (Text) = 1130 – $\bar{\text{e}}$ +
(Pause of a few seconds.)

$\overline{\text{VE}}$ K6W v D4B NR5 – GR16 = (Text) = 1135 +

K6W answers :—

$\overline{\text{VE}}$ D4B v K6W RNR4 – RNR5 +

D4B answers :—

$\overline{\text{VE}}$ K6W v D4B R +

CHAPTER 24

LONG MESSAGES

350. DEFINITION.—A message is said to be a " Long Message " if it contains :—

(*a*) Over 100 words of P/L.

(*b*) Over 60 groups of cypher or code.

351. RULES OF TRANSMISSION OF LONG MESSAGES BY MOBILE STATIONS.—(i) In communications to and from mobile stations, when normal working and hand speed signalling are employed, the transmitting station should conform to the following rules :—

(*a*) Long messages are always made in portions. In code and cypher messages each portion should not exceed 40 groups, and should normally consist of 20 or 40 groups. The last portion consists of the number of groups remaining after transmitting the preceding portions. P/L messages will be divided as convenient, but no portion should exceed 60 words and should be arranged, whenever possible, to end at the conclusion of sentences.

(*b*) When " DC " method is employed, as each word or group is made twice, portions of the text should not exceed :—

In code or cypher messages, 20 groups.

In P/L messages, 30 words.

(*c*) Messages which do not contain a sufficient number of words or groups to be classified as " Long Messages, " but which are, however, of a moderate length, may be made either in one transmission, or divided into portions. The transmitting station should be guided by the conditions of communications, interference, etc., prevailing at the time.

(ii) The procedure for the transmission of messages in portions is given in Article 162.

352. BATCH-WORKING AND FIXED STATION COMMUNICATION.— In batch-working and in communication between fixed stations on point-to-point or inter-command services, messages may be sent complete in one transmission irrespective of length or whether hand or high speed signalling is employed. In batch-working, however, the time of any one transmission, is limited (see Article 342), and any " Long Message " in course of transmission must be interrupted, using the procedure signal " B."

353. Examples of messages divided into portions.

(*a*) **Code or cypher – 69 groups.**
Portions – 40 and 29 or 20. 20. and 29. or 20. 20. 20 and 9.

(*b*) **P/L 137 words.**
Portions convenient to suit subject matter. No portion exceeding 60 words.

CHAPTER 25

DIFFICULT COMMUNICATION METHOD

(Alternative Title—" DC " Method.)

356. Before adopting this method the " $\overline{DC}$ " sign is used in a procedure message or in the final instructions as laid down in Article 235.

(ii) In " DC " method each group or word, with the exception of the Commencing sign, the Long Break sign, the Comma sign (denoting P/L subject matter), and the Ending sign, is made twice through in succession. The call and (in P/L messages) the address, is not split up. The delivery instructions of a P/L message is split up into suitable portions.

(iii) Answers to messages made by " DC " method are made by ordinary full procedure, unless both the transmitting and receiving stations are using " DC " method.

(iv) In giving repetitions of messages or parts of messages, originally made by " DC " method, each group or word (as in para. (ii) above) is made twice through in succession.

(v) *Examples :—*

(*a*) **D4B wishes to transmit a long code message to K6W. K6W has told D4B to use " DC " method. D4B transmits the message in portions, thus :—**

$\overline{VE}$ K6W K6W v D4B NR8 – K6W K6W v D4B NR8 – GR58 – GR58 – Z – K6W v K2G – Z – K6W v K2G = 55 – 55 – 22/9 – 22/9 – FOCET FOCET (Remainder of first 20 groups) B20 – B20 +

K6W, having received the first 20 groups, makes :—

$\overline{VE}$ D4B v K6W K +

D4B then transmits the next 20 groups, thus :—

$\overline{VE}$ K6W K6W v D4B – K6W K6W v D4B – GESIT GESIT (Remainder of next 20 groups) B40 – B40 +

K6W requires a repetition of certain groups and makes :—

$\overline{VE}$ D4B v K6W $\overline{IMI}$ 21 – 35 to 38 +

D4B makes :—

VE K6W K6W v D4B – K6W K6W v D4B – 21 – 21 – GESIT GESIT – 35 to 38 – 35 to 38 – HOFES HOFES ROBUX ROBUX BOLET BOLET GOSIP GOSIP – B – B +

K6W, having now received the next 20 groups, makes :—

VE D4B v K6W K +

D4B then transmits the remainder of the message :—

VE K6W K6W v D4B – K6W K6W v D4B – HUPIX HUPIX . . . . . = 0930 – 0930 +

K6W, having received the message, makes :—

VE D4B v K6W R +

(*b*) **D4B wishes to transmit a P/L message to K6W. K6W has told D4B to use " DC " method.**

VE K6W K6W v D4B NR9 – K6W K6W v D4B NR9 – GR8 – GR8 – Z – K6W v K2G – Z – K6W v K2G AAA Your your Q23 Q23 – 19/9 – 19/9 items items 10A/7432 10A/7432 not not available available = 1030 – 1030 +

K6W having received the message, answers :—

VE D4B v K6W R +

(*c*) **GFJ has transmitted a message by full procedure to GFX.**

GFX answers :—

VE GFJ v GFX IMI 7 – 22 to 25 +

GFJ has been unable to receive the answer, and wishes GFX to use " DC " method.

GFJ makes :—

VE GFX v GFJ IMI – DC +

GFX, having asked for a repetition of certain groups, repeats the request, using " DC " method, thus :—

VE GFJ GFJ v GFX – GFJ GFJ v GFX IMI 7 – IMI 7 – 22 to 25 – 22 to 25 +

GFJ then gives the repetitions required, using full procedure as employed in the first transmission of the message.

GFX having received the message, answers :—

VE GFJ GFJ v GFX – GFJ GFJ v GFX R – R +

(C 38697) H 3

(*d*) **GFV has a code message to transmit by " I " method to GFX. GFX is to repeat back, using " DC " method.**

GFV makes a preliminary call to GFX, thus :—

VE GFX GFX v GFV +

GFX answers :—

VE GFV v GFX R +

GFV makes :—

VE GFX v GFV NR9 – G – GR3 – Z – V8H v R2A = XAPQ PXQA = 1100 – DC +

GFX repeats back, thus :—

VE GFV GFV v GFX – GFV GFV v GFX – GFX v GFV NR9 – GFX – GFV NR9 – G – G – GR3 – GR3 – Z – V8H v R2A – Z – V8H v R2A = XAPQ XAPQ PXQA PXQA = 1100 – 1100 +

GFX having repeated back correctly, GFV makes :—

VE GFX v GFV C +

357. Examples of Requesting Checks and Verifications, and giving Corrections by " DC " method.

(i) GFJ has transmitted a message of 42 groups timed 0945 to GFV.

Both GFJ and GFV are using " DC " method.

GFV requires a check of the following groups :—

Group Number 4, and 25 to 28.

GFV makes :—

VE GFJ GFJ v GFV – GFJ GFJ – GFV J 0945 – J 0945 – 3 to 5 – 3 to 5 – 25 to 28 – 25 to 28 +

GFJ answers :—

VE GFV GFV v GFJ – GFV GFV v GFJ R – R +

The coding having been checked, GFJ transmits the correction to GFV, thus :—

VE GFV GFV v GFJ – GFV GFV v GFJ C0945 – C0945 – 3 to 5 – 3 to 5 – 9178 9178 7193 7193 8873 8873 – 25 to 28 – 25 to 28 – 1060 1060 3107 3107 2791 2791 2886 2886 +

GFV answers :—

VE GFJ GFJ v GFV – GFJ GFJ v GFV R – R +

(ii) K6W has transmitted the following P/L message to L9O :—

VE L9O L9O v K6W NR7 – GR19 AAA Q19 – 27/9 Your Q12 26/9 items not available at this unit suggest you apply direct to stores depot = 0930 +

Both K6W and L9O are using " DC " method.

L9O requires a verification of the following :—

word after " items "
words between " unit " to " direct "

L9O makes :—

VE K6W K6W v L9O – K6W K6W v L9O A0930 – A0930 – WA items – WA items – unit to direct – unit to direct +

K6W answers :—

VE L9O L9O v K6W – L9O L9O v K6W R – R +

The message having been verified, K6W transmits the correction to L9O, thus :—

VE L9O L9O v K6W – L9O L9O v K6W C0930 – C0930 – WA items – WA items – not – not – unit unit suggest suggest you you apply apply direct direct +

L9O answers :—

VE K6W K6W v L9O – K6W K6W v L9O R – R +

358. ENEMY REPORTS, and other messages set out in article 316, paras. (*a*) (*b*) and (*c*), transmitted by " DC " method, are NOT also repeated through in their entirety.

(ii) *Example :—*

A station GFV has an immediate message to transmit by Broadcast method to a station V8H. GFV considers it desirable to use " DC " method.

GFV makes :—

VE V8H V8H v GFV – F – DC IMI
V8H V8H v GFV – F – DC +

GFV then makes :—

VE V8H V8H v GFV – V8H V8H v GFV – P – P – F – F – GR3 – GR3 – Z – V8H v R2A – Z – V8H v R2A = XAPQ XAPQ PXQA PXQA = 1030 – 1030 +

359. The procedure letter " ē " must not be used with " DC " method.

CHAPTER 26

BROADCAST METHOD

363. All messages transmitted by Broadcast method are made twice through, except when using " DC " method. Receiving stations are not required to answer the messages.

364. (i) Messages transmitted by Broadcast method will always contain " F " in the delivery instructions, except those messages which are transmitted by fixed stations at a definite broadcast period, as laid down in the current C.C.Os. dealing with R.A.F. W/T Organization, containing the collective call (all R.A.F. W/T stations) or the collective call (all W/T stations) CQ. The call sign CQ is NOT to be used for service messages.

(ii) Broadcast method may be employed when for any reason it is not desirable that the receiving station should answer the message or when it is known that the receiving station is for any reason unable to answer.

(iii) It may occur that although a station is not required to answer a low grade cypher or P/L message the addressee is required to acknowledge it. In this case the letter " Y " is to be used in the address in addition to the letter " F " in the delivery instructions.

365. *Examples :—*

(i) **A station D4B wishes to transmit a message by Broadcast method to a station O3R.**

D4B makes :—

VE O3R O3R v D4B NR4 – F – GR2 = CDSUT = 1515 IMI O3R O3R v D4B NR4 – F – GR2 = CESUT = 1515 +

(ii) **A station U4K wishes to transmit a code message by Broadcast method from an authority R2A to a station Y8C, who is required to acknowledge the message.**

U4K makes :—

VE Y8C. Y8C v U4K NR6 – F – GR4 – Z – Y8C v R2A – Y = 2O – 14/5 – FOCAL = 1030 IMI Y8C Y8C v U4K NR6 – F – GR4 – Z – Y8C v R2A – Y = 2O – 14/5 – FOCAL = 1030 +

366. BROADCAST METHOD FOR USE BY A FIXED STATION AT A DEFINITE BROADCAST PERIOD.—(i) Fixed stations which transmit messages by Broadcast method at definite Broadcast periods will employ a special series number. The series number will consist of a letter and a number commencing at 1 and running to 999. The series will not recommence daily, as in the case of ordinary series numbers, but will continue until the series 1 – 999 is completed. The special series number will be used by stations to determine whether all messages have been received and may also be used to refer to back messages.

(ii) The fixed station will make a preliminary call and then proceed to broadcast the messages awaiting transmission. When receiving conditions are difficult the call signs in the preliminary call may be made several times to enable receiving stations to tune in.

(iii) Fixed stations which at routine Broadcast periods have messages to dispose of by Broadcast method to particular stations, will warn such stations by an operating signal at the commencement of the routine period.

(iv) If at a Broadcast period there are no messages awaiting transmission, the fixed station will transmit the necessary operating signal followed by the special series number of the last message broadcast.

(v) The fixed station will, at the end of the last message broadcast, make the "NO MESSAGE" sign $\overline{\text{VA}}$ to indicate that the Broadcast period is ended.

(vi) *Examples :—*

(*a*) **A fixed station (GFA) has a general message for transmission by Broadcast method.**

GFA (at the next routine broadcasting period) makes :—

$\overline{\text{VE}}$ S9L S9L v GFA/2/3 $\overline{\text{IMI}}$ S9L S9L v GFA/2/3 +

GFA then transmits the message, thus :—

$\overline{\text{VE}}$ S9L S9L v GFA/2/3 NR K102 – GR20 – Z – R7B W7K v J2P $\overline{\text{AAA}}$ (Subject matter) = 1700 $\overline{\text{IMI}}$ S9L S9L v GFA/2/3 NR K102 – GR20 – Z – R7B W7K v J2P $\overline{\text{AAA}}$ (Subject matter) = 1700 – $\overline{\text{VA}}$ +

(*Note* = GFA is keying three frequencies simultaneously.)

(*b*) **A fixed station (GFA) at a routine broadcasting period, has, in addition to a general message, a message for a station (Y2G) for transmission by Broadcast method.**

GFA makes :—

VE S9L S9L v GFA/2/3 IMI S9L S9L v GFA/2/3 +

GFA then makes :—

VE Y2G Y2G v GFA X243* IMI Y2G Y2G v GFA X243* +

GFA then continues with the general message :—

VE S9L S9L v GFA/2/3 NR K103 – GR25 – Z – R7B v X3K AAA (Subject matter) = 1645 IMI S9L S9L v GFA/2/3 NR K103 – GR25 – Z – R7B v X3K AAA (Subject matter) = 1645 +

The message for Y2G is then transmitted :—

VE Y2G Y2G v GFA NR26 – F – GR20 – Z – Y2G v J2P AAA (Subject matter) = 1655 IMI Y2G Y2G v GFA NR26 – F – GR20 – Z – Y2G v J2P AAA (Subject matter) = 1655 – VA +

(*c*) **At a routine broadcasting period a fixed station (GFA) has no messages awaiting transmission.**

GFA makes :—

VE S9L S9L v GFA/2/3 IMI S9L S9L v GFA/2/3 +

GFA then makes :—

VE S9L S9L v GFA/2/3 X255† – NR K103 IMI S9L S9L v GFA/2/3 X255† – NR K103 – VA +

(*d*) **A fixed station (GFA) has a meteorological report to transmit by broadcast method to "All stations." GFA uses the call sign "CQ."**

GFA makes :—

CT CQ CQ CQ de GFA/2/3 = METEOR 1640 GMT = SYNOP = 13507 18068 etc. = + CQ de GFA/2/3 VA

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* X243 is assumed to mean "Have something to communicate."

† X255 is assumed to mean "Have nothing to communicate." (Series and/or originator's number of last message was . . . . . .)

CHAPTER 27

"I" METHOD

370. The " I " method of transmitting a message is one in which the transmitting station transmits the message to a second station, the latter answering or repeating back as requested. The message itself, however, is intended for reception by some other station which is not required to answer.

371. USE OF " I " METHOD.—The " I " method can be used either—

(*a*) By fixed stations organized as a group, working at routine period times, at which time other stations can listen out for messages made by this method.

(*b*) By any station working with any other station, on any frequency on which it is known that the station for which the message is really intended is keeping watch.

372. THERE ARE TWO TYPES OF " I " METHOD MESSAGES.—

(i) Those in which the address is expressed in call signs in Component 5.

(ii) Those in which the address is understood and is not included in the message. This method is used in Naval Co-operation for transmitting enemy reports during the period that W/T silence is in force.

It can always be assumed that enemy reports are transmitted for the information of the Admiral, and it is unnecessary to indicate this in the message.

This type of message is transmitted to a receiving ship or aircraft, which, as a rule, is selected by the transmitting ship or aircraft at the time, the following being taken as a general guide :—

(*a*) Reports from reconnaissance aircraft.

These reports should be transmitted to another aircraft, but if only one aircraft is in the air, to a ship about 20 miles from the main body, keeping watch on the reconnaissance frequency.

373. **A PRELIMINARY CALL** is always made by fixed and land stations before commencing to use the " I " method, in order to test the receiving conditions prevalent at the time.

374. **INSERTION OF " G "**—The station, from which the message is originally to be transmitted, inserts " G " in the delivery instructions, if it is considered desirable to do so, e.g., if it appears that reception by the addressee-s may be difficult owing to atmospherics or interference.

(ii) The first enemy report from each aircraft, if made by the " I " method, is to contain " G " in the delivery instructions.

375. **THE RECEIVING STATION IS RESPONSIBLE FOR**—

(*a*) Asking for repetitions of any part of the message of which the reception is doubtful.

(*b*) Decoding the message, if the necessary decode is available, and asking for any " checks and repetitions " which may be necessary.

376. **STATIONS FOR WHICH THE MESSAGE IS INTENDED** are not allowed to ask for repetitions except by order of the Commanding Officer. Should the Commanding Officer decide that a repetition must be obtained, such request should take the form of a separate coded message, and is **NOT** to be made by procedure signal, except in cases where the address is expressed in call signs in Components 5. (See Article 378, Example (*e*).)

377. On occasions, the state of W/T communications may make the use of the " I " and Broadcast methods unreliable, or the importance of a particular message may make it essential for the originator to know that the addressee has received it.

(ii) Under these circumstances the Direct method may be resorted to and an immediate answer obtained.

(iii) The authority of the Air Officer or other Officer Commanding must be obtained before using the Direct method.

378. *Examples :—*

(i) (*a*) **Showing how a message would be transmitted by the " I " method in the two different forms mentioned in Article 372 para. (i).**

Address in Call Signs.

$\overline{VE}$
GFX
v
GFV
NR7
GR3
Address { Z, V8H, V, R2A }
=
Subject matter { XAPQ, PXQA }
=
1030
+

(*b*) **GFV has a message to transmit by " I " method to GFX. The message is intended for a squadron (call sign V8H) from an authority (call sign R2A). The squadron is airborne, and is maintaining W/T silence.**

GFV makes :—

$\overline{VE}$ GFX GFX v GFV +

GFX answers :—

$\overline{VE}$ GFV v GFX K7 +

GFV makes :—

$\overline{VE}$ GFX v GFV. NR9 – GR3 – Z – V8H v R2A = XAPQ – PXQA = 1030 $\overline{IMI}$ GFX v GFV NR9 – GR3 – Z – V8H v R2A = XAPQ – PZQA = 1030 +

GFX answers :—

$\overline{VE}$ GFV v GFX R +

(*c*) **A reconnaissance aircraft (M9C), operating with the Fleet, wishes to transmit a first enemy report. W/T silence is in force. M9C decides to transmit the enemy report, by " I " method, to another reconnaissance aircraft (L6Y).**

M9C makes :—

$\overline{VE}$ L6Y L6Y v M9C – O – G – = 4BS* – 9* 320* – 180ZZ10 = 0530 $\overline{IMI}$ L6Y L6Y v M9C – O – G = 4BS* – 9* – 320* – 180ZZ10 = 0530 +

L6Y repeats back as usual.

