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 Ø8ØØ to 18ØØ local zone time, except after 13ØØ 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 3Ø minutes of each hour from Ø8ØØ to 16ØØ local zone time, except after 13ØØ 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).

teletypewriter

6106. All naval transmissions by telegraphic systems, except semaphore, 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 — — . . .	Ø — — — — —
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:

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

e. Punctuation marks in plain language messages:

AAA	Period	XE	Slant
DU	Hyphen	~~POINT~~	~~Decimal point~~
KK	Parenthesis	~~QUOTE UNQUOTE~~	~~Quotation marks~~

Additional necessary punctuation is spelled out as words. For U. S. Naval use only, the letter X is usually used to indicate all forms of punctuation.

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 $\overline{\text{AR}}$ or **K.** When the ending $\overline{\text{AR}}$ 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. Urgent	Operational priority, priority, routine or deferred.	Break at once.
2. Operational priority	Priority	Completion of the transmission of a short priority message may be permitted.
	Routine or deferred	May break at once.
3. Priority	Routine or deferred	Transmission of a short routine or deferred message will not usually be interrupted.
4. Routine	Deferred	Transmission of a short deferred message will not usually be interrupted.

Note.—In accordance with article 6263, messages designated as operational by the operating signal QPE, take precedence over all administrative messages. When operational messages (O, OP, QPE) are awaiting transmission, break in on administrative traffic is authorized, except that transmission of short administrative messages 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.

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, $\overline{\text{BT}}$, 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 receipted 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.

Prosign	*Name*	*Article*
A	Originator's Sign	6211, 6250
$\overline{AA}$	Unknown Station	6212
AA	All After	6213
AB	All Before	6213
$\overline{AR}$	End of Transmission	6214
$\overline{AS}$	Wait	6215
B	More to Follow	6216
$\overline{BT}$	Long Break	6217
C	Correct	6218
D	Deferred	6219, 6260
EEEEEEEE	Error	6220
F	Do Not Answer	6221
G	Repeat Back	6222
GR	Group Sign	6223
*$\overline{HM}$ (made 3 times)	Emergency Silence Sign	6224
II	Separative Sign	6225
$\overline{IMI}$	Repeat	6226
$\overline{INT}$	Interrogatory	6227
$\overline{IX}$	Execute to Follow	6228
$\overline{IX}$ (5 sec.)	Execute Signal	6229
J	Verify and Repeat	6230
K	Go Ahead	6231
N	Not Received or Exempted	6232
NR	Station Serial Number	6233

**Used only as prescribed in article 6224.*

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prosign

Position	Name	Article
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. $\overline{\text{AA}}$ "Unknown Station."—$\overline{\text{AA}}$ 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:

$\overline{\text{AA}}$ V 6F2 K

6213. AA "All after" and AB "All before."—These prosigns are used in procedure messages, after **$\overline{\text{IMI}}$, C, J,** and certain operating signals to identify a portion of a message. See art. 6313.

6214. $\overline{\text{AR}}$ "End of transmission."—This prosign means, "This is the end of my transmission to you and no response is required or expected." See art. 6111*f*.

Example

BF6 V 6F2 R $\overline{\text{AR}}$

6215. $\overline{\text{AS}}$ "Wait."

a. $\overline{\text{AS}}$ made during a transmission and without an ending sign indicates a pause of a few seconds.

Example

A2D V BF6 1Ø2Ø3Ø GR 5 $\overline{\text{BT}}$ JOIN CONVOY AT POINT $\overline{\text{AS}}$

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

A2D V BF6 POINT XRAY $\overline{\text{BT}}$ 1Ø2Ø3Ø K

b. $\overline{\text{AS}}$ followed by $\overline{\text{AR}}$ means, "You are to wait" or "I am obliged to wait," as applicable.

Example

A2D V BF6 $\overline{\text{AS}}$ $\overline{\text{AR}}$

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

c. A junior having received $\overline{\text{AS}}$ 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 19ØØ3Ø GR 37 $\overline{\text{BT}}$ text **$\overline{\text{BT}}$ 19ØØ3Ø 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 261Ø17 GR 37 $\overline{\text{BT}}$ text $\overline{\text{BT}}$ 261Ø17 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 1ØØ groups.

Example

BF6, transmitting a message of 16Ø 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 16Ø $\overline{\text{BT}}$ text (* * * first 1ØØ groups) **– B 1ØØ 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 1Ø1 – (text * * * group 1Ø1 to 16Ø both inclusive) **$\overline{\text{BT}}$ 242322 K**

6217. $\overline{\text{BT}}$ "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 $\overline{\text{BT}}$ REQUEST AMBULANCE PLANE TRANSPORT INJURED MAN TO RELIEF $\overline{\text{BT}}$ 152325 K

Example B

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

A2D V BF6 $\overline{\text{BT}}$ ROGER DOG FOX $\overline{\text{BT}}$ 1145 $\overline{\text{AR}}$

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 31Ø9 EEEEEEEE NBA 31Ø83Ø BF6 – W – A2D GR 18 BT text BT 31Ø83Ø 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 EEEEEEEE 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 EEEEEEEE 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 EEEEEEEE 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 EEEEEEEE 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 $\overline{\text{BT}}$ text **$\overline{\text{BT}}$ 261627 $\overline{\text{AR}}$**

Example B

A2D V BF6 – A – NBA 261627 A2D GR 16 $\overline{\text{BT}}$ text **$\overline{\text{BT}}$ 261627 F $\overline{\text{AR}}$**

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 1Ø $\overline{\text{BT}}$ text **$\overline{\text{BT}}$ 221913 K**

6F2 complies as follows:

BF6 V 6F2 – 6F2 V BF6 – G – 221913 GR 1Ø $\overline{\text{BT}}$ text **$\overline{\text{BT}}$ 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 $\overline{\text{BT}}$ KANO TUON CREU AHID XOYO DEAK FOLB DUTA $\overline{\text{BT}}$ 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 221Ø15 GR 11 $\overline{\text{BT}}$ HEGA RNQZ SBQO JCLW QSKY BARI TFMV PWQU YOHC JHVG ULID $\overline{\text{BT}}$ 221Ø15 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 31Ø2ØØ $\overline{\text{BT}}$ text **$\overline{\text{BT}}$ 31Ø2ØØ 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 31Ø2ØØ $\overline{\text{BT}}$ text **$\overline{\text{BT}}$ 31Ø2ØØ K**

Later BF6 determines the group count and transmits:

A2D V BF6 C 31Ø2ØØ GR 39 AR

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

Example

PW6 V BF6 INT GR 2Ø K See article 6227.

6224. HM (made three times) "Emergency Silence."

a. The emergency silence sign shall be used only by the SOPA or the O. T. C. 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.~~ MAKING URGENT ENEMY REPORTS.

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 who imposed it.

Examples

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

K49 V BF6 HM HM HM QKA* ——AR

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

K49 V BF6 QQZ HM HM HM QKA* ——AR**

**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:

SEE BELOW →

1. Imposing emergency silence.
2. Canceling emergency silence.
3. Calling a station 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:*

e. Where authentication has been prescribed, any station must authenticate urgent enemy reports made during the period of emergency silence.

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 15ø – 3 to 6 – DOGO NUBO CEXE DEFE – AA 148 – ZABO TUTU BT 172214 K

Example C

BF6 V 6F2 J 1ø1ø3ø – 2 – 5 K

Example D

The reply thereto:

6F2 V BF6 C 1ø1ø3ø – 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 article 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 article 6111f.

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 GR2Ø 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 NR72 192223 GR16 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 NR16 NR13 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 NR37 AR

Example B

6F2 receipts for BF6's NR4Ø to 45 inclusive:

BF6 V 6F2 R NR4Ø TO 45 AR

Example C

6F2 indicates BF6's NR14 not received:

BF6 V 6F2 N NR14 K

6234. O "Urgent".—See "Use of Precedence Prosigns," article 6260.

6235. OP "Operational Priority."—See "Use of Precedence Prosigns," article 6260.

6236. P "Priority."—See "Use of Precedence Prosigns," article 6260.

6237. R "Received" (also "Routine").

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

Example

BF6 V A2D R 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 AR

c. After a call, **R** preceded by **INT** signifies, "Have you received my last message?"

