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Operator's Manual, U. S. Navy

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Chapter 6. RADIO

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Chapter 6. RADIO

SECTION A. GENERAL

6000. FLEET COMMUNICATIONS

6001. Fleet communication and radio frequency plans will contain the detailed radio instructions for all fleet units, including aircraft. These plans are contained in U.S.F. 70A, and supplements thereto.

6010. SHIP RADIO COMMUNICATIONS

6011. Detached ships.—Ships not operating directly as part of the fleet organization, or those temporarily detached, will normally guard the appropriate area primary fleet broadcast F schedule as prescribed in Appendix I. The instructions regarding notification of shifts from one area broadcast to another, as contained therein, must be carefully observed. Small units operating locally may guard secondary fleet broadcast schedules in lieu of the primary whenever specifically directed by local authority.

6012. Ship to shore.—The high frequency 4235 kc. (NERK) series is the primary channel for ship-to-shore communications. The most appropriate harmonic for communication on this series may be selected from the frequency guide tables which are provided, or by listening for the strongest signal when this series is keyed by shore stations. The frequency 2716 kc. is also available for short-distance local ship-to-shore communications with U. S. naval bases and stations which guard this frequency as listed in Appendix I.

6013. Port communications.

a. When a fleet or portion thereof is concentrated in a port or area, a common port frequency for local communication will be prescribed by the senior officer present when the restrictions as to the use of radio permit.

b. Where circumstances require a local *ship-shore* radio circuit, and regular shore naval radio facilities are not adequate, such a circuit may be instituted at the direction of the senior officer present afloat. This special circuit should be utilized primarily for official traffic such as, for example, shore patrol communications. At the discretion of the senior officer present the service may be extended to include unofficial personal messages to and from ship personnel, under the restrictions and instructions contained in article 2210, which govern the handling of this type of traffic.

c. The following rules will govern the administration of the above circuit:

1. The port frequency, or other fleet frequency designated by the senior officer present afloat, will be used.
2. The shore station installation will be manned by fleet personnel.
3. A call sign, designated by the senior officer present afloat as prescribed in the *Navy Call Sign Book*, will be used for the shore station.
4. In case charges are involved in the handling of personal messages, the senior officer present will be responsible for the tolls, and for making arrangements with the commercial companies concerned.

6020. RADIO SILENCE

6021. Except to forward traffic vital to the accomplishment of the task, which it is impracticable to transmit by other means, radio silence shall be observed by mobile units unless restrictions are further relaxed by the responsible commanders afloat. Various conditions modifying the restrictions placed on the use of radio are listed in the *General Signal Book*, and they may be further modified or amplified by responsible commanders as necessary or desirable.

6022. In peacetime it may often be desirable to permit practically unrestricted use of radio for reasons of expediency or economy, and in order to further the training of operators under actual circuit conditions. However, such relaxation of restrictions must not be construed to modify in any way the provisions or the spirit of *Navy Regulations*, article 2027 (2). Personnel must constantly be indoctrinated in the necessity for conducting routine administrative business by means other than radio.

6023. International radio regulations govern the observance of the silent periods on the international distress frequency (500 kc.) and shall be strictly observed. (See art. 6070.)

6030. REPLIES FROM SHIPS AT SEA

6031. The attention of originators of messages on shore is invited to the undesirability of sending messages which require a radio reply from ships at sea.

6032. No reply need be made by a ship at sea to an administrative dispatch until it can be delivered to the shore communication system without transmission by radio or until the nature of the operations in which the ship is participating permits the removal of restrictions on radio transmissions.

6033. Ships should withhold transmission of messages not required by the operations being conducted, until arrival in port. Arrangements for communication from units of a fleet to the shore system will normally be prescribed by the fleet commander.

6040. SHORE RADIO COMMUNICATIONS

6041. The established point-to-point circuits between shore stations and circuits for ships and aircraft with shore stations are set forth in detail in Appendix I. This appendix also includes basic information on intradistrict communications by radio and teletype, including local defense force communications. Special-purpose shore circuits are provided for when required in sea-frontier and local defense force communication plans, including provisions for joint Army-Navy communications.

6042. Shore stations guarding the 4235 kc. (NERK) series must be alert in answering the calls of ships on these frequencies regardless of the actual shore station call sign which is used. They should accept without delay any ship traffic for further delivery, if necessary, through the shore system to its final destination. When communication conditions are difficult, shore stations may often facilitate receipting for, or requesting verification of, messages received from ships at sea by placing such receipts or requests for verification on the appropriate fleet broadcast schedule. In only the most exceptional circumstances when no other means are available, and then only for traffic of the greatest importance, should the NERK series ever be used for point-to-point operation, or for any other purpose than the ship-to-shore communication for which it is designed.

6050. AIRCRAFT COMMUNICATIONS

6051. Aircraft communications follow in general the same principles and forms of communication prescribed for surface craft. Instructions regarding communications for fleet aircraft are contained in the fleet communication plans. Appendix VI contains special instructions, including reports required, for shore-based aircraft operating in or out of shore air stations.

6060. COMMUNICATIONS WITH MERCHANT SHIPS

6061. The special provisions for communication with U. S. and Allied merchant ships in wartime are contained in Appendix VIII.

6062. During peacetime, merchant ships at sea can be communicated with directly, using international commercial procedure, on 500 kc., during the watch-standing periods of the particular vessel concerned. When not in direct communication with merchant ships, naval vessels or authorities ashore may route traffic for merchant ships through any

naval shore radio station which is open to commercial traffic, or through a commercial shore radio station near the position of the ship addressed.

6070. THE INTERNATIONAL DISTRESS AND CALLING FREQUENCY (500 KC.)

6071. The distress frequency shall be guarded according to the law (section 321 of the Communications Act of 1934) in all naval districts and by all naval ships, with necessary modification to meet the needs of war, or safety at sea. Detailed instructions will be laid down in local orders.

6072. Distress frequency watches ashore.

a. All naval shore radio stations open to public correspondence shall maintain a continuous receiver watch on 500 kc., and shall be particularly alert on this frequency during the two periods each hour when stations of the maritime mobile service are required to maintain watch on the distress frequency. These periods of 3 minutes each begin at X:15 and at X:45 o'clock.

b. In order to enhance safety on the sea and in the air, each naval district commandant shall maintain such additional watches on the distress frequency as may be practicable.

6073. Distress frequency watches afloat.

a. In naval ships operating singly at sea the watch on the distress frequency should be continuous whenever practicable. In any case, an effective receiver watch shall be maintained on 500 kc. for the 3-minute period, twice per hour, commencing at X:15 and at X:45 o'clock.

b. When ships are in company, the senior officer present shall arrange for a continuous watch on the distress frequency.

c. Guard ships on the distress frequency shall, upon intercepting any distress call or request for assistance, immediately inform the senior officer present of the fact by the fastest communication method permitted by the military situation.

d. When in the vicinity of a naval shore radio station, which may guard the distress frequency continuously, the senior officer present afloat may, if practicable, make arrangements for the shore radio station to guard this frequency in lieu of a receiver watch thereon in the ships present.

6074. Pertinent extracts from the International Regulations concerning distress, emergency, and safety traffic are contained in the Hydrographic Office publication *Radio Navigational Aids* (H. O. 205). In addition to the information contained therein, there are four indicating signals used by merchant ships in wartime to designate distress due to enemy action. These are:

Class of distress	Distress signal	When used
Warship raider.....	RRRR	On sighting or when attacked by an enemy warship.
Armed merchant ship raids.....	QQQQ	On sighting or when attacked by an armed merchant ship raider.
Submarine.....	SSSS	On sighting or when attacked by a submarine, or on striking a mine.
Aircraft.....	AAAA	On sighting or when attacked by aircraft.

6075. Use of radio distress signals by U. S. naval vessels.

a. Unless specifically authorized by the commanding officer, the international distress signal SOS or any of the wartime variations thereof, shall not be sent by a United States naval ship.

b. United States naval ships in distress will normally utilize the appropriate naval communication channels, employing the effective cryptographic aids for such messages.

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These messages will usually be addressed to the senior officer in the vicinity or within easy direct radio communication range.

6080. AUTHENTICATION

6081. Authenticator systems are provided for use when prescribed by the responsible commanders. The primary purpose served by authenticators is to increase the difficulty of an enemy attempting to use deception on our radio circuits.

6082. In general, authentication should be used:

- a. When calling a unit afloat for the first time and requiring that unit to break radio silence in order to answer.
- b. When plain language is used and there is suspicion or evidence of enemy deception on a circuit.
- c. Upon request of a ship or station which suspects deception.

6090. RADIO WATCH-KEEPING

6091. Fleet frequency plans shall prescribe the watch-keeping required in ships of the fleet. The senior officer of ships in company shall arrange to guard the distress frequency continuously and shall prescribe such other radio watches as may be required or desirable. In general (in peacetime, when there is no emergency):

- a. Ships having three or more operators available for each required circuit may be expected to stand a continuous watch on each circuit, both at sea and in port.
- b. Single ships under way (or at anchor not in port) having but one or two operators may be expected to stand watch in accordance with instructions contained in *General Radio Regulations* annexed to the *International Telecommunications Conference, Cairo 1938*.
- c. Ships not under way, and in port, having but two operators available for each required circuit may be expected to maintain continuous watch from 0800 to 1800 local zone time, except after 1300 on Saturdays, Sundays, and holidays.
- d. Ships not under way, and in port, having but one operator available for each required circuit, may be expected to maintain watch the first 30 minutes of each hour from 0800 to 1600 local zone time, except after 1300 on Saturdays, Sundays, and holidays.
- e. Small ships with few operators shall usually be required to maintain only the minimum number of circuits. If more than one, these ships should be permitted to "splitphone" two circuits, whenever practicable.
- f. Small ships in port, if in visual touch with larger ships, should be permitted to secure their radio whenever practicable. Provision should be made, however, to resume radio circuits when necessary, especially in case of fog. When small ships are nested, one ship should normally function as communication guard for the ships so nested.

6092. Receiving watches are defined as follows:

- a. Intercept—continuous receiving watch on station or frequency designated. Complete log required.
- b. Listening—continuous receiver watch on station or frequency designated for reception of traffic addressed to the unit concerned or otherwise desired. Complete log optional.

6093. Certain watches may require use of transmitters and are defined as follows:

- a. Guard—intercept watch with transmitter ready for instant use.
- b. Cover—listening watch with transmitter calibrated and available but not necessarily ready for instant use.

6094. The watches defined in articles 6092 and 6093 may be further designated as one or two operator watches. A Single operator intercept watch is therefore one in which a single operator maintains a continuous receiver watch on the frequency or station specified during the time periods assigned to ships having but one operator.

Section B. INTRODUCTION TO PROCEDURE

6100. REASONS, BASIS, AND USE OF PROCEDURE

6101. Procedure is designed primarily to attain reliability and speed in communications and secondarily as an aid to security.

6102. Familiarity with the prescribed procedure and its employment is essential for effective communication. Procedure properly employed should minimize the number and length of transmissions necessary to effect delivery of messages by providing a concise, definite "language." A degree of security is also thus attained in radio, since, with shorter and fewer transmissions, the chance of successful direction finding by an enemy is reduced. If the prescribed procedure should be found inadequate to meet the demands of a situation, a dispatch, released by proper authority, should be transmitted. The transmission of conversation between operators, and of improper or superfluous procedure messages, is prohibited.

6103. The Naval Radiotelegraph Procedure is the basis of all naval communication procedure. It applies, with only minor variations, to all naval communication systems which transmit and receive messages using the International Morse Code. It has been adapted from the Combined Radiotelegraph Procedure (CCBP 1) and generally conforms to this procedure.

6104. Naval radio procedures are used for handling all classes of messages on U. S. naval radio circuits. Commercial messages are handled by naval systems in commercial form, but naval procedure is used for calling and for routing instructions.

6105. International procedure is used for communication between naval and commercial ships or stations. The international radiotelegraph procedure is set forth in the International Telecommunications Conference, Cairo, 1938, and the General Radio Regulations, the essential features of which are also contained in appendix III to these instructions. The international signals which may be employed are set forth in the International Code of Signals (H. O. 88).

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6106. All naval transmissions by telegraphic systems, except semaphore and teleprinter, are made by using the International Morse Code. The characters used are:

a. Alphabet:

A . - -	H	N - - .	U . . - -
B - - - . .	I . .	O - - - -	V . . . - -
C - - . - .	J . - - - -	P . - - . .	W . - - -
D - - .	K - - - -	Q - - - - -	X - - . - -
E .	L . - - . .	R - - . .	Y - - - - -
F . . - . .	M - - -	S . . .	Z - - - . .
G - - - .		T -	

b. Numeral:

1 . - - - - -	4 -	7 - - - . . .	0 - - - - - -
2 . . - - - -	5	8 - - - - . .	
3 - -	6 - -	9 - - - - . . .	

c. Method:

1. A dot is used as the unit of duration.
2. A dash is equal to three units.
3. The space between elements is one unit.
4. The space between characters is two units.
5. The space between groups is three units.

d. Special Characters:

<u>AA</u> . -	Unknown station.
<u>AAA</u> . - - - . -	Period.
<u>AR</u> . - - - . -	End of transmission.
<u>AS</u> . - - -	Wait.
<u>BT</u> - - -	Long break.
<u>DU</u> - - -	Hyphen.
<u>IMI</u> . . - - -	Repeat.
<u>INT</u> -	Interrogatory.
<u>IX</u> -	Execute to follow.
<u>KK</u> - - . - - . -	Parenthesis.
<u>XE</u> - - . - - . -	Slant.

e. Punctuation marks in plain language messages:

<u>AAA</u> . - - - . -	Period.
<u>DU</u> - - -	Hyphen.
<u>KK</u> - - . - - . -	Parenthesis.
<u>XE</u> - - . - - . -	Slant.

Additional necessary punctuation is spelled out as words. For U. S. Naval use only, the letter X is usually used to represent all forms of punctuation and is to be counted as a group.

6110. OPERATING RULES AND INSTRUCTIONS

6111. The following basic rules are essential to circuit discipline and shall be strictly enforced over all naval radio circuits:

a. No transmission shall be made which has not been authorized by proper authority.

b. The following practices are specifically prohibited:

1. The unauthorized use of plain language.

2. Excessive tuning and testing.

3. Unnecessary requests and reports concerning readability and signal strength.

4. "Breaking in" on another station's transmissions except under the provisions set forth in article 6112.

c. A station given a message for transmission, other than by the F method, remains responsible for the clearance of that message until either a receipt or definite instructions to take no further action have been received.

d. A *control station* is responsible for the clearing of traffic and maintaining circuit discipline on the circuit.

e. A *control station* may prescribe, by using the appropriate operating signal, that all subordinate stations obtain its permission before transmitting messages. When such an order is given it is considered to be in effect until canceled.

f. Every transmission must end with either \overline{AR} or K. When the ending \overline{AR} is used, although no station may receipt, it does not preclude requests for repetitions or verifications if necessary.

g. No person shall knowingly or willfully send a false or forged message by the Naval Communication Service, or deliver, or cause to be delivered to any person a message falsely purporting to have been received by the Naval Communication Service.

6112. "Break in" procedure.—

a. To break in on another station's transmission, a station transmits a series of dashes.

b. A station whose transmission is thus interrupted shall immediately cease transmitting.

c. "Break in" is not to be used to obtain repetitions except when only one station is involved in the reception of the message.

Precedence of message awaiting transmission	Precedence of message being transmitted	Remarks
1. Enemy contact.....	Urgent, operational priority, priority, routine, or deferred.	Break at once.
2. Urgent.....	Operational priority, priority, routine, or deferred.	Break at once.
3. Operational priority.....	Priority.....	Completion of the transmission of a short priority message may be permitted.
	Routine or deferred.....	May break at once.
4. Priority.....	Routine or deferred.....	Transmission of a short routine or deferred message will not usually be interrupted.
5. Routine.....	Deferred.....	Transmission of a short deferred message will not usually be interrupted.

6113. Signal strength and readability.—A station assumes it has a readability of “good” unless otherwise notified. Strength of signals and readability will not be exchanged unless one station cannot clearly hear another.

a. When necessary, the *strength* of signals is indicated by use of the appropriate operating signal followed by a numeral from 1 to 5, indicating:

1. Scarcely perceptible.
2. Weak.
3. Fairly good.
4. Good.
5. Very good.

b. The *readability* of signals may be indicated by means of the appropriate operating signals followed by a numeral from 1 to 5, indicating:

1. Unreadable.
2. Readable now and then.
3. Readable, but with difficulty.
4. Readable.
5. Perfectly readable.

6114. Transmitting speeds on radio circuits.—In the transmission of radio traffic, accuracy is far more important than speed. The difference in time required to send a message at 18 words per minute and that required to transmit it at 25 words per minute is small and even this slight gain in time may be nullified by the time required for repetitions due to too fast sending.

a. The speed of transmission of headings on manually operated circuits should normally be appreciably lower than the speed of transmission of texts.

b. The existing circuit receiving conditions, the ability of the receiving operator, the ability of the transmitting operator, and the instructions of the officer controlling the circuit must all be considered when determining the speed of transmission on a particular circuit. The transmitting operator should so govern his speed that all stations called can receive the transmission when first sent. The over-all circuit speed is greatly reduced by errors, repetitions, and the questioning of group counts. When repetitions are necessary, the fault is usually that of the transmitting operator.

1144 c. Speed of automatic circuits is normally governed by traffic conditions and the reliable capacity of the equipment.

d. When messages are sent by F or I method from shore to ships, the speed of transmission shall normally be about 18 words per minute and shall not exceed this speed except when prior notification has been given to all ships served. In no case shall the speed exceed 25 words per minute.

e. Whenever he deems it advisable, the controlling officer should prescribe the speed of transmission of a circuit, or the qualifications of the operators to be employed thereon during specific periods.

f. Speed keys may be employed on manually operated circuits if traffic conditions warrant and permission for their use has been authorized by the officer controlling the circuit. Only qualified speed key operators shall be permitted to use speed keys.

6115. Transmitting messages in strings.—After communication has been well established, messages carrying station serial numbers may be transmitted in strings one after the other without receipts being obtained after each message. Normally, five messages should comprise a string. However, on certain well-established shore circuits, messages carrying station serial numbers may be transmitted in unbroken strings of greater length. Collective receipt is transmitted for each string. Messages transmitted in strings are separated by the separative sign II.

6116. Handling large traffic volumes—duplex operation.—Certain major shore stations handling large volumes of radio traffic are authorized to employ automatic transmission and

to send simultaneously to each other on different frequencies. Such duplex operation is not usually practicable for ship stations or at minor shore stations. Excessive or peak load traffic conditions for them usually can be taken care of best by the establishment of an additional R method simplex circuit, which shall be secured when conditions no longer warrant its retention.

6117. Operating signals.

a. Operating signals are three-letter procedure signals with Q as the first letter. They are used, as necessary, to convey orders, instructions, requests, reports and information not covered by the use of prosigns. These signals are listed with their meanings in the publication *Combined Operating Signals (CCBP2)*. This publication contains the useful international Q signals, in addition to those prescribed for naval and military use only.

b. For security reasons, operating signals which tend to show the organization and operation of a circuit shall not be used unenciphered unless absolutely necessary.

c. Within the U. S. Navy, operating signals which disclose fleet frequencies or other classified matter shall be encrypted. Other operating signals may be encrypted if this is deemed advisable or when encryption is directed. When encrypting operating signals, the cryptographic aids specifically designated for this purpose shall be used.

d. Operating signals will not be encrypted for combined or joint use unless specific arrangement has been made.

6118. Numerals.—Numerals in date-time groups, station serial numbers, call signs and numerals used with operating signals and prosigns shall be written and transmitted as digits.

6119. Procedure messages.—A procedure message is a short plaindress message, the purpose of which is to expedite the handling of traffic. Procedure messages consist of operating signals, call signs, identification of messages and parts of messages, and prosigns, as necessary. A group count is not used in the heading of a procedure message, and the long break, **BT**, is not used to separate the text from other components of a procedure message, except where a date-time or time group is assigned to the message. It may carry that precedence designation considered necessary to insure accomplishment of its purpose.

6120. Duplicate messages.—On occasion it may be necessary to send an exact duplicate of a message previously transmitted. The appropriate operating signal (QQM) must in such cases be placed in the *message instructions*.

6121. Recording operating data on messages.—Normally, the appropriate items from the following list shall be entered by the operator on each message transmitted or received:

a. Required routing instructions (these are usually pencilled in by the supervisor).

b. TOD or TOR (four-digit groups, GCT).

c. System used for delivery to each addressee, or for receiving the message.

1. In radio transmission the frequency should be indicated.

2. In visual, abbreviations may be used for this purpose to indicate the system:

SL—large signal searchlight; FL—small signal searchlight; SEM—semaphore;

BK—yardarm blinkers; BKG—blinker gun; FH—flag hoist.

d. Initials or identifying sign of the operator.

e. Date.

6122. Paralleling radio and visual signal transmissions.

a. Signals pertaining to maneuvers may be transmitted simultaneously by radio and visual methods. In order that this practice be effective, it is essential that the signal with address and any special instructions be given to both radio and visual personnel at the same time.

b. When a signal is executed at a later time, necessary internal arrangements should be made to insure simultaneous transmissions of the signals of execution by the radio and visual personnel.

c. When a signal is transmitted by both radio and visual, it shall be executed on the *first* signal of execution received.

d. During tactical exercises and at other times when maneuvering messages are being transmitted by radio, all ships shall man bridge radio or other appropriate station on the circuits over which maneuvering messages are being sent, in order to insure effective delivery of important signals to the action officer.

6130. USE OF SERIAL NUMBERS

6131. Station serial numbers are used on messages for the purpose of assisting the receiving station in ascertaining that it has received all messages sent to it by a particular transmitting station. Except as indicated below, station serial numbers are to be used only by shore radio stations.

6132. Shore stations shall use a separate monthly series for each shore station communicated with except on infrequently operated and local district circuits. In the two last named instances, a daily series shall be used. The first message to each shore station monthly after midnight the last day of the month shall be numbered "1" and the succeeding messages to the same shore stations are numbered consecutively until midnight of the last day of the month, after which a new series commences. (Time mentioned is GCT.)

6133. The station serial number is not necessary and is not normally to be used on procedure messages transmitted in connection with the conduct of the communication immediately in progress. For instance, a shore station calling or answering another shore station should not number the calls or receipts or other responses connected with the immediate transmission. The station serial number may well be used, however, in the case of inquiries, instructions and information regarding messages which already have been received for or in the case of requests for verifications or in the case of any procedure messages which must be relayed.

6134. When shore stations regularly deliver messages to ships by the F method, each message carries an *F method serial number* as the first item in the preamble. At each shore station concerned, F method serial numbers shall run consecutively by the month as explained in article 6132.

6135. The important General Messages originated by the Navy Department and certain fleet commanders, which have a large standard distribution, contain an originator's serial number which is assigned in sequence throughout the calendar year, beginning with "1." This serial number appears after the date-time group in the heading, and is separated therefrom by the slant sign.

Section C. RADIOTELEGRAPH PROCEDURE

This section contains a complete explanation, with examples, of naval radiotelegraph procedure.

The following plates are placed at the end of this section for the purpose of amplifying the subject matter. They are so arranged that they may be opened out and studied simultaneously with the examples and explanations contained in this section.

- PLATE 1-6. The organization assumed as a basis for all examples in this section.
 PLATE 2-6. Examples of plaindress messages in normal form.
 PLATE 3-6. Examples of plaindress messages in abbreviated form.
 PLATE 4-6. Examples of messages sent by the executive method.

6200. PROSIGNS

6201. Naval procedure signs, herein referred to as "prosigns," are single letters or characters, or combinations thereof. The function of prosigns is to facilitate communication by conveying in condensed standard form certain frequently used orders, instructions, requests, reports, and information related to communications.

6202. List of prosigns.—Below is a complete list of prosigns. No others may be used. An overscore (a line over two or more letters) indicates that the letters under it are to be transmitted as a single character, that is, without pause between letters. In the column at the right are listed the articles in which these prosigns are discussed.