(*d*) **GFV has transmitted the following message by " I " method to GFX. The message is intended for a squadron (call sign V8H). The squadron is airborne and is maintaining W/T silence.**

$\overline{VE}$ GFX v GFV NR9 – G – GR3 – Z – V8H v R2A = XAPQ – PZQA = 1030 $\overline{IMI}$ GFX v GFV NR9 – G – GR3 – Z – V8H v R2A = XAPQ – PXQA = 1030 +

The message has been repeated back by GFX, but V8H has missed the group PXQA.

The Commanding Officer of the squadron, having decided that a repetition must be obtained, requests a repetition, using his INDIVIDUAL CALL SIGN, thus :—

$\overline{VE}$ GFV v K4G $\overline{IMI}$ 1030 V8H v R2A – 2 +

GFV makes the repetition to GFX thus :—

$\overline{VE}$ GFX v GFV – 1030 V8H v R2A – 2 – PXQA +

GFX answers :—

$\overline{VE}$ GFV v GFX R +

(ii) See also example in Article 207 para. v (c).

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* Imaginary enemy report.

CHAPTER 28

DIRECTION FINDING

381. TYPES OF D/F STATIONS.—D/F stations are of the following types :—

(*a*) Single D/F stations fitted with transmitting and receiving gear.

(*b*) A group of D/F stations, one or more of which is fitted with transmitting and receiving gear and is connected to the others of the group by L/T or by W/T.

(*c*) An aircraft station fitted with D/F apparatus.

(*d*) Fixed beacon stations, which transmit a pre-arranged signal on a non-direction aerial to allow a mobile station fitted with D/F apparatus to obtain a D/F bearing of the fixed station.

(*e*) Rotating beacon stations, which transmit a pre-arranged signal on a directional aerial, which is made to rotate at a given speed. The mobile station can thereby obtain its bearing from the station, without itself being fitted with D/F apparatus.

382. ORGANIZATION OF GROUND D/F STATIONS.—(i) Ground D/F stations operate either singly or in groups of two or more stations under a control D/F station.

(ii) Groups of two or more D/F stations are capable of ascertaining the position of aircraft. The bearings obtained by the various stations of the group are passed in to the control D/F station, where they are laid off on a map and the position of the aircraft is plotted. This position is then transmitted by the control station to the aircraft.

(iii) D/F stations working in groups are normally connected together by land line telegraph circuits or by W/T.

(iv) Single D/F stations are capable only of ascertaining the bearing of an aircraft from the D/F station. If, therefore, an aircraft wishes to ascertain its position by means of several independent D/F stations, or by two or more bearings from one single D/F station, the necessary calculation to determine the position from the bearings must be carried out in the aircraft.

(v) (*a*) If only one single D/F station is available an aircraft may calculate its approximate position from two separate D/F bearings given by the one single D/F station by the following method.

The aircraft should remain in one locality whilst obtaining the first of these bearings. Having obtained this first bearing the aircraft should fly on a true course of " D/F bearing plus or minus 45 degrees " for a distance of, say, 10 miles, and, remaining in this second locality, ask for a second D/F bearing. (The actual distance which the aircraft should fly to the second D/F position, in order to produce a sufficiently obtuse angle from the D/F station, will be governed by the approximate distance of the aircraft from the D/F station.) From this information the aircraft can ascertain its position.

(*b*) If the single D/F station is in the vicinity of the aerodrome towards which the aircraft wishes to fly, or at which he desires to effect a landing, the reciprocal of a D/F bearing may be used as the true flying track.

(vi) An aircraft D/F station may home on any known station.

383. METHOD OF OBTAINING A BEARING OR POSITION.—(i) A station requiring a bearing from a single D/F station or a position or bearings from a group of D/F stations will call the independent D/F station or the control D/F station, as the case may be, and will pass a procedure message consisting of the appropriate operating signals for " What is my D/F bearing " or " What is my position . . . ", using appropriate operating signal for type of position required.

(ii) The D/F station addressed will, if strength of signals, note and frequency are satisfactory, give " R " followed by a timing signal and an operating signal signifying " Send your call sign and dashes of 5 seconds duration, alternately, to enable a bearing, or bearings to be obtained." The timing signal will be given only on the first request from each particular aircraft during each flight and will be omitted from the answer to succeeding requests.

(iii) On receipt of the operating signal signifying " Send your call sign and dashes of 5 seconds duration, alternately, to enable a bearing, or bearings, to be obtained," the station requiring a bearing or position will call the D/F station and repeat its own call sign, interspersed with long dashes of about 5 seconds duration between each call sign.

Example :—

$\overline{\text{VE}}$ J9B v H9C – H9C ——— (5 seconds dash)
H9C ——— H9C ——— (for 30 to 60 seconds)
H9C +

(iv) (*a*) In the case of a request for a single D/F bearing, the D/F station will pass the bearing obtained, to the requesting station, immediately.

(*b*) In the case of a request for a position, or for more than one bearing through a control station, an interval will elapse before the desired information is passed, during which time the control station, will be collecting the bearings from the other D/F stations, and, when necessary, plotting the position.

(*c*) If a satisfactory bearing or position has not been obtained the D/F station or control D/F station, as the case may be, will make "IMI" to the requesting station, on receipt of which, the requesting station will repeat its call sign and long dashes for a further period.

(v) It is particularly important, that in transmitting its call sign and dashes for the purpose of obtaining a bearing the transmitting station must assure that transmission is made regularly and that no variation of signal strength or note is allowed to occur.

384. METHOD OF REPORTING A BEARING OR POSITION.—(i) The D/F stations will report the bearings or positions obtained either by the appropriate operating signals or by cypher or confidential code or P/L messages. In the case of cypher, confidential code or P/L messages the time of origin of the message will be the time at which the bearings were taken.

(ii) Bearings are expressed in degrees from 000 degrees to 359 degrees representing the TRUE bearing OF the station requiring the bearing FROM the D/F station.

(iii) Positions may be expressed, using the appropriate operating signal, in :—

(*a*) P/L locality position (i.e., York).

(*b*) Bearing and distance from a known point when over the land.

(*c*) Table of lettered co-ordinates when over the sea.

(iv) When positions are expressed by a bearing and distance from a known point, the geographical reference is to be preceded by the bearing expressed as in paragraph (ii) above, and followed by a numerical group denoting the distance, thus :—

"115 Dungeness 5", signifies "115 degrees 5 miles from Dungeness".

(v) When D/F stations are reporting positions or bearings the procedure signal "G" (repeat back) may be used at the discretion of the control station, unless otherwise ordered.

385. SHORT D/F METHOD (Fleet Air Arm Aircraft).—A special short D/F method is employed by H.M. ships for the purpose of homing aircraft. The instructions for this method are found in "Naval Wireless Signalling Instructions" which are supplied to all R.A.F. units likely to require this knowledge.

386. CLASSIFICATION OF BEARINGS AND POSITIONS.—(i) The class of the bearing or position will in all cases be specified by a D/F station when transmitting a bearing or position to the station requiring the information.

(ii) Bearings will be classified as follows :—

(*a*) A 1st class bearing is one in which a perfect zero or a clear, sharply defined minimum is present and in which no interference is experienced over the zero or minimum.

A 1st class bearing must be verified. If time does not permit of this, it must be classified as 2nd class.

A 1st class bearing may be regarded as accurate within 2 degrees.

(*b*) A 2nd class bearing is one in which the minimum or equalisation points are less well-defined than in a 1st class bearing, but still are not sufficiently ill-defined to render the bearing unreliable. A 2nd class bearing is also one in which the minimum is sharp, as in (*a*), but in which interference is present over the zero.

A 2nd class bearing may be regarded as accurate within 5 degrees.

(*c*) A 3rd class bearing is one in which the minimum or equalisation points are so ill-defined as to render difficult the calculation of the bearing. A 3rd class bearing is also one in which the minimum is defined as in (*a*) or (*b*), but in which extreme interference is experienced over the zero.

A 3rd class bearing may be regarded as having an error of more than 5 degrees.

(iii) Positions will be classified as follows :—

(*a*) A 1st class position is one which is plotted from two or more 1st class bearings in the case of aircraft, or from three or more 1st class bearings in the case of ships.

(*b*) A 2nd class position is one plotted from one 1st class bearing and one or more 2nd class bearings.

(*c*) A 3rd class position is one plotted entirely from bearings other than 1st class bearings.

387. REFUSAL OF BEARINGS.—(i) **D/F stations are empowered to refuse single bearings or positions when conditions for obtaining bearings are unsatisfactory.**

When 3rd class bearings or positions are given they are to be regarded as unreliable.

When bearings are of such a nature that they do not warrant being given a classification the information available should not be refused if it is possible to indicate between what limits on the radio goniometer the bearing may lie.

Thus the operator will give the operating signal for :—" Your bearing appears to lie between . . . (deg.°) and . . . (deg.°) on my radio goniometer and sense indicates you are to the . . . (direction) of this station."

Such information will be used entirely at the discretion of the pilot of an aircraft and no responsibility can be taken by the D/F station for the reliability of this information.

After passing class 3 bearings and information as indicated above, the D/F operator is to report the situation to a responsible officer, except in cases where D/F bearings are being given for practice purposes.

(ii) In order to guard against the undetected presence of night or instrumental errors, D/F stations will arrange to take check bearings of fixed stations whose bearing is known accurately. These bearings should be taken as frequently as possible, and if errors are revealed, bearings should be refused until the cause of error has been removed.

388. (i) *Examples :—*

Throughout the examples, assume the following W/T operating signals :—

X705 What is my D/F bearing ?

X663 Bearing of you (or of . . .) was . . . , class . . . sense determined, from me (or from . . .), at . . . (Time).

X703 Your position was . . . , class . . . , by cross bearings.

X711 What is my position, by D/F cross bearings from nearest landmark ?

X667 Cannot determine bearing (of . . .).

X687 Send your call sign and dashes of 5 seconds duration, alternately, to enable a bearing, or bearings, to be obtained.

X690 Stand by to take another bearing after . . . minutes.

X320 Timing signal will be transmitted now (or at . . .).

X704 What are my D/F bearings from stations denoted ?

X678 Am homing on my D/F gear.

(ii) *Examples (a) :—*

Aircraft H9C requires a bearing from a single D/F station J9B.

H9C makes :—

VE J9B J9B v H9C X705 +

Signal strength, note, frequency and other conditions being satisfactory.

J9B makes :—

VE H9C v J9B R – X320 – (Time) – X687 +

H9C makes :—

VE J9B v H9C R – H9C 5 secs H9C 5 secs (for 30 to 60 seconds) H9C +

J9B being satisfied with the bearing obtained, which he determines as 036 degrees, 1st class, at 1412 makes :—

VE H9C v J9B X663 – 036 – 1 – 1412 +

H9C answers :—

VE J9B v H9C R +

(*b*) **Aircraft H9C requires a bearing from a single D/F station J9B. (J9B is experiencing interference.)**

H9C makes :—

VE J9B J9B v H9C X705 +

J9B is experiencing interference makes :

VE H9C v J9B R – X320* – (Time)* – X687 – X +

H9C makes :—

VE J9B v H9C R – H9C 5 secs H9C 5 secs (for 60 seconds) H9C +

J9B not being satisfied with the bearing makes :—

VE H9C v J9B IMI +

H9C repeats his call sign and 5 second dashes for a further 30 seconds, thus :—

VE J9B v H9C – H9C 5 secs (for 30 seconds) H9C +

J9B having determined the bearing as 036 2nd class at 1412, makes :—

VE H9C v J9B X663 – 036 – 2 – 1412 +

H9C answers :—

VE J9B v H9C R +

---

* The timing signal is to be omitted if a previous timing signal had been made to H9C during the present flight.

(*c*) **Aircraft H9C requires independent bearings from three D/F stations, C4A, H2K, and J9B. J9B is the controlling station.**

H9C makes :—

$\overline{VE}$ J9B J9B v H9C X704 – C4A – H2K – J9B +

Signal strength note frequency and other conditions being satisfactory, J9B knowing the stations under his control to be listening, makes :—

$\overline{VE}$ H9C v J9B R – X320* – (Time)* – X687 +

H9C makes :—

$\overline{VE}$ J9B v H9C R – H9C 5 secs H9C 5 secs (for 30 to 60 seconds) H9C +

J9B collects the bearings from C4A and H2K. (*See* Article 389, para. 4.)

Assuming the bearings to be :—

036° 1st class from J9B,
102° 2nd class from C4A, and
167° 1st class from H2K at 1603.

J9B makes :—

$\overline{VE}$ H9C v J9B X663 – 036 – 1 – J9B – 102 – 2 – C4A – 167 – 1 – H2K – 1603 +

H9C answers :—

$\overline{VE}$ J9B v H9C R +

If one station is unable to give a bearing, the appropriate operating signal will be made in place of the bearing. (*See* Article 389, para. (vi).)

If two stations are unable to give a bearing, the control station will request a repetition of call signs, etc.

$\overline{VE}$ H9C v J9B $\overline{IMI}$ +

H9C then repeats and the procedure is continued as before.

---

* The timing signal is omitted if a previous timing signal had been made to H9C during the present flight.

(*d*) **Aircraft H9C wishes to obtain a position by cross bearings obtained by a group of D/F stations, C4A, H2K, and J9B, the position to be plotted by the controlling station J9B. It is unnecessary for H9C to indicate the stations C4A and H2K as a position requires the services of all stations in the group.**

H9C makes :—

VE J9B J9B v H2C X711 +

J9B, knowing the stations under his control to be listening, makes :—

VE H9C v J9B R – X230* – (Time)* – X687 +

H9C makes :—

VE J9B v H9C R – H9C 5 secs H9C 5 secs (for 30 to 60 seconds) H9C +

J9B collects the bearings from C4A and H2K. (*See* Article 389, para. (iv).)

Having plotted the position as a 1st class position and the time of taking the bearings being 1630, J9B makes :

VE H9C v J9B X703 – 175 Start Point 25 – 1 – 1630 +

H9C answers :—

VE J9B v H9C R +

(*e*) **An aircraft, H9C desiring to ascertain its approximate position from a single D/F station, J9B, requires two bearings, one to be taken immediately, and another bearing to be taken after a stated interval, during which time the aircraft will proceed to its second point. (See Article 382, para. (v)** (*a*).)

H9C makes :—

VE J9B J9B v H9C X705 +

J9B answers :—

VE H9C v J9B R – X320* – (Time)* – X687 +

H9C then makes call signs and dashes, thus :—

VE J9B v H9C R – H9C 5 secs (for 30 to 60 seconds) H9C +

---

* The timing signal is omitted if a previous timing signal had been made to H9C during the present flight.

J9B, having determined the bearing as 144 degrees, 1st class, at 1624, makes :—

VE H9C v J9B X663 – 144 – 1 – 1624 +

H9C, desiring another bearing in 10 minutes time, then makes :—

VE J9B v H9C R – X690 – 10 +

J9B answers :—

VE H9C v J9B R +

When the aircraft has reached the position at which it requires another bearing, the procedure for obtaining a bearing from a single D/F station will be followed, as in example (*a*), omitting the timing signal.

(*f*) **Aircraft H9C requires bearings from three separate D/F stations which are working independently of each other ; the D/F stations are C4A, H2K, and J9B.**

H9C calls the three stations :—

VE C4A C4A H2K H2K J9B J9B v H9C X705 +

C4A answers :—

VE H9C v C4A R – X230* – (Time)* – X687 +

H2K and J9B answer, in turn, but omitting the timing signal which has already been sent by the station first answering.

H9C makes :—

VE C4A H2K J9B v H9C – H9C 5 secs H9C 5 secs (for 30 to 60 seconds) H9C +

The three stations having determined the bearing, make, in the order called :—

VE H9C v C4A X663 – 180 – 1 – 1500 +

H9C answers :—

VE C4A v H9C R +

VE H9C v H2K X663 – 045 – 2 – 1500 +

H9C answers :—

VE H2K v H9C R +

VE H9C v J9B X663 – 315 – 1 – 1500 +

H9C answers :—

VE J9B v H9C R +

* The timing signal is omitted if a previous timing signal had been made to H9C during the present flight.

(*g*) **An aircraft D/F station (Q7D) wishing to home on a station (K6W), makes :—**

VE K6W K6W v Q7D X678 X687 + *

K6W answers :—

VE Q7D v K6WR – K6W 5 seconds (for 30 to 60 seconds) K6W +

Q7D having determined the bearing, makes :—

VE K6W v Q7D R +

Q7D, when requiring subsequent bearings, makes :—

VE K6W v Q7D X687 +

K6W answers and makes call sign and dashes as before.

389. COMMUNICATION WITHIN A GROUP OF D/F STATIONS.—(i) The D/F stations of a group will normally be connected to their control D/F station by land line telegraph circuits. In certain cases lateral communication by land line may also be provided. If L/T circuits cannot be provided, W/T will be used instead.

(ii) The abbreviated method (see Chapter 29) will be employed within a group of D/F stations whether L/T or W/T communication is being employed. In the latter case, however, the rules for the sequence of answering laid down in Article 282 will be observed.

(iii) The stations under control, will at all times during watch hours be ready to take bearings. They will notify the control immediately any circumstances arise which prevent them " standing by." The control station will thus know at any given time the number of D/F stations available.

(iv) When D/F stations of a group have been requested to obtain bearings. Each station of the group will pass the bearing obtained to the control station, immediately after the transmission of the call signs and 5 second dashes by the station requesting its position.

The message reporting the bearing consists of :—

(*a*) **The letter " V " (from) followed by the call sign of the D/F station.**

(*b*) **The call sign of the station on which the bearing was obtained.**

(*c*) **The bearing.**

(*d*) **The class of bearing.**

(*e*) **The time of origin, e.g., the time the bearing was obtained.**

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* *Note.*—In cases of emergency this signal may be given a degree of priority, thus :—

VE K6W K6W v Q7D – P – X678 – X687 +

Example :—

D/F station, C4A, obtains a 2nd class bearing of 120 degrees on aircraft H9C at 1435. D/F station, H2K, obtains a 1st class bearing of 240 degrees on aircraft H9C at 1435. J9B is the control D/F station.

C4A makes :—
v C4A – H9C – 120 – 2 – 1435 +

J9B answers :—
C4A R

H2K makes :—
v H2K – H9C – 240 – 1 – 1435 +

J9B answers :—
H2K R

J9B then plots the position and passes the position obtained to H9C as shown in Article 388, para. (ii) (*d*).