Example

BF6 V A2D INT R K

d. After a call, **R** preceded by **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 INT R 6F2 121416 K

Example B

A2D, having received it, transmits:

BF6 V A2D R 6F2 121416 AR

e. In dual precedence messages, the prosign **R** may be used to indicate routine precedence. See article 6265.

6238. 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 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 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 $\overline{\text{BT}}$ etc.

6239. 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.

6240. W "For Information to."—See "Message Address," including uses of A and W, article 6250.

6241. WA "Word After."—This prosign is used in the text of a procedure message, after **$\overline{\text{IMI}}$, C, J,** and certain operating signals to identify a portion of a message. See article 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 $\overline{\text{BT}}$ text **$\overline{\text{BT}}$ 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 $\overline{\text{BT}}$

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 $\overline{\text{BT}}$ etc.

Example B

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

PW6 6F2 V BF6 – A – BF6 31Ø745 – W – PW6 6F2 GR19 $\overline{\text{BT}}$ 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 $\overline{\text{BT}}$ etc.

6252. Readdressing messages (double heading).—On occasion an addressee 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 – 2214ØØ GR 16 $\overline{\text{BT}}$ etc.

Message readdressed by 6F2 to KFR for action.

KFR V 6F2 – O – A – 6F2 221445 KFR – A – BF6 2214ØØ 6F2 GR 16 $\overline{\text{BT}}$ text **$\overline{\text{BT}}$ 2214ØØ K**

Example B

Original message received by 6F2:

– A – BF6 27163Ø A2D – W – 6F2 GR 32 $\overline{\text{BT}}$ etc.

Message readdressed by 6F2 to KFR for information:

KFR V 6F2 – P – A – 6F2 271715 – W – KFR – A – BF6 27163Ø A2D – W – 6F2 GR 32 $\overline{\text{BT}}$ etc.

Example C

Original message received by 6F2:

6F2 V BF6 – O – $\overline{\text{BT}}$ text **$\overline{\text{BT}}$ K**

Message readdressed by 6F2 to KFR for action:

KFR V 6F2 – O – A – 6F2 – KFR – A – BF6 – 6F2 $\overline{\text{BT}}$ text **$\overline{\text{BT}}$ K**

Example D

Original message received by 6F2:

6F2 V BF6 $\overline{\text{BT}}$ text **$\overline{\text{BT}}$ 1141 K**

Message readdressed by 6F2 to KFR for information:

KFR V 6F2 – D – A – 6F2 1245 – W – KFR – A – BF6 – 6F2 $\overline{\text{BT}}$ text **$\overline{\text{BT}}$ 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 NR27Ø – P – 6F2 2Ø1314 GR71 BT text **BT** etc.

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

KFR V 6F2 – OP – 2Ø14ØØ 2Ø1314 GR71 BT text **BT** etc.

Example B

Original message as received by 6F2:

6F2 V BF6 – P – T – MPQ 6F2 141414 GR6Ø etc.

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

G94 KFR V 6F2 – A – 6F2 15Ø345 G94 – W – KFR 141414 GR6Ø

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:

O	Urgent.	**R***	Routine.
OP	Operational Priority.	**D**	Deferred.
P	Priority.		

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

6263. Operational Message Designation.

a. The operating signal QPE, meaning "This is an operational message", is effective for use within the U. S. naval service.

b. When a message is designated as operational by the originator, QPE shall be placed in the heading as follows:

(1) Naval form: In message instructions.
(2) Commercial form: Immediately preceding the date.
(3) BAMS messages, and those addressed outside the naval service: In the preamble.

c. QPE may be placed in the preamble of any dispatch by a relaying station if the text of the dispatch indicates that it is warranted.

d. QPE shall be deleted when a message passes from a U. S. naval circuit to any other circuit. It will never be transmitted on a BAMS broadcast.

e. Messages containing QPE will be handled ahead of all other messages except those containing the prosign O or OP.

*NOTE.—***O** *and* **OP** *precedence designations are limited to operational messages and hence do not require the identifying operating signal prescribed above.*

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 – 12Ø93Ø GR2Ø $\overline{\text{BT}}$ etc.
6F2 V BF6 – P – T – A – BF6 211935 KFR MPQ GR18 $\overline{\text{BT}}$ etc.

Example B

Routine to all addressees:

A2D 6F2 V BF6 142132 GR19 $\overline{\text{BT}}$ etc.
6F2 V BF6 – T–A–BF6 Ø51921 KFR–W–MPQ GR13 $\overline{\text{BT}}$ 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. A message involving two precedences shall include the appropriate precedence prosigns in the preamble. Only one of the precedence prosigns will be followed by the call signs relevant to it. This precedence prosign will be that which applies to the smaller number of call signs. The other precedence prosign applies to the call signs of all other addressees. Where there are an equal number of call signs for each precedence, the prosign of higher precedence will be followed by the call signs relevant to it.

d. The prosign of higher precedence appears first.

e. When *routine precedence* is used in dual precedence messages, the prosign **R** is used only if followed by call signs.

Example A

Precedence: *Operational priority* to A2D, *routine* to 6F2:

A2D 6F2 V BF6 – OP – A2D Ø6191Ø GR16 $\overline{\text{BT}}$ etc.

Example B

Precedence: *Priority* to A2D and 6F2, *routine* to KFR and MPQ:

A2D 6F2 V BF6 – P – A2D 6F2 – 6F2 – T – KFR MPQ – A – BF6 142345 A2D 6F2 – W – KFR MPQ GR16 $\overline{\text{BT}}$ etc.

6F2's retransmission to KFR and MPQ:

KFR MPQ V 6F2 – P – A2D 6F2 – A – BF6 142345 A2D 6F2 – W – KFR MPQ GR16 $\overline{\text{BT}}$ etc.

Example C

Precedence: *Urgent* to A2D and 6F2, *operational priority* to PW6:

K49 V BF6 – O – OP – PW6 – A – BF6 141635 A2D 6F2 – W – PW6 GR16 $\overline{\text{BT}}$ etc.

Example D

Precedence: *Priority* to A2D and 6F2, *deferred* to KFR and MPQ:

A2D 6F2 V BF6 – P – A2D 6F2 – D – 6F2 – T – KFR MPQ – A – BF6 171345 A2D 6F2 – W – KFR MPQ GR24 BT etc.

Example E

Precedence: *Routine* to A2D, *deferred* to PW6 and 6F2:

A2D PW6 6F2 V BF6 – R – A2D – D – A – BF6 Ø9133Ø A2D – W – PW6 6F2 GR38 BT etc.

6270. COUNTING OF GROUPS

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

a. Count groups between **BT** and **BT**.

b. Punctuation marks (see article 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 **AAA**, **DU**, **KK**, and **XE**, counts as one group.

e. Hyphenated words and hyphenated names, when transmitted as one word, count as one group.

Examples

	Group count
BRAY$\overline{\text{DU}}$CORBIE	1
BRAY HYPHEN CORBIE	3
NEWYORK*	1
XFUY	1
VNYR NKLY JVRN	3
(FRANCE)	1
125/3	1
CG	1
125$\overline{\text{DU}}$3/4(55)X56	1
35 DASH 567P	3
MR C D ADAMS	4
BF6 311845	2
21 POINT 6	3

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

**NOTE.—"New York" and other geographical names consisting of 2 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.*

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 **$\overline{\text{INT}}$ 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 $\overline{\text{BT}}$ RECEIVED SHIPMENT TWENTYONE TRUCKS FROM PARIS (FRANCE) TODAY $\overline{\text{BT}}$ 272113 K

PW6 questions the group count.