<i>Prosign</i>	<i>Name</i>	<i>Article</i>
<u>A</u>	Originator's sign.....	6211, 6250
<u>AA</u>	Unknown station.....	6212
<u>AA</u>	All after.....	6213
<u>AB</u>	All before.....	6213
<u>AR</u>	End of transmission.....	6214
<u>AS</u>	Wait.....	6215
<u>B</u>	More to follow.....	6216
<u>BT</u>	Long break.....	6217
<u>C</u>	Correct.....	6218
<u>D</u>	Deferred.....	6219, 6260
<u>EEEEEEEE</u>	Error.....	6220
<u>F</u>	Do not answer.....	6221
<u>G</u>	Repeat back.....	6222
<u>GR</u>	Group sign.....	6223
<u>*HM</u> (made 3 times).....	Emergency silence sign.....	6224
<u>II</u>	Separative sign.....	6225
<u>IMI</u>	Repeat.....	6226
<u>INT</u>	Interrogatory.....	6227
<u>IX</u>	Execute to follow.....	6228
<u>IX</u> (5 sec.).....	Execute signal.....	6229
<u>J</u>	Verify and repeat.....	6230
<u>K</u>	Go ahead.....	6231
<u>N</u>	Not received or exempted.....	6232
<u>NR</u>	Station serial number.....	6233

*Used only as prescribed in article 6224.

<i>Prosign</i>	<i>Name</i>	<i>Article</i>
O	Urgent.....	6234, 6260
OP	Operational priority.....	6235, 6260
P	Priority.....	6236, 6260
R	Received (also routine).....	6237, 6265
T	Transmit to.....	6238
V	From.....	6239
W	For information to.....	6240, 6250
WA	Word after.....	6241

6210. DESCRIPTION AND USE OF PROSIGNS

6211. A “Originator’s sign.”—This sign means “The originator of this message is indicated by the call sign immediately following.” See “Message Address” including uses of A and W, article 6250.

6212. AA “Unknown station.”—AA is used as a call sign in communicating with a station whose call sign is not known or is not recognized.

Example:

6F2, hearing his own call sign but not recognizing the calling station, sends:
AA V 6F2 K

6213. AA “All after” and AB “All before.”—These prosigns are used in procedure messages, after **IMI**, C, J, and certain operating signals to identify a portion of a message. (See art. 6313.)

6214. AR “End of transmission.”—This prosign means, “This is the end of my transmission to you and no response is required or expected.” (See art. 6111f.)

Example:

BF6 V 6F2 R AR

6215. AS “Wait.”—

a. AS made during a transmission and without an ending sign indicates a pause of a few seconds.

Example:

A2D V BF6 102030 GR 5 BT JOIN CONVOY AT POINT AS

When ready to resume, BF6 then completes the transmission, commencing with a repetition of the last group already transmitted:

A2D V BF6 POINT XRAY BT 102030 K

b. AS followed by AR means, “You are to wait” or “I am obliged to wait,” as applicable.

Example:

A2D V BF6 AS AR

This is an order when made by a senior; a request when made by a junior.

c. A junior having received AS shall wait for K before transmitting, unless in the meantime he has been given a message of high precedence to transmit, or it appears that he has been overlooked. See article 6285 for examples showing how to request permission to transmit, and to indicate precedence of traffic awaiting transmission.

6216. B "More to follow."—

a. In the final instructions B, *not followed by numerals or call signs*, means, "More to follow."

Example A:

BF6, wishing to indicate that he has more to send to PW6, transmits:

PW6 V BF6 190030 GR 37 BT text **BT 190030 B K**

Example B:

A2D has just received a message from BF6. When receipting, A2D indicates that he has traffic to send to BF6 as follows:

BF6 V A2D R B K

Example C:

A precedence prosign (except R) may follow B to indicate the precedence of the messages on hand.

BF6 V A2D R B P K

b. In the final instructions, B *followed by call signs* means, "More to follow to station(s) indicated."

Example:

A2D, BF6, PW6, and 6F2 are on the same radio circuit. BF6, indicating to A2D and PW6 that there is more to follow for them, and desiring a receipt from 6F2 and PW6 for this message, transmits:

PW6 6F2 V BF6 261017 GR 37 BT text **BT 261017 B A2D PW6 K**

c. During a transmission, B followed by numerals means, "Message is being transmitted in portions. Total number of groups transmitted thus far is as indicated." Normally, portions consist of 100 groups.

Example:

BF6, transmitting a message of 160 groups in portions to 6F2, stops after transmitting the 100th group, indicates that there is more to follow and requests receipt for transmission thus far, as follows:

6F2 V BF6 242322 GR 100 BT text (* * * first 100 groups) - **B 100 K**
6F2, having received the message thus far, transmits:
V 6F2 R K

Should 6F2 require any repetitions, these are asked for and given before the R K is transmitted by 6F2.

BF6 then completes the transmission as follows:

6F2 V BF6 101 - (text * * * group 101 to 160 both inclusive)
BT 242322 K

6217. BT "Long break."—

The long break is used as the last prosign in the heading and the first prosign in the message ending to separate the text from other parts of the message. In procedure messages the long break is not used to separate the text from other components of the message, except where a date-time or time group is assigned to the message.

Example A:

6F2 transmitting a dispatch to BF6 (for which receipt is desired) sends:
BF6 V 6F2 152325 GR 8 BT REQUEST AMBULANCE PLANE TRANSPORT INJURED MAN TO RELIEF BT 152325 K

Example B:

BF6, transmitting a signal to A2D in abbreviated form (no receipt is desired) sends:

A2D V BF6 BT ROGER DOG FOX BT 1145 AR

6218. C "Correct."—

a. C alone means "You are correct."

Example A:

PW6 transmits a dispatch to BF6, who questions the group count. The count being checked and BF6 found to be correct, PW6 transmits:
BF6 V PW6 C K

Example B:

PW6, after BF6 has "repeated back" a G message correctly, transmits:

BF6 V PW6 C AR

b. C followed by identification data means "This is a correct version of the message, or portions indicated."

Example:

While transmitting a message to BF6, PW6 finds that he has incorrectly transmitted the second group which should have been 2199. In the final instructions PW6 transmits:

BT 151617 C 2 - 2199 K

c. For additional examples of the use of C, "Repetitions, Corrections, and Verifications," see article 6313.

6219. D "Deferred."—See article 6260 for a combined presentation of precedence prosigns O, OP, P, R, and D.

6220. EEEEEEEE "Error."—

a. *To correct errors.*—A succession of eight or more E's means, "An error in transmission has just been made." The error sign will be followed by the last word, group, or prosign correctly sent, and the correct version continued.

Example A:

BF6, transmitting a message, makes and corrects a mistake in the heading:
A2D V BF6 - A - NBA 3109 EEEEEEEE NBA 310830 BF6 - W - A2D GR 18 BT text BT 310830 AR

Example B:

PW6, transmitting a message to 98N, makes and corrects a mistake in the third group:

98N V PW6 291827 GR 14 BT XOBO SELA VOD EEEEEEEEE SELA
VOBU NULU etc . . . K

Example C:

6F2, transmitting a signal to MPQ, makes and corrects a mistake in the text:

MPQ V 6F2 BT DOG LOVE EX EEEEEEEEE LOVE XRAY BT AR

Example D:

PQ6, transmitting to PW6, makes and corrects a mistake in the text of a procedure message:

PW6 V PQ6 IMI AB BT - AA 4 EEEEEEEEE AA 32 K

b. To cancel a message during transmission.—A succession of eight or more E's followed by the ending sign AR means "This message is in error, disregard it."

Example:

BF6, while transmitting a message to PW6, discovers that the message has been incorrectly routed and cancels it:

PW6 V BF6 - A - BF6 171525 A2D 6F2 GR EEEEEEEEE AR

6221. F "Do not answer."—

a. Used in the preamble or final instructions, F means, "Stations called are not to answer this call or to receipt for this message or otherwise to transmit in connection with this transmission."

Example A:

BF6 transmits to A2D and does not desire stations called to transmit for any purpose whatsoever in response:

A2D V BF6 - F - A - NBA 261627 A2D GR 16 BT text BT 261627 AR

Example B:

A2D V BF6 - A - NBA 261627 A2D GR 16 BT text BT 261627 F AR

While this use of F in the final instructions is permissible, it is better communication practice to employ F in the preamble, as in the first example.

b. F is intended for use only in those cases where there is a possibility of a station's transmitting to answer a call, to request a repetition, or to give a receipt, when to do so under existing conditions might be undesirable.

6222. G "Repeat back."—Used in the *transmission instructions*, G means "Repeat back the whole message." G is intended for use only in the cases where the transmitting station desires to check the receiving station's reception of a message, particularly if the message is of great importance, or of a type which is difficult to transmit and receive. It is *not* to be used as a request for repetitions by a receiving station.

Example:

BF6, desiring 6F2 to "repeat back" the entire message, transmits:

6F2 V BF6 - G - 221913 GR 10 BT text BT 221913 K

6F2 complies as follows:

BF6 V 6F2 - 6F2 V BF6 - G - 221913 GR 10 BT text BT 221913 K

6223. GR "Group sign."—

a. In messages, **GR** followed by numeral(s) means "This message contains the number of groups indicated." **GR** plus the numerals which immediately follow is termed "the group count." (See art. 6270.)

b. The group count normally appears only in the message instructions, but in certain cases, and when so directed, it may be repeated immediately after the date-time group in message ending.

Example A:

6F2 transmits a message containing 8 groups to G94, for which a receipt is desired:

**G94 V 6F2 272113 GR 8 BT̄ KANO TUON CREU AHID XOYO DEAK
FOLB DUTA BT̄ 272113 K**

Example B:

5G7 transmits a message containing 11 groups to PW6 and repeats the group count in the message ending:

**PW6 V 5G7 221015 GR 11 BT̄ HEGA RNQZ SBQO JCLW QSKY
BARI TFMV PWQU YOHC JHVG ULID BT̄ 221015 GR 11 K**

c. When a message is sent before the group count is determined, the group count should appear in the message ending, if practicable; otherwise it should be sent later.

Example:

A2D V BF6 310200 BT̄ text BT̄ 310200 GR 39 K

If BF6 had been unable to count the groups by the time he finished transmitting the text in the preceding example—that transmission would have been:

A2D V BF6 310200 BT̄ text BT̄ 310200 K

Later BF6 determines the group count and transmits:

A2D V BF6 C 310200 GR 39 AR̄

d. **GR** preceded by **INT̄** and followed by numeral(s) means "Is the number of groups as indicated?"

Example: (See art. 6227.)

PW6 V BF6 INT GR 20 K

6224. HM (made three times) "Emergency silence."—

a. The emergency silence sign shall be used only by the SOPA or the OTC and means, "Cease all transmissions by the means of communication on which this order is given." Stations do not answer the emergency silence sign but shall immediately cease transmission as directed. Thereafter stations may transmit only when so directed by the imposing authority or after emergency silence has been canceled.

b. Emergency silence is canceled by the transmission of the operating signal meaning "Negative" followed by **HM HM HM**. Emergency silence shall be canceled only by the authority making urgent enemy reports who imposed it.

Examples:

1. To impose emergency silence for station(s) called, on all frequencies, BF6 transmits:

K49 V BF6 HM̄ HM̄ HM̄ QKA* —AR̄

2. To cancel emergency silence for station(s) called, on all frequencies, BF6 transmits:

K49 V BF6 QQZ HM̄ HM̄ HM̄ QKA* —AR̄**

*QKA is assumed to mean "Authentication is —."

**QQZ is assumed to mean "Negative."

- c. After a call, the emergency silence sign, followed by a frequency or the code designation of a frequency, imposes emergency silence on station(s) called, on frequency indicated.
- d. Radio transmissions must always be authenticated by the imposing authority when:
1. Imposing emergency silence.
 2. Canceling emergency silence.
 3. Calling a station during the period of emergency silence.
- e. Where authentication has been prescribed, any station must authenticate urgent enemy reports made during the period of emergency silence.

6225. II "Separative sign."—This sign, written as a short dash, is used to avoid mistakes in reception which might occur if letters or figures of adjacent groups are run together. The separative sign is used as follows:

a. In messages:

1. Before and after all prosigns in the *call, preamble and address*, except **V, AA**, and **NR**.
2. Between the call and the beginning of repetition of a message to be repeated back.

Example:

BF6 instructs 6F2 to repeat a message back.

6F2 complies:

BF6 V 6F2 - 6F2 V BF6 - G - T - 2SN - A - etc.

3. To separate call signs or call signs and operating signals belonging to adjacent message components or adjacent multiple transmission instructions.

Example:

PW6 6F2 V BF6 - PW6 - T - 98N - 6F2 - T - KFR - A - etc.

4. To separate messages sent in strings, see article 6115.

b. In procedure messages, the separative sign is used to separate portions of the *text*:

Example A:

BF6 V A2D IMI AB BT - 3 to 6 - AA 148 K

Example B:

The reply thereto:

**A2D V BF6 AB BT - K49 V BF6 - A - BF6 172214 K49 GR 150 - 3 to 6 -
DOGO NUBO CEXE DEFE - AA 148 - ZABO TUTU BT 172214 K**

Example C:

BF6 V 6F2 J 101030 - 2 - 5 K

Example D:

The reply thereto:

6F2 V BF6 C 101030 - 2 - 2468 - 5 - 7543 K

6226. IMI "Repeat."—

a. Used alone, IMI means "Repeat all of your last transmission."

Example:

PW6 requests a repetition of the entire transmission just completed by 6F2:

6F2 V PW6 IMI K

b. Followed by identification data, IMI means, "Repeat the indicated portion of your transmission." (See art. 6312.)

c. IMI cannot be used to obtain a repetition of a message or part of a message for which a receipt has been given. An operating signal is provided for this purpose.

d. In the text of a plain language message, IMI means, "I am going to repeat the difficult portion just transmitted."

Example:

**A2D V BF6 311211 GR 15 BT TRANSFER GILROY MUNCHAUSEN
IMI MUNCHAUSEN JOHN ELMER SMITH etc.**

e. Between the first and the second transmission of a message being sent twice, IMI means, "I am going to repeat this message."

Example:

**K49 V BF6 161822 GR 22 BT text BT 161822 IMI K49 V BF6 161822 GR
22 BT text BT 161822 K**

6227. INT "Interrogatory."—

a. INT, preceding prosigns and operating signals, indicates that the matter to follow is in the form of a question.

Example:

PW6, requesting permission from BF6 to transmit, sends:

BF6 V PW6 INT K

b. INT, preceding a portion of a previous transmission, means, "Is my reception of this correct?"

Example:

A2D asks PW6, "Is the date-time group as indicated?"

PW6 V A2D INT 310126 K

c. The "group" sign may be used in conjunction with the INT to verify the number of groups in a dispatch which has been transmitted. When so used this combination signifies, "What is number of groups?" Thus:

PW6 V BF6 INT GR K

signifies, "What is the number of groups in your last dispatch?" and

PW6 V BF6 INT GR 11 1432 K

signifies, "Is the number of groups in your dispatch timed 1432 as indicated?"

d. INT cannot be used to question any part of a message for which a receipt has been given.

6228. **IX** "Execute to follow."—The uses of the execute to follow sign are set forth under "The Executive Method," article 6330.

6229. **IX** (*5-second dash*) "Execute signal."—The uses of the execute sign are set forth under "The Executive Method," article 6330.

6230. **J** "Verify and repeat."—

a. **J** means, "Verify text, check drafting completely and repeat the correct version of the message or portion(s) indicated."

b. **J** requires that the *originator* be contacted for verification before the correction is sent. A **J** is always replied to by **C**.

NOTE.—Operating signals are provided for use when only the enciphering requires checking.

Example A:

A2D desires BF6's last message verified and repeated (and desires a receipt for this request):

BF6 V A2D J K

Example B:

A2D desires the following portions of BF6's 312151 verified and then repeated and desires a receipt for this request: (a) all before **BT** (the whole heading), (b) all after "will be." A2D transmits:

BF6 V A2D J 312151 - AB BT - AA WILL BE K

Example C:

A2D desires the whole transmission previously received from PW6 verified and then repeated. The message in question being without a time of origin, and not being the last message transmitted, A2D repeats the whole transmission (or enough thereof to identify) as he has received it:

PW6 V A2D J A2D V PW6 BT LOVE XRAY UNCLE SEVEN K

For additional examples of uses of **J**, see article 6313.

6231. **K** "Go ahead."—**K** means, "Go ahead; transmit," or "This is the end of my transmission to you and a response is necessary." (See art. 6111.)

Example A:

BF6 V A2D K

Example B:

A2D V BF6 IMI K

6232. **N** "Not received" or "exempted."—

a. Used alone, or with identification data, **N** means "Not received" or "Message indicated not received."

Example A:

A2D asks 6F2 if he (6F2) has received the message just transmitted by A2D.

6F2 V A2D INT R K

Not having received it, 6F2 transmits:

A2D V 6F2 N K

Example B:

A2D asks 6F2 if he has received BF6's 151227:

6F2 V A2D INT R BF6 151227 K

Not having received it, 6F2 transmits:

A2D V 6F2 N BF6 151227 K

b. The prosign N exempts the station(s) whose call sign(s) follow it from inclusion in a collective call sign preceding it. N may be used in this manner in the *call, transmission instructions or address.*

Example A:

In the *call*:

2SN - N - KFR V 6F2 - A - etc.

Example B:

In the transmission instructions:

K49 V BF6 - 6F2 - T - 2SN - N - KFR - A - etc.

Example C:

PW6 instructs 6F2 to transmit a message to all addressees except 98N:*

**6F2 V PW6 - T - N - 98N - A - PW6 151617 MPQ G94 98N GR 16
BT etc.**

*This example illustrates the use of N following T in the transmission instructions and means, "Station called is to transmit to all addressees except those whose call sign(s) follow N."

Example D:

In the address:

- A - BF6 121615 K49 2SN - N - KFR GR 20 BT text BT 121615 K

6233. NR "Station serial number."—

a. In the *preamble*, NR with numerals (and letters in certain cases) means, "Station serial number is as indicated."

Example:

6F2 V BF6 NR 72 192223 GR 16 BT etc.

b. In multiple call transmissions the station serial number applicable to each called station is given in the same sequence as the call signs in the call.

Example:

A2D 6F2 V BF6 NR 16 NR 13 211421 etc.

c. NR, preceded by R (or N or equivalent operating signal) and followed by numerals, means, "Message(s), with station serial number(s) as indicated, received (or not received)."

Example A:

6F2 receipts for BF6's NR 37:

BF6 V 6F2 R NR 37 AR

Example B:

6F2 receipts for BF6's NR 40 to 45 inclusive:

BF6 V 6F2 R NR 40 TO 45 AR

Example C:

6F2 indicates BF6's NR 14 not received:

BF6 V 6F2 N NR 14 K

6234. OC "Enemy contact."—See "Use of Precedence Prosigns," article 6260.

6235. O "Urgent."—See "Use of Precedence Prosigns," article 6260.

6236. OP "Operational priority."—See "Use of Precedence Prosigns," article 6260.

6237. P "Priority."—See "Use of Precedence Prosigns," article 6260.

6238. R "Received" (also "routine").—

a. After a call, R means "I have received your last message."

Example:

BF6 V A2D R \overline{AR}

b. After a call, R followed by identification data signifies, "I have received the message or portion(s) indicated."

Example:

A2D indicates to BF6 receipt of PW6's 121522:

BF6 V A2D R PW6 121522 \overline{AR}

c. After a call, R preceded by \overline{INT} signifies, "Have you received my last message?"

Example:

BF6 V A2D \overline{INT} R K

d. After a call, R preceded by \overline{INT} and followed by identification data signifies, "Have you received the message indicated?"

Example A:

BF6 asks A2D, "Have you received 6F2's 121416?"

A2D V BF6 \overline{INT} R 6F2 121416 K

Example B:

A2D, having received it, transmits:

BF6 V A2D R 6F2 121416 \overline{AR}

e. In dual precedence messages, the prosign R may be used to indicate routine precedence. (See art. 6265.)

6239. T "Transmit to."—

a. In the transmission instructions of a plaindress, or modified plaindress message, T alone means, "Station called transmit this message to all addressees in the heading."

Example:

BF6 directs 6F2 to transmit to all addressees:

6F2 V BF6-T-A-BF6 311615 2SN GR 5 \overline{BT} etc.

b. In the transmission instructions, T followed by call sign(s) means, "Station called transmit this message to station(s) whose call sign(s) follow T."

Example:

BF6 directs 6F2 to transmit message to 2SN:

6F2 V BF6-T-2SN-A-BF6 161812 2SN-W-5G7 GR 18 \overline{BT} etc.

c. In the transmission instructions, **T** preceded and followed by call signs means, "Station whose call sign precedes **T**, transmit this message to station(s) whose call sign(s) follow(s) **T**."

Example:

KFR, calling both MPQ and 6F2, requests 6F2 to transmit message to BF6:
MPQ 6F2 V KFR - 6F2 - T - BF6 - A - KFR 181927 BF6 MPQ 6F2 GR
29 BT etc.

6240. V "From."—

a. **V** is used only in the call. It is followed by a call sign and means, "This transmission is from the station whose call sign follows."

Example:

A complete preliminary call (to establish communication):

A2D V BF6 K

b. See "Calling and Answering," article 6280, for detailed instructions on calling and answering.

6241. W "For information to."—See "Message Address," including uses of **A** and **W**, article 6250.

6242. WA "Word after."—This prosign is used in the text of a procedure message, after **IMI**, **C**, **J**, and certain operating signals to identify a portion of a message. (See art. 6313.)

6250. MESSAGE ADDRESS

6251. Use of prosigns A and W.—

a. When the originator is in direct communication with all addressees and there are no information addressees, the call may serve as the address and the originator's sign **A** is not then necessary.

Example:

Originator, 6F2; action addressee, BF6:

BF6 V 6F2 192223 GR 16 BT text **BT 192223 K**

b. When **A** is used it marks the beginning of the address. The date-time group separates the call sign of the originator from the call sign(s) of the addressee(s).

Example:

Message is originated by BF6 and addressed for action to 2SN:

2SN V 6F2 - A - BF6 152131 2SN GR 8 BT

c. When there are both action and information addressees, **W** separates the call signs of the two types of addressee(s). Call signs of addressee(s) preceding **W** are action addressee(s); call signs of addressee(s) following **W** are information addressee(s). When there are only action addressee(s), **W** is omitted. When there are only information addressee(s), all call signs representing addressee(s) follow **W**.

Example A:

All addressees (KFR and MPQ) are action addressees in message originated by BF6:

KFR MPQ V 6F2 - A - BF6 161215 KFR MPQ GR 18 BT etc.

Example B:

All addressees (6F2 and PW6) are information addressees in message originated by BF6:

PW6 6F2 V BF6 - A - BF6 310745 - W - PW6 6F2 GR 19 BT etc.

Example C:

6F2 is an action addressee; PW6 is an information addressee in message originated by BF6:

PW6 6F2 V BF6 - A - BF6 172215 6F2 - W - PW6 GR 12 BT etc.

6252. Readdressing messages (double heading).—On occasion an addressee or originator may wish to readdress a plaindress message to others not included in the original address, without rewriting the message. The following rules then apply:

a. Plaindress messages:

1. A *supplementary heading* is inserted in front of the original address. The supplementary heading includes action and/or information addressees, and, where necessary, a new precedence prosign, transmission instructions, and date-time group.

2. All that part of the original message preceding the address is omitted. Thus the original precedence is unknown to supplementary addressee(s).

3. The precedence indicated in the supplementary heading applies to the *supplementary* address.

4. The prosign **A** must be used to mark the *beginning* of the supplementary address, and the beginning of the original address.

5. A message *cannot* be readdressed if *any* alteration is made to its original address, message instructions, or text.

Example A:

Original message received by 6F2:

6F2 V BF6 - P - 221400 GR 16 BT etc.

Message readdressed by 6F2 to KFR for action.

KFR V 6F2 - O - A - 6F2 221445 KFR - A - BF6 221400 6F2 GR 16 BT
text **BT 221400 K**

Example B:

Original message received by 6F2:

- A - BF6 271630 A2D - W - 6F2 GR 32 BT etc.

Message readdressed by 6F2 to KFR for information:

KFR V 6F2 - P - A - 6F2 271715 - W - KFR - A - BF6 271630 A2D -
W - 6F2 GR 32 BT etc.