(v) The control station may, when it is desirable, repeat back messages containing the reports of bearings passed in by the stations of its group.

(vi) Should any station of the group fail to obtain a bearing, that station will make to the control station, a procedure message the subject matter of which will consist of the operating signal for " Cannot determine bearing (of . . .)." The control D/F station will then if necessary instruct the station requiring D/F assistance to " repeat " as laid down in Article 383, para. (iv), and Article 388, para. (ii) (*b*).

Example :—

In example shown in para. (iv) above, D/F station, C4A, fails to obtain a bearing.

C4A makes :—
v C4A X667 +

J9B answers :—
C4A R

390. CIRCULAR BEACON W/T STATIONS.—(i) Land stations may be detailed to act as wireless beacon stations carrying out all-round transmission in order to enable mobile stations to obtain bearings by means of D/F apparatus carried in the mobile stations.

(ii) Land stations detailed for such duties will usually transmit, at certain definite periods during each hour, a programme consisting of a single letter repeated for a period of three to five minutes.

(iii) When several stations are detailed for this duty, the programmes of each station at each routine period will be arranged so that immediately one station ceases to transmit another commences.

CHAPTER 29

ABBREVIATED METHOD

392. (i) The signalling immediately consequent on the transmission of a message by any service procedure may be abbreviated as described in this Chapter. The actual transmission of a message cannot be abbreviated.

(ii) Since the transmitting and receiving stations are not both identified in this method, it is only suitable when very good W/T touch exists between the stations concerned.

(iii) When used with full procedure its scope is limited to controlling, answering and obtaining repetitions.

(iv) It is the normal method for controlling and answering between W/T stations in the same section (as shown in current C.C.Os. "W/T Organization"), for normal point-to-point traffic, and between aircraft, armoured cars, etc., in W/T company. It is not to be employed with "I" method.

393. THE RULES FOR ABBREVIATED METHOD are as follows :—

(i) The commencing sign (VE) and the ending sign (AR) are omitted.

(ii) The station which transmitted the message uses the call sign of the receiving station as the "call" when controlling.

(iii) The receiving station uses the letter "V" (from) followed by its own call sign as the call when answering.

(iv) The control station, however, will always answer by making the call sign of the transmitting station followed by "R," or, if necessary, "IMI" or "Q."

(*a*) This method of answering may be used by a station conducting a W/T exercise.

394. HOW TO ADOPT ABBREVIATED METHOD.—Point to Point Service or Mobile Stations in W/T Company.—(i) W/T stations in the same section (see Article 392, para. (iv)), aircraft or armoured cars, etc., in W/T company, normally use the abbreviated method, and so it is unnecessary to indicate to the receiving stations that this method is to be used.

(ii) If the transmitting station wishes stations to answer by full procedure the order "K" will be given by full procedure, thus :—

VE W8P v D4B K +

395. Other W/T Services.—(i) In W/T services other than those mentioned in Article 394. The transmitting station wishing the receiving stations to use abbreviated method, inserts the letter "Q" in the final instructions of the message and will then direct the receiving stations to answer in the abbreviated form, thus :—

F3S K (Article 400, para. (ii)).

(ii) In the case of messages containing a multiple collective call, it is unnecessary to insert the letter "Q" in the final instructions, because no station answers until given "K."

(iii) The station which transmitted the original message is considered to be the controlling station with regard to the signalling consequent on its transmission. This must not be confused with the control station, which is the station controlling the traffic on the frequency in use.

396. The order to adopt abbreviated method or full procedure remains in force for answering, etc., all messages until the order is annulled.

397. *Examples.*—**In the examples given below, the following are considered to be the call sign of an authority and stations (on point-to-point service) and aircraft (in W/T company).**

HQ = K2G.

Control Station = D4B.

W/T stations in section.	H2K H8Y J3P K6O K6W L9O	Aircraft squadron.	W2X* R4M S9U T8H U8Z V4R
Collective call	W8P	Collective call	B3N

(i) D4B, wishing to transmit a P/L message from K2G to H8Y, makes :—

$\overline{\text{VE}}$ H8Y H8Y v D4B NR1 – GR10 – Z – H8Y v
K2G $\overline{\text{AAA}}$ (Subject matter) = 1020 +

H8Y answers :—
v H8Y R

---

* Squadron Commander.

(ii) H8Y, wishing to transmit a cypher message to D4B (control station), makes :—

VE D4B D4B v H8Y NR1 – GR16 = (Text) = 1025 +

D4B answers :—

H8Y R

(iii) D4B, wishing to transmit a P/L message from K2G to the section W8P, makes :—

VE W8P W8P v D4B NR1 NR2 NR6 NR4 NR7 NR5 – GR10 – Z – W8P v K2G AAA (Subject matter) = 1040 +

The stations answer in the alphabetical order of their call signs, thus :—

V H2K R

V H8Y R

V J3P R

V K6O R

V K6W R

V L9O R

(iv) D4B, wishing to transmit a cypher message to H2K, K6O, and L9O, makes :—

VE H2K H2K K6O K6O L9O L9O v D4B NR2 NR5 NR6 – GR5 = (Text) = 1110 +

Stations answer in the alphabetical order of their call signs, thus :—

V H2K R

V K6O R

V L9O R

(v) The abbreviated method will be employed between aircraft or armoured cars, etc., in W/T company. The Senior Officer carrying out the duties of control station.

Example :—

S9U makes :—

VE W2X W2X v S9U - GR5 AAA (Subject matter) = 0930 +

W2X answers :—

S9U R

398. REQUESTING AND MAKING REPETITIONS BY ABBREVIATED METHOD.—(i) The method of asking for and of giving repetitions of messages by abbreviated method is exactly as laid down in Chapter 21, except that the rules contained in Article 393 apply both to the request and to the repetition.

(ii) *Examples :—*

(*a*) **D4B transmits the following message to K6W. K6W requires a repetition of the whole message.**

D4B makes :—

VE K6W K6W v D4B NR7 - GR5 = 2141 6172 8173 2141 = 0930 +

K6W, requiring a repetition of the whole message, answers :—

V K6W IMI

D4B repeats the message as originally made :—

VE K6W v D4B NR7 - GR5 = 2141 6172 8173 2141 = 0930 +

K6W answers :—

V K6W R

(*b*) **D4B having transmitted the message shown in example (*a*) to K6W. K6W requires a repetition of the time of origin.**

K6W answers :—

V K6W IMI 5

D4B makes :—

K6W - 5 - 0930

K6W answers :—

V K6W R

(*c*) **H8Y transmits the following message to D4B (control station). D4B requires a repetition of the 3rd group.**

H8Y makes :—

$\overline{\text{VE}}$ D4B D4B v H8Y NR8 – GR6 = 1793
2164 8018 9177 1793 = 0930 +

D4B answers :—

H8Y $\overline{\text{IMI}}$ 3

H8Y makes :—

D4B – 3 – 8018

D4B answers :—

H8Y R

(*d*) **D4B transmits the following message to H8Y, J3P, and K6W. H8Y requires a repetition of the whole message.**

D4B makes :—

$\overline{\text{VE}}$ H8Y H8Y J3P J3P K6W K6W v D4B
NR5 NR7 NR7 – GR6 = 4106 1021 3078
1908 4106 = 1040 +

H8Y, J3P, and K6W answer :—

V H8Y $\overline{\text{IMI}}$
V J3P R
V K6W R

D4B makes :—

H8Y – H8Y J3P K6W v D4B NR5 NR7
NR7 – GR6 = 4106 1021 3078 1098 4106 =
1040

H8Y answers :—

V H8Y R

(*e*) **D4B transmits the following message to the section W8P. K6O requires a repetition of the whole message.**

D4B makes :—

$\overline{\text{VE}}$ W8P W8P v D4B NR4 NR4 NR8 NR7
NR10 NR8 – GR6 = 9172 2021 1071 2141
9172 = 1100 +

All stations of the section answer :—

v H2K R

v H8Y R

v J3P R

v K6O $\overline{\text{IMI}}$

v K6W R

v L9O R

D4B makes :—

K6O - W8P v D4B NR4 NR4 NR8 NR7 NR10 NR8 - GR6 = 9172 2021 1071 2141 9172 = 1100

K6O answers :—

v K6O R

(*f*) **D4B having transmitted the message shown in example** (*d*) **to the section W8P, H2K requires a repetition of all before the 2nd group. K6O requires a repetition of all after the 3rd group.**

All stations of the section answer, thus :—

v H2K $\overline{\text{IMI}}$ AB2

v H8Y R

v J3P R

v K6O $\overline{\text{IMI}}$ AA3

v K6W R

v L9O R

D4B makes :—

H2K - AB2 - W8P v D4B NR4 NR4 NR8 NR7 NR10 NR8 - GR6 = 9172

H2K answers :—

v H2K R

D4B makes :—

K6O – AA3 – 2141 9172 = 1100

K6O answers :—

v K6O R

or D4B may give both repetitions together, thus :—

H2K K6O – AB2 – W8P v D4B NR4 NR4 NR8 NR7 NR10 NR8 – GR6 = 9172 – AA3 – 2141 9172 = 1100

H2K and K6O answer, thus :—

v H2K R

v K6O R

399. USE OF " Q " AND " $\overline{\text{INT}}$ K " IN ABBREVIATED METHOD.—Point to Point Service or Mobile Stations in W/T Company.

(i) The control station wishes all stations of the section to stop transmitting, makes :—

W8P Q

(ii) The control station (D4B) has made :—

$\overline{\text{VE}}$ W8P W8P v D4B NR5 NR5 NR9 NR8 NR11 NR9 – GR7 = 7333 1001 2119 1046 6021 7333 = 1130 – Q +

L9O has a message to transmit, bearing no degree of priority, makes :—

v L9O $\overline{\text{INT}}$ K

D4B, wishing L9O to transmit his message, makes :—

L9O K

L9O then proceeds to transmit his message.

(iii) Had L9O a message to transmit bearing a degree of priority, he would have used the special preliminary call. (See Article 299.)

Example :—

$\overline{\text{VE}}$ P P P v L9O +

400. Other W/T Services.—

(i) In the examples given below, the following are considered to be the call signs of an authority and two aircraft squadrons.

Control Station = D4B.

Aircraft Squadron.	W2X*	Aircraft Squadron.	X6Q*
	R4M		T8U
	S9U		U2W
	T8H		V3C
	U8Z		V6P
	V4R		Y3Q
Collective Call	B3N	Collective Call	T3K

(ii) *Examples :*—**D4B wishes to transmit a message to the squadron B3N, and deciding that abbreviated method is to be used, makes :—**

$\overline{VE}$ B3N B3N v D4B – GR10 $\overline{AAA}$ (Subject matter) = 0730 – Q +

D4B then makes :—

B3N K

The Squadron Commander answers first followed by the aircraft in alphabetical order of the call signs (see Article 282, para. (iv)), thus :—

v W2X R
v R4M R
v S9U R
v T8H R
v U8Z R
v V4R R

(iii) D4B wishes to transmit a message to the two squadrons, B3N and T3K, makes :—

$\overline{VE}$ B3N B3N T3K T3K v D4B – GR10 $\overline{AAA}$ (Subject matter) = 0730 +

D4B decides that both squadrons shall answer by abbreviated method, makes :—

B3N K

---

* Squadron Commander.

The Squadron Commander and aircraft of this squadron answer :—

v W2X R
v R4M R
v S9U R
v T8H R
v U8Z R
v V4R R

The other squadron is the given " K " in the same manner.

(iv) D4B wishes to transmit a message to the two squadrons, B3N and T3K, makes :—

$\overline{VE}$ B3N B3N T3K T3K v D4B – GR10 $\overline{AAA}$
(Subject matter) = 0800 +

D4B decides that the squadron T3K shall answer by abbreviated method, makes :—
T3K K

The Squadron Commander and aircraft of this squadron answer :—

v X6Q R
v T8U R
v U2W R
v V3C R
v V6P R
v Y3Q R

D4B decided that the squadron B3N shall answer by full procedure, makes :—

$\overline{VE}$ B3N v D4B K +

The Squadron Commander and aircraft of this squadron answer by full procedure, thus :—

$\overline{VE}$ D4B v W2X R +
$\overline{VE}$ D4B v R4M R +
$\overline{VE}$ D4B v S9U R +
$\overline{VE}$ D4B v T8H R +
$\overline{VE}$ D4B v U8Z R +
$\overline{VE}$ D4B v V4R R +

CHAPTER 30

RADIO TELEPHONY PROCEDURE

445. SPECIAL DEFINITIONS.—(i) OVER—The word "Over" used at the conclusion of a R/T call or message signifies that the transmitting station is changing over to the receive position and that a reply is expected. Any receiving station required to answer a call or message must await the "Over" before commencing to transmit. The ending sign $\overline{AR}$ is the W/T equivalent of "Over."

(ii) LISTEN OUT—The words "Listen Out" used at the conclusion of a R/T message signify that the transmitting station is changing over to the receive position and has no further message to communicate. The "no-message" sign $\overline{VA}$ is the W/T equivalent of "Listen Out."

446. GENERAL CONSIDERATIONS.—(i) The efficient use of radio telephony depends very greatly upon the method of speaking and upon the articulation of the operator. As the distinctive sounds of consonants are liable to become blurred in the transmission of speech by telephone and as words containing the same vowels are therefore apt to sound alike, special care is necessary in the pronunciation of words. All words must be spoken plainly and each word ended clearly and not allowed to drag into the next. Any tendency to shout, to employ undue accentuation or to talk rapidly must be suppressed.

(ii) It must be remembered that it takes considerably longer to write down a message than it does to speak it, and this must be allowed for by the operator transmitting a message.

(iii) Messages which require to be reported to or acted upon by a person other than the receiving operator must be written down before they are answered.

(iv) Messages should be written in full whenever possible. It may sometimes be necessary, however, to use abbreviations in writing down, and in these cases the greatest care is to be taken to use only well-known abbreviations from which no confusion is likely to arise.

447. PHONETIC ALPHABET.—(i) Whenever it is necessary to identify any letter of the alphabet this will be done by means of an analogy taking the form of a word. For general convenience standard analogies are adopted and are known as phonetic alphabets.

(ii) An Interservice phonetic alphabet is employed by the three fighting services, and will be used in the R.A.F. for ALL purposes for which such an alphabet is required (i.e., R/T communication, ordinary telephone communication, phonogram work, etc.).

The Interservice phonetic alphabet is as follows :—

A	**Ac**	**J**	**Johnnie**	**S**	**Sugar**
B	**Beer**	**K**	**King**	**T**	**Toc**
C	**Charlie**	**L**	**London**	**U**	**Uncle**
D	**Don**	**M**	**Monkey**	**V**	**Vic**
E	**Edward**	**N**	**Nuts**	**W**	**William**
F	**Freddie**	**O**	**Orange**	**X**	**X-ray**
G	**George**	**P**	**Pip**	**Y**	**Yorker**
H	**Harry**	**Q**	**Queen**	**Z**	**Zebra**
I	**Ink**	**R**	**Robert**		

(iii) The method of using the phonetic alphabet will be as follows. The letter will first be spoken in its ordinary form, followed by the word " for " and followed again by the appropriate word from the phonetic alphabet.

Example :—

It is desired to spell out the word " London " by phonetic alphabet. This will be done as follows :—

The word " London " will be spoken followed by—

" L FOR LONDON O FOR ORANGE N FOR NUTS
D FOR DON O FOR ORANGE N FOR NUTS."

448. PRONUNCIATION OF NUMERALS.—(i) When figures are transmitted by R/T the following rules for their pronunciation will be observed :—

0 will be pronounced as	**" Oh."**
1 „ „ „	**" Wun " with accent on " n."**
2 „ „ „	**" Too " with accent on " T " and long " oo."**
3 „ „ „	**" Thr-r-ee " with slight rolling of " r " and long " e."**
4 „ „ „	**" Foer " one syllable with long " o " and slightly rolled " r."**
5 „ „ „	**" Fife " emphasising the consonants.**
6 „ „ „	**" Six " with accent on " X."**
7 „ „ „	**" Sev-en " two syllables.**
8 „ „ „	**" Ate " with accent on " A."**
9 „ „ „	**" Niner " with long " i " and emphasising the consonant " N."**

(ii) In cases where communication is difficult or interference is being experienced, a check of the figures may be adopted as follows :—

(*a*) The figure will be spoken as above followed by counting up to the figures, by quoting not more than three figures, viz. :—

0	**pronounced Zero.**	
WUN	**counted Zero Wun.**	
TOO	**„**	**Wun Too.**
TH-R-EE	**„**	**Wun Too Th-r-ee.**
FOER	**„**	**Too Th-r-ee Foer.**
FIFE	**„**	**Th-r-ee Foer Fife.**
SIX	**„**	**Foer Fife Six.**
SEV-EN	**„**	**Fife Six Sev-en.**
ATE	**„**	**Six Sev-en Ate.**
NINER	**„**	**Sev-en Ate Niner.**

(See Article 464, para. (ii).)

(*b*) The numeral 0 occurring in the text of a message is spelt out as Z-E-R-O.

(*c*) *Example :—*

If it is desired to transmit the group 3608. This will be done as follows :—

" The group will be spoken entire, thus ' 3608,' followed by 3 one two three, 6 four five six. 0 Zero. 8 six seven eight."

(*d*) The above procedure is generally used in Army Co-operation.

449. THE COMPONENT PARTS OF A R/T MESSAGE.—(i) The component parts of a R/T message are as follows :—

Component.	Examples.			
	Procedure Message.	Procedure Message.	P/L Message.	P/L Message.
(*a*) The call ..	Hullo Baboon. Snooker A calling.	HulloSnookerA. Baboon answering.	Hullo P3. AX calling.	Hullo AX. P3 calling
(*b*) Offer of message	—	—	Written message for you.	Written message for you.
(*c*) Serial letter and number.	—	—	A3	P7
(*d*) Degree of Priority.	—	—	Important	Important
(*e*) Address to and from (if other than stations indicated in the call).	—	—	P3 from WA	WA from P3
(*f*) Subject matter	Can you hear me ?	Receiving you. Strength niner. Are you receiving me ?	Report movement on road. Alton Winchester.	Two tanks moving north at B4213.
(*g*) Time of origin	—	—	1423	1430
(*h*) Final Instructions.	—	—	—	Fresh message for you.
(*i*) Ending ..	Over	Over	Over	Over

(ii) Every R/T message must include the call, the subject matter, and the ending or no-message sign.