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

PW6 V BF6 GR 8 $\overline{\text{BT}}$ R S T T F P $\overline{\text{KK}}$ T $\overline{\text{BT}}$ 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 $\overline{\text{BT}}$.** 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.

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). See article 6232. A *preliminary call* is one made to insure the attention of another station or stations 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 $\overline{\text{IMI}}$ 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

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 $\overline{\text{INT}}$ GR 37 K
(Instead of **BF6 V A2D $\overline{\text{INT}}$ 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 Ø will be considered the twenty-seventh through the thirty-sixth letters of the alphabet.

Example

ATB AY AYC2 A2A BAA 13N 9A6 ØA5

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.

6290. EXAMPLES OF THE USE OF SHORE RADIO STATION AND INDEFINITE CALL SIGNS

6291. The following examples illustrate some uses of indefinite call signs and call signs of shore radio stations. Wherever actual call signs are used, those for units afloat are shown encrypted, and those for shore activities are unencrypted. In these examples (P) indicates plaindress, (MP) modified plaindress and (C) codress.

Example A

Shore station to shore station whose coding board is NOT serving addressee:
From: OPNAV (MUSK)
Action: COM 14 (TORY)

Key: NSS —Rdo Washington
NPM —Rdo Honolulu
NAOF—Any or all

(P) **NPM V NSS NR3795 –T–A– MUSK Ø6193Ø TORY GR . . . $\overline{\text{BT}}$ TEN DAYS AVAILABILITY GRANTED AUGUSTA $\overline{\text{BT}}$ Ø6193Ø**

(MP) **NPM V NSS NR3795 –T–A– NAOF Ø6193Ø TORY GR . . . $\overline{\text{BT}}$ TEN DAYS AVAILABILITY X FROM OPNAV X GRANTED AUGUSTA $\overline{\text{BT}}$ Ø6193Ø**

cut out and paste

*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.

(MP) **NPM V NSS NR 3795 –A– NAOF Ø6193Ø NPM GR . . . BT TEN DAYS AVAILABILITY X FROM OPNAV NPM PASS FOR ACTION COM FOURTEEN X GRANTED AUGUSTA BT Ø6193Ø**

(C) **NPM V NSS NR3795 –T– TORY Ø6193Ø GR . . . BT TEN DAYS AVAILABILITY X FROM OPNAV ACTION COM FOURTEEN X GRANTED AUGUSTA BT Ø6193Ø**

Example B

Ship to shore, relay involved:
From USS NORTHSTAR (NS9Y)
Action: OPNAV (MUSK)

Key: NSS—Rdo Washington
NAM —Rdo Norfolk
NAOF—Any or all U.S.N. Ships
NYKL—Any or all U.S.N. Ships

(P) **NAM V NS9Y –D–T–A– NS9Y Ø72231 MUSK GR . . . BT ARRIVE NORFOLK TENTH FOR DRYDOCK REPAIRS BT Ø72231**

(MP) **NAM V NAOF –D–T–A– NYKL Ø72231 MUSK GR . . . BT ARRIVE NORFOLK TENTH X FROM NORTHSTAR X FOR DRYDOCK REPAIRS BT Ø72231**

(MP) **NAM V NAOF –D–T–A– NYKL Ø72231 NSS GR . . . BT ARRIVE NORFOLK TENTH X FROM NORTHSTAR ACTION OPNAV X FOR DRYDOCK REPAIRS BT Ø72231**

(C) **NAM V NAOF –D–T– NSS Ø72231 GR . . . BT ARRIVE NORFOLK TENTH X FROM NORTHSTAR ACTION OPNAV X FOR DRYDOCK REPAIRS BT Ø72231**

NAM transmits to NSS as follows:

(P) **NSS V NAM NR24–D–A–NS9Y Ø72231 MUSK GR . . . BT**

(MP) **NSS V NAM NR24–D–A–NYKL Ø72231 MUSK GR . . . BT**

(MP) **NSS V NAM NR24–D–A–NYKL Ø72231 NSS GR . . . BT**

(C) **NSS V NAM NR24–D–Ø72231 GR . . . BT**

Texts same as for corresponding examples above.

Example C

Ship to shore, direct and relay:
From: COMTASKUNIT 42.6.2 (ND6P)
Action: COMFOURTHFLEET (H4TM)
Info: COMINCH (2WX3)

Key: NKM—Rdo Recife
NSS—Rdo Washington
NERK—Any or all U.S.N. Ships

(P) **NKM V ND6P–P–T–A–ND6P 141622 H4TM–W–2WX3 GR . . . BT RUDDER GREEN DAMAGED BY TORPEDO X SHIP PROCEEDING RIO BT 141622**

(MP) **NKM V NERK–P–T–A–NERK 141622 H4TM–W–2WX3 GR . . . BT RUDDER GREEN DAMAGED BY TORPEDO X FROM CTU FOUR TWO DOT SIX DOT TWO X SHIP PROCEEDING RIO BT 141622**

(MP) **NKM V NERK–P–T–A–NERK 141622 NKM NSS GR . . . BT RUDDER GREEN DAMAGED BY TORPEDO X FROM CTU FOUR TWO POINT SIX POINT TWO X NKM PASS TO COMFOURTHFLEET FOR ACTION X COMINCH IS INFO ADEE X SHIP PROCEEDING RIO BT 141622**

(MP) **NKM V NERK–P–A–NERK 141622 NKM GR . . . BT RUDDER GREEN DAMAGED BY TORPEDO X NKM PASS TO ALL ADEES ACTION COMFOURTHFLEET INFO COMINCH FROM CTU FOUR TWO DOT SIX DOT TWO X SHIP PROCEEDING RIO BT 141622**

(C) **NKM V NERK–P–T–*NKM NSS 141622 GR . . . BT RUDDER GREEN DAMAGED BY TORPEDO X FROM CTU FOUR TWO POINT SIX POINT TWO X NKM PASS TO COMFOURTHFLEET FOR ACTION X COMINCH IS INFO ADEE X SHIP PROCEEDING RIO BT 141622**

NKM transmits to NSS (for COMINCH) and H4TM as follows:

(P) **NSS V NKM NR37–P–A–ND6P 141622 H4TM–W–2WX3 GR . . . BT**
H4TM V NKM **NR83–P–A–ND6P 141622 H4TM–W–2WX3 GR . . . BT

(MP) **NSS V NKM NR37–P–A–NERK 141622 H4TM–W–2WX3 GR . . . BT**
H4TM V NKM **NR83–P–A–NERK 141622 H4TM–W–2WX3 GR . . . BT

(MP) **NSS V NKM NR37–P–A–NERK 141622 NKM NSS GR . . . BT**
H4TM V NKM **NR83–P–A–NERK 141622 NKM NSS GR . . . BT

In third example of (MP), NKM must decrypt text in order to determine addressees and since it is originally addressed to him must double head to final addressees.

(MP) **NSS V NKM NR37–P–A–NKM 1417Ø5 H4TM NSS–A–NERK 141622 NKM GR . . . BT**
H4TM V NKM **NR83–P–A–NKM 1417Ø5 H4TM NSS–A–NERK 141622 NKM GR . . . BT

(C) **NSS V NKM NR37–P–141622 GR . . . BT**
H4TM V NKM **NR83–P–141622 GR . . . BT

Texts same as for corresponding examples above.