Example C:

Original message received by 6F2:

6F2 V BF6 - O - BT text **BT K**

Message readdressed by 6F2 to KFR for action:

KFR V 6F2 - O - A - 6F2 - KFR - A - BF6 - 6F2 BT text **BT K**

Example D:

Original message received by 6F2:

6F2 V BF6 BT text **BT 1141 K**

Message readdressed by 6F2 to KFR for information:

KFR V 6F2 - D - A - 6F2 1245 - W - KFR - A - BF6 - 6F2 BT text **BT 1141 K**

b. Codress messages:

1. A supplementary heading is inserted in front of the original date-time group. The supplementary heading includes action and/or information addressee(s), and where necessary a new precedence prosign, a new additional date-time group, and transmission instructions.

2. All that part of the original codress message preceding the date-time group in the heading is omitted.

3. The prosign **A** is used in the supplementary heading as required.

Example A:

Original message as received by broadcast method by 6F2:

NERK V NBA NR 270 - P - 6F2 201314 GR 71 BT text **BT** etc.

Message readdressed by 6F2 to KFR for action (direct communication):

KFR V 6F2 - OP - 201400 201314 GR 71 BT text **BT** etc.

Example B:

Original message as received by 6F2:

6F2 V BF6 - P - T - MPQ 6F2 141414 GR 60 etc.

Message readdressed by 6F2 to G94 for action and to KFR for information:

G94 KFR V 6F2 - A - 6F2 150345 G94 - W - KFR 141414 GR 60

6260. USE OF PRECEDENCE PROSIGNS

6261. Precedence.—Messages are assigned a precedence to show the relative order in which they are to be transmitted and dealt with. The precedence given to different addressees of multiple-address messages may vary. Messages of the same precedence are normally to be handled in order of filing for transmission or of receipt for relay.

6262. Precedence prosigns.—The prosigns listed in order of precedence are as follows:

- | | |
|---------------------------------|--------------------|
| OC Enemy Contact. | P Priority. |
| O Urgent. | R* Routine. |
| OP Operational Priority. | D Deferred. |

**The prosign R, when indicating routine precedence, is used only in dual precedence messages.*

6264. Single precedence.—All messages having precedence other than routine will have the appropriate precedence prosign in the preamble.

Example A:

Priority to all addressees:

A2D 6F2 V BF6 - P - 120930 GR 20 BT etc.

6F2 V BF6 - P - T - A - BF6 211935 KFR MPQ GR 18 BT etc.

Example B:

Routine to all addressees:

A2D 6F2 V BF6 142132 GR 19 BT etc.

6F2 V BF6 - T - A - BF6 051921 KFR - W - MPQ GR 13 BT etc.

6265. Dual precedence.—

a. A plaindress message addressed to more than one station or authority may carry two precedence prosigns. A message may thus be transmitted with a high precedence to action addressee(s) and low precedence to information addressee(s).

b. Dual precedence is not applicable to codress messages.

c. The prosign of higher precedence appears first.

d. A message involving two precedences will include the appropriate precedence prosigns in the Preamble as follows.

1. Where all action addressees are of one precedence and all information addressees are of another and lower precedence, the two prosigns are placed in the preamble and are not followed by call signs.

2. Where all action (or information) addressees are not of one precedence, the precedence prosign applying to the smaller number of call signs will be followed by the call signs relative to it. The other precedence prosign applies to the call signs of all other addressees.

e. When there are an equal number of call signs for each precedence and not so arranged as to permit use of *d* (1) above, the higher precedence prosign will be followed by the call sign(s) to which that precedence applies.

f. When routine precedence is used in dual precedence messages, the prosign R is used only if followed by call signs, or if used as in *d* (1) above.

Example A:

Precedence: Urgent (emergency) to A2D, KFR and 6F2: Operational priority (immediate) to MPQ and PW6:

K49 V BF6 - O - OP - A - BF6 141635 A2D KFR 6F2 - W - MPQ PW6 GR 16 etc.

Example B:

Precedence: Priority (important) to 6F2: Routine to A2D, KFR, and MPQ:

A2D 6F2 V BF6 - P - 6F2 - 6F2 - T - KFR MPQ - A - BF6 141635 A2D 6F2 - W - KFR MPQ GR 16 etc.

6F2's retransmission to KFR and MPQ:

KFR MPQ V 6F2 - P - 6F2 - A - BF6 141635 A2D 6F2 - W - KFR MPQ GR 16 etc.

Example C:

Precedence: Routine to A2D and 6F2: Deferred to KFR and MPQ:

**A2D 6F2 V BF6 - R - D - 6F2 - T - KFR MPQ - A - BF6 141635 A2D
6F2 - W - KFR MPQ GR 16 etc.**

6270. COUNTING OF GROUPS

6271. Rules for counting groups.—Groups are counted in accordance with the following rules:

- a.* Count groups between \overline{BT} and \overline{BT} .
- b.* Punctuation marks (see art. 6106) are not counted unless spelled out as words.
- c.* Every word is counted as one group except as noted in *d* and *e* below.
- d.* Every group of letters, figures, and symbols such as abbreviations, references, or encrypted groups, even when containing \overline{AAA} , \overline{DU} , \overline{KK} , and \overline{XE} , counts as one group.
- e.* Hyphenated words and hyphenated names, when transmitted as one word, count as one group.

<i>Examples:</i>	<i>Group count</i>
BRAYDUCORBIE.....	1
BRAY HYPHEN CORBIE.....	3
NEWYORK*.....	1
XFUY.....	1
VNYR NKLY JVRN.....	3
(FRANCE).....	1
125/3.....	1
CG.....	1
125DU3/4(55)X56.....	1
35 DASH 567P.....	3
MR C D ADAMS.....	4
BF6 311845.....	2
21 POINT 6.....	3
BOSTON MASSACHUSETTS.....	2

f. Groups in the text of commercial messages are counted in accordance with the rules for commercial count as given in appendix III.

6272. Checking of group count.—

a. When the number of groups received does not correspond with the group count transmitted, the receiving station will immediately question the transmitting station by using INT GR — (number as counted by receiving operator). If, after rechecking the message, the transmitting station finds that the receiving station is correct, the transmitting station sends C.

b. If the receiving station is considered to be incorrect, the transmitting station repeats the original group count and transmits the first character of each word or group of the text in succession.

Example (original message):

PW6 V BF6 272113 GR 8 BT RECEIVED SHIPMENT TWENTYONE
TRUCKS FROM PARIS (FRANCE)** TODAY BT 272113 K

PW6 questions the group count.

BF6 checks and, finding the group count correct as transmitted, then transmits:

PW6 V BF6 GR 8 BT R S T T F P KK T BT K

c. An *operating signal* may also be used to initiate a check of the group count.

d. If a message is received, and it is impossible to agree on the group count without serious delay to the message, the relaying station should transmit the original group count followed by a slant sign and the numeral(s) which the relaying station believes to be correct—for example: — A — A2D 172314 BF6 GR 63/64 BT. A relaying station which adds the slant sign and its count must continue its efforts to obtain the correct group count and forward this as soon as practicable.

*“New York” and other geographical names consisting of two or more parts should preferably always be drafted and counted as one group. Thus “Newyork,” “Sanfrancisco,” “Pearlharbor” should be consistently drafted and therefore counted as one group.

**If the parenthetical enclosure had been (Boston Massachusetts) the transmission would have been KK M, etc.

6280. CALLING AND ANSWERING

6281. Call.—A call consists of the call sign(s) of the station(s) called, the prosign V and the call sign of the calling station in order named. It may also include the prosign N followed by call sign(s) of exempted station(s) (art. 6232). A *preliminary call* is one made to insure the attention of another station(s) preliminary to the transmission of traffic.

6282. Calling rules.—

a. To establish communication or when communication is difficult, the call signs may be made twice.

Example:

A2D A2D V BF6 BF6 K

b. In other cases, the call signs are made only once.

c. If a called station fails to answer promptly, the preliminary call is repeated.

d. If the second call is not answered, the calling station will wait a reasonable time and again call as in *a*, above, giving consideration to circumstances and other stations which may need to use the frequency.

6283. Answering.—In answering, the following rules shall be observed.

a. The answer is similar in form to the call.

Example A (communication good):

BF6 V A2D K

Example B (communication difficult):

BF6 BF6 V A2D A2D K

b. Unless instructed otherwise, when more than one station is called, stations will answer in the sequence used in the call. Stations included in a collective call sign will answer in correct sequence under that collective call sign. See sequence of call signs, article 6287.

Example A:

A2D 6F2 V BF6 K (call)

BF6 V A2D K (answer from A2D)

BF6 V 6F2 K (answer from 6F2)

Example B:

K49 V BF6 K (call)

BF6 V A2D K (answer from A2D)

BF6 V PW6 K (answer from PW6)

BF6 V 6F2 K (answer from 6F2)

c. If any station is directed to answer out of its correct sequence, no other station may answer until instructed to do so.

d. If any station fails to answer a collective call in correct sequence, the next station waits 5 seconds and answers. Any station which fails to answer in proper order must wait

until all other stations have had time to answer. A station which missed its first turn shall then answer. If more than one station is concerned each shall answer in correct sequence.

Example:

A2D PW6 6F2 V BF6 K (call)
BF6 V A2D K (answer from A2D)

Five seconds pass and PW6 fails to answer. 6F2 answers:

BF6 V 6F2 K

PW6 is now ready to answer. PW6 answers:

BF6 V PW6 K

e. When an answer cannot be obtained from a station called, a message may be transmitted at the discretion of a responsible officer even though no answer is received to a preliminary call. The message is then to be transmitted twice, with only IMI separating the first and second transmission. Subsequent efforts must be made to obtain a receipt. This is particularly applicable to transmission of enemy reports.

6284. Answering a station whose call sign is unknown.—See article 6212.

6285. Indicating precedence in a preliminary call.—If a message is of precedence P or higher, the appropriate precedence prosign may be transmitted in the preliminary call.

Example:

BF6 tells A2D that he has priority traffic for him:

A2D V BF6 P K

NOTE.—In order to deny the enemy advanced warning of precedence and number of dispatches awaiting transmission, and thus invite jamming, this procedure is to be used with caution, especially in combat areas.

6286. Abbreviated calling.—The abbreviated call omits the call sign of the station called. If there is any possibility of confusion a full call should be used. The abbreviated call is never used in the initial transmission of a message, but may be used in any further calling and answering incident to the transmission of the message.

Example:

V A2D INT GR 37 K

(Instead of BF6 V A2D INT GR 37 K)

6287. Sequence of call signs.—The following rule ordinarily governs the sequence of call signs included in components of messages, and for purposes of calling and answering:

Call signs in message headings will ordinarily be arranged in alphabetical order in the form in which they are to be transmitted, whether plain, encrypted, or mixed. For this purpose, figures 1 to 0 will be considered the twenty-seventh through the thirty-sixth letters of the alphabet.

Example:

ATB AY AYC2 A2A BAA 13N 9A6 0A5

NOTE.—A definite exception to the rule occurs when an originator or an addressee is represented by two call signs. In these cases the first call sign may represent a general title, and the second call sign may represent a geographical location. For example, "Port Director at -----" The first of two such call signs sometimes represents more than one addressee, as for example, "All Ships at -----" Call signs used in this manner will then appear in their logical order instead of their alphabetical order.

6292. In codress heading when a station called is required to effect a relay, its call sign must be included in the transmission instructions of the heading if this station is also expected to decrypt the text. However, when only one station is called and no external (heading) transmission instructions are necessary, the call-up may serve as the ostensible address, as illustrated in article 6251a.

6310. REPETITIONS, CORRECTIONS, VERIFICATIONS, AND ACKNOWLEDGMENTS

6311. Identification of messages.—This may be accomplished by two means: Date-time group and station serial number. In both cases, the message may be further identified by adding the call sign of originating station and/or the group count. If further identification is required, the complete *preamble* or *address*, or complete (or partial) *text* may be used. In any case, the data used to identify a message shall be as brief as practicable, consistent with clarity.

Examples:

- BF6 161417** (call sign and date-time group)
- NSS NR 145** (call sign and serial number)
- NSS NR 145/15 - D - A - A2D 081012 MPQ** (call sign, serial number, and date, preamble and address)

6312. Identification of portions of messages.—Parts of messages are identified as shown in article 6313. If a word or group occurring more than once in a message is used to identify part of that message, it is to be assumed that the first occurrence of that word or group is implied. If otherwise intended, amplifying data such as adjacent words or groups must be included.

- a.* **AB BT** denotes all before the text.
- b.* **AA LUXO BT** denotes the message ending, where **LUXO** is the last group in the message.
- c.* **AA BT** denotes the complete text and the message ending.

6313. Examples of repetitions, corrections, and verifications.—The examples which follow illustrate the use of the prosigns **IMI**, **C**, **J**, **AA**, **AB**, and **WA** with numbers representing the position of groups in an encrypted text, actual code groups, or plain language words, as necessary to obtain repetitions, corrections, and verifications. The encrypted message which follows is used as a basis for the examples:

**6F2 V BF6 - D - A - BF6 271545 6F2 - W - A2D GR 11 BT JAPY
BOQU LAJY KUPY FOQO MUCU KAWC GUXO XAVA RATU
SABO BT 271545 K**

a. Repetitions:

- 1. Repeat the last message.

Request:

BF6 V 6F2 IMI K

Reply:

**6F2 V BF6 - D - A - BF6 271545 6F2 - W - A2D GR 11 BT JAPY
BOQU LAJY KUPY FOQO MUCU KAWC GUXO XAVA RATU
SABO BT 271545 K**

- 2. Repeat the complete text.

Request:

BF6 V 6F2 IMI AA BT K

Reply:

**6F2 V BF6 AA BT - JAPY BOQU LAJY KUPY FOQO MUCU
KAWC GUXO XAVA RATU SABO BT 271545 K**

3. Repeat all before the text of last message.
Request:
BF6 V 6F2 IMI AB BT K
Reply:
6F2 V BF6 AB BT - 6F2 V BF6 - D - A - BF6 271545 6F2 - W - A2D GR 11 K
 4. Repeat the *preamble* of last message (all before A).
Request:
BF6 V 6F2 IMI AB A K
Reply:
6F2 V BF6 AB A - 6F2 V BF6 - D - K
 5. Repeat all after the eighth group.
Request:
BF6 V 6F2 IMI AA 8 K
Reply:
6F2 V BF6 AA 8 - XAVA RATU SABO BT 271545 K
 6. Repeat group 9 of last message.
Request:
BF6 V 6F2 IMI 9 K
Reply:
6F2 V BF6 9 - XAVA K
 7. Repeat groups 3 to 8 of last message.
Request:
BF6 V 6F2 IMI 3 TO 8 K
Reply:
6F2 V BF6 3 TO 8 - LAJY KUPY FOQO MUCU KAWC GUXO K
 8. Repeat group 3 and groups 6 to 8 of last message.
Request:
BF6 V 6F2 IMI 3 - 6 TO 8 K
Reply:
6F2 V BF6 3 - LAJY - 6 TO 8 - MUCU KAWC GUXO K
 9. Repeat the originator, date-time group, and action addressees of last message.
Request:
BF6 V 6F2 IMI A TO W K
Reply:
6F2 V BF6 A TO W - A - BF6 271545 6F2 - W - K
- b. Verifications and corrections:
1. Verify and repeat the message indicated.
Request:
BF6 V 6F2 J 271545 K
Reply:
6F2 V BF6 C 271545 - D - A - BF6 271545 6F2 - W - A2D GR 11 BT JAPY BOQU LAJY KUPY FOQO MUCU KAWC GUXO XAVA RATU SABO BT 271545 K
 2. Verify and repeat the text of message indicated.
Request:
BF6 V 6F2 J 271545 - AA BT K
Reply:
6F2 V BF6 C 271545 - AA BT - JAPY BOQU LAJY KUPY FOQO MUCU KAWC GUXO XAVA RATU SABO BT 271545 K
 3. Verify and repeat all before the text of message indicated.
Request:
BF6 V 6F2 J 271545 - AB BT K
Reply:
6F2 V BF6 C 271545 - AB BT - D - A - BF6 271545 6F2 - W - A2D GR 11 K

4. Verify and repeat the address and message instructions of message indicated.

Request:

BF6 V 6F2 J 271545 - A to BT K

Reply:

**6F2 V BF6 C 271545 - A to BT - A - BF6 2715456 F2 - W - A2D
GR 11 BT K**

5. Verify and repeat group 3 and groups 6 to 8 of message indicated.

Request:

BF6 V 6F2 J 271545 - 3 - 6 to 8 K

Reply:

6F2 V BF6 C 271545 - 3 - LAJY - 6 to 8 - MUCU KAWC GUXO K

c. In plain language messages, portions of the text are normally identified as words rather than by group numbers.

1.

Request:

BF6 V 6F2 IMI WA CARRY K

Reply:

6F2 V BF6 WA CARRY - OUT K

2.

Request:

BF6 V 6F2 IMI CARRY TO SIXTEEN K

Reply:

6F2 V BF6 CARRY TO SIXTEEN - CARRY OUT PLAN SIXTEEN K

d. Corrections sent without request are transmitted in the same manner as indicated by the replies in this article.

6314. Acknowledgments.—Instructions to acknowledge a message in normal form, if required, will be included by the originator in the text. An operating signal may be used to request an acknowledgement when:

a. Such instructions were not included in the *text* of a message which has been transmitted.

b. It is required to hasten an acknowledgment previously requested.

c. Abbreviated procedure is used.

6315. Acknowledgments may be conveyed by two methods:

a. An operating signal may be used to convey the addressee's acknowledgment.

b. The addressee may originate a message containing an acknowledgment. (See art. 2056.)

Example A:

PW6 requests PQ6 to acknowledge a message which has been transmitted; instructions to acknowledge were not included in the text:

PQ6 V PW6 INT QZM 051218 K

PQ6 receipts:

PW6 V PQ6 R AR

Example B:

If it is desired to hasten an acknowledgment previously requested, the same procedure as indicated in example A above would be used.

PQ6 acknowledging to PW6 by operating signal:

PW6 V PQ6 QZM 051218 K

PQ6 originates a dispatch acknowledgment:

PW6 V PQ6 051315 GR 2 BT YOUR* 051218 BT 051315 K

*NOTE: Or "URDIS, URMGM," etc.

PQ6 acknowledges to PW6 for BF6's dispatch 091514:

PW6 V PQ6 091620 GR 2 BT BF6 091514 BT 091620 K

6316. In abbreviated form procedure the operating signal QZM placed in the message instructions of a heading will be interpreted to mean, "Addressees acknowledge this message" or "Stations whose call signs follow this operating signal acknowledge this message."

Example A:

In abbreviated form BF6 directs A2D to acknowledge and receipt for signal "George Baker":

A2D V BF6 QZM BT GEORGE BAKER BT K

A2D receipts for this transmission:

V A2D R AR

When ready to acknowledge, A2D transmits:

V A2D QZM AR

Example B:

PW6 requests all stations included in call ODP (PQ6, 5G7, and 98N) to acknowledge but not to receipt for message sent in abbreviated form:

ODP V PW6 1137 QZM BT RENDEZVOUS AT POINT YOKE BT AR

When ready to receive acknowledgments, PW6 transmits:

ODP V PW6 INT QZM 1137 K

Stations transmit acknowledgements:

V PQ6 QZM 1137 AR

V 5G7 QZM 1137 AR

V 98N QZM 1137 AR

6320. PLAINDRESS, ABBREVIATED FORM PROCEDURE

6321. When speed of transmission is all-important such as in enemy reports, short signals from aircraft, and tactical messages, one or all of the following are normally omitted:

- a. The group count.
- b. The date.
- c. The time group, either in address or message ending; in some cases, in both.

The result is *abbreviated form*, and the transmission is said to be by *abbreviated form procedure*. Receipts (if required) for transmissions by abbreviated form procedure are usually preceded by an abbreviated call—for example, **V A2D R AR**. However, the call preceding a receipt should not be abbreviated when there is possibility that an operator hearing an abbreviated call (preceding a receipt) intended for another station might logically consider it to be intended for him.

Example A:

Signal to be receipted for by all ships addressed; 6F2 transmits signals LOVE UNCLE and BAKER QUEEN HOW to 2SN (collective call sign for KFR G94 MPQ and 6F2):

2SN V 6F2 BT LOVE UNCLE TACK BAKER QUEEN HOW BT 1020 K

Ships receipt in alphabetical order. Since these ships form a compact tactical unit the abbreviated call is normally employed when receipting, as follows:

V G94 R AR | If a repetition is required before giving a receipt, IMI
V KFR R AR | is used instead of R; and if a verification and repetition
V MPQ R AR | is required before giving a receipt, J is used instead of R.

6F2 makes no further transmission if all ships have receipted. Assuming, however, that KFR's response was V KFR IMI K instead of a receipt, and that MPQ's was V MPQ J K, 6F2, after first obtaining responses from all ships of his unit, transmits to KFR:

KFR V 6F2 - 2SN V 6F2 BT LOVE UNCLE TACK BAKER QUEEN
HOW BT 1020 K or
KFR V 6F2 - A - 6F2 - 2SN BT LOVE UNCLE TACK BAKER QUEEN
HOW BT 1020 K

KFR receives this transmission and responds:

V KFR R AR

6F2, having verified the message as requested, transmits a correct version to MPQ:

MPQ V 6F2 C 1020 - 2SN V 6F2 BT LOVE UNCLE TACK BAKER
QUEEN HOW BT 1020 K or
MPQ V 6F2 C - A - 6F2 - 2SN BT LOVE UNCLE TACK BAKER
QUEEN HOW BT 1020 K

MPQ receives this transmission and responds:

V MPQ R AR

Example B:

If it is necessary to obtain a repetition of any part of a signal, the repetition of the entire signal, or component parts separated by TACK, shall invariably be requested. Assuming in the aforementioned example that KFR missed the group QUEEN and therefore needed a repetition of the second signal only, KFR then transmits:

V KFR IMI AA TACK K

6F2 responds:

V 6F2 AA TACK - BAKER QUEEN HOW BT 1020 AR (or K if receipt is desired)

Example C:

No receipts are desired for signal transmitted to tactical unit. 6F2 transmits signal GEORGE BAKER to 2SN:

2SN V 6F2 1315 BT GEORGE BAKER BT AR

While no ship may receipt, requests for repetition or for verification and repetition may be transmitted.

Example D:

Signal to tactical unit to be receipted for by the two division commanders 6F2 and PW6, is transmitted to K49 by BF6:

K49 V BF6 BT LOVE XRAY BT 0935 - PW6 6F2 K

PW6 and 6F2 transmit:

V PW6 R AR } (or IMI or J, instead of R, as appropriate)
V 6F2 R AR }

Example E:

Signal to be relayed to the two divisions by their respective division commanders on division frequencies is transmitted to PW6 and 6F2 by BF6:

**PW6 6F2 V BF6 QNL - A - BF6 141Ø K49 ODP 2SN BT SUGAR ROGER
BT K**

Division commanders receipt:

V PW6 R AR
V 6F2 R AR } (or **IMI** or **J**, instead of **R**, as appropriate)

Division commanders immediately relay to their respective divisions. PW6, for example, transmits to ODP (and desires receipt):

ODP V PW6 - A - BF6 141Ø K49 ODP 2SN BT SUGAR ROGER BT K

Ships in ODP receipt in alphabetical order at once:

V PQ6 R AR
V 5G7 R AR
V 98N R AR

Although PW6 is included in the collective call sign ODP, and is assumed to be the flagship of this unit, there obviously need be no radio receipt from the transmitting ship.

Example F:

Message to be acknowledged but not received for:

6F2 transmits to 2SN, requiring an acknowledgment from each ship addressed:

2SN V 6F2 QZM BT PROCEED ON DUTY ASSIGNED BT 1225 AR

6F2, when ready to receive acknowledgments, transmits:

2SN V 6F2 INT QZM 1225 K

Ships called acknowledge:

V G94 QZM 1225 AR
V KFR QZM 1225 AR
V MPQ QZM 1225 AR } (in alphabetical order)

Example G:

Signal to be acknowledged by division commanders but not to be received for:

BF6 transmits to K49 and requires acknowledgments from PW6 and 6F2:

K49 V BF6 QZM PW6 6F2 BT LOVE XRAY BT AR

BF6, when ready to receive acknowledgments, transmits:

PW6 6F2 V BF6 INT QZM K

Division commanders transmit acknowledgments:

V PW6 QZM AR
V 6F2 QZM AR

6330. THE EXECUTIVE METHOD

6331. Use of executive method.—The executive method is used when it is desired to execute a signal at a certain instant; for example, to insure that two or more units take action at the same moment. While the executive method is usually associated with signals, it may be used for dispatches and for some procedure messages, such as for synchronizing clocks.