450. THE CALL.—The call of a R/T message consists of the word "Hullo," followed by the call sign(s) of the receiving station(s) and the call sign of the transmitting station, followed by the word "Calling."

451. THE "OFFER OF MESSAGE."—The "offer of message" consists of the words "Message for you" or "Written message for you," and is employed whenever the transmitting station is about to transmit a message other than a procedure message or one to be acted upon by the person actually carrying out the duties of receiving operator. If communication has already been established the "Offer" may be omitted and the message passed without a preliminary call.

452. THE SERIAL LETTER AND NUMBER.—(i) Each written R/T message will be given a serial letter and number by which it will be identified and referred to later, if necessary.

(ii) The serial letter is to be that normally allotted to the aircraft or one allotted specially for the purpose of messages. Each message being numbered consecutively during each flight.

453. THE DEGREE OF PRIORITY.—(i) The degree of priority, if any, which the originator may assign to the message will be indicated by the words—

"Most immediate."
"Emergency Air Attack."
"Emergency."
"Immediate."
"Important."

(ii) The regulations governing the use of priority markings are laid down in R.A.F. Signal Manual, Part I.

454. THE ADDRESS.—Except when the receiving station(s) and transmitting station are in both cases identical with the addressee(s) and originator of the message, the address will be signalled in this position either by call signs or in P/L.

455. THE SUBJECT MATTER.—(i) The subject matter of R/T messages will normally consist of plain language.

(ii) Difficult or unusual words and names of places or individuals should be spelt out by transmitting operators, use being made of the phonetic alphabet as necessary.

(iii) The subject matter of a message should be as short and concise as possible, consistent with clearness.

(iv) If a compass direction is to be transmitted, e.g., South-East, the words "South-East" will be spoken followed by the initial letters "S" for sugar, "E" for Edward.

(v) A group of figures will be transmitted in the ordinary manner followed, if necessary, by the check of the figure as laid down for difficult communication.

456. THE TIME OF ORIGIN.—(i) The time of origin will be employed in all messages which require to be reported to or acted upon by any person other than the one carrying out the duties of the receiving operator.

(ii) Owing to the difficulty in keeping records in aircraft which employ R/T as a means of communication, the time of origin of previous messages is not to be used in messages to aircraft as a means of referring to such previous messages.

(iii) The time of origin, when employed, will be expressed in four figures, and will be preceded by the word " Time."

457. THE FINAL INSTRUCTIONS.—In this position the transmitting station may send any instructions to the receiving station either regarding further messages or the conduct of signalling (e.g., " Fresh message for you." " Wait one minute before answering," etc.).

458. THE ENDING.—The ending sign " Over " or the no-message sign " Listen Out " will be sent at the conclusion of every R/T message. When any R/T station is communicating with more than one station or aircraft or whenever it may be considered necessary the ending sign will be sent as follows :—

" AX over to P3 - Over "

459. ESSENTIAL COMPONENTS.—Owing to the type of communication for which R/T is usually employed, the number of components of the messages generally handled are reduced to a minimum. The components will in most cases comprise only the following :—

(*a*) In message between air and ground :—

The Call.
The Offer.
Serial Number.
The Subject Matter.
The Time of Origin.
The Ending or No-message Sign.

(*b*) In messages between aircraft :—

The Call.
The Subject Matter.
The Ending or No-message Sign.

460. PROCEDURE PHRASES.—(i) It is inadvisable to attempt to lay down definite wording for all procedure phrases likely to be required in R/T work.

(ii) The following are, however, phrases in constant use, and are to be adopted :—

"Message for you."
"Written message for you."
"Pass your message"
"Correct."
"Are you receiving me?"
"Receiving you strength ....."
"Wait."
"Message received."
"Speak slower."
"Say again."
"I say again."

(iii) Care must be taken to curtail all phrases to the minimum consistent with clearness.

461. R/T CALL SIGNS.—(i) The call signs allotted to stations for R/T communication may consist of :—

(*a*) Words of one or two syllables ; which may be accompanied by a colour and number or a letter and number.

(*b*) Two or more letters.

(*c*) Combinations of letter(s) and figure(s).

(ii) R.A.F. squadrons normally are allotted a collective sign, (para. (i)(*a*)), except as provided under para. (viii), which will be used for addressing the squadron as a whole.

(iii) Aircraft flying singly will be addressed by the squadron call followed by the flight distinguishing colour and the aircraft's individual letter.

(iv) When flying in formation the leader will be addressed by the squadron call followed by the word "Leader" ; the flight commanders and individual aircraft will be addressed by the squadron call followed by the colour of the flight, and the number of the aircraft according to its position in the formation.

(v) To address a flight as a whole the squadron call followed by the colour of the flight will be used.

(vi) To address two or more individual aircraft of a squadron, but who are flying independently, the squadron call followed by the flight distinguishing colour and the aircraft's individual letters will be used, the latter being separated by the word "and," thus :—

"HULLO THRUSH RED B AND F AND G."

(vii) *Examples :—*

A R.A.F. squadron is allotted the word "Thrush" as its collective aircraft call sign—

(*a*) Aircraft Red C wishing to communicate with a station (call sign YAMMA), will make:—

"HULLO YAMMA, YAMMA, THRUSH RED C CALLING," etc.

(*b*) Aircraft Red Six wishing to communicate with Aircraft Red Four, will make:—

"HULLO THRUSH RED FOUR THRUSH RED FOUR. RED SIX CALLING," etc.

(*c*) A leader of a formation wishing to communicate with aircraft of his squadron, will make :—

"HULLO THRUSH. THRUSH. THRUSH LEADER CALLING," etc.

(*d*) A ground station, call sign "Swallow," wishing to communicate with two specified aircraft of the squadron, will make :—

"HULLO THRUSH YELLOW ONE AND BLUE ONE, THRUSH YELLOW ONE AND BLUE ONE, SWALLOW CALLING," etc.

(*e*) A leader of a squadron in formation wishing to communicate with aircraft in No. 1 position in "B" Flight, will make :—

"HULLO THRUSH YELLOW ONE. THRUSH LEADER CALLING," etc.

(viii) R.A.F. squadrons working with the Army are allotted a letter and each individual pilot a number, which are combined and form a call sign under 1 (*c*).

(*a*) *Example :—*

A R.A.F. squadron allotted letter "P," and a pilot of that squadron whose number is three, wishing to communicate with a ground station, call sign DX, will make :—

"HULLO DX, DX, P3 calling" etc.

(ix) Call signs composed of letters, or letters and figures, may be transmitted either as written or by means of the phonetic alphabet.

Example :—

Call sign AB may be transmitted as :—
" AB " or " AC BEER."

Call sign P3 may be transmitted as :—
" P3 " or " PIP THREE."

(x) The order in which R/T call signs will be transmitted and answered is as follows :—

(*a*) **Single word call signs in alphabetical order. In the case of aircraft calls followed by a number, the individuals addressed by the numerals will answer in numerical sequence after each collective call sign.**

(*b*) **One-letter one-figure call signs, B2, B3, P1, etc., in alphabetical and numerical order respectively.**

(*c*) **Two-letter call signs in alphabetical order.**

(*d*) **Letter, letter figure series AA2, etc., to ZZ9.**

(*e*) **Letter figure letter series A2A, etc., to Z9Z.**

(*f*) **Figure letter letter series 2AA, etc., to 9ZZ.**

(*g*) **Three-letter call signs in alphabetical order.**

462. CALLING UP AND ANSWERING.—(i) The same general considerations govern the use of the preliminary call as in the case of W/T.

(ii) The preliminary call consists of the call sign(s) of the receiving sta ion(s) made twice and the call sign of the transmitting station made once. It will contain a procedure phrase indicating that the transmitting station has a message to transmit and will conclude with the ending sign " Over."

Example :—

A station, call sign " Baboon," calling up aircraft, call sign " Snooker Two," makes :—

" HULLO SNOOKER TWO. SNOOKER TWO, BABOON CALLING, MESSAGE FOR YOU, OVER."

(iii) The answer to the preliminary call by the receiving station will normally consist of the call sign of the calling station made once, the call sign of the receiving station made once, followed by the word "Answering " and procedure message telling the calling station to transmit the message or to wait.

Examples :—

(*a*) Aircraft, call sign " Snooker Two," answering a preliminary call from station, call sign " Baboon," makes :—

" HULLO BABOON, SNOOKER TWO ANSWERING, PASS YOUR MESSAGE, OVER."

(*b*) Aircraft, call signs " Snooker One," " B4," " C1," and station, call sign " DX," wishing to answer a preliminary call from station, call sign " HN," will do so in the order laid down in Article 461, para. (x) :—

" HULLO HN. Snooker One answering. Pass your message. Over."

" HULLO HN. B4 answering. Pass your message. Over."

" HULLO HN. C1 answering. Pass your message. Over."

" HULLO HN. DX answering. Pass your message. Over."

(iv) In subsequent calls between stations in good communication, the call signs of the receiving station will be made once only.

463. TRANSMITTING AND ANSWERING A MESSAGE.

(i) The following general rules govern the transmission of R/T messages when two-way working is employed.

(*a*) **When both stations are in good communication all parts of the message are made once through.**

(*b*) **In all messages which are transmitted without a preliminary call, the call signs of the receiving station(s) will be made twice.**

(ii) *Examples :—*

(*a*) Aircraft, " P3," wishes to test R/T with a station, " DX." P3 makes :—

HULLO DX. DX. P3 calling. Are you receiving me ? Over.

DX answers (if signals from air are satisfactory) :—

HULLO P3. DX answering. Receiving you strength 9. Are you receiving me ? Over.

P3 answers (if signals from ground are satisfactory) :—

HULLO DX. P3 answering. Receiving you strength 8. Over.

DX answers :—

HULLO P3. DX answering. Message received. Listen Out.

(*b*) Aircraft, " P3," wishes to transmit a message to a station, " DX."

P3 makes :—
HULLO DX. DX. P3 calling. Message for you. Over.

DX answers :—
HULLO P3. DX answering. Pass your message. Over.

P3 makes :—
HULLO DX. P3 calling. Serial No.*A.1. No movement on road Alton Winchester. Time 0900. Over.

DX answers :—
HULLO P3. DX answering. Message received. Listen Out.

(*c*) Aircraft " P3 " wishes to transmit a message to a station, " DX," without making a preliminary call.

P3 makes :—
HULLO DX. DX. P3 calling. Message for you. A2 Two tanks moving North. N for nuts, at B for beer, 4213. Time 0915. Over.

DX answers :—
HULLO P3. DX answering. Message received. Listen Out.

464. DIFFICULT COMMUNICATION METHOD.—(i) When communication is difficult the whole message, including the call, will be made twice through, the repetition of the subject matter being preceded by the words " I say again," and being spoken straight through without checks. The final instructions (if any) and the ending sign will, however, be made at the end of the repetition only.

(ii) *Example* :—
An aircraft, " P3," wishes to transmit an important message to a station, " DX."

P3 makes :—
HULLO DX. DX. P3 calling. Message for you. Over.

DX is experiencing difficulty in reception due to interference, and wishes P3 to use " DC " method.

DX answers :—
HULLO P3. DX answering. Pass your message, work DC (or work DC d for don, c for charlie). Over.

---

* When both stations are in good communication, the words " Serial Number " may be omitted.

P3 transmits the message using " DC " method, thus :—

HULLO DX. DX. P3 calling. HULLO DX. DX. P3 calling. Serial No. A3. Serial No. A3. Important. Important 54. FIVE, three four five. FOUR, two three four covered lorries in column moving South, S for sugar. Head B for beer 7203 SEVEN, five six seven. TWO, one two. O Zero. THREE, one two three. Tail B for beer 6924. SIX, four five six. NINE, seven eight nine. TWO, one two. FOUR, two three four. Time 0945. Time 0945. I say again. 54 covered lorries in column moving South. Head B 7203. Tail B 6924. Over.

DX answers :—

HULLO P3. DX answering. Message received. Listen Out.

465. SINGLE WAY WORKING.—(i) The following rules govern the transmission of R/T messages when single way working is employed :—

(*a*) **The whole message, including the call, will be made through twice, the repetition of the subject matter being preceded by the words " I SAY AGAIN," and the whole transmission being ended by the " Ending sign," " OVER."**

(*b*) **Messages will be transmitted without a preliminary call.**

(ii) *Example :—*

Aircraft " C4," wishes to transmit a message to a station, " DX."

C4 makes :—

Hullo DX. DX. C4 calling. Hullo DX. DX. C4 calling. Written message for you. Written message for you. Serial Number C2. Serial Number C2. 30. THREE, one two three. 0 Zero men stationary at D for don, 7463. SEVEN, five six seven. FOUR, two three four. SIX, four five six. THREE, one two three. Time 1045. Time 1045. I say again. 30 men stationary at D 7463. Over.

Note.—Should the operator have more than one message to transmit he will make after the time of origin of the first message " Fresh message for you, fresh message for you," and pass the second message in the same manner as above.

466. REPETITIONS.—(i) When words are missed or are doubtful, repetitions will be asked for by the receiving station before answering the message.

(ii) Requests for repetitions will be made by means of the following procedure phrases :—

" Say again "	**Meaning repeat the whole message.**
" Say again all before . . . " ..	**Meaning repeat all before word quoted.**
" Say again all after . . . " ..	**Meaning repeat all after word quoted.**
" Say again from . . . to . . . "	**Meaning repeat all between the words quoted.**
" Say again word after . . . " ..	**Meaning repeat word after the one quoted.**

(iii) In making repetitions the transmitting station will always repeat the word or words quoted in the request for repetition.

Examples :—

(*a*) Aircraft, " P3," transmits the following message to a station, " DX."

Hullo DX. P3 calling. Serial Number A1 No movement on road Alton Winchester. Time 0900. Over.

(*b*) " DX," requiring the whole message repeated, makes :—

Hullo P3. DX answering. Say again. Over.

P3 will then transmit the whole message again exactly as shown in (*a*) above.

DX answers in the usual manner.

(*c*) " DX," requiring all after the word " road," makes :—

Hullo P3. DX answering. Say again all after road. Over.

P3 answers :—

Hullo DX. P3 answering. All after road, Alton Winchester. Time 0900. Over.

DX answers in the usual manner.

(*d*) " DX," requiring from " no " to " Alton," makes :—

Hullo P3. DX answering. Say again from no to Alton. Over.

P3 answers :—

Hullo DX. P3 answering. No movement on road Alton. Over.

DX answers in the usual manner.

CHAPTER 31

PROCEDURE FOR L/T SIGNALLING

471. BETWEEN R.A.F. UNITS.—(i) When land line telegraph circuits are installed between R.A.F. units and are operated by R.A.F. personnel, the procedure employed is to be the same as that used in W/T communications as described in the previous chapters of this manual. The abbreviated method shown in Chapter 29 is to be used for answering and controlling.

(ii) When such L/T circuits are operated at both ends by personnel of the Royal Corps of Signals, the procedure employed will be as laid down by the Army Council.

472. BETWEEN ROYAL NAVY AND R.A.F. UNITS.—When one end of a L/T circuit is manned by the Royal Navy and the other by the R.A.F., the procedure to be employed will be as laid down in Article 471, para. (1).

473. BETWEEN ARMY AND R.A.F. UNITS.—When one end of a L/T circuit is manned by the Army and the other end by the R.A.F., a special inter-service procedure is employed.

CHAPTER 32

COMMERCIAL W/T PROCEDURE

476. GENERAL POST OFFICE HANDBOOK.—The Articles in this chapter are extracted from the G.P.O. Handbook for Wireless Telegraph Operators, which is the authority for commercial W/T procedure and regulations.

477. PRIORITY OF MESSAGES.—The order of priority of messages is as follows :—

(i) Distress calls, distress messages, and distress traffic.

(ii) Communications preceded by the urgency signal.

(iii) Communications preceded by the safety signal.

(iv) Communications relating to direction finding.

(v) All other communications.

(vi) For radiotelegrams covered by (v), the order of priority is as follows :—

(*a*) Radiotelegrams of the British Admiralty.

(*b*) Other British Government radiotelegrams.

(*c*) Radiotelegrams relating to the navigation, movement, and requirements of ships, the safety and regularity of air services and radiotelegrams containing weather observations destined for an official meteorological service.

(*d*) Service messages relating to the conduct of the radiotelegraphic service, or to previous radiotelegrams transmitted by the station concerned.

(*e*) Ordinary correspondence.

478. FREQUENCY TO BE USED WHEN ESTABLISHING COMMUNICATION.—A station, for calling purposes, uses the normal frequency on which the station called keeps watch. The general calling frequency, which must be used by all ship stations and all coast stations engaged in radio-telegraphy on the authorised bands between 365 and 515 kc/s (822 and 583 m.), is 500 kc/s (600 m.).

For transmitting the reply to calls and to preparatory signals, the station called uses the frequency on which the station calling must keep watch.

As an exception to this rule, when a ship calls a coast station on 143 kc/s (2,100 m.), the coast station replies on its normal working frequency in the bands 100 to 160 kc/s (3,000 to 1,875 m.), as indicated in the List of Stations.

479. CONTROLLING STATION.—If, in spite of these precautions, transmission in progress is interfered with, the call must cease at the first request made by a coast station open for public service, or by an aeronautical station. When a transmission already in progress between two ships is interfered with by the emission of another ship, the latter must cease sending at the first request of either of the others. The station which requests this cessation must indicate, approximately, how long it will be necessary to wait.

In this connection operators should carefully note that the main principle governing all communications between a ship station and a coast station is essentially that the latter is the controlling station, except in the case of distress messages.

480. CALL AND REPLY.—(i) The call comprises the signal "$\overline{\text{CT}}$" once; the call sign of the station called sent not more than three times; the word "de" once; and the call sign of the station calling sent not more than three times.

(ii) The call must be followed by the service abbreviation indicating the frequency and/or the type of wave which the calling station proposes to use for the transmission of its traffic, and if it has more than one telegram to transmit, the service abbreviation and figure giving the number of telegrams.

(iii) The station called answers by transmitting the signal "$\overline{\text{CT}}$" once, the call sign of the station calling sent not more than three times, the word "de" once, its own call sign once, the service abbreviation indicating that it will listen on the frequency and/or type of wave announced by the calling station or, if it is not in agreement, the service abbreviation indicating the frequency and/or type of wave which it proposes should be used for the traffic, and, if it is ready to receive traffic the signal "K" (invitation to transmit) once, followed, if necessary, by the appropriate abbreviation and by a number indicating the strength of the signal received.

(iv) If the station called is not in a position to receive, it replaces in the reply formula the letter "K" by the signal "$\overline{\text{AS}}$" (wait) followed by a number indicating in minutes the probable duration of the wait. If it is probable that this delay will exceed ten minutes the delay must be explained.