6310. REPETITIONS, CORRECTIONS, VERIFICATIONS, AND ACKNOWLEDGMENTS

6311. Identification of Messages.—This may be accomplished by two means: (*a*) date-time group and (*b*) 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 Ø81Ø12 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 GR11 BT JAPY BOQU LAJY KUPY FOQO MUCU KAWC GUXO XAVA RATU SABO BT 271545 K

**NKM must appear in the transmission instructions in this case, even though he is station called, to indicate that he is required to decrypt the message in addition to relaying it to NSS and H4TM.*

***Assuming that H4TM is shore based.*

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 GR11 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 GR11 $\overline{\text{BT}}$ JAPY
BOQU LAJY KUPY FOQO MUCU KAWC GUXO
XAVA RATU SABO $\overline{\text{BT}}$ 271545 K

2. Verify and repeat the text of message indicated.
Request:
BF6 V 6F2 J 271545 – AA $\overline{\text{BT}}$ K
Reply:
6F2 V BF6 C 271545 – AA $\overline{\text{BT}}$ – JAPY
BOQU LAJY KUPY FOQO MUCU KAWC GUXO
XAVA RATU SABO $\overline{\text{BT}}$ 271545 K

3. Verify and repeat all before the text of message indicated.
Request:
BF6 V 6F2 J 271545 – AB $\overline{\text{BT}}$ K
Reply:
6F2 V BF6 C 271545 – AB $\overline{\text{BT}}$ – D – A – BF6 271545 6F2 – W – A2D GR11 K

4. Verify and repeat the address and message instructions of message indicated.
Request:
BF6 V 6F2 J 271545 – A to $\overline{\text{BT}}$ K
Reply:
6F2 V BF6 C 271545 – A to $\overline{\text{BT}}$ – A – BF6 271545 6F2 – W – A2D GR11 $\overline{\text{BT}}$ 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 $\overline{\text{IMI}}$ WA CARRY K
Reply:
6F2 V BF6 WA CARRY – OUT K

2. *Request:*
BF6 V 6F2 $\overline{\text{IMI}}$ 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 ø51218 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 ø51218 K

PQ6, originates a dispatch acknowledgment:

PW6 V PQ6 ø51315 GR 2 BT YOUR* ø51218 BT ø51315 K

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

PQ6, acknowledges to PW6 for BF6's dispatch ø91514:

PW6 V PQ6 ø9162ø GR 2 BT BF6 ø91514 BT ø9162ø 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 $\overline{\text{BT}}$ LOVE UNCLE TACK BAKER QUEEN HOW $\overline{\text{BT}}$ 1Ø2Ø 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 $\overline{\text{AR}}$
V KFR R $\overline{\text{AR}}$
V MPQ R $\overline{\text{AR}}$

} If a repetition is required before giving a receipt, **$\overline{\text{IMI}}$** is used instead of R; and if a verification and repetition 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 $\overline{\text{IMI}}$ 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 $\overline{\text{BT}}$ LOVE UNCLE TACK BAKER QUEEN HOW $\overline{\text{BT}}$ 1Ø2Ø K, *or*
KFR V 6F2 – A – 6F2 – 2SN $\overline{\text{BT}}$ LOVE UNCLE TACK BAKER QUEEN HOW $\overline{\text{BT}}$ 1Ø2Ø K

KFR receives this transmission and responds:

V KFR R $\overline{\text{AR}}$

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

MPQ V 6F2 C 1Ø2Ø – 2SN V 6F2 $\overline{\text{BT}}$ LOVE UNCLE TACK BAKER QUEEN HOW $\overline{\text{BT}}$ 1Ø2Ø K *or*
MPQ V 6F2 C – A – 6F2 – 2SN $\overline{\text{BT}}$ LOVE UNCLE TACK BAKER QUEEN HOW $\overline{\text{BT}}$ 1Ø2Ø K

MPQ receives this transmission and responds:

V MPQ R $\overline{\text{AR}}$

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 $\overline{\text{IMI}}$ AA TACK K

6F2 responds:

V 6F2 AA TACK – BAKER QUEEN HOW $\overline{\text{AR}}$ (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 $\overline{\text{BT}}$ GEORGE BAKER $\overline{\text{BT}}$ $\overline{\text{AR}}$

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 $\overline{\text{BT}}$ LOVE XRAY $\overline{\text{BT}}$ Ø935 – PW6 6F2 K

PW6 and 6F2 transmit:

V PW6 R $\overline{\text{AR}}$
V 6F2 R $\overline{\text{AR}}$

} (or **$\overline{\text{IMI}}$** or **J,** instead of **R,** as appropriate)

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 receipted 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 } In alphabetical order.
V MPQ QZM 1225 AR

Example G

Signal to be acknowledged by division commanders but not to be receipted 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 IX (Execute to Follow) and 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 IX immediately before the first BT.

c. The signal of execution is known as the executive signal and consists of 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 IX (5-second dash), when transmitted by radio, shall always be preceded by a call.

Examples

Message:

6F2 V BF6 1248 IX BT FLAGSHIPS FIRE SPECIAL ROCKETS BT K

Receipt:

V 6F2 R AR

Executive signal:

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

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 IMI K

g. **IX** (5-second dash) alone after a call means, "Execute all unexecuted messages which I have transmitted." 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 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 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 BT NEGAT BT K (or **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 IX BT LAY SMOKE SCREEN CARRY OUT PLAN ZEBRA BT K

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

6F2 V BF6 BT NEGAT CARRY OUT PLAN ZEBRA BT K (or **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 IX BT SUGAR BAKER TACK DOG GEORGE AR
6F2 V BF6 IX BT TURN SIX AR
6F2 V BF6 IX BT XRAY FOX CHARLIE TACK LOVE UNCLE AR

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

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

When ready to execute the remaining signals, BF6 sends:

6F2 V BF6 IX (5-Second dash) **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.

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 1ØØ groups) by F or I method may pause for a few seconds after each 1ØØ groups. The pause is indicated by the transmission of the prosign B followed by the number of groups transmitted thus far, and 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 1ØØth group:

*** * * ITWZE NFLHD YESJG – B 1ØØ AS**

After pause, transmitting station resumes:

1Ø1 – LJDRC RDXHK PLZVF etc.

a. When transmitting exceptionally long F or I method messages, even though there is no pause after each 1ØØ groups, the shore station shall usually indicate the 1ØØth group, 2ØØth 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.

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.*

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. 6218*b*.)

Example

Transmission of NR641 is interrupted in order to transmit a message of higher precedence:

XEPWQ LATHY BGGXT BQT–QJZ*–OP–$\overline{\text{AS}}$ (pause) **NR642**—etc.

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

NERK NERK V NBA NBA QJZ* NR641 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 Ø91951 Ø91951 G94 G94 GR 17 GR 17 $\overline{\text{BT}}$ text **$\overline{\text{BT}}$ Ø91951 $\overline{\text{AR}}$ NR B6Ø NR B6Ø – A A – A2D A2D Ø91852 Ø91852 PW6 PW6 5G7 5G7 GR 22 GR 22 $\overline{\text{BT}}$** text **$\overline{\text{BT}}$ Ø91852 $\overline{\text{AR}}$ NR B61 NR B61 – D D – A A – BF6 BF6 Ø91755 Ø91755 6F2 6F2 – W W – MPQ MPQ GR 19 GR 19 $\overline{\text{BT}}$** text **$\overline{\text{BT}}$ Ø91755 QRU $\overline{\text{AR}}$**

**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 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 Ø31Ø56 Ø31Ø56 A2D A2D 6F2 6F2 GR 15 GR 15 BT text **BT Ø31Ø56 AR NR 23Ø BAKER NR 23Ø BAKER – A A – PW6 PW6 Ø31115 Ø31115 98N 98N GR 25 GR 25 BT** text **BT Ø31115 K**

NPL transmits:

NBA V NPL – NPL V NBA NR 229 BAKER NR 229 BAKER – P P – A A – BF6 BF6 Ø31Ø56 Ø31Ø56 A2D A2D 6F2 6F2 GR 15 GR 15 BT text **BT Ø31Ø56 AR NR 23Ø BAKER NR 23Ø BAKER – A A – PW6 PW6 Ø31115 Ø31115 98N 98N GR 25 GR 25 BT** text **BT Ø31115 AR NBA V NPL NR 288 KING NR 288 KING – A A – KFR KFR Ø31118 Ø31118 6F2 6F2 GR 18 GR 18 BT** text **BT Ø31118 K**

NBA transmits:

NPL V NBA C – NBA V NPL NR 288 KING NR 288 KING – A A – KFR KFR Ø31118 Ø31118 6F2 6F2 GR 18 GR 18 BT text **BT Ø31118 K**

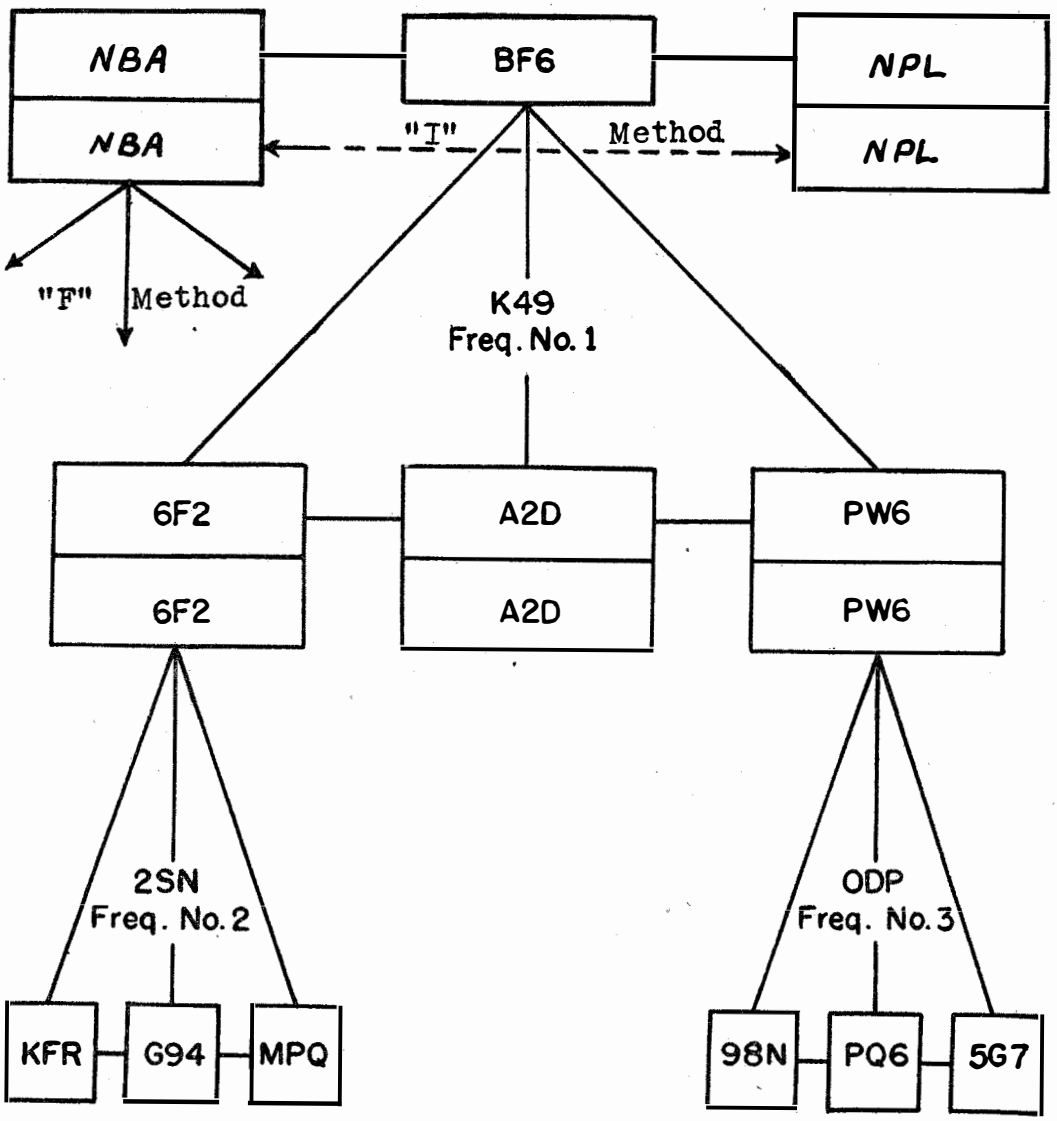
NPL transmits:

NBA V NPL C AR

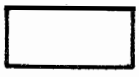
NBA remains silent.

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

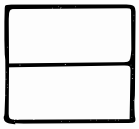
PLATE 1–6.—THE ORGANIZATION SHOWN IS USED AS A BASIS FOR ALL EXAMPLES IN THIS SECTION



Collective call sign:	Includes:
K49	A2D, BF6, PW6, 6F2
ODP	PQ6, PW6, 5G7, 98N
2SN	G94, KFR, MPQ, 6F2



Single Channel Radio Station.



Dual Channel Radio Station.

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 $\overline{\text{IMI}}$ 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 1Ø 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.

Plate 2–6—PLAINDRESS–NORMAL FORM

	Heading														Text	Message Ending				Example number. See notes opposite
I	Call	Preamble			Address								Message Instructions							
II*	Call	Serial No.	Precedence	Trans. inst.	Orig. sign	Orig. call sign	Date—time	Action call sign(s)	Info. sign	Info. call sign(s)	Exempt sign	Exempt call sign(s)	Opr. sigs.	Group count	Long break	(Subject matter)	Long break	Date—time	Final inst.	Ending sign	
	6F2 V BF6						311516							GR9	$\overline{\text{BT}}$	TEXT	$\overline{\text{BT}}$	311516		K	1
	PQ6 5G7 V PW6		– OP –				162231							GR11	$\overline{\text{BT}}$	TEXT	$\overline{\text{BT}}$	162231		K	2
	2SN V 6F2		– P –				261627							GR13	$\overline{\text{BT}}$	TEXT	$\overline{\text{BT}}$	261627	B	K	3
	BF6 V A2D			– G –			121759							GR1Ø	$\overline{\text{BT}}$	TEXT	$\overline{\text{BT}}$	121759		K	4
	98N V PW6 98N V PW6	NR32 NR32		– F – – F –			271545 271545							GR16 GR16	$\overline{\text{BT}}$ $\overline{\text{BT}}$	TEXT TEXT	$\overline{\text{BT}}$ $\overline{\text{BT}}$	271545 271545	$\overline{\text{IMI}}$	$\overline{\text{AR}}$	5
	6F2 V BF6				– A –	BF6	28Ø125		– W –	6F2				GR14	$\overline{\text{BT}}$	TEXT	$\overline{\text{BT}}$	28Ø125		K	6
	PW6 6F2 V BF6				– A –	BF6	151617	6F2	– W –	PW6				GR2Ø	$\overline{\text{BT}}$	TEXT	$\overline{\text{BT}}$	151617		K	7
	6F2 V BF6		– D	– T	– A –	BF6	161345	KFR						GR15	$\overline{\text{BT}}$	TEXT	$\overline{\text{BT}}$	161345		K	8
	KFR V 6F2		– D		– A –	BF6	161345	KFR						GR15	$\overline{\text{BT}}$	TEXT	$\overline{\text{BT}}$	161345		K	9
	A2D 6F2 V BF6			– 6F2 – T – MPQ	– A –	BF6	231712	A2D MPQ 6F2						GR22	$\overline{\text{BT}}$	TEXT	$\overline{\text{BT}}$	231712		K	1Ø
	MPQ V 6F2				– A –	BF6	231712	A2D MPQ 6F2						GR22	$\overline{\text{BT}}$	TEXT	$\overline{\text{BT}}$	231712		K	11
	K49 – N – 6F2 V BF6		– O		– A –	BF6	141340	A2D	– W –	PW6				GR65	$\overline{\text{BT}}$	TEXT	$\overline{\text{BT}}$	141340		K	12
	A2D 6F2 V BF6		– P	– 6F2 – T – 2SN – N – KFR	– A –	BF6	3Ø1615	6F2	– W –	A2D 2SN	– N –	KFR		GR12	$\overline{\text{BT}}$	TEXT	$\overline{\text{BT}}$	3Ø1615		K	13
	G94 MPQ V 6F2		– P		– A –	BF6	3Ø1615	6F2	– W –	A2D 2SN	– N –	KFR		GR12	$\overline{\text{BT}}$	TEXT	$\overline{\text{BT}}$	3Ø1615	MPQ	K	14
	K49 V BF6			– PW6 – T – ODP – 6F2 – T – 2SN	– A –	BF6	Ø3Ø3Ø6	K49	– W –	ODP 2SN				GR26	$\overline{\text{BT}}$	TEXT	$\overline{\text{BT}}$	Ø3Ø3Ø6		K	15
	A2D 6F2 V BF6		– P – A2D	– 6F2 – T – A2D	– A –	BF6	191416	A2D	– W –	KFR MPQ 6F2				GR32	$\overline{\text{BT}}$	TEXT	$\overline{\text{BT}}$	191416		K	16
	K49 V BF6		– P – KFR 6F2 – D –	6F2 – T – 2SN	– A –	BF6	23Ø93Ø	6F2	– W –	A2D PW6 2SN				GR23	$\overline{\text{BT}}$	TEXT	$\overline{\text{BT}}$	23Ø93Ø		K	17
	NBA V NPL	NR78	– D –	T – 2SN	– A –	BF6	Ø61Ø18	K49	– W –	ODP 2SN			– QIR	GR83	$\overline{\text{BT}}$	TEXT	$\overline{\text{BT}}$	Ø61Ø18		K	18
	PW6 V BF6		– P –	QNL	– A –	BF6	131114	G94	– W –	ODP				GR24	$\overline{\text{BT}}$	TEXT	$\overline{\text{BT}}$	131114		K	19
																					20