6332. Use of \overline{IX} (execute to follow) and \overline{IX} (5-second dash) (executive signal).—

a. Only abbreviated form plaindress messages may be made by the executive method

b. A message which requires a signal of execution carries the prosign \overline{IX} immediately before the first \overline{BT} .

c. The signal of execution is known as the executive signal and consists of \overline{IX} followed by a 5-second dash. The instant of execution is the END of the 5-second dash.

d. Executive method messages may or may not carry the time group. The date and group count are never used.

e. The executive signal \overline{IX} (5-second dash), when transmitted by radio, shall always be preceded by a call.

Examples:

Message:

**6F2 V BF6 1248 \overline{IX} \overline{BT} FLAGSHIPS FIRE SPECIAL ROCKETS X
CARRY OUT PLAN ZEBRA \overline{BT} K**

Receipt:

V 6F2 R \overline{AR}

Executive signal:

1. **6F2 V BF6 1248 \overline{IX} (5-second dash) \overline{AR} .** The time-of-origin group (1248) need not always be included in executing.

2. To execute "CARRY OUT PLAN ZEBRA" only, the transmission would be: **6F2 V BF6 - CARRY OUT PLAN ZEBRA - \overline{IX} (5-second dash) \overline{AR}**

NOTE.—The substitution of the space sign for \overline{BT} 's shows that CARRY OUT PLAN ZEBRA is a portion of a message awaiting execution and not a fresh message.

3. When ready to execute the remaining portion, the procedure shown in (1) above would be used.

f. If there is any doubt about the correct reception of a message, a repetition of the complete message must be obtained, thus:

V 6F2 \overline{IMI} K

g. \overline{IX} (5-second dash) alone after a call means, "Execute all unexecuted messages which I have transmitted." \overline{IX} may be repeated a few times awaiting the transmission of the 5-second dash.

h. A message shall be identified before executing it, if:

1. It is one of several unexecuted messages which have been preceded by \overline{IX} , and this one only is to be executed at that time.

2. A considerable time has elapsed between the transmission of message and time to execute.

6333. Verifications and corrections.—

a. Verification of a message made by the Executive Method is requested as follows:

Example:

1. V 6F2 J (followed by identification data if necessary) K
2. V BF6 R \overline{AR}

b. If the message as originally transmitted is found to be correct, the stations requesting the verification are informed as follows:

Example:

V BF6 C – (original message) K

c. If the message is found to be incorrect it must be annulled to all addressees and a new message transmitted.

6334. Annulling messages.—

- a. Once the executive signal has been made, a message cannot be annulled.
- b. An executive method message awaiting execution can be annulled by a further message.
- c. To annul all messages awaiting execution, the group NEGAT is transmitted.

Example:

6F2 V BF6 \overline{BT} NEGAT \overline{BT} K (or \overline{AR})

d. To annul only one, or a portion of several messages awaiting execution, the group NEGAT must be followed by identification data such as the time group if used, or preferably a repetition of the text which it is desired to annul.

Example:

The following message is awaiting execution:

6F2 V BF6 \overline{IX} \overline{BT} LAY SMOKE SCREEN CARRY OUT PLAN ZEBRA
 \overline{BT} K

To annul "CARRY OUT PLAN ZEBRA," BF6 transmits:

6F2 V BF6 \overline{BT} NEGAT CARRY OUT PLAN ZEBRA \overline{BT} K (or \overline{AR})

e. When a message is awaiting execution and a portion of it has been annulled or executed, only the remainder of that message is considered to be outstanding.

f. If BF6 desires to annul one or more of several *signals* awaiting execution (or non-executive signals on which action has not been taken) without annulling the others, each signal to be annulled is preceded by NEGAT. Assume that BF6 has sent to 6F2 the following:

6F2 V BF6 \overline{IX} \overline{BT} SUGAR BAKER TACK DOG GEORGE \overline{BT} \overline{AR}
6F2 V BF6 \overline{IX} \overline{BT} TURN SIX \overline{BT} \overline{AR}
6F2 V BF6 \overline{IX} \overline{BT} XRAY FOX CHARLIE TACK LOVE UNCLE \overline{BT} \overline{AR}

BF6, desiring to annul "SUGAR BAKER", "DOG GEORGE", and "LOVE UNCLE" transmits:

6F2 V BF6 \overline{BT} NEGAT SUGAR BAKER TACK NEGAT DOG GEORGE
TACK NEGAT LOVE UNCLE \overline{BT} K (or \overline{AR})

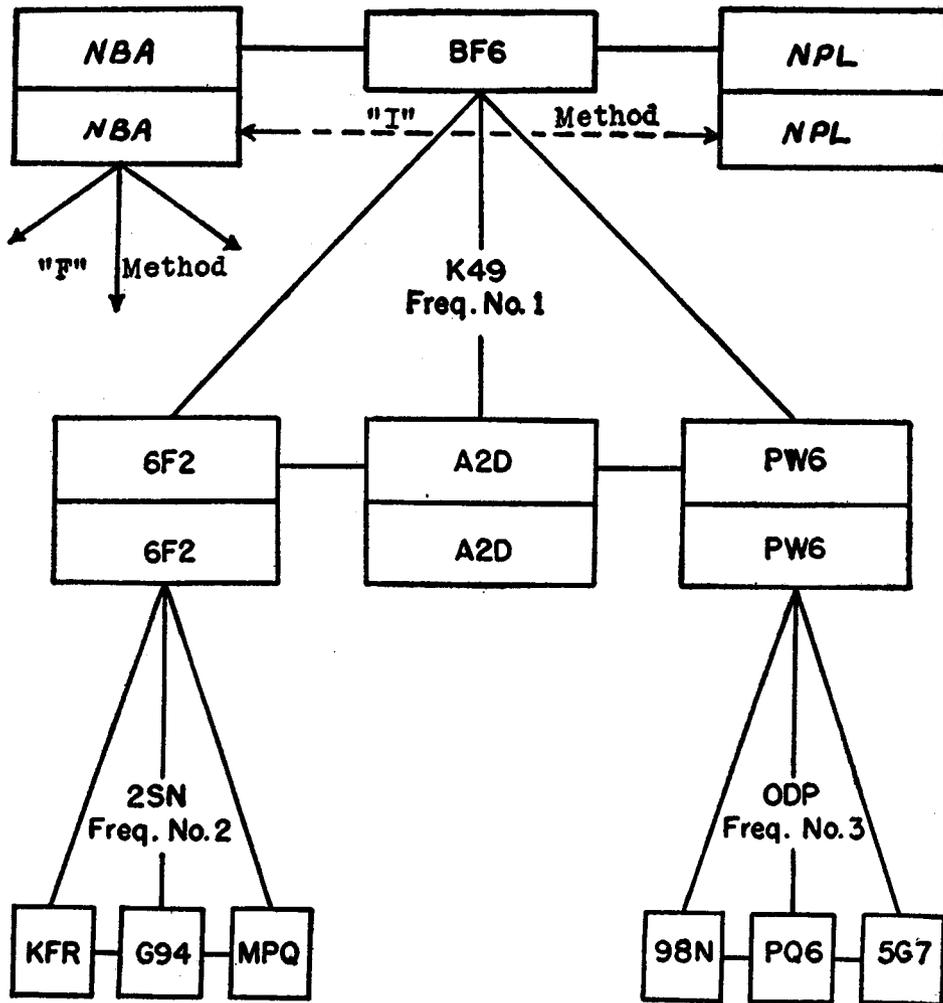
When ready to execute the remaining signals, BF6 sends:

6F2 V BF6 \overline{IX} (5-second dash) \overline{AR}

This is the signal of execution for "TURN SIX" and "XRAY FOX CHARLIE."

6335. Other special procedures to be used in radiotelegraph communications between a firing ship and her aircraft, and for *lost plane* and *homing* are contained in confidential fleet publications.

PLATE 1-6.—THE ORGANIZATION SHOWN IS USED AS A BASIS FOR ALL EXAMPLES IN THIS SECTION



Collective call sign:

K49.....	A2D, BF6, PW6, 6F2
ODP.....	PQ6, PW6, 5G7, 98N
2SN.....	G94, KFR, MPQ, 6F2

Includes:

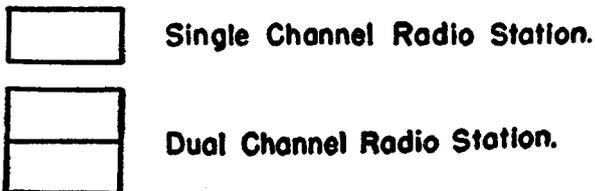


Plate 2-6—PLAINDRESS-NORMAL FORM

I	Heading										Text	Message Ending			Ex-ample num-ber. See notes oppo-site				
	Call	Preamble		Address						Message Instructions		Long break	Date-time	Final inst.		End-ing sign			
II*	Serial No.	Precedence	Trans. inst.	Orig. sign	Date-time	Action call sign(s)	Info. sign	Info. call sign(s)	Ex-empt sign	Ex-empt call sign(s)	Op-r. sigs.	Group count	Long break	Subject (matter)	Long break	Date-time	Final inst.	End-ing sign	
	6F2 V BF6											GR9	BT	TEXT	BT	311516		K	1
	PQ6 5G7 V PW6	- OP -										GR11	BT	TEXT	BT	162231		K	2
	2SN V 6F2	- P -										GR13	BT	TEXT	BT	261627	B	K	3
	BF6 V A2D		- G -									GR10	BT	TEXT	BT	121759		K	4
	98N V PW6		- F -									GR16	BT	TEXT	BT	271545	IMI	AR	5
	98N V PW6		- F -									GR16	BT	TEXT	BT	271545		K	6
	6F2 V BF6			- A -	280125		- W -	6F2				GR14	BT	TEXT	BT	280125		K	7
	PW6 6F2 V BF6			- A -	151617	6F2	- W -	PW6				GR20	BT	TEXT	BT	151617		K	8
	6F2 V BF6	- D	- T	- A -	161345	KFR						GR15	BT	TEXT	BT	161345		K	9
	KFR V 6F2	- D		- A -	161345	KFR						GR15	BT	TEXT	BT	161345		K	10
	A2D 6F2 V BF6		- 6F2 - T - MPQ	- A -	231712	A2D MPQ 6F2						GR22	BT	TEXT	BT	231712		K	11
	MPQ V 6F2			- A -	231712	A2D MPQ 6F2						GR22	BT	TEXT	BT	231712		K	12
	K49 - N - 6F2 V BF6	- O		- A -	141340	A2D	- W -	PW6				GR65	BT	TEXT	BT	141340		K	13
	A2D 6F2 V BF6	- P	- 6F2 - T - 2SN - N - KFR	- A -	301615	6F2	- W -	A2D 2SN	- N -	KFR		GR12	BT	TEXT	BT	301615		K	14
	G94 MPQ V 6F2	- P		- A -	301615	6F2	- W -	A2D 2SN	- N -	KFR		GR12	BT	TEXT	BT	301615	MPQ	K	15
	K49 V BF6		- PW6 - T - ODP - 6F2 - T - 2SN	- A -	030306	K49	- W -	ODP 2SN				GR26	BT	TEXT	BT	030306		K	16
	A2D 6F2 V BF6	- P - A2D	- 6F2 - T - M - A2D	- A -	191416	A2D	- W -	KFR MPQ 6F2				GR32	BT	TEXT	BT	191416		K	17
	K49 V BF6	- P - KFR 6F2 - D -	6F2 - T - 2SN	- A -	230930	6F2	- W -	A2D PW6 2SN				GR23	BT	TEXT	BT	230930		K	18
	NBA V NPL	- D -	T - 2SN	- A -	061018	K49	- W -	ODP 2SN			- QIR	GR83	BT	TEXT	BT	061018		K	19
	PW6 V BF6	- P -	QNL	- A -	131114	G94	- W -	ODP				GR24	BT	TEXT	BT	131114		K	20

*NOTE.—Component parts of the message.

NOTES ON EXAMPLES SHOWN ON PLATE 2-6

E.—Refer to Plate 1-6 for stations included in collective call signs and organization.

Examples

1. **Best type of normal form.** The call serves as the address. Operational priority message to two action addressees. Priority message to three action addressees covered by a collective call sign **B** in final instructions indicates, "More to follow." **G** instructs receiving operator to repeat back the message. **F** broadcast (F) message with serial number. The message is being transmitted between the two transmissions.

2. **MI** between the two transmissions. Message originated by BF6 for one information addressee 6F2. Repeated by BF6 for two addressees, 6F2 for action, PW6 for information. Deferred (D) message to be retransmitted by 6F2 to KFR for action. Same message in 8 as transmitted by 6F2 to KFR. Multiple-call message to three action addressees A2D, MPQ and 6F2 containing for 6F2 to retransmit to MPQ.

3. **Urgent (O) message.** K49 is a collective call sign from which 6F2 is exempted. Stations are called, one of which, 6F2, is instructed to retransmit to two out of three stations covered by the collective call sign 2SN; the third of the three stations is exempt (KFR). The addressees are indicated by the same method. Q is told to receipt. This also indicates that G94 is not to receipt until instructed.

4. **Collective call sign.** Two of the stations covered by it, PW6 and 6F2, are instructed to retransmit the message to three other stations covered by the collective call sign 2SN, respectively. The action and information addressees are indicated by call signs.

5. **Strating dual precedence.** The message is priority to A2D and routine to the addressees KFR, MPQ and 6F2. In the transmission instructions, 6F2 is to transmit to all addressees except A2D.

6. **Strating dual precedence.** The message is priority to KFR and 6F2 and deferred to addressees.

7. **Strating basegram, as indicated by operating signal QIR** appearing in the instructions. Radio Balboa is directed to deliver to 2SN by basegram method. **Strating use of operating signal in the transmission instructions.** PW6 is relay to addressees for whom he is responsible, by the operating signal QNL.

NOTES ON EXAMPLES SHOWN ON PLATE 2-6

GENERAL NOTE.—Refer to Plate 1-6 for stations included in collective call signs and organization.

Examples

1. Simplest type of normal form. The call serves as the address.
2. An operational priority message to two action addressees.
3. A priority message to three action addressees covered by a collective call sign 2SN. Prosign **B** in final instructions indicates, "More to follow."
4. Prosign **G** instructs receiving operator to repeat back the message.
5. A broadcast (F) message with serial number. The message is being transmitted twice with **IMI** between the two transmissions.
6. A message originated by BF6 for one information addressee 6F2.
7. Originated by BF6 for two addressees, 6F2 for action, PW6 for information.
8. A deferred (D) message to be retransmitted by 6F2 to KFR for action.
9. The same message in 8 as transmitted by 6F2 to KFR.
10. A multiple-call message to three action addressees A2D, MPQ and 6F2 containing instructions for 6F2 to retransmit to MPQ.
11. The message in 10 as transmitted by 6F2 to MPQ.
12. An urgent (O) message. K49 is a collective call sign from which 6F2 is exempted (N).
13. Two stations are called, one of which, 6F2, is instructed to retransmit to two out of three stations covered by the collective call sign 2SN; the third of the three stations is exempted (- N - KFR). The addressees are indicated by the same method.
14. MPQ is told to receipt. This also indicates that G94 is not to receipt until instructed to do so.
15. K49 is a collective call sign. Two of the stations covered by it, PW6 and 6F2, are each instructed to retransmit the message to three other stations covered by the collective call signs ODP and 2SN, respectively. The action and information addressees are indicated by collective call signs.
16. Illustrating dual precedence. The message is priority to A2D and routine to the information addressees KFR, MPQ and 6F2. In the transmission instructions, 6F2 is instructed to transmit to all addressees except A2D.
17. Illustrating dual precedence. The message is priority to KFR and 6F2 and deferred to all other addressees.
18. Illustrating basegram, as indicated by operating signal QIR appearing in the message instructions. Radio Balboa is directed to deliver to 2SN by basegram method.
19. Illustrating use of operating signal in the transmission instructions. PW6 is directed to relay to addressees for whom he is responsible, by the operating signal QNL.

Heading

Call	Preamble			Address					
	Serial No.	Precedence	Trans. inst.	Orig. sign	Date-time	Action call sign(s)	Info. sign	Info. call sign(s)	
6F2 V BF6					311516				
PQ6 5G7 V PW6		- OP -			162231				
2SN V 6F2		- P -			261627				
BF6 V A2D			- G -		121759				
98N V PW6	NR32		- F -		271545				
98N V PW6	NR32		- F -		271545				
6F2 V BF6				- A -	280125		- W -	6F2	
PW6 6F2 V BF6				- A -	151617	6F2	- W -	PW6	
6F2 V BF6		- D	- T	- A -	161345	KFR			
KFR V 6F2		- D		- A -	161345	KFR			
A2D 6F2 V BF6			- 6F2 - T - MPQ	- A -	231712	A2D MPQ 6F2			
MPQ V 6F2				- A -	231712	A2D MPQ 6F2			
K49 - N - 6F2 V BF6		- O		- A -	141340	A2D	- W -	PW6	
A2D 6F2 V BF6		- P	- 6F2 - T - 2SN - N - KFR	- A -	301615	6F2	- W -	A2D 2S	
G94 MPQ V 6F2		- P		- A -	301615	6F2	- W -	A2D 2S	
K49 V BF6			- PW6 - T - ODP - 6F2 - T - 2SN	- A -	030306	K49	- W -	ODP 2S	
A2D 6F2 V BF6		- P - A2D	- 6F2 - T - M - A2D	- A -	191416	A2D	- W -	KFR MI 6F2	
K49 V BF6		- P - KFR 6F2 - D -	6F2 - T - 2SN	- A -	230930	6F2	- W -	A2D PW 2SN	
NBA V NPL	NR78	- D -	T - 2SN	- A -	061018	K49	- W -	ODP 2S	
PW6 V BF6		- P -	QNL	- A -	131114	G94	- W -	ODP	

*NOTE.—Component parts of the message.

Plate 3-6.—PLAINDRESS—ABBREVIATED FORM

I	Heading													Message Ending			Ex-ample num-ber. See notes oppo-site					
	Call	Preamble			Address						Message Instructions			Text	Long break	Date-time		Fl. inst.	End-ing sign			
II*	Call	Serial No.	Precedence	Trans. inst.	Orig. sign	Orig. call sign	Date-time	Action call sign(s)	Info. sign	Info. call sign(s)	Ex-empt sign	Ex-empt call sign(s)	Opr. sigs.	Group count	Long break	Text	Long break	Date-time	Fl. inst.	End-ing sign		
	A2D V BF6		- O -												BT	TEXT	BT			K	1	
	A2D 6F2 V BF6		- P -												BT	TEXT	BT	1145		K	2	
	BF6 V 6F2						1914								BT	TEXT	BT			K	3	
	A2D V 6F2		- OP -				1427								BT	TEXT	BT	1427		K	4	
	A2D 6F2 V BF6												GR32		BT	TEXT	BT	0105		K	5	
	6F2 V MPQ						2347						GR16		BT	TEXT	BT			K	6	
	K49-N-A2D V BF6														BT	TEXT	BT	0730		K	7	
	6F2 V BF6			- G -			241845								BT	TEXT	BT			K	8	
	98N V PW6			- F -											BT	TEXT	BT	1032		AR	9	
	A2D 6F2 V BF6		- P - 6F2 - D -	6F2 - T - KFR	- A -	BF6	1615	6F2	- W -	A2D KFR					BT	TEXT	BT	1615		K	10	
	6F2 V BF6		- P - 6F2	- T	- A -	BF6		- 6F2	- W -	KFR MPQ			GR37		BT	TEXT	BT	1614	B	K	11	
	A2D V BF6														BT	TEXT	BT			K	12	
	6F2 V KFR		- O -	T	- A -	KFR		- BF6								J 1155				K	13	
	98N V PW6		- OP -										QZM		BT	PREP QUEEN ROGER	BT			K	14	
																					15	
																						16
																						17
																						18
																						19

*NOTE.—Component parts of the message.

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NOTES ON EXAMPLES SHOWN ON PLATE 3-6

NOTE.—Refer to Plate 1-6 for stations included in collective call signs and organization.

Examples

Example 1.—A2D V BF6 is the least type of abbreviated form. The call serves as the address. A2D 6F2 V BF6 is a priority message to two action addressees; illustrating use of time group in message.

Example 2.—BF6 V 6F2 is illustrating use of time group in the address. A2D V 6F2 is illustrating operational priority illustrating use of time group in both address and message.

Example 3.—A2D 6F2 V BF6 is illustrating the use of GR and group count; the time group appearing in the address. 6F2 V MPQ is illustrating the use of GR and group count; the time group appearing in the message.

Example 4.—K49-N-A2D V BF6 is a collective call sign serving as the address. A2D is exempted from the call.

Example 5.—98N V PW6 instructs the receiving operator to repeat back the message.

Example 6.—A2D 6F2 V BF6 instructs the receiving operator not to answer or receipt for the message. The message is priority to 6F2 and deferred to the addressees, A2D and KFR. 6F2 is directed to transmit to KFR.

Example 7.—6F2 V BF6 is illustrating dual precedence. The message is priority to 6F2 and routine to action addressees, KFR and MPQ. Station called, 6F2, is directed to transmit.

Example 8.—A2D V BF6 is a routine message without time group. The call serves as the address.

Example 9.—6F2 V KFR is an urgent procedure message. The action addressee, BF6, is requested to verify message 1155. Station called, 6F2, is directed to transmit to action addressee.

Example 10.—98N V PW6 is illustrating a message to be acknowledged, as indicated by the operating signal in the message instructions.

Heading

Call	Preamble			Address						Me			
	Seri- al No.	Pre- ced- ence	Trans. inst.	Orig. sign	Orig. call sign	Date- time	Action call sign(s)	Info. call sign(s)	Info. call sign(s)		Exempt call sign	Exempt call sign(s)	Op- sig
A2D 6F2 V BF6													
K49 V BF6													
6F2 V BF6						1341							
V 6F2													
V BF6													
6F2 V BF6													
K49 V BF6													
6F2 V BF6													
6F2 V BF6													
2SN V 6F2													QZ

NOTES ON EXAMPLES SHOWN ON PLATE 4-6.—

GENERAL NOTE: Refer to Plate 1-6 for stations included in collective call signs and organization.

Examples

1. Simplest form of executive method. Two stations called, A2D and 6F2, are given the Executive to Follow prosign in the message instructions of the message FT RN.
2. As in 1, except that the test is repeated by the use of IMI.
3. Illustrating the use of the time group in the address.
4. 6F2 requests a verification and repeat of the message sent him in 3.
5. BF6 sends a corrected version of 3 to 6F2, in reply to J sent in 4.
6. Illustrating the use of the executive signal in the final instructions.
7. As in 6, message is transmitted and executed in one transmission.
8. Illustrating the use of plain language by the executive method.
9. An abbreviated form message annulling a portion of 8.
10. Message to be acknowledged as indicated by the operating signal QZM* appearing in the message instructions.

*QZM is assumed to mean, "Request you acknowledge message———."

6340. F AND I METHOD PROCEDURE

6341. Transmission of messages by F and I methods normally requires:

- a. That the entire heading, except the call in I method transmissions, be transmitted "words twice."
- b. That texts, clear or encrypted, be transmitted "words once."
- c. That speed of transmission does not exceed 18 wpm.

6342. It is essential that all stations scheduled to transmit F or I method at definite times should commence their transmissions on time. To insure this, each station, prior to commencing a schedule, shall normally make a preliminary series of V's and its own call sign for about 5 minutes before each scheduled time. These preliminary transmissions should enable all receiving stations to be properly tuned in when the schedule commences.

6343. Stations which broadcast by the F method on a continuous basis and using automatic transmitting equipment, will run a standby tape during the time no traffic is on hand for transmission. This tape consists of the call sign of the transmitting station followed by spaced dots, and will run through the keying head continuously while the circuit is idle.

6344. When there is no traffic for a scheduled F or I method transmission period, the serial number of the last message previously transmitted should be repeated.

6345. A station transmitting a long message (over 100 groups) by F or I method may pause for a few seconds after each 100 groups. The pause is indicated by the transmission of the prosign B followed by the number of groups transmitted thus far, and \overline{AS} . After a short pause, the length of which is determined by local instructions, transmission is resumed, commencing with the number of the next group.