Example of Call.

(v) Thus, suppose a ship, whose call sign is A B C D, wishes to transmit four radiotelegrams on the frequency of 425 kc/s to a station whose call sign is XYZ ; after first having ascertained that the station is not communicating, the ship station signals :—

$\overline{\text{CT}}$ XYZ XYZ XYZ de
ABCD ABCD ABCD QSY425 QTC4

and the station called, if in agreement, will reply thus :—

Example of Reply.

$\overline{\text{CT}}$ ABCD ABCD ABCD de
XYZ QSY425 K QSA3

(vi) When there are several radiotelegrams to be transmitted in the same direction they may be transmitted in series with the consent of the station which is to receive them.

This latter station, in giving its consent, indicates the number of radiotelegrams which it is ready to receive in a series, followed by the letter " K."

481. CALL FROM AN UNKNOWN STATION.—(i) When a station receives a call, but is uncertain whether the call is intended for it, it must not reply until the call has been repeated and is understood.

(ii) When, on the other hand, a station receives a call which is addressed to it, but is uncertain of the call sign of the station calling, it must answer immediately, using the service abbreviation QRZ instead of the call sign of the station calling.

482. TRANSMISSION OF TEST SIGNALS.—(i) When it is necessary to send test signals in order to adjust the apparatus before proceeding with a call or transmission the signals must not be continued for more than about 10 seconds, and they must be composed of a series of V's followed by the call sign of the sending station.

(ii) Similarly, if a station sends test signals at the request of another station to enable the latter to adjust its receiving apparatus, these signals must be composed of a series of V's, in which the call sign of the sending station is interpolated several times.

483. CALL TO ALL STATIONS.—(i) Stations desiring to enter into communication with ship stations, without, however, knowing the call signs of the ship stations which are within range may use the signal of inquiry, " CQ," in place of the call sign of the station called.

Example :—

CQ CQ de ABCD K (general call to all ship stations with request for reply).

(ii) In areas where there is congestion of signalling the use of the " CQ " call followed by the letter " K " is forbidden except in combination with the urgency signal.

(iii) The call " CQ " not followed by the letter " K " (general call to all ship stations without request for reply) is employed for radiotelegrams containing general information, time signals, weather reports, navigational warnings, and information of all kinds intended to be read by anyone who is able to receive them.

484. THE " TR " SIGNAL.—(i) All British ships on establishing communication with a coast station in the British Isles and Germany, and any other country which may be notified in Notices to W/T Operators from time to time, must pass the following information, which comprises what is known as a " TR " signal, and which is necessary for the proper circulation of traffic :—

(*a*) Name of ship.

(*b*) Approximate distance in nautical miles and the bearing of the ship from the coast station ; or her position by latitude and longitude.

(*c*) The next port of call.

(*d*) The number of radiotelegrams to be transmitted.

(ii) A " TR " signal is not passed to stations abroad (except in the countries mentioned in para. (i) above), unless asked for by means of the abbreviation PTR.

(iii) EXAMPLE OF A " TR " SIGNAL—

$\overline{\text{CT}}$ TR GLD de GDZP Somersetshire 120 South West Southampton 15 +

(iv) REPLY.—The coast station in reply will then indicate the number of telegrams which it has to transmit to the ship, and will say whether it is ready to communicate at once, or whether the ship is required to wait.

If the coast station is ready to communicate at once, it will decide whether transmission is to take place in alternate order or in series, and

whether the ship or the coast station is to transmit first, and will give the necessary instructions to the ship. Thus, the reply may take one of the three following forms :—

(*a*) $\overline{\text{CT}}$ GDZP de GLD QTC15 QSG5 (or Series 5) +

i.e., " I have 15 radiotelegrams for you. Transmission will take place in series of 5 messages each."

The ship will acknowledge the receipt of these instructions, and the coast station will then transmit 5 messages.

(*b*) $\overline{\text{CT}}$ GDZP de GLD QTC15 QSG5 (or Series 5) K

i.e., " I have 15 radiotelegrams for you. Transmission will take place in series of 5 messages each. You begin."

The ship will then transmit 5 messages.

(*c*) $\overline{\text{CT}}$ GDZP de GLD 15 Alternate +

i.e., " I have 15 radiotelegrams for you. Transmission will take place in alternate order."

The ship will acknowledge the receipt of these instructions, and the coast station will then transmit its first message.

485. PROCEDURE WHEN SHIP IS REQUIRED TO WAIT.—If the coast station is not ready to communicate at once it will instruct the ship to wait (say) 10 minutes, thus :—

$\overline{\text{CT}}$ GDZP de GLD QTC15 $\overline{\text{AS}}$ 10 (abbreviated numerals) + (See Article 92.)

i.e., " I have 15 radiotelegrams for you. Wait 10 minutes."

486. FAILURE TO REPLY.—If a station does not reply after being called three times at intervals of 2 minutes, the call may only be renewed after an interval of 15 minutes.

487. DURATION OF TRANSMISSION.—The duration of each transmission on 500 kc/s is not to exceed 10 minutes.

On other frequencies the length of the period of continuous working is fixed by the coast station, and between the ship stations by the receiving station.

488. SILENCE PERIODS.—In order to increase the safety of life at sea (ships) and over the sea (aircraft) all stations in the mobile maritime service must, during their hours of service, keep watch on the distress frequency, 500 kc/s, for 3 minutes twice in each hour beginning at the 15th minute and the 45th minute after each hour, G.M.T. During these periods, except for the transmission of urgency and safety signals and messages, transmissions must cease within the bands 460 to 550 kc/s.

489. TRANSMISSION OF RADIOTELEGRAMS.—The transmission of the radiotelegram is preceded by $\overline{CT}$ and terminated by $\overline{AR}$ followed by the call sign of the transmitting station and the letter "K." In the case of series of radiotelegrams, the call sign of the transmitting station and the letter "K" must only be given at the end of a series.

490. COMPONENT PARTS OF RADIOTELEGRAM.—

(i) Commencing sign $\overline{CT}$.
(ii) Prefix (if any).
(iii) Name of ship or office of origin.
(iv) Number of the radiotelegram.
(v) Number of words.
(vi) Date and time of handing in.
(vii) Service instructions.
Break sign =.

} Preamble. Not paid for

(viii) Senders or supplementary instructions (= is used between different instructions).
Break sign =.
(ix) Address (= is used between different addresses).
Break sign =.
(x) Text.
Break sign =.
(xi) Signature.
(xii) Finish sign +.
(xiii) Call sign of transmitting station.
(xiv) "K"

} Not paid for.

491. THE COMMENCING SIGN ($\overline{CT}$) is used at the commencement of every message except distress calls and distress messages and the end of work signal ($\overline{VA}$).

492. PREFIX.—The only prefixes which may be used for radiotelegrams are :—

S	For Government message.
A	For Service message.
ST	For paid Service message.
F	For Government radiotelegram for which sender has renounced priority in transmission.
PRESSE ..	For press message.
D	For urgent radiotelegrams.
SLT ..	For ship letter telegram.

493. THE NUMBER OF THE RADIOTELEGRAM.—(i) A British coast station communicating with any ship, British or foreign, gives a local number to all radiotelegrams that it has to transmit, whether Government, Service or ordinary, in sequence, beginning with 1 daily, commencing at midnight, G.M.T., and using a fresh sequence for each ship.

(ii) Similarly, a ship communicating with a coast station numbers telegrams consecutively, beginning with 1 daily, commencing at midnight, G.M.T., and using a fresh sequence for each coast station.

(iii) Radiotelegrams received by ships from coast stations abroad may bear an international number, allotted to it on the ordinary telegraph system, and used as its distinguishing number in service correspondence between the telegraph offices through which it has passed. The international numbers which may not run consecutively, will take the place of the local number described above, and are to be quoted in any subsequent correspondence dealing with the radiotelegram so numbered.

494. NUMBER OF WORDS.—(i) The number of words counted for purposes of charge should include all that the Sender writes on the telegraph form to be transmitted. (Detailed instructions are found in the G.P.O. Handbook.)

(ii) If the actual number of words is not the same as the number of words charged for, the number is signalled as a fraction, the numerator indicating the number of words charged for and the denominator the actual number of words, thus : 22/20.

495. TIMES.—THE DATE AND TIME OF HANDING IN are signalled by two groups of figures, the first group representing the day of the month and the second group the hour and minutes. In ship stations the time is expressed in four figures in the 24-hour clock system. In coast stations the time may be expressed by this method or by a group of figures followed by the letter "M" (matin) for A.M., or "S" (soir) for P.M. Thus, 3.40 P.M. on the 21st day of the month would be signalled 21 1540 or 21 340S.

Coasting ships, or certain countries, may be authorised to use zone time to indicate the time of handing in. In such cases the group indicating the time is followed by the letter "F."

496. THE SERVICE INSTRUCTIONS, if used, consist of instructions as to the route and rate of charge of the message.

497. THE BREAK SIGN (BT) is used :—

(i) To separate the preamble from the Sender's or supplementary instructions.

(ii) To separate the Sender's or supplementary instructions from each other.

(iii) To separate the Sender's or supplementary instructions from the address.

(iv) To separate the different addresses of a multiple radiotelegram from each other.

(v) To separate the address from the text.

(vi) To separate the text from the signature.

498. SENDER'S OR SUPPLEMENTARY INSTRUCTIONS.—A sender on giving necessary instructions and paying requisite fees may make use of certain special services (G.P.O. Handbook, Part III), prepaying a reply, having the telegram repeated from office to office during transmission, etc. Different supplementary instructions are separated by the break sign.

499. THE ADDRESS of radiotelegrams for ships contains the name or description of addressee. Name of the ship, and name of coast station charged with the transmission. Radiotelegrams accepted on board ship for places on land contain the name and address of addressee. Different addresses are separated by the break sign.

500. THE TEXT.—During the transmission of a long radiotelegram, at the end of each series of 20 groups of code or cipher or 50 words of P/L, the transmitting station is to make " IMI " meaning :—" Have you received the radiotelegram correctly up to this point ? " If the section has been correctly received the receiving station will make " K," preceded by the call sign of the transmitting station.

501. THE FINISH SIGN (AR) is used at the end of every transmission, except a call, a reply, the end of work signal (VA), or a signal ending with " K."

502. ACKNOWLEDGMENT OF RECEIPT of a radiotelegram is given by the letter " R " followed by the number of the radiotelegram received. In the case of a series of telegrams, the letter " R " is followed by the number of the last radiotelegram received.

The acknowledgment of receipt is preceded by a call.

503. THE END OF WORK between two stations is indicated by each station signalling (VA) followed by its own call sign.

504. CODE RADIOTELEGRAMS.—The group CDE is inserted between the commencing sign (CT) and the prefix (if any) to indicate that the text of the message consists of code groups of five letters or less. CDE radiotelegrams are charged for at a lower rate than ordinary radiotelegrams whose code groups may contain up to 15 letters.

The group CDE being in the preamble is not charged for.

505. URGENT RADIOTELEGRAMS.—The indication "D" is used to give priority of transmission over the ordinary telegraph system, in any European country (except Albania) and most extra European countries. The paid service indication = D = is also inserted before the address.

This service does not apply to radiotelegrams sent through British coast stations and destined for places in the United Kingdom and the Irish Free State. In the case of an urgent code radiotelegram, care must be taken to insert and signal the instructions "CDE" and "D" at the beginning of the preamble and the paid service indication = D = in front of the address.

506. OBTAINING REPETITIONS.—The sign IMI is used in order to obtain repetitions, either alone or in conjunction with one or more of the following abbreviations :—

AA	—	All after.
AB	—	All before.
WA	—	Word after.
WB	—	Word before.
AL	—	All that has just been sent.
BN	—	All between.....and.....
PBL	—	Preamble.
ADR	—	Address.
TXT	—	Text.
SIG	—	Signature.

507. EXAMPLES OF RADIOTELEGRAMS.—(i) (*a*) S.S. Mauretania (call sign GLRX) has a radiotelegram for transmission to a coast station (call sign FUC) who has no radiotelegrams for the ship.

(*b*) Having received "K" from FUC. SS. Mauretania, makes :—

CT D Mauretania 1.17. 10 1410 = JOUR = D = Alphonse Pacaud 14 Rue St Honoré Paris = Expect to arrive Garedunord 9 a.m. to-morrow Thursday = Sam + GLRX. K.

Meaning.—Urgent telegram from Mauretania, Radio No. 1 containing 17 words. Dated the 10th. Handed in at 2.10 p.m. Not to be delivered during the night. Addressed to Alphonse Pacaud 14 Rue St Honoré Paris. Expect to arrive Gare-du-nord 9 a.m. to-morrow Thursday. Signed Sam.

(*c*) **Having received this telegram correctly, the coast station acknowledges the receipt, thus :—**

$\overline{CT}$ GLRX de FUC R1 $\overline{VA}$ FUC

The ship makes :—

$\overline{VA}$ GLRX.

(ii) S.S. Mauretania (call sign GLRX) wishes to transmit 4 radiotelegrams to a coast station, Lands End Radio (call sign GLD), who has 2 radiotelegrams for the ship. As this is the first time that " GLRX " has established communication with " GLD," a " TR " signal is made.

$\overline{CT}$ GLD GLD GLD de GLRX GLRX GLRX

$\overline{CT}$ GLRX GLRX GLRX de GLD K

$\overline{CT}$ TR GLD de GLRX Mauretania 125 S.W. Southampton 4 +

$\overline{CT}$ GLRX de GLD R TR QTC2 QSG2 K

$\overline{CT}$ D* Mauretania 1.12.24.1005 via Eastern = D = Samson. 15 Strada Reale Malta = Southampton 8 a.m. tomorrow Friday = Edward +

$\overline{CT}$ CDE Mauretania 2.5.24.1020 = GIEVE LONDON = WONAR ARKIV = JOHNSON + GLRX K

$\overline{CT}$ GLRX de GLD R2 $\overline{AS}$ 10 (abbreviated number) +

$\overline{CT}$ GLD de GLRX R

$\overline{CT}$ GLRX GLRX GLRX de GLD GLD GLD

$\overline{CT}$ GLD GLD GLD de GLRX K

$\overline{CT}$ Winchester 1.6.23.2240 = Horton Mauretania Lands End Radio† = Heartiest congratulations = Mary +

$\overline{CT}$ Southampton 2.9.23.2300 = Jackson Mauretania Lands End Radio† = Will meet you on arrival = Vickers + GLD K.

$\overline{CT}$ GLD de GLRX R2 QRK $\overline{IMI}$ +

$\overline{CT}$ GLRX de GLD QRK +

$\overline{CT}$ Mauretania 3.7.24.1050 = PR = TRINITY HOUSE LONDON = GEFTAINOST ARONDABERD = WILLIAMS +

$\overline{CT}$ Mauretania 4.7.24.1130 ANTEN = EXPRES = Allonse Marimoffice Buenosaires = 35742 19264 = Mareno + GLRX K

$\overline{CT}$ GLRX de GLD R4 $\overline{VA}$ GLD

$\overline{VA}$ GLRX

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* Urgent radio telegrams receive no priority in so far as W/T transmission is concerned.

† Lands End radio counts as one word.

508. EXAMPLE OF CORRECTION OF TEXT.—Subsequently "Williams" wishes to correct the second group of his radiotelegram to read "ARANDABERG."

S.S. Mauretania, after calling up as shown above, and on receiving "K," makes :—

$\overline{CT}$ ST London de GLRX 5 9 24 = 3 twenty-fourth Trinity House replace second ARONDABERD by ARANDABERG + GLRX K

$\overline{CT}$	Commencing sign.
ST	Paid service message.
London de GLRX.	
5	Number of the message.
9	Number of words to be paid for.
24	The day of the month of the message.
=	Break sign.
3	The number of the radiotelegram to be corrected.
twenty-fourth ..	The date of the radiotelegram.
Trinity House ..	The addressee.
replace	
second	The position in the text of the original radiotelegram of the word which is to be corrected.
ARONDABERD by ARANDABERG.	
+	Finish sign.
GLRX	S.S. Mauretania's call sign.
K	"Go on."

509. EXAMPLE OF CORRECTION OF ADDRESS.—"Mareno" subsequently wishes to correct the address of his radiotelegram to read "Marincalle."

S.S. Mauretania, after calling up as shown above, and on receiving "K," makes :—

$\overline{CT}$ ST Buenosaires de GLRX 6 5 24 = 4 twenty-fourth Allonse deliver MARINCALLE + GLRX K

$\overline{CT}$	Commencing sign.
ST	Paid service message.
Buenosaires de GLRX.	

6 .. .. .. Number of the message.

5 .. .. .. Number of words to be paid for.

24 .. .. .. The day of the month of the message.

= .. .. .. Break sign.

4 .. .. .. The number of the radiotelegram to be corrected.

twenty-fourth .. The date of the radiotelegram.

Allonse .. .. The addressee.

deliver MARINCALLE.

+ .. .. .. Finish sign.

GLRX .. .. .. S.S. Mauretania's call sign.

K .. .. .. "Go on."

510. EXAMPLE OF CANCELLING A RADIOTELEGRAM.—"Johnson" subsequently wishes to cancel his radiotelegram addressed to "GIEVE LONDON."

S.S. Mauretania, after calling up as shown above, and on receiving "K," makes :—

$\overline{CT}$ ST London de GLRX 7 4 24 = 2 twenty-fourth GIEVE cancel + GLRX K

$\overline{CT}$ .. .. .. Commencing sign.

ST .. .. .. Paid service message.

London de GLRX.

7 .. .. .. Number of the message.

4 .. .. .. Number of words to be paid for.

24 .. .. .. The day of the month of the message.

= .. .. .. Break sign.

2 .. .. .. The number of the radiotelegram to be cancelled.

twenty-fourth .. The date of the radiotelegram.

GIEVE .. .. The addressee.

cancel.

+ .. .. .. Finish sign.

GLRX .. .. S.S. Mauretania's call sign.

K .. .. .. "Go on."

511. EXAMPLE OF NON-DELIVERY OF A RADIOTELEGRAM.—S.S. Mauretania wishes to advise Winchester of non-delivery of radiotelegram addressed to Horton, after calling up as shown above, and on receiving "K," makes :—

$\overline{CT}$ A Winchester de GLRX 8 24 = 1 twenty-third Horton Mauretania Addressee not on board + GLRX K

$\overline{CT}$	Commencing sign.
A	Service message.
Winchester de GLRX.	
8	Number of the message.
24	The day of the month of the message.
=	Break sign.
1	The number of the original radiotelegram.
twenty-third ..	The day of the month on which the original radiotelegram was handed in.
Horton	Name of the addressee.
Mauretania	Name of the ship.
Addressee not on board.	Reason for non-delivery.
+	Finish sign.
GLRX	S.S. Mauretania's call sign.
K	"Go on."