*NOTE.—Component parts of the message.

NOTES ON EXAMPLES SHOWN ON PLATE 3–6

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

Examples

1. Simplest type of abbreviated form. The call serves as the address.
2. A priority message to two action addressees; illustrating use of time group in message ending.
3. Illustrating use of time group in the address.
4. An operational priority illustrating use of time group in both address and message ending.
5. Illustrating the use of GR and group count; the time group appearing in the message ending.
6. Illustrating the use of GR and group count; the time group appearing in the address.
7. K49 is a collective call sign serving as the address. A2D is exempted from the call and address.
8. Prosign G instructs the receiving operator to repeat back the message.
9. Prosign F instructs the receiving operator not to answer or receipt for the message.
10. Illustrating dual precedence. The message is priority to 6F2 and deferred to the information addressees, A2D and KFR. 6F2 is directed to transmit to KFR.
11. Illustrating dual precedence. The message is priority to 6F2 and routine to the information addressees, KFR and MPQ. Station called, 6F2, is directed to transmit to all addressees.
12. A routine message without time group. The call serves as the address.
13. An urgent procedure message. The action addressee, BF6, is requested to verify and repeat his 1155. Station called, 6F2, is directed to transmit to action addressee.
14. Illustrating a message to be acknowledged, as indicated by the operating signal QZM appearing in the message instructions.

Plate 3–6.—PLAINDRESS—ABBREVIATED FORM

I	Heading															Text	Message Ending				Example number. See notes opposite
	Call	Preamble			Address								Message Instructions								
II*	Call	Serial No.	Precedence	Trans. inst.	Orig. sign	Orig. call sign	Date—time	Action call sign(s)	Info. sign	Info. call sign(s)	Exempt sign	Exempt call sign(s)	Opr. sigs.	Group count	Long break	(Subject matter)	Long break	Date—time	Final inst.	Ending sign	
	A2D V BF6		– O –												$\overline{BT}$	TEXT	$\overline{BT}$			K	1
	A2D 6F2 V BF6		– P –												$\overline{BT}$	TEXT	$\overline{BT}$	1145		K	2
	BF6 V 6F2						1914								$\overline{BT}$	TEXT	$\overline{BT}$			K	3
	A2D V 6F2		– OP –				1427								$\overline{BT}$	TEXT	$\overline{BT}$	1427		K	4
	A2D 6F2 V BF6													GR32	$\overline{BT}$	TEXT	$\overline{BT}$	Ø1Ø5		K	5
	6F2 V MPQ						2347							GR16	$\overline{BT}$	TEXT	$\overline{BT}$			K	6
	K49–N–A2D V BF6														$\overline{BT}$	TEXT	$\overline{BT}$	Ø73Ø		K	7
	6F2 V BF6			– G –			241845								$\overline{BT}$	TEXT	$\overline{BT}$			K	8
	98N V PW6			– F –											$\overline{BT}$	TEXT	$\overline{BT}$	1Ø32		$\overline{AR}$	9
	A2D 6F2 V BF6		– P – 6F2 – D –	6F2 – T – KFR	– A –	BF6	1615	6F2	– W –	A2D KFR					$\overline{BT}$	TEXT	$\overline{BT}$	1615		K	1Ø
	6F2 V BF6		– P – 6F2	– T	– A –	BF6		– 6F2	– W –	KFR MPQ				GR37	$\overline{BT}$	TEXT	$\overline{BT}$	1614	B	K	11
	A2D V BF6														$\overline{BT}$	TEXT	$\overline{BT}$			K	12
	6F2 V KFR		– O –	T	– A –	KFR		– BF6								J 1155				K	13
	98N V PW6		– OP –										QZM		$\overline{BT}$	PREP QUEEN ROGER	$\overline{BT}$			K	14
																					15
																					16
																					17
																					18
																					19

*NOTE.—Component parts of the message.

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 Execute to Follow prosign in the message instructions of the message FT RN.
2. As in 1, except that the text 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———."*

Plate 4–6.—EXECUTIVE METHOD

Heading															Text	Message ending				Example number. See notes opposite
Call	Preamble			Address								Message instructions								
Call	Serial No.	Precedence	Trans. inst.	Orig. sign	Orig. call sign	Date—time	Action call sign(s)	Info. sign	Info. call sign(s)	Exempt sign	Exempt call sign(s)	Opr. sigs.	Group count	Long break	(Subject matter)	Long break	Date—time	Final inst.	Ending sign	
A2D 6F2 V BF6														IX BT	FT RN	BT			K	1
K49 V BF6														IX BT	XUN PDQ IMI XUN PDQ	BT			K	2
6F2 V BF6						1341								IX BT	HOW SUGAR WILLIAM	BT			K	3
V 6F2															J				K	4
V BF6															C – 6F2 V BF6 1341 IX BT SUGAR HOW WILLIAM	BT			K	5
6F2 V BF6														IX BT	FIRE RED ROCKET	BT	1349	IX IX IX (5-Sec.)	AR	6
K49 V BF6														IX BT	XUN PDQ	BT		IX (5-Sec.)	K	7
6F2 V BF6														IX BT	LAY SMOKE SCREEN CARRY OUT PLAN ZEBRA	BT			K	8
6F2 V BF6														BT	NEGAT CARRY OUT PLAN ZEBRA	BT			K	9
2SN V 6F2												QZM		IX BT	TURN NINE	BT			AR	10
																				11
																				12
																				13
																				14
																				15

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, such as (Hullo), is optional.

6402. General instructions.

a. Messages transmitted by radiotelephone are not necessarily written down in full, but operators are required to make a short note of their purport in the radiotelephone log. 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 be written down on a message blank.

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

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

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

6403. Phonetic alphabet.—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 (AFIRM)*	N	NAN (NEGAT)*
B	BAKER	O	OBOE (OPTION)*
C	CHARLIE	P	PETER (PREP)*
D	DOG	Q	QUEEN
E	EASY	R	ROGER
F	FOX	S	SUGAR
G	GEORGE	T	TARE
H	HOW	U	UNCLE
I	ITEM (INTERROGATORY)*	V	VICTOR
		W	WILLIAM
J	JIG	X	XRAY
K	KING	Y	YOKE
L	LOVE	Z	ZEBRA
M	MIKE		

*Names in parentheses shall be used when the U. S. Navy *General Signal Book* is used.