Example:

Transmitting station pauses after 100th group:

* * * ITWZE NFLHD YESJG - B 100 \overline{AS}

After pause, transmitting station resumes:

101 - LJDRC RDXHK PLZVF etc.

a. When transmitting exceptionally long F or I method messages, even though there is no pause after each 100 groups, the shore station shall usually indicate the 100th group, 200th group, etc., by transmitting the group number, within parentheses, immediately after completing transmission of the group thus indicated. These figures and parentheses are not counted in the group count, as they are inserted by operators and not drafted into the text by the originator. Such numbers should not be used if there is any possibility of confusing them with the text.

6346. If it is known in advance that a station scheduled to transmit by F or I method cannot render this service, notice shall be given, if practicable, to all concerned, indicating the probable time of next schedule.

6347. If a station scheduled for an F or I method transmission at a definite time is unable to transmit as scheduled, and no notice has been delivered to those concerned of such inability, stations which are required to copy the scheduled transmission shall continue to listen for one-half hour after the scheduled time. If transmission has not then been started, stations will continue to listen on alternate frequencies, if any, or to an alternate station, if any, until reception is resumed, or until the next regularly scheduled transmission. In the absence of alternate frequencies or alternate transmitting station, the stations required to copy may, after one-half hour, secure until the next regularly scheduled broadcast.

6348. If a station which broadcasts F method on a continuous basis and normally keys several transmitters simultaneously, fails to transmit on any particular frequency, the stations required to copy the transmission shall listen on alternate frequencies until normal reception is resumed.

6349. The following general instructions govern F and I method transmissions by shore stations using automatic equipment:

a. The prosign **AR** will be used at the end of each message to indicate completion of transmission of that message.

b. The operating signal **QRU**, meaning, "I have nothing for you" shall be used to indicate the end of a scheduled F method transmission.

c. To correct errors during transmission the error sign shall be made by hand, followed by a repetition of the last group correctly transmitted. This group will be followed by the group in which the error was made, **IMI**, repetition of the group in which error was made, continuing by hand sending to include the next succeeding group, **IMI**, and resumption of transmission by tape, repeating the last group transmitted by hand.

Example:

—————**HAND SENDING**—————

EXABQ TUNA EEEEEEEE EXABQ TUMAS IMI TUMAS XEPQG IMI XEPQG LATUP
etc.

Unless an error is detected and the error sign transmitted so that not more than three groups appear between the error sign and the defective group, correction shall be made by the use of C upon completion of the message. (See art. 6218b.)

d. Before resuming the transmission of a message after it has been interrupted, for any reason, a definite indication showing the point at which transmission will be resumed must first be transmitted.

Example:

Transmission of NR 641 is interrupted in order to transmit a message of higher precedence:

XEPWQ LATHY BGGXT BQT - QJZ* - OP - AS (pause) **NR 642** etc.

When ready to resume transmission of the message which had been interrupted:

NERK NERK V NBA NBA QJZ* NR 641 AA 5Ø etc.

e. In any case of interrupted transmission it is of the utmost importance that transmission be resumed at a point sufficiently far back to preclude any possibility of loss of reception by units guarding the schedule.

**QJZ is assumed to mean "Stand by."*

6350. F METHOD BY A SHORE STATION

6351. The following example illustrates the proper employment of the F method by a shore station which regularly transmits schedules to the fleet. The prosign F is not required when a shore station regularly transmits F method schedules to the fleet.

Example:

Shore station NBA has three messages to transmit on next regular schedule. The last serial number sent on the preceding schedule was NR 58. About 5 minutes before the time of next scheduled transmission, NBA transmits VVVVV NBA VVVVV NBA VVVVV, etc., until scheduled time to permit all stations concerned to adjust receivers and be ready to copy messages. Then, precisely at the prescribed time, *with messages arranged in order of precedence*, the schedule begins:

**NERK NERK*V NBA NBA NR B59 NR B59 - P P - A A - 6F2 6F2
 091951 091951 G94 G94 GR 17 GR 17 BT text BT 091951 AR NR
 B60 NR B60 - A A - A2D A2D 091852 091852 PW6 PW6 5G7 5G7
 GR22 GR22 BT text BT 091852 AR NR B61 NR B61 - D D -
 A A - BF6 BF6 091755 091755 6F2 6F2 - W W - MPQ MPQ GR 19
 GR 19 BT text BT 091755 QRU AR**

*NERK is assumed to be the call sign for "Any or All U. S. Naval Ships."

6360. I METHOD BY SHORE STATIONS

6361. When shore stations regularly deliver messages to ships by I method, each message carries an I method serial number and station-distinguishing word or letter, in order to enable ships to detect and obtain missing messages. I method numbers shall run consecutively from 1 to 999, after which a new series shall be started. Station-distinguishing words or letters are appended to the serial number and become a part thereof, for identification purposes. These words or letters are usually assigned by the Chief of Naval Operations.

6362. The introducing I method station places the I method number as the first item in the preamble. It is not changed on any retransmission nor does the retransmitting station assign any additional I method number and distinguishing word or letter. When the I method serial number is used, no other station serial number shall be carried.

6363. The use of the prosign G is not required to obtain "repeat back" as this shall be standard practice when shore stations regularly conduct I method schedules.

6364. I method shall be conducted by shore stations on the principles set forth below:

a. Station A, beginning exactly at the time set, will transmit for a period not exceeding 16 minutes, the regular fleet traffic on hand, in the order of precedence.

b. Upon completion of station A's transmission, station B will repeat back the traffic which station A has sent, indicating repetitions required because of parts missed, by inserting the appropriate operating signal to indicate the portions missed. Station B will then transmit its regular fleet traffic in the order of precedence, using such time as is required up to, but not exceeding, 40 minutes after the beginning of the schedule.

c. Station A then retransmits any messages or parts of messages which station B requires to have repeated; then corrects any errors made by station B in the repeat back of station A's traffic; and then repeats back all traffic which station B has placed on the schedule. If station A has missed parts of station B's original transmission, the missing parts will be

indicated in the same position they would have occupied had they been successfully received, by the use of the operating signal QVM.*

d. Station B then repeats back corrections to station A's traffic and corrects any errors made in station A's repeat back of station B's added traffic.

e. Station A then repeats back station B's corrections.

f. If at schedule time a station has no messages for transmission, only the serial number of the last message already transmitted shall be transmitted.

Example:

The following illustrates the proper conduct of I method communication by two shore stations (assumed to be NBA and NPL) regularly serving a large number of ships. By prearrangement, transmissions are made at scheduled times and NBA always transmits first. Messages introduced into the circuit through NBA carry BAKER serial numbers and messages introduced into the circuit through NPL carry KING serial numbers. The last messages transmitted bore serial numbers 228 BAKER and 287 KING.

FIRST SCHEDULE:

Precisely at the scheduled time, and assuming that neither shore station has a message to transmit, NBA begins:

NPL V NBA NR 228 BAKER NR 228 BAKER K

NPL transmits:

**NBA V NPL - NPL V NBA NR 228 BAKER NR 228 BAKER - NBA V NPL
NR 287 KING NR 287 KING K**

NBA transmits:

NPL V NBA C - NBA V NPL NR 287 KING NR 287 KING K

NPL transmits:

NBA V NPL C \overline{AR}

NBA then remains silent.

SECOND SCHEDULE:

Precisely at the scheduled time, and assuming that NBA has two messages arranged for transmission in order of precedence and NPL has one message awaiting transmission, NBA begins:

**NPL V NBA NR 229 BAKER NR 229 BAKER - P P - A A - BF6 BF6
031056 031056 A2D A2D 6F2 6F2 GR 15 GR 15 \overline{BT} text \overline{BT} 031056 \overline{AR}
NR 230 BAKER NR 230 BAKER - A A - PW6 PW6 031115 031115
98N 98N GR 25 GR 25 \overline{BT} text \overline{BT} 031115 K**

NPL transmits:

**NBA V NPL - NPL V NBA NR 229 BAKER NR 229 BAKER - P P - A A -
BF6 BF6 031056 031056 A2D A2D 6F2 6F2 GR 15 GR 15 \overline{BT} text \overline{BT}
031056 \overline{AR} NR 230 BAKER NR 230 BAKER - A A - PW6 PW6 031115
031115 98N 98N GR 25 GR 25 \overline{BT} text \overline{BT} 031115 \overline{AR} NBA V NPL
NR 288 KING NR 288 KING - A A - KFR KFR 031118 031118 6F2
6F2 GR 18 GR 18 \overline{BT} text \overline{BT} 031118 K**

NBA transmits:

**NPL V NBA C - NBA V NPL NR 288 KING NR 288 KING - A A - KFR
KFR 031118 031118 6F2 6F2 GR 18 GR 18 \overline{BT} text \overline{BT} 031118 K**

NPL transmits:

NBA V NPL C \overline{AR}

NBA remains silent.

*QVM is assumed to mean, "This message was incompletely received. Portions missed are indicated by the position of QVM in the message."

Section D. RADIOTELEPHONE PROCEDURE

6400. PURPOSE

6401. The radiotelephone procedure prescribed herein shall be used for all radiotelephone communication, including joint and combined. The use of matter shown in parentheses, as in examples, is optional.

6402. Phonetic alphabet.—

a. When necessary to identify any letter of the alphabet the standard phonetic alphabet is to be used. This alphabet is listed below:

Letter	Spoken as	Letter	Spoken as
A.....	ABLE	N.....	NAN
B.....	BAKER	O.....	OBOE
C.....	CHARLIE	P.....	PETER
D.....	DOG	Q.....	QUEEN
E.....	EASY	R.....	ROGER
F.....	FOX	S.....	SUGAR
G.....	GEORGE	T.....	TARE
H.....	HOW	U.....	UNCLE
I.....	ITEM	V.....	VICTOR
J.....	JIG	W.....	WILLIAM
K.....	KING	X.....	XRAY
L.....	LOVE	Y.....	YOKE
M.....	MIKE	Z.....	ZEBRA

b. The names of the flags are the same as the phonetic equivalents for the letters of the alphabet except in the case of the five governing flags—AFIRM, INTERROGATORY, NEGAT, OPTION, and PREP. Signals, even though transmitted by voice or telegraphic means, represent flag hoists and thus require the use of the *names* of the flags in all transmissions (art. 7440).

c. Difficult words will be spelled and the word will be spoken before and after the spelling.

Example:

**Catenary—I spell—Charlie Able Tare Easy Nan Able Roger Yoke—
Catenary**

6403. Pronunciation of numerals (figures).—

a. To distinguish numbers from words similarly pronounced the word “Numerals” or “Figures” may be used preceding such numbers where necessary.

b. When figures are transmitted by radiotelephone the following rules for their pronunciation will be observed:

Figure	Spoken	Figure	Spoken
0.....	Zero	5.....	Fi-yiv
1.....	Wun	6.....	Six
2.....	Too	7.....	Seven
3.....	Thuh-ree	8.....	Ate
4.....	Fo-wer	9.....	Niner

c. Numbers will be transmitted digit by digit, except that exact multiples of hundreds and thousands may be spoken as such. *Examples:*

Number	Spoken as	Number	Spoken as
44.....	Fo-wer Fo-wer	1478.....	Wun Fo-wer Seven Ate
90.....	Niner Zero	7000.....	Seven Thow-zand
136.....	Wun Thuh-ree Six	16000.....	Wun Six Thow-zand
500.....	Fi-yiv Hun-dred	812681.....	Ate Wun Too Six Ate Wun

6404. Operating signals.—Operating signals are primarily designed for other than radiotelephone transmissions. They may be used where applicable, but normally the information should be conveyed in a concise procedure message.

6405. Station identification.—Call signs used in examples throughout this section are fictitious and do not necessarily represent any particular type of call sign.

6406. Definitions.—

a. Response.—The term “response” includes any of the following:

1. An *answer* is the transmission made by a station called, in response to the transmission received.
2. An *acknowledgment* is a separate message from the addressee informing the originator that his message has been received and is understood.
3. A *receipt* is a communication sent by the receiving station indicating that the message or other transmission has been satisfactorily received by that station.
4. A *reply* is a message originating out of, referring to, or replying to a question asked in a prior message.

b. Call signs.—Throughout this section, the term “call sign” is to be read to include delivery groups, address signs, and British Army code signs.

c. “-”.—Throughout this publication “-” represents a typical pause between normal phrases.

d. “ø”.—The character “ø” as used in this section designates the arabic digit 0.

e. Proword.—A word or phrase normally used to represent a prosign will be referred to as a “proword” throughout this section.

f. Throughout this section the use of matter shown in parentheses is optional.

g. The word “hullo” is commonly used within certain British Services, and it may appear on combined circuits. It is not shown in this section.

6407. Precedence (priority). Table of precedence prowords.—The prowords listed in order of precedence are as follows:

<i>U. S. terminology</i>	<i>British terminology</i>
Enemy Contact.....	
Urgent.....	{ Most Immediate Emergency Enemy Aircraft Emergency
Operational Priority.....	Immediate
Priority.....	Important
Routine.....	Routine
Deferred.....	Deferred

6408. Opening and closing transmissions.—Any person using radiotelephone must invariably make the necessary call and close every transmission with the prowords “Over” or “Out” in order that others may know that an answer is expected or that none is required.

6410. COMPONENT PARTS OF A MESSAGE

6411. Composition.—Every radiotelephone message is composed of three basic parts: the "Heading," the "Text," and the "Ending."

6412. The heading.—

a. The call.—The call of a radiotelephone message may take one of the following forms:

Full call:	<i>Examples</i>
Call sign receiving station.....	Able Baker
This is.....	This is
Call sign station calling.....	Peter Three
Abbreviated call:	
Call sign of the calling..... station omitted.	Able Baker
or	
Call sign of the called..... station omitted.	This is Peter Three

b. Precedence (priority).—Precedence designations are seldom used in radiotelephone messages, but if used will be spoken in clear as the last part of the call, for example: "Able Baker - This is Peter Three - Urgent"

c. Transmission instructions.—If necessary and where relay is involved, concise instructions to the receiving station as to the handling of the message may be included.

d. Address.—An address may be used if required. It is to be transmitted in the form:

Originator——Action——Information——.

If the address includes a date-time group, this is to be preceded by the proword "Time."

e. Group count.—The number of groups, if sent, will be preceded by the proword "Groups," immediately before the text.

6413. The text.—

- a.* The text may consist of plain language, code words, code or cipher groups, or figures.
- b.* If it is necessary to spell out a word, the phonetic alphabet will be used.
- c.* The proword "Acknowledge," when used, will become the last part of the text.
- d.* The proword "Break" may be used to separate the text from other parts of the message.

6414. The ending.—

a. Every transmission will end with either "Over" or "Out."

Example A:

Call	Shoeblock - This is Dano ——
Text	Does enemy force include tanks ——
Ending	Over

Example B:

Call	Dano—This is Shoeblack—
Text	Yes in limited numbers—
Ending	Out

b. The time group when employed will become part of the message ending and will be expressed as four digits, using the 24-hour system, preceded by the proword "Time." When necessary the two digits representing the date may be prefixed to the time group. When a time appears as last part of a text and a time group also appears as a part of the message ending, the message ending will be separated from the text by the proword "Break" (art. 6413d).

6420. PROWORDS

6421. General.—The use of prowords is limited to those listed in this section. Certain of these prowords are the approximate equivalent of the prosign authorized for use in radiotelegraph and are so indicated.

6422. Prowords.—The following prowords are authorized for general use:

<i>Prowords</i>	<i>Meaning</i>
Acknowledge.....	Used between originator and addressee: "Let me know that you have received and understand this message."
All after.....	Used in conjunction with verification, repetition, and correction to indicate portion of message. (Equivalent to AA.)
All before.....	Used in conjunction with verification, repetition, and correction to indicate portion of message. (Equivalent to AB.)
Break.....	"I hereby indicate the separation of the text from other portions of the message." To be used when there is no clear distinction between the text and other portions of the message. (Equivalent to <u>BT</u> .)
Correction.....	"An error has been made in this transmission (or message indicated). The correct version is _____."
Disregard this transmission.....	To be followed by "Out" and means: "This transmission is in error. Disregard it." Must not be used to cancel any message that has been completely transmitted.
Do not answer.....	"Stations called are not to answer this call or to receipt for this message, or otherwise to transmit in connection with this transmission." (Equivalent to F.)
Figures.....	"Figures or numerals follow."
Groups.....	"The number of groups in this message is _____." (Equivalent to GR.)
How do you hear me?.....	"How do you hear me?"
I read back.....	"The following is my response to your instruction to read back."
I say again.....	"I say again." (Equivalent to <u>IMI</u> .)
I spell.....	"I spell."
Message for.....	"I wish to transmit a message to _____."
Numerals.....	"Numerals or figures follow."

<i>Prowords</i>	<i>Meaning</i>
Out.....	"This is the end of my transmission to you and no answer is required or expected." (Equivalent to <u>AR</u> .)
Over.....	"Go ahead; transmit. This is the end of my transmission to you and a response is necessary." (Equivalent to K.)
Read back.....	"Repeat this entire transmission back to me exactly as received after I have given 'Over'." Followed by identification data means "Repeat the portion of this transmission indicated exactly as received."
Relay to.....	"Transmit this message to the station indicated." (Equivalent to T.)
Roger.....	"I have received your last message." (Equivalent to R.)
Say again.....	"Say again all of your last transmission." Followed by identification data means "Say again message or portions indicated." (Equivalent to <u>IMI</u> .)
Send your message.....	"Send your message."
Silence.....	"Cease radiotelephone transmission immediately until message which follows has been transmitted." Where an authentication system is in force, a station must always authenticate itself when the proword "Silence" is used.
	NOTE.—To be used only by control station except in emergency.
Speak slower.....	"Speak slower."
Stand by to write.....	"A message which will require a permanent record is about to follow."
That is correct.....	"You are correct."
This is.....	"This transmission is from the station whose call sign or other identification follows." (Equivalent to V.)
Time.....	Used as a prefix to the time or date-time group of a message being transmitted.
Unknown station.....	The proword "Unknown Station" is used as call sign when establishing communication with a station whose identity is not known. (Equivalent to <u>AA</u> .)
Verify.....	"Verify entire message (or portion indicated) with the originator, check cryptographing, and send correct version." (Equivalent to J.)
Wait.....	If used by itself: "I must pause for a few seconds." If the pause is to be longer than a few seconds, "Wait - Out" shall be used. "Wait - Out" may also be used temporarily to forbid another station from transmitting. (Equivalent to <u>AS</u> .)
Wilco.....	Used between addressee and originator only: "Your last message (or message indicated) received, understood, and will be complied with."
Word after.....	Used in conjunction with verification, repetition, and correction to indicate portion of message. (Equivalent to <u>WA</u> .)
Words twice.....	(a) As a request: "Communication is difficult. Please send every phrase (or every code group) twice." (b) As information: "Since communication is difficult every phrase (or every code group) in this message will be sent twice."
Wrong.....	"What you have just said is incorrect. The correct version is _____."

6423. Prowords of limited application.—

a. The following prowords and phrases are for use only with the executive method (art. 6460):

<i>Prowords</i>	<i>Meaning</i>
Execute.....	“Carry out the purport of the message or signal to which this applies.”
Execute to follow.....	“Action on the message or signal which follows is to be initiated upon receipt of the proword ‘Execute’.”
Stand by.....	“Wait for the word ‘Execute’.”

6430. CALLING, ANSWERING, AND TRANSMITTING SIMPLE MESSAGES

6431. General.—The following rules govern the transmission of radiotelephone messages.

6432. Establishing communication.—*Example:* Station AB desires to establish communication with station P3:

a. Communication good:

AB transmits:

Peter Three – This is Able Baker – Over

P3 transmits:

Able Baker – This is Peter Three – Over

AB, having nothing for P3, transmits:

Peter Three – This is Able Baker – Roger – Out

b. Communication difficult:

AB transmits:

Peter Three – Peter Three – This is Able Baker – Able Baker – How do you hear me – Over

P3 transmits:

Able Baker – Able Baker – This is Peter Three – Peter Three – Strength two – Interference – Over

AB, having nothing for P3, transmits:

Peter Three – This is Able Baker – Roger – Out

6433. Us of preliminary calls.—When communication is difficult or when the calling station wishes to satisfy himself that the station called is ready to receive a message, a preliminary call may be sent before transmitting a message.

Example:

AB wishes to transmit a message to P3 and desires confirmation that P3 is ready to accept it:

AB transmits:

Peter Three - This is Able Baker - (Message for you) - Over

P3 transmits:

Able Baker - This is Peter Three - (Send your message) - Over

6434. Transmitting a message.—

a. Communication good.—When both stations are in good communication, all parts of the transmission are made once through. Preliminary calls may be eliminated. (See, however, subparagraph *c* below.)

Example:

AB transmits:

Peter Three - This is Able Baker - Convoy has arrived - Time One Six Three Zero - Over

P3 transmits:

This is Peter Three - Roger - Out

b. Communication difficult.—When communication is difficult, call signs may be made twice and phrases, words, or groups transmitted twice by use of the proword "Words twice." Reception may be verified by use of the proword "Read back."

Example:

AB transmits:

Peter Three - Peter Three - This is Able Baker - Able Baker - Words twice - Convoy has arrived - Convoy has arrived - Time One Six Three Zero - Time One Six Three Zero - Over

c. When a message is transmitted without communication first being established and without preliminary calling and answering, the call signs are to be transmitted twice and may also be repeated at the end of the message.

6435. Abbreviated form.—When no confusion will result, a shortened form of calling may be used. It will often be possible to omit all calls and most of the normal procedure.

Examples:

Call sign of calling station omitted:

Able Baker - Convoy has arrived - Over

Call sign of called station omitted:

This is Peter Three - Rations have arrived - Over

6440. OPERATING RULES

6441. General.—

a. Messages transmitted by radiotelephone are not necessarily written down, but whenever practicable a short note of their purport should be made. They must, therefore, be kept short and to the point. This brevity is best achieved by the use of standard phraseology. Messages which must be given by the receiving operator to another person should preferably be written down.

b. Speech over the radiotelephone will be clear and slow with natural emphasis on each word. Words will not be run together.

c. Messages will normally be spoken in natural phrases and not word by word.

d. In the interests of security, transmission by radiotelephone will be as short and concise as practicable, consistent with clearness.

6442. Text of messages.—Where an entire text is composed of pronounceable words, they may be spoken as written. Where an entire text is composed of cipher groups, they are spelled out, using their phonetic equivalents. Code and enciphered groups even though occasionally pronounceable are to be transmitted by the individual characters, using their phonetic equivalents. Proword "I spell" is not used in the text of code or cipher messages.

Example:

The encrypted group LUXOW will be spoken:
Love Uncle Xray Oboe William

6443. Verifications.—When verification has been requested on a message previously transmitted, the originating station will verify with the originator, check cryptographing, and send correct version.

Example:

Request:

**Able Baker - This is Peter Three - Verify message - One Six Three
Zero - Over**

Answer:

This is Able Baker - Roger - Out

a. If after checking with the originator the message is found correct, **Able Baker** retransmits the message preceded by the proword "I say again" and message identification.

b. If the message is incorrect, **Able Baker** transmits the corrected version, preceded by the proword "correction" and message identification.

6444. Correction during transmission.—

a. When an error is made by a transmitting operator, the word "Correction" will be spoken, followed by the correct version of that word, group or phrase.

Example:

**Able Baker – This is Peter Three – Longitude One Zero One Five –
Correction – Longitude One Zero Zero Five – etc.**

b. When it is discovered that an error has been made earlier in the text and before the transmission has been concluded, that phrase, word or group must be properly identified and the correct version given.

Example:

**Peter Three – This is Able Baker – Convoy will arrive – Supplies will
be available – Time Zero Six Three Zero – Correction – Time Zero
Six Four Zero – Over**

6445. Canceling message during transmission.—During the transmission of a message and prior to the transmission of the ending sign the message may be canceled by use of the proword "Disregard this transmission." A message having been completely transmitted may only be canceled by another message.

6446. Repetitions.—

a. When words are missed or are doubtful, repetition will be requested by the receiving station before receipting for the message. The proword "Say again" used alone or in conjunction with "All before" and "All after," "_____ to _____" and "Word after" will be used for this purpose. Where no possibility of confusion can arise the latter phrases can be used without "Say again."

b. In giving repetitions, the transmitting station will always repeat the words used in the request to identify the portions, including "I say again" if necessary.