512. SCALE USED TO EXPRESS THE STRENGTH OF SIGNALS.

1 = Hardly perceptible ; unreadable.
2 = Weak ; readable now and then.
3 = Fairly good ; readable, but with difficulty.
4 = Good ; readable.
5 = Very good ; perfectly readable.

OFFICIAL MESSAGES TRANSMITTED BY ROYAL AIR FORCE AUXILIARIES OR AIRCRAFT THROUGH A COMMERCIAL W/T STATION.

513. USE OF THE WORD "ETAT."—(i) In the case of official messages, transmitted by W/T from Royal Air Force auxiliaries or aircraft via a commercial W/T station, it is the duty of the signal department to insert the prefix "S" and the word "ETAT."

(ii) The word "ETAT" is inserted at the end of the preamble, i.e., after the service instruction before the break sign, and before the sender's or supplementary instructions (if used), in all Government messages transmitted by commercial W/T procedure.

514. DDDT—THE SERVICE WORK SIGN.—(i) The letters DDDT made as one sign.

(ii) The service work sign will indicate that a British warship, Royal Air Force auxiliary or aircraft, is calling a British coast station, and having an official message for transmission to that station.

(iii) The sign DDDT precedes the call sign of the coast station in the call.

(iv) A British coast station is obliged to give priority to a DDDT call over all other communications except messages in connection with distress, messages preceded by the " Urgency " and " Safety " signal, and messages referring to direction finding.

(v) Any other stations (ship or coast) must also suspend communication (except messages quoted in (iv)) as far as this may be necessary to ensure satisfactory communication between the service vessel or aircraft and the station called.

515. REPETITION OF GOVERNMENT RADIOTELEGRAMS.—Government radiotelegrams entirely or partially in code or cypher must be repeated back by the receiving station. In the case of Government radiotelegrams in plain language, proper names, numbers, and doubtful words must be repeated.

516. *Examples :—*

Royal Air Force Auxiliary ADASTRAL (GMOC) has an official message for Air Ministry W/T Station, London. The message is passed by W/T, via a commercial W/T station, thus :—

The ship makes :—

CT DDDT GLD GLD GLD de GMOC GMOC GMOC QTC1

The coast station replies :—

CT GMOC GMOC GMOC de GLD K

The ship transmits the message, thus :—

CT CDE S RAF Auxiliary Adastral 1 8 22 0500 CDE ETAT = Air Ministry Wireless London = KABEF CITES HUSEY QEFOT 0455 + GMOC K

The coast station repeats back, thus :—

CT GMOC de GLD CDE S RAF Auxiliary Adastral 1 8 22 0500 CDE ETAT = Air Ministry Wireless London = KABEF CITES HUSEY QEFOT 0455 +

The ship makes :—

$\overline{CT}$ GLD de GMOC RPT OK QRU +

The coast station makes :—

$\overline{CT}$ GMOC de GLD R1 QRU $\overline{VA}$ GLD

The ship replies :—

$\overline{VA}$ GMOC

517. PROCEDURE WITH COMMERCIAL D/F STATIONS.—(i) The procedure for obtaining a bearing from a British commercial D/F station is as follows :—

(ii) The ship calls the D/F station in the usual manner, adding the abbreviation QTE :—

$\overline{CT}$ GNI GNI GNI de GMOC GMOC GMOC QTE $\overline{IMI}$ +

(i.e., what is my true bearing).

The D/F station when ready to take the bearing, makes :—

$\overline{CT}$ GMOC GMOC GMOC de GNI K

The ship then transmits her call sign for 50 seconds followed by a dash of 10 seconds.

$\overline{CT}$ GNI de GMOC GMOC.....50 seconds. .GMOC 10 secs +

(iii) If the D/F station is satisfied with the bearing it has taken, it transmits the bearing, thus :—

$\overline{CT}$ GMOC de GNI 0945 QTE 235 + GNI K

$\overline{CT}$	Commencing sign.
GMOC de GNI ..	Call.
0945	Time bearing was taken (G.M.T.).
QTE	Your true bearing from me was.
235	235 degrees.
+	Finish sign.
GNI	Call sign of the D/F station.
K	" Go on."

The ship repeats back the message, thus :—

$\overline{CT}$ GNI de GMOC 0945 QTE 235 + GMOC K

The D/F station replies :—

$\overline{CT}$ GMOC de GNI R $\overline{VA}$ GNI

The ship makes :—

$\overline{VA}$ GMOC

DISTRESS PROCEDURE.

518. **OBLIGATION TO ACCEPT DISTRESS MESSAGES.**—In case of distress, the obligation to accept messages is absolute in the case of every station without distinction, and such messages must be accepted with priority over all other messages ; they must be answered, and the necessary steps must be taken to give effect to them.

519. **ACTION TO BE TAKEN BY ROYAL AIR FORCE W/T STATIONS.**—In the event of a distress call or message from a commercial station being received by a Royal Air Force W/T station, immediate steps are to be taken to convey the information contained in the call or message to some authority competent to deal with the matter. In Great Britain, the authority to whom the information should be passed is the nearest G.P.O. coast W/T station, or the nearest Naval base, or the nearest coastguard (Board of Trade) authority.

520. **AUTOMATIC ALARM SIGNAL.**—(i) The automatic alarm signal consists of a series of twelve dashes in one minute. The duration of each dash is four seconds and the duration of the interval between two dashes, one second.

(ii) This special signal has for its sole purpose the actuation of the automatic devices giving the alarm. It must be used solely to announce that a distress call is about to follow, or to announce the emission of an urgent cyclone warning ; in the latter case it may be used only by coast stations. At all other times any transmission likely to approximate to the dashes and spaces of the automatic alarm signal must be avoided.

(iii) The automatic alarm signal should be sent as accurately as possible, for if the length of the dashes and spaces is not reasonably accurate the signal may fail to actuate auto-alarms within range.

521. **DISTRESS SIGNALS.**—(i) In W/T, the distress signal consists of the group $\overline{\text{SOS}}$; in R/T, the distress signal consists of the spoken word **MAYDAY.**

(ii) The signal of distress indicates that the station sending it is threatened by grave and imminent danger and requests immediate assistance.

522. **THE DISTRESS CALL.**—(i) The distress call, when it is sent by W/T on 500 kc/s (600 m.), is, as a general rule, immediately preceded by the alarm signal as defined in Article 520.

(ii) When circumstances permit, the transmission of the call is separated from the end of the alarm signal by an interval of two minutes' silence.

(iii) The distress call consists of the distress signal sent three times, followed by the word "DE" once, and the call sign of the station in distress sent three times.

(iv) This call has absolute priority over all other transmissions. All stations hearing it must immediately cease all transmissions capable of interfering with the distress call or messages, and must listen on the wave used for the distress call. This call must not be addressed to a particular station.

(v) Royal Air Force stations which may be working on a commercial frequency on which a distress call is made, are to observe the above quoted instructions.

523. DISTRESS MESSAGE.—(i) The speed of telegraph transmission in case of distress, urgency, or safety, must not normally exceed 16 words a minute.

(ii) The distress call must be followed as soon as possible by the distress message. This message consists of the distress call, followed by the name of the station in distress and information concerning its position, the nature of the distress and the kind of assistance desired and any other information which might facilitate the rescue.

(iii) If, after transmitting its distress message, an aircraft is unable to give its position, the aircraft will endeavour to send its call sign for a period long enough to permit direction-finding stations to determine its position.

(iv) As a general rule and when a ship or an aircraft on or over the sea is involved the position must be expressed in latitude and longitude (Greenwich), using figures for degrees and minutes accompanied by one of the words, North or South, and one of the words, East or West. The degrees are separated from the minutes by a full stop. Whenever practicable, the true bearing and the distance in nautical miles from a known geographical point should be given ; on no account should the reciprocal bearing, i.e., the bearing of the geographical point from the station, be given.

524. DISTRESS TRAFFIC.—(i) Distress traffic includes all messages relative to the immediate relief of the station in distress.

(ii) All distress traffic must include the distress signal sent at the beginning of the preamble.

525. DISTRESS FREQUENCY (WAVELENGTH).—(i) In case of distress, the frequency to be used is the international distress frequency of 500 kc/s (600 m.). Ships which cannot transmit on the international distress frequency use their normal calling frequency. A station in distress may, however, use any means at its disposal to attract attention, indicate its position, and obtain assistance.

(ii) Aircraft use the frequency on which the fixed or mobile stations capable of rendering assistance keep watch ; these frequencies are 500 kc/s for stations of the maritime service and 333 kc/s for stations of the aeronautical service.

526. PROCEDURE.—(i) A ship in distress should send, in the following order, the automatic alarm signal, the distress call, and the distress message on the frequency of 500 kc/s (600 m.).

(ii) The signals should be repeated at intervals until an answer has been obtained, especially during the silence periods (see Article 488), sufficient time being left between the calls to allow stations preparing to reply to the calls to have time to start their transmitting apparatus. If no reply is received on the frequency of 500 kc/s (600 m.), the distress call and distress message may be repeated on any other available frequency on which attention might be attracted.

527. EXAMPLE OF A DISTRESS CALL AND DISTRESS MESSAGE :—

" (12 dashes sent in one minute, automatic alarm signal)."

$\overline{\text{SOS}}$ $\overline{\text{SOS}}$ $\overline{\text{SOS}}$ de GMOC GMOC GMOC

(Pause of 15 to 30 seconds to allow coast stations to order silence, *e.g.* :—$\overline{\text{CT}}$ CQ CQ CQ de GNI QRT $\overline{\text{SOS}}$)

$\overline{\text{SOS}}$ $\overline{\text{SOS}}$ $\overline{\text{SOS}}$ de GMOC GMOC GMOC R.A.F.A.

Adastral ten miles South Dungeness in collision badly damaged urgently requires towage +

528. DISTRESS MESSAGES TRANSMITTED FOR A SHIP IN DISTRESS.—A distress message may be transmitted for a ship in distress by another ship provided that—

(i) The ship in distress is not itself in a position to transmit the message.

(ii) The Captain considers that further help is necessary.

529. THE CONTROL OF DISTRESS COMMUNICATIONS devolves upon the station in distress or the station which has transmitted the distress message (see Article 528). This station may delegate the control to another station.

530. REPEATING A DISTRESS CALL OR MESSAGE.—(i) In cases where a ship station receives a distress call or message, but is not in a position to render assistance and has reason to believe that there has been no acknowledgment of receipt of the distress message, it must take all possible steps to attract the attention of stations which are in a position to render assistance.

(ii) For this purpose, on the authority of the master or his substitute, the distress call or distress message may be repeated on full power on the distress frequency, and all necessary steps must be taken to advise the authorities who may be able to intervene usefully.

(iii) A station repeating a distress call or message must add to the end of it the word "DE," followed by its own call sign sent three times.

531. IMPOSING SILENCE DURING DISTRESS TRAFFIC.—(i) If it believes it to be essential, any station in the mobile service near the station in distress, may impose silence either on all stations in the vicinity or on any station which impedes the distress traffic. In either case, use is made of the service abbreviation "QRT," followed by the word "DISTRESS," the instruction being addressed to "CQ" or to one station only, according to circumstances.

(ii) When the station in distress wishes to impose silence, it uses the procedure just described, substituting the distress signal "$\overline{\text{S O S}}$" for the word "DISTRESS."

532. ACKNOWLEDGMENT OF RECEIPT.—(i) Stations which receive a distress message from a ship station which, beyond possible doubt, is in their immediate vicinity must at once acknowledge its receipt, taking care not to interfere with the transmission of the acknowledgments of receipt sent by other stations.

(ii) Stations which receive a distress message from a ship station, which beyond possible doubt, is not in their immediate vicinity must listen for a short period before acknowledging receipt in order to permit stations nearer the station in distress to answer without interference.

(iii) Acknowledgment of receipt of a distress message must be made in the following form :—

GMOC GMOC GMOC de GEXL GEXL GEXL
RRR $\overline{\text{SOS}}$ +

(iv) Every ship station which acknowledges receipt of a distress message must, on the order of the master or his substitute, make known as soon as possible the following details in the order shown, its name, its position, the maximum speed at which it is proceeding towards the station in distress. Before sending this message, the station must make certain that it will not interfere with other stations more favourably situated for rendering immediate assistance to the station in distress.

533. DURATION OF DISTRESS TRAFFIC.—Throughout the duration of distress traffic, all stations which have knowledge of this traffic but do not take part in it, are forbidden to use the frequency 500 kc/s or the frequency on which the distress traffic is taking place.

534. END OF DISTRESS TRAFFIC.—(i) When the distress working has ended and silence is no longer necessary, the station controlling the distress traffic makes the following message :—

Call sign " CQ " (three times).

Word " de."

Call sign of transmitting station (once).

Distress signal " $\overline{\text{SOS}}$."

Time of handing in.

Name and call sign of station which was in distress.

Words " Distress traffic ended." *

(ii) *Example :—*

CQ CQ CQ de GMOC = $\overline{\text{SOS}}$ 1145 R.A.F.A. Adastral GMOC distress traffic ended * $\overline{\text{VA}}$

* or appropriate group from the " Q " Code.

SPECIAL SIGNALS USED IN COMMERCIAL W/T PROCEDURE AND BY AIRCRAFT.

535. " TTT "—THE " SAFETY " SIGNAL.

(i) IN W/T, THE GROUP " TTT," SENT THREE TIMES, WITH THE LETTERS AND GROUPS WELL SEPARATED FOLLOWED BY THE WORD " DE," SENT ONCE, AND THE CALL SIGN OF THE TRANSMITTING STATION, SENT THREE TIMES. IT INDICATES THAT THE STATION MAKING THE SIGNAL IS ABOUT TO TRANSMIT URGENT INFORMATION REGARDING THE SAFETY OF NAVIGATION OR METEOROLOGICAL WARNINGS.

(ii) In R/T, the French word " SÉCURITÉ " (pronounced " SAY-CURE-E-TAY ") repeated three times, is used as the safety signal.

(iii) The safety signal and the safety message are sent on the frequency of 500 kc/s, and, if necessary, on the normal listening frequency of ship stations.

(iv) All stations hearing the safety signal must continue to listen until the message announced by it is ended ; they must also remain silent on all frequencies capable of interfering with the message.

Example :—

TTT TTT TTT de GHC GHC GHC

URGENCY SIGNAL

536. XXX (W/T), PAN (R/T.)—(i) In W/T, the urgency signal consists of the group XXX sent three times before a call, with the letters and groups well separated.

(ii) In R/T, the urgency signal consists of the signal " PAN " sent three times before the call.

(iii) The urgency signal indicates that the station calling has a very urgent message to transmit concerning the safety of a ship or aircraft, or of some person on board or within sight.

(iv) The urgency signal has priority over all other communications except those of distress, and all ship, aircraft, or coast stations which hear it must avoid interference with the urgent message.

(v) As a general rule the urgency signal may only be employed in a call from a ship or aircraft to A SPECIFIC STATION. And the message must be drawn up in plain language, except in the case of medical messages.

(vi) Ship or aircraft stations which hear the urgency signal must listen for a period of three minutes. If at the expiration of this period no urgent message has been heard, stations must resume their normal service.

Example :—

GMOC makes :—

" XXX XXX XXX GLD GLD GLD de GMOC GMOC GMOC + K "

GLD answers :—

" GMOC GMOC GMOC de GLD GLD GLD R XXX "

537. URGENCY SIGNAL FOR AIRCRAFT.—(i) In the aircraft service the signal " PAN " is used by either W/T or R/T when an aircraft wishes to give notice of damage which compels the aircraft to land without requiring immediate assistance. In W/T the letters must be well separated so that the letters AN are not transmitted as P.

(ii) In particular, an aircraft sending a message to indicate that it is in difficulty and on the point of landing (or alighting in the sea) compulsorily, but that it has no need of immediate assistance, sends the urgency signal before its message.

(iii) The urgency signal sent by an aircraft and not followed by a message means that the aircraft is obliged to land (or alight in the sea), is unable to send a message, but has no need of immediate assistance.

(iv) See also the instructions contained in Article 536, paras. (iv), (v), and (vi).

(v) *Example* :—

(*a*) **W/T.**

Aircraft makes :—

" PAN PAN PAN GLD GLD GLD de GEZAA GEZAA GEZAA = (Message) + K ".

GLD answers :—

" GEZAA GEZAA GEZAA de GLD GLD GLD R PAN "

(*b*) **R/T.**

Aircraft makes :—

" PAN PAN PAN hullo Lands End hullo Lands End Royal Air Force GEZAA calling Royal Air Force GEZAA calling (message spoken twice) over ".

Lands End answers :—

" Hullo Royal Air Force GEZAA hullo Royal Air Force GEZAA Lands End answering Lands End answering understood PAN understood PAN (received message repeated) is it correct. Over ".

Aircraft answers :—

" Hullo Lands End Royal Air Force GEZAA answering. It is correct. Ended ".

Note :—The signification of the " Q Code " Signals shown in this chapter will be found in A.P. 1529 (The " Q Code ").

538. Example of distress call and distress message from aircraft.

(i) W/T.

(*a*) Aircraft makes :—

" $\overline{\text{SOS}}$ $\overline{\text{SOS}}$ $\overline{\text{SOS}}$ de GEZAA GEZAA GEZAA = QTH 20 miles south Lizard (particulars of distress if possible) $\overline{\text{VA}}$ "

(*b*) If the aircraft does not know its position the aircraft makes :—

" $\overline{\text{SOS}}$ $\overline{\text{SOS}}$ $\overline{\text{SOS}}$ de GEZAA GEZAA GEZAA = QTF ? (repetition of the distress call for one minute if possible, interpolating several times QTF ?) = (particulars of distress if possible) $\overline{\text{VA}}$ "

(*c*) An aircraft which is still able to receive acknowledgment of receipt makes K instead of $\overline{\text{VA}}$

(*d*) An aeronautical station replies :—

" GEZAA GEZAA GEZAA de GLD RRR $\overline{\text{SOS}}$ + "

(*e*) The end of the distress traffic should be given by GEZAA, but, if the aircraft is supposed to have alighted and is unable to transmit, the aeronautical station which has communicated with the aircraft may give the end of distress traffic as follows :—

"CQ CQ CQ de GLD GLD GLD = $\overline{\text{SOS}}$ 1030 GEZAA = distress traffic ended* $\overline{\text{VA}}$ "

* or appropriate group from the " Q " Code.

(ii) R/T.