Example A

Encrypted Groups.—**LUXOW** will be spoken as "Love Uncle Xray Oboe William."

Example B

Difficult words will be both spoken and spelled. Example: "Catenary—I spell—Charlie Able Tare Easy Nan Able Roger Yoke—Catenary."

6404. Pronunciation of numerals.—When figures are transmitted by radiotelephone the following rules for their pronunciation will be observed:

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

6405. Call Signs.—Call signs composed of letters, or letters and figures, must be transmitted by means of the phonetic alphabet and numeral pronunciation.

Example

Call sign **AB** shall be transmitted as: **Able Baker.**
Call sign **P3** shall be transmitted as: **Peter three.**

6410. COMPONENT PARTS OF A MESSAGE

6411. Every radiotelephone message is composed of three basic parts: The call including precedence, if any, the text and the ending.

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

Full call:	*Examples*
(Hullo)	(**Hullo**)
Call sign of receiving station	**Able Baker**
This is	**This is**
Call sign of station calling	**Peter three**
Abbreviated call:	
This is	**This is**
Call sign station calling	**Peter three**

Precedence designations are seldom used in radiotelephone procedure, but if used will be spoken in clear as the last part of the call, for example "Urgent" or "Priority."

b. The *text* may consist of plain language, code words, or figures. If it is necessary to spell out a word, the phonetic alphabet will be used.

c. The *ending.* Every transmission will end with one of the following procedure words:

Word	*Meaning*
1. **Over**	"My transmission is ended and I expect a response from you."
2. **Out**	"This conversation is ended and no response is expected."

Example A

Call	(**Hullo**) **apple this is green**
Text	**Where are planes**
Ending	**Over**

Example B

Call	(**Hullo**) **green this is apple**
Text	**Planes are at base**
Ending	**Out**

6421. The Time of Origin.—The time of origin when employed will be spoken as four words and will be preceded by the word "Time." The four words will, when so ordered, be followed by the zone suffix letter, except that for U. S. naval use, the zone suffix letter zebra will be omitted.

6422. Transmitting and answering.—The following general rules govern the transmission of radiotelephone messages when two-way working is employed:

a. When both stations are in good communication, all parts of the transmission are made once through.

Example

Station AB wishes to transmit a message to station P3.

AB transmits:

(Hullo) Peter Three—This is—Able Baker—Message for you—Over.

P3 transmits:

(Hullo) Able Baker—This is—Peter Three—Send your message—Over.

AB transmits:

(Hullo) Peter Three—This is—Able Baker—Convoy has arrived—Time one—six—three—zero—Over.

P3 transmits:

(Hullo) Able Baker—This is—Peter Three—Roger—Out.

b. If an operator transmits a message without waiting for an answer to the preliminary call, the call sign(s) of the receiving station(s) will be transmitted twice, and may be repeated also at the end of the message.

Example

AB transmits:

(Hullo) Peter Three—(Hullo) Peter Three—This is Able Baker—Convoy has arrived—etc.

c. When communication is difficult, phrases, words, or groups may be transmitted twice by using the procedure phrase "words twice."

Example

AB transmits:

(Hullo) Peter Three—This is—Able Baker—Message for you—Over.

P3 transmits:

(Hullo) Able Baker—This is Peter Three—words twice—Send your message—Over.

AB transmits:

(Hullo) Peter Three—This is—Able Baker—words twice—Convoy has arrived—Convoy has arrived—Time one—six—three—zero—Time one—six—three—zero—Over.

d. Read back.

1. If the message is to be repeated back the procedure phrase *read back* will be used. Except when written into the text of a message by the originator, the word "Repeat" or any phrase involving "Repeat" will never be spoken in radiotelephone communication.

Example

AB transmits:

(Hullo) Peter Three—This is—Able Baker—Message for you—Over.

P3 transmits:

(Hullo) Able Baker—This is—Peter Three—send your message—Over.

AB transmits:

(Hullo) Peter Three—this is—Able Baker—Read back—Convoy has arrived—Time one—six—three—zero—Over.

P3 transmits:

(Hullo) Able Baker—This is—Peter Three—Convoy has arrived—Time one—six—three—zero—Over.

AB transmits:

(Hullo) Peter Three—This is—Able Baker—That is correct—Out.

2. Particular instructions for certain occasions, such as fighter direction, may direct that certain messages, or portions thereof, automatically will be repeated back by the receiving station without using the procedure phrase "read back."

e. When no confusion will result, a shortened form of calling may be used. When only two stations are on a circuit, it will often be possible to omit all calls and most of the normal procedure.

Example A

Call sign of calling station omitted:

Able Baker—Convoy has arrived—Over.

Example B

Call sign of called station omitted:

This is Peter three—Where are tanks—Over.

In the interest of speed, special provision may be made by responsible commanders for special use of abbreviations of call signs, as for aircraft and tanks.

6423. Code and Cipher Messages.—In code or cipher messages the number of groups, if sent, will be preceded by the word "groups" immediately before the text. Code words may be spoken as plain language words; encoded or enciphered groups will be spelled phonetically.

6424. Signal Strength and Readability.—

a. A station is understood to have good readability unless otherwise notified. Except when making original contact, 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," etc.

6425. Operating Signals.—In cases where operating signals would be applicable, the phraseology of the meaning attached to them or a shortened form will be used in radiotelephone procedure.

6426. Authentication of messages will be made in accordance with current instructions.

6430. PROCEDURE PHRASES

6431. It is inadvisable to lay down precise wording for all procedure phrases likely to be required in radiotelephone work. However, the following have been adopted:

Word or phrase	*Meaning*
Roger	"I have received all of your last transmission."
Acknowledge	Used by originator: "Let me know that you have received and understand this message."
Wilco	"Your last message (or message indicated) received, understood and (where applicable) will be complied with."
How do you hear me?	"How do you hear me?"
Speak slower	"Speak more slowly."
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" should be used. If "Wait" is used to prevent another station's transmitting, it must be followed by the ending "Out."
Say again	"Repeat." See article 6422*d*.
I say again	"I will repeat." See article 6422*d*.
Verify	"Check coding, check text (subject matter) with the originator and send correct version."
Message for you	"I wish to transmit a message to you."
Send your message	"I am ready for you to transmit."
Read back	"Repeat all of this message exactly as received after I have given 'Over'."
That is correct	"You are correct."
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."
Correction	"An error has been made in this transmission (or message indicated). The correct version is ----------."
Wrong	"What you have just said is incorrect. The correct version is ----------."
Groups	"The number of groups in this code or cipher message is ----------."
Break	"I hereby indicate the separation of the text from other portions of the message." To be used to clarify the text when necessary between the

Word or phrase	*Meaning*
Silence (Repeated as necessary.)	Cease Radiotelephone immediately until the message which follows has been transmitted. NOTE.—To be used only by the net control station except in an emergency.

station
othe
and so
would not know whether the message was intended for it or not. ision it might be advisable to repeat the call at the end of the transmission. In net or group working, stations should answer in the alphabetical and numerical order of their call signs. When both alphabetical and numerical signs are in the group, the numerical calls should follow the alphabetical calls.

6442. General Examples.

a. Two stations on a circuit. In the following examples, a two-station group (one to one working) is assumed. The call signs of the stations are AWM and JFC.

1. Establishing communications.

JFC transmits:

(Hullo) Able William Mike—this is Jig Fox Charlie—How do you hear me—Over.

AWM transmits:

(Hullo) Jig Fox Charlie—this is Able William Mike—Okay—Over.

2. Further communication at a later time, after communication has been established.

JFC transmits:

(Hullo) Able William Mike—Message for you—Over.

AWM transmits:

Send your message—Over.

JFC transmits:

Read back—Break—Adopt plan—SKRAPS—I spell—Sugar—King—Roger—Roger—Correction—Sugar—King—Roger—Able—Peter—Sugar—two—three—five—nine—hours—Time one—six—zero—zero—Over.