6447. Acknowledgment of messages.—"Wilco" may be used in response to the proword "Acknowledge" in the text of radiotelephone messages, or may be used to acknowledge receipt and capability to comply with an order received even though instructions to acknowledge were not included. "Wilco" is to be used only on the authority of the person charged with the execution of the order. As the meaning of "Roger" is included in that of "Wilco" the two words are never used together.

Example:

1. The addressee *is also* the radio operator:

F4 transmits:

**Able Baker – This is Fox Four – Search Area Dog – Acknowledge –
Time One One Two Zero – Over**

AB transmits:

This is Able Baker – Wilco – Out

2. The addressee *is not* the radio operator:

a. F4 transmits:

**Able Baker - This is Fox Four - Search Ar a Baker for Subma-
rines - Acknowledge - Time One One Four Zero - Over**

AB transmits:

This is Able Baker - Roger - Out

b. After the addressee has given permission for the message to be acknowl-
edged the following acknowledgment is sent:

AB transmits:

**Fox Four - This is Able Baker - Your One One Four Zero -
Wilco - Over**

F4 transmits:

This is Fox Four - Roger - Out

6448. "Do not answer" transmissions.—When, for purposes of deception, concealment, or for any other reason, it is desired that a receiving station make no transmission whatever in connection with a message addressed to it, the transmission is sent twice through as follows:

**Dog One - This is Fox Four - Do not answer - Nan Oboe Peter
Queen - Time One Six Three Zero - I say again - Dog One - This
is Fox Four - Do not answer - Nan Oboe Peter Queen - Time One
Six Three Zero - Out**

6449. Signal strength and readability.—

a. A station is understood to have good readability unless otherwise notified. Strength of signals and readability will not be exchanged unless one station cannot clearly hear another station.

b. The response to "How do you hear me?" will be a short concise report of actual reception, such as "Weak but readable," "Strong but distorted," "Loud and clear," "Strength Four," etc.

6450. Relaying.—Where relays are required the following rules will apply:

a. Single addressed message:

1. F4 transmits:

**Able Baker - This is Fox Four - Relay to Peter Three - From Fox
Four to Peter Three - Proceed on mission assigned - Time Zero
Nine One Zero - Over**

AB transmits:

This is Able Baker - Roger - Out

2. Message being relayed by AB:

AB transmits:

Peter Three - This is Able Baker - From Fox Four to Peter Three
 - Proceed on mission assigned - Time Zero Nine One Zero -
 Over

P3 transmits:

This is Peter Three - Roger - Out

b. Multiple addressed message:

1. F4 transmits:

Able Baker - This is Fox Four - Relay to Peter Three - From Fox
 Four to Dog Six and Peter Three - Report when objectives are
 reached - Time One Six Four Zero - Over

AB transmits:

This is Able Baker - Roger - Out

2. Message being relayed by AB:

AB transmits:

Peter Three - This is Able Baker - From Fox Four to Dog Six and
 Peter Three - Report when objectives are reached - Time One
 Six Four Zero - Over

P3 transmits:

This is Peter Three - Roger - Out

c. It is not intended that messages placed in the form required by CCBP 1 for transmission by radiotelegraph will be relayed by radiotelephone. However, when such relay is necessary the entire message is repeated using the prowords that are the equivalent of the prosigns, and the phonetic equivalents of the characters in the call signs in such a manner as to permit the receiving operator to copy the message in its original form.

Example:

Message to be relayed by F4 to AB:

P T A BF6 241632Z A2D GR 3 BT
 Return to Base BT 241632Z*

Message as relayed by F4 to AB:

Able Baker - This is Fox Four - Stand by to write Δ Relay to Able
 Two Dog - - Originator Baker Fox Six - Two Four - One
 Six - Three Two - Zebra - Action Able Two Dog - Group Three -
 Break - Return to Base - Break - Two Four - One Six - Three
 Two - Zebra*- Over

* Used only in combined communications

d. Messages originated by stations using radiotelephone which require subsequent relay by radiotelegraph, wire or visual circuits, will be placed in the accepted form for such transmission by the first station transferring from radiotelephone to a radiotelegraph, wire, or visual circuit employing normal security precautions.

6451. Read back.—

a. If it is desired that a message, or portion thereof, is to be read back, the proword "Read back" is to be used.

Example:

AB transmits:

Peter Three - This is Able Baker - (Message for you) - Over

P3 transmits:

This is Peter Three - (Send your message) - Over

AB transmits:

**This is Able Baker - Read back text - Convoy has arrived - Time
One Six Three Zero - Over**

P3 transmits:

This is Peter Three - I read - Convoy has arrived - Over

AB transmits:

This is Able Baker - That is correct - Out

*b. Group (or net) working.—*Read back, alone, means that all stations are to read back. If some, or one only are required to read back, they, or it, should be specified by call signs before the proword, "Read back."

6452. Authentication.—Authentication of messages will be made in accordance with current instructions.

6460. EXECUTIVE METHOD

6461. When voice procedure is used for the executive method, the message shall be made either as:

a. A message, the purport of which is to be executed upon receipt of the executive word which is included in the same message, or as:

b. A message, the purport of which is not to be executed until the receipt of the executive word which will be transmitted in a separate executive message (usually after the message has been receipted for). When necessary, the executive message must carry identification data to insure that the correct message is executed; normally this identification is the repetition of the text.

6462. The *executive word* for United States services is "Execute," and for British services it is "Go."

Example of a:

Dano—This is Shoeblack
 Execute to follow
 Break
 Charlie Baker Baker
 I say again
 Charlie Baker Baker
 Standby
 (pause)
 Execute
 Over (or Out)

Example of b:

Dano—This is Shoeblack
 Execute to follow
 Break
 Charlie Baker Baker
 I say again
 Charlie Baker Baker
 Over
 Receipt(s) are procured as follows:
 Shoeblack—This is Dano
 Roger—Over
 Dano—This is Shoeblack
 Standby
 (pause)
 Execute
 Over (or Out)

6470. ADDITIONAL PROCEDURE FOR AIRWAYS RADIO STATIONS AND CONTROL TOWERS

6471. When communicating with airways radio station or control towers.—

a. Wind direction and force shall be expressed as "Southwest four," or "Northeast one five."

b. In receipting for a message, the receiving station (control tower or aircraft), or any other aeronautical radiotelephone station, will use "Roger" after its call when no acknowledgment or compliance is required. In acknowledging or receipting for a message which contains an order, or request, the receiving station will acknowledge or receipt by using "Wilco."

c. Control towers will employ "Cleared to change frequency" when indicating to the pilot that he has permission to shift from the tower frequency to a range, his unit, or airline frequency.

d. The word "cleared" will be used when granting pilots permission to land, taxi, or take off.

e. In describing local traffic to an approaching aircraft, the control tower operator will refer to "Army bomber," "Navy scout," or "Coast Guard transport," etc.

f. Itinerant civil aircraft shall be identified by the make and, if pertinent, the model and the certificate number. For local operations only, an abbreviated certificate number may be employed.

g. In calling up an airways or control tower radio station on a common, joint, combined, or utility frequency, pilots will include:

In the call up, identification to indicate whether an Army, Navy, CAA, or municipal airways or control tower radio station is being called; and the Navy identification of the calling plane.

h. Tower operators will standardize on a series of three messages to inbound and outbound traffic (aircraft) viz:

1. Inbound traffic:

In-range acknowledgment.

Landing clearance as pilot enters airport zone.

Taxi clearance.

2. Outbound traffic:

Taxi clearance.

Airway clearance.

Take-off clearance.

i. The number of items required in landing instructions will be reduced to landing clearance and wind direction, leaving the use of all other items optional with the airport concerned. This also applies to take-offs including only wind direction and take-off clearance.

Section E. RADIO FREQUENCIES AND TRANSMITTER ADJUSTMENTS

6500. ASSIGNMENT OF FREQUENCIES

6501. Bands of radio frequencies are internationally agreed upon for various types of services. See *International Telecommunications Conference, Cairo, 1938*, and *General Radio Regulations* annexed thereto. Frequencies used by the United States are assigned for use to specific Government departments by Executive order, based upon recommendations made by the Interdepartment Radio Advisory Committee.

6502. The Chief of Naval Operations (CNC) issues instructions concerning frequencies which the Navy is authorized to use afloat and ashore. These instructions are contained in the *U. S. Naval Frequency Usage Plan* (DNC 1).

a. The commanders in chief issue instructions for the use of those frequencies authorized for fleet use, including aircraft.

b. Instructions for the use of frequencies by naval shore stations are set forth in Appendix I.

c. The district commandants issue instructions concerning frequencies authorized for use by district operating forces.

6510. CLASSIFICATION OF RADIO FREQUENCY BANDS

6511. The standard nomenclature contained in this table shall be used throughout the naval service whenever reference is made to frequency bands. This usage is prescribed in order to avoid the confusion or doubt which arises when terms are used loosely or interchangeably.

Designation of radio waves according to frequency	Authorized abbreviations	Frequency in kilocycles per second
Very low.....	VLF.....	Below 30.
Low.....	LF.....	30 to 300.
Medium.....	MF.....	300 to 3,000.
High.....	HF.....	3,000 to 30,000.
Very high.....	VHF.....	30,000 to 300,000.
Ultra-high.....	UHF.....	300,000 to 3,000,000.
Super-high.....	SHF.....	3,000,000 to 30,000,000.

6520. NAVAL EMPLOYMENT OF FREQUENCIES

6521. The properties and general naval employment of the frequency bands are set forth in the articles following.

6522. Very low frequencies (below 30 kc.).—

a. Assigned to major shore stations.

b. Used especially for F and I method schedules.

c. Require an extensive antenna system and high power but are effective over distances of several thousand miles.

d. Not subject to "skip distance," but slow and prolonged "fading" may be experienced.

e. Unaffected by the ionospheric disturbances which periodically disrupt high-frequency transmissions.

f. Can, to a limited extent, be received by submarines when submerged.

6523. Low frequencies (30 to 300 kc.).—

- a. Assigned to shore stations and the fleets.
- b. Used especially at shore stations for local broadcasts.
- c. Effective over a distance range of about 400 miles during daylight and about 1,000 miles at night. Not subject to "skip distance."
- d. Require a large antenna.
- e. Frequencies between 200 and 285 kilocycles are widely used for aviation beacons, localizers, and control towers.
- f. Frequencies between 285 and 300 kilocycles are widely used for marine beacons.

6524. Medium frequencies (300 to 3,000 kc.).—

- a. Generally assigned to fleet ships and aircraft for short distance ship-to-shore and tactical communications.
- b. Effective over distances of about 400 miles in daytime and 1,000 miles at night. Not subject to "skip distance."
- c. Frequencies between 300 and 315 kilocycles are widely used for marine beacons.
- d. Frequencies between 315 and 400 kilocycles are widely used for aviation beacons, localizers, and control towers.
- e. Frequencies between 2,000 and 3,000 kilocycles are used almost exclusively for intership communications within task forces and for local district defense activities.

6525. High frequencies (3,000 to 30,000 kc.).—

- a. Generally assigned to both fleet ships and aircraft, and shore stations.
- b. Used between widely separated ships and aircraft, between widely separated point-to-point shore stations, and between shore and distant ships or aircraft, and sometimes for short-range fleet tactical communications.
- c. Effective for long-range work.
- d. Subject to skip distance.
- e. Subject to periodic disturbances during which transmission may be difficult or impossible. Some of these disturbances are recurrent and are predicted by the Interservice Radio Propagation Laboratory, but other disturbances occur without warning.

6526. Very high frequencies (30 to 300 megacycles).—

- a. Assigned for limited range tactical purposes where security from interception is desired, and for ultra-portable equipment.
- b. Although the very high frequencies are normally considered safe from interception beyond the area in which there is an optical path between the transmitting and receiving antennas, three qualifications must be kept in mind: First, frequencies in the lower portion of this band bend somewhat with the curvature of the earth so that the actual range is 24 percent to 50 percent greater than the optical path; second, under certain climatic conditions refraction may occur in the lower atmosphere which can extend the range to four or five times the optical distance; and third, ionosphere conditions resulting in long distance transmission on the frequencies near the low end of the range (below 60 megacycles) occur quite frequently; as the frequency is raised these effects become more uncommon and occur only infrequently at frequencies above 100 megacycles.

c. It should also be remembered that for aircraft the antenna is elevated so far above the ground or sea that the optical path itself may be as much as several hundred miles.

6527. Ultra-high frequencies (300 to 3,000 megacycles) and super-high frequencies (3,000 to 30,000 megacycles).—

- a. Transmissions above 300 megacycles are limited to optical distances. As they have little penetrative power, large objects between transmitter or receiver will reduce the signal strength or even prevent communication. The physical size of antennas is so small at these frequencies that highly directional arrays are quite compact and easy to rotate.

6530. SKIP DISTANCE AND FADING

6531. The location and size of skip areas will be briefly discussed without considering the technical reasons therefor. With frequencies between 3,000 and 30,000 kilocycles transmissions can be received by "ground wave" in a circular area with the transmitting station as the center, and a radius depending upon the transmitter power, the frequency employed, and the conductivity of the terrain. Beyond this ground wave area there is a "skip distance" where transmissions cannot be heard. At the end of the skip zone signals are again heard, this time arriving by reflection from the ionized layers in the upper atmosphere. The distance at which this occurs depends upon the frequency, the time of day, the latitude, the height of the reflecting layer, and the condition of the ionosphere. Variations of these factors result in skip distances ranging from 0 to 3,000 miles.

6532. *High frequency transmissions* are characterized by more or less continuous variations in signal strength known as fading. When the reception point is within both the sky-wave and the ground-wave area, the transmissions received over those two paths periodically reinforce and oppose each other, resulting in comparatively large changes in received signals and violent fading. Similarly, it is often possible for signals to be received over two or more sky-wave paths (for example, one path having one reflection in the upper atmosphere and another path making two "hops" and being reflected twice in the upper atmosphere) which periodically assist and cancel, giving rise to fading. Over extremely long distances the great circle path is not well defined, and transmission may occur in two or more directions around the world. The result is the familiar hollow or echo sound, as well as fading.

6533. When the path from transmitter to receiver falls within daylight, the sky wave suffers severe attenuation. Except for comparatively short distances, it is then necessary that the frequency employed be as high as possible in order to minimize this loss. The upper limit is determined by the skip distance, since a frequency that is too high will skip beyond the desired receiving point.

6534. It is apparent that the choice of the proper frequency is vital for efficient radio communications. Predictions of the optimum working frequencies under the varying conditions of distance, latitude, time of day, and season of the year are prepared by the Interservice Radio Propagation Laboratory, and issued to the service by the Chief of Naval Operations (CNC).

6540. INTERFERENCE TO NAVAL RADIO CIRCUITS

6541. The interference referred to in this article is intended to mean that which is received from the operations of other agencies or nationalities, and which is not believed to be deliberate. The subject of "jamming," or intentional enemy interference, is covered in separate publications and in instructions issued by the fleet commanders.

6542. The administrative procedure to be followed when serious interference to operations on naval circuits is experienced is set forth below for the guidance of naval personnel.

a. When *local interference* of U. S. origin occurs, the matter should first, if practicable, be taken up locally with the station involved. If this procedure is not practicable, or if a suitable adjustment cannot be effected locally, then the matter should be referred to the Chief of Naval Operations for further action.

b. When *international interference* occurs in peacetime, or from a station under neutral or allied control in wartime, report should be made to the Chief of Naval Operations. Such matters are usually referred to the State Department for adjustment.

6543. In all cases, reports of interference must be complete and specific as to dates, times, frequency, stations concerned, and extent of interference.

6550. FREQUENCY ADJUSTMENTS

6551. Immediately upon being assigned to a task force, each ship shall, at first opportunity in port when not engaged in combat operations, calibrate all transmitters and receivers (including portable equipment) on all appropriate task force frequencies.

6552. After initial calibration, shipboard transmitters should normally be checked with the frequency meter only when it becomes necessary to transmit.

6553. Under no circumstances should transmissions, however brief, be made for the purpose of testing or adjusting transmitters during combat operations. If, while at sea, a transmitter must be shifted to a new frequency, calibration settings alone should suffice. If the calibration settings are inadequate, adjustments may be made with the frequency meter, provided no plate voltage is applied to the final stage and the transmitting antenna is grounded. Tuning of the final stage and antenna will be accomplished only when it becomes necessary actually to transmit.

6554. Unless a circuit has been active, it should be standard practice to check the tuning of receivers at least once an hour, using the frequency meter.

6555. Frequency measuring equipment should, if practicable, be checked against the standard frequency transmissions of the Bureau of Standards, at least once a week. These transmissions are usually continuous on 5 and 10 megacycles and, during daylight hours at Washington, D. C., on 15 megacycles.

6556. Transmitters ashore should be checked as frequently as is necessary to insure their being at all times accurately adjusted to the authorized frequencies.

6557. The frequency tolerance for Navy radio stations is as follows:

Class of station	Below 30 Mc.	Above 30 Mc.
	<i>Percent</i>	<i>Percent</i>
Shore.....	0.005	0.005
Mobile and portable.....	0.02	0.03

Every effort will be made to maintain exact frequency adjustment. The tolerances specified are the outside limits and can usually be bettered in operation on practically all Navy transmitters.

6560. MONITORING AND RELATED SERVICES

6561. All requests for Federal Communications Commission radio monitoring, direction finding, and related services shall be referred to the Chief of Naval Operations.

Chapter 7. VISUAL PROCEDURE

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Chapter 7. VISUAL PROCEDURE

Section A. FLASHING LIGHT AND SEMAPHORE PROCEDURE

7000. INTRODUCTION

7001. The instructions which follow in this section have common application to both flashing light and semaphore. Those items applicable only to flashing light systems are explained in section B; those for semaphore in section C; and the instructions for flag-hoist signalling are embodied in section D. Items of a nature which are applicable to all forms of visual signalling and instructions for the use of miscellaneous visual indicators will be found in section E.

7002. Visual procedure is based on naval radiotelegraph procedure and only such differences exist as are necessitated by the difference in the mechanics of radiotelegraphy and visual telegraphy.

7003. To avoid excessive repetition in outlining the steps in visual procedure, frequent reference will be made to the naval radiotelegraph procedure as contained in chapter 6.

7004. The visual procedure instructions are presented step by step in the order in which the items may confront the operator in the handling of a message. It covers the procedure involved, in sequence, from the time an operator is handed a message until transmission is completed.

7010. CALLING AND ANSWERING

7011. Calling.—In visual communication the identity of the calling station is usually apparent, and it is necessary only to gain the attention of the receiving station. This is normally done by making, until answered, the abbreviated call, which consists only of the call sign of the station called. When it is necessary to identify the calling station, the full call is used. This consists of the call sign of the station called, the prosign **V**, and the call sign of the calling station.

Abbreviated: **B33** (until answered)

Full call: **B33 V B34** (until answered)

7012. The *answer* normally consists of the prosign **K** if made by flashing light, or the answering sign **C** if by semaphore.

a. Where necessary to distinguish which of several calling stations is being answered, **K** by light or **C** by semaphore should be preceded by the call sign of the station answered. In certain cases a more complete answer may be necessary, thus:

B34 has called B33.

To answer, B33 makes:

By light **B34 K**

By semaphore **B34 C**

b. Where more than one station is being called in the same direction or during low visibility, it may be necessary for the answering station to indicate its own identity in answering, thus:

V B33 K

7020. PREAMBLE

7021. The preamble in the heading of a message includes any or all of the following as necessary:

- a. Precedence.
- b. Transmitting instructions in the form of prosigns thus:
 - 1. **F** (art. 6221).
 - 2. **G** (art. 6222).
 - 3. **N** (art. 6232).
 - 4. **T** (art. 6238).
 - 5. **L** (art. 7068).
- c. Operating signals if required.

7022. Special "repeat back" procedure.—

a. Should a transmitting station require a receiving station to repeat back each word or group of the text immediately after transmission, this will be indicated by an *operating signal* in the transmitting instructions. The transmitting station acknowledges each correct repetition by the prosign **C** before going on to the next group. This type of repeat back should not be confused with the use of the prosign **G** in the preamble of the message heading, as explained in article 6222.

Example A:

<i>DIVB2 (Transmitting station)</i>	<i>B34 (Receiving station)</i>
**QVY→	←Flash
BT →	←Flash
COPO→	←COPO
C→	
BGFK→	←BGFK
C→	
QDIL→	←***QDEL
***QDIL→	←QDIL
C→	
BT →	←Flash
K→	←R

*If DIVB2's transmission had been by semaphore the procedure would be the same except B34 would make no response until the first group of the text was transmitted.

**Assumed to mean "Repeat back each word or group of text immediately after transmission."

***Note procedure when repetition is incorrect.

b. **G**, when used by a transmitting station after a word or group in the text, means "Repeat last word or group just transmitted."

7030. MESSAGE ADDRESS

7031. The message address consists of any or all of the following:

- a. Prosign **A** (art. 6211).
- b. Call sign of the originator.
- c. Date-time group or time group if applicable (art. 2039).
- d. Call sign(s) of action addressee(s).
- e. Prosign **W** (art. 6251c).
- f. Call sign(s) of the information addressee(s).
- g. Prosign **N** (art. 6232b).
- h. Call signs of the exempted stations.

7032. When the address apart from the date-time group is the same as the call or can be obtained from the call, the *call serves as the address*.

7033. The senior officer embarked in the originating ship is assumed to be the originator unless a different origin is indicated. For simplicity, the administrative office of a flag officer or unit commander is assumed to be the originator of a message rather than the commanding officer of the administrative flagship regardless of the relative rank of the officers concerned.

7040. MESSAGE INSTRUCTIONS AND MESSAGE ENDING

7041. The *message instructions* contain any operating signals which pertain to the message itself, and which must be transmitted to all addressees, the group count (when used) and the long break (BT) which separates the heading from the text.

7042. The *message ending* contains the final instructions which pertain to the message. The following prosigns may be used:

- a. The prosign **B** (art. 6216).
- b. The prosign **C** (art. 6218b).
- c. The prosign IMI (art. 6226e).
- d. The prosign K (art. 6231).
- e. The prosign AR (art. 6214).

7050. IDENTIFICATION, VERIFICATION, AND CORRECTIONS

7051. *Individual messages are identified* as explained in article 6311. In case a dispatch does not bear a time group or any other means of convenient identification, it may be identified by reference to the time of receipt, as, for example:

URMSG TOR 1510-----

7052. *Identification of portions* of messages is accomplished by the use of the prosigns **AA**, **AB**, and **WA**, examples of which are found in article 6313.

7053. *Verifications and corrections* are accomplished by the use of the prosigns **J** and **C**, examples of which are contained in article 6313b.

7060. SPECIAL USES OF PROSIGNS BY VISUAL

7061. In response to the prosign **K**, the receipt sign is made to indicate that the message just transmitted has been received. Normally no call is required prior to making the receipt sign. For variations in the use of **R** as a receipt sign see article 6237 and 6232a.

7062. The rules for the use of the *separative sign* (II) are contained in article 6225. In flashing light when a flash is given for each part of the heading and no ambiguity could result, the separative sign may be omitted.

7063. The prosign INT preceding prosigns and operating signals, indicates that the matter to follow is in the form of a question. Examples illustrating the use of INT follow:

Example A:

B42, requesting permission from B44 to transmit, sends:

INT K

B44 makes:

R K or R AS as appropriate.

The prosign INT, preceding a portion of a previous transmission, means, "Is my reception of this correct?"

Example B:

B42 is assumed to have transmitted the following message to B44:

**Ø815 GR 8 BT RECEIVED SHIPMENT TWENTYONE TRUCKS FROM
PARIS (FRANCE) TODAY BT K**

B44, having received "twentyone" as "twenty one" questions the group count thus:

INT GR 9 K

B42 rechecks message and, finding the group count correct, repeats the original group count and transmits the first character of each word or group in the text in succession, thus:

GR 8 BT R S T T F P KK T BT K

If B44's count had been correct, B42 would have made:

C K

B44, wishing to check his reception of the word "Paris," transmits:

INT PARIS K

B42 transmits:

C K

NOTE.—INT shall not be used to question the greater portion of a message. To accomplish this, a repetition of the entire message shall be requested.