(*a*) Aircraft makes :—

" MAYDAY MAYDAY MAYDAY Royal Air Force GEZAA calling. My position 20 miles South of Lizard (particulars of distress if possible) warn ships OVER ".

(*b*) An aeronautical station replies :—

" Hullo Royal Air Force GEZAA Hullo Royal Air Force GEZAA Hullo Royal Air Force GEZAA. Lands End answering. Lands End answering. Lands End answering. Understood MAYDAY. Understood MAYDAY. Understood MAYDAY Your position 20 miles South of Lizard We will warn ships OVER ".

(*c*) The aircraft may give further particulars if it sees fit and if it has the material time to do so.

CHAPTER 33

DISTRESS PROCEDURE "SERVICE AIRCRAFT"

543. Service aircraft when threatened by grave and imminent danger, and requiring immediate assistance, may use the international distress signal :—

(*a*) By W/T .. .. .. " $\overline{\text{SOS}}$ "

(*b*) By R/T .. .. .. The spoken word " MAYDAY "

The international distress signal is not to be used for any other purpose.

(ii) If the aircraft is in communication with commercial W/T stations on commercial frequencies the procedure laid down in Articles 518 to 534 will be used. The aircraft, if not in possession of a commercial W/T call sign, will use the general commercial W/T call sign " Any British Royal Air Force Aircraft " viz. GEZAA. (See Article 287.)

(iii) If the aircraft is in communication with Service stations the following special procedure will be used :—

(*a*) The distress signal " $\overline{\text{SOS}}$," made three times.

(*b*) The letter " v."

(*c*) The call sign of the aircraft, made three times, followed immediately by the position of the aircraft, made three times, and the ending sign.

(iv) The position may be made either—

(*a*) By latitude and longitude.

" The position being expressed by two groups of four figures, the first group indicating degrees and minutes of latitude, followed by the letter N. or S., the second group indicating degrees and minutes of longitude followed, followed by the letter E. or W."

e.g.—Latitude 51° 15 North
Longitude 5° 12 West

is signalled —

5115N 0512W

(*b*) By bearing and distance from a known geographical point.

" The position being expressed by a three-figure compass group, indicating the true bearing, in degrees, of the aircraft from the geographical point, followed immediately by the geographical point, in plain language, and a number indicating the distance, in nautical miles, of the aircraft from the geographical point."

e.g.—270 degrees 10 miles from Start Point is signalled—

" 270 Start Point 10."

NOTE.—On no account should the reciprocal bearing, *i.e.*, " the bearing of the geographical point from the aircraft," be signalled.

(*c*) By bearing and distance from one of H.M. ships.

" The position being expressed by a three-figure compass group, indicating the true bearing, in degrees of the aircraft from the ship, followed immediately by the identity letters of the ship, and a number indicating the distance, in nautical miles, of the aircraft from the ship."

e.g.—090 degrees 20 miles from H.M.S. Malaya is signalled :—

" 090 MY 20."

NOTE.—(i) On no account should the reciprocal bearing, *i.e.*, " the bearing of the ship from the aircraft," be signalled.

(ii) The above method of signalling the position of the aircraft is primarily for the use of aircraft of the Fleet Air Arm, but may be used by an aircraft co-operating with, or operating in the vicinity of, H.M. ships.

The identity letters of H.M. ships are contained in the Naval Aircraft Code No. —.

(*d*) By Table of Lettered Co-ordinates.

" The position being expressed by a group consisting of a combination of letters and figures indicating the position.

e.g.—" RLUB4217."

(v) A distress message without a position is useless. A position, however approximate, should therefore be made.

(vi) The message is to be broadcast, and subsequently an amplifying message is to be transmitted and an answer obtained, if possible, from some station.

(vii) *Examples* :—

(*a*) Aircraft (M9C) in distress, in position Lat. 50° 30 N., Long. 0° 50 W., makes :—

SOS SOS SOS v M9C M9C M9C 5030N 0050W 5030N 0050W 5030N 0050W +

(*b*) Aircraft (M9C) in distress, in position bearing 125 degrees 10 miles from Selsey Bill, makes :—

SOS SOS SOS v M9C M9C M9C 125 Selsey Bill 10. 125 Selsey Bill 10. 125 Selsey Bill 10 +

(*c*) Aircraft (NAA) in distress, in position bearing 270 degrees 25 miles from H.M.S. Rodney, makes :—

SOS SOS SOS v NAA NAA NAA 270RY25 270RY25 270RY25 +

(*d*) Aircraft (M9C) in distress, in position RLUB4217, makes :—

SOS SOS SOS v M9C M9C M9C RLUB4217 RLUB4217 RLUB4217+

(*e*) Amplifying message :—

VE H8Y H8Y v M9C - P AAA Starboard engine on fire = 1030 IMI H8Y H8Y v M9C - P AAA Starboard engine on fire = 1030 +

H8Y answers as usual.

544. ACTION TO BE TAKEN ON RECEIPT OF "AIRCRAFT DISTRESS CALLS AND MESSAGES."—Full instructions are found in A.M.Os., "A" series, dealing with "Aircraft Distress Calls."

CHAPTER 34

HIGH SPEED (AUTOMATIC) PROCEDURE
(Alternative Title: H.S. Procedure.)

548. DEFINITIONS.

(i) **HIGH SPEED PROCEDURE.**—A modified form of the Royal Air Standard Procedure, designed to meet the peculiar requirements of high speed automatic traffic.

(ii) **DOTTING.**—The automatic transmission of shorts by the high speed apparatus, without a tape in the transmitter.

(iii) **REVERSED TAPE.**—A tape which has been fed to the transmitter, either with its incorrect side uppermost or its incorrect end foremost.

(iv) **TRAFFIC TAPE.**—A perforated tape ready for feeding to the transmitter.

(v) **ENDLESS TAPE.**—A length of tape, the ends of which are gummed together, so that the message on the tape is transmitted continuously.

(vi) **PERFORATOR.**—An instrument having a typewriter keyboard with certain additions, used to produce the perforated traffic tape.

(vii) **REPERFORATOR.**—An instrument actuated by the incoming signal via a relay, used to reproduce the perforated traffic tape.

(viii) **MORSE PRINTER.**—An instrument which, when fed with the perforated traffic tape, reproduces the context " en claire," either by page or tape printing.

(ix) **PRINTED TAPE.**—A tape produced by the Morse Printer on which is printed the " en claire " reproduction of the perforated traffic tape.

(x) **UNDULATOR.**—An instrument for reproducing Morse signals in the form of an undulating inked line on a tape, and which is capable of high speed operation.

549. USE OF HIGH SPEED PROCEDURE.—High speed procedure as outlined in this chapter will be strictly adhered to whenever automatic tape transmission is used.

550. POINTS OF DIFFERENCE BETWEEN HIGH SPEED AND FULL PROCEDURE.—(i) The commencing sign $\overline{\text{VE}}$ will be preceded by ten Vs. This provision applies to every message of a batch.

(ii) The separative sign (II) will not be used, but the space bar of the perforator will be used instead.

Single spacing will be used in the subject matter of all messages comprising P/L and 5 letter/figure codes or ciphers. Double spacing will be used between any 4 letter/figure codes or ciphers.

(iii) "DC" method will be used for all code or cipher messages, *i.e.*, each group will be made twice through in succession.

(iv) The subject matter of all P/L messages will be preceded by the long break sign ($\overline{\text{BT}}$); the comma sign ($\overline{\text{AAA}}$) will not be used in this component.

(v) When batch working, six blanks will be inserted between messages. The letter $\overline{\text{E}}$ will not be used.

(vi) The readiness sign ($\overline{\text{NW}}$) will precede each batch of high speed traffic transmissions. (See Article 554, para. (ii).)

551. PRELIMINARY PROCEDURE.—(i) At the commencement of the routine period the controlling station makes on an endless tape at hand speed, a transmission as indicated below, until an answer is received from the receiving station(s).

Ten Vs.
The commencing sign $\overline{\text{VE}}$.
The call sign of the receiving station(s) twice.
The letter "V."
The call sign of the controlling station.
The operating signal to denote "How are my signals?"

(ii) The receiving station(s) will answer as soon as is practicable, giving at hand speed (see Article 554, para. (v)) :—

(*a*) The strength of signals.

(*b*) Any further relevant information.

(*c*) Suggested high speed for a further transmission on the endless tape.

(iii) The controlling station will answer (ii) above in the usual manner, adjust his tape to the suggested high speed, and note any further information.

(iv) When reception is satisfactory, the receiving station(s) will indicate at hand speed by operating signal that traffic may proceed.

552. SUBSEQUENT PROCEDURE.—(i) On receipt of the operating signal (Article 551, para. (iv)) from the receiving station(s), the controlling station will pass all messages awaiting transmission, provided the stations have decided not to employ duplex working.

During this period it is essential for the receiving station to keep his transmitter dotting (see Article 554, para. (iv)) so that the receiver at the transmitting station is maintained in a state of accurate tune to meet any eventualities.

(ii) On completion of the transmission by the controlling station, the receiving station(s) will make the operating signal at hand speed, indicating "Traffic tape received. Receipt will be given later," and then proceed with the preliminary procedure in Article 551, after which all messages awaiting transmission will be passed as in (i) above.

(iii) The controlling station will answer as in Article 551, paras. (ii) and (iv), and with the operating signal mentioned in (ii) above.

(iv) Traffic will then be interpreted by means of the Morse Printer, or by visual means if Undulator reception has been employed, and the usual acknowledgment of receipt, or, if necessary, requests for repetitions, etc., transmitted and answered in the usual manner at hand speed (see Article 554 para. (v)).

553. DUPLEX WORKING.—(i) When two stations propose to carry out duplex working they will conform to high speed procedure, with the following exceptions :—

(ii) The controlling station will complete the preliminary procedure as laid down in Article 551.

(iii) The receiving station will then do likewise.

(iv) Both stations will then proceed simultaneously to clear their traffic, conforming to Article 552, paras. (i), (ii), and (iv) of Subsequent Procedure.

554. TRANSMISSION AND DISPOSAL OF TRAFFIC.—(i) Transmission of traffic at high speed may proceed with the assent of the receiving station, which will indicate readiness by means of the appropriate operating signal, made at hand speed.

(ii) Each batch of messages on a traffic tape will be preceded by the readiness sign $\overline{(NW)}$, to be made at hand speed 5 seconds before each high speed transmission. This precaution ensures that the receiving station reperforator is switched on in ample time.

(iii) All auto transmission will be controlled by appropriate operating signals made at hand speed. Hand speed is necessary, as it is impossible to readily interpretate the high speed tape at the receiving end. Further, the sudden change of transmission speed ensures the prompt attention of the operator to comply with immediate operating signals.

(iv) During periods of rest between individual transmissions the transmitters must be left dotting. This ensures that the receivers are maintained in a state of accurate tune.

This applies to any intervals from the completion of the Preliminary Procedure (see Article 551) to the close of the routine periods.

(v) It must be clearly understood that any references in this chapter to hand speed for any transmissions other than those by an endless tape (see Article 551, para. (i)), infer that the transmitter is hand keyed, and that these transmissions must have some audible means of interpretation at the receiving end.

(vi) For the disposal of traffic, printed tapes will be transferred and gummed to the standard R.A.F. Forms 96 or 96.A., so as to read as a normal page.

The particular spacing for various codes and ciphers (see Article 550, para. (ii)) is employed in order to preserve the group spacing on these forms.

The printed tape of code or cipher messages will be gummed so that the initial code or cipher group appears on the extreme left-hand side of the form.

555. TRAFFIC TAPES.—(i) All traffic tapes will be perforated in strict accordance with High Speed Procedure, as laid down in this chapter.

(ii) After transmission all traffic tapes will be rolled, and stowed for easy reference, together with their relevant P/L or cypher versions.

(iii) Tapes will be stored for a period of one year, after which time they may be destroyed.

556. EXAMPLES OF H.S. PROCEDURE.—NOTE :—In this article it is pointed out that the horizontal bars employed in paras. (i), (*b*), and (iii), *i.e.*, examples of tape transmissions, represent the space bar of the perforator as one space per bar. (See Article 550. para. (ii).) They should not be confused with the horizontal bars employed in all other examples of transmissions at hand speed, where they represent the normal separative sign (II).

(i) (*a*) **GFA, controlling station, has three messages for transmission to GFX, who has three messages for GFA.**

(*b*) **GFA, using an endless tape, makes, at hand speed :—**

VVVVVVVVVV – $\overline{\text{VE}}$ – GFX – GFX – v – GFA – X258 etc.

(ii) (*a*) **GFX answers at hand speed :—**

$\overline{\text{VE}}$ GFA GFA v GFX X291 – 9 – X219 – X227 – 1 – 120 +

(*b*) **GFA makes :—**

$\overline{\text{VE}}$ GFX GFX v GFA R + and will comply with instructions, increasing the speed of his endless tape to the given speed.

(*c*) **GFX makes :—**

$\overline{\text{VE}}$ GFA GFA v GFX X230 – 120 +

(*d*) **GFA answers :—**

$\overline{\text{VE}}$ GFX v GFA R +

(iii) **GFA will then pass his messages as follows, while GFX will keep his transmitter dotting.**

$\overline{\text{NW}}$. .dotting 5 secs. . .VVVVVVVVVV – $\overline{\text{VE}}$ – GFX – GFX – v – GFA – NRI – GFX – GFX – v – GFA – NRI – GR30 – GR30 = 2174 – – 2174 – – 3468 – – 3468 – – etc. – – 9243 – – 9243 – – 2654 – – 2654 = 0930 – 0930 + (6 BLANKS) VVVVVVVVVV – $\overline{\text{VE}}$ – GFX – GFX – v – GFA – NR2 – T – GR26 – Z – T7G – v – J2P = A21 – 19/10 – (P/L subject matter) = 1000 + (6 BLANKS) VVVVVVVVVV – $\overline{\text{VE}}$ GFX – GFX – v – GFA – NR3 – GFX – GFX – v – GFA – NR3 – T – T – GR30 – GR30 – Z – T7G – v – J2P – Z – T7G – v – J2P = 22 – 22 = 17/10 – 17/10 – JOFET – JOFET – SITUP – SITUP – etc. – LETOP – LETOP – HOMEZ – HOMEZ = 1005 – 1005 +

(iv) **GFX answers, at hand speed :—**

$\overline{\text{VE}}$ GFA GFA v GFX X224 +

(v) **GFX will now carry out the procedure as outlined in (i) (*b*), (ii) and (iii) above, to clear his traffic to GFA.**

(vi) **GFX, having interpretated his traffic tapes, finds that the following repetitions are required :—**

NR1 – Groups 2 and 28,
NR3 – Groups 1 to 3,

makes, at hand speed :—

$\overline{VE}$ GFA GFA v GFX $\overline{IMI}$ NR1 – 2 – 28 – R NR2 – $\overline{IMI}$ NR3 – 1 to 3 +

(vii) (*a*) **GFA will answer at hand speed :—**

$\overline{VE}$ GFX GFX v GFA – NR1 – 2 – 3468 – 28 – 9243 – NR3 – 1 to 3 – JOFET – SITUP – POLET +

(*b*) **GFX will reply at hand speed :—**

$\overline{VE}$ GFA GFA v GFX R NR1 – R NR3 +

(viii) **GFA having interpretated his traffic tapes, finds that no repetitions are required, makes, at hand speed :—**

$\overline{VE}$ GFX GFX v GFA R NR1 – R NR2 – R NR3 +

(ix) **For purposes of these examples, the operating signals employed are assumed to have the following meanings :—**

X 258 How are my signals ?
X 291 Your signals are readable and clear, strength . . . .
X 219 Conditions favourable for automatic reception.
X 227 Transmit endless tape for . . . . minutes at . . . . w.p.m.
X 230 Transmit traffic by perforated tape at . . . . w.p.m.
X 224 Traffic tape received. Receipt will be given later (or at . . . .)

NOTE.—When working duplex, the above transmissions will take place simultaneously from each station.

CHAPTER 35

VISUAL SIGNALLING PROCEDURE

565. VISUAL SIGNALLING PROCEDURE.—(i) Visual signalling in the Royal Air Force is the responsibility of W/T personnel who are also responsible for the training of officers and airmen who are required to learn a certain amount of signalling, *vide* A.P.874, "Regulations for the training of Flying Personnel of the Royal Air Force," Appendix XIV.

(ii) The procedure laid down in this chapter is for visual signalling by means of morse (Aldis or ordinary flashing lamps) and semaphore; the procedure for other methods of visual signalling, viz., ground strips, armoured car flag signals, will be found in the appropriate manuals dealing with the duties in which such signals are required.

(iii) The component parts of messages and procedure signals, so far as they can be applied, are the same in visual signalling messages as in W/T, but each component, group or word is repeated back or answered before proceeding with the next.

GENERAL

566. PROCEDURE SIGNALS, SIGNS, ETC., USED IN VISUAL SIGNALLING COMMUNICATIONS WHICH ARE ADDITIONAL OR DIFFER FROM THOSE USED IN W/T.

E	Semaphore. (To acknowledge each word or group.)
T	Used to acknowledge each word or group.
W	Am unable to read you owing to bad alignment, bad light, or bad background.
AA	Unknown station call. (See Article 568, para. (ii).)
LL	Your light is too powerful, diminish your light.
MH	Move higher up or further away.
ML	Move to your left.
MO	Move lower down or nearer in.
MR	Move to your right.
NA	I cannot answer. Use the "F" method.
OL	Open light. (Used by a station which requires a mark to align its lamp on.)
SR	Revert to normal procedure.
$\overline{\text{VE}}$	Made continuously constitutes the visual signalling general call.

567. CALLS.—(i) The calls to be used are normally the W/T call sign of the unit or aircraft ; where stations are established locally by personnel of the same unit or aircraft operating locally, one or two letters may be allotted to each station which should be indicative of their position, duty, or some other distinguishable feature.

(ii) For armoured car work the calls will consist of a letter and a figure denoting the letter section of the armoured car and the figure denoting the numbered position in the section. (Full details will be found in Air Publication 1418—" Armoured Car Manual ".)

FLASHING.

568. HOW TO CALL UP.—(i) A station having a message to make to one or more stations whose calls are known will make the call of the station required, or the calls of stations required, consecutively until answered.

Thus :—

(*a*) **A2B wishing to call C2D, makes :—**
C2D C2D C2D, etc.

(*b*) **A2B wishing to call C2D, E2F, and G2H, makes :—**
C2D C2D, E2F E2F, G2H G2H, etc.

(ii) A station having a message to make to, or wishing to discover the identity of, a station whose call is unknown will make the unknown station call " AA " in lieu of the proper call, until answered.