AWM transmits:

Adopt plan SKRAPS—two—two—five—nine—hours—Time one—six—zero—zero—Over.

JFC transmits:

Wrong—Word after SKRAPS—two—three—five—nine—Over.

AWM transmits:

Two—three—five—nine—Over.

JFC transmits:

That is correct—Out.

b. Four stations on a circuit. The call signs are:

AWM—Group control station.
AB1—subordinate station.
AB2—subordiinate station.
AB3—subord nate station.
XYZ—collect ve call including station AWM, AB1, AB2, and AB3.

1. AWM has a message for all stations in the group.

AWM transmits:

(Hullo) Xray Yoke Zebra—this is Able William Mike—Message for you—Over.

AB1 transmits:

This is Able Baker One—Send your message—Over.

AB2 transmits:

This is Able Baker Two—Send your message—Over.

AB3 transmits:

This is Able Baker Three—Send your message—Over.

AWM transmits:

(Hullo) Xray Yoke Zebra—Adopt plan SKRAPS—I spell—Sugar—King—Roger—Able—Peter—Sugar—Two—Three—Five—Nine hours—Time one—seven—zero—zero—Over.

AB1 transmits:

This is One—Roger—Out.

AB2 transmits:

This is Two—Say Again—Words Twice—Over.

AB3 transmits:

This is Three—Say Again—Word After—SKRAP S—Over.

AWM transmits:

(Hullo) Two and Three—I say again—Words twice—Adopt plan SKRAPS—I spell—Sugar—King—Roger—Able—Peter—Sugar—I spell—Sugar—King—Roger—Able—Peter—Sugar—two—three—five—nine hours—two—three—five—nine hours—Time one—seven—zero—zero—Time one—seven—zero—zero—Over.

AB2 transmits:

This is Two—Roger—Out.

AB3 transmits:

This is Three—Roger—Out.

2. Later the addressee served by AB2 wishes to have the text of this message verified.

AB2 transmits:

(Hullo) Able William Mike—This is Two—Verify message—Time one—seven—zero—zero—Over.

AWM transmits:

Two—Roger—Out.

3. AWM wishes to correct message, transmits:

(Hullo) Xray Yoke Zebra—Message Time one—seven—zero—zero—Correction—Word after SKRAPS—two—two—five—nine—I say again—two—two—five—nine—Acknowledge—Over.

Each subordinate station transmits in turn:

This is _____—Roger—Out.

4. Later, to indicate receipt by addressee, each station transmits in turn:

This is _____—Your _____ Wilco—Out.

6443. Communication between small stations.—The following examples refer to communication among small stations where messages are seldom written down. The call signs assumed are as follows:

Eagle—Controlling station.

Eagle 1 to Eagle 5 inclusive—subordinate stations.

Twitter—Group call sign.

a. Eagle with message for whole group, transmits:

(Hullo) Twitter—This is Eagle—Now past starting point—follow me—Over.

Stations reply in turn:

This is one—Wilco—Out.

This is two—Wilco—Out.

This is three—Say again—Over.

This is four—Wilco—Out.

This is five—Wilco—Out.

Eagle transmits:

(Hullo) three—I say again—Now past starting point—follow me—Over.

Eagle 3 transmits:

This is three—Wilco—Out.

b. Eagle, wishing to pass a procedure message for which an operating signal is applicable, calls whole group:

(Hullo) Twitter—This is Eagle—Change to frequency Crasher*—Over.

After identification each station transmits in turn:

Wilco—Out.

6450. REPLIES, CORRECTIONS, AND ACKNOWLEDGMENTS

6451. Repetitions.—

a. When words are missed or are doubtful, repetitions will be requested by the receiving station before receipting for the message. The procedure phrases, "Say again" and "I say again," used alone or in conjunction with "all before," and "all after," "_____ to _____" and "word after" will be used for this purpose.

b. In giving repetitions, the transmitting station will always repeat the words used in the request to identify the portions.

**Crasher* is assumed to be a prearranged frequency code word.

6452. Correction of Messages.—

a. Correction during transmission. When an error has been made by a transmitting operator, the procedure word "correction" will be spoken, the last group or phrase sent correctly will be repeated and the correct version then transmitted.

Example

(Hullo) Able Baker—this is—Peter Three—Victor One Zero One—Correction—Victor—One—Zero—Zero—etc.

b. Correction to a message being repeated back:

Example

(Hullo) Peter three—this is—Able Baker—Read back—Convoy has arrived—Time one—six—three—zero—Over.

(Hullo) Able Baker—this is—Peter Three—Convoy has arrived—Time one—six—four—zero—Over.

(Hullo) Peter three—this is—Able Baker—Wrong—Word after arrived—Time one—six—three—zero—Over.

(Hullo) Able Baker—this is—Peter Three—Time one–six–three–zero—Over.

(Hullo) Peter three—this is—Able Baker—That is correct—Out.

6453. Acknowledgment of Messages.—"Wilco" shall be used in response to the procedure word "Acknowledge" in the text of voice messages, or may be used to acknowledge receipt and capability to comply with an order received even though instructions to acknowledge were not included. As the meaning of "Roger" is included in that of "Wilco," the two words are never used together.

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

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.

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 radio station, pilots will include in the call-up an identification to indicate whether an Army, Navy, Civil Aeronautics radio station, or municipal control tower is being called.

h. Tower operators will standardize on a series of three messages to in-bound and out-bound traffic (aircraft) viz.

INBOUND TRAFFIC

1. In-range acknowledgment.
2. Landing clearance as pilot enters airport zone.
3. Taxi clearance.

1. Taxi clearance.
2. Airway clearance.
3. 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 (DNC) 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 3Ø.
Low	LF	3Ø to 3ØØ.
Medium	MF	3ØØ to 3,ØØØ.
High	HF	3,ØØØ to 3Ø,ØØØ.
Very high	VHF	3Ø,ØØØ to 3ØØ,ØØØ.
Ultra-high	UHF	3ØØ,ØØØ to 3,ØØØ,ØØØ.
Super-high	SHF	3,ØØØ,ØØØ to 3Ø,ØØØ,ØØØ.

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 3Ø 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* (3Ø to 3ØØ 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 4ØØ miles during daylight and about 1,ØØØ miles at night. Not subject to "skip distance."

d. Require a large antenna.

e. Frequencies between 2ØØ and 285 kilocycles are widely used for aviation beacons, localizers, and control towers.

f. Frequencies between 285 and 3ØØ kilocycles are widely used for marine beacons.

6524. *Medium frequencies* (3ØØ to 3ØØØ kc.):

a. Generally assigned to fleet ships and aircraft for short distance ship-to-shore and tactical communications.

b. Effective over distances of about 4ØØ miles in daytime and 1,ØØØ miles at night. Not subject to "skip distance."

c. Frequencies between 3ØØ and 315 kilocycles are widely used for marine beacons.

d. Frequencies between 315 and 4ØØ kilocycles are widely used for aviation beacons, localizers, and control towers.

e. Frequencies between 2ØØØ and 3ØØØ kilocycles are used almost exclusively for inter-ship communications within task forces and for local district defense activities.

6525. *High frequencies* (3,ØØØ to 3Ø,ØØØ 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* (3Ø to 3ØØ 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 5Ø 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 6Ø megacycles) occur quite frequently; as the frequency is raised these effects become more uncommon and occur only infrequently at frequencies above 1ØØ 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* (3ØØ to 3,ØØØ megacycles) and *super-high frequencies* (3,ØØØ to 3Ø,ØØØ megacycles):

a. Transmissions above 3ØØ 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,ØØØ and 3Ø,ØØØ 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 Ø to 3,ØØØ 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 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 (DNC).

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, ~~or when appropriate, referred to the local representative of the Federal Communications Commission~~. 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.
Shore	Ø. ØØ5%	Ø. ØØ5%
Mobile and portable	Ø. Ø2%	Ø. Ø3%

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.