7064. *The use of the prosign AS Wait is explained in article 6215. A junior having been directed to wait (AS) shall not transmit until he has been given permission to go ahead (K), unless in the meantime he has been given a message of high precedence to transmit, or it appears that he has been overlooked. The following examples illustrate the use of the prosign in flashing light procedure. The procedure for semaphore is identical except that no response is made where "flash" is shown.*

Example A:

R26 pauses during transmission to R27 to insert the group count:

R26 makes

R27 makes

Ø245→

←Flash

AS→

←Flash

(Counts groups, then)

GR 8→

←Flash

Proceeds with message→

←Flash

Example B:

R26 calls R27, who tells him to wait:

<i>R26 makes</i>	<i>R27 makes</i>
R27 R27 (until answered)→	← <u>AS</u>
(Waits)	←R26 K
Flash→	
Proceeds with message→	←Flash

7065. "Move signs" are used by a receiving station to direct the transmitter to move to a better sending position. The signs and their meanings are:

- MR**—Move to your right, as you face me.
- ML**—Move to your left, as you face me.
- MU**—Move up.
- MD**—Move down.

NOTE.—For naval application the move signs are to be used by semaphore only.

7066. Use of the sign SEM.—The sign **SEM** made by flashing light indicates that the station making it will use semaphore thereafter. When made by a senior to a junior who has called or answered by flashing light, it shall be considered as a directive for the junior to use semaphore instead of flashing light.

The procedures for semaphore and directive flashing light are so similar that semaphore can be used by a ship receiving a directive flashing transmission. At times during daylight for ships which do not have sufficient lights to accomplish relays, semaphore may be used. For this procedure the prosign **SEM** is used as follows:

- a. The answer shall be made by flashing light, thus: (originator's call sign) **SEM K**.
- b. Wherever a flash is required, the semaphore answering sign is used.
- c. The equivalent of the 5-second dash (if executive method) will be AR by semaphore.

7067. The uses of the prosign for *Execute to follow* (IX) and the *Executive Signal* (IX (5 second dash)) are explained in the description of the *executive method* contained in articles 6331 and 6332. In semaphore the instant of execution is the moment of the termination of the prosign AR following the executive signal. Examples illustrating flashing light and semaphore procedure for executive messages are shown in articles 7114 and 7225, respectively.

7068. The sign **L** is used in naval visual signalling only. It is used as follows:

- a. **L** in the preamble means, "When final relay ships have obtained a receipt from all ships for whom responsible make report up the chain of visual responsibility. First relaying ships only are to report to the originator."
- b. **L** alone or with identifying data means, "Message or message indicated has been delivered to all addressees for whom this station is responsible and intervening relay ships have reported delivery to ships for whom they are responsible."
- c. When a final relaying station has cleared her relay responsibility for a message, which contained the sign **L** in the preamble, she is to make **L** to the ship from whom she received the message.

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d. When an intermediate relaying station has cleared her relaying responsibility (which includes receiving L from further relaying ships) she is to make L to the ship from whom she received the message.

e. By this means the originator receives L from all first relaying ships, and this indicates that the message is cleared to all concerned.

f. If there is an unusual delay in making L, or in the meantime another message containing L in the preamble has been transmitted, the necessary identification data for the message concerned should be added, as:

L 1615 or L TURN SIX

g. If considered desirable to indicate the particular station to whom a message has been passed, such station's call sign may be included, as:

To indicate that message 1615 has been
passed to B33, make **L 1615 - B33**

h. L is not passed in for the executive signal; nor is it used in FFFF method.

i. When alarm procedure is used and an alarm report is passed through relay(s), relaying ship(s) will pass L in to the originator. In this case L is not used in transmission instructions (art. 7141 b).

j. Examples of the use of L by flashing light are shown in articles 7112, 7114 and 7141b. Example of the use of L by semaphore is shown in article 7225.

7069. The Emergency Silence sign, **HM** (made three times) shall be used only by the SOPA or the O. T. C. and signifies, "Cease all transmissions by the method of communication on which this order is given." Ships do not answer the emergency silence sign but shall immediately cease transmission as directed, and must not again transmit by that method until the emergency silence has been canceled; or, to respond to a dispatch originated by the imposing authority and made by that method.

a. Cancellation of emergency silence shall be ordered only by the authority who imposed it and is accomplished by the transmission of the operating signal meaning "Negative" followed by **HM HM HM**.

Examples:

1. The SOPA, wishing to impose emergency silence on nondirective flashing light, transmits by that method:

HM HM HM AR

2. When ready to cancel emergency silence, he transmits:

QQZ* HM HM HM AR

*QQZ is assumed to mean "Negative."

Section B. FLASHING LIGHT

7100. GENERAL

7101. The usual method of signaling by flashing light in time of war is by directional light. The articles in this section deal with directional methods, except for articles 7130-31, which explain the nondirectional or "all-around" procedure. Directional lights should be of the minimum practicable brilliance and at night are to be screened.

7102. Exchanging calls by flashing light when entering port.—

a. C87, entering port, exchanges call signs with the senior officer present afloat, ØFØ, as follows:

<i>C87 makes</i>	<i>ØFØ makes</i>
V C87 (at frequent intervals)→	←C87 V ØFØ K
ØFØ $\left\{ \begin{array}{l} \text{B K} \\ \text{or} \\ \text{AR} \end{array} \right\}$ as appropriate→	← $\left\{ \begin{array}{l} \text{K} \\ \text{Transmits message} \\ \text{AR} \end{array} \right\}$ as appropriate

b. Exchanges of call signs shall be relayed by intervening ships when necessary, and certain operating signals are provided to facilitate this relay, as for example:

C87, entering port, exchanges call signs with the senior officer present afloat, ØFØ, via relaying ship, C33.

<i>C87 makes</i>	<i>C33 makes</i>	<i>ØFØ makes</i>
V C87 (at frequent intervals)→	←C87 V C33	
C33 K	←*QYP	
Flash→	←ØFØ	
Flash→	← $\overline{\text{AR}}$ ØFØ→	←C33 K
	**QYH→	←Flash
	C87→	←Flash
	$\overline{\text{AR}}$ →	

*QYP—I will relay your call sign to SOPA, whose call sign is—.

**QYH—Call sign of incoming vessel is—.

NOTE.—The K is omitted from C33's response in first line to indicate to incoming vessel that responding ship is acting as a relaying ship and is not the SOPA.

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7110. DIRECTIONAL FLASHING LIGHT PROCEDURE—EXAMPLES

7111. Nonexecutive message direct to one ship.—
DIVC3 originates and transmits to C32.

<i>DIVC3 makes</i>	<i>C32 makes</i>
C32 C32 (until answered)→	←K
<u>BT</u> →	←Flash
ZEBRA→	←Flash
FOX→	←Flash
<u>BT</u> →	←Flash
1515→	←Flash
K→	←R

7112. Nonexecutive message to one ship. Passed by specific relay.—

	<i>DIVC3 makes</i>	<i>C33 makes</i>	<i>C34 makes</i>
C33 C33 (until answered)→		← K	
L→		← Flash	
T→		← Flash	
A→		← Flash	
DIVC3→		← Flash	
2100→		← Flash	
C34→		← Flash	
		C34 C34 (until answered)→	← K
BT→		← Flash	
		A→	← Flash
		DIVC3→	← Flash
ZEBRA→		← Flash	
		2100→	← Flash
FOX→		← Flash	
		C34→	← Flash
BT→		← Flash	
		BT→	← Flash
K→		← R	
		ZEBRA→	← Flash
		FOX→	← Flash
		BT→	← Flash
		K→	← R
Flash→		← L	

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7113. Message to one ship by executiv method.—

DIVC3 originates and transmits to C32 direct:

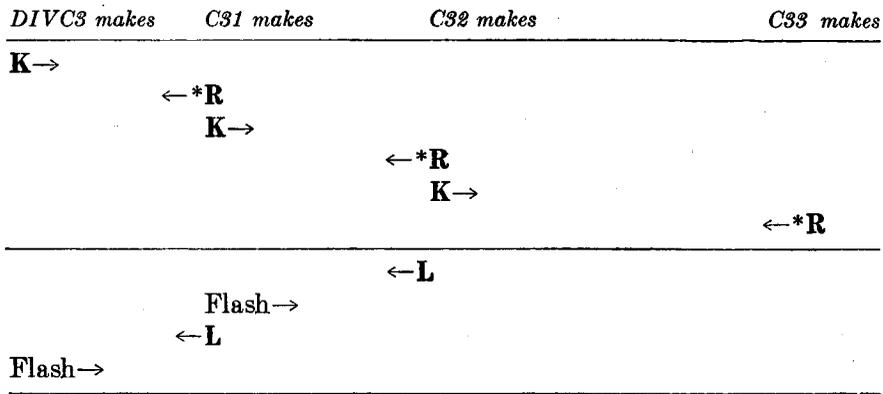
<i>DIVC3 makes</i>	<i>C32 makes</i>
C32 C32 (until answered) →	← K
IX →	← Flash
BT →	← Flash
TURN →	← Flash
FOUR →	← Flash
BT →	← Flash
K →	← R (when understood)
When ready to execute	
C32 C32 →	← K
*IX →	← Flash
(5 secs.) →	← (5 secs.)
AR →	

***IX** may be repeated a few times as a stand-by signal awaiting the five-second dash.

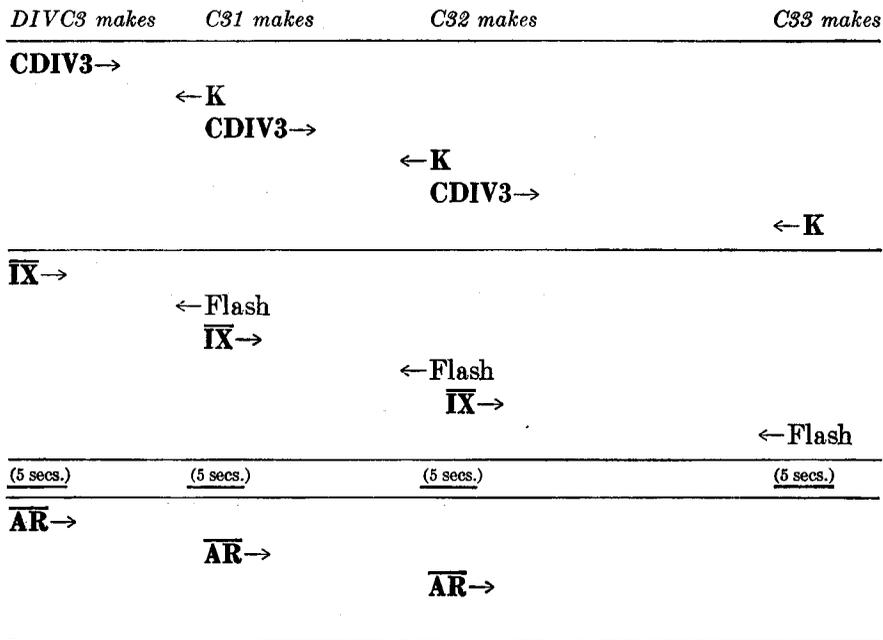
7114. Message to a unit by executive method (relay is automatic).—
DIVC3 originates a message for CDIV3 (4 ships):

<i>DIVC3 makes</i>	<i>C31 makes</i>	<i>C32 makes</i>	<i>C33 makes</i>
CDIV3 CDIV3→	←K CDIV3 CDIV3→	←K CDIV3→	←K
L→	←Flash L→	←Flash L→	←Flash
$\overline{\text{IX}}$ →	←Flash $\overline{\text{IX}}$ →	←Flash $\overline{\text{IX}}$ →	←Flash
$\overline{\text{BT}}$ →	←Flash $\overline{\text{BT}}$ →	←Flash $\overline{\text{BT}}$ →	←Flash
NINE→	←Flash NINE→	←Flash NINE→	←Flash
TURN→	←Flash TURN→	←Flash TURN→	←Flash
$\overline{\text{BT}}$ →	←Flash $\overline{\text{BT}}$ →	←Flash $\overline{\text{BT}}$ →	←Flash

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When ready to execute:



*When understood.

7120. FFFF—"NO RESPONSE" METHOD

7121. A message may be transmitted to a collective or individual addressee by the "No Response" method. This method is indicated by the special call **FFFF**. The station receiving the message does not answer this call nor receipt for the message.

7122. Messages transmitted by the **FFFF** method are transmitted twice.

7123. The preliminary call **FFFF** must be the first transmission made, since this indicates that no answer is to be made.

7124. When the **FFFF** method is used with a collective call sign, individual ships relay, by **FFFF** method in accordance with their visual responsibility except that if used by all round light the stations receiving the message are not to pass it on.

7125. Examples illustrating the use of the **FFFF—"No Response"** method follow:

Example A:

DIVB2 transmits a message direct, addressed to B34:

**FFFF B34 V DIVB2 0745 GR8 BT Text BT IMI B34 V DIVB2 0745 GR8
BT Text BT AR**

Example B:

A division commander (DIVB2) transmits a message to his division using the collective call **BDIV2**.

<i>DIVB2 makes</i>	<i>B33 makes</i>	<i>B34 makes</i>	<i>B35 makes</i>
FFFF →			
BDIV2 →			
	FFFF →		
	BDIV2 →		
		FFFF →	
		BDIV2 →	
BT →			
	BT →		
		BT →	
SUGAR →			
	SUGAR →		
		SUGAR →	
YOKE →			
	YOKE →		
		YOKE →	
BT →			
	BT →		
		BT →	
0315 →			
	0315 →		
		0315 →	
IMI →			
	IMI →		
		IMI →	
Repeats entire message, ending with AR			

NOTE: No ship answers.

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7130. NONDIRECTIONAL OR "ALL-AROUND" PROCEDURE

7131. "All-around" procedure, whereby one station may transmit to a number of other stations simultaneously by means of a light showing over a wide arc, is seldom used in war owing to danger of enemy interception. It may, however, be used by day or night in circumstances where this risk is negligible. The procedure prescribed for all-around flashing differs from that laid down for directive flashing light as follows:

a. The call may consist of a collective call sign, or a number of call signs, repeated until answered by all receiving stations.

b. Each receiving station answers by transmitting a continuous series of **K**'s until the calling station, seeing that all receiving stations are answering, stops calling, waits a short time, then starts transmitting the message. Where possible, receiving stations shall use a directional light of minimum brilliance.

c. During the transmission of the message, all receiving stations keep their lights out. Should a receiving station miss a portion of the message, that station will request a repetition in the normal manner.

d. Receiving stations, after checking, receipt for the message by making **R** four times.

e. When the call **FFFF** is used in the all-around procedure no ship is to make any response to this call or to receipt for the message. Ships that miss the transmission or portions thereof may request repetition by directional flashing light from adjacent ships. In requesting repetition ships should bear in mind the danger of disclosing the tactical composition of the formation.

7140. ALARM PROCEDURE FOR ENEMY REPORTING

7141. Enemy reports may be made by the normal abbreviated procedure or by this special alarm procedure. In the alarm procedure there is no call, the text being flashed continuously until answered by **R**. The precedence prosign, the position of the reporting ship, and the date-time group are omitted. When used such a report should be followed by an amplifying report containing the position and any other data available. Examples showing the use of this special procedure are:

a. Reporting ship (C33) in direct visual touch with OTC (J):

<i>C33 makes</i>	<i>J makes</i>
EASY 354 (until answered)→	← R
V C33 \overline{AR} →	

b. When an alarm report is passed through a relay, the call signs of the relaying ship and the originator are to be indicated as shown below:

Message originated by C33 and passed to OTC (J):

<i>C33 makes</i>	<i>C34 makes</i>	<i>J makes</i>
EASY 354 (until answered)→		
	← R	
	EASY 354 (until answered)→	
		← R
V C33 \overline{AR} →		
	V C33 - C34 \overline{AR} →	
	← L	
Flash →		

c. Amplifying report to *a* above:

C83 makes

J makes

J-O J-O (until answered)→

← **K**

O→

← Flash

BT→

← Flash

2 BB 356→

← Flash

10→

← Flash

220→

← Flash

BT→

← Flash

1430→

← Flash

K→

← **R**

Section C. SEMAPHORE

7200. GENERAL

7201. Standard semaphore equipment consists of two hand flags, 15 to 18 inches square, of design similar to either OPTION or PREP, attached to staffs about 22 inches long.

7202. Semaphore Characters.—The arm positions for semaphore characters are illustrated in Plate 1-7. The arms must be placed at the exact positions indicated, a distinct pause made at each position, and the arms moved from one position to another by the shortest possible route.

7203. Special signs are used in semaphore as follows:

a. Answering sign as an answer to a call. If necessary, the answering sign may be preceded by a call sign to denote the station answered.

b. Attention sign as a preliminary call, to establish communication, and to indicate the direction in which the sender is facing. If necessary, the attention sign may be followed by a call sign to denote the station called.

c. Front sign before and after each sign, word, code group, or procedure sign, and between letters of a code group.

d. Move signs as shown in article 7065. During movement, the station directing the move makes the letter D. When the moving station arrives in the correct position, the directing station returns to the front position.

e. Separative sign before and after groups of numerals, or mixed groups of letters and numerals, which are to be recorded and counted in the text as a single group consisting of digits or letters.

f. Numeral sign before and after each group of numerals, when they are transmitted as digits and not spelled out. This sign is used only with the date-time or time group in the *heading* or *ending* of a message, as shown in the examples which follow.

7204. Examples illustrating the uses of the front, numeral, and separative signs, indicated by—colon (:), number sign (#) and hyphen (-), respectively.

a. Message to be transmitted:

**A J9 J1 GR 8 \overline{BT} SEARCH AREA 12B COMPLETING NOT LATER THAN 1800
 \overline{BT} 1250**

It is transmitted thus:

**: - : A : - : J : NINE : - : J : ONE : GR : EIGHT : \overline{BT} : SEARCH : AREA : - : ONE
: TWO : B : - : COMPLETING : NOT : LATER : THAN : - : ONE : EIGHT :
ZERO : ZERO : - : \overline{BT} : # : 1250 : # : K :**

b. The following message is to be transmitted:

A J9 1500 J2 J3 \overline{BT} VOLO SAPI NUMY TERA \overline{BT}

It is transmitted thus:

**: - : A : - : J : NINE : # : 1500 : # : J : TWO : J : THREE : \overline{BT} : V : O : L : O :
- : S : A : P : I : - : N : U : M : Y : - : T : E : R : A : \overline{BT} : K :**

7210. CALLING, ANSWERING, RECEIPTING, REPETITIONS

7211. A *call* by semaphore is made by transmitting the attention sign followed, if necessary, by the call sign of the receiving station. It is *answered* by the answering sign.

7212. Flag-hoist calls may be used *at anchor** to establish communication, to signify readiness to receive, and to give receipt for nonexecutive semaphore messages. When flag-hoist calls are so used, the procedure is as follows:

a. Calling station hoists call sign(s) of station(s) called (at dip if a flag signal is flying at the same yardarm; otherwise two-blocked).

b. Station called:

1. Hoists calling station's call sign over ANS at the dip immediately, and then watches the calling station.

2. Two-blocks the hoist, signifying readiness to receive.

**NOTE.*—A signal is provided in the General Signal Book to facilitate the transmission of a semaphore message underway.

7213. Receipting.—Receipt for a semaphore message is given by:

a. Making R by semaphore, which is answered by R in the transmitting station.

b. If flag-hoist calls have been used, by hauling down the hoist as a receipt for the message. Calling station hauls down after station(s) called has (have) hauled down. When a collective call is used, the transmitting station hauls down immediately after completion of the transmission.

7214. Obtaining Repetitions.—Repetition of part of a message before a receipt has been given is obtained as follows:

a. By interrupting the transmission by use of **IMI** and requesting the portion missed. If flag-hoist calls are being used (art. 7212) the receiving station dips the answering hoist until the required portion has been obtained.

b. Alternatively the transmitting station may be allowed to complete the transmission of the message, and the receiving station requests the necessary repetitions before giving a receipt for the message.

7220. SEMAPHORE PROCEDURE—EXAMPLES

7221. Establishing communication with one ship.

DIVC3 (in C89) makes

C33 makes

(1) **Attention sign**, or **C33** (if necessary)→

←**Answering sign.**

(2) Proceeds with message.

In the above case, if the commanding officer of the flagship (C89) had originated the message, it would have been necessary to indicate such in Step 2, thus:

(2) **V C89**→

(3) Proceeds with message.

7222. Nonexecutive message to one ship.—DIVC3 transmits a nonexecutive message to C33:

<i>DIVC3 makes</i>	<i>C33 makes</i>
<hr/>	
Attention sign or C33 (if necessary)→	← Answering sign
<hr/>	
Proceeds with message, making K on completion→	← R
<hr/>	
R→	

7223. Nonexecutive message—collective address.—DIVC6 transmits a nonexecutive message to all ships of his division, using the collective call (CDIV6):

<i>DIVC6 makes</i>	<i>C34 makes</i>	<i>C35 makes</i>
<hr/>		
CDIV6→	← Answering sign	
	CDIV6→	← Answering sign
<hr/>		
GR 12 BT		
Request . . .		
(through text)→	GR 12 BT Request	
	(through text)→	
<hr/>		
K→	← R	
<hr/>		
R→	K→	
		← R
	R→	
<hr/>		

7224. Executive message to one ship.—DIVC3 transmits a message by executive method to C33:

<i>DIVC3 makes</i>	<i>C33 makes</i>
<hr/>	
Attention sign or C33 (if necessary)→	← Answering sign
<hr/>	
IX BT	
SUGAR XRAY	
BT	
<hr/>	
K→	← R (when understood)
<hr/>	
R→	
<hr/>	
*IX IX→	← IX
<hr/>	
AR→	← Answering sign
<hr/>	

*The instant of execution is the instant DIVC3 completes the transmission of AR. C33 ceases transmitting IX immediately and transmits the ANSWERING sign.

7225. **Executive message—collective address.**—DIVC6 transmits a message by executive method to all ships of his division, using the collective call (CDIV6):

DIVC6 makes C34 makes C35 makes

CDIV6→

← Answering sign
CDIV6→

← Answering sign

L
IX
BT
SPEED
FOUR
BT

L
IX
BT
SPEED
FOUR
BT

K→

← R (when understood)
K→

R→

← R (when understood)

R→
← L

Answering sign→

When ready to execute:

IX IX IX IX→

← IX IX IX→

← IX IX

AR→

← Answering sign
AR→

← Answering sign

NOTE. The instant of execution is the instant DIVC6 completes the transmission of AR. C34 transmits the ANSWERING sign to DIVC6 and at the same time transmits AR to C35. C35 transmits the ANSWERING sign to C34.

THE SEMAPHORE ALPHABET							
CHAR- ACTERS	HAND FLAGS	CHAR- ACTERS	HAND FLAGS	CHAR- ACTERS	HAND FLAGS	CHAR- ACTERS	HAND FLAGS
A and 1		I and 9		Q		Y	
B and 2		J and ATTENTION SIGN and Ø		R		Z	
C and ANSWER- ING SIGN and 3		K		S		ERROR SIGN	
D and 4		L		T		FRONT	
E and 5		M		U		NUMERALS	
F and 6		N		V			
G and 7		O		W			
H and 8		P		X			

Section D. FLAG HOIST SIGNALLING

7300. GENERAL

7301. Flags and pennants to be used in flag hoist signalling are shown on plates 2-7 and 3-7. Their detailed dimensions in their standard sizes are given in the appendix to the *Flag Book* (H. O. 89).

7302. When under way in formation, flag hoist signalling should be reserved primarily for the transmission of collective-address signals by unit commanders; and should be used for the transmission of non-collective-address signals only in the following cases:

- a. Signals that directly pertain to current operations.
- b. Reports transmitted at the request of a unit commander.

7303. A flag hoist is said to be at the dip when its top is about one-fourth of the way down from the point of hoist; and two-blocked or close up when its top is touching the block at the point of hoist. The originator shall always display the signal two-blocked.

7304. Order of flag hoists.—

- a. Signal flags of a single hoist are read from top down.
- b. Adjacent hoists are read from outboard in or from forward aft.
- c. When signals are hoisted at yardarms of different heights, those at the higher yardarm are read first.
- d. When a series of hoists is made on a yardarm and on a fore-and-aft stay, the flags are to be read in the order outboard in, forward aft.

7305. Arrangement of flags on hoists.—

- a. When there are more flags in a signal than can be made on a single hoist, the signal should be broken into two or more hoists; the breaks being made only at points where TACK can be inserted without ambiguity.
- b. When a display consists of two or more hoists, the hoists shall be run up successively in the order in which they are to be read, not simultaneously.
- c. If the display cannot be displayed on three halyards simultaneously, it is usually advisable to make two or more displays. When this is done, the heading is hoisted on a separate halyard and kept flying two-blocked until the last hoist is hauled down. The text is transmitted by successive displays on one or more halyards.

7310. COMPONENT PARTS OF A FLAG HOIST SIGNAL

7311. The component parts of a flag hoist signal are the *heading* and the *text*.

7312. The *heading* precedes the text and usually consists of the action addressee(s). Provision is made, however, for special indication in the heading as follows:

a. **FIRST REPEATER**, over the call sign of the originator as the first element in the heading, means, "Intervening ships relay this signal to addressee(s)" or, if there is no address indicated, "Intervening ships relay this signal to the OTC."

b. **THIRD REPEATER**, over the call sign(s) of the addressee(s), means, "The originator of this signal is the commanding officer of the flagship, not the flag officer or his administrative officer."

c. **FOURTH REPEATER**, alone as the heading, means, "For general information—no specific address, no answer required."

d. **WILLIAM** and **NEGAT** are used in headings to indicate information addressees and exemptions as prescribed in the *U. S. Navy Visual Call Sign Book*.

7313. Omission of the heading.—

- a. A signal *without a heading* hoisted by the OTC or SOPA is an *all-ships* signal.
- b. A ship hoisting a signal of a general informatory nature such as "strange aircraft sighted," may omit the heading.

7314. The *text* consists of the signal flags conveying the meaning of the signal. Instructions with regard to the encoding of signals, with the uses of the repeaters as substitutes, are contained in the *General Signal Book*.

7320. ANSWERING AND ACKNOWLEDGING

7321. A flag hoist is normally *answered* by addressees repeating the entire hoist at the dip when seen. If this is not possible, then ANS alone, or under the call sign of the originator may be used.

7322. A *flag officer or unit commander* or his administrative flagship may answer a flag hoist signal, addressed to him or to his administrative office from a ship or unit commander junior to him, by hoisting ANS at the dip, either alone or under the junior's call sign.

7323. *Two-blocking* a hoist constitutes *acknowledgment*. Hoists shall be two-blocked when understood and when addressees for whom responsible have two-blocked.

7324. When an addressee cannot determine the meaning of a hoist he shall not two-block it, but shall hoist the originator's call sign over INT on a halyard adjacent to it.

7325. A senior officer may *approve* a request made by flag signal from a ship by hoisting the call sign of the ship over AFIRM, or *disapprove* by hoisting NEGAT in the same manner. When a signal is answered in this manner the use of ANS by the senior is not required.

Example:

C32, a ship of CRUDIV3, addresses a request by flag hoist to the division commander (DIVC3) thus:

C32

DIVC3

Hoists:

DIVC3-----Heading

(****)-----Text

Hoists:

C

p3

p2

AFIRM

Hauls down

Hauls down

7330. RELAYING

7331. The usual flag hoist signal is relayed, and its acknowledgments are returned, automatically, in accordance with the system of responsibility, as set forth in articles 7401-05.

7332. A signal hoisted under FOURTH REPEATER is not required to be answered or relayed. Such a signal may, however, be relayed by repeating the signal with DESIG and the originator's call sign added to it.

7333. Signals addressed to the OTC are to be relayed by any ship in a position to do so. If a ship hoists a signal of general importance, e. g. "Enemy sighted," such signal should

be repeated by all ships. When repeated, the actual originator shall normally be shown by the addition, inferior to the signal, of DESIG followed by the call sign of the originator.

7334. If difficulty is experienced in relaying a signal by flag hoist, it should be relayed by flashing light. If an all-around light is used to expedite the passing of a flag-hoist signal, the text only will be flashed. In this special case, the all-around light is not to be answered, but ships are to answer by flag-hoist signal in the usual manner.

7340. EXECUTING

7341. Unless otherwise positively indicated, a flag-hoist signal is executed when it is hauled down by the originator. If it consists of two or more displays, it is not executed until the last display, with the heading, is hauled down.

7342. All addressees haul down with the originator, except when directed by a subordinate unit commander to delay execution. See one-letter signal QUEEN, *General Signal Book*.

7350. EXCHANGING CALLS BY FLAG HOIST

7351. When entering port, call signs are exchanged with the SOPA in port, if flag hoist is used, as shown in the examples which follow.

7352. C87, entering port, exchanges call signs with the SOPA, whose call sign is ØFØ

C87	ØFØ
Hoists: C p8 p7	
	Hoists: C p8 p7 ANS
Hauls down.	Hauls down.
	Hoists: pØ F 2nd
Hoists: pØ F 2nd ANS	
Hauls down.	Hauls down.

7353. Ships in a position to do so shall expedite the exchange of call signs between ships by relaying, using the SECOND REPEATER in the following manner:

<i>C87</i>	<i>C88</i>	<i>ØFØ</i>
Hoists: C p8 p7		
	Hoists: 2nd C p8 p7	
Hauls down.		
		Hoists: C p8 p7 ANS
	Hauls down.	Hauls down.
		Hoists: pØ F 2nd
	Hoists: 2nd pØ F 2nd	
		Hauls down.
Hoists: pØ F 2nd ANS		
	Hauls down.	
Hauls down.		

7360. FLAG-HOIST SIGNALLING EXAMPLES

7361. Flag-Hoist Signal to One Ship.—From a commander to a subordinate commander or ship, or between two ships.

DIVC3 transmits a flag-hoist signal to C33.

<i>DIVC3</i>	<i>C33</i>								
Hoists (two-blocked):									
<table style="border: none;"> <tr> <td style="padding-right: 10px;">p3-----</td> <td rowspan="2" style="font-size: 2em; vertical-align: middle;">}</td> <td rowspan="2">Heading.</td> </tr> <tr> <td>1st-----</td> </tr> <tr> <td>D-----</td> <td rowspan="2" style="font-size: 2em; vertical-align: middle;">}</td> <td rowspan="2">Text</td> </tr> <tr> <td>X-----</td> </tr> </table>	p3-----	}	Heading.	1st-----	D-----	}	Text	X-----	
p3-----	}			Heading.					
1st-----									
D-----	}	Text							
X-----									
	Hoists (at the dip):								
	<p>p3 1st D X</p>								
	Two-blocks when understood, to receipt.								
Hauls down.	Hauls down.								

7362. From a Ship, or from a Subordinate Commander, to a Higher Command.

C33 transmits a flag-hoist signal to SOPA (p5).

<i>C33</i>	<i>SOPA (p5)</i>								
Hoists (two-blocked):									
<table style="border: none;"> <tr> <td style="padding-right: 10px;">p5-----</td> <td rowspan="2" style="font-size: 2em; vertical-align: middle;">}</td> <td rowspan="2">Heading.</td> </tr> <tr> <td>D-----</td> </tr> <tr> <td>X-----</td> <td rowspan="2" style="font-size: 2em; vertical-align: middle;">}</td> <td rowspan="2">Text.</td> </tr> <tr> <td>AFIRM-----</td> </tr> </table>	p5-----	}	Heading.	D-----	X-----	}	Text.	AFIRM-----	
p5-----	}			Heading.					
D-----									
X-----	}	Text.							
AFIRM-----									
	Hoists (at the dip):								
	ANS (or C33 ANS)								
	Two-blocks to receipt.								
Hauls down.	Hauls down.								

7363. Flag-Hoist Signal with Collective Address.
 DIVC6 transmits a flag-hoist signal to his division.

<i>DIVC6</i>	<i>C34</i>	<i>C35</i>
(1) Hoists (two-blocked): p1 ----- Heading. SPEED ----- } 1 ----- } Text.		
(2)	Hoists (at the dip): p1 SPEED 1	Hoists (at the dip): p1 SPEED 1
(3)		Two-blocks to receipt.
(4)	Two-blocks to receipt.	
(5) Hauls down to execute.	Hauls down.	Hauls down.

7364. Flag-Hoist Signal Addressed to Two or More Ships, Using Individual Call Signs.

<i>DIVC6</i>	<i>C34</i>	<i>C35</i>
(1) Hoists (two-blocked): First hoist $\left\{ \begin{array}{l} \mathbf{p3} \\ \mathbf{p4} \\ \mathbf{2nd} \\ \mathbf{p5} \end{array} \right\}$ Heading. Second hoist $\left\{ \begin{array}{l} \mathbf{T} \\ \mathbf{G} \\ \mathbf{U} \end{array} \right\}$ Text.		
(2)	Hoists (at the dip): First hoist $\left\{ \begin{array}{l} \mathbf{p3} \\ \mathbf{p4} \\ \mathbf{2nd} \\ \mathbf{p5} \end{array} \right\}$ Second hoist $\left\{ \begin{array}{l} \mathbf{T} \\ \mathbf{G} \\ \mathbf{U} \end{array} \right\}$	Hoists (at the dip): First hoist $\left\{ \begin{array}{l} \mathbf{p3} \\ \mathbf{p4} \\ \mathbf{2nd} \\ \mathbf{p5} \end{array} \right\}$ Second hoist $\left\{ \begin{array}{l} \mathbf{T} \\ \mathbf{G} \\ \mathbf{U} \end{array} \right\}$
(3)		Two-blocks to receipt.
(4)	Two-blocks to receipt.	
(5) Hauls down to execute.	Hauls down.	Hauls down.

7365. Specific Instructions for Relaying a Flag-Hoist Signal.

a. To the OTC.

C34 originates a signal to be relayed to the OTC (J).

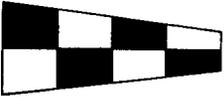
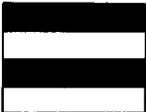
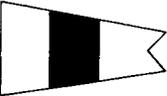
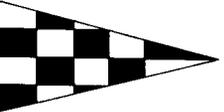
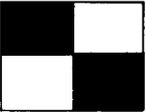
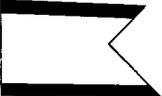
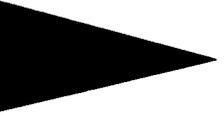
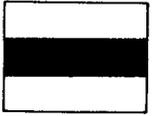
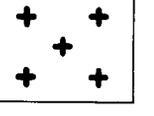
<i>C34</i>	<i>C33</i>	<i>J (OTC)</i>
(1) Hoists (two-blocked): 1st.....Relay indicator. C p3 p4 AFIRM POSIT		Call sign of originator. Text.
(2)	Hoists (two-blocked): (1st hoist) (2nd hoist) 1st C p3 p4	AFIRM POSIT
(3) Hauls down.		
(4)		ANS (or C34 ANS) (at dip)
(5)		Two-blocks to receipt.
(6)	Hauls down.	
(7)		Hauls down.

b. To an addressee other than OTC.

DIVC6 originates a signal to be relayed to C34.

DIVC6	C33	C34
(1) Hoists (two-blocked):		
First Hoist	$\left. \begin{array}{l} \text{1st} \text{---} \text{Relay indicator.} \\ \text{DIV} \\ \text{C} \\ \text{p6} \end{array} \right\}$	$\left. \begin{array}{l} \text{Call sign of originator.} \\ \text{Call sign of addressee.} \end{array} \right\}$ Heading
Second Hoist	$\left. \begin{array}{l} \text{C} \\ \text{p3} \\ \text{p4} \\ \text{D} \\ \text{X} \end{array} \right\}$	Text.
(2) Hoists (two blocked):		
First Hoist	$\left. \begin{array}{l} \text{1st} \\ \text{DIV} \\ \text{C} \\ \text{p6} \end{array} \right\}$	
Second Hoist	$\left. \begin{array}{l} \text{C} \\ \text{p3} \\ \text{p4} \\ \text{D} \\ \text{X} \end{array} \right\}$	Text.
(3) Hauls down.		
(4) Hoists (at dip):		
First Hoist	$\left. \begin{array}{l} \text{1st} \\ \text{DIV} \\ \text{C} \\ \text{p6} \end{array} \right\}$	
Second Hoist	$\left. \begin{array}{l} \text{C} \\ \text{p3} \\ \text{p4} \\ \text{D} \\ \text{X} \end{array} \right\}$	Text.
(5) Two-blocks to receipt.		
(6) Hauls down.		
(7) Hauls down.		

ALPHABET FLAGS				NUMERAL PENNANTS		
Afirm		Love		William		
Baker		Mike		Xray		
Charlie		Negat		Yoke		
Dog		Option		Zebra		
Easy		Prep		REPEATERS		
Fox		Queen			1	
George		Roger		1st Repeat	2	
How		Sugar			3	
Int		Tare		2nd Repeat	4	
Jig		Uncle			5	
King		Victor		3rd Repeat	6	
					7	
					8	
					9	
					0	

SPECIAL FLAGS AND PENNANTS		NUMERAL FLAGS	
Corpen		Turn	
Deploy		Div	
Desig		Sect	
Emerg		Squad	
Form		Flot	
Posit		Ans	
Speed		Sopus	
		4th. Repeat	
		One	
		Two	
		Three	
		Four	
		Five	
		Six	
		Seven	
		Eight	
		Nine	
		Zero	

Section E. MISCELLANEOUS

7400. THE CHAIN OF VISUAL RESPONSIBILITY

7401. In any disposition or formation the chain of visual responsibility shall normally, unless otherwise directed, be as indicated on the diagram prescribed by the officer ordering the disposition. When a diagram of a disposition or formation does not exist, or if existent and no chain of visual responsibility is indicated thereon, the rules as set forth in the paragraphs following shall normally apply.

7402. *The general rule* for determining the responsibility for any situation is that each addressee is responsible for the delivery of the messages to addressees beyond himself in the general direction away from the originator. It is the duty of any ship to expedite the transmission of a message by relay when it is evident that she is in a better position to effect the necessary relay than the ship specifically responsible. No rule of responsibility set forth herein, or prescribed by responsible commanders, shall be interpreted as restricting the initiative of any ship in relaying a message to an addressee who does not respond when called.

7403. *Simple Formations.*—Any given ship is responsible for the ships beyond and in the direction away from the originating ship.

7404. *Compound Formations.*—Each *task force (group)* commander is responsible for his own task group (unit) commanders and also for other task force (group) commanders in a direction beyond and away from the originating ship. In turn each *task unit* commander is responsible for the division or column leaders of his own unit and for other unit commanders in a direction beyond and away from the task group commander. The *division or column leader* is responsible for the ships of his own division or column, and *each ship* of the division or column is responsible for the ships in the division or column in a direction beyond and away from the leader.

7405. During maneuvers which change the formation, the responsibility for relaying messages does not change until the maneuver is completed by all ships. In this situation, wherein units are rapidly changing their position in relation to the OTC, particular initiative and alertness must be exercised by all ships to insure rapid and effective delivery of collectively addressed messages.

7410. RELAYING INSTRUCTIONS

7411. Responsible commanders afloat will sometimes find it desirable to prescribe specific rules for relaying. Such action is authorized, and, when prescribed, such rules shall govern. In any case where any doubt may exist as to the automatic responsibility of certain units for relaying to an addressee, specific relay instructions should be given by the use of the prosign T in the heading as necessary. Normally, specific relaying instructions are not necessary for the following types of messages:

- a. Messages addressed to a collective call sign.
- b. Messages to the OTC.
- c. Messages from a ship to the senior officer of her sub-unit.

7412. A message to be relayed should be passed on item for item, as it is being received. Minimum lag between the originator's transmission of each item and its accurate delivery to the last addressee is the object.

7420. ESTABLISHING COMMUNICATION OR EXCHANGING CALLS

7421. In the instructions which follow, it is assumed that in wartime, or when required under any other circumstances, the *friendly character* of the ship or station has first been definitely established by the prescribed system of recognition or emergency identification.

7443. Spoken.—Alphabet flags, numeral flags, or special flags and pennants are spoken of by the names appearing in plates 2-7 and 3-7—except that ANS, EMERG, FORM, INT and TACK are spoken “Answering,” “Emergency,” “Formation,” “Interrogatory,” and “Tack-line,” respectively. Numeral pennants are spoken by prefixing the word “pennant” to the numeral, such as “pennant one,” to distinguish them from numeral flags.

7450. MISCELLANEOUS INDICATORS

7451. The tables inserted as plates 4-7 and 5-7 provide a ready reference for the miscellaneous indicators—flag and light. Such of these indicators as are not discussed in other publications are explained herein.

7452. Nature of operations.—

a. Speed trials.—AFIRM displayed continuously at the foretruck of a naval ship at sea means, “I am undergoing a speed trial.” Although it accords with the *International Code of Signals*, this display of AFIRM does not relieve the ship in any way from complying with the rules of the road at sea. Naval ships engaged in full power, smoke-prevention, endurance, or standardization runs, shall display AFIRM as prescribed above.

b. Dangerous operations.—BAKER displayed during daylight at the foretruck of a naval ship or in the bow of a naval boat means, “I am engaged in a dangerous operation.” While BAKER is displayed by a ship, the flags indicating guide, guard, ready duty, visual communication duty shall not be displayed by that ship. The purpose of BAKER is to warn other naval ships and boats in order that they may not hamper the conduct of the operation, endanger the ships or personnel engaged in the operation, or expose themselves unnecessarily to hazard. BAKER shall be so displayed by naval ships and boats engaged in the following operations:

1. Ships taking aboard, discharging, or handling in exposed spaces large quantities of explosives or inflammables. (A red all-around light shall be displayed at the foretruck where such operation is in progress between sunset and sunrise.)
2. Boats transporting explosives or inflammables in large quantities.
3. Ships or boats tending divers.
4. Ships laying mines or engaged in mine practices.
5. Ships engaged in gunnery practices. BAKER is two-blocked at the foretruck from the order to *commence firing* until firing is completed; dipped at other times while on the range or between phases. BAKER may be used at the yard-arm instead of at the foretruck, when prescribed, to indicate the side on which firing is to be conducted.
6. Ships engaged in depth-charge practices or in any practice or exercise when a submerged submarine is employed as the target.
7. Ships acting as targets or towing targets for gunnery or torpedo practices and for other practices or exercises when directed by competent authority. BAKER is dipped while range is foul or target not ready.
8. Other operations when directed by competent authority.

c. The following use of BAKER is prescribed for ships engaged in two-ship coordinated antisubmarine attack:

At the dip	Two-blocked	Dipped after being two-blocked
I am attacking vessel and have contact and am preparing to attack.	I am attacking.	I am dropping depth charges.

7457. Absence Indicators.

a. When an officer or official whose flag or command pennant is flying from a ship of the Navy is absent from his flagship for a period of 72 hours or less, the following absence indicators are prescribed.

1. *Sunrise to sunset.*

Indicator	Officer or official absent
First REPEATER at starboard yardarm.....	Officer or official whose personal flag or command pennant is flying in this ship.
Second REPEATER at port yardarm.....	Chief of staff.
Third REPEATER at port yardarm.....	Captain (executive officer if captain is absent for a period exceeding 72 hours).

2. *Sunset to sunrise*—by not displaying the flag lights prescribed in article 7456.

b. *Intention to depart officially.*

Indicator	Officer or official departing
SPEED under personal flag or broad command pennant.	Official or officer under whose personal flag or broad command pennant SPEED is displayed will leave the ship officially in about 5 minutes. SPEED will be hauled down at the moment of his departure.

7460. SPEED INDICATORS

7461. In addition to the signals provided in the *General Signal Book* the following signals are prescribed to indicate speed of naval vessels underway in the vicinity of other naval vessels.

7462. *Speed Cones.*—Speed cones shall be used when prescribed by competent authority, during daylight when getting underway, leaving port, or entering port in company with other naval ships, and at such other times as required. When entering port they shall be hoisted following the motions of the senior officer of the formation. When leaving port they shall be hauled down on signal from the formation commander. They shall be painted bright yellow. Multiple-screw ships shall display two cones, one on each outboard signal halyard, each indicating the setting of the engine-room telegraph on the side on which it is hoisted. Single-screw ships shall display only one cone, at a point where it can best be seen. Each cone indicates the *setting of the engine room telegraph*, as follows:

Hoisted	Apex up	Apex down
Two-blocked.....	Ahead, standard, full or flank.....	Back, full.
$\frac{3}{4}$ way up.....	Ahead, two-thirds.....	Back, two-thirds.
$\frac{1}{2}$ way up.....	Ahead, one-third.....	Back, one-third.
Hauled down.....	Stop.....	Stop.

Plate 4-7.-

TABLE OF SINGLE FLAG INDICATORS

Line No.	Flag	Indication	Where displayed	At dip	Two-blocked	Hauled down	
1	AFIRM.....	Getting underway.....	Foretruck.....	Hove short.....	Anchor aweigh.....	Ready to proceed.	
2		Mooring in formation.	Foretruck.....	First anchor let go..	Second anchor let go..	Mooring shackle on and chain secured.	
3		Streaming paravanes..	Foretruck.....	Ready to stream....	Streamed and riding clear.	Ready to proceed.	
4		Picking up paravanes.	Foretruck.....	Ready to pick up...	Both paravanes hoisted clear.	Ready to proceed.	
5		Fueling: Vessel delivering fuel or vessel towing for fueling operation.	Forward yardarm on side rigged for fueling.	On fueling course and speed.	Ready to receive vessel.	Tow line secured or when both vessels ready to fuel.	
6		Vessel receiving fuel or vessel making approach.		Forward yardarm on side rigged for fueling.	Preparing to come alongside; tow line desired. Display A firm TACK Negat if tow line not desired.	Ready to come alongside.	Tow line secured.
7		Fueling: "Astern method": Oiler.	Foretruck.....			Ready for receiving vessel's approach.	
					When receiving vessel ready to cast off.		When tow line clear of vessel receiving fuel.
8		Receiving vessel.....	Forward yardarm...	Commencing approach.		Tow line secured.....	
					Ready to cast off...		Tow line clear.
9		Ships engaged in 2 ship coordinated anti-sub attack.	Foretruck.....	I am the ASSIST-ING vessel and have contact.	You are crossing my bearing of sub.	Operation completed.	
10		"Baker," "Charlie," and "Dog" method aircraft recovery (USF 75).	Main yardarm.....	As prescribed in USF 75.			
11							
12							

TABLE OF SINGLE FLAG INDICATORS—Continued

Line No.	Flag	Indication	Where displayed	At dip	Two blocked	Hauled down
31	SOPUS.....	SOPA when no distinctive flag or pennant is flying.	After starboard yardarm.			
32		Fleet Guide.....	Foretruck underway.	As prescribed by <i>General Tactical Instructions</i> .		
33	SPEED.....	Speed indicator.....	Yardarm.....	As prescribed in Art. 7463.		
34		Crew at meal.....	Yardarm.....			
35		Intention to depart officially.	Below personal flag or broad command pennant.		Official or officer under whose personal flag or broad command pennant SPEED is displayed will leave the ship officially in about 5 minutes.	Official has left ship.
36	ZERO.....	Guard boat duty.....	Bow of boat.....			
37		Formation Guide.....	Foretruck underway.	As prescribed by <i>General Tactical Instructions</i> .		
38		Military Guard.....	Foretruck at anchor.			
39	ONE.....	Directing ship's boat..	Yardarm.....		Steer to RIGHT of line looking from ship to boat.	
40	TWO.....		Yardarm.....		Steer to LEFT of line looking from ship to boat.	
41	THREE.....		Yardarm.....		Steer straight AWAY from ship.	
42	FOUR.....		Yardarm.....		Steer straight TOWARD ship.	
43	FIVE.....		Breakdown.....	Foretruck.....		Breakdown or not under control.
44		Man overboard.....	Foretruck.....	Man overboard.....		
45	SIX.....	Aircraft recall.....	Foretruck.....		Recalls all aircraft.....	
46	SEVEN.....	Unit guide.....	Foretruck.....	As prescribed by <i>General Tactical Instructions</i> .		
47	EIGHT.....	Boat recall.....	Foretruck.....		Recalls all boats.....	
48	NINE.....	Aircraft.....	Foretruck.....		Allied aircraft operating overhead.	
49	1st.....	Absence of an official from his ship for a period 72 hours or less.	Starboard yardarm.		Officer or official whose personal flag or command pennant is flying in this ship.	
50	2d.....		Port Yardarm.....		Chief of Staff.....	
51	3d.....		Port Yardarm.....		Captain (executive officer if captain is absent for a period exceeding 72 hours).	
52	BLACK PENNANT.	Enemy submarine attack.	Yardarm.....	Contact lost.....	Have submarine contact.	Operation completed.