(iii) A station having a message for all stations with which it is normally communicating, all of whom may be able to read a message at the same time, will make the general call sign " $\overline{\text{VE}}$ " consecutively until all stations have answered.

(iv) Whenever a station has a priority message to make to another station the appropriate priority marking will be made after each repetition of the call.

Thus :—

A2B O A2B O A2B O, etc.

(v) **HOW THE CALL IS MADE AND ANSWERED.**—A station observing that the general call sign $\overline{\text{VE}}$ or its own call, either singly or in conjunction with others, will, as soon as it is in all respects ready to read and write down the message, send its own call and will continue to do so until the transmitting station ceases to call.

Thus :—

Transmitting station makes :—	Receiving station makes :—
A2B A2B A2B	A2B, etc.

(vi) A station observing the unknown station call " AA " being made will, as soon as it is ready to read and write down, send its own call sign and continue to do so until the transmitting station ceases to call :—

Thus :—

Transmitting station makes :—	Unknown station (A2B) makes :—
AA AA AA	A2B, etc.

(vii) The transmitting station will then make the call of the receiving station, " V " (from) and its own call which will be answered by the receiving station making " K."

Thus :—

Transmitting station (B3A) makes :—	Receiving station (A2B) makes :—
A2B v B3A	K

(viii) When the " K " has been received the transmitting station will proceed with the message making it word by word or group by group, which the receiving station will answer by making " T " or repeating as the case may be.

(ix) (*a*) Should the transmitting station wish for positions or important words in a P/L message to be repeated back, it will make the separative sign after the word followed by " G."

Thus :—

Portland – G

(*b*) Should it be considered necessary for the whole message to be repeated back word by word or group by group the transmitting station will send letter " G " in the delivery instructions.

(*c*) In code and cipher messages each group in the subject matter or text is to be repeated back.

(x) In the preface of a message each group will be answered by " T " except in cases specified in paragraph (ix).

(xi) When a word or group is repeated back the transmitting station will send " C " if the repetition is correct or will repeat the group or word if incorrect.

(xii) If the receiving station fails to make " T " or repeat back, as the case may be, the transmitting station will continue to send it until " T " or a correct repetition is received.

(xiii) The number of groups will be sent as in W/T messages.

(xiv) The address will be sent as in W/T messages.

(xv) All figures in the subject matter of a P/L message will be spelt out.

(xvi) The full-stop sign $\overline{\text{AAA}}$ or break sign $\overline{\text{BT}}$ will be used as in W/T.

(xvii) Each message will conclude with the procedure signal $\overline{\text{AR}}$ which will be answered by "R."

(xviii) *Example (a) :—*

Station X2Q has a message for A2B, proceeds thus :—

X2Q makes :—	A2B makes :—
A2B A2B A2B, etc.	A2B
A2B v X2Q	K
GR7	T
$\overline{\text{AAA}}$	T
O24	T
14/10	T
Weather	T
unfit	T
for	T
flying	T
= 0930	T
+	R

Example (b) :—

A station X2Q has an important code message for a station A2B. A2B is to repeat back. Message will be transmitted, thus :—

Transmitting Station.	Receiving Station.
A2BD A2BD A2BD, etc.	A2B
A2B v X2Q	K
D	T
G	G
GR5	GR5
C	
=	=
C	
14	14
C	
21/10	21/10
C	
BYCOB	BYCOB
C	
LOQED	LOKED (incorrect)
LOQED	LOQED
C	
= 0945	= 0945
C	
+	R

(xix) **REPETITIONS.**—As in visual signalling each word is answered or repeated back it should seldom be necessary to request repetitions, but where circumstances render it necessary the same procedure as for W/T will be adopted, subject to the conduct of visual signalling as laid down above.

(xx) **ANSWERING A CALL WHEN NORMAL MEANS ARE UNAVAILABLE OR UNDESIRABLE.**—This method is to be employed by aircraft in flight, whose lamp may be out of action, or by ground stations when normal means of answering are not available or such procedure is undesirable.

(xxi) When the station observes that it is being called and for reasons outlined in paragraph (xx) cannot or does not wish to use normal means, it will answer, if possible, by waving a flag or any suitable article which may be available and will observe the following procedure :—

(*a*) To answer the call the flag will be waved.

(*b*) To answer each word or group the flag will be shown.

(*c*) To answer the end of message the flag will be waved.

NOTE.—" Waving " indicates the movement of the flag similar to making letter " T " by morse. " Showing " indicates that the flag is held stationary.

(xxii) **PROCEDURE WHEN MESSAGES ARE NOT TO BE ANSWERED.**—This procedure, called " F " method, is to be employed when it is required to transmit a message to a station which, for tactical or other reasons, is unable to answer signals.

(*a*) Should the transmitting station desire to employ this method, it will make the letter " F " four times after each repetition of the call of the station with whom it is desired to communicate.

Thus :—

CD FFFF CD FFFF

This call will be made as often as it may be considered necessary.

CD does not answer.

(*b*) Should a receiving station, which is being called up in the ordinary way, desire to inform the transmitting station that it cannot continue to answer, it will, instead of making " K " in accordance with paragraph vi, make the signal " NA."

Thus, AB having called CD, CD makes :—

CD NA CD NA

The transmitting station then proceeds with the message as described in clause (*c*).

(*c*) The letter "F" is also to be sent in the delivery instructions of the message and the whole message, with the exception of the AR, will be made twice through separated by the repeat sign IMI. The ending sign will be made only after the repetition.

(*d*) The receiving station should acknowledge the receipt of "F" messages by any alternative means available, or by visual signalling when circumstances permit.

(*e*) When "F" method has been employed and the station ordering it desires to revert to normal procedure, it will send the call of the receiving station followed by the letters "SR" (revert to normal procedure.) This will be answered by sending letter "T."

Thus, CD wishing to revert to normal procedure, makes :—

AB SR AB SR

AB will answer by sending "T."

(xxiii) INTERRUPTING A MESSAGE.—When it is desired to interrupt a message the interrupting station will send :—

(*a*) If the transmitting station, "- Q," followed, if necessary, by "-" and the reason for the interruption.

(*b*) If the receiving station, "- Q," followed, if necessary, by "-" and the reason for the interruption.

(*c*) When the interrupting station is ready to resume it will signal either :—

in case (*a*) the last group made, or

in case (*b*) "K" followed, if necessary, by the separative sign and last group or word received.

(*d*) When considerable time has elapsed between the interruption and resumption of communication :—

in case (*a*) a fresh call may be made, or

in case (*b*) the signal "K" preceded by the call of the other station should be made, *e.g.*, AB. K. This may be followed, if desired, by "-" and the last group received.

SEMAPHORE.

569. HOW TO CALL UP.—(i) A station having a message to make by semaphore to a station whose call is known will make by semaphore the call of the station required until answered or, if more convenient the call may be made by morse. In the latter case, when the call has been answered, the transmitting station will make by semaphore the alphabetical sign and then proceed with the message. When the call of the station is unknown the same procedure as for morse (Article 568, para. (ii)) will be followed.

(ii) Where stations are provided with masts local arrangements may be made whereby certain flags when hoisted will mean "I wish to communicate with you by semaphore." These signals will be accompanied by showing the alphabetical sign by semaphore and will take the place of the call. The flags will be kept hoisted until the ending sign has been made by semaphore and then hauled down.

(iii) **HOW TO ANSWER THE CALL.**—A station being called by semaphore will answer the call by showing letter "E" by semaphore.

(iv) Where stations are provided with masts local arrangements may be made whereby certain flags, other than those referred to in para. (ii), are used for answering semaphore signals. The flag will, for the remainder of these instructions, be referred to as the "answering pendant." In this case the "answering pendant" hoisted close up means that the receiving station is ready to read and write down the message.

(v) **HOW TO TRANSMIT AND RECEIVE A MESSAGE.**—When the receiving station has answered the call the transmitting station will make the message in the same manner as laid down in Article 568, paras. (vii–xvii). Everything will be spelt out in plain language, with the exception of the break sign, comma sign, full stop sign, separative sign, T of O, and ending sign. These will be made as follows :—

(*a*) Break sign	$\overline{\text{BT}}$.
(*b*) Comma sign	III.
(*c*) Full stop sign	$\overline{\text{AAA}}$.
(*d*) Separative sign	II.
(*e*) Time of origin	Numeral sign 1400.
(*f*) Ending sign	$\overline{\text{AR}}$.

(vi) (*a*) The receiving station will answer each word or group by showing letter "E."

(*b*) All figures, other than those mentioned in para. v, will be spelt out.

(*c*) Code or cipher messages are not to be sent by semaphore, unless no other method is available.

(vii) Should the receiving station miss a word or group the letter "E" will not be shown, or the "answering pendant" will be dipped (*i.e.*, lowered half-way down.) The transmitting station will continue to make the word or group until the receiving station shows "E" or hoists the answering pendant close up again.

(viii) When the ending sign has been made the transmitting station will, if she is using flags, haul them down. The receiving station will, if satisfied that the message has been correctly received, make RRR on the semaphore or, if using an answering pendant, will haul it down.

AIRCRAFT IN FLIGHT.

570. (i) **DIFFICULTIES OF MAKING AND READING SIGNALS.**—When signalling is taking place between aircraft in flight and the ground (or surface vessels) the following points must be borne in mind :—

(*a*) Visual signalling from aircraft is only possible when the aircraft is occupying certain positions relative to the line of sight from the station with which signalling is taking place ; consequently, owing to the rapid movement of the aircraft, the signaller may find that the time is very short during which the aircraft is in those positions favourable for signalling.

(*b*) The signaller in an aircraft has no one to write down the message for him. He has to read the whole of the message, and write it down from memory, or write down each word before sending "T," or group before repeating back.

(*c*) It is impossible to read signals from an aircraft when the latter is in a position between the sun and the ground station.

(ii) **MINIMISING THE DIFFICULTIES.**—The signaller should acquaint his pilot at once of the fact that visual signalling is about to commence. The aircraft should then be manœuvred to avoid the position referred to in regard to the sun, and to keep the aircraft in a favourable position for the signaller to have unobstructed vision for as long periods as possible.

(iii) The signaller should not try to continue signalling at impossible angles, but should cease signalling until the aircraft is again in a favourable position, when he should repeat the last word sent and continue his message. This equally applies to the signaller on the ground ; signalling should cease before the aircraft signaller's line of vision is obviously obscured and, when again clear, the last word should be repeated and the message continued.

(iv) When communicating with aircraft the messages should be as short as possible consistent with clarity, and every effort should be made to render the context of messages easily memorised. For the latter reason the name of the sending station or its recognised abbreviation is to be used instead of its call sign or pendants, and code messages of more than a few groups should seldom be employed.

(v) PROCEDURE—MORSE.—Signalling by morse will be an abbreviation of that described in Article 568, paras. vii–xvii, as follows :—

(a) **A station or aircraft observing that she is being called will, as soon as ready to read the message, make "K." If called by the unknown station call AA, she will make her call followed by "K."**

(b) **Messages should be abbreviated to a minimum consistent with clearness and when conveying orders the station or headquarters of the authority must always be given.**

(vi) *Example (a)* :—

Plain language message to aircraft call unknown.

Transmitting station A2B makes :—	Receiving aircraft A7X makes :—
AA AA AA, etc.	A7X K
A7X	T
From	T
Calshot	T
$\overline{\text{AAA}}$	T
Return	T
to	T
Base	T
+	R

Example (*b*) :—

Coded message to aircraft call A7X.

A2B makes :—	A7X makes :—
A7X A7X A7X, etc.	K
A7X	T
From	T
Coastal	T
Area	T
Headquarters	T
=	T
178	178
C	
259	259
C	
1532	T
+	R

Example (*c*) :—

Determining the identity of an unknown aircraft.

Station A2B makes :—	Aircraft makes :—
AA AA AA	B2D K
Calshot	T
$\overline{\text{VA}}$	(Does not answer)

CHAPTER 36

INSTRUCTIONS TO W/T OPERATORS

578. GENERAL.—The efficiency of W/T communication depends on—

(i) Accurate procedure.

(ii) Good operating.

(iii) The intelligent co-operation of all W/T operators.

579. ACCURATE PROCEDURE.—The instructions for W/T procedure must be strictly observed. This is essential, not only for efficient communication, but also because inaccurate procedure tends to throw doubt on the authenticity of the message.

580. GOOD OPERATING.—(i) Particular care is necessary that call signs should be made distinctly.

(ii) Messages must be made at a speed which will allow ALL receiving stations to receive them at the FIRST transmission.

(iii) It is far more important to get a message through accurately than rapidly. The difference of time required to make a message at 17 words and that required to transmit it at 25 words per minute is not to be compared with the time required for a check or repetition.

(iv) Correct spacing is of the utmost importance. When transmitting a message slowly, nothing is gained by lengthening the "longs" and "shorts" to an abnormal extent. Lengthening the spacing between groups will assist the receiving operator; lengthening the longs and shorts is a waste of time, and is bad operating.

(v) Exaggerated or eccentric styles of making morse should be discouraged.

581. VALUE OF AN IMMEDIATE ANSWER.—It is impossible to over-estimate the value of an immediate answer to a call or a message. Failure in this respect invariably causes confusion and delay. If a receiving operator is in doubt as to the correct reception of a message, and is not in a position to make an immediate request for a repetition, he will answer the transmitting station with the order to "wait," and then ascertain what

particular portions of the message he requires. The single letter procedure signal "H" is adopted to meet the case of messages, the counting of which cannot be done without delay.

582. ANSWERING CALLS.—(i) Should any doubt exist as to the call sign of the station addressed, the W/T operator must on no account answer, as by doing so he might interfere with the communications of other stations. He should await a repetition of the call.

(ii) If an operator hears his station called, but is unable to distinguish the call sign of the transmitting station, he will answer the call immediately, making use of the call sign for unknown station "AA" in doing so. (See Article 286.)

(iii) Except in cases where one station is wireless guard for another, or in the case of multiple stations, the same call signs are always to be used by the operator in the receiving station in answering the call, as were used by the transmitting station.

583. ATMOSPHERIC INTERFERENCE.—The Difficult Communication method is adopted for use in cases where the receiving station is experiencing difficulty in reading, through atmospheric interference. In cases where difficulty is experienced in clearing a message even with the aid of "D.C." method, the transmitting station will decide whether to wait or whether to proceed with the communication. In making this decision the operator will be guided by the orders of his control station and the number of other messages on hand.

584. WIRELESS LOG BOOK.—(i) Attention is called to the necessity of entering in the W/T log every call, message, answer, signal, or sign read or transmitted on the frequencies in use, whether addressed to the station or not. The times of all changes of frequency carried out by the station will also be noted in the W/T log. The completeness of his W/T log, as compared with those of other stations on the same frequency, is the operator's proof of an efficient look-out during his tour of duty. It will be seen that disregard for this rule will reflect adversely on an operator in cases of queries which may arise regarding calls and messages during his watch.

(ii) The W/T log will be written in pencil and will, except in the case of artillery receiving stations, be kept in original only. A log will be kept by the operator of the watch on each receiving set of a station, and will be compiled by him chronologically, concurrently with the occurrences being recorded. At busy stations a second operator may be employed to assist the operator of the watch, and in these cases the second operator should be responsible for keeping the W/T log under the direction of the operator of the watch. Separate logs should be kept for odd and even dates, transfer of logs taking place at midnight.

(iii) The entries in W/T logs will be made in one of the following methods :—

(*a*) In the case of messages which would be written direct on the message form by the station addressed : The " Call and Preface " (and the address in Plain language messages) and " Time of Origin " of the message will be entered, together with the entry " P/L," " Code," or " Cipher," signifying that the text of the message was in plain language or code or cipher respectively.

(*b*) In the case of all calls, answers, procedure messages, and any messages not covered under (*a*) : Entered in full in the W/T log.

(iv) Times will be entered in the appropriate column at frequent intervals, but not necessarily against each entry. No interval should, however, exceed five minutes.

(v) When recording a call sign made twice, it may be written twice if desired, although this is not necessary. On NO account are call signs made twice to be recorded, thus : " CD^2 or CD_2."

(vi) All entries in W/T logs are to be made clearly and distinctly. Call signs and procedure messages will be written in BLOCK letters.

(vii) When using High Speed Procedure, the following information should be inserted in the W/T log :—

(*a*) Call signs of stations.

(*b*) Times at which transmission takes place.

(*c*) Strength of signals.

(*d*) Speed of transmission.

585. MESSAGES.—(i) Under normal conditions only such messages as are addressed to their station will be reported. It must, however, be understood clearly by all operators that, in accordance with the preceding article, the details of all messages heard on their frequency must be entered in their W/T log.

(ii) During operations and exercises it may sometimes be necessary to read and report all messages passing on their frequency, whether addressed to their station or not. When this is being done operators are forbidden to ask for repetitions of intercepted messages or portions of such messages without higher authority. If only a portion of a message is intercepted, that portion should be reported, as even a few groups may give the information required. In the case of incompletely received or mutilated messages, it is important that authorities to whom such messages are distributed should be aware of the fact that there are (or may be) errors in the messages. Incompletely received or mutilated messages are therefore to be marked appropriately, e.g., " Reception doubtful," " Incompletely received," etc. Messages so intercepted and reported will be treated as an " IN " message for the purposes of logging and filing.

(iii) In cases where any doubt arises in the mind of the operator as to the meaning of any message, signal, or sign read, or whether such message, signal, or sign should be reported, the attention of the Superintendent of the Watch should at once be called specially to the entry in the log.

(iv) No message, other than an operating signal marked with an asterisk (*) will be originated or transmitted by W/T on the authority of the operator of the watch.

586. TURNING OVER THE WATCH.—(i) The operator who is being relieved, before leaving his instruments, will see that—

(*a*) The W/T log is written up to date, and signed by him. In cases where a second operator has been employed during any period of the watch, the name of the second operator will also be recorded in the W/T log.

(*b*) The confidential books under his charge are correct.

(*c*) Everything about the wireless set is in order.

(ii) The following information is to be given to the operator taking over the watch :—

(*a*) Any alteration in the W/T organization.

(*b*) Any special orders in force.

(*c*) Any messages awaiting transmission, answer, or acknowledgment.

587. TAKING OVER THE WATCH.—(i) The operator before taking over the watch will see that—

(*a*) The receiving instruments are adjusted and in working order, and that the transmitting instruments are correctly adjusted and ready for use.

(*b*) The W/T log is written up to date and signed by his predecessor.

(*c*) That the confidential books turned over to him are correct.

(*d*) There is a supply of message forms and carbon paper available.

(*e*) The operating signals are available for his use.